THE 3rd INTERNATIONAL CONFERENCE ON NURSING 2017

APPROACHING FROM BASIC TO PRACTICE TOWARDS CHRONIC CARE EXCELLENCE

Penerbit Universitas Muhammadiyah Malang

PROSIDING

The 3rd International Conference on Nursing (ICON) 2017
"Approaching From Basic To Practice Towards Chronic Care Excellence"

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Jl. Raya Tlogomas No. 246 Malang 65144
Telepon: 0877 0166 6388, (0341) 464318 Psw. 140
Fax. (0341) 460435
E-mail: ummpress@gmail.com
http://ummpress.umm.ac.id
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RECTOR'S WELCOME

Assalamualaikum warohmatullahi wabarokatuh

Good morning, may God always give us good health, bright mind and sincere heart. First of all I would like to say thank you to all the distinguished speakers:

1. Cristina E Torres, PhD from Forum for Ethical Review Committees in the Asian and Western Pacific Region
2. Associate Professor KM. Monirul Islam from University of Nebraska Medical Centre USA
3. Natalie Wischer, RN, RM, CDE from National Association of Diabetes Centre Australia
4. Ma. Encarnacion A. Dychangco, PhD, RN from St. Paul University Manila Philippines
5. DyahErtiMustikawati , Directorate Non Communicable Desease Ministry of Health Republic of Indonesia
6. Dr. TitinAndriWihastuti, MKes from School of Nursing UniversitasBrawijaya Indonesia.

Ladies and gentlemen, I would like to say thank you for your coming to this event and welcome to Malang city, the city of education where our university is located. On behalf of the Brawijaya University I honestly extend my gratitude to all of you for your enthusiasm and effort to join this annual event. It is a great honor for us to have you all here to share knowledge, experience as well as ideas and thought to improve our understanding about high quality health practice.

Currently Brawijaya University is on the top six universities in Indonesia. This achievement signifies our commitment in improving the quality of higher education through research, teachings, and public services. We do aware that nursing is one of the most important profesion in health care system. Therefore, we totally support the improvement of nursing education to produce highly qualified nursing graduates that are ready to compete in the global era. Accordingly we have approved the transformation of nursing program into faculty of nursing. By doing so we expect that nursing education will step into higher quality of education and ready towards international competition.

The theme of this conference is very relevant to our current situation. Recently, increasing trend of chronic disease incidence and prevalence, either in developing or developed countries. Mostly, the chronic care has contributed to the high mortality. Therefore, it is essential for healthcare professions to strengthen their science and quality of practice.

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Finally For the committee I would like to say congratulations, we are very proud to have this annual event. Hopefully we can convene this event next year, and the years after.

I wish you all have great times here and what we are going to learn here will bring positive outcomes for all of us.

Wassalamualaikum warohmatullahi wabarokatuh

Prof. Dr. Ir. Mohammad Bisri, M.S

DEAN OF FACULTY OF MEDICINE'S WELCOME

Assalamualaikum warohmatullahi wabarokatuh

Alhamdulillahirobbilalamin lets praise the lord for his blessings that we are able to gather here in this amazing event. First of all I would like to say thank you to the rector of brawijaya university, Prof. Mohammad Bisri. All the distinguished speakers:

1. Cristina E Torres, PhD from Forum for Ethical Review Committees in the Asian and Western Pacific Region
2. Associate Professor KM. Monirul Islam from University of Nebraska Medical Centre USA
3. Natalie Wischer, RN, RM, CDE from National Association of Diabetes Centre Australia
4. Ma. Encarnacion A. Dychangco, PhD, RN from St. Paul University Manila Philippines
5. DyahErtiMustikawati , Directorate Non Communicable Desease Ministry of Health Republic of Indonesia
6. Dr.TitinAndriWihastuti, MKes from School of Nursing UniversitasBrawijaya Indonesia.

And also the extraordinary participants, fellow nurses from across Indonesia and neighboring countries.

On behalf of the academic society in faculty of medicine we highly appreciate your participation to learn from each other, to share knowledge, experience, and motivation to make nursing better. I also congratulate the committee for their success in organizing this event.

Nowadays, continuous education and improvement is an integral part of nursing profession and is a manifestation of its commitment towards community service and community health improvement. Change is constant in global healthcare and is happen in all aspect of healthcare, not only limited to health problems and its management, also on technology, basic science, and clinical settings. These changes are inevitable and should be responded positively to improve the quality of care.

Recent statistics demonstrated an increasing trend of chronic disease incidence and prevalence, either in developing or developed countries. A report by World Health Organization (WHO) predicted that by 2020 non-communicable diseases such as heart diseases, cancer, and metabolic diseases will contribute to 70% of mortalities. Therefore it is essential for healthcare professions to strengthen their science and quality of practice. Through this conference I hope that we

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can enrich each other's knowledge, build international networks, and gain confidence to the global environment.

So please enjoy the conference, may all of us become the agent of improvement for our profesions.
Thank you

Wassalamualaikum warohmatullahi wabarokatuh

DR. dr. Sri Andarini, M.Kes

COMMITTEE'S WELCOME

Greetings for all conference attendees and welcome to the 3rd Annual International Conference on Nursing 2017. We hope you all have a wonderful, inspiring conference and are able to take great ideas back to your workplaces.

Chronic conditions has become an important concern in healthcare service within the last decade, to be specific in South East Asia region. The advances in healthcare sciences and technology has increased the life expectancy for people with chronic conditions. This situation urges nurses to improve their competency. For developing countries, this issue has triggered the nursing society to develop certain strategies to strengthen their practice. As a consequence, advancements should be made in many aspects of nursing practice, starting from nursing education, research, and also the clinical competencies.

Therefore, the strengthening nurses' competency in chronic care, starting from basic science to clinical practice setting. By doing so, it is expected that this conference would give a better understanding of how to improve the competencies of nurses especially in developing countries to face chronic conditions. Accordingly, the School of Nursing, Faculty of Medicine, Brawijaya university proudly presents the theme of **The 3rd International Conference in Nursing (ICON) 2017: Approaching from basic to practice towards chronic care excellence**.

Therefore by gathering and interacting each of attendees here can tighten our bond as academia, researcher and healthcare professionals in order to increase the spirit of research and study.

Finally, We would like to ask you all to become more involved in this conference. Your unique talents, expertise and ideas are welcomed and appreciated. Please enjoy the conference and hopefully we can get a new knowledge and friends through this outstanding conference.

Thank you,

Ns. Bintari Ratih K, M.Kep

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CONFERENCE COMMITTEE

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KEYNOTE SPEAKERS PROFILES

1. **Cristina E Torres, PhD**
   She is coordinator Forum for Ethical Review Committees in Asia and the Western Pacific (2004 untill present). She is also Adjunct Professor and Visiting Consultant, National Institutes of Health of the Philippines, University of the Philippines Manila. She graduated as Master of Arts from University of the Philippines, and then continuePh.D study at college of Social Sciences and Philosophy, University of the Philippines.

2. **Associate Professor KM. Monirul Islam from University of Nebraska Medical Centre USA**
   He is lecturer from Department of Epidemiology University of Nebraska Medical Center. He graduates from MPH Tulane University School of Public Health and Tropical Medicine, and then continue Ph.D study epidemiology at Case Western Reserve University School of Medicine. She is also the academic advisor, research mentor, and dissertation and capstone committee member/chair. Her research interest is in patient-centered outcomes research of epidemiology cancer and immune compromised population.

3. **Natalie Wischer, RN, RM.**
   Natalie Wischer is Chief Executive Officer from National Association of Diabetes Centre Australia, and also Australian Diabetes Online Services as executive director until present. She is contribution to diabetes management journal Australia. She is graduated from diploma of management Swinburne University of Technology.

4. **Ma. Encarnacion A. Dychangco, PhD, RN**
   He is lecturer from St. Paul University Manila Philippines. Her educational background are master of arts in nursing University of asia and the Pacific of Manila, then continue Ph.D in Nursing major in educational management in St. Paul University Manila. She is as vice president, academic services in St. paul University Manila until present. She is also as member on Phillipine Oncology Nurses association (PONA) and editorial member Asia pacific Journal ofOncolgy Nursing. Her research is interest on oncology study.

5. **Dyah Erti Mustikawati**
   Dyah Erti M is Directorate Non Communicable Desease Ministry of Health Republic of Indonesia, sub directorate National diabetes mellitus and Metabolic Disorder, Directorate General of Disease Control and Environmental Health. She is graduated from Tulane University, New Orleans, Lousiana, School of Public Health and Tropical Medicine. She is member of pediatric TB Expert Working Group, Global TB Program until present.

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6. **Dr. Titin Andri Wihastuti, M.Kes**
   She is lecturer from School of Nursing UniversitasBrawijaya Indonesia. She is also interest on biomolecular research and highly committed to nursing education refinement. Currently she is on the head of magister nursing University of Brawijaya.

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ANALYSIS ON FACTORS RELATED TO NURSE'S COMPLIANCE WITH STANDARD PRECAUTIONS AT GENERAL HOSPITAL BAHTERAMAS IN THE SOUTHEAST SULAWESI IN 2014

Adi Try Wurjatmiko[1], Ermiati Wali[2]

[1]Department of Nursing, Universitas Brawijaya, Malang, Indonesia
[2]Department of Nursing, STIK Avicenna, Kendari, Indonesia

Email:
ATW: Dhistowurjatmiko@gmail.com
EW: ermywali123@gmail.com

Abstract

Background: Emergency unit is a health care unit that provides an expedient and appropriate medical care to the unplanned attendance of patients. The patients that receive medical attention are of diverse cases of traumatic or non-traumatic experiences and infectious or non-infectious characteristics. Nurses constitute one of the health care providers who frequently come into contact with patients that put them at risk for the transmission and contraction of contagious and infectious illnesses. Disease transmission and infection in the emergency unit have largely to do with the compliance with standard precautions in extending medical cares to patients. This research is aimed to discover factors related to the compliance with standard precautions among nurses in the emergency unit of General Hospital Bahteramas in South East Sulawesi in 2014.

Methods: This research employed *cross-sectional correlationresearchdesign; the sampling technique used is the total population sampling due to the small sample size that is 32 nurses in the emergency unit*.

Results: The Spearman Rank Test showed that there was a relationship between the knowledge level ($\rho = 0.036 < \alpha = 0.05$), training ($\rho = 0.049 < \alpha = 0.05$) and facility availability ($\rho = 0.017 < \alpha = 0.05$),with the nurse's compliance with standard precaution. Meanwhile, working hours do not show direct relation with the compliance with standard precautions as shown in the value of ρ (0.085) > α (0.05). The multivariate result indicates that the availability of facility is a factor which has significant relationship with compliance with the standard precaution as represented by the value of ρ (0.006) < value α (0.05).

Conclusions: Factors related to the compliance with the standard precautions among nurses in the emergency unit of General Hospital Bahteramas in South East Sulawesi in 2014are knowledge, training, and the availability of facility.

Key words: Standard Precautions, Compliance, Knowledge, Training, and the Availability of Facility.

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Background

The application of standard precautions can reduce the risk of exposure to pathogen transmission through blood or body fluids from the known and unknown sources1. The application serves as preventive and controlling measures which must be regularly implemented by the health care professionals on the patients in all health care settings including the hospital2.

Hospitals are the largest health care providers which individual patient immediately turns to for medical attention. Emergency unit is the busiest service center of hospital where patients seek medical attention. The emergency unit caters for patients seeking treatment for their urgent medical problem. The immediate and appropriate actions comprise the working principle of the health care providers at the emergency unit. Nurses are the health care providers who more frequently come into touch with patients than others of professionals. During the provision of cares nurses often neglect the safety such as self-protection and compliance with standard precautions that occupational exposures potentially lead to transmission of health threatening microorganism from patients3.

Based on the national survey conducted in 2,600 hospitals in United States of America (USA) in 2010, there were 68 medical workers experiencing occupational accidents in each hospital and 6 of them came down with illness. The frequent incidence of accidents encompassed the needle stick injuries and sharp injuries while the most infectious disease wasHepatitis B virus4. This fact has been confirmed by the statement that California State Departement of Industrial Relations made that the profession frequently susceptible to occupational incidents with the infectious transmission risk is nurse. In Indonesia the occupational accidents in the general health care settings have not been well-recorded yet according to the Depekes RI5that injuries in hospitals frequently happened at the undertaking of intravenous infusion and the drug injection. This leads to the cross transmission of the infection from the patients to health care workers and vice versa6.

Brevidelli & Tamara 7stated that 68 % of the incident rateresulted from the nurses' non-compliance with standard precautions (Standard precautions) which have been established in certain health care facilities.

This incompliance often triggers the cross transmission of the infectious diseases from patients to nurses and vice versa. Duerink at al8in their research argued that failure to comply with the practice of Standard precautions brought about the incident of accidents responsible for the transmission of infectious diseases. This is in line with what Meta at al9 said that application of the awareness of compliance with Standard precautions is of importance to elevate the nurse's safety and protection from the cross infection. However, the awareness of compliance with Standard precautions in nurses' delivering medical care in clinic setting is frequently found10.

Efstathiou at al11stated that there were several factors related to or affecting the nurses' awareness of compliance with Standard precautions such as the inadequate knowledge, skills, discomfort, and lack of trainings. In Indonesia the low awareness of compliance with Standard precautions is associated with the limited availability of facilities in preventing the infection such as the hand washing facilities, protective equipment, alcohol based hand rub product and the sharps containers for sharp objects8.

General Hospital Bahteramasin the province of Southeast Sulawesi is one of largest hospitals serving as the reference hospital to which the small district hospitals turn. Based on the initial data collected from General Hospital Bahteramas there were 32 nurses delivering medical care to 17,940 patients in 2011, 18,065 patients in 2012, and 12,158 patients in 2013 seeking treatment for urgent problems at the emergency unit.The high time attendance constitutes a huge workload for nurses at the emergency unit to bear which requires immediate and appropriate action. This leads to the nurses' increased susceptibility to accidents and vulnerability to infection. To prevent the incident of accidents and infection, General Hospital Bahteramas has determined to apply the Standard precautions in all areas of health care provision. The Standard precautions find their way into the Standard Operational Procedurewhich requires the compliance from the nurses. Nonetheless, the nurses' compliance with the Standard precautions is yet to be optimized.

The initial survey results obtained from the observation conducted on the 6 nurses on duty at the emergency unit of General Hospital Bahteramas indicated that the nurses hardly heeded the Standard precautions in delivering medical care such as undertaking the intravenous infusion without gloves on, failure to wash hands before and after taking medical actions.

Based on the information above, the researcher is interested in conducting a research entitled analysis on factors related to the nurses' compliance with the standard precautions at the emergency unit of General Hospital Bahteramas in the province of South East Sulawesi 2014.

Methods

The research was conducted using cross sectional correlation analysis to assess the relationship between the independent variables and the dependent variable within a certain period of time .The data analysis employed univariate, bivariateand multivariate spearman rank correlation.The population comprises 32 nurses as a whole at the emergency unit of General Hospital Bahteramasin the SouthEast Sulawesi 2014. This study involves 32 nurses with use total sampling method.

Results

Analisis Univariate

From the table 1 it is found that female nurses are more dominant numbering 28 people (87.5%)mostly aged 23-35 which is 24 people (75.0%), and 20 people having completed diploma in nursing (65.5%).

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Table 1. Frequency distribution of Respondent Characteristics

Respondent Characteristics	N	%
Sex		
Male	4	12.5
Female	28	87.5
Age (year)		
< 23	1	3.1
23-35	24	75.0
> 35	7	21.9
Education level		
High school level nurse	2	6.3
3 year Diploma for Nurse	20	65.5
Bachelor degree in Nursing	8	25.0
Bachelor degree in nursing with Ns Degree	2	6.3

Analysis Bivariate

From the table 2, the results showed that factors related to the compliance with Standard precautions are knowledge ($\rho = 0.036 < \alpha = 0.05$), trainings ($\rho = 0.049 < \alpha = 0.05$)and the availability of facilities ($\rho = 0.017 < \alpha = 0.05$). Meanwhile, working experience have no relation with the compliance with Standard precautions indicated by the value of ρ (0.085) > α (0.05).

Table 2. Bivariate Test

Independent Variabel	Test	Compliance
Knowledge	Spearman	ρ=0.036 α=0.05 n = 32
Working experience	Spearman	ρ =0.49 α =0.05 n = 32
Training	Spearman	ρ =0.085 α =0.05 n = 32
Availability of facilities	Spearman	ρ =0.017 α =0.05 n = 32

Analysis Multivariate

Based on the table 3 the results indicated that independent variables knowledge, trainings, and availability of facilities are said to have a relation with dependent variable (nurses' compliance with Standard precautions) at the value

of Sig (0,006) < value α (0.05). Based on the multivariate analysis results of the three independent variables the availability of facilities variable contributes most as indicated by the highest value of 3.731 followed by training variable at 2.940 and the last variable indicated by knowledge variable at 2.740.

Table 3. Multivariate Test

Variables	Variables In The Equation			Omnibus Tests of Model Coefficiens	
	Beta	**Wald**	**Sig.**	**df.**	**Sig.**
Knowledge	-1.696	2.740	0.098	3	0.006
Trainings	-1.590	2.940	0.086		
The availability of facilities	-1.695	3.731	0.066		
Constant	3.300	7.654	0.006		

Discussions

The Relation Between Knowledge and Nurses' Compliance with Standard Precautions

The distribution of respondents in terms of knowledge indicated that 19 of 32 people (59.4%) showed good knowledge whereas in terms of the compliance with Standard precautions 11 out of 20 people(55.00%) having low knowledge showed non-compliance with Standard precautions. Based on the results, it is assumed that the better or higher knowledge nurses have the more awareness they will show of compliance with the practice of the Standard precautions.

Based on the same results, the knowledge factor has a significant relation with the nurses' compliance with the Standard precautionsas indicated by the obtained value of ρ =0.036 less than the value of α =0d.05. According to Indonesian dictionary knowledge is derived from the stem knowmeaning understanding that all things are known or taught in a certain discipline. The inference made is that most of the nurses working at the emergency unit of General Hospital Bahteramas do not adequately know about the Standard precautions in delivering medical care to patients.

The results are in line with the stance of Nurbaiti12saying that the nurses' compliance is greatly influenced by internal and external factors such as knowledge which predisposes the behavior on health care including the nurses. A complete and thorough knowledge of the relevant guidelines has an effect on the appropriateness of behavior and attitude toward them13.

In general, the working knowledge reinforces the nurses in making up their mind to act and make difference by adopting the positive attitude toward compliance with the established working arrangement. The knowledge based action and attitude will facilitate the carrying out of the guidelines or rules such as the Standard precautions than the actions devoid of the knowledge basis.

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The Relation Between the Years of Working Experience and Compliance with the Standard Precautions

This research expounded that 17 out of 32 people (53.1%) had a medium level of working experience. As far as the compliance is concerned, 13 out of 20 people (65.00%) had a medium level of working experience. The results obtained concerning the relation between the knowledge factor and nurses' compliance with the Standard precautions that the working experience did not show any significant relation with the nurses' compliance with the Standard precautions in all existing respects as indicated by the value of ρ =0.085 which is greater than the value of α =0.05.

The results contradict the statement made by Green at al13that working experience has a positive effect on one's behavior in carrying out guidelines established in his workplace.Besides, the results contradict a concept saying that working experience is aligned with the nurses' compliance with the Standard precautions of certain actions.

The Relation Between Trainings and Nurses' Compliance with the Practice of Standard Precautions

The respondent distribution along the line of trainings indicated that 18 out of 32 people (56.3%) perceived the lack of trainings concerning the Standard precautions. In terms of the level of the compliance, 14 out of 20 respondents (70.00%) showed that they perceived lacking trainings. Hence, it is assumed that the more trainings and the up-to-date knowledge concerning the Standard precautionsone gains the better awareness of compliance he will show and vice versa.

The results that were obtained of the effect trainings have on the nurses' compliance with the practice of Standard precautionsindicated that trainings factor has a significant relation with the nurses' compliance with the Standard precautions as shown the value of ρ =0.049 which is smaller than the value of α =0.05.

The results are in line with Nurbaiti12sargument that the nurses' compliance is greatly affected by the trainings which the nurses receive and the expansion of their horizons. Training is one of attempts to elevate the human resource quality needed in the workplace including the nursing competence.Through trainings nurses will be enabled to conscientiously work through the decision making process to comply with the guidelines and the standard actions nurses take.

The Relation Between the Availability of Facilities and Nurses' Compliance with the Practice of the Standard Precautions

The respondent distribution in terms of the availability of the facilities indicated that 17 out of 32 people (53.1%) said about the inadequacy of the facilities.Concerning the compliance level of the respondents, the results indicate that 14 out of 20 people (70.00%) who said about the inadequacy of facilities did not comply with the Standard precautions. It is therefore assumed that the complete facilities available help one be aware of the application of Standard precautions and practice it.

The results obtained by the researcher of the significant relation between the availability of facilities and the nurses' compliance with the practice of Standard precautions established. This is indicated by the obtained valued of $\rho = 0.017$ which is less than the value of $\alpha = 0.05$

The results are in line with Notoadmodjo's15statement that one of factors influencing nurses' compliance is the availability of facilities instrumental in carrying out the procedure. The non-compliance with the practice of Standard precautions contributes to the low quality of the Standard precautions. The facilities basically support and facilitates the compliance with the guidelines established which are called the supportive factors16. It is in the same vein as Ratnasari's viewpoint17which says that the compliant behavior in the practice of the standard operation procedure including the Standard precautions is influenced by the adequacy of infrastructure and facilities.

Luo at al4concurred that the availability of facilities or completeness of the Standard precautions such as the protective equipment determines the nurses' compliance with the practice of Standard precautions in taking every action to deliver medical care to patients. The facilities available contribute to the creation of workplaceconducive to the enhanced discipline in the practice of the Standard precautions based on the established guidelines18.

Conclusions

Factors related to nurses' compliance with the Standard precautions at the emergency unit of General Hospital Bahteramas in the province of South East Sulawesi in 2014comprise knowledge, trainings, availability of facilities and the availability of standard precautionfacilities. Of the three factors, the availability of standard precautionfacilitieshas largely to do with and influences the nurses' compliance with the application of Standard precautions. Meanwhile, the working experience does not show any relation with the nurses' compliance with the Standard precautions.

It is necessary that all the health care providers including hospitals are capable of facilitating the development of the nurses' essential knowledge concerning the importance of Standard precautions through the trainings of some sort. Besides, hospitals must also provide facilities and complete equipment of standard precautions in every unit of service available.

Declarations

Ethics approval and consent to participate
Not applicable

Consent for publication
Not applicable

Availability of data and materials
I approve if my research data is publicated.

Competing interests
There isn't conflicts of interests in the study

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SELF CARE MANAGEMENT CLIENT DM TYPE 2IN TAMBAKREJO COMMUNITY HEALTH CENTER SURABAYA

Adin Mu'afiro, Joko Suwito, Kiaonarni Ongko W., Irine Christiany

Department of Nursing, Health Polytechnic Ministry of Health Surabaya, Indonesia

Email addresses:
AM: Adinmuafiro70@gmail.com
JS: jokoswpoltekkessby@gmail.com
KOW: kiaonarni@gmail.com
IC: irinesby64@gmail.com

Abstract

Background: Diabetes mellitus is a chronic disease that lasts for life. Complications can be prevented with optimal glycemic control and self-care of the DM client. The study aimed were to identify the suitability of blood sugar and HBA1C levels with DM therapy target and the implementation of self-care management of Type 2 Diabetes Mellitus Client at Tambakrejo Community Health CenterSurabaya.

Methods: The type of research is descriptive. The study population was all DM type 2 clients who underwent treatment at Tambakrejo Community Health CenterSurabaya. The sample size was 30 people. The research variables are blood sugar and HBA1c, the implementation Self Care Management of Client DM type2. The research instruments used were: Result of fasting blood sugar level; HBA1C levels; Self-Care Management DM Questionnaire. Data analysis was done by descriptive 95% confidence level (α = 0,05)

Results: The results showed most (80.0%) DM type2 clients were female. Most clients as housewives are 17 people (56,7%). Average age of DM Type 2 clients was 55.53 years. Duration of illness of client DM type 2 was 5.7 years .The results showed that the lowest fasting blood sugar level was 149.80mg% (sd = ± 52,936mg%; 95% CI: 130,03 - 169,57mg%). The highest fasting blood glucose level was 366,63mg% (sd = ± 129,57mg%; 95% CI: 318,25 - 415,02mg%). The mean HBA1C levels were 8.74% (sd = ± 1.81%; 95% CI: 8.06 - 9.42).Implementation of Self-Care DM Type 2 Client in taking drugs or insulin mostly 66.7% has often been the rule. Most (63.3%) have also frequently performed medical re-control to the doctor. There was 46.7% of DM Type2 clients as recommended in checking blood sugar levels and there are 36.7% of clients who have been recommended in their control and exercise activities.

Conclusions: DM type2 clients at Tambakrejo Community Health Center Surabaya have average fasting blood glucose levels and HBA1C levels are still not reaching Target of Diabetes Mellitus Therapy according to ADA (2010). Client DM Type 2 at Tambakrejo Community Health CenterSurabaya has been frequently self-care (medication/insulin use and health check control). DM Type2 clients partially check blood sugar levels and control diits as recommended, and only a small fraction occasionally engages in activity/ exercise.

Keywords: blood sugar levels, HBA1c, DM self-care

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Background

Diabetes mellitus is a big and growing problem, incurring a very high and over-increasing cost in society[1)] and has emerged as an epidemic worldwide. Lifestyle changes and urbanization appear to be an important cause of this problem, and are continuously increasing in this new millennium. WHO, International Diabetes Federation (IDF) (2017) says there are 415 million adults with diabetes. By 2040 it is estimated to increase to 642 million people. There are 1 in 10 adults with diabetes and as many as 46.5% are undiagnosed.

Indonesia ranks seventh of the world's population affected by diabetes is 10,021,400. Every Six Seconds There is one person died of diabetes. One in eleven (1 in 11) adults have diabetes. Seven out of Ten diabetics develop complications so that quality of life decreases and accelerates the occurrence of death [1)].Diabetic complications can be prevented by optimal glycemic control. Optimum glycemic control is essential. The evidence shows that in Indonesia the target of achieving glycemic control has not been achieved, mean HbA1c is still 8%, still above the desired target of 7%[2)]. The results of Santi and Oktaviana (2013) studies at Lidah Kulon Community Health Center Surabaya showed that most (38.9% of 69 DM clients) had mean random blood sugar levels more than 308,071 mg / dl) and most did HBA1C examination ≤ 5 times In a year[3)]. The lack of good glycemic control is attributable to the deterioration of the client's physiological condition, the avoidance of preventive behavior. glycemic control can use The four pillars of DM control are exercise and regulation of diit (high and low carbohydrate), education and drug consumption [4)].

Diabetes mellitus is a chronic disease that will be suffered for life. Uncontrolled Diabates mellitus makes the journey of complications of illness and death more rapid. Diabetes mellitus clients who experience complications become family burdens and have a high cost of care. By controlling blood sugar levels remained normal it is said that people with DM are controlled, so it is same with normal people. Clients become comfortable, safe, quality of life increases. The objectives of the study were: 1) To identify the suitability of blood sugar and HBA1C levels with DM therapy target and 2) to examine the implementation of self-care management of Type 2 Diabetes Mellitus Client at Tambakrejo Community Health Center Surabaya.

Methods

The type of research is descriptive. The study population was all DM type 2 clients who underwent treatment at Tambakrejo Community Health CenterSurabaya. The sample size was 30 people. The research variables are blood sugar and HBA1c, the implementation Self Care Management of Client DM type2. The research instruments used were: Result of fasting blood sugar level; HBA1C levels; Self-Care Management DM Questionnaire. Data analysis was done by descriptive 95% confidence level (α = 0,05)

Results

Demographic Client DM Type2 at Tambakrejo Community Health Center Surabaya

Table 1. Distribution of sex and Employment Client DM Type2 at Tambakrejo Community Health Center Surabaya

Variable	f	%
Sex		
Male	6	20,0
Female	24	80,0
Total	**30**	**100**
Employment		
Not Working	1	3,3
Household	17	56,7
Civil Servants	1	3,3
Pension	1	3,3
Self-employed	5	16,7
Private	4	13,3
Trade	1	3,3
Total	**30**	**100**

Table 2. Distribution of Age and Duration of Pain in Type 2 DM ClientAt Tambakrejo Community Health Center Surabaya

Variable	Mean	SD±	95% CI
Age (Year)	55,53	11,079	51,40 – 59,67
Duration of illnessDM (Year)	5,70	3,664	4,33 – 7.07

The results of analysis in table 2 obtained the average age of DM Type 2 clients was 55.53 years (SD± 11.079 years). From the interval estimation results it can be believed that 95% of the average age of DM Type2 clients is between 51.40 to 59.67 years.

Result of analysis of Duration of illnessDM type 2 got average is 5,7 year (SD±3,664 year). From the interval estimation results it can be believed that 95% of the average duration of ill of DM Type2 clients is between 4.33 to 7.07 years.

Table 3. Complaints Perceived by Client DM Type 2at Tambakrejo Community Health Center Surabaya

A Perceived Complaint	f	%
Blurry Eyes	6	20.0
Easy to tired, weak, sleepy	8	26.7
The extremities are stiff and numb	16	53.3
Total	30	100

Table 3 showed that the problem of DM Type 2 clients was that most (53.3%) complained was the extremities (hands and feet) felt stiff and numb,

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there were small complaints of blurred eyes and tiredness, weakness and drowsiness, 20.0% and 26.7% respectively.

Fasting Blood Glucose and HBA1C Levels DM Type 2 Client

Table 4 Average Fasting Blood Sugar Level and HBA1C of Client DM Type2 At Tambakrejo Community Health Center Surabaya

Variable	Mean	SD±	95% CI
Lowest fasting blood glucose level (mg%)	149,80	52,936	130,03 – 169,57
Highest fasting blood glucose level (mg%)	366,63	129,575	318,25 – 415,02
HBA1C level	8,74	1,8139	8,063-9,417

Table 4 showed the lowest fasting blood sugar levels in DM type 2 clients of 149.80mg% (SD± 52.936mg%). From the interval estimation results it can be believed that 95% of the lowest fasting blood glucose levels of DM Type2 clients are between 130.03mg% up to 169.57mg%.

The results of the study showed the highest fasting blood glucose levels in DM type 2 clients of 366.63mg% (SD ± 129.575mg%). From the interval estimation results it can be believed that 95% of the lowest fasting blood glucose levels of DM Type2 clients are between 318.25 mg% to 415.02mg%.

The result of measurement analysis of HBA1C content of DM type 2 clients was 8,74% (SD± 1,81%). From the interval estimation result, it can be believed that 95% of the average HBA1C level is between 8.06% to 9.42%.

Implementation of Personal Care Management of DM Type 2 Client

Table 5 Implementation of self Care Management Type 2 DM ClientAt Tambakrejo Community Health Center Surabaya

Self Care Management of client DM Tipe 2	Implementation								Total	
	Same Never		Sometimes		As recommended		often			
	f	%	f	%	f	%	f	%	f	%
Check Blood Sugar Levels	-	-	4	13,3	14	46,7	12	40	30	100
Diit Control	1	3,3	9	30	11	36,7	9	30	30	100
Drug / Insulin Management	-	-	3	10	7	23,3	20	66,7	30	100
Activity / Sports	2	6,7	11	36,7	9	30	8	26,7	30	100
Health Re-Control	-	-	1	3,3	10	33,3	19	63,3	30	100

Based on Table 5 shows that the implementation Self Care Management of Client DM Type 2 care mostly 66.7% has often been in accordance with the rules of therapy in drug or insulin management. Most (63.3%) also have frequent medical re-control to the doctor;

Implementation self care management of client DM type2is almost partially (46,7%) as recommended in checking blood glucose level and there are 36,7% clients which have been recommended in control of their activity and activity.

Discussions

Implementation Self-Care Management of the client DM Type 2 at Tambakrejo Public Health Center at table 6 results mostly 66,7% have often been in accordance with the rules of therapy in the management of medication or insulin. Most (63.3%) have also frequently performed medical re-control to the doctor. Implementation self care management of client DM type2 is almost partially (46,7%) as recommended in checking blood glucose level and there are 36,7% clients which have been recommended in control of their activity and activity. This condition shows the self care management of client DM that is good.

But in fact the laboratory results are still found The lowest fasting blood sugar levels DM clients still have not achieved the target therapy of Diabetes Mellitus clients according to ADA (Fasting Blood Sugar 90-100 mg / dl)[6]. Table 5 shows that the lowest blood glucose level of client DM type2 in Tambakrejo Surabaya Public Health Center is 149.80mg% with estimated interval can be believed 95% of the average fastest fasting blood glucose level of DM Type2 client is between 130,03mg% Up to 169.57mg%.

Measurement results Average HBA1C levels also have not met the Target of Diabetes Mellitus client therapy according to ADA (2010) is HBA1C Control <6.5%. In table 5 From the interval estimation result, it can be believed that 95% of the average HBA1C levels of DM Type 2 clients are between 8.063% to 9,417%.

Various complications can occur in this Diabetes Mellitus client include acute complications (Coma hypoglycemia, ketoacidosis, nonketotic hyperosmolar coma) as well as the development of chronic complications (Macroangiopathy, Microangiopathy, Neuropathy, Nephropathy, Retinopathy, Cardiovascular Disease).

Proven symptoms of micro and macrovascular chronic complications are seen in the complaints felt by DM Type2 clients in table 4 that most (53.3%) of the rigid and numb limbs are signs of peripheral neuropathy. A small percentage (20.0%) have retinopathy, ie blurred eyes.

The presence of symptoms of stiff hands, numbness and blurry eyes indicate the presence of microvascular complications (neuropathy and diabetic retinopathy) [7]. The emergence of symptoms of fatigue, weakness, drowsiness that often disturb clients is a complaint due to chronic degenerative complications in blood vessels and nerves [8]. The complaint is due to insulin deficiency or absence so that glucose can not enter into the cell. This causes the cells in a state of hunger, although blood glucose increases in the body. Glucose can not be used as energy. [9,10].

These symptoms may be more severe if the mean condition of the highest fasting blood sugar levels experienced by DM clients by 366.63mg% is not getting the attention well (table 5). This condition should be a serious concern for the Health Team with families and DM clients to lower their blood sugar levels until they reach the therapeutic target so that clients avoid further complications.

The client DM type 2 at Tambakrejo Community Health Center Surabaya there are two risk factors of diabetes mellitus that can be controlled according

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to ADA that is ≥ 45 years old and there are parents who suffer DM. This condition is found in tables 2 and 3, the average age of DM Type 2 clients is 55.53 years (95% CI: 51.40 - 59.67) and there are 56.7% of DM Type 2 clients who have suffered parents DM.

In Table 2 From the interval estimation results, it can be believed that 95% of the average duration of illness of clients DM Type2 at Tambakrejo Community Health Center Surabaya is between 4.33 to 7.07 years. This condition is dangerous for DM clients if they do not get good treatment can accelerate the damage of micro and macrovascular chronic complications.

In addition, other factors that affect the control of blood sugar levels other factors of education or family knowledge level. Table 1 shows that most (56.7%) are housewives and the average age factor of DM clients is 55.53 years. A person working as a housewife or an elderly has the limitation to understand adequate knowledge about DM including the ability to understand how to prevent further complications of DM.

It is very important to get special attention from the health and family team to perform optimal Glycemic Control. Diabetic complications can be prevented by optimal glycemic control through the four pillars of DM control, exercise and regulation of diit (high and low carbohydrate), education and drug consumption [2)]. Self care management DM in line with these include; Check blood sugar levels (Self Blood Sugar monitor), control diit, proper management of drugs/insulin, activity/exercise and check health regularly.

Conclusions

The conclusions of the research are as ClientDM type2 at Tambakrejo Community Health Center Surabaya still has not reached Target Diabetes Mellitus Therapy according to ADA (Fasting Blood Sugar 90-100 mg/dl ; HBA1c <6,5%). The mean fastest fasting blood sugar level was 149.80 mg% (95% CI = 130.03mg% - 169.57mg%). Average HBA1C levels were 8.74% (95% CI: 8.06% - 9.42%)

Client DM Type 2 in Tambakrejo Community Health Center Surabaya partly has often done self-care (management of drug/insulin use and health check control) as recommended. DM Type2 clients partially check blood sugar levels and control diits according to recommendation, and only a small part occasionally engages in activity/exercise.

For families and clients should increase regular activity of DM Exercise to avoid complications and improve blood circulation. The client should also improve the knowledge of the control of diit as well as practice monitors and self-blood glucose monitoring (self-monitoring glucose) to determine the development of diagnosis and management of diabetes mellitus therapy. For nurses at Institutions Health services should provide knowledge about exercise, control and exercise monitor and self-blood glucose monitor (self glucose monitor) for clients and families Diabetes mellitus tipe2

List of abbreviations

ADA : American Diabetes Association
DM : Diabetes mellitus
CI : Confident Interval

Declarations

Authors' contributions

What each author contributed to the study and writing of the article.

Ethics approval and consent to participate

Not applicable

Consent for publication

Yes, I agree to Consent forthe publication

Competing interests

There is no conflicts of interests here

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EFFECT OF SOY (GLYCINE MAX) AGAINST LEVELS HIGHDENSITY LIPOPROTEIN (HDL) IN RATS (RATTUSNORVEGICUS STRAIN WISTAR) THE HIGH-FATDIET GIVEN

Aditya Nuraminudin Aziz

Department of Nursing, Universitas Brawijaya, Malang, Indonesia
Email addresses:
ANA: aditya.nur08@gmail.com

Abstract

Background: High-fat diet is one of the causes of dyslipidemia which is the cause of atherosclerosis. Of the few studies that have been done previously known compounds isoflavones and lecithin can increase HDL levels. One material containing isoflavones and lecithin is soy milk. HDL is one of lipoproteins that function as reverse cholesterol transport. The aim of this study was to explore the effect of soy milk (Glycine max) to HDL in mice fed a high-fat diet.

Methods: Experimental animals used were 20 rats Rattus norvegicus Wistar males were divided into 5 groups: normal diet (K -), high-fat diet group (K +) and 3 groupswere given a dose of soy milk P1 (0.81) , P2 (1.62) and P3 (3.24) g/ml/rat/day. Measurement of HDL levels by spectrophotometric method, the data analysis of serum levels of HDL using One Way ANOVA.

Results: The results of the data analysis of serum levels of HDL using One Way ANOVA, followed by Post Hoc test significant difference between the levels of HDL in the high-fat diet group (K) is lower than the normal diet group (K +) (r = 0.001). Giving a dose of 0.81 soy milk; 1.62; 3.24 g/ml/rat/day can increase HDL levels (r = 0.141; r = 0.008; r = 0.016)

Conclusions: The positive correlation was seen between soy bean and HDL level. These result indicate that soy bean is useable as a preventive for atherosclerosis, which can increase LCAT to increase the HDL serum.

Keywords: hyperlipidemia, high-fat diet, HDL, soy milk, wistar rats

Background

Coronary Heart Disease (CHD is one of the causes of all deaths in the world are caused by heart disease. An estimated 7.3 million people died of heart attacks and 6.2 million people suffer a stroke where the figure represents 30% of all deaths. It this shows that cardiovascular disease is the third cause of death in the world.1 Based Health Research (RISKESDAS) 2007 PFS in Indonesia was ranked the third leading cause of death after stroke and hypertension, whereas the incidence of CHD of 7.2%.2

Atherosclerosis is one of the causes of CHD are characterized by the thickening of the walls of the coronary arteries. the cause of atherosclerosis one of which is dyslipidemia, abnormalities metabolime fraction of lipids, one of them is HDL (High Density Lipoprotein),in which if the concentration of HDL <35 mg/dl then the person has a risk of developing atherosclerosis.3

HDL or so-called α- lipoprotein is a lipoprotein molecule is the smallest with a diameter of 8-11 nm, has the greatest density in the smallest lipid core. HDL particles remove fat and cholesterol from the cells, including inside the artery wall atheroma, and transport it back to the liver for excretion). Those who have high levels of HDL are less likely to have problems with cardiovascular disease, while those with low HDL cholesterol levels (typically less than 40 mg/dL or about 1 mmol/L) have a high risk for heart disease.4.5

Soybeans are one type of food that a lot being around people and easy to get. One of the processed soy products are much in demand is soy milk. Soy milk is a result of extraction by water, soy milk has a high nutritional content of one of them is the polyphenols. The content of polyphenol compounds include flavonoids and Isoflafon.

Flavonoids (lecithin, isoflavones, genistein and daidzein) contained in soybeans is expected to lower cholesterol levels. In hypercholesterolemia, the protein contained in soy can also lower serum cholesterol levels. In addition to isoflavones and soy protein, lecithin also provide therapeutic effects or prevention of hyperlipidemia and atherosclerosis by lowering cholesterol absorption in the intestinal tract and ultimately can reduce blood cholesterol levels.6

The role of nurses in primary prevention is to provide interventions in prevention efforts. Given the potential of soy is significant in increasing the levels of HDL, it will be very beneficial to the community if it is done by microscopic experimental research related to the benefits and effects of soy in increasing serum levels of HDL in experimental animals were given a high fat diet. The content of the soybean such as isoflavones and lecithin are expected to take effect in increased serum levels of HDL.

Methods

Designresearch true experimental carried out in laboratories in vivo. Rat study sample hundred norvegicus Wistar strain aged 12 weeks with a weight of 150 grams. The total sample of 25 rats were divided into 5 groups. Negative control group with normal diet, the positive control group with a high-fat diet, the group treated with a diet high in fat and soy milk 3 variations doses of 0.81, 1.62 and 3.24 grams. Treatment for 90 days with 14 days of acclimatization. After treatment, the mice examined serum levels of HDL, and the data were analyzed bystatistical One-Way ANOVA

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Results

Increased Weight

There is averagean increase in body weight in all groups. Weight changes of mice receiving end of a normal diet 165.25 grams, positive control mice were given a high-fat diet had an average increase in weight is higher than normal diet which is 191.50 grams. Mice dosage of 1 (P1) have an average weight gain is higher than mice positive control group of 200 grams, the rats group dosage of 2 (P2) have an average weight gain lowest among the other groups were given a diet 175.75 grams of fat are high. Rats 3 dose treatment group had an average weight gain higher than most other groups, namely 289.5 grams.

HDL Level

Table 1. Mean Serum HDL Levels

Group	K- Negative control group	K+ Positif control group	P1 Dose 1	P2 Dose 2	P3 Dose 3
Mean	40,75	29,50	35,50	49,25	33
St. Deviation	± 1,707	± 3,415	± 3,145	± 3,403	± 7,53

Table 2. Result test LSD HDL Levels

Group	K-	K+	P1	P2	P3
K-	-	0,001	0,141	0,008	0.016
K+	0,001	-	0,075	0,000	0,478
P1	0,141	0,075	-	0,000	0,755
P2	0,008	0,000	0,000	-	0,000
P3	0,016	0,478	0,755	0,000	-

The test results Test of normality obtainedvalue of significancy p = 0.970, then the distribution of the data all of the normal group.Testshomogenity of variances seen that p = 0.764. Means that there is no difference between group variance of data were compared. In other words, the data is the same so that the variance ANOVA test requirements are met.

H0 This study is not a significant difference between the groups in the study. With p <0.05 in the ANOVA test H0 this study was rejected. Analysis followed by a Post hoctest that aims to determine which groups differ significantly from the results of tests One-Way ANOVA using test Least Significant Difference (LSD)

From these points can be concluded that the provision of a high-fat diet for 90 days led to increased serum levels of HDL significantly. However, with coadministration of soy milk in various doses in rats given a high-fat diet, showed increased serum levels of HDL significantly in the treatment group P2 and P3 (p = 0.008, p = 0.016). And there is a difference that was not significant (p> 0.05) between the treatment groups P1 with the negative control group (K), meaning that there is an increase in serum HDL levels of the group given two doses of soy milk to near levels of serum HDL in the negative control group.

Discussion

Serum HDL levels with normal diet

The results showed that average levels of HDL in the normal diet group was 40.75 mg / dl, in this group the highest levels of HDL was 43 mg / dl while the lowest HDL levels are 39 mg / dl. From the statistical analysis it is known that there is a significant difference ($p < 0.05$) between kelompk negative control (K) with the positive control group (K +) and the treatment group (P2 and P3). But there are no significant differences by treatment group 1 (P1). This is presumably because the feed is also influential in increasing HDL. Under normal circumstances the body also produces HDL to keep the deposit balance of fatty acids, and increased HDL levels every individual is different because of several factors, such as genetic factors, high-fat diet, lifestyle, physical activity and BMI[7].

In this study, foodstuffs used are Comfeed PARS which contains protein, fat and fiber, wherein the PARS dietary fiber can increase the production of bile acids cause penurunaan absorption of fat and cholesterol.[7]Research done Amelia, 2014 reported that an increase in HDL levels in the normal group and this is because the fiber in PARS. Zhang has examined the physical activity factor to increased serum levels of HDL. Physical activity stimulates LPL surface skeletal muscle, adipose tissue, and liver, resulting in increased LPL and improve the hydrolysis of the TG.

Triacylglycerol to be broken down into free fatty acids and glycerol, along with it, free cholesterol and phospholipids on the surface of the TAG will come apart. Physical activity also improves the action of AMP-activated protein kinase (AMPK) and Silent regulator T1 (SIRT1). An increase in employment of AMPK and SIRT1 will stimulate peroxisome ploriferatoractivated receptor (PPAR) in the liver to promote synthesis of apo AI. Apo AI that is formed will bind to free cholesterol and phospholipids separated from TAG to form new HDL, thereby increasing HDL cholesterol levels.[8]

Levels of HDL in the group were given a High Fat Diet

The results showed that average levels of HDL in the group given itnggi fat diet without soy milk was 29.5 mg / dl, in this group the highest levels of HDL 29 mg / dl while the lowest HDL levels are 21 mg / dl. When compared with the normal diet treatment group significant difference with $p = 0.001$. HDL levels in the positive group given a high-fat diet showed a mean decrease in HDL levels when compared to the normal diet group.

A decrease in HDL cholesterol levels that occurred in the control group (+) after feeding high-fat diet for three months shows that the conditions hiperkolesterolemi still ongoing and affect levels of HDL cholesterolBy feeding hypercholesterolemia will lead to decreased levels of HDL and increased LDL result of the research that has been done by Haviani, 2014 shows the serum levels of HDL in the group with a high-fat diet is the group with the lowest serum levels of HDL. ,[9]

High-fat diet containing polyunsaturated fatty acids in the feed hypercholesterolemia, causing a decrease in HDL cholesterol levels by suppressing the synthesis of HDL cholesterol through reduced levels of apoprotein A-1, which is a precursor to the formation of HDL. Hypertriglyceridemia increases

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catabolism apoprotein A-1 HDL by increasing triglycerides while reducing the cholesterol ester in HDL core

Effect of soy milk on levels of HDL in the group that was given soy milk

Laboratory findings on serum HDL levels is highest in the group P2 is 49.25 mg / dl. Based on the analysis using SPSS obtained that the levels of HDL at doses of 1 and 3 doses when compared to high-fat diet high in not significantly different, with p = 0.075 and 0.478. Meanwhile, at a dose of 2 densest significant difference with p = 0.000

Laboratory findings showed an increase in HDL levels in the treatment group who received soy milk each in a dose 0,81gr; 1,62gr; and 3.24 g, while the positive group decreased HDL levels. At this dose can be deduced that the dose given to the P1 and P3 are less effective in increasing serum levels of HDL.

In each addition of food containing fat, carbohydrates and protein will also increase the value of the calories in asup mice in one day out of the calories that were made by mice of feed given. Excess calories are absorbed by the body will be stored as fat. This condition will also trigger hiperkolesterolemi (Faith, 2004). Non-fermented soy products contain omega-6 and more than omega-3. The imbalance of the ratio between omega-3 to omega-6 will make the body vulnerable to cardiovascular disease. Omega-6 fatty acid is a type of unsaturated fat that is found in vegetable oils, nuts and seeds. When consumed in moderation, omega-6 to bring substantial benefits, especially health begi keep the heart organ. But if omega-6 consumed excessive amounts of omega-6 are metabolized in the body to turn into fat that causes damage and inflammation in blood vessels. Inflammation that will cause the narrowing of the arteries or atherosclerosis [9]

Provision of flavonoids in soy milk at a dose of 0.18 and 1.62 g in 3 ml of distilled water / rat / day along with the provision of a high-fat diet for 90 days menyabkan significantly increase P2 ($p < 0.05$) this shows that administration of soy milk can increase serum levels of HDL significantly. There is a significant difference ($p > 0.05$) HDL serum levels between the group given soy milk P1 with the negative control group (K). This shows that the treatment with a dose of 0.81 g / ml / day / mice was not increased serum levels of HDL if the negative control group.

The ability of isoflavones as an antioxidant depends on their molecular structure. Position chain flavonoid hydroxyl important for her role as an antioxidant and free radical activity to overcome [10]. Mechanism of action of isoflavones which are plant-derived sterols inhibit the absorption of dietary cholesterol and cholesterol produced from the liver.11 content of isoflavones at doses of 0.18 gram possible one can not increase serum levels of HDL at a dose of 1.62 grams of 2 that are in the most optimal dose dosing among others. This is possible because the flavonoids in these doses are optimal remedy inhibit LDL oxidation process, so that serum levels of HDL are obtained at a dose of 2 treatment groups can approach the serum HDL levels in mice with a normal diet.

This study showed that administration of a high-fat diet for 90 days can increase serum levels of HDL significantly and administration of various doses of soy milk can increase levels of HDL serum Wistar rats significantly. Then it

can be concluded that soy milk has a significant effect in increasing HDL serum levels of Wistar rats given a high-fat diet.

Conclusions

Feeding soybean (GlycineMax) at a dose of 0.81 mg / ml / mouse; 1.62 mg / ml / mouse; 3.24 mg / ml / mice could increase HDL levels in the blood of white rats Rattusnovergicus strain wistarwere given a high-fat diet.

The optimal dose administration of soy milk was 1.62 mg / ml / rat, because increased levels of HDL are higher when compared with the other groups who were given soy milk to the normal group.

Declarations

Ethics approval and consent to participate
Not applicable

Consent for publication
Not applicable

Availability of data and materials
I approve if my research data is

Competing interests
There aren't conflicts of interest ni the study

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THE EFFECT OF PROTEIN INTAKE AND PARENT'S HEIGHT ON STUNTING INCIDENCE IN ELEMENTARY SCHOOL STUDENTS IN SURAKARTA, INDONESIA

Agustina Dwi Utami[1], Dono Indarto[2], Yulia Lanti Retno Dewi[3]

[1]Department of Public Health, Sebelas Maret University, Surakarta
[2,3]Medical Faculty, Sebelas Maret University, Surakarta
Email :
ADU: agustina_dwi_utami@student.uns.ac.id
DI: dono@staff.uns.ac.id
YLRD: yulialanti@staff.uns.ac.id

Abstract

Introduction: The prevalence of stunting, according WHO's target, is 20%, while stunting incidence in Indonesia is still substantial (29%), and it is the highest one in South East Asia. The prevalence of stunting in Surakarta is 21.2%. Stunting impacts on the high mortality and morbidity rates, increased disease risk, irreversible body damage, mental retardation and decreased intellectual capacity. This research aimed to analyze the effect of protein intake and parents' height on stunting prevalence in elementary school children in Surakarta.

Method: It is an observational analytical study with cross sectional design and taken place in Surakarta City. The sample of research consisted of 145 respondents. The sample was taken using multistage random sampling technique with primary data source. Data collection was carried out using questionnaire and anthropometry measurement and data processing using a multiple linear regression.

Result: Protein intake (b=0.03; CI 95%=0.01 to 0.04; p<0.001) and mother's height (b=3.16; CI 95%=0.77 to 5.59; p=0.010) decreased the stunting incidence in elementary school students statistically significantly, and father's height (b= 0.60; CI 95%=-2.17 to 3.37; p=0.670) decreased stunting incidence statistically insignificantly.

Conclusions and Recommendation: Protein intake and parents' height decreased stunting incidence in elementary school students. There should be specific nutrition intervention focusing on the first 1000 days of life including pregnant women, lactating women, and 0-23 months children, because the treatment of stunting will be effective in the first 1000 days of life.

Keyword: Protein Intake, Height, Stunting student

Background

Malnutrition still becomes the leading cause of 45% death in under-five age children and childhood is the age most vulnerable to nutrition problem in developing countries. Nutrition problem can occur since the baby is still in uterus until adulthood [1,2].

Stunting is the failure of growing both physically and mentally due to chronic or repeated malnutrition [3]. *Stunting* is the form of malnutrition in children characterized with Z-score less than – 2 SD referring to WHO's standard growth for body length/height below the median by age [4].

Globally, it is estimated that there are 156 millions or 23% of children developing stunting in the world during 2015. The highest prevalence of stunting occurs in Africa (38%) and South East Asia (33%). More than three-quarter (60 millions) of all children developing stunting live in Africa and 59 millions in South East Asia [5].

In Indonesia, 29% under-five age children develop stunting in 2015 with highest prevalence occurring in Nusa Tenggara Timur and Sulawesi Barat Provinces. This figure decreases compared with that in 2013, 37.2%. However, the prevalence of stunting in Indonesia is still the highest one compared with that in neighboring countries such as Myanmar (35%), Vietnam (23%), Malaysia (17%), Thailand (16%),and Singapore (4%). Stunting will impact on disrupted development of body organs such as brain, thereby impacting on children's intelligence [6,7]. The prevalence of stunting in 5-18 year children, according to *Riskesdas* (2013), is 30.7%, consisting of 12.3% very short and 18.4% short. In Central Java Province, 27.6% of children develop stunting consisting of: 11.0% very short and 17.6% short, while in Surakarta City, the prevalence of children stunting includes 3.6% very short and 17.6% [1].

The retarded growth reflects the failure of achieving potential linear growth due to poor health condition and less optimal nutrition having been the main indicators of chronic malnutrition among children, related to cognitive development and disrupted physical ability. Stunting incidence is related to poor social-economic condition, severely and repeatedly infectious disease exposure, poor feeding practice, poor quality of food and inadequate food intake [8,9].

Stunting impacts on high mortality and morbidity rates among children, and on the increase inthe risk of nutrition-related diseases such as diabetes, hypertension and obesity, irreversible body damage, mental retarded development, and decreased intellectual capacityin the future [10].

The factors resulting in stunting, among others, are parenteral level including mothers' working status, education, age, mothers' age when giving birth, lactating mother status, lactating duration, marital status, partner's education, partner's occupation, birth distance, delivery assistant, antenatal visit to clinic, and delivery place; child level including baby's sex and acute respiratory infection, more often occurring in the baby with low birth weight; household level including unsafe food, a household's wealth, and water source; and community level including residence type, caste/class, ecological environment, geographic area and sub region [11].

Considering the background above, the factors resulting in stunting are interesting to be studied so that the objective of research is to analyze the effect of protein intake and parents' height factors on stunting incidence in elementary school children.

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Methods

This study was an analytical observational research with cross-sectional conducted in Surakarta Elementary School. The sample of research was the 4th and 5th graders consisting of 145 students taken using multistage random sampling technique. Data collection was conducted using questionnaire and anthropometric measurement. Data processing was carried out using a multiple linear regression at confidence interval of 95% (p = 0.05) [12].

Results

Table 1 shows characteristics of respondents in which majority 90 or (62.10%) respondents (are 10-12 years old, and male 75 or (51.70%). Most 85 or (58.60%) respondents are the 4th graders.

Table 1. Characteristics of Research Subject

Characteristics	Category	Frequency (n)	Percentage (%)
Age	7 - 9 years	55	37.90
	10 – 12 years	90	62.10
Sex	Male	75	51.70
	Female	70	48.30
Grade	4th grade	85	58.60
	5th grade	60	41.40

The result of univariate analysis is presented in Table 2 and 3 explaining that the mean Z-score of height by respondents' age is -2 – 1 SD, still belonging to normal category. Father and mother's height is on average still in normal category, more than 150 cm. Mean daily proteinintake of children is 80% of allowance, and even more than 110% of allowance.

Table 2. Univariate Analysis on Research Variable

Variable	Mean±SD	Minimum	Maximum
Z-score TB/U	-0.77 ± 1.07	- 3.22	2.87
Mothers' Height	1.55 ± 0.07	1.30	1.72
Fathers' Height	1.67 ± 0.06	1.45	1.86
Family Income (100,000)	25.77 ± 15.75	5	110

Table 3. Univariate Analysis on Protein Intake

Intake	Mean ± SD	Min	Max	% Allowance		
				7-9 yr	10-12 yr Female	10-12 yr Male
Protein (g)	61.75 ± 14.19	34.50	95.80	124.48	102.92	110.27

The result of bivariate analysis using a simple linear regression explains that protein intake has significant positive effect on height per age as indicated with r = 0.37 and p < 0.001. Parents' height has statistically significant positive effect on children's height. Mother's height has strong positive effect on height per age

as indicated with r = 0.38 and p = 0.001 and father's height has significant positive effect on height per age with r = 0.18 and p = 0.034. It is presented in Table 4.

Table 4. Result of Bivariate Analysis using simple linear regression

Variabel	Coefficient of Regression (b)	CI 95%		P	R^2
		Lower Margin	Upper margin		
Protein intake	0.03	0.02	0.04	<0.001	0.14
Mothers' height	4.18	1.81	6.55	0.001	0.08
Fathers' height	3.03	0.24	5.81	0.034	0.03

Table 5 presents the result of multivariate analysis using a multiple linear regression showing that every one unit increase in protein intake will increase height per age or will decrease stunting incidence by 0.03 unit 0.60 unit (b= 0.60; CI 95%=-2.17 - 3.37; p=0.670).

Table 5. Result of multivariate analysis using a multiple linear regression

Variable	Coefficient of regression (b)	CI 95%		p
		Lower margin	Upper margin	
Protein intake	0.03	0.01	0.04	<0.001
Mothers' Height	3.16	0.77	5.59	0.010
Fathers' Height	0.60	-2.17	3.37	0.670
N Observation	145			
Adjusted R^2	0.168			
P	<0.001			

Discussions

Protein intake affects the stunting incidence; the optimum nutrition intake can affect physical growth and children development, good nutrition intake will lead the children to have normal height and weight by their age and safeguard body from infection, but protein intake is very desirable to build and to maintain the cells existing in the body particularly during growth period to help the process of new cell growth.

Dewi and Adhi (2016) states that the children consuming protein inadequately has 10.26higher risk of developing stunting than those with adequate protein intake. Most subjects of research have normal height; it is because the elementary school students' protein intake is more than the daily nutrition allowance by their age [13].

There is a statistically significant positive effect of nutrition (carbohydrate and protein) intake on stunting risk among the children. The result of research shows that high carbohydrate and protein intakes are related to the children's decreased risk of developing stunting by 0.31 time [14].

Mothers' height affects the stunting incidence, while fathers' height does not. Parents with height of more than 150 cm decrease the stunting incidence among children.

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Mothers' height more dominantly affects statistically significantly the stunting in children; mothers' height can be predictive of stunting incidence of 4.44% in children, so thatthe children born from mothers <150 cm tall has 2.06 higher risk of developing stunting [15].

The similar study found that mothers <150-cm tall has 3.20 risk of developing stunting than those ? 150-cm tall, in addition, mothers' body affects their children's height in childhood, with 4.47 risk of being stunted in adulthood. It indicates that mothers' height will affect their children's height, because genetic factor of parents will affect the baby they give birth. The children developing stunting in their under-five year age will have 12.81 higher risk of developing stunting in adulthood [16].

Conclusions

Protein intake consistent with nutrition allowance by age and parents' height affect the stunting incidence among elementary school students. Recalling the effect of stunting incidence, resulting in high mortality and morbidity rate in children, the increase of disease in the future, irreversible body damage, mental retarded development, and decreased intellectual capacity, there should be a specific nutrition intervention focusing on the first 1000 days of life since pregnancy to lactation and to 2 year age, because stunting will be deal with effectively in the first 1000 days of life.

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CASE MANAGEMENT OF NURSING CARE IN THE FAMILY THAT HAVE DEPRESSION BECAUSE OF HIV BY USING APPROACH TO FAMILY CENTERED NURSING: NURSING MODEL FRIEDMAN, BAILON AND MGLAYA

Ahmad Guntur Alfianto[1], Julvainda Eka Priya Utama[2], Kurniawan Erman Wicaksono[3]

[1]Master of Nursing Student, Mental Health Nursing Facultyof Medicine Universitas Brawijaya
[2]Faculty of Nursing, Medical Surgical Nursing Universitas Airlangga.
[3]Master of Public Health Services Management Major Jember of University
Email: ahmad_guntur30@yahoo.co.id

Abstract

Background: HIV disease is one disease that can cause problems are complex. One of theaffects is the psychological health problems including anxiety, stress, frustrated, confused, memory loss, feelings of fear and depression. One of the nurse's role is giving nursing care in the community. Management of nursing care in families suffering from depression as a result of HIV by using family centered nursing with nursing models of friedman, Bailon and Maglaya. The purpose of this study to describe the Management of nursing care in the family who are depressed because of HIV by using family centered nursing and take the nursing models of fridmen, Bailon and Maglaya.

Method: The Method of this study is an observational study research design with descriptive approach and case studies on the family Mr. X (35 years old) who had depressed because of HIV. By using a measuring instrument of Friedmen family nursing model and the developmental tasks Maglaya Bailon family. The study was conducted during a month between December 1st to December 27th,2015.

Result: The results show that the family of Mr. X (35 years old) can take care of family members who suffered from HIV with the ability of the familyMr. X, know and recognize the problems, know how to decide, know and be able to care for family members, knowing how to modify the environment as well as knowing how to use health facilities for family members of Mr.X who had depressed because of HIV.

Conclusions: Family nursing care by using approach family centered nursing withFreadman models, Bailon and Maglya can be implemented to the depressed family because of HIV. Recommended model of family centered nursing care, nursing model of Freidman, Maglaya Bailon and can be used as a family nursing care for the community.

Keywords: Management of family nursing care, Depression due to HIV, Family centered nursing

Background

HIV / AIDS is one of the diseases that can cause complex problems. One of the vulnerabilities of HIV / AIDS is tuberculosis, an infection of the mouth one of which is a fungus, swollen lymph nodes and itchy appearance throughout the body (1). The problem of physical changes can result to psychological disorders such as anxiety, stress, frustration, confusion, memory loss, fear and even depression even to the point of suicide (2).

Depression is a mood or unipolar disorder that causes changes in emotional states and changes in motivation, changes in function to cognitive and motor changes (3). HIV sufferers will be open about their status to certain people even they will also hide the problem to the others, it is caused by stigma of society about HIV is very high so that the impact to self adaptation and health of sufferer (4). These things can cause the sufferer to be isolated, unworthy, embarrassed and emerging feelings of depression.

Malang is one of the urban cities where the society is so diverse that it can cause health problems. The results of the report of Malang city health office in 2014 showed that HIV positive patients who were screen from blood donor were 150 male and 180 were female sufferers. Kedungkandang was a sub district located in the eastern city of Malang, one of the villages in the district was Wonokoyo with the topography of the village was mostly mountain range with characteristic of Javanese tribe with daily language was Madura (5).

When the community assessment was done in the village of Wonokoyo, one of the RW was HIV-infected (Call it Mr. X's family (35 Years old). When the assessment will be done, the family refused, but with the help of the health cadre, the family began to open with others. From the results of the assessment using *Friedman* model family assessment it turns out that the HIV sufferer presents a sign of depressive symptoms.

Nursing care that can be done by nurse in a community for Mr. X's problems who suffered from depression due to HIV was doing empowerment to the family; one of the approaches wasFamily Centered Nursing. Family-Centerd Nursing was the provision of nursing care to families by establishing families with health problems (6). The indicator of success in establishing clients for families was to use the Bailon and Maglaya model (1978) consisting of families knowing problems, deciding health-related issues, caring for sick family members, modifying the environment and utilizing health facilities (7).

Based on that background, the researcher did the management of the nursing care case to the family of Mr. X (35 Years old) with approach model of Friedman, Bailon and Maglaya. The purpose of this research was to describe the management of nursing care in families suffering from depression due to HIV with Family Centered Nursing approach: Fridmen, Bailon and Maglaya nursing model.

Methods

The design of the research used observation by using descriptive study with case study method in the family of Mr. X (35 years old) who suffered from depression caused by HIV in Wonokoyo village of Malang. The study design used a family nursing assessment format using the Fridmen model approach

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and nursing model interventions Bailon and Maglaya. And the research was done in 2015 for one month starting in early December to late December.

Results

A. Assessment

Assessment used in family of Mr. X (35 years) included two approaches: phase 1 and phase 2. In stage 1 using Friedman model with six indicators were: general data, family health history, environment, family structure, family function, stress and family coping. Assessment of phase 2 included assessments according to family health development task, that were : Knowing and analyze, decide, care, modify and utilize health facilities.

B. Nursing Diagnose

1. Lack of knowledge for MR. X's family, it is caused by the ignorance of the family of Mr. X in knowing HIV.
2. Potential complications (depression) occurrence on Mr. X's family due to the inability of family members to care for the sick family
3. Ineffectiveness Health maintenance of Mr. X in the family of Mr. X due to the inability of family members of Mr. X in accessing sick family health care

Based on the three nursing diagnoses that become the priority of the problem was Potential complication (depression) occurrence on Mr. X 's family due to the inability of family members to care for sick family with score 6 through indicator of the nature of the problem, Possible problems could be changed, Potential problems to be prevented and stand out problems.

C. Intervention

The purpose of intervence used in this case was use the Bailon and Maglaya model approach. With intervention modality therapy included Information and Educational Communication (KIE), Counseling, Behavior Modification, training.

D. Implementation and Evaluation

Implemetation conducted that was provided information and education to the family of Mr. X who suffered from depression due to HIV, gaveCognitive behavior therapy (CBT) on Mr. X who suffered from depression due to HIV and trained their activities of Mr. X and family related to the quality of life of HIV sufferers with the evaluation of family health development tasks according to Bailon and Maglaya.

Discussions

The phase of assessment 1 in the Family of Mr. X (35 years old) got the data focus among the family of Mr. X was a core family type. Family of Mr.X (35 years old) consists of father, mother and two sons. The family of Mr.X (35 years old) lived in a a house with his family, but Mr. X (35 years old) had a history of working out of town one year ago as a construction worker for 3 years. Currently Mr. X (35 years old) did not work due to the condition of Mr. X (35 years old) was often sick and had been phonically diagnosed by a doctor with HIV. So the wife of the family of Mr. X sometimes worked as a laundry worker.

Condition of Mr.X since being HIV-infected two months ago by doctors often seemed to be shut down, not wanting to communicate with family, not wanting to bathe and eat, Mr. X also often said if this time embarrassed if he met other people and Sometimes Mr. X often tried to kill himself with his current condition. Sometimes the wife of Mr. X and his children also did not want to met with other people because of the condition of Mr. X who was diagnosed to HIV by a doctor. The Children of Mr. X also did not go to school for fear of being bullied by their friends at school.

The condition of someone with HIV could make a depression problem. The main factor of the depression was cognitive disorder in someone who had HIV. Besides that, the patient with HIV could also cause behavior disorder caused by negative thoughts from the HIV patient (8). In addition to psychological factors of HIV sufferers there were other factors that could cause problems of HIV sufferers, among others family social factors, lack of knowledge, economic problems, and the pressures of life (9).

The economic pressures of the economy made a family to work hard. One of the things that could be done by the family was working out of town to meet the needs of family life. The separation of the family did not create a comfort between families, the risk of infidelity between couple could behappened, it could lead to health problems for someone one of them at risk of contracting sexually transmitted diseases. When a person had been diagnosed with a sexually transmitted disease one of them HIV will felt psychological disorders. One that often happenedwas the problem of anxiety, depression, sleep disorders. Depressive problems for HIV sufferers will affect all aspects of both social, environmental and health aspects.

Family development tasks in nursing care that can be done is by Bailon and Maglaya model approach. This nursing model focused more on nursing care centered on families such as knowing, decide, care, modify and utilize health facilities. In the second stage of assessment, the results obtained were Potential Complications (Depression) happened on Mr. X due to the inability of family members to care for the sick family.

Interventions and implementations that could be applied to the family of Mr. X was implemented in every stage 2 family development task. Implementation at the stage of knowing family health problems of Mr. X may be provided with health education-related HIV issues until their impact on physical and mental health. At the stage of deciding to care for families was given the choice by the nurses related to depression problems in the family of Mr. X. The stage of caring for depressed family due to HIV was given the implementation of behavior modification one of them was Cognitive Behavior Therapy (CBT) and family way of caring for family member having HIV. At the stage of modifying the family environment was taught to be able to use the equipment or facilities available in the home environment as well as the last stage was to facilitate the family to seek help of health services in case of health problems.

The family of Mr. X was able to recognize the problem after being given by researchers on health education signs of HIV disease and its consequences to psychological problems. So the family could decide to care for members of the familywho suffer from HIV depression with modification of CBT therapy behavior. Families who had health problems should had sufficient knowledge

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in caring for their members. One activity increases one's knowledge of a disease by way of health education to a person or family (10). A study in 2013 on providing students with HIV health education with a very significant result of increasing students' knowledge of HIV risk and behavior (11).

Behavior modification actions given to Mr. X was by administering CBT therapy. CBT therapy on Mr. X was given 6 sessions by the researchers, among the first sessions was the examination and the determination of diganose signs of depressive symptoms onMr. X, the second session was to find the root of the problem that came from negative emotions, the deviation of thought processes, and the main beliefs related to the disorder, the third session was to plan the intervention by giving negative-positive consequences to Mr. X, the fourth session arranges a deviant belief in Mr. X, the fifth session performs the choice of behavioral interventions determined by Mr. X was a positive activity. And the sixth session was the prevention and action of modifying the environment and asking for help.

The study, entitled The Effects of Cognitive Behavioral Therapy and the Changes of Depressive symptoms among Thai Adult Hiv-Infected Patients, showed that the results were significant for the treatment of CBT with HIV depression problems in adults (12). In addition, in 2012 there was also research on CBT therapy to adult groups at risk of contracting HIV and the result was very significant to the problem of HIV-infected risk groups (13). From these two studies that CBT therapy could improve the behavior of a more positive, especially was on someone who had depression.

The sixth session on CBT therapy was the ability ofMr.X'sfamily in preventing the recurrence of depression by modifying the environment and the family could choose to seek help for the sick family. In this case, the family of Mr. X might choose to refer a sick member of his or her elderly member by regularly visiting the VCT clinic located at the health services or hospital.

Conclusions

Based on the results of research and discussion can be concluded that care nursing family with approach Family Center Nursing model of Freadman, Bailon and Maglya can be impelmented in family depression caused by HIV. Recommendations model nursing care family Centered Nursing model of Freidman, Bailon and Maglaya can be used as standard of family nursing care in the community.

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QUALITY OF LIFE PATIENT WITH CHRONIC KIDNEY DISEASE

Al'Ana

Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
Email addresses: nurse_alana@yahoo.com

Abstract

Background: Chronic Kidney Disease (CKD) is having kidney damage (most commonly "spilling" protein into the urine) and/or having decreased kidney function that can become life threatening over time and millions die each year because they do not have access to affordable treatment. Chronic Kidney Disease ussualy associated with decreased health related quality of life (HRQoL). HRQoL reflect the welfare of patient on the basis of aspects of functional status like physical, mental and social factor. The aim of literature review was to figure out quality of life patient with chronic kidney disease.

Methods: Process,conducted by searching and analyze all eligible studies from electronic data bases, references, and review articles. Six studies evaluated The Quality of Life patients with CKD. Three studies assessment by SF-36 questionnaire, two studies evaluated by KDQOL 36 and one study evaluated by IQOL.This systematic review involving a total 516 subject who assessment HRQOL.The sample is patients CKD with stage 1-5.

Results: The result of this literature review showed that the quality of life in patients with CKD with evaluated by SF-36 Questionnaire, KDQOL 36 and IOQL are decreased more aspect in quality of life patients with CKD.

Conclusions: There were several changes in Quality of life. A reduction in physical functioning, physical role functioning and in the physical component, beside the most affected HRQoL areas are family life, work and leisure, sleep and rest. The solution to increase QOL patients with CKD: job retraining, understanding the sociocultural environment of the patient. Communication between the healthcare providers, renal replacement therapy.

Keywords: Chronic Kidney Disease, Quality of Life (QoL), Health-Related Quality of Life (HRQoL).

Background

Chronic Kidney Disease (CKD) is having kidney damage (most commonly "spilling" protein into the urine) and/or having decreased kidney function that can become life threatening over time (National Kidney Foundation). Chronic Kidney Disease (CKD) is an important public health problem that is characterized by poor health outcomes and very high health care cost[8]. In fact, 10% of the population worldwide is affected by chronic kidney disease (CKD), and millions die each year because they do not have access to affordable treatment .According the 2010 Global Burden of Disease study, chronic kidney disease was ranked 27th in the list of causes of total number of deaths world wide in 1990, but rose to 18th in 2010. This degree of movement up the list was second only to that for HIV and AIDs [3]. Chronic kidney disease is a worldwide health crisis. For example, in the year 2005, there were approximately 58 million deaths worldwide, with 35 million attributed to chronic disease, according to the World Health Organization[5].Chronic Kidney Disease (CKD) is a common and costly condition to treat[8].

Chronic Kidney Disease ussualy associated with decreased health related quality of life (HRQoL). Health-Related Quality of Life (HRQoL) is a multidimensional and focuses on the effect of the health status of patient on their quality of life [12]. HRQoL reflect the welfare of patient on the basis of aspects of functional status like physical, mental and social factor[4]. Monitoring a patient's functional status and state of well-being, together known as quality of life QoL) measurement is of particular importance in patients with Chronic Kidney Disease. HRQoL assessed CKD using multidimentional measure that across predefined domains that are thought to be relevant to an overall assessment HRQoL[10].

Methods

This systematic review covering scientific literature which describe about Health-Related Quality of Life. The systematic review conducted by searching and analyze all eligible studies from electronic data base such as google scholar, Proquest, Science Direct with the keywords used to search the international journal whichChronic Kidney Disease, Quality of Life (QoL), Health-Related Quality of Life (HRQoL). There are 6 relevant journals that became the main foundation in this article, which have been sorted according to the criteria of exclusion and inclusion.The criteria are (1) The publication of the research article is on the period of 2010 to 2017, (2) the accessibility of clinical practice guidelines is published in international journal through a web-based portal, (3) Specific to identify Quality of Life patients with CKD, (4) the characteristics of respondents by with hemodialysis and retroperitoneal dyalisis(5) the research methods used in the article is a mix of qualitative and quantitative methods, observational, case-control and experiment.

Results & Discussions

The search located six eligible studies. Six studies evaluated The Quality of Life patients with CKD. Three studies assessment by SF-36 questionnaire, two studies evaluated by KDQOL 36 and one study evaluated by IQOL. This systematic review involving a total 516 subject who assessment HRQOL.

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A study in 2009 conclude there were no significant differences in SEIQOL-DW scores between subgroups.SEIQOL-DW scores correlated with mental well-being and inversely correlated with chronic stress and depression[4].

Another studies showed different result. Some study in 2011 with 155 patients were included. Quality of life was rated by the Medical Outcomes Study Short Form 36-Item (SF-36) and functional status by the Karnofsky Performance Scale. Generally, Quality of life decreased in all stages of kidney disease. A reduction in physical functioning, physical role functioning and in the physical component summary was observed progressively in the different stages of kidney disease and the Karnofsky scale three or more comorbidities had an impact on the physical dimension[1].

The same result got by study that was held in 2013. Out of the total 50 patients on hemodialysis, 32 were male (64%) and 18 were female (36%) with mean and median age of patients of 47.14 ± 16.65 and 48.50 years respectively. Out of eight domains studied, energy level, feeling of happiness with life and thought of full energy on self and worning out of life and tiredness perception was found to be equal on pre and post stage. Physical functioning was found to be decreased. Patients on hemodialysis reported improvements in nearly all aspects of general functioning and psychological well-being[2].

Study in 2015 with total of 50 subjects were enrolled in the study, 56% and 44% subjects were on hemodialysis and peritoneal dialysis, respectively. The present study assessed all the four domains of KDQOL in the study subjects. Physical health (PH) was significantly affected among all the four domains of the KDQOL and an average score was found to be 25.45±11.85 ($p<0.0015$). The average value of 71.93±12.35% ($p<0.029$) subjects were having satisfaction with dialysis care, which is lower than the recommended value of <65%. The present study revealed that CKD patients have a poor QOL and most the affected domain is PH, hence measuring and monitoring these aspects of QOL could lead to a more patient-centered care and improve the health and well-being among patients with chronic renal failure[7].

The result of this literature review showed that the quality of life in patients with CKD with evaluated by SF-36 Questionnaire, KDQOL 36 and IOQL are decreased more aspect in quality of life patients with CKD.

Conclusions

There were several changes in Quality of life. A reduction in physical functioning, physical role functioning and in the physical component, beside the most affected HRQoL areas are family life, work and leisure, sleep and rest.

List of abbreviations

1. AIDS-Acquired Immunodeficiency Syndrome
2. CKD-Chronic Kidney Disease
3. HIV-Human Imunodeficiency Virus
4. HRQoL- Health-Related Quality of Life
5. IOQL- Individualized Quality-of-Life
6. KDQOL-Kidney Disease Quality of Life
7. PH- Physical Health
8. QOL-Quality of Life

9. SEIQOL-DW-Schedule for the Evaluation of Individual Quality of Life–Direct Weighting
10. SF-36- Short Form 36-Item

Declarations

Authors' contributions

In this study the author as the main researcher. Authors are directly involved in reviewing the quality of life patients with CKD.

Consent for publication

The study was approved for publication in national and international journals

Conflict of interest

No conflict of interest has been declared by the authors

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GRIEVING EXPERIENCE OF CLIENT WITH SPINAL CORD INJURY ON LONG-TERM INTERMITTENT SELF-CATHETERISATION

Alice Pangemanan

Faculty of Nursing UniversitasPelitaHarapan, Tangerang, Indonesia
Email address:
AP: alice.pangemanan@uph.edu

Abstract

Background: People with spinal cord injury experienced a loss of some body functions under the location of the injury, including the functions of the bladder. This situation leads to some emotional, psychological, and physical responses that affect their life.The study aimed to identify the grieving experience and the meaning of the experience of spinal cord injury individual on intermittent self-catheterisation.

Methods: This phenomenological qualitative method received an ethical approval from Fakultas Ilmu Keperawatan Universitas Indonesia ethics committee. This study involved an in-depth voice-recorded interview with six individuals that has been on intermittent self-catheterisation for five to eight years and were determined by purposive sampling. The non-verbal responses were observed and written in a field note, and the Collaizi's method was used in data analysis.

Result: Eight themes were identified: decision in using intermittent catheter, emotional response, psychological discomfort, modification in voiding related to inaccessible bathroom, physical discomfort, support source, meaning of intermittent self-catheter, and meaning of disability.

Conclusions: The grieving experience of client with spinal cord injury on long-term intermittent self-catheterisation does not focus on the loss of the bladder, but it is more about the whole effect of the injury. Therefore, the support from family, friends, and health care providers will help the client in adapting with the condition after the injury.

Keywords: grieving, long-term intermittent self-catheterisation, spinal cord injury

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Background

Spinal cord injury (SCI) is a condition that causes damage to the spinal cord, conus medullaris and caudaequina, and affects both motor and sensory nerve function [8, 17].One of the disorders of body function caused by the condition of spinal cord injury is a urinary elimination disorder, known as neurogenic bladder (NB), caused by lesions of the nervous system that controls the bladder and sphincter [5, 13]. The incidence of NB is quite high in some neurological cases based on data in the United States, i.e. 40-90% in patients with MS, 37-72% in patients with Parkinson's disease, and 15% in stroke patients [4]. While in Indonesia there is no data about people with SCI, but based on data that was obtained during the clinical practice in December 2013 in the Medical Rehabilitation Room of GedungProfessor Soelarto at Fatmawati Hospital, there are 6 (six) patients who were admitted with SCI and were following the intermittent self-catheterisation (ISC) program. Then, during the preliminary study in March 2014 therewas also data from the medical rehabilitation room nurses of Fatmawati Hospital, that there were 5 (five) patients who were admitted withSCI and were following ISC program. To solve the problem caused by the NB, then the ISC is a bladder management that is recommended for individuals with SCI who have sufficient ability to perform catheterization, or have a caregiver capable of intermittent catheterization as a method of bladder emptying in the case of NB [3]. The ISC program is performed every 4-6 hours. Moreover, based on a comparisson study of indwelling catheter (IDC) and intermittent catheter (IC), the quality of life in patients with ICs was significantly higher than those with IDC for a long time [11]. Nevertheless, Asyiyahin her study of the experience of people with SCI using IC, found that people with SCI on IC experienced grieving [1], yet it has not explored deeply. Ramm & Kane also reported that female patients with SCI who had to use ICs showed a loss and grieving reaction due to loss of normal functioning of the bladder, as well as generating an emotional response during the first IC learning process [10]. In addition, other studies have shown that access to public toilets is often a cause of embarrassment and stress relief due to the difficulty of finding accessible toilets, andor toilet doors that cannot be closed because respondents use wheelchairs to enter the toilet, and the absence of place to put the items needed for catheterizationinside the toilet [16].Grief or sadness is one of the main psychological responses to stress, besides anxiety. This is influenced by the client's perception of stressful events, and also influenced by heredity, temperament, patternsof previous learned responses, maturity, coping strategies, and support systems, such as family and friends who love the client [14]. So it is concluded that grief is a condition thatproduces a variety of responses, that is emotional, physical, and social, to the loss of a valuable thing.The grieving response is highly subjective, not the same for everyone, both in terms of process, every step that passes, the length of time at each stage, which ultimately affects the length of time of mourning until it reaches the acceptance stage [14, 9]. Based on the above phenomena,and previous research recommendations, as wellthere is no research on the grieving experience inpeople with SCIon ISC, it is necessary to examine it deeply.

Methods

Qualitative research method with phenomenology approach was used to gain a deep understandingabout the grieving experience in people with SCI on long-term ISC and how the individual perceives the experience. Six people were determined by purposive sampling technique. Data were obtained through in-depth interviews by the researcheras the main instrument in the study, using a digital recorder, accompanied by field notes, and based on interview guideline. Data analysis was done using Colaizzi's method.

Results

The study participants consisted of 6 (six) clients with SCI who are on long-term ISC. The average age of participants was 36 years old, with an age range of 23 years to 58 years. The duration of IC use, that is known asPikon, also varies, between 5 (five) to 8 (eight) years.

Eight themes identifiedin this study were decision in using intermittent catheter, emotional response, psychological discomfort, modification in voiding related to inaccessible bathroom, physical discomfort, support source, meaning of intermittent self-catheter, and meaning of disability.

Discussion

Post-injury body condition, that is the loss of organ functions from the point of injury to the lower extremities triggered a deep sadness to the participants. Loss of bladder function is one of the effects of spinal cord injury, and it causes feelings of sadness for some participants. But it was better compared to paralysis of the lower limbs. Especially with the tools such as intermittent catheters. Twoparticipants felt sad, frustrated, even weeping because of their condition, but it was not due to urinary disorders, but rather to post-injury conditions. This is similar to the results of a study conducted by Bakes on the life experiences of individuals with SCIon intermittent catheterization, when a participant compared his feelings about intermittent catheters with information that his legs cannot be used anymore, that the information about using a long-term intermittent catheter does not mean anything compared to the reality that he cannot walk anymore [2].

Feeling uncomfortable, upset, scared, sad, and inferior, expressed in the in-depth interviews during the data collection process. The various discomforts are similar to those obtained by Logan, et. al and Ramm & Kane on the experience of learning to use intermittent catheters -feelings of shame, anxiety, and the need to have privacy [6, 10]. Even one of the participants in Ramm& Kane's research stated that the feeling of shame was still very strongly felt even after nine years of using intermittent catheters [10]. Another phenomenon of psychological discomfort that also found was the fear of incorrectly inserting a catheter tube into the urethral meatus, until a mirror was given by the physician to easily identify the urethral meatus. Logan, et. al also found similar findings in research on the learning experience in using intermittent catheters, thatthe female individuals experienced difficulties in identifying the location of the urethra, resulting in recurrent incidence of the catheter tube inserted into the vagina [6]. So the women are usually taught catheterization techniques on the bed and depending on the mirror so that the cathetercouldbe inserted into the urethra.

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The accessibility of the location, in this case the toilet, and other facilities in the toilet became a thing that is important for individuals who use intermittent catheters. To meet individual privacy needs, two out of six participants expressed the experience of looking for a room other than a toilet for catheterization. When privateroom was not available, the participants then performed catheterization outside the toilet cubicle or in the parking lot beside car. Other participants expressed anticipatory action if the location of the activity was not familar, or in other words, whether there were accessible toilet or not, by using diapers while traveling, or adjusting fluid intake. Seth, Haslam, &Panicker also reported that lack of access to public toilets was the most reported barrier [12].

The physical discomfort felt by two out of six participants (P2 and P4) is pain when using an intermittent catheter. Other participants (P4 and P6) also revealed a spastic experience in the penis and or bladder that required both participants to calm down and wait longer to catheterise. Logan et.al in his research also reported the uncomfortable conditions felt by a participant due to muscle spasm and urethral clamping or narrowing of the urethral opening, resulting in difficulty during insertion and frustration during the first few months [6]. It is supported by Wilde, Brash,& Zhang who reported that38% of the study participants complained of catheterization-related pain [16].

The role of support systems in facingthe difficult post-injury situations, especially the use of intermittent catheters is felt to be crucial by participants. Without family support, fellow paraplegics, and health workers, the rehabilitation and adaptation process using an intermittent catheter may be a very difficult and stressful thing. Various information on modification in voiding were obtained from fellow paraplegic friends, or information about the side effects of negligence to catheterization becomes the motivation and reason for some participants to use intermittent catheter. Logan et.al also reported that participants in his study felt receiving good information from nurses who taught about catheters, hygiene, and complications. Even the nurses are labeled as “good,” “fantastic,” “humble,” and “high quality” [6].

Pikon is seen as a solution to the problem of the bladder, a need, a part of life, even some participants say that they cannot live without Pikon. Pikon is felt more comfortable to use than IDC. Previous research has also found similar findings about the catheter described as part of life, and how one of the other participantsexpressed his gratitude for having intermittent catheter [16]. The perception of intermittent catheters for participants’ lives illustrates a condition of acceptance of loss of bladder function experienced.

Living with disability has its own meaning for two participants. Disability are not seen as something that limits themselves in doing things that other people can do, even people without physical disabilities. Both participants expressed how the limitations motivated them to explore all the possibilities that could be done with their limitations. Think more creatively, not give up on situations and conditions, and do the best that can be done. The statement is another proof of an acceptanceafter going through various life experiences with disability. The statement about the limitations experienced by both participants also corresponds to the Meaning-Making and Grief theory which states that the individual who is experiencing the loss will try to interpret his or her loss and

then manage his life to keep moving forward with a new life without some lost body function [7, 15].

Conclusions

People with SCI grieve more on their overal post-injury condition rather than the inability to void normally. It is because there are urinary aids, such as indwelling catheter and diaper when they were admitted in the hospital that makes urinary impairment a problem that can be anticipated compared to other problems arising from spinal cord injuries, such as loss of motor and sensory function in the lower extremities. In addition, family, fellow paraplegia, and healthcare team support are felt very important in helping participants adapt to the post-injury condition.

Declarations

Ethics approval and consent to participate

Ethics approval was gained from FakultasIlmuKeperawatanUniversitas Indonesia ethics committee.

Consent for publication

I give my consent for the material to be published in a scopus-indexed journal or ISBN proceeding.

Availability of data and materials

As per agreement with the participants, the data will not be shared.

Competing interests

There is no conflict of interest in conducting the research.

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FAMILY QUALITY OF LIFE TOWARDS CHILDREN WITH DISABILITY: A LITERATURE REVIEW

Angela A. M. LusiaLaka

Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
Email address: angelamarialaka@gmail.com

Abstract

Background: Family is the most precious treasure possessed by every individual and is the most convenient for the shelter. There are two ways to describe the family function as the unit from family quality of life (FQOL) perspective is the family as a quality meeting place separately from the lives of individual family members and the quality of the overall family experience. Have many families who want to achieve a good quality of life, as desired each individual. Quality of life is often perceived by the happy life and be satisfied when all family members are in good health, habits that are comfortable, have a steady income, able to enjoy life in unity, jointly also be able to learn and correct errors that occur, have in support of their community, and can adapt to socialize with other people in the vicinity. The importance of the concept which is measured related to the quality of family life is always valued higher than the satisfaction or achievement; it indicates that among families around the world there is a perception that the quality of their family life can be improved. The systematic review was conducted to examine how the quality of life of families who have family members with special needs or disabilities, especially in children.

Methods: The source article is used obtained from a search via google scholar, ProQuest, emerald night and science direct from 2012 until 2016. Having obtained, then an assessment of the stage of making articles to systematic review through keyword appropriate the topic and found the article to be reviewed. Search using keywords above are found 63 articles and journals. From all articles and journals that meet the criteria for inclusion are 6 articles and journals.

Results: This literature review examines the 6 international journals related to the quality of life for families who have children with disabilities. The study, obtained from a number of journals and this article describes some of the ways used by researchers to determine how the quality of life of families who have children with disabilities.

Conclusion: There needs to be more research related to effective interventions to improve the quality of family life can be more focused and related to the quality of life of parents in caring for children with special needs or disability.

Keywords: Quality of life, family, children with disabilities

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Background

The family is the most precious treasure possessed by every individual and is the most convenient place to take shelter. There are two ways to describe the family has a function as a unit from the perspective of family quality of life (FQOL): the family as a quality meeting place separately from the lives of individual family members and the quality of the overall family experience (1). Have many families who want to achieve a good quality of life, as desired each individual. Quality of life is often perceived by the happy life and be satisfied when all family members are in good health, habits that are comfortable, have a steady income, able to enjoy life in unity, jointly also be able to learn and correct errors that occur, have in support of their community, and can adapt to socialize with other people in the vicinity.

What happens when comfort was disrupted by the limitations of a family member, in the presence of family members with special needs or with disabilities especially those that occur in children. The family certainly has a different way and behavior in living her life and in meeting the needs of family members. Problems that can't be ignored is related to some family functions where it was said that there was a strategy on parenting style and work effectively for people with disabilities; how the role of the family in dealing with children with disabilities; what strategies should be used to ensure the unity of the family relationship(2). An important issue related to the family as a supporter among others can meet their needs both physically and financially, able to provide informal support for his family either by relatives, friends, neighbors, acquaintances, volunteers, and others.

Addresses associated with the quality of family life, which is collective as a group where it relates to how the feelings of family members on the quality of their family life. This could change based on the response to important events such as the unexpected loss of a family member or have a child with disabilities(3).

The quality of family life has emerged as an important aspect and the aspect of life that is important for families with intellectual and developmental disabilities(4). The issue becomes more complex and challenging, especially when the development of community inclusion requires the parents to get the main support for their children with disabilities. The last 20 years have seen tremendous growth in the literature related to the quality of life of the family based on the practice and research. Overall, this study shows that families around the world to respond to that measurement by using a quality family life as a measuring tool, in the same way, more than expected, especially when considering the cultural and economic differences and diversity in service availability. Some of the key findings that emerged from a collection of research activity that is about the importance of family relationships for the family wherever and for those who appreciate the experience with their family, satisfaction with the service is often an issue noted by the family in almost all countries, especially when the family's needs are not dealt with appropriately; health and financial challenges jeopardize the quality of life several families in all countries; No low universally support from other people in family life (ie., Relatives, friends, neighbors, and others); careers and schools often an important component in the quality of family life, both for carers and people

with disabilities. The importance of the concept which is measured related to the quality of family life is always valued higher than the satisfaction or achievement; it indicates that among families around the world there is a perception that the quality of their family life can be improved. This literature review was conducted to examine how the quality of life of families who have family members with special needs or disability.

Methods

The method used in literature review begins with the selection of topics, and then determined the keywords to search the journal using English and Indonesian through several databases including google scholar, ProQuest, emerald night and science direct. This search is restricted to the journal from 2012 until 2016. Keyword English used is "quality of life", "family", "children with disabilities". Indonesian to using the keyword "quality of life, family, children with disabilities". The journal articles were selected for carried out review based on studies in accordance with the inclusion criteria. Criteria for inclusion in literature review this are related quality lives of families who have family members with intellectual limitations. Search using keywords above are found 63 articles and journals. From all articles and journals that meet the criteria for inclusion are 6 articles.

Results

This literature review examines the 6 international journals related to the quality of life for families who have children with disabilities. The study, obtained from a number of journals and this article describes some of the ways used by researchers to determine how the quality of life of families who have children with disabilities.

The study in the first journals focuses specifically on supporting components of the research findings are used to help families in challenging situations where the theme used was associated with the emotional component of the family to support family members. Even in troublesome situations (for example, financial difficulties, lack of services, and the challenges of family relationships) protection factor family or emotional support tends to explain the greater variation in family relationships. The emotional component is also strongly associated with family participation in support groups where their feelings are validated by other family members, and this kind of support appears to be increasing. Family attitudes and mitigation strategies affect families where a positive perception about feelings of the mother and even their mothers about the situation (eg, sense of coherence mother) has an emotional component that describes the positive aspects of handling. These findings strongly associated with family welfare over and above the typical stressors(3). The importance of partnerships, illustrating the benefits of an interdisciplinary approach in which the social worker focusing on the emotional needs of the family while other service providers tend to instructional needs and behavior of children. Despite interdisciplinary approach is not a new idea for the provision of services to children, this is a reminder and an excellent example of how the family's needs can also be met through an interdisciplinary targeted support in addition to services and support to meet the needs of children(5).

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The other journals conducted a quantitative study to measure the quality of life of families who have family members with disabilities through questionnaires to compare between the two groups called the model person; the first group is a group of families who have family members with disabilities and groups of them is a group of normal family. Researchers observed statistically significant differences in the responses of respondents in both groups at the 0.05 level, and the same difference in 41 items was also at the 0.01 level. Thus confirms that the hypothesis is expected of the fundamental differences in the perception of the elements that make up the quality of life in both groups of respondents. Here we see another way to look at situations involving awareness of respondents, compared to the general situation by members of the control group (with the limits given). Noted that the model of caregiver for both groups is a married woman, who lives in a small village up to 5 thousand inhabitants. He is a middle-aged (between 31 and 50 years) and has a high school education. In other words - in both groups, we collected data on demographic groups with respondents are nearly identical(6).

The other research conducted related to the quality of life for families who have children with disabilities from the perspective of parents and compared with families with children without disabilities, from physical, psychological, social and environmental aspects. Quantitative research was carried out using questionnaires to 100 respondents consisting of 25 fathers and 25 mothers of families who have children with disabilities and 25 fathers and 25 mothers of families with children without disabilities, and is performed by using a test "T-Test". Researchers used a few questions to test the hypothesis given, and the result is, the majority of respondents from families with disabled children rated their quality of life is not poor and not good, but the other respondents are rather poor. Respondents from families with children without disabilities majority rated their quality of life as well as long as there are poor or good, but the rest of the respondents as rather good. Then the minimal difference between how parents of families with children with disabilities and parents of families with children without disabilities are satisfied with their health. Living in a family with a child with or without defects has no effect on the level of satisfaction of mothers or fathers with their health. Family quality of life towards children with disability from poorer physical aspect compare with the quality of life for families with children without disabilities. Respondents from families with a disabled child consider their life meaningful and enjoyable for a fraction compared to families with children without disabilities. Families with children with disabilities are equally satisfied with personal relationships (parents or married couples also with their sexual relationships) and the support they receive from friends and the local community rather than families with children without disabilities. Financial accessibility and information resources and health care of families with a disabled child is much lower than those from a family with children without disabilities(7).

The next research using quantitative methods and the correlation and regression statistics were used to analyze the data, by taking samples from the study of 100 respondents consisting of mothers of children with disabilities (between the age group of 7 to 15 years) learning in school and mothers of special children without disabilities (between the age group of 7 to 15 years old)

studying in regular schools. The result is social support, spiritual awareness and spiritual greatness have a significant and positive relationship with the approach in addressing quality of life of the mother. Social support was significantly negatively correlated with the style of coping approaches(8).

Bhopti, et al. conducted a scoping review to identify the factors that affect the quality of life of families who have family members with disabilities and explore a scale to measure the quality of family life(9). Researchers was reviewed 18 journals with nine quantitative use survey design, seven methods that involve a mix of surveys and interviews, and two qualitative, including an interview published in the years 2005-2013 used tools FQOL measuring scale(family quality of life)and gain FQOL-S results that are reported as a measure of comprehensive, relevant, valid, and reliable quality of life for families who have a member with intellectual disabilities / developmental or autism(9)(10). It also informs the service provider about how to improve the quality of life for families of children with this diagnosis. BC-FQOLS used to measure the effectiveness of services to 64 families attended the ECIS, and the provision of family-centered services emerged as a strong predictor of positive FQOL(11).

Research explores the perception of family quality of life and to determine the factors that support the improvement of the family quality of life. Further identify the relationship between the quality of family life and family-related variables, in particular, the level of family income, employment status, parental educational level, and marital status. Then identify the relationship between the quality of life of families with variables related to children with disabilities(12). This study was conducted using instruments Spanish or catalan version of CdVF-E for families with children under the age of 18 years, depending on the preferences of each family. This scale assessing perceived FQoL in seven dimensions: emotional wellbeing, family interaction, health, financial well-being, organizations and parents, family adjustment, and social inclusion and participation. And obtained the result that the high emotional well-being of the family, even though they are worried about the health and financial well-being(12)(13).

Discussions

Based on 6 journals studied, 5 of them use the same instrument to measure the quality of family life is to scale FQOL (Family Quality Of Life) and from 6 journals 3 of them used the comparison between groups of families in children with disabilities and family groups who do not have children with disabilities.

Improved quality of life needed to adapt to the current. Our experiences and trends in adaptation are also within the limits of tolerance in severe situations(14). Coping is a higher level of adaptation necessary to deal with border and extreme loads (14). Køivohlavýunderstand that the burden of life as a dynamic process in which it comes to transactions. On the one hand, there are people who are given (or families) with certain resources, possibilities, values, beliefs. On the other hand, there is a flaw impose specific requirements on a person (or family) and their influence with variety(15).

Disability-related support from family, friends, and the community is scarce, and caregivers feel reluctant to ask for support. Although it is beneficial

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for Reviews their FQOL. In this scoping review, a lack of services and supports for all family members was a common finding across countries, and negatively affected FQOL (11). Reviews these results are supported by findings from a literature review conducted in Australia(16). The review reported that the quality of life of families of children with disabilities in ECIS benefited from a range of supports and services, such as emotional support, counseling, social support, information provision, strength building, parent-child relationship support, and help with the additional demands and resources(17). Family support has been defined as a set of strategies directed to the family unit, but that benefit Ultimately the individual with disability(17). Although this definition was written for individuals with intellectual disability / developmental delay, it can serve as a starting point to gain a common understanding of "family support" when working within ECIS. Clearly defining supports needed by families to improve Reviews their quality of life is essential for providing enhanced services in ECIS.

In discussing the family quality of life, it is very important to recognize that there is frequently a difference between how different family members perceive the family's quality of life. Research to date has relied mostly on the family quality of life from the main caregiver's perspective (most often, the mother). Although the quality of life literature argues for using both quantitative and qualitative measurement methods, a major focus should be on the perceptions of the individual members of the family, as perception is one of the key drivers of external behavior (18.67). As such, we strongly recommend support for our FQOL-based framework to be family-centered and actively involve; all family members so support needs are equally addressed. Service agencies, themselves, can cause families considerable stress at times. Sometimes families receive very limited support agencies due to restricted resources, overly-restrictive funding or service eligibility criteria, or bureaucratic procedures. Some families live in areas that are so remote that obtaining services is difficult, and stressful (and sometimes costly). Other families do not have members who are skilled at advocating for services or dealing with the assessment and support procedures that are largely implemented a by the service organization. Our examples of the parent to parent support and family-mediated / interventions are implemented a positive one way to ameliorate Reviews These issues. Social support plays an important role in being a good personal and family adaptation. Stress has a negative relationship with the parents, especially the mothers of children with intellectual disabilities. The mother of these children on a network of social support can take advantage of the resources available, including the assistance or advice of individuals in a social support network and to validate the confidence and emotion to help cope more effectively.

Conclusions

After a review of six journals it can be concluded that families with disabled members have a detrimental effect on the quality of life and socio-psychological phenomena and are more likely to feel disadvantaged from their environmental aspects. It is realized that FQOL is quite difficult to implement but it is expected that the framework can simplify the process. With such interventions, it will be easier and easier to implement family plans in improving their quality of life

with the principles in life. Very important to keep in mind that "one size does not always fit all" and that family life can be as complicated as families and life itself. For this reason, we have to keep in mind that there may be other factors affecting FQOL implementation, such as reviews those briefly described above and others.The lack of consistent use of the terminology of what "support" means for families in early childhood intervention, however, is a challenge for professionals to operationalize the results, and for researchers to make comparisons across studies.

Declarations

Authors' contributions

The author contributed in the whole process of main this article

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ANIMAL ASSISTED INTERVENTIONS FOR CHILDREN WITH AUTISM SPECTRUM DISORDER: A SYSTEMATIC REVIEW

Anindya Arum Cempaka

Universitas Brawijaya Malang
Email addresses:
Anindya: anindyaarumcempaka87@gmail.com

Abstract

Background: Animal assisted intervention (AAI), which has been de?ned as the use of an animal to provide therapeutic bene?t based on a positive relationship between the client and the animal, is a therapy option for children with autism spectrum disorder (ASD); therefore, it is benefcial to review studies that evaluated its effectiveness. The reviewed aimed to dtermine the effectiveness of AAI on the increase of social skill among children with autism.

Methods: A systematic search identifed 7 studies that were assessed in terms of (a) purpose, (b) method, (c) major finding, (d) weakness, (e) strenght and (f) Significance to the issue / research questions. Journal taken from google and proquest in 2012 until 2016 with keywords "animal assisted," "animal," "dolphin," "canine," "dog," "equine," "horse," and "pet," paired with " "autism."

Results: The study showed that children social skill increased after AAI treatment. Although AAI studies reported either positive or mixed results, multiple methodological faws were identifed across the literature, which is cause for concern when determining intervention efficacy. Some studies have shown that many children participate in animal assisted interventions, and the majority of their parents reported perceived improvements. On the other hand, one studies conducted by Carlisle (2015) showed there was no signifcant difference in total scores of social skill for children in pet owning and non-pet owning families.

Conclusions: The findings provide support for using AAI as an intervention to facilitate the social communication for children with autism. Because of these contradictory findings and research design limitations, additional inquiry is needed. As such, caregivers and practitioners should exercise caution in selecting AAI as part of an intervention package for children with ASD.

Keywords: animal assisted, animal, dolphin, canine, dog, equine, horse, pet, autism

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Background

Autism spectrum disorders represents a group of related disorders that are characterized by deficits in communication and socialization as well as repetitive and stereotyped behaviors that must be present prior to age three (10). Autistic disorder is characterized by multiple and severe difficulties in social responsiveness, language development, and goal-directed behavior (11). According to the diagnostic and statistical manual of mental disorders fourth edition-text revision (1), a child with autism must demonstrate qualitative impairment in social interactions; qualitative impairment in communication; and restricted stereotyped patterns of behavior, interests, and activities (13). Children with ASD have persistent deficits in social communication and interaction across contexts (7). Those deficits include an inability to initiate interactions; problems with sharing attention, emotions, and interests with others difficulty engaging in age-appropriate social activities; and problems with nonverbal communications, such as abnormal eye contact (7).

Recently, an increasing number of studies have begun to examine the beneficial effects of the inclusion of animals in both recreational and therapeutic interventions Animal Assisted Interventions (3). Children with autism spectrum disorder (ASD) have been highlighted as a target population that may benefit from AAIs, mainly for the recognized ability of some animals to positively engage people, thus potentially counteracting the social withdrawal characterizing these subjects (11). The use of animal-assisted therapy (AAT) has been applied in a wide range of therapeutic settings with children and adolescents (13). Recently, an increasing number of studies have begun to examine the beneficial effects of the inclusion of animals in both recreational and therapeutic interventions Animal Assisted Interventions (4). Children with autism spectrum disorder (ASD) have been highlighted as a target population that may benefit from Animal assisted interventions, mainly for the recognized ability of some animals to positively engage people, thus potentially counteracting the social withdrawal characterizing these subjects (4). The purposed of the study were to tested the effectiveness of AAI in increasing the social communication of children with autism.

Methods

This review consisted of a systematic search and analysis of studies that utilized animals in the treatment of symptoms associated with ASD. The results of the analysis are summarized in the following categories : (a) purpose, (b) method, (c) major finding, (d) weakness, (e) strenght and (f) Significance to the issue / research questions.

Inclusion and Exclusion Criteria

To be included in this review, studies must have been published in English in peer-reviewed journals, but no restrictions on publication date were set. Additionally, the study had to evaluate the effects of animal interaction with at least one child, under the age of 18, with ASD.

Search Procedures

A systematic search was conducted in the following databases: proquest and google scholar. On all databases, the following free-text terms were inserted into the keyword : "animal assisted," "animal," "dolphin," "canine," "dog," "equine," "horse," and "pet," paired with "autism". The abstracts of the resulting articles were reviewed to identify studies for inclusion. A total of 180 studies were identi?ed via the electronic data base search; seven of these met inclusion criteria.

Results

A total of seven studies met the criteria for inclusion in this review. Table 1 summarizes these studies in terms of participant characteristics, dependent variables, independent variables, study outcomes, and certainty of evidence.

Participants

A total of 106 participants received some form of AAI across the seven studies. The sample size per study ranged from one to 73 participants.

Dependent Variables

Although a variety of dependent variables were reported in the studies, the purpose of this review was to summarize the effects of AAI on ASD symptoms. In 6 studies included in the review the effects on social skills (e.g., sharing, eye contact, interactive play, interactions with others) were reported.

Animal Assisted Intervention

AAI is a broad term encompassing a variety of practices involving animals. The results of this review con?rmed the variety among practices of those that incorporate animals for therapeutic bene?t for children with ASD.

Animal selection

The studies included in this review incorporate a wide variety of animals. In 4 studies a dog was included as a component of the independent variable. The second most common animal was a horse, implemented in two studies, and followed by a dolphin, implemented in one studies. The duration of AAI varied across studies as well. In five studies AAI was implemented for one to six months and in another two studies participants engaged in AAI for less than one month.

AAI varied widely in terms of activities taking place with the animals. Two studies taught the child a speci?c skill with the animal, such as mounting and riding a horse. An additional four studies had preplanned games or activities with the animal, such as feeding the animal, petting the animal, and playing fetch. One studiy simply examined the in?uence of the presence of the animal with no specific interaction activities planned.

Study Outcomes

Five of the seven studies found positive results. The remaining one studies found mixed results. No studies found strictly negative results.

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Discussions

It is generally accepted that autism spectrum disorder (ASD) is a group of developmental brain disorders. Children with ASD have core features such as delays in social interaction and communicational behaviors, and stereotyped or repetitive behaviors and interests . They may have dif?culty getting along with others or participating in everyday activities, and learning at school. Autism spectrum disorder (ASD) represents a heterogeneous group of neuro developmental disorders characterized by persistent deficits in social communication and social interaction, and by restricted, repetitive patterns of behavior, interests, or activities (1). Causes of the condition include an intricate combination of genetic and environmental factors, most of which remain still unknown (4).

Some surveys have shown that many children participate in animal assisted interventions, and the majority of their parents reported perceived improvements (3). Studies have suggested that animals are socially attractive to withdrawn children and may be beneficial to children with social deficits (7). It has been hypothesized that intervention strategies based on exploiting the emotional aspects of the relationship with animals also known as animal assisted intervention-might represent an effective tool to dampen withdrawal in individuals who are socially isolated or disconnected, thanks to the ability of animals to offer a unique outlet for positive social engagement (3). Despite the small, but statistically significant, improvements observed in some domains of the children's Fine motor development, Cognitive performance and Verbal development after attending dolphin interaction program.

Borgi, et al (4) reported, children with autism spectrum disorder attending Equine-Assisted Therapy sessions (compared to a control group) had an increase in the social sub-scores of the Vineland Adaptive Behavior Scale. This result is in line with previous research showing that the most commonly reported outcome of equine-assisted programs for children with ASD is an increase in their ability to interact socially (9), as well as increased social motivation and language skills compared to a no treatment control condition (8). The act of riding requires motor skills and control along with active engagement, which may stimulate the cerebellum (2). The basis of their argument stems from past research suggesting that the cerebellum of individuals with ASD is ''malformed'' (2).

Studies by Funashashi (2014) reported, the child with ASD accepted the dog psychologically and emotionally, and he could see the dog's face directly without drawing back from the dog. He could even touch the face of the dog voluntarily. Once this behavioral change happened to the child with ASD, he could make voluntary eye contact with his mother, frequently asking her to help him so that he could hold the dog in his arms by himself. Thus, the dogs seemed to serve as a modulator of the social and affective interactions between the child and his mother, or between the child and the therapist (6).

Conclusions

The results of this systematic review conclude that the evidence to support AAI as therapeutic intervention for children with ASD is weak. However, there are limitations to this research, not the least of which is the unclear definition

of AAI. Some studies may have been inadvertently excluded given the lack of a clear definition for what constitutes AAI. Additionally, studies with negative findings were not available for reasons related to publication, which could have impacted the findings of this review. Future research should address the methodological issues outlined in an effort to better understand the utility and efficacy of AAI. Caregivers and practitioners are cautioned in selecting AAI as it is unclear the impact this may have in treating impairments in social communication and restricted, repetitive behaviors in children with ASD.

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THE RELATIONSHIP BETWEEN KNOWLEDGE AND ATTITUDE OF NURSING PROFESSION PROGRAM STUDENTS IN THE IMPLEMENTATION OF ROOMING-IN

Anita Setyawati[1], Ermiati[2], Mira Trisyani[3]

[1,2,3]Faculty of Nursing, Universitas Padjadjaran, Bandung, Indonesia
Corresponding author : anita.setyawati@unpad.ac.id

Abstract

Background: A neonatal care can cause anxiety among mother. The nurse's support for mother's efforts in caring her newborn baby in early days can be an important factor for the success of the neonatal care further. Based on the observation result in postpartum room, the students have not been able to show good behavior towards implementation of rooming-in. The research aimed to know relationship between knowledge and attitude of the studentsin the implementation of rooming-in.

Methods: The cross sectional design was used in this study. The samples of this study was nursing profession program students, Nursing Faculty, Universitas Padjadjaran, period XXXII. The consecutive sampling technique with 112 students was employed to recruit the sample in this study. The questionnaire of this study used implementation of rooming in questionnaire; consist of knowledge and attitude about rooming-in. Data were analyzed using chi-square.

Results: The results showed there were not significant relationships between knowledge and attitude of the students toward the implementation of rooming-in ($p = 0.925$). The students who have more knowledge and less knowledge, both of them have supported attitude towards implementation of rooming-in. The fifty nine of seventy eight students with more knowledge have support to the implementation of rooming-in. Moreover, the twenty six of thirty four students with less knowledge showed support to the implementation of rooming-in as well.

Conclusions: The students have obtained the subject about rooming-in at the undergraduate degree. So that, it can influence the result of students' knowledge about the rooming-in become more knowledge. In addition, the students also have received subject about caring for patients. Therefore, it can make the students' attitude in positive of nursing care. So that, in this research found that the students have positive attitude in the implementation of rooming-in. It can be conclude that there is no significant relationship between knowledge and attitude of students in the implementation of rooming-in.

Keywords: attitude, knowledge, rooming-in

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Background

During the first half of the twentieth century, mothers and newborns babies were placed in separate rooms (1). It is intended as an effort to prevent transmission of infectious diseases and keep babies in a safe and controlled environment. Until the 1940s researchers found serious implications in psychological and emotional development between mother and baby in separate rooms. So in 1946, Edith Jackson began introducing rooming-in at Grace New Heaven Hospital, USA.

Rooming-inis defined as treatment that facilitates both mother and newborn babies to stay together in the same treatment room for 24 hours (2). The aimsare to help the mother breastfeed her newborn baby as early as possible, to gain the skills of postnatal care, and to improve bonding attachment between mother and newborn babies.

The activity of neonatalcare can cause anxiety for mother especially primipara(3). Therefore, the nursing support for the mother's efforts to do neonatal care in the early days can be an important factor for the success of the neonatal care further. From this, if the attitude of nurses in the implementation of rooming-in has positive, it is expected that the attitude of the mothersin the implementation of rooming-in is also positive and the newbornacquiresthe good care as well.

The nursing profession program studentsare students who have graduated from undergraduate degree in nursing for four years. During undergraduate education, students have been provided with the subject about nursing care for the mother of postpartum and newborn baby, with one of the sub subjects is the rooming-inbetween the mothers and newborn baby. However, based on the observations in the postpartum room, it is found that the students have not positive behavior in the implementation of rooming-in.

Behavior is a form of response to external of organism stimuli, and this response highly depends on other factors of the person concerned. Bloom divided human behavior into three domains: knowledge, attitude, and action (4). Once someone knows the stimulus or health object then makes an assessment of what is known, and the next process is expected to implement what is known or responded to (rated good). So in the implementation of rooming-in, if the students have more knowledge about the rooming-in, the student's attitudes are expected positive to support the implementation of rooming-in as well. Based on the description above, it is necessary to conduct a research to knowis there a relationship between knowledge and attitudes of nursing profession program students toward the implementation of rooming-in?

Methods

The research design of this study was used bivariate correlation analysis. The variables in this study are knowledge and attitude of nursing profession program students. Population in this research was all students of nursing profession program, Faculty of Nursing UniversitasPadjadjaran, period XXXII. Based on the formula of the sample for the correlation test, the sample in this study was 112 students with consecutive sampling technique.

The instruments for data collection in this study used a questionnaire about the implementation of rooming-inwhich contains of questions to determine the

level of student's knowledge and statements to determine the students'attitude. The questionnaires were made by Setyawati (2010) on his research entitled "The Mother ofPostpartum'sBehaviorin Implementation of Rooming-in at MuhammadiyahMaternity Hospital, Cirebon" (5).

The data collection was done by asking to the students to fill out the questionnaires according to the student's choice. The demographic data was categorized based on student characteristics that include gender and the type of undergraduate program (program A or program B). The data obtained from the results of this study are categorical data: the knowledge variable (more, less) and the attitude variable (positive, negative). Therefore, the data analysis used to test the relationship in this study was Chi Square Test.

Results

This research was conducted at Faculty of Nursing Universitas Padjadjaran on August to September 2016.

Table 1. Correlation between Knowledge and Attitude of the Students (n=112)

Knowledge	Attitude				Total		*p*-value	OR
	Positive		Negative					
	n	%	n	%	n	%		
More	59	75,6	19	24,4	78	100	0,925	0,955
Less	26	76,5	8	23,5	34	100		
Total	85	75,9	27	24,1	112	100		

As displayed in Table 1, there is no significant relationship between knowledge and attitudes of studentsin the implementation of rooming-in (p = 0.925, OR = 0.955).

Table 2. Correlation between Characteristics of Students and Knowledge of the Students (n=112)

	Knowledge				*p*-value	OR
	More		Less			
	n	f (%)	n	f (%)		
Gender						
Male	9	81,80	2	18,20	0,499[a]	2,087
Female	69	68,30	32	31,70		
The Type of Undergraduate Program						
Program A	60	70,60	25	29,40	0,699	1,200
Program B	18	66,70	9	33,30		

Table 2 shows that there is no significant relationship between gender and knowledge of studentsabout rooming-in (p = 0.499, OR = 2.087) and there is no significant relationshipbetween undergraduate program and knowledge of studentsabout rooming-in (p = 0.6999, OR = 1.200).

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Table 3. Correlation between Characteristics of Students and Attitude of the Students (n=112)

	Attitude				*p*-value	OR
	Positive		Negative			
	n	f (%)	n	f (%)		
Gender						
Male	7	63,60	4	36,40	0,456[a]	0,516
Female	78	77,20	23	22,80		
The Type of Undergraduate Program						
Program A	60	70,60	25	29,40	0.020	0,192
Program B	25	92,60	2	7,40		

As seen in Table 3, there is no significant relationshipbetween gender with attitudes of studentsin the implementation of rooming-in (p = 0.456, OR = 0.516) but there is a significant relationshipbetween undergraduate program with attitudes of students in the implementation of rooming-in(p = 0.020, OR = 0.192).

Discussion

Rooming-in is a topic that never stops to do research. This is because of the phenomenon that still arises although the rooming-in issue has been developed since the 1940s. These phenomena consist of: (a) rooming-in has not been implemented by several hospitals in various countries and (b) rooming-in has not been performed optimally in hospitals that have already adopted rooming-in.

The study results from Winnicott reported that the mothers who choose not to do rooming-in with their newborn babies consider that the nurses convinced that the infant should stay in the neonatal room during the night (6). This is certainly a warning to the researchers. The negative attitudes of nursesin the implementation of rooming-in can influence a decision of mother to entrust her newborn baby in the neonatal room, so it will reduce the closeness between the mother andher newborn baby.

This study was congruent with a previous study conducted by Svennson, Matthiesen, and Ann-Marie Widstromfound that the mother who entrusted her newborn baby in the nonatalroom felt that the nurse believed that the newborn baby should stay in the neonatal room and assumed that the relationship between mother and newborn baby was unimportant (7).

The results of this study reported that there is no relationship between knowledge and attitude of students in the implementation of rooming-in. The students withmore and lessknowledge have a positive attitude in the implementation of rooming-in. As shown in Table1, the 59 of 78 students have more knowledge and 26 of 34 students have less knowledge, they have positive attitude in the implementation of rooming-in.

In this study, there are characteristics of students, include the gender and type of undergraduate nursing programs. Genderis grouped into men and women. While the type of undergraduate nursing program is grouped into program A and

program B. The program A namely the program for undergraduate nursing students from high school level and program B is a program for undergraduate nursing students who come from the nursing diplomas level.

The result of correlation test between student's characteristic and variable of knowledge indicate that there is no significant relationship between gender and type of undergraduate nursing programs of students with knowledge of students about rooming-in. Table 2 shows that 81.8% of male students and 68.3% of female students have more knowledge of rooming-in; as well as 70.6% of students with program A and 66.7% of students with program B have more knowledge about rooming-in. The students with good knowledge can be analyses that they have obtained the subject about the rooming-inin the nursing maternity lecture at undergraduate level. This finding was congruent with Bloom's theory that knowledge is the result of knowing and occurs after a person performs sensing of a particular object (4). In this study, the students obtain the knowledge through the sense of sight and hearing while attending the college.

While the results of correlation test between the characteristics of students and attitude variables indicate that there was no significant relationship between gender and student's attitudes in the implementation of rooming-in but there is a significant relationship between the undergraduate program with the attitude of students in the implementation of rooming-in. Table 3 shows that 63.6% of male students and 77.2% of female students have a positive attitude in the implementation of rooming-in; as well as 70.6% of students from program A and 92.6% of students from program B have a positive attitude in the implementation of rooming-in. This condition can be caused by the students often obtain the subject about caring while undergraduate level. Without realizing it, this can create the positive attitudes of student in the implementation of rooming-in. This finding was congruent with Bloom's theory that a high of experience and frequently of an object can be the basic of attitude formation (4).

Based on the results of this study, the students are expected to maintain the level of knowledge and their attitude in the implementation of rooming-in. This will be benefit for the students to practice in pospartum room, so they can help the mother of pospartumto good implementation of rooming-in. In addition, the results of study from Chiou, Chen, Yeh, Wu, and Chien'sreported that rooming-in can improve the success of exclusive breastfeeding and breast-feeding after infants over 6 months (8).

Conclusions

The result of this study can be concluded that there was no significant relationship between knowledge and the attitude of nursing profession program students to the implementation of rooming-in.

Abbreviations

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Authors' Contributions

The first author as the initiator of the research idea, while the second and third authors as colleagues in instrumentation and discussers of research results.

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Authors' Information
The authors are lecturers at the Maternity Department, Faculty of Nursing, Padjadjaran University, Bandung, Indonesia.

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DOMINANT OF FACTOR RISK ASSOCIATED WITH KIDNEY FAILURE EVENTS IN HEMODIALYSIS HOSPITAL ROOM JOMBANG

Asri Kusyani[1], Rasidah[2], Zauhani Khusnul[3]

[1]Asrikusyani, Master of Emergency Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
[2]Rasidah, Departement Of Nursing, Stikes Bahrululum Jombang, Indonesia
[3]Zauhani khusnul, Departement Of Nursing, Stikes Bahrululum Jombang, Indonesia
E-mail: asrikusyani84@gmail.com

Abstract

Background: Kidney function is to regulate the balance water, excrete waste material and excess salt in the body, as well as regulate the concentration of salt and acid-base balance in the blood. Thus, in case of failure of the kidneys will result in almost all activities of the organs affected. Factors suspected of causing kidney failure include a history of diabetes mellitus, hypertension, smoking, nephrotoxic drugs, drinking alcoholic beverages and energy. The aim of this study was to determine the dominant factors associated with the risk of kidney failure in hemodialysis hospital room Jombang.

Methods: This was a descriptive analytic study, the population is the entire kidney failure patients in the Hospital Hemodialysis Jombang. With samples from patients with renal failure in hospitals Hemodialysis room Jombang. The sampling technique using non-probability sampling type. consecutive sampling Collecting data using a structured interview using a manual questionnaires then tabulated and analyzed descriptively.

Results: Based on the research mostly kidney failure that occurred in Jombang Hospital Hemodialysis space influenced by a history of hypertension as indicated by the results of 32 people (64%) of the 50 respondents had a history of hypertension.

Conclusions: Factors risk factors that lead to kidney failure include a history of diabetes mellitus, history of hypertension, smoking history, history of nephrotoxic drugs, alcoholic beverages history and the history of drinking energy drinks.

Keywords: Dominant Factor, kidney failure

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Background

The kidneys play an important role in human life. Kidney function is to regulate the balance of water, excrete waste material and excess salt in the body, as well as regulate the concentration of salt and acid-base balance in the blood. While the ingredients needed by the body to be reabsorbed by the cells in the kidney. Thus, if an interruption occurs in the kidneys, almost every organ in the body disturbed. Not only that, if it is late in the handling, it will cause death. To deal with these problems then one way to do is wash the blood. When kidney failure is quite large in all walks of life ranging from small children, teenagers, the youth to the elderly. The number of patients with kidney failure can be seen from the increase in the number of patients undergoing hemodialysis. The factors that were related to the increase in kidney failure one of which is diabetes mellitus, hypertension, smoking, nephrotoxic drugs users, as well as patterns of beverage consumption.

Prevalence of *Chronic Kidney Disease* (CKD) increases every year. In developing countries, the incidence is estimated to be around 40-60 cases per million population per year. In Indonesia, of the data in some part of nephrology, estimated incidence of CKD ranging from 100-150 per 1 million population and the prevalence reaches 200-250 cases per million population. (Bakri, in Indraratna, 2012). In East Java, 1-3 of the 10,000 inhabitants experienced PGK (DHO Indraratna East Java in 2012). While in the hospital hemodialysis room Jombang in 2012 found the number of patients with kidney failure by 171 patients. Number of patients in 2012 is said to increase because in 2011 found only 147 patients.

Risk factors that can lead to kidney failure include diabetes mellitus, hypertension, continuing to damage the small blood vessels in the kidneys which if prolonged would interfere with the ability of the kidneys to filter blood, taking nephrotoxic drugs in the long term can lead to inflammation of the kidney which can lead to kidney failure, as well as patterns of consumption of alcoholic beverages and energy *(supplement)* which can cause the kidneys work more severe and cause kidney failure. Initially, patients generally do not have complaints to the kidneys decreased 90%.

Methods

This type of research is quantitative research, research design used by the researchers is descriptive of a study undertaken to describe or depict a phenomenon that occurs in the community. This research was conducted in RSUDJombang, for 6 weeks. The samples in this study are 50 respondents were selected by *non-probability sampling .consecutive sampling* with the inclusion criteria of respondents in a fully conscious state, have good hearing and are willing to become respondents. In this study, the variable is a single variable that is the dominant factor associated with the risk of kidney failure in hospital room Jombang measurement tool using a structured interview.

Results

The univariate analysis

Table 1. Distribution Frequency Space History of Diabetes Mellitus in Jombang District Hospital Hemodialysis

History Has Diabetes Mellitus	Number	Percentage
There Profile	17	34%
was no history	33	66%
Total	50	100%

Table 1 shows that of 50 at the top note that the length of the respondents suffered from diabetes mellitus before large sebaagian renal failure (41%)> 5 years, and a small percentage (6%) of 3- <4 years.

Table 2. Frequency Distribution of Hypertension in History space Hemodialysis Hospital Jombang

Having A History Of Hypertension	Amount	Percentage
There is a History	32	64%
No history	18	36%
Total	50	100%

Table 2 shows that of the 50 respondents who suffer from kidney failure who previously had a history of hypertension 32 people with a percentage (64%). While that does not have a history of hypertension about 18 people with a percentage (36%).

Table 3. Frequency Distribution History of smoke in the room Hemodialysis Hospital Jombang

Having A History Smoke	Amount	Percentage
There is a history	14	28%
No history	36	72 %
Total	50	100%

Table 3 shows that of the 50 respondents who suffer from kidney failure who previously had a history of smoking for 14 people with a percentage (28%). While that does not have a smoking history of 36 people with a percentage (72%).

Table 4. Distribution Frequency history of nephrotoxic drugs in space Hemodialysis Hospital Jombang

Having A History Of Nephrotoxic Drugs	Amount	Percentage
There is a history	-	
No history	50	100%
Total	50	100%

Table 4 shows that of the 50 respondents who suffer from kidney failure do not have a history of taking nephrotoxic drugs.

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Table 5. Frequency Distribution of history drinks beverages Hemodialysis Hospital in Jombangspace

Carrieshistory Alcoholic Drinks	Amount	Percentage
There history was	2	4%
No history	48	96%
Total	50	100%

Table 5 shows that of the 50 respondents who suffer from kidney failure who previously had a history of drinking alcoholic beverages only two people with a percentage (4%). While that does not have a history of drinking alcoholic beverages as many as 48 people with a percentage (96%).

Table 6. Distribution Frequency Energizing Drink History in Jombang District Hospital Hemodialysis Space

History Having Drinks Energizing	Amount	Percentage
There Profile was	18	36%
No history	32	64%
Total	50	100%

Table 6 shows that of the 50 respondents who suffer from kidney failure who previously had a history of drinking berberenergil about 18 people with a percentage (36%). While that does not have a history of drinking energy drinks are 32 people with a percentage (64%).

Discussions

Risk factors that influence From the above results showed that the risk factor is very influential among others:history of diabetes mellitus, the fact of this study showed the majority of respondents from 50 respondents 17 people with a history of diabetes mellitus, with a percentage (34%) and 7 of they have a history of diabetes mellitus> 5 years with a percentage of 41%. This is consistent with the theory that uncontrolled diabetes is one of the factors the occurrence of diabetic nephropathy. It has been estimated that 35-40% of patients with type 1 diabetes will develop chronic kidney failure within 15-25 years after the onset of diabetes. Medium of type 2 DM less. DM attacks the structure and function of the kidney in various forms and can be divided into five stages. Stage 1, when sugar levels are not controlled, the glucose will be released through the kidneys excessive. This situation makes the kidney hypertrophy and hiperfentilasi. In patients will experience polyuria. These changes are believed to cause glomerulusklerosis focal, diffuse thickening of the matrix consists of mesangeal with eosinophilic material accompanied basalin capillary membrane thickening. When thickening increased and GFR also increasing, then go to stage 2. In stage 3, glomeruli and tubules already suffered some damage. This stage is a typical sign of micro-albuminuria were settled, and hypertension. Stage 4, characterized by proteinuria and decline in GFR. Retinopathy and hypertension is almost always met. Stage 5 is the final stage is characterized by increased BUN and creatinine plasma caused by a rapid

decline in GFR (9). Diabetes mellitus is one of the factors that can damage the kidneys, so the longer a person has a history of diabetes mellitus, the higher the risk of kidney failure and this is because glucose will be released through the kidneys in excess, causing the kidneys work harder. If in the long term it will damage the kidney structure one glomerulus because in glomerular capillaries consist of clots that lead to kidney failure.

History of hypertension facts of factors obtained results of the study most of the respondents had a history of hypertension is of 50 respondents 32 people (64%) have a long history of hypertension with the highest frequency (40%) of 1- <2 years. While the> 5 years only(19%).This is consistent with the theory Sudoyo (17), which said that the severity of the effect of renal hypertension in blood pressure depending on the height and length of suffering from hypertension. The higher the blood pressure in more severe complications that can be caused. Prolonged hypertension can lead to changes in the structure of arterioles throughout the body, characterized by fibrosis and hialisis blood vessel walls. The main target organs adalan heart, brain, kidneys, and eyes. In the kidney, arteriosclerosis due to long-standing hypertension causes Nephrosclerosis. This disruption is a direct consequence of ischemia due to narrowing of the blood vessel lumen intrarenal. Clogged arteries and arterioles will cause damage to glomerular andatrophy, tubular so the whole nephron is damaged. Thus could have known that hypertension is a factor that most influences the occurrence of renal failure. Not only in the long term hypertension can damage the kidneys. However, the vulnerable period of 1-2 years can also cause damage to the kidneys. This is possible due to uncontrolled (high) blood pressure that can lead to changes in blood vessels that will happen intrarenal atherosclerosis that can cause the kidneys work more severe and accelerating damage to the kidneys.

In fact smoking history were obtained from the results of 50 respondents 14 people (28%) have a long history of smoking while respondents take up smoking before renal failure (100%)> 5 years. In accordance with the theory that smoking induces abnormal function in renal vascular endothelial cells through which play an important role in the occurrence of kidney damage. Hemodynamics of renal systems are also affected. The increased pressure causes damage to the glomeruli, which are small filters in the kidneys. As the glomerular filtration rate (GFR) increases, so does the amount of kidney damage. GFR is a good indicator of how well the kidneys are functioning. Smoking also affects the renal arteries, which is the main source of blood to the kidneys (6). The longer a person to take up smoking, the higher the risk of kidney failure. This is due to increased hemodynamic pressure causing damage to the glomerulus. If the glomerulus is damaged, it will be renal failure.

In the history of nephrotoxic drugs research showed that in fact all respondents (50 people) with a percentage (100%) had no history be consuming nephrotoxic drugs. This is consistent with the theory that, one group of nephrotoxic drugs include antibiotics: aminoglycoside, penicillin, tetracycline, amphotericin and drugs: Phenytoin, Fenilbutason, cimetidine and cyclosporine (5). Toxic effects of drugs on the kidney blood vessels causing a decrease in renal blood flow and filtration rate glomulus example endometasin block the production of vasodilator prostaglanin. Substance / drug tubular direct contact

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with the surface of the tubular cells or into the tubular cells in the process of reabsorption or secretion (7). From the above data it is known that kidney failure occurs in the Jombang District Hospital Hemodialysis is not due to a history of consumption of nephrotoxic drugs.

In the history of drinking alcoholic beverages showed that the small proportion of all respondents amounted to 50 people only 2 (4%) had a history of drinking alcoholic beverages. Effects and impacts of liquor one of them is affecting renal function. Regular alcohol intake flow in the body interfere with the body's normal renal function. Alcohol enlarge the kidney, affecting the body's normal hormone function (7). Alcoholic beverages does not mean a lower impact than energy drinks, probably one of the causes of respondents did not consume alcoholic beverages because of their relation to religion / culture.

While In the history of drinking energy drinks was found that out of 50 respondents 18 people (36%) had consumed drinking energy drinks. The long history of drinking energy drinks are predominantly> 5 years with the percentage (44%). This is consistent with the theory according to Manggasa 2012 which said that the indirect effects caused by the toxicity of long-term accumulation of liver damage are very spacious slowly but surely. Work is also increasingly severe kidney with sweeteners, preservatives and dyes in energy drinks. Heavy work the kidneys filter toxic materials will result in tired kidneys, resulting mainly tubular and glomerular damage in the kidney and ending with chronic renal failure (CRF). The longer a person consumes drinking energy drinks, the higher the risk of kidney failure. However, do not rule out the possibility consuming drinking energy drinks within a specified period with a level of frequency that exceeds safe levels can accelerate kidney failure. It is caused due to the accumulation of substances contained in drinking energy drinks. In the energy drinks contained ingredients that can affect the heart rate (heart racing), forcing the heart to work harder. If the heart work harder, it will automatically work ginjalpun increasingly severe over time can lead to damaged kidneys.

Conclusions

Factors risk factors that lead to kidney failure include a history of diabetes mellitus, history of hypertension, smoking history, history of nephrotoxic drugs, a history of alcoholic drinks as well as a history of drinking energy drinks, the results obtained show that the dominant factor of the disease-causing kidney failure happened in Jombang Hospital hemodialysis room is influenced by a history of hypertension as indicated by the results of 64%.

Declarations

Ethics Approval and Consent to Participate

Not applicable

Consent for publication

Not applicable

Availability of the data and materials

I approve my research if the data is publicated.

Competing interests

There is not conflicts of interests in the study

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THE DIFFERENCE BETWEEN GIVE EXCLUSIVE BREASTFEEDING AND FORMULA MILK AGAINST DEVELOPMENT AND GROWTH OF INFANTS AGED 0-6 MONTHS IN WORKPLACE PUSKESMAS DINOYO MALANG

Ayu Wahyuni Lestari[1], Wahidah[2], Kumboyono[3], Dian Susmarini[4]

[1]Master of Emergency Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
[2]Departement Of Nursing, Stikes Yahya Bima, Indonesia
[3,4]Department of Nursing, Faculty of Medicine, Brawijaya University, Indonesia
*Address correspondence to: AyuWahyuni Lestari
Master of Emergency Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
E-mail adress:
Ayu Wahyuni L: ayuwahyunilestari.awl@gmail.com
Kumboyono: publikasikoe@gmail.com
Wahidah: Wahidahishal85@gmail.com

Abstract

Background: The age range of infants 0-24 months is a critical developmental stages that require optimal attention, especially from the parents as the nearest person. Infants aged 0-6 months can grow and develop optimally only by relying on nutrient taken from breast milk. However, mostly Indonesian mothers have to give formula milk to their babies before the age of 6 months. In fact, the lack of breastfeeding in Indonesia causes 5 million children under five years old suffering from malnutrition and the impact on growth and development disorders. The purpose of this study is to determinethe difference between give exclusive breastfeeding and formula milk against development and growth of infants aged 0-6 months.

Methods: The research method is a comparative study with case-control approach. Samples which taken in this study were infants aged 0-6 months (30 infants).

Results: The results shows that from the 15 infants who given exclusively breastfeeding, there are 13 infants (43%) who have normal development and 2 infants (7%) have suspect development. Meanwhile, from the 15 infants who receive formula milk there are 8 infants (27%) have normal development and 7 infants (23%) have suspect development. In addition, the growth obtained from 15 infants who receiving exclusive breastfeeding are absolutely normal (50%), while of 15 infants fed formula milk, there were 13 normal infants (43%) and 2 under standart infants (7%). Based on hypothesis testing using chi square with 95% confidence level measurements is showed that p value of development = 0.012 and p value of growth measurements = 0.03.

Conclusions: So it can be concluded that there is a difference between give exclusive breastfeeding and formula milk for development and growth of infants aged 0-6 months in workplace Puskesmas Dinoyo Malang.

Keywords: Exclusive Breastfeeding, Formula Milk, Development, growth.

Background

Babyhood is a time that will never be repeated in the life of every human individual. Babies are a stage of human development after birth (22). Growth and development of the baby is multidimensional and consists of several interrelated domains including motor, cognitive, social and emotional development (10). Infant 0-24 months age range is a critical development stage requiring optimal attention, especially from the parents as the nearest person. Psychologically, at this stage of age, special needs are needed compared to age. These special needs include adequate nutrition for optimal growth of infants with exclusive breastfeeding (22).

Breast milk is the best natural nutrient for babies with the most appropriate nutritional content for optimal growth and development, because breast milk contains all the nutrients needed to survive in the first six months, including hormones, antibodies, immune factors, and antioxidants (24). The benefits of breast milk contribute to growth and development of infants, protein, fat, electrolytes, enzymes and hormones (8).

Breastfeeding for 6 months without mixing with other liquids such as formula, orange, honey, tea water, water and without additional solid foods such as bananas, papaya, milk porridge, biscuits, rice porridge is called Exclusive Breast Milk (17). Depkes RI (2007) defines exclusive breastfeeding is a breastfeeding only, as soon as the baby is born until 6 months of age without food or other fluids including water, except drugs and vitamins.

Exclusive breastfeeding is based on the decision of the Minister of Health of the Republic of Indonesia No.450 / MenKes / SK / IV / 2004 dated 7 April 2004 which supports the achievement of growth, development and optimal health of infants. After 6 months of age, in addition to breastfeeding may also be given additional food (MP-ASI, breastfeeding food), but the gift should be given exactly when to start giving, what to give, how much is given and the frequency of giving to keep baby's health (25). Supplementary feeding should be tailored to Maturity of the baby's digestive tract and its needs (18). But most mothers have given formula milk to their babies before the age of 6 months. This can be seen from the low achievement of exclusive breastfeeding in Indonesia, namely infants who get exclusive breastfeeding until the age of 5 months is only 14% and 8% to 6 months of age (3).

The low level of exclusive breastfeeding in Indonesia causes 5 million children under five suffering from malnutrition, so it can be said that the health and nutrition status of Indonesian children is still apprehensive. It is characterized by high infant mortality rate annually, about 132,000 children die before the age of 1 year. According to WHO, of all infant deaths, more than half associated with malnutrition and malnutrition and infectious diseases. In addition, malnutrition in infants will adversely affect the growth and development, namely the emergence of psychomotor, cognitive and social disorders and clinically occur growth disorders (4).

Based on the results of observations conducted by researchers in the Area of Puskesmas Dinoyo Malang in 2013, researchers found the baby who experienced suspek during measurement of growth and rampant use of infant formula in infants under 6 months. Related to this the authors are interested to examine more about the difference between exclusive breastfeeding and

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formula milk to the growth of infants aged 0-6 months in the Working Area PuskesmasDinoyo Malang. The purpose of this research is to know the difference between exclusive breast feeding and infant formula to the growth of infant 0-6 months old in the working area of *Puskesmas* Dinoyo Malang. The results of this study are expected to generate interest for researchers and nursing academics to further multiply research in this field as well as provide information for health care facilities for better in providing exclusive breastfeeding counseling on pregnant women and new mothers who gave birth. The benefits to the community are expected to raise public awareness about the benefits of exclusive breastfeeding that has the most perfect nutritional value.

Methods

The design of this study is comparative study by using case control approach. The sampling technique used is nonprobability sampling, that is purposive sampling. In this study using a sample of 30 babies aged 0-6 months in the work area of *Puskesmas* Dinoyo Malang that has met certain criteria. Inclusion criteria are 0-6 months old infants, babies who have not received additional food other than breast milk and formula, babies are not sick. The study was conducted in the work area *Puskesmas* Dinoyo Malang in February-March 2013. Variations of exclusive breastfeeding and infant formula were measured using a questionnaire of 10 questions. To measure growth variables using DDST II sheet and anthrophometry using chi-square test, with 95% confidence level (α = 0,05) with SPSS 16 for windows. So if p value <α (0,05) means that there is relationship between exclusive breast feeding and formula milk to infant growth 0-6 months old baby in working area of *Puskesmas* Dinoyo Malang.

Result

Here will be presented the results of research differences between the giving of exclusive breast milk and formula to the growth of infants aged 0-6 months in the working area of the *Puskesmas*Dinoyo Malang.

Table 1. Frequency distribution of respondent characteristics

No	Description characteristics of respondents	Frequency		Feeding	
		N	%	Exclusive Breastfeeding	Formula
1	Age				
	0-3 months	17	57%	9	8
	4-6 months	13	43%	6	7
2	Gender				
	Male	12	40%	3	9
	Female	18	60%	12	6
3	Job				
	PNS	3	10%	1	2
	Entrepreneur	7	23%	2	5
	Housewife	20	67%	12	8

Based on the table 1 it can be seen that of the total respondents who numbered 30 babies in the Working Area Puskesmas Dinoyo Malang, based on age characteristics there are 17 (57%) infants aged 0-3 months, 13 (43%) infants aged 4-6 months Of which 12 (40%) were male and 18 (60%) were female. Parents in mothers are mostly housewives (20%), and other professions are civil servant (3%), entrepreneur 7 (23%) and mothers giving their babies exclusive breastfeeding as much as 15 (50%), And infant formula 15 (50%).

Table 2. The results of infant development measurements using DDST II

		Development				Total		X^2	P Value
		Normal		Suspect					
		%	f	%	f	%	f		
Feeding	Exclusive Breastfeeding	43%	13	7%	2	50%	15	6.320	0.012
	Formula	27%	8	23%	7	50%	15		
Total		70%	21	30%	9	100%	30		

In the above-mentioned frequency chart of growth and development of the infants, there were 15 infants exclusively breastfed.

Normal development of 43% or 13 babies, and suspect 7% or 2 infants. While formula-fed infants had a normal development of 27% or 8 infants and suspects of 23% or 7 infants. Based on the above description can be concluded that babies who get exclusive breastfeeding have a better rate of development than formula-fed infants.

Table 3. Results of infant growth measurements using anthrophometry

		Growth				Total		X^2	P Value
		Normal		Under standart					
		%	f	%	f	%	f		
Feeding	Exclusive breastfeeding	50%	15	0%	0	50%	15	4.603	0.03
	Formula	43%	13	7%	2	50%	15		
Total		93%	21	7%	2	100%	30		

In the frequency table, the distribution of infant growth was obtained from the total of 30 infants, of whom 15 infants exclusively breastfed 15 (50%) of babies experienced normal growth, and infants fed formula from 15 infants had 13 (43%) infants Which is normal, 2 (7%) infants underdeveloped growth.Based on the above description it can be concluded that infants exclusively breastfed have a normal growth rate compared to formula-fed infants (15 (50%) of babies experienced normal growth.

From the data of measurement result of infant growth with DDST and anthropometry instrument after analyzed by using different test: chi-square test with shoftware SPSS 16 for Windows got result: growth measurement show 0,012 <alpha (0,05) so it can be concluded Ho rejected by Other words there is a difference between exclusive breastfeeding and formula milk to the development of infants aged 0-6 months. Measurement of growth showed 0.03

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<alpha (0,05) so it can be concluded Ho is rejected in other words there is a difference between exclusive breastfeeding and formula milk to the development of infants aged 0-6 months. Based on the results of data analysis above can be concluded that there is a difference between exclusive breastfeeding and formula milk to the growth of infants aged 0-6 months.

Discussions

In this chapter we will discuss the difference between exclusive breastfeeding and infant formula on infant growth 0-6 months in the working area of puskesmas Dinoyo Malang and limited research.

Developmental levels of infants aged 0-6 months exclusively breastfed and formula

The results of this study found that of 30 respondents, 15 babies get exclusive breastfeeding and 15 babies get formula milk. From the results of this study also found that from 30 respondents, when the development measurement using DDST there are 21 babies experienced normal development and 9 babies experienced suspect development. In infants who get exclusive breastfeeding there are 13 infants experienced normal development rate and 2 infants developed suspect development. While in infants who get formula milk there are 8 babies who experienced normal development and 7 babies experienced development of suspect.

From the results of related research on growth and development can be concluded that exclusive breastfeeding can improve the development of infants aged 0-6 months. This is in accordance with the results of research conducted by NurulAzkanuddin (2012) related to the development, the results obtained by the respondents of infants who received exclusive breastfeeding normal development there are 49 babies (55.1%) and the suspect there are 40 infants (44.9%). While infants who received normal developmental progression there were 32 infants (35.6%) and suspected there were 58 infants (64.4%).

This fact contradicts the theory that there is no difference between the development of exclusively breastfed and formula-fed infants due to the nutrients found in breast milk, ie proteins, carbohydrates, fats, minerals, water and vitamins (27) and substances For the development of intelligence and immune substances (16), also found in formula milk. Nutritional content in breast milk is of course different from cow's milk which is a formula milk. The main fat content of breast milk is long-term fat, while cow's milk contains short-fat fats. Long bond fat is the forerunner of DHA and AA for brain development. That's why formula milk producers add their products with DHA and AA content that are not present in cow's milk. However, these additional DHA and AA can only be well absorbed if the baby has sufficient absorption enzymes. In fact, the enzymes in the baby's body is still not fully functional and the number is small. Substances absorption of DHA and AA already contained in breast milk, so easily absorbed by the body. While formula milk is not accompanied by absorption enzyme so that more dependent on baby enzyme that already exist. As a result, absorption is not maximal or even very little. This is in accordance with the theory expressed Narendra et al (2002) states that

breast milk many menagandung LCPUFAs (Long Chain Poly Unsaturated Fatty Acids), namely Arachidonic Acid (AA) and Docosahexanoic

Acid (DHA) in sufficient quantities for the child's brain growth. LCPUFAs are the major fatty acids in the brain and retina. While the formula, the composition uses breast milk as the standard. Formula milk products do have nutritional content that is equated with breast milk, but the amount is smaller than the nutrient content in breast milk. Nutrition disorders in infancy and childhood can inhibit later growth. This is in line with the theory that proves that the baby will grow healthier and more intelligent with exclusive breastfeeding during the first four to six months of life. Breast milk is the best source of nutrition and immunity for growing babies

Increased growth rates of infants aged 0-6 months exclusive breast milk and formula milk

Based on the results of this study were obtained from the total of 30 infants, among them from 15 infants exclusively breastfed, there were 15 babies experienced normal growth, and infants fed formula from 15 infants there were 13 normal babies and 2 infants experienced growth below standard. This is in line with the WHO and UNICEF theories that the failure to grow due to malnutrition in infants causes an 11-point reduction in IQ lower than non-malnourished children. Substances contained in breast milk is a substance needed by infants in the growth process, caused by the content of a perfect breastfeeding so that formula milk can not replace the nutrients contained in breast milk. As said by Hubertin (2004) breast milk contains nutrients, hormones, immune elements, growth factors, allergy, and anti-inflammatory. Nutrition in breast milk includes nearly 200 nutrients. This unsure includes the hydrates of charcoal, fats, proteins, vitamins and minerals in a proportionate amount.

The content of hormone ation is small, but it is necessary in the process of growth and metabolism. The hydrate of charcoal in the ation in the form of lactose whose amount will vary every day according to the growth of the baby. This is in accordance with research conducted by Yawarmansyah (2010) showed that of the 157 samples of most who get exclusive breastfeeding experienced a normal weight gain of 116 samples (73.9%) and no samples that experienced very weight gain less. While those who did not get exclusive breastfeeding from 9 infants all experienced very low weight gain and no babies who experienced more weight.

Differences between exclusive breast feeding and formula milk to infant growth 0-6 months

Development is a gradual change from the lowest level to the highest and complex level through the process of maturation and learning. Developments relate to changes in quality, including the enhancement of individual capa to function achieved through growth, maturation and learning. Growth is related to quantitative change, which refers to quantity, magnitude, and breadth, and is concrete in terms of biological size and structure. Therefore, to achieve optimal infant growth stage, adequate nutrition is required.

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This comparative study aims to compare between exclusive breastfeeding and formula milk to growth of infants aged 0-6 months using DDST and anthropometry. After statistical test with Non Parametric Chi-Square test showed that the result of development shows that P value 0.012 <alpha (0,05) so that it can be concluded Ho is rejected in other words there is a difference between exclusive breastfeeding and formula milk to the development of infants aged 0-6 month. Measurement of growth shows P value 0.03 <alpha (0,05) so that it can be concluded Ho is rejected in other words there is a difference between exclusive breastfeeding and formula milk to growth of infants aged 0-6 months. Based on the results of data analysis above can be concluded that there is a difference between exclusive breastfeeding and formula milk to the growth of infants aged 0-6 months.

One of the factors that influence exclusive breast feeding is working mother. Based on the results obtained from 30 mothers who become respondents there are 3 mothers who work as civil servants, 7 mothers work as entrepreneurs, and 20 mothers who work as housewives. Of 3 mothers who work as civil servants, there are 2 mothers who provide formula milk, and 1 mother exclusively breastfed. Of 7 mothers who work as entrepreneurs there are 5 mothers who give formula milk, 2 mothers give exclusive breastfeeding as well as from 20 mothers who work as housewives there are 8 mothers who give formula milk and 12 mothers who give exclusive breastfeeding . So based on the above data it can be concluded that most respondents work as housewives and most of them based on the results of this study shows the mother who works as a housewife gives exclusive breastfeeding of 12 mothers and 8 mothers who provide formula milk. This shows that mother's awareness is very high in giving exclusive breastfeeding to her baby.

The results of this study in accordance with research conducted by Mia Mega Sari in KelurahanDasanAgung Work AreaPageskesPuskesmas 2005 more mothers who give exclusive breastfeeding than mothers who do not give exclusive breastfeeding as much as 69.4%, while those who do not provide exclusive breastfeeding as much as 30.6%.

Therefore researchers suggest that infants obtain exclusive breastfeeding, which is giving breast milk during the first 6 months of birth without food and or other beverages to grow the baby's growth to achieve optimal growth.

Limitations of the research

1. This research uses case control design so that in observation or observation of growth and growth measurement of children using DDST and anthrophometry performed only one observation.
2. In this study researchers can not control other factors that affect the development and growth in addition to exclusive breastfeeding and formula milk, because development in addition to influenced nutrition is also influenced by the stimulation of parents.
3. The technique of collecting the sample using nonprobability approach so that in determining the criteria of respondents, researchers do not conduct clinical examination of respondents who become research criteria, researchers only ask directly to the mother of the respondent and the observations made by the researchers themselves.

Conclusions

From the results of research and discussion it can be concluded that the development of infants aged 0-6 months in the Working Area Puskesmas Dinoyo Malang, experienced normal development as many as 21 babies and 9 other infants experienced suspect development. Growth of infants aged 0-6 months in the work area PuskesmasDinoyo Malang, experienced normal growth of 28 and 2 otherinfants underdeveloped growth.In infants aged 0-6 months in the Working Area PuskesmasDinoyo Malang, 15 babies get exclusive breastfeeding and 15 babies get formula milk.There is a difference between exclusive breastfeeding and formula milk for infant growth aged 0 -6 months in the working area of ??PuskesmasDinoyo Malang.Infants who are exclusively breastfed have better growth rates than formula-fed infants.

For the community People, especially mothers, should give priority to exclusive breastfeeding, given the many benefits and advantages of breastmilk compared to infant formula and the community should check the development of infant growth to health services as early detection of growth disorders in infants. For health workers Health workers are expected to always be a source of information to provide true information on the benefits of exclusive breastfeeding and its effect on the baby's growth process. For further research To strengthen the validity of the data then the sample used in the study can be reproduced and this research can be followed up by adding factors outside this study such as parental care.

List of abbreviations (optional section)

1. AA : Arachidonic Acid
2. DHA :Decosahexaenoic Acid
3. DDST : Denver Development Screening Test
4. WHO : World Health Organization

Declarations

Authors Contribution

In this study the author as the main researcher.The contributing of the other author is mentor in providing input and direction in the process of preparing the research from chapter 1 to chapter 5.

Ethics Approval and consent to participate

This research is passed the test of proposal by supervisor, followed by process submission to ethics commission. This research has been passed the ethical test by ethical commission of Faculty of Medicine. Research that has received permission from ethical commissions is eligible to be performed in human as a respondent.

Consent for publication

The publication concentration in this research is to develop the science of nursing, especially pediatric nursing

Availability of data and materials

Findings in this study can be published and can be used as supporting data in subsequent research. Researchers hope the publication results of this study may contribute to nursing practice, especially pediatric nursing.

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Competing interests

There are no competing interests involving this study

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DEMONSTRATION EFFECTIVENESS BASIC LIFE SUPPORT TO COMMUNITY CAPABILITY IN PREPARATION TO PROVIDE FIRST-AID VICTIMS OF TRAFFIC ACCIDENTS

Bayu Akbar Khayudin

Master of Nursing Student, Faculty of Medicine, Universitas Brawijaya, Indonesia
Email addresses:
Bayu Akbar Khayudin: bayuakbarkhayudin@yahoo.co.id

Abstract

Background: The accidents are one of the main causes of death, reaching half of all deaths in the world. Statistics prove that nearly 90% of the victims died or were disabled because the victim was left too long or the time was found to have passed the golden time period and the first aid inaccuracy when the first victim was found. Given the high number of deaths due to traffic accidents, the researchers provide BLS training solutions to the community. the aimed of the study was to analyze the Effectiveness of Demonstration Basic life support to Community Capability in preparation to provide first aid casualty accident in Bojonegoro

Methods: Method of "Pre-Experiment", with the design of "One group pre-post test design". With the population is all citizens of Pungpungan Village at Bojonegoro according to inclusion criteria. Sampling technique using Purposive Sampling. Data collection using a checklist.

Result: Majority of participants are female (76,2%). The mean age was 31-40 years old (66,7%). The mean last education of participant a senior high school (38,2%). The Paired sample t-test statistics, at the level of significance, obtained value 0.005 <0.05 then Ho is rejected and H1 accepted.

Conclusion: There is demonstration effectiveness Basic life support to the ability of the community in preparation to provide first aid victims an accident in the Village Pungpungan Kalitidu District Bojonegoro District. So One effort to reduce the death rate due to the high level of accidents that is by providing basic life support training to the community so that the readiness of the community to help victims an accident.

Keywords: Basic Life Support, Capability, first-aid, community, victim

Background

Indonesia is a developing country, from the economy, health, education, even development. The development has negative and positive impacts. The positive impacts of covering the more structured and comfortable the highway, the more skyscrapers, the more companies in Indonesia, the more independent Indonesian nation in transportation. Negative impacts of congestion, forest loss or Greenland in Indonesia and most often happens are many motor vehicle accidents

Accidents are one of the main causes of death, reaching half of all deaths in the world. The accident rate of Jabodetabek area on average in one day happened the accident reached the highest number which is 14 times. The figure is listed by the Jakarta Police Metro Jaya where in the year 2014 traffic accidents reached 5,472 cases or in a day average of 14 accidents occurred. The number of accident numbers in 2015 increased compared to 2014. This incident included minor accidents, serious injuries and even death. The number of accidents from January to September 2015 recorded 487 events. While in the same period in 2014 about 378 events.13

Then from the data in the accident office then Polres Bojonegoro, in 2013 recorded 153 lives floating on the highway with the number 728 incidents of accidents. This number increased compared to the year of 148 deaths with 778 incidents of accidents. Then in 2014 has decreased, recorded death toll reached 134 souls with the number 637 incidents of the accident. Kasat Lantas Police Bojonegoro AKP Oscar Syamsuddin said the accident could not be separated from the increase in vehicle volume in Bojonegoro regency, especially in the Bojonegoro-Padangan area where there are oil and gas projects in Bojonegoro.4

Although the number of traffic casualties this year decreased compared to last year, but the number of traffic accidents that occur is still high, this is due to factors from uneven roads or damaged, lack of lighting, access roads that do not look clear, but most Big is the factor of the perpetrator or the victim himself who lacks the regulatory threshold. Then from the results of interviews from Aiptu Suparnoto said that the most frequent area of traffic accidents or called "black sport" in terms is the Bojonegoro-Padangan and Bojonegoro-Babat road is the most frequent or prone to accidents in Bojonegoro region. Aiptu Suparnoto also asserted that the Laka then both from individuals and inter-agency has never done preventive activities or how to first aid the victim in the event an accident.4

In the emergency conditions, the three most critical things are the first time the first time the victim is found, both the accuracy and accuracy of the first aid given, the three help by a competent health worker. Statistic proves that nearly 90% of the victims died or the disability caused by the victim being left too long or the time was found to have passed the golden time period and the inaccuracy and accuracy of first aid when the first victim was found.10

Emergency conditions can occur anywhere, anytime. It is the duty of health workers to handle the problem, but it is possible that emergency conditions can occur in areas that are difficult to reach health workers, hence the participation of the community to help the victim before being discovered by health workers becomes very important. (Sartono, 2013). Society does not know what to do when there is an accident. People tend to be silent and even

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afraid to do anything to the victims of the accident. The range of emergency conditions can be divided into three namely: pre-hospital, in-hospital, post-hospital. In this pre-hospital range can occur anywhere and at any time, then the role of society, special lay, and health members are expected to take action handling emergency conditions that are by evacuating and doing basic life support.10

Basic life support is a series of life-saving endeavors in cardiac arrest. Should be attached to the Indonesian community in the hope of lifting the life expectancy of the Indonesian people. But in reality, the Indonesian people have understood a lot about basic life support. Only healthcare professionals know about basic life support. In developed countries like USA, UK, and others, every layer of society knows and performs BLS when there are patients with cardiac arrest or accident.1

Given the high number of deaths due to traffic accidents, it is a necessary solution to reduce the death rate of one of them by providing basic life support training to the community so that the readiness of the community to help casualties accident.Dari explanation of the above problems researchers interested in researching Demonstration Effectiveness Basic life support against The ability of the community in preparation to provide first aid victims of Laka Lantas in the village of Pungpungan Kalitidu Bojonegoro

Methods

The research was conducted using "Pre-Experiment", with the design of "One group pre-post test design". With the population is all citizens of Pungpungan Village at Bojonegoro according to inclusion criteria. Sampling technique using Purposive Sampling. Data collection using a checklist.5,6,8,9

Results

Based on the data it can be seen that the majority of female respondents are as many as 16 women (76, 2%) and the Most respondents aged 31-40 years as many as 14 (66.7%). And the employment data of the respondents worked as farmers are 12 (57, 1%). Respondents' education data are some high school graduates that are 8 (38,2%). Finally, From the result of SPSS 16.0 on Paired sample T-Test test, it can be seen that the value of significance gained for demonstration effectiveness Basic life support to the ability of the community in the preparation of providing first aid accident victims then is 0.005. With a significance level of 5%, 0.005 <0.05 so H1 is accepted and concluded there is demonstration effectiveness Basic life support to the ability of the community in preparation to provide first aid victims accident.12

Discussions

Based on the result of SPSS 16.0 on Paired sample T-Test it can be seen that the value of significance obtained for demonstration effectiveness Basic life support to the ability of the community in the preparation of providing first aid accident victims then is 0.005. With a significance level of 5%, 0.005 <0.05 so H1 is accepted and it is concluded there is demonstration effectiveness Basic life support to the ability of the community in preparation to provide first aid victim accident then.

Basically, skill is an individual thing. Each individual will have different skill levels depending on his or her ability and experience. Skill is also a skill or skill a person has for doing a job and can only be acquired through practice, both in training and through experience, so that training can take care of one's skills (Darma, 2013: 3-6).

Emergency conditions can occur anywhere, anytime. It is the duty of health workers to deal with the problem, but it is possible that emergency conditions can occur in areas that are difficult to reach health workers, so the participation of the community to help the victim before being discovered by health workers becomes very important. According to the researcher, based on the existing theory that BLS training (Basic Life Support) in society can improve skill, courage, and community preparation in helping the accident victims. The solution that can be done for the readiness of the residents in helping the victims of the accident then needs to be done regular BLS training and ask citizens awareness of how important BLS in preparation to help victims of accidents when health workers have not come to the scene.

List of abbreviations

USA: United States of America.

Declarations Authors' contributions

Authors Participated in the design of the research. authors were part of Conclusions and the final result. IM drafted the manuscript and authors read and approved the final manuscript.

Authors' information

Master of Nursing Student, Faculty of Medicine, Universitas Brawijaya, Indonesia

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Ethics approval and consent to Participate

Researchers have been taking care of permits service of research on Insan Cendekia Husada College and BANGKESBANGPOL Bojonegoro City, kalitidu district. Before the research begins, the researcher has gained informed consent from participants willing to engage in voluntary research.

Consent for publication

Not applicable.

Availability of the data and materials

Data may be shared with the contact email address on the author.

Competing interests

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THE PROTECTION OF REPRODUCTIVE HEALTH FOR COMMERCIAL SEX WORKERS POST CLOSURE DOLLY IN SURABAYA

Danty Indra Puspitaningtyas[1], Argyo Demartoto[2], Bhisma Murti[3]

[1]Department of Public Health, Sebelas Maret University, Surakarta
[2]Department of Sociology, Social and Political Sciences Faculty, Sebelas Maret University, Surakarta
[3]Department of Public Health, Sebelas Maret University, Surakarta

Corresponding author: dantyindra@student.uns.ac.id/+6285732850663
Email addresses:
Oral_dantyindra@student.uns.ac.id.
argyodemartoto_fisip@staff.uns.ac.id
bhisma.murti@staff.uns.ac.id

Abstract

Background: Commercial Sex Workers or CSWs are risk for reproductive health problems, such as abnormal fluor albus, condyloma acuminata, HIV AIDS and other sexually transmitted infections or STIs. CSWs that are still actively working in a localization will be easy to control, but if the locality is closed it will be difficult to control their health. This is of interest to be examined in relation to the reproductive health of CSWs after the closure of localization, because the results of his previous studies addressed the reproductive health of CSWs during the localization sites but were not optimal. This research aimed to find out the protection of reproductive health of CSWs after the closing of localization, particularly Dolly, in Surabaya.

Methods: This study was a descriptive qualitative research using phenomenological method, taken place in ex-Dolly localization in Surabaya. The informants of research were CSWs, ex- CSWs, healthcare service officers in Surabaya. The sampling technique used was snowball sampling one. Techniques of collecting data used were in-depth interview, observation, and documentation. Data analysis was carried out using an interactive model of analysis encompassing data collection, data reduction, display, and verification using Health Belief Model or HBM theory.

Results: Post closure Dolly there was no more routine reproductive health examination and counseling to CSWs in Putat Jaya Public Health Center, including HIV/AIDS test and sweb test on vagina mucus. The number of CSWs suffering from HIV in 2015 was 9 peoples, while in 2016 it becomes 23 peoples. Reproductive health of CSWs was dependent on their awareness.

Conclusions: The reproductive health of CSWs after the closure of Dolly was protected inadequately, it was different from that before closing, so that the CSWs should be aware of having their health examined routinely in health facilities. Therefore, the health officers were expected to contribute actively to monitoring the reproductive health of CSWs despite the closing of localization, in order to keep controlling their health just like that before closing.

Keywords: CSWs, localization, protection, reproductive health

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Background

Republic of Indonesia's Government Regulation Number 61 of 2014 about Reproductive Health explains that reproductive health is a comprehensive healthy condition, physically, mentally and socially, not merely independent of disease or disability related to reproductive system, function and process. Article 26 clause 1 mentions that every woman is entitled to go through healthy and safe sexual life, without compulsion and discrimination, feelings of afraid, shy, and guilty. Healthy life as intended in clause 1 is, among others, sexual life independent of Sexually Transmitted Infection (STIs). Considering this, government is also responsible for protecting the women's reproductive health, including Comercial Sex Workers or CSWs [1].

Generally, prostitution is inseparable from sexual exploitation and human trafficking, because of self-sale by means of trading body, respect and personality to many people to satisfy sexual desire to get return in the form of money [2,3,4]. In doing their work, CSWs are inseparable from prostitution complex, despite sophisticated science and technology making them unnecessarily working in prostitution complex. Transaction between CSWs and their client can be done anywhere, in hotel, villa or other inns [5,6,7,8]. However, there are still many prostitution complexes distributed throughout Indonesia, particularly in big cities such as Jakarta and Surabaya.

There are 168 prostitution complexes (thereafter called complexes), according to data of Social Ministry, distributed throughout Indonesia in 2012. However 69 complexes were shut down in during 2013-2016, including Dolly complex in Surabaya. This complex was closed on June 18, 2014. In 2019, Indonesia is targeted to be independent of prostitution complexes.

When prostitution complexes such as Dolly Surabaya was still opened, the government, through the City/Municipal Health Service, applied many programs implemented in the local Public health center concerning extension, seminar, condom distribution, and routine weekly reproductive health. Therefore, the reproductive health of CSWs can always be controlled. However, post-prostitution complex closing, CSWs are omnipresent, and the spread of sexually transmitted infection is uncontrolled. CSWs is one risk of STIs; therefore they should get special attention related to their reproductive health.

About 96% of 124 CSWs feel being not protected in making sexual intercourse and they believe that their work has a risk of developing STIs and HIV/AIDS. Some studies mentioned that CSWs has good perception and knowledge on HIV/AIDS/STIs prevention, but they show unhealthy sexual behavior and treatment [9]. CSWs are highly risky of being infected with STIs/ HIV and unexpected pregnancy, so that double protection is required, including condom, non-barrier modern contraception method and condom use consistency [10,11].

In analyzing CSWs' behavior related to their reproductive health, the author employed Health Belief Model (HBM) as psychological model trying to explain and to predict health behavior. Health behavior is determined by personal belief or perception about disease and available strategy to reduce the disease incidence. HB< aims to change a behavior in avoiding some disease or reducing the health risk [12]. HBM consists of 5 components: perceived susceptibility, perceived severity, perceived benefit, perceived barrier, and cues

to action [13]. Considering the background above, the author wants to protect the CSWs' reproductive health post-Dolly complex closing in Surabaya.

Methods

This study was a descriptive qualitative research using phenomenological method with Snowball Sampling technique. Former CSWs and those still working actively in Dolly area of Surabaya were main informants, while key informant was the member of NGO and former procurer and the supporting informant was physician in Putat Jaya Public Health Center. This research was conducted from January to February 2017. The data was collected through in-depth interview, observation and documentation method. Data validation was carried out using source, method and theoretical triangulations. Technique of analyzing data used was an interactive model of analysis.

Result

Dolly prostitution complex, before closing, consisted of 55 houses, but 7 houses closed themselves because of few visitors so that there were 48 houses left in 2014. There were about 658 CSWs including those not staying or coming to there when they work only. Meanwhile, post-Dolly closing, the number of CSWs has no longer been registered as they have spread and been uncontrollable. Health care facility existing in Dolly was Putat jaya public health center, helped with supporting Public Health Center to cater to CSWs, general physician, and Independent Practicing Midwife.

AIDS Coping Commission of Surabaya City distributed condom in collaboration with Putat jaya public health center, and *balai RW* (citizens association house). Quota of at least 6 condoms should be taken weekly, and at much 2 boxes or 80 condoms monthly. Post-Dolly closing, the condom distribution is done in Public health center only. The local citizens association house (Balai RW) no longer provides it as all Dolly CSWs have been discharged.

Table 1. Number of CSWs infected with HIV in Putat Jaya area

No	Year	Number of CSWs infected with HIV
1	2014	14
2	2015	9
3	2016	23

Table 2. Number of HIV Patients di Putat jaya public health center

No	Year	Number of HIV Patients
1	2011	118
2	2012	118
3	2013	116
4	2014	86
5	2015	49

Data of CSWs infected with HIV in Putat Jaya Public Health Center is presented in table 1, and data of all HIV patients in Putat Jaya Public Health

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Center in table 2. Before closing, the routine health examination was undertaken weekly helped with some NGOs. In addition to STI examination, they were also educated about HIV/AIDS. When they are infected with STI, Public health center directly gave them medicines (drugs) including antibiotic, vitamin and etc. Voluntary Counseling Test (VCT) were held twice a week in the houses existing in Dolly complex, when there was a CSWs with positive status, discussion will be conducted with her procurer to get treatment from Public health center. Post-Dolly closing, those activities are no longer held, even training is conducted rarely or is never conducted, and HIV/AIDS cases is no longer controllable.

Recently, health examination is dependent on CSWs themselves, how aware they are of their health. The physicians in Putat Jaya Public Health Center state that post-prostitution complex closing, although many CSWs still operate illegally, they have their reproductive health examined rarely. CSWs state that they maintain their genital organ using antiseptic routinely and after making sexual intercourse, both before and after the complex closing. They also wear condom when making sexual intercourse, before wearing condom, they wash their client's genital organ, and when some clients are not willing to wear it, they will give them explanation and persuade them to wear it. They have their reproductive health examined routinely in Putat jaya public health center. Post-Dolly complex closing, they go to Public health center rarely to do so. Even they uncertainly go to Public health center once a month and they go to Public health center when the condom quota has been used up only.

Discussions

Reproductive health protection for CSWs decreases post-Dolly prostitution complex closing in Surabaya, while in fact many of CSWs discharged keep operating illegally. They are spread and uncontrolled and they do any activities freely without being bond to the "houses'" rule formerly.

Former CSWs and those still active treat their genital organ using antiseptic such as betadine, betel vine soap, and some other using toothpaste. In using antiseptic, there are some points to consider: pH of antiseptic should be consistent with pH of women's genital organ (3.5-4.5) or acid pH preventing the pathogenic bacteria from proliferating [14]. In addition to using antiseptic, reproductive health protection can be done by means of wearing condom when making sexual intercourse with different sexual partners. It increases the risk of developing STIs or HIV/AIDS. Condom still becomes the main prevention tool today, the right and consistent condom use can reduce the risk of HIV [15].

The health examination for CSWs was conducted routinely once a week before the closing of Dolly complex, including VCT and vaginal sweb to find out whether or not bacterium or virus exists in women's reproductive organ. In addition, health education and seminar are held to inform the CSWs about the importance of maintaining their reproductive health. Putat Jaya Public Health Center has special *Pustu* for the CSWs who will have their health examined catered to by physicians and health officer in examination and education process. While waiting for examination queuing, CSWs would listen to educative lecturing given by the health personnel in the waiting room.

CSWs are willing to have their health examined with the help of procurer or NGO existing in Dolly complex. All of CSWs were obliged to have their health examined. It is consistent with RI's Government Regulation No. 61 of 2014 about Reproductive Health that the government is also responsible for women reproductive health. Surabaya City Government is responsible for the reproductive health of CSWs existing in Dolly prostitution complex through its Health Service, with Putat Jaya Public Health Center as the executor. Post-prostitution complex closing, the health examination programs has no longer been done. The program is replaced with mobile public health center, in which public health center comes to cafes and plus massage houses in collaboration with public health center related to the examination over all of their employees. This examination is held monthly, dependent on clients' demand. Public health center only cater to those calling Public health center to come to their place.

Considering this phenomenon, the reproductive health is protected inadequately post-Dolly prostitution complex closing, as there is no routine and compulsory examination program held by Public health center over CSWs. The examination is done when CSWs come to Public health center to have their health examined. Similarly, Public health center comes as the client demands it. Individual CSWs' perception on their vulnerable to STI and HIV/AIDS can encourage them to have themselves examined in Public health center. It aims to find out whether or not they are free from STI or HIV/AIDS. CSWs' assessment on the severity of disease they will develop when they keep working as CSWs is that they will think of HIV/AIDS seriously when it infects them. If it is not dealt with immediately, it will result in death. The more the consequence they will face when they become CSWs, the higher is the perception on maintaining reproductive health and the higher is their willingness to have them examined in Public health center.

Perceived Benefit can be felt by CSWs when they have their examined in Public health center, they will know earlier the disease they develop thereby can act on it immediately. Perceived Barrier or the constraints the individual face in having themselves examined in Public health center is the feelings of shy, worry, and afraid of being known for their illegal existence in Dolly. Thus, they decide not to go to Public health center. If this constraint is less than its benefit, individual will keep having themselves examined and remove their shy, worry and afraid feeling. Cues to Action conducted by CSWs to have themselves examined in health facility comes from the local health personnel incessantly reminding them about the importance of their reproductive health. In addition, it may come from their coworkers who reminding each other. Self Efficacy is an individual's ability of undergoing certain behavior. If CSWs have high self-efficacy, their willingness to have their health examined in health facility would be high as well.

Conclusions

The reproductive health of CSWs, post-Dolly prostitution complex closing, is protected inadequately. It is different from that before the closing, so that CSWs should be aware of having their health examined routinely. CSWs' high vulnerability to STI and HIV/AIDS encourages them to have their health

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examined in Public health center. CSWs' assessment on the severity of disease they will develop when they keep working as CSWs is that they will think of HIV/AIDS seriously when it infects them. If it is not dealt with immediately, it will result in death. This benefit can be felt by CSWs when they have their examined in Public health center as they will know earlier the disease they develop thereby can act on it immediately. Barrier or constraints the individual face in having themselves examined in Public health center is the feelings of shy, worry, and afraid of being known for their illegal existence in Dolly. Cues to Action conducted by CSWs to have themselves examined in health facility come from the local health personnel and their coworkers. If CSWs have high self-efficacy, their willingness to have their health examined in health facility would be high as well. Health personnel should contribute actively to monitoring the CSWs' reproductive health despite the closing of prostitution complex, to make their health kept controlled just like that before the closing.

List of abbreviations (optional section)

CSWs : Conercial Sex Workers
STIs : Sexually Transmitted Infections
HIV : Human Immuno Deficiency Virus
AIDS : Acquired Immuno Deficiency Syndrome
HMB : Health Belief Model
pH : Potential of Hydrogen
VCT : Voluntary Counseling Test
NGO : Non Governmental Organization

Declarations

Authors' contributions

Danty IP, Argyo D, Bhisma M. All the authors read and approved the final manuscript.

Authors' Information (optional section)

First author : Student of Public Health Postgraduate Program of UNS
Second author : Chairperson of Sociology Postgraduate Department of FISIP UNS and lecturer of Public Health Postgraduate Program of UNS
Third author : Chairperson and lecturer of Public Health Postgraduate Program of UNS

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Ethics approval and consent to participate

The work described in this article has been carried out in accordance with the ethical clearance number 1104/ XII/ HREC/ 2016 by The Health Research Ethics Committee Dr. Moewardi General Hospital/ School of Medicine Sebelas Maret University of Surakarta.

Consent for publication
Not applicable

Availability of data and materials
Data of research can be shared to the Public

Competing interests
We (the authors) declare that we have no competing interests.

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EFFECTIVENESS OF HEMODIALYSIS TO PATIENTS WITH CRONIC KIDNEY DISEASE: A LITERATURE REVIEW

Deshinta Puspita Sari

Master of Nursing Student, University of Brawijaya
shintaladesi@gmail.com

Abstract

Background: Hemodialysis is a therapy for patients with chronic renal disease. Many people undergo hemodialysis to sustain their lives. Currently there are 2 types of hemodialysis, ie nocturnal hemodialysis (6 times per week) and conventional hemodialysis (3 times per week). Both of these types certainly have an effect for the patient.The purpose of this paper is to determine the comparison as well as the effectiveness of nocturnal and conventional hemodialysis.

Methods: This paper is a review of the literature about comparison of nocturnal and conventional hemodialysis. The source of the paper are from ProQuest and Google Scholar from 2007 until 2017. The keyword used when search journal are hemodialysis, frequency, difference nocturnal with conventional hemodialysis. From all of source, in this paper use 9 journal and 1 book.

Results: Standard Kt / V patient urea is higher in nocturnal than conventional hemodialysis. Nocturnal can improve hypertension control and hyperpostemia. The quality of life and survival of patients is better with frequent hemodialysis (3 times weekly to 5 / more HD weekly). In nocturnal patients more frequent vascular access, so the cost incurred more.

Conclusion: The more frequent hemodialysis, the better quality of life of the patient with cronic kidney disease. So, nocturnal hemodialysis more effective to treatment patient with cronic kidney diasease.

Keywords: Hemodialysis, Nocturnal, Conventional, Effect

Background

When the kidneys can no longer perform its functions properly, then kidney transplant and dialysis becomes an option. Worldwide, about 2 million patients with chronic kidney disease(CKD) need the therapy. In the United States, there are nearly 400,000 patients undergoing dialysis, and 90% prefer to undergo hemodialysis three times a week. Hemodialysis becomes a way of maintaining life patients with CKD [1]. Nevertheless, there are studies that suggest that the survival of CKD patients with this hemodialysis remains poor. This is due to an increase in cardiovascular risk [6].

Patients undergoing conventional hemodialysis treatments have increased hospitalization rates, lower survival rates, and a decreased quality of life when compared to those undergoing nocturnal hemodialysis. Survival rates for patients receiving conventional hemodialysis have improved. However, quality of life remains of serious concern. Nocturnal hemodialysis represents a more effective modality for receiving hemodialysis and has been associated with an improved quality of life along with a 25% reduction in risk of death compared to those receiving conventional hemodialysis [1,5].

Although nocturnal hemodialysis is more effective in some studies. But it is not denied whether this hemodialysis is deficient. Some of the problems that can arise with the presence of nocturnal hemodialysis such as obstacles in terms of patient acceptance, vascular access and cost.A studi certify, that the hemodialysis patients have higher morbidity and mortality, multiple hospitalizations, unique treatment complications, such as vascular access failure, considerable expenses, and lower quality of life than the general population [3-7].

Methods

This literature review covering scientific literature which describe about the effectiveness of hemodialysis to patients with cronic kidney disease. The literature review conducted by searching and analyze all eligible studies from electronic database such as Proquest and Google Scholar. The writer examined effectiveness hemodialysis by looking difference effect of conventional with nocturnal hemodialysis to CKD patients. There are many journal and other references finding writer, but just 9 journal and 1 book which include in this literature review.

Results and Discussion

The search located nine eligible studies. One studi show about nocturnal hemodialysis. Then one source is guide to hemodialysis. Seven studi reveal about difference of noctutnal and conventional hemodialysis. And one more is a studi about hemodialysis.

A studi in 2015 show that nocturnal hemodialysis improves patient prognosis when compared to conventional hemodialysis. The prognosis in this studi measured by survival rate, cardiacfunction, nutrition, and fluid volume. This studi is a literature review revealed 33 research articles about nocturnal dialysis compared to conventional dialysis [1].

Other studi in 2010 conclude that frequent hemodialysis, as compared with conventional hemodialysis, was associatedwith favorable results with respect to the composite outcomes of death orchange in left ventricular mass and death

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or change in a physical-health compositescore but prompted more frequent interventions related to vascular access. Sample in this studi are 125 and 120 patients to frequent hemodialysis dan conventional hemodialysis [6].

Patients in the frequent-hemodialysis group averaged 5.2 sessions per week; the weeklystandard Kt/Vurea (the product of the urea clearance and the duration of the dialysissession normalized to the volume of distribution of urea) was significantly higher in the frequent hemodialysis group than in the conventional-hemodialysis group (3.54±0.56 vs. 2.49±0.27). Frequent hemodialysis was associated with significant benefits with respect to both coprimary composite outcomes (hazard ratio for death or increase in left ventricular mass, 0.61; 95% confidence interval [CI], 0.46 to 0.82; hazard ratio for death or a decrease in the physical-health composite score, 0.70; 95% CI, 0.53 to 0.92). Patients randomly assigned to frequent hemodialysis were more likely to undergointerventions related to vascular access than were patients assigned to conventionalhemodialysis (hazard ratio, 1.71; 95% CI, 1.08 to 2.73). Frequent hemodialysis wasassociated with improved control of hypertension and hyperphosphatemia [6].

A studi in 2017 show that patients treated in an in-center dialysis facility reported better HRQoL with frequent compared to conventional hemodialysis. This studi randomly assigned 245 patients toreceive frequent (6 times per week) or conventional (3 times per week) in center hemodialysis. In the Nocturnal Trial, this studi randomly assigned 87 patients to receive frequent nocturnal (6 times per week)or conventional (3 times per week) hemodialysis at home [2].

The Health Concept of Quality of Life (HRQOL) is a concept that includes aspects of quality of life that can affect physical and mental health. At an individual level, HRQOL covers. health risk factors, functional status, socioeconomic status. At the community level, HRQOl includes resources, policies that can affect a population's health and functional status[10].Nocturnal hemodialysis usualy doing in center hemodialysis or at home. In term of cost, nocturnal more cost incurred because when hemosialysis doing at home, increasing electricity and water bill and fear of adverse consequences. Other than that, in center homodialysis service providers may be reluctant to pay a longer and longer daily increase in HD costs. So patient most spend more money to do nocturnal hemodialysis [6].

KDOQI suggest that patients with end-stage kidney disease be offered in-center short Frequent hemodialysis as an alternative to conventional in-center thrice weekly Hemodialysis after considering individual patient preferences, the potential quality of Life and physiological benefits, and the risks of these therapies. And considering in-center short frequent hemodialysis be informed about the risks of this therapy, including a possible increase in vascular access procedures and the potential for hypotension during dialysis. Thats is a suggest KDOQI about frequency and duration hemodialysis in center hemodialysis. To hemodialysis at home KDOQI have guide too, to consider home long hemodialysis (6-8 hours, 3 to 6 nights per week) for patients with end-stage kidney disease who prefer this therapy for lifestyle considerations. And recommend that patients considering frequently administered home long hemodialysis be informed about the risks of this therapy, including possible increase in vascular access complications, potential for increased caregiver burden, and possible accelerated decline in residual kidney function [9].

Conclusion

From this studi we can know that hemodialysis have positive and negative effect to patient with cronic kidney disease. There are increase quality of life, survival in positive effcet. But in negative effect, hemodialysis need more cost to undergo nocturnal hemodialysis and complication in vascular access. In this studi we can know too that hemodialysis more effective if frequence hemodialysis.

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COMPLIANCE WITH THERAPEUTIC REGIMENS IN PATIENT WITH HYPERTENSION

Dessy Rindiyanti Harista[1], Edi Purwanto[2], Babul Qoidah[2]

[1]Student, Master of Nursing, Universitas Brawijaya Malang, Indonesia
[2]Faculty of Health Science, University of Muhammadiyah Malang, Indonesia
Correspondence: Dessy_harista@yahoo.com

Abstract

Background: Changes in community lifestyles, such as reduced physical activity, leads to the emergence of various chronic diseases, one of them are hypertension. Hypertensive patients are required to take medication regularly, so compliance is necessary for taking the drug.The purpose of this study was to explore the patient's experience in undergoing a therapeutic regimens.

Methods: This research used a qualitative descriptive method with case studyapproach. Sample were obtained using purposive sampling with hypertension patients who were undergoing therapeutic regimens as the criteria, but onlya patient was taken as a participant. Data collection was conducted in 2015 by interviews, observations, and physical examinations to assess patients further. Data analysis based on domain analysis.

Result: The results were obtained through the behaviour of hypertensive patients in their therapeutic regimens including dietary plans for people with hypertension, foods that were suitable for them to be eaten included low fat, lless salt and low cholesterol meals; beside, they had to takea large amount of water consumption. The regiments monitorized was not only dietary but also pharmacological therapy plans that were controlled by the Health Service unit/ community health centre. Hypertensive patients taking a regular medication, obeying hypertensive diet and maintaining physical fitness got their better living with hypertension.

Conclusions: Based on the results of the above research, it can be concluded that the patient has complied well to the therapeutic regimen, evidenced by the patient's efforts towards treatment and increase of health maintenance.

Keyword: behavioralcompliance, therapeuticregimen, hypertension

Background

Hypertension has been recognized as a major risk factor for several common cardiovascular diseasesfor many years. The World Health Organization reports that the number of people with hypertension worldwide areestimated at 600 million, while 3 million would die annually due to hypertension(1).

From 1960 through 1991andafter the first 10 years of this interval, the rate of cardiovascular deaths decreased as the number of hypertensive patients got lower.Effective hypertension screening and treatment were probably the reason for thesesurprising trends. However, from 1990 through 2002, hypertension made a trend.Intake of fruits and vegetables and adherence to healthful dietary patterns declinedduring this periodand the prevalence of abdominal obesity increasedwhich those contributed to hypertension. (2)

Many factors among which the low level of adherence for therapeutic schedules, ignorance, poverty, the role of health staff and the complexity of anti hypertensive therapy, explain the high rate of the resistance to the treatment.(3)Patient knowledge and awareness of blood pressure important roles in the ability to controlhypertensionsuccessfully. A previous study showed an association between hypertension knowledge andcompliance in hypertensive patients.(4)

The potential benefit of vigorous medical treatment for hypertesion often remained out of reach, in part because the patients do not comply with the treatment. Management of therapeutic regiments are a pattern in organizing and integrating therapeutic programs into a satisfied sufficient life in accordance to achieve the goal of health recovery (7).The purpose of this study was to explore the patient's experience in undergoing a therapeutic regimens. The purpose of this study was to explore the patient's experience in undergoing a therapeutic regimens.

Methods

This research used a qualitative descriptive method with case studyapproach. Sample were obtained using purposive sampling with hypertension patients who were undergoing therapeutic regimens as the criteria, but onlya patient was taken as a participant.

Data collection was conducted in 2015 by interviews, observations, and physical examinations to assess patients further. This study was undertaken in Kedung Kandang, Malang. Data analysis based on domain analysis that purpose to obtain a general and comprehensive overview of the social situation under study or research objects.

Result

The results were obtained through the behaviour of hypertensive patients in their therapeutic regimens including dietary plans for people with hypertension, foods that were suitable for them to be eaten included low fat, lless salt and low cholesterol meals; beside, they had to takea large amount of water consumption.

> *"(P1)….saya sudah mengurangi penggunakan micin saat masak,kurangi yang asin-asin,yang berlemak. Makannya saya sudah mengikuti saran dari pelayanan kesehatan...."*

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("(P1)….I was reduced the uses of MSG when I cooked, reduced the salty and fatty food. And I was followed the advice of the health service when I checked")

The regiments monitorized was not only dietary but also pharmacological therapy plans that were controlled by the Health Service unit/ community health centre. Participants said that he regularly to check up in Primary Health Service once more in 2 weeks. It is also supported by her granddaughter who said that if the drug runs out the patient will ask her to go to the health center to check and buy drugs.

"(P1)…..saya kontrol kesehatan secara rutin 2 minggu sekali.Berhubung kemarin saya sakit, satu minggu sudah 4 kali saya kontrol keadaan kesehatan sudah mulai membaik atau tidak, minum obatpun saya teratur tiap harinya mbak, 1 hari 3 kali minum obatnya (pagi,sore dan malam)."

("(P1)…..I was controlled my health 2 weeksroutinely. Yesterday I was sick. I was controlled my health in 4 times a week. I controlled to examine my health becomes better or not. I was take my medicine every day regularly, I was take a medicine 3 times a day (in the morning, in the afternoon and in the night).")

"(P3)…. biasanya mbah rajin kontrol ke puskesmas 2 minggu sekali, kadang kalau obat habis mengajak saya ke puskesmas buat kontrol dan beli obatnya".

("(P3)…. My grandmother usually diligent control to the health centre 2 weeks, sometimes if the drug runs out then ask me to go to the health center to control and buy the medicine".)

Hypertensive patients taking a regular medication, obeying hypertensive diet and maintaining physical fitness got their better living with hypertension.

"(P1)….saya sudah mengikuti saran-saran dari pelayanan kesehatan waktu saya periksa.Saya juga mulai jalan pagi dan sore saat tidak ada kerjaan di rumah untuk mengurangi berat badan juga. Berhubung kemarin saya sakit, satu minggu sudah 4 kali saya kontrol keadaan kesehatan sudah mulai membaik atau tidak."

("(P1)…..I was following some suggestions from health service when I checked my health. I also exercise in the morning and evening, when there is no some home task to reduce my weight. Because of, I was sick yesterday, I was controlled 4 times a week to examine my health".)

Discussion

Dietary management is appropriate for all patientswith hypertension. In addition, patients withprehypertension (systolic blood pressure between120 and 139 mm Hg or diastolic blood pressurebetween 80 and 89 mm Hg) should adopt thesame dietary changes, given the benefit of dietarytherapy at these blood-pressure levels.(2)There is increasing scientific evidence of the protective health effects of diets that are high in fruits, vegetables, legumes, and whole grains, and also include fish, nuts, and low-fat dairy products.(1)

Current recommendations from the National High Blood Pressure Education Programsuggest weight control, reduction of sodium and alcohol intake, and an increase in potassium and magnesium consumption. For decades, public policy recommendations regarding dietary approaches in the management of hypertensionhave emphasized restrictions of sodium.(1)

Drug therapy plays an essential role in treatinghypertension.(2)The ultimate public health goal of antihypertensivetherapy is to reduce cardiovascular and renal morbidityand mortality.(5)The results of some study in 2012 said that the matter of fact, the diuretics, the calcium channel antagonists and the angiotensin converting enzyme inhibitors constitute the 3 groups of the first line antihypertensive drugs in the treatment of essential High Blood Pressure in our context (patient of black race, ambulatory and hospitalized conditions).(3) Further action is now needed to achieve better control of blood pressure. This thing, inthe majority of patients, can be easily achieved by theincreased use of rational combination therapy.(6)

Patients who were aware that increased BP reducedlife span had a higher level of compliance with checkups and medication use. These findingssuggest the importance of hypertension knowledge and awareness in improving BP control andultimately long-term outcomes.(4)Compliance of a patient suffering from hypertension is not only seen based on adherence in taking antihypertensive drugs but also required the patient's active role and willingness to check his health to the doctor in accordance with the specified schedule and healthy lifestyle changes recommended(8).

Conclussion

Based on the results of the above research, it can be concluded that the patient has complied well to the therapeutic regimen, evidenced by the patient's efforts towards treatment and increase of health maintenance. Patient knowledge and awareness of Blood Pressure is important roles in the ability to successfully controlhypertension.

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PATIENT EXPERIENCE OF HYPERTENSION DIETARY COMPLIANCE

Dewi Baririet Baroroh[1], Nur Aini[2], Rizka Amalia[3]

[1]Student, Master of Nursing, University of Brawijaya, Malang, Indonesia
[2]Basic Nursing Science Department, Faculty of Health Science, University of Muhammadiyah Malang, Indonesia
[3]Student, Nursing Diploma Program, Faculty of Health Science, University of Muhammadiyah Malang, Indonesia
Email addresses:
Initial: putrisejuk@gmail.com
Initial: aini_anindya@yahoo.com
Initial: amelanime@yahoo.com

Abstract

Background: Dietary compliance is some treatment to hold back the hypertension. A substantial body of evidence strongly supports the concept that multiple dietary factors affect blood pressure. Dietary therapy of hypertension should take adequate essential nutrient intake into account. However, patient with hypertension encounter obstacles during accomplishing the tractability. The study was conducted with purposes to explore patient alongside hypertension understanding of eating habits.

Methods: The qualitative approach of case study research was undertaken in this study. Sample were obtained using purposive sampling technique involving a patient suffering hypertension for five years. An in-depth semi-structure interviews were applied.

Results: The themes revealed in the study were feeling helplessness when organizing eating menu. The themes was divided into four sub theme. That were insufficient knowledge about hypertension, inadequate information of dietary menu according to hypertension, family support to manage nutritional option and emotional response throughout the dietary compliance.

Conclusions: This study is valuable providing comprehension related to help patient managing their food preference. Patient and their relatives should be more educated and mindful to retain dietary fulfillment. Nurses should be more concern to escort patient. For further research, discovering many effort to find effective way to manage patient is needed.

Keywords: Eating habit, diet, insufficient knowledge, family support, emotional response, qualitative study, hypertension

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Background

Hypertension, or high blood pressure being the predominant risk factor of heart disease, stroke, and renal failure which are leading causes of death (1). Presently, hypertension treatment guidelines suggest that clinicians should attempt to treat adults to a blood pressure target of ≥140/90 mm Hg (2, 3).Recent data denote that the prevalence of hypertension is increasing and that control rates among those with hypertension remain low. Some data from Ministry of Health Indonesia, that is RisetKesehatanDasar (Riskesdas) at 2013, the evidence of hypertension in adult ≥18 years old, is 25.8% which is 9.4% was diagnosed by clinicians, and 9.5% is still diagnosed or tend to anti hypertension drug with their determination(4). The rest 63.2% evidence of hypertension are undiagnosed(4).

Elevated blood pressure lead to environmental factors, genetic factors, and interactions among these factors(5). Among the environmental aspects that affect blood pressure (diet, physical inactivity, toxins and psychosocial issues), dietary factors have a prominent, and likely predominant, responsibility in blood pressure homeostasis(5-8). Dietary changes have the potential to prevent hypertension and more largely to diminish blood pressure and thereby lower the risk of hypertension, related clinical complications(7-9).

Dietary modifies requires the individual to achieve varying customs of self-care behaviors. Some qualitative study enlighten that behaviorchallenge for dietary compliance islifestyle interaction andlack of both knowledge and reinforcement about habitual food intake (10-13).

The study was conducted with purposes to explore patient experience understanding of habitual food preference according to hypertension.

Methods

We recruited a purposive sample of patients with uncontrolled hypertension in PuskemasKedungKandang. We sought a participant suffering hypertension for five years, with the expectation to reach thematic saturation. This patient had diagnosed of hypertension and uncontrolled blood pressure ≥140/90 mm Hg documented at least one times visit in the previous 6 months in Puskemas Kedung Kandang.

Data were collected with semi structured interview. The interview pursued in three times, each time is about 20 until 30 minutes. Patients were asked to describe their family, eating habits, eating menu, knowledge about eating consumption for hypertension, and their experience of dietary compliance. Interviews were audio-recorded, professionally transcribed verbatim, and reviewed for accuracy. We used qualitative analytic techniques with case study approach(14-17).

Results

The following themes were identified feeling helplessness when organizing eating menu. The themes was divided into four sub theme. That were insufficient knowledge about hypertension, inadequate information of dietary menu according to hypertension, family support to manage nutritional option and emotional response throughout the dietary compliance.

Feeling helplessness is a condition with powerlessness, didn't able to take action, and didn't capable of having effective way to resolve problem. Helplessness

make person unstable and loneliness. Helplessness occur in short period, but another occasion being sustained.

Insufficient knowledge about hypertension

Participants reported that she was diagnosed hypertension for five years ago when she was visited Puskesmas. She was informed that her disease caused by some nutrition, which is rendered headache and some aches in some part of the body as symptom of the disease. Participant stated didn't check up regularly, and remain puzzled about her disease. Thefollowingcomments were made:

I suffered hypertension since five years ago.

Clinician at Puskemas said it is occur when I feel headache and aches.

Hmm…If I not mistaken, the symptom of hypertension is headache and aches in some part of the body.

Eating unripe jackfruit soup, eating food with high salt ingredients and eating peanut will made my disease became worst. It is said by the medical staff in Puskesmas.

I don't know why, forfive years, my headache and aches always appear. This make me very ill.

I went to Puskesmas when I am very ill and my family been able to accompany me. When they couldn't escorted me, I would sleep and restrain this aches, and given grease oil to my body.

When I went to Puskesmas, my blood pressure always high.

For how long I will have this disease?

For how long I should gain the drug?

If my aches disappear, I stop the drug.

Feeling helplessness had been strike when someone didn't understand about what happens in their body and make them suffering.From participant, it could be conclude that participant didn't realize knowledge about hypertension, what they thought caused hypertension, the severity of their hypertension, their concerns about hypertension, and medications and strategies they used to manage their hypertension. Another assumption is about the causes of hypertension, as participant convey, Medical staff should educate patient and listen patient feedback whenever giving them some explanation.

Inadequate information of dietary menu

Participants inform some nutrition that should be restricted to eat. There is unripe jackfruit, food with excessive salt and peanut. She didn't identified how mush salt should be taken in a day. She is understand eating some menu will nastiest her illness, but on the contrary she said eaten salted fish. The following comments were stated:

Eating unripe jackfruit soup, eating food with high salt ingredients and eating peanut will made my disease became worst.

I ate like usual. It is rice, vegetable soup, and tempe or tahu.

I like green cabbage and I reduce to eat spinach___because someone said its makes aches.

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____sometimes I ate fruit like papaya or banana.

I understand if I eaten carelessly, my blood pressure would be elevated.

I also eat salted fish, because there is only those food available.

When I am cooking, I deliver only amount of salt, considering my feeling. It is only a few of salt. It is about one or two tea spoon of salt.

Those conversation confirmed by her husband and her son.It could be inferred that she didn't comprehend hypertension nutritional regime. It is probably she never had well information about her illness or she never communicate with medical staff about her living experience.

Family support

Family support had serious influences to dietary preference. Family will be the guardian to patient. Participant said that her family always remembering her to choose fine food and limiting salt. However, her family didn't know what kind of food and how much salt, she should eat.

When we confirmed to her family, her husband didn't know the detail of hypertension and its diet. Sometimes, her family let her take some salt, because they felt uneasy to her. Her son also didn't know the hypertension therapy and drug that participant consume. Her husband and her son, only remembering that she should aware of her food and shouldn't have such hard activity. Those information were declared:

My family only companying me until the front office of Puskesmas. They never go to examining room with me.

My husband usually alarmed me to stay calm and had some sleep.

When I was cooked, my husband said to constraint the salt.

But both my husband and son, never said to me what kind of food I can eat and how many quantity I could take.

If I have food that given by the neighbor, My Son said to decide what kind of food I could eat.

The reason why her family didn't know her condition because they never informed what is hypertension and its management.

Emotional response

Insufficient knowledge about her sickness and extended treatmentmade participant felt uneasy and suffering. Participant felt helplessness. She found that her disease are unbreakablewhen she bear aches. She is worried about her sickness. The following comments were made:

I don't know why, for five years, my headache and aches always appear. This make me very ill.

For how long I will have this disease?

For how long I should gain the drug?

I dislike myself when I am ill. I am tortured. I felt sluggish. I like myself when I feel healthy as a horse.

Discussion

Hypertension as some of chronic illness, is incurable disease which is lead patient to helplessness. According to Barder, Slimer and LeSage (1994) and Thomas (1996), Helplessness is pain which follow by decreased motivation to control the outcome, and consistently receive care without having opportunity to give back the caring activity (18). Helplessness has two side of view, first as some physiological factors that influence hypertension, second as effect from long treatment of hypertension. (19, 20).Helplessness were ensue when patient failure throughout lifestyle-social interactions changes (20).

Management of hypertension requires dietary changes, which affected social interaction. The main goal of this therapy is to stabilize the blood pressure. Both dietary changes or exercise changes, they are proven in lowering blood pressure in managing patients with hypertension and are oftenrecommended as the first step for treating high blood pressure(5, 21).

Adequate information and encouragement are essential for person who is suffering incurable illness. Encouragement from relative would conquered the social interaction necessary to maintain patient mental health (10). Patient should be informed well about their condition. The causes, the symptom, the treatment and supporting evidence about hypertension, should knowing by patient and their relatives. Nurse and medical staff had important role to unwarp patient about hypertension awareness (22, 23). Nurse should be in touch to deliver information. It should be memorize, after giving health education, nurse need to ask to patient to explain again about the information (24, 25). Nurse also escorted patient to make documentation for daily activities including knowledge of hypertension (26). From this research it can be conclude, there should be some exchange system to maintaining patient with hypertension, not only for medication regimen but also for exercise treatment and dietary compliance in community.

There are some diet suggestion to decrease high blood pressure. A meta-analysis randomized control trial about dietary suggestion preserve that dietary modifications are related to significant t clinical situation, though variable, reductions in blood pressure (6). Some diets are more effective than others and under different circumstances, which has important implications from both clinical and public health perspectives (6). There are five major dietary point for hypertension, such, gaining weight loss, reduce salt intake, DASH pattern, increased potassium intake, and decreased alcohol intake (5).

Conclusions

There are some challenge meet the patient when doing dietary option for hypertension. Nurse should help patient managing their food preference. Patient and their relatives should be more educated and mindful to retain dietary fulfillment. Nurses should be more concern while giving information to patient. Nurse should take many variation to educate patient and their relatives. For managing health system, it should be some effort to build regulation for appreciating patient with hypertension.

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Declarations

Authors' contributions

First author had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Ethics approval and consent to participate

Consent approval was obtained from Puskesmas (Public Health Center) KedungKandangto recruit of the sample.

Consent for publication

"Not applicable"

Availability of data and materials

Data and materials are available.

Competing interests

The authors declare that they do not have a conflict of interest

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NURSING CARE PLAN OF DIABETES MELLITUS DIAGNOSIS TOWARD THE CLIENT OF "MAWAR" WARD ROOM AT DR. SOEDOMO HOSPITAL

Dewi Wulandari, Eko Prabowo

[1]Department of Nursing, Universitas Brawijaya, Malang, Indonesia
[2]Academy Of Nursing Pemkab. Trenggalek
Email addresses:
Initial: wulandaridewi1104@gmail.com
Initial: okeekoprabowo@gmail.com

Abstract

Background: Diabetes Mellitus is a group of metabolic diseases in which there are high blood sugar levels over a prolonged period (? 120mg/dl). Recent data show that the number inhabitants of Diabetes Mellitus prevalence has increased for about 48.605 over 680.961 population in 2014. There are some risk factors that may cause diabetes mellitus, such as, inappropriate lifestyle (consuming too much sweet food or drink), stress, obesity, and the irregular use of medication.

Methods: Descriptive method was employed in this study by using case-study approach to describe the condition of two clients with Diabetes Mellitus diagnosis by conducting a deep examination. The data were collected by using primary data source (client information and physical examination) and secondary data source (family or relatives, the result of laboratory examination, and nursing document).

Results: The result showed that the two clients had some similarities and differences based on the theory and the data. There were only a few symptoms found on the two clients when the writer conducted an examination. In determining the diagnosis, there were found some problems related to the nutrition, skin integrity, and pain. Intervention was designed based on the principles of literature and was applied according to the Standard Operating Procedure (SOP) of the study. The implementation was conducted based on the intervention while the evaluation was implemented continuously within three days. The result showed that the problems on the client were half-solved in each diagnosis.

Conclusions: Based on the explanation above, the writer assumed that the two clients 'Mr. Su and Mr. Sa' had the disorder of cell nutrition. Regarding to this condition, they needed fast and proper treatment (determining diet program and pattern and collaborating with the nutritionist) in order to fill the need of nutrition and hopefully there was no further complication.

Keywords: Nursing Care Plan, Diabetes Mellitus, Client.

Background

The nation of Indonesia is an emerging agrarian country to industrialized countries, the success of development followed by shifting patterns of existing diseases in society [31]. The pattern of disease originally dominated by infectious diseases and infections is shifted by degenerative diseases, one of which is Diabetes Mellitus disease and this is known as epidemiological transition[32]. Tandra (2009)[40], mentions the number of Diabetes Mellitus sufferers are increasing in number continuously occur today. Unhealthy lifestyles and low knowledge of the community are the cause of the increase of the patient, for example because people tend to perform unhealthy habits such as consuming sweet foods, drinks, lack of body activity, obesity (fatness) and the use of drugs that are not Regular, age group> 45 years [12].Notoatmojo (2000)[29], mentions Diabetes Mellitus patients need to be given comprehensive and comprehensive nursing care including assessment, diagnosis, nursing process, preparation of planning, implementation and evaluation.

Data World Health Organization (WHO), said the prevalence of Diabetes Mellitus in the world was recorded at 285 million (6.4%) and is estimated to increase by 439 million (7.7%) by 2030 (Ozougwu&Obimba, 2013). In line with WHO, International Diabetes Federation (IDF) in 2013 declared Diabetes Mellitus prevalence in the world is 382 million and will increase to 592 million soul (2.49%) in 2035, besides International Diabetes Federation (IDF) also predict The increase in the number of people with Diabetes Mellitus in Indonesia from 8.5 million in 2013 to 12 million or an increase of 41.17% by 2030 (18). While data of Diabetes Mellitus patient in East Java 6% or 2,248,605 population of total population of East Java as many as 37.476.757 people (Population Census, 2013). The prevalence rate of Diabetes Mellitus in Trenggalek Regency is estimated to be around 48,605 people with population of 836,961 in 2014, but in fact the Diabetes Mellitus patient who has been recorded in Trenggalek District health office in 2014 is only 6,617 (DinkesTrenggalek, 2014). Whereas in 2015 people with Diabetes Mellitus in trenggalek greater occurred in women (55.4%) of men (44.5%).

Ilyas (2007)[17], mentioned that Diabetes Mellitus sufferers did not conduct an immediate examination to the existing health services because they assume that the symptoms are felt like excessive thirst (polidipsi), frequent urination (polyuri) especially at night, and often feel hungry (polifagia) Is a common thing. Other signs and symptoms are rapid weight loss, weak complaints, tingling of the arms and legs, itching, blurred vision, impotence, difficult to heal, vaginal discharge, skin diseases caused by fungus under the skin, changes in stature, Cognitive or functional abilities (eg delirium, dementia, depression, agitation, falls and uri incontinence) (28). As a result the condition of the patient will be more ugly and led to many complications. Complications that often occur in Diabetes Mellitus include: wounds difficult to heal (gangrene), hypertension, heart and kidney disorders, retinopathy, CVA and even death (22).

The role of nurse as nursing carer is needed in the provision of health services by taking into account the state of basic human needs, the role as advocate of this role is done nurses in helping clients and families in menginterprestasikan information from service providers, the role as educator improve health knowledge and ability of clients overcome health, The role of

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the coordinator to meet the nursing care effectively, efficiently and the role as educator consultant provides health education to prevent complications as well as the researcher where the nurse attempts to investigate nursing care to Diabetes Mellitus client through scientific method [41]. FKUI (2007), said that the management of Diabetes Mellitus is divided into two, namely from pharmacological side and non pharmacological side. Non-pharmacological aspects include education about Diabetes Mellitus on clients and families, changing beliefs and beliefs on the Diabetes Mellitus diet, providing counseling about a balanced diet according to the needs of Diabetes Mellitus patients and can also be offset by physical exercise such as jogging and cycling[33]. The pharmacological side includes Oral Hypoglycemic Drug (OHO) class of Sulfonilurea, Metformin, acarbose and insulin therapy in accordance with indication [15]. Management of clients Diabetes mellitus in diet planners is done to facilitate the transfer of glucose into the cells, including regulating the number of calories, physical exercise and physical exercise regulation[32]. (Smeltzer, 2001), calling for the provision of insulin drugs such as Short-acting Insulin, Intermediate-acting Insulin, Long-Acting Insulin. In terms of nursing include assessment, data analysis, determining nursing diagnoses, making interventions, implementing what has been planned, evaluating the results of nursing actions that have been done and followed by noting the development of clientsDibetesMelitus[23]. Based on the above description, the authors feel interested to conduct research with the title "Nursing Care Plan of Diabetes Mellitus Diagnosis Toward The Client of "Mawar" Ward Room at dr. Soedomo Hospital"

Methods

This study uses case study design that aims to find out how the nursing care of Diabetes Mellitus clients in a comprehensive starting from the assessment, data analysis, nursing diagnosis, planning, implementation and evaluation. This is in line with the opinion of Notoatmojo (2000), case study is a research procedure that analyzes a problem in a single case unit that is analyzed in depth from various aspects relating to the case, the factors that influence, the specific events arising from the case, and the case reaction to a particular exposure / treatment.[29]

Results And Discussion

Assessment

After the author conducted an assessment from anamnesa to physical examination, the client Mr. "Su" and Mr. "Sa" client experienced an inability to fulfill basic needs related to the fulfillment of nutrition less than body needs. Both clients were shown to suffer from a decrease in the production of insulin adequately and the disruption of potrein metabolism, carbohydrates, fats that cause injury to both clients. The cause of this injury due to increased blood sugar levels and interrupted anaerobic metabolism then the body actually fails to get energy and also food reserves. So the blood supply to the tissues will be disrupted, because red blood cells that carry nutrients and oxygen, which is important for normal function of the network can not

function properly. According to Kowalak (2011), signs and symptoms of Diabetes Mellitus include: Polyuria and polydipsia caused by high serum osmolality due to high serum glucose, anorexia (common) or polyphagia (occasionally), weight loss (usually 10 % To 30%, Type 1 diabetics typically have no fat on their body at diagnosis) because there is no normal carbohydrate, fat, and protein metabolism as a result of damaged or nonexistent insulin function, headache, tiredness, reduced energy.[20] All this is due to low intracellular glucose, muscle cramps, irritability, and unstable emotion due to electrolyte imbalances, visual disturbances, such as blurred vision, due to swelling caused by glucose, patirasa (numbness) and tingling due to nerve tissue damage, nausea, diarrhea, Or constipation due to dehydration and electrolyte imbalance or autonomic neuropathy, infections or skin lesions that are slow to heal. Itching of the skin, recurrent infections of the vagina or anus. According to (Mansjoer, 2000) complications in people with Diabetes Mellitus, among others: Hypoglycemic coma, ketoacidosis, nonketotic hyper osmolar coma, makroanginopati, penetrating big blood vessels, heart blood vessels, peripheral blood vessels, microangiopathy, penetrating small vessels: retinopathy, diabetic neuropathy.[22] From the author assume that both clients are not able to meet basic needs, mainly nutritional needs. If not getting the right handling can affect all the organs of the body. Excess sugar in the blood makes the blood cells become stiff and cause the deposition of fat in the blood vessels, which can damage the blood circulation so that the impact on the kidneys (nephropathy), eye (retinopathy), nerves (neuropathy), heart, skin and bone. In client 2 it is possible that there are signs of infection that dimenifestassikan client injury enlarged, pain in the wound, redness, swelling, there is tissue death. While the signs-signs that have not appeared such as unpleasant smell, heat, itching, tingling, decreased motor ability. It is on the client 1 is possible fulfillment of nutrients can still be fulfilled, because the age and physical clients are still able to compensate the basic needs. So that network repair will not be hampered. While the client 2 is possible nutritional fulfillment is hampered, Because the age and physical clients who are old and metabolism of protein, carbohydrates, fats can not function better. So that the nutritional fulfillment is inhibited then the repair of tissue on the wound also obstructed. If the wound is not treated immediately, the infection will get worse and the possibility of tissue removal. The worst, of course amputation.

Nursing Interventions

From the author describe not all the intervention of the theory can be applied and implemented on client 1 and client2. The implementation of nursing intervention is also adjusted to SOP (Standard Operational Procedure) that exist in the field of research. Nursing orders are based on theories from existing literature studies. In this study nursing interventions adopted from Dongoes (2000) and various other book sources. From various theories, it turns out not all can be applied to both clients. This is because the intervention is adjusted to the needs and conditions that occur on both the client and the Standard Operating Procedures available in the field of research.

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Implementation

From the author describe the implementation carried out for three days ie on 05 April 2016 until 07 April 2016 on the client 1, while the client 2 dated 15 April to 17 April 2016. Implementation is done refer to the intervention that has been set. While at the time of study not all interventions performed nursing actions. Several interventions were not taken. While the time in performing nursing actions is not sequential as in the intervention, this is because of adjustments to the schedule with the Hospital. Based on theory, Implementation is a phase when nurses apply planning into action [(21)]. Implementation is the fourth stage of the nursing process associated with the implementation of the planning that has been made and spur on the nursing plan that has been made. The nurse is responsible for the implementation of the nursing plan by involving clients and family and other members of the nursing and health team [(24)]. This is done because with the implementation of nursing, nurses can provide nursing care to clients. Therefore a nurse must have knowledge and nursing skills about the actions that dilakuakan on cases that are handled. So that all interventions that have been formulated can be dilkukan well and can solve health problems faced by clients.

Evaluation

From the researcher describes the evaluation using SOAP development notes. The author conducted a three-day nursing evaluation on client 1 and client 2. When performing the evaluation until the last day, researchers have not found improvement or development of nutritional status of clients. It can be proven that until the last day's evaluation, the client generally complained about the same complaints as at the time of the assessment and there was no weight gain. It is possible that the improvement or development of nutritional status of clients will be possible within a period of more than three days. Impaired integrity has improved both client 1 or client 2, because this is due to network growth longer than the process keperwathygienpklien improved and the researchers. Impaired sense of pain in clients 1 and 2 experienced increased both verbal and non verbal reactions.

Conclusions

Assessment

From the research data the researchers have found, not all of the signs are found on Mr. "Su" and Mr. "Sa". There are some similarities and differences between theory and facts from both clients. On both the client is possible body condition is still quite good despite the emergence of several disorders due to Diabetes Mellitus disease.

Diagnosis

Not all signs and symptoms of Diabetes Mellitus disease are found in both clients, then all nursing diagnoses are not present. The researchers only formulated several diagnoses such as nutritional imbalance less than the need to relate to insufficient insulin, anorexia (nausea, vomiting), skin integrity disorders associated with discontinuity of secondary tissue to inadequate circulation, painful discomfort associated with infectious process.

Intervention

At the planning stage, nursing orders are structured on the basis of theories of bibliography and references. Of the various theories that have been written, apparently not all can be applied to the client. Intervensions that will be made to adjust to the needs or conditions of both clients and Standard Operational Procedures (SOP) that exist in the field.

Implementation

Implementation of nursing carried out based on intervention that has been prepared by researchers. In practice, not all the plans that have been prepared can be implemented because it adapts to the needs and conditions of clients and standards that exist in the field.

Evaluation

At the evaluation stage, the authors use SOAP development notes to facilitate monitoring client progress. During a few days evaluation, Mr. Su and Mr. Sa condition began to change, although it has not achieved maximum results due to limited implementation time and maintenance time. Given the recovery of Diabetes Mellitus disease takes a short time, it needs intensive and sustainable treatment.

List of abbreviations (optional section)

Text for this section.

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THE RELATIONSHIP BETWEEN KNOWLEDGE AND NURSE ATTITUDE ABOUT PPNI WITH ORGANIZATIONAL BEHAVIOUR IN PASURUAN

Dian Rahmadin Akbar

Master of Nursing Student, Faculty of Medicine, UniversitasBrawijaya, Malang, Indonesia
Correspondence : dianrahmadinakbar@gmail.com

Abstract

Background: The nurse's knowledge of PPNI has been widely provided in educational institutions during the study in the hope that all nurses will demonstrate good organizational attitudes and behaviors in PPNI as their only professional organization, but to date not all nurses show good organizational behavior in PPNI.

Methods: This research design use cross sectional. Using a sample of 100 people based on specified inclusion criteria. The variables of this research are knowledge and attitude and organizing behavior of nurses in PPNI implemented in Pasuruan City. Instrument used is a questionnaire sheet. Data analysis using Spearman's rho test with significance value α <0,05.

Results: The results of this study indicate that nurse knowledge about PPNI with organizational behavior there is no significant relationship (p = 0.086 and r = 0.173). The attitude of nurses to the PPNI with organizational behavior there is a significant relationship (p = 0.268 and r = 0.007).

Conclusions: That the behavior of nurses organization in PPNI in Pasuruan is influenced by knowledge and attitude also influenced by many other factors.

Keywords: Nurse Knowledge, Nurse Attitude, Organizational Behavior, PPNI

Background

Persatuan Perawat Nasional Indonesia (PPNI) is a forum of nurse associations throughout Indonesia, founded on March 17, 1974. PPNI can't be a forum for organization, in fighting for independence to perform a nursing action there are still ups and downs. There needs to be improvements that must be done on the body of this professional organization, one of which is the nurse's organizing behavior itself in the PPNI which includes membership, stewardship and the role and function of the organization. Nurses who are not members of PPNI become complicating organizations in knowing who has become a member or not a member, knowledge of the flow of registration and organizational functions has been described in many educational institutions during the study with the aim that all nurses can show good attitude and organizational behavior In PPNI as the premier professional nurse organization. But until now not all nurses have not shown good organizational behavior in PPNI, so the relationship of knowledge and attitude of nurses in Pasuruan about PPNI with organizational behavior is still necessary.

Based on data obtained from the preliminary study, PPNI Kota Pasuruan there are 2 Commissariat which is divided into Commissioner of Health Service and Hospital Commisariat with the number of nurses is 293 people consist of D III Nursing, Nursing S1, and S2 Nursing. Of this number there are some who do not have a sign card member of PPNI, also there are still not registered to become member of PPNI. In the activities organized by PPNI Kota Pasuruan such as routine Nursing Seminar at any time there are still many who are not present, then this activity is free of charge or subsidized from member dues. Similarly, the monthly meeting held by the board of PPNI itself, on average each month is not up to 50% of the total board. This situation will have an impact on the organization of PPNI and the nurse profession is difficult to progress and develop, also including solidarity of unity and unity of fellow members and administrators.

Vision and mission, as well as knowledge of Nursing Law and also AD/ART PPNI is something that must be known and understood by all nurse as base in practice all aspect according to role of respective nurse. Supposedly with good knowledge about the PPNI will adversely affect good organizational behavior. Likewise, if the attitude of a nurse is positive to the PPNI then the organizational behavior will be good too. Differences in education, ethnicity, language and religion do not become a barrier for nurses to unite to build and develop PPNI which is a container of nursing personnel who have a unity of will in accordance with positions, professions and environment to achieve organizational goals. A nurse must add or update information and knowledge about the organization of PPNI in order to remain a stimulant for the nurse's attitude to be active in an organization, so it can increase work motivation in organizing.

Methods

This research design use cross sectional. Using a sample of 100 people based on specified inclusion criteria. The variables of this research are knowledge and attitude and organizing behavior of nurses in PPNI implemented in Pasuruan City. Instrument used is a questionnaire sheet. Data analysis using Spearman's rho test with significance value α <0,05.

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Results

Distribution of Respondents Based on Nurse Knowledge and Attitudes Level about PPNI and Organize Behaviour

The distribution of Nurse Knowledge level about PPNI, Attitude level, and organizational behaviour explained in Table 1.

Table 1. Nurse Knowledge level about PPNI, Attitude level, and organizational behaviour

Level	F	%
Level of knowledge		
Good	49	49
Enough	40	40
Less	11	11
Total	100	100
Level of attitudes		
Good	*12*	12
Enough	86	86
Less	2	2
Total	100	100
Organizational behaviour		
Good	4	4
Enough	13	13
Less	83	83
Total	100	100

Source: primary data

Table 1 shows that respondents knowledge level is good that is 49 respondents (49%) and attitudes about PPNI that the most respondents in level enough 86 respondents (86%), and organizational behaviour level is less (83%).

Relationship of Nurse Knowledge about PPNI with Organize Behavior

Table 2. Relationship of Nurse Knowledge about PPNI with Organize Behaviour

Knowledge	Organize Behaviour						Total	%
	Good	%	Enough	%	Less	%		
Good	3	3	8	8	38	38	49	49
Enough	1	1	5	5	34	34	40	40
Less	0	0	0	0	11	11	11	11
Total	4	4	13	13	83	83	100	100

Spearman Analysis: $(r) = 0.173$ $p = 0.086$

Based on table 1, the correlation analysis using Spearman's rho analysis with SPSS 18 program shows that there is no significant correlation between knowledge and organizational behavior, whereas the coefficient value r = 0.173 means that there is a very low degree of correlation (not correlated) Between knowledge and organizational behavior.

Relationship of Nurse Attitudes with Organizational Behavior

Table 3. Relationship of Nurse Attitudes about PPNI with Organizational Behavior

Attitudes	Organize Behaviour						Total	%
	Good	%	Enough	%	Less	%		
Good	3	3	2	2	7	7	12	12
Enough	1	1	11	11	74	74	86	86
Less	0	0	0	0	2	2	2	2
Total	4	4	13	13	83	83	100	100

Spearman analysis: *(r)* = 0.268 *p* = 0.007

Based on table 2 there is a significant relationship between attitude and organizational behavior (p value = 0.007). While the coefficient value r = 0.268 means there is a low degree of relationship between attitude and organizational behavior.

Discussion

Nurse's Knowledge About PPNI

From table 1 shows that the good knowledge level of the respondents about PPNI is49 people (49%), enough knowledge level is 40 people (40%) and less knowledge level is 11 people (11%).

Knowledge is a state of know or understanding that occurs after people do sensing of a particular object. Sensing occurs through the five senses of the human eye, sight, hearing, smell, taste and touch. Much of human knowledge is obtained through the eyes and ears. Knowledge covered in the cognitive domain has 6 levels, namely: know, understand, application, analysis, synthesis, and evaluation. Knowledge is a very important domain of the formation of attitudes and behaviors that are based on knowledge, awareness and positive attitude, then the behavior will be lasting (Notoatmodjo, 2003).

In this study obtained the level of knowledge of respondents about the average PPNI is good. It can be concluded because most of respondents have D III of nursing that is 52 people (52%) who have gained knowledge about PPNI during education in DIII Nursing, and most of them are 23-35 years old that is 69 people (69%). This is supported by the opinion expressed by Notoatmodjo (2003) that one of the factors influencing one's knowledge is the internal factors of within oneself such as intelligence, interest and physical condition (age affects one's physical condition).

Nurse's Attitude Towards The PPNI

Table 1 shows that the attitudes of the respondents to the PPNI are mostly sufficient as many as 86 people (86%), there are 12 people (12%) good attitude towards the PPNI and 2 people (2%) who are less. The attitude of the respondent to the PPNI is influenced also by the length of work (experience) as a nurse because as well as knowledge, attitude also consists of several levels: receiving, responding, valuing and responsible (Notoatmodjo, 2003). In this study most of the respondents are 77 people (77%) have a working period of more than 5 years and less than 5 years as many as 23 people (23%).

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Attitude is a reaction or response that is still closed from someone to a stimulus or object (Notoatmdjo, 2003). Attitudes are views or feelings that are accompanied by a tendency to act in accordance with attitudes toward the object. So attitude is always directed towards a thing, an object, no attitude without object. Humans can have attitudes toward a variety of things. Attitude is not an act of activity, but a closed reaction, not an open reaction or open behavior. Attitude is a readiness to react to objects in certain environments as an appreciation of objects (Notoatmodjo, 2003).

Based on the above theory can be concluded the attitude of nurses to the existence of PPNI formed from a career or work experience) as a nurse that occurs gradually so as to grow awareness in organizing.

Organizational Behavior

From Figure 3 shows that the respondent's organizational behavior in PPNI is mostly less that 83 people (83%), 13 people (13%) have enough behavior and only 4 people (4%) are well behaved.

From the above results can be spelled out from 13 people (13%) who behave reasonably and 4 people (4%) are well behaved found in respondents who have a working period of more than 5 years and aged between 23-35 years.

According to Natoatmodjo cited by Suliha (2002) an attitude has not been automatically manifested in an action (overt behavior). For the realization of the attitude in order to become a real action required supporting factors or a condition that allows among others is the facility. As well as knowledge and attitude, practice or action consists of various levels, namely: perception, guided response, mechanisms and adaptation.

According to Katz (1960) cited Notoatmodjo (2003), argued that the behavior is based on the needs of individuals concerned. From the research results can be seen that most of the nurses in the city of Pasuruan behave less towards the existence and implementation of activities held by the PPNI, this means nurses have not understood, and understand the importance of professional organizations and have not felt the benefits of professional organizations PPNI as a means to fight for the profession Nursing.

Knowledge Relationship With Organizational Behavior

The result of Spearman's rho statistic test with the significance level of p value <0,05. In this research, the significance level of p = 0,086 and the coefficient value r = 0,173 means that there is no significant relationship between knowledge and organizational behavior (Arikunto, 1998). The results of this study contradict the opinion of Notoatmodjo (2003) that knowledge or cognitive is a very important component for the formation of a person's actions.

Knowledge is one factor that encourages a person to behave in this case is the behavior of nurses within the organization PPNI. But if seen from the results of this study where most of the existing nurses in the city of Pasuruan organizational behavior in PPNI are on the criteria less it can be concluded that the organizational behavior is not affected by the knowledge of nurses on the PPNI but also supported by many factors.

The occurrence of differences in behavior due to many factors, according to Lawrence Green behavior is influenced by: (1) predisposing factors that

include knowledge, attitudes, beliefs, beliefs, values, (2) supporting factors is the availability of facilities, infrastructure and manpower against the existence of PPNI organization, Education on organization, vision and mission of PPNI clear also existence of AD / ART of good PPNI organization, (3) motivation factor of time availability and also motivation also support from PPNI management and institution leader where nurse work (Notoatmodjo, 2003).

The experience in this case is how long the nurse has been working as well as one of the factors that influence the behavior of the organization this is in accordance with the theory that was conveyed by Rogers (1974) as cited by Notoatmodjo (2003) that someone before adopting new behaviors within the person happens the process Which requires consecutive time that is, awareness, interest, evaluation, try and finally just accept the behavior, whereas in this study those who have good organizing behavior that is 4 people (4%) have working period more than 5 years and average age Ie between 23-35 years old which is the age of productive while the sex does not give a big influence.

Thus it can be said that in order to organize nurse behavior in PPNI well apart from influenced by knowledge also influenced by many factors.

Correlation between Attitude and Organizational Behavior

Spearman's rho statistical test result with significance level of p value <0,05. In this research, the significance level of p = 0,268 and coefficient value r = 0,007 indicates that there is a significant correlation between attitude and organizational behavior with low degree of relationship (Arikunto, 1998).

From 12 respondents (12%), the attitude toward good organization was 7 people (7%) of organizational behavior was less, 2 people (2%) had enough organizational behavior and only 3 people (3%) had good organizational behavior. Whereas from 86 people (86%) that enough organizational behavior was turned out 74 people (74%) less organized behavior.

Attitude is one of the factors that encourage to act or behave in organization PPNI, but considering the attitude is a response that is still closed (Notoatmodjo, 2003) so that a good attitude is not necessarily embodied in the form of action or good organizational behavior as well. In this research can be seen that most of nurses have enough attitude toward PPNI but their organizational behavior was still not good to organization of PPNI.

The attitude of nurses in Pasuruan is good enough against the organization of PPNI was not followed by their organizational behavior is good enough also according to WHO Notoatmodjo (2003) that the attitude of good enough to the organization PPNI not always manifested in an action or behavior depends on the situation Then, attitudes will be followed or not followed by behaviors referring to the experiences of others, attitudes followed or not by a behavior based on the many or least of one's experience.

Conclusions

Based on the results of research on the relationship of understanding and attitude of nurses about PPNI with organizational behavior in Pasuruan as follows:

1. Knowledge of nurses in the city of Pasuruan on average about PPNI is 49%.
2. Nurses attitude in Pasuruan to PPNI mostly with enough criteria that is 86%.

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3. Organizational behavior of nurses in Pasuruan to the PPNI organization is mostly less that 83%.
4. There is no significant relationship between nurse knowledge about PPNI with organizational behavior (p = 0,086 and r = 0,173).
5. There is a significant relationship between caring attitude toward PPNI with organizational behavior (p = 0,268 and r = 0,007).

List of abbreviations (optional section)

1. PPNI – PersatuanPerawatNasional Indonesia
2. WHO – World Health Organization

Declarations

Authors' contributions

In this study the authors as the main researchers. The author directly in the management as a sample starting from the selection of samples, administration of diit, control samples, to anesthesia. Surgical, tissue removal and staining with HE and red oxygen are performed by laboratory personnel. The reading of the results was done by the researchers themselves. The authorization of credit is carried out by the principal investigator. The second researcher in this study serves as a mentor in the research process

Consent for publication

This research has not been published in national or international journals

Availability of data and materials

The findings in this study can be published and can be used as supporting data in subsequent research. Researchers hope the results of this research publication can contribute to nursing organizations, especially in organizational management and governance.

Competing interests

In this study there is absolutely no conflict of interest. This research is done purely by reason of want to improve management organization and its work procedure.

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THE RELATIONSHIP BEETWEEN PARENTING STYLE WITH THE LEVEL OF STRESS OF PRESCHOOL CHILDREN AT DHARMAWANITA KINDERGARTEN SIDOARJO

Dini Prastyo Wijayantia

Nursing Academy of Kerta Cendekia ,Sidoarjo, Indonesia
Correspondence: dinipw@email.com/08563303302

Abstract

Background: Parents have contribution for develop their children growth up optimally. One of factor can influence develop child optimally is parenting style. The application of appropriate parenting to make children have asense of confidence and didn't experience emotion, especially the growth of irregularities so as to minimize theincidence ofstressin children. This research aimed to find out parentingstyle that to show incidence rate or level stress of preschool children in Kindergarten.

Methods: The research design was observational analytic study withcross sectional approach. There were 35 participants, The sample were recruited by purposive sampling. The data of the research was taken from questionnairestoparentstofindways how wasfrom the parenting styleandmeasure theincidence ratestressexperienced ofchildrenand check list for observational to childreen ; and analyzed by using chi-square test.

Results: The findings showed that parent had 57% parents had democratic/ authoritatatif parenting style and children had been the low level of stress was 63% .The statistic test show the result that p= -0,603. andsignificant level 0,000 (p<0,1). It meant that there was relationship beetween parentingstyle with the level of stress of preschool children In Dharmawanita Kindergarten Sidoarjo.

Conclusions: It is importan to develop parenting style to reach higher step for preschool children to know level of stress. It is recomanded for school has program stop revent incidence of stress. Exampleshandlingprogramin early childhooddeveloped in-houseandcommunity's, in the form ofeducationto parents,preschool children, as asupport tothe family.

Keywords: parenting style, level of stress, preschool

Backgrounds

Child developmentin principleare influencedby twomain factors, namely: internal and external factors. Internal factorsarewithin the child hich consists of congenital factors, these factorsinclude:genetic factors, familial, a diseaseof thefetusduringpregnancy, etc. Whileexternal factorsincludedhereare: family, nutrition, culture, playmatesandschool[1].One ofexternal factor andimportanis parenting have a specific behaviour taken over or acquired that a parent chooses to use in his/her child's care, raising, and education[2]. The attachment and caregiving systems are often activated simultaneously. Parentingrequires cooperationbetweenfathers and mothers, Mistake in parenting can make stressin childrenof preschoolcaracterized byre-wetting orthumb sucking, anxiety, anger, anxiety[3]. Preschool is a phaseof individual developmentabout two tosixyears old, whenthe childbegin tohave an awareness ofthemselvesasmale or female, a growingcuriosityandinitiativeled toan activeexplorationof the environmentandthe development ofnew skillsandhavenew friends,as well asget to knowsome of thethings that are consider dangerous (to harm himself)[3,4].

The incidence of stress are particularly vulnerableat preschool age, in this phaseextends beyond thepreschoolworldfamilyintothe social environmentin which most childrenwillshowshynessof strangers, scary ofnewplaces, do not want tobe separatedfrom his mother, ordo not want togo to school[5]. Twenty-three percent of caregivers in Australia report problem behaviors in their child, such as yelling, arguing, fighting, hitting and temper tantrums[5].

This research because is impotrant, because child phase is a gold period. Stress can change child period being sadness and disturb physic development so also physicology. Stress cause child bad attitude .At long time, te effect can disturb personality of child dibiarkan, example: child is easy for angry, not comfort, and difficult concentrate according[2]. Menurut Christine M. Todd, a specialish of *human development*dari*University of Illinois Cooperative Extension* in, from all causa of stress , Physical is the main factor that make problem of attitude, such as sleepy, hungry, not enough for rest anda stressful parent angry or high pressure from teacher or other so that can chage attitude form child and fast reaction from child called stress. From researched Knitzer (1984) get t 5-15% impired childreen but the lower percentage representing 3-9 millions of child[6].

The result from first study, l was having interview with head master of kindergartenatDharmawanitaparents are always with child until finish study. Parents are doing like that everyday so that childs are not crying anymore tidakand so also finih task from teacher child. But other parents just dropping off or pick up child, so parents dont know what are child do as long at school. This fact show that child was crying and didn't finished task from teacher and parent must always together with child as long at school, we called tis of first symptom to child[7]. This general kindergarten consist of students with different backgroundfrom social economy, education and culture. I was getting kind data about parenting style. In other side parents dont know that effect from parenting style can make high risk incidence of stress or no.

Phenomenon above make me interest to research about "The Relationship Between Parenting Style and The incidence of stress on Preschool Childrenat TK Dharma wanita Tanggulangin Sidoarjo. The aim from research is searching

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The Relationship Between Parenting Style and The incidence of stress on Preschool Children

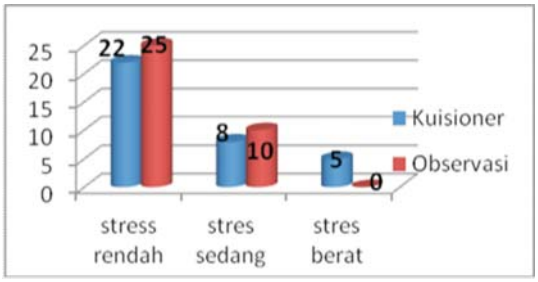
Methods

The design of this study was observational analytic with cross sectional approach. Which the result obtained by analyzing the relationship between parenting style with the incidence or level stressof preschool in Kinder garten Dharmawanita Sidoarjo. There were 35 participants. The sample were recruited by purposive sampling .The data of the research was taken from question nairest oparents t ofind ways how was from the parenting style and measure theincidence ratestressexperienced ofchildrenand check list for observational to childreen; and analyzed by using chi-square test.

Results

Incidence of stress to Preschool age at di TK Dharma wanita Tanggulangin Sidoarjo

The data shows that mainly child with low incident of stress is 63% respondent, but high stress happendmale child 19% responden. Incidence of stress preschool happend at six years old child is 65% (figure 1).



Figures 1. Incidence of stress to Preschool age at di TK Dharmawanita Tanggulangin Sidoarjo

Parenting Style at TK Dharmawanita Tanggulangin Sidoarjo

The result is 57% respondent use parenting style of Authoritative, 22% respondent use parenting style Authoritarian, parenting style Permissive 13% and parenting style Negleceted 9% responden (Table 1)

Pareting style	Factors				Avarage
	Economy	Total of Child	Number of child	Rate Of Education	
Authoritative/ Democratic	57%	57%	57%	56%	57%
Authoritarian	27%	27%	8%	26%	22%
Permissive	8%	8%	26%	9%	13%
Negleceted	8%	8%	9%	9%	9%

The Relationship Between Parenting Style and The incidence of stress on Preschool Children

Table 2. The Relationship Between Parenting Style and The incidence of stress on Preschool Children

Parenting style	Level of stress						total	
	Low		Moderate		High			
Authoritative	16	80%	2	25%	1	14%	19	54%
Authoritarian	3	15%	5	62%	1	14%	9	26%
Permissive	1	5%	1	13%	2	29%	4	11%
Negleceted	0	0%	0	0%	3	43%	3	9%

From above data and it is searched by*chi square* to get relationship and the result is correlation value -0,603 with significant 0,000 ($p<0,1$). Therefore $H_0$is rejected, so there is relationofparenting style with The incidence of stress on Preschool Childrenin TK Dharmawanita Tanggulangin Sidoarjo. The direction of negative corelation mean is better understanding parenting style which to applied for child so incident of stress can decrease and otherwise

Discussion

The result was 57%respondentuse parenting style of democratic parenting ,22% respondent useparenting style Authoritarian, parenting style Permissive13% and parenting style Negleceted9 % responden. One of the factors that affect parenting parents is the level of parental education. From the results, the data that most parents of high school graduates as much as 54%, it affects a person in the application of parenting in everyday life, that one person's increasing levels of knowledge derived from formal process has been pursued through education.

A further factor which affects the application of parentingtyle research development results can be said that the tendency of democratic parenting is mostly applied to the youngest children as many as 61% of respondents. It is the same with the statement that the second child (youngest child) parenting that is often applied is a democratic parenting style[2]. Children who are raised with care techniques will demokratif life more cheerful, fun, creative, intelligent, confident, open to parents, appreciate and respect your parents, do not easily stressed and depressed, do well, like the environment and society and others.associated with reduced authoritative parenting and increased authoritarian and permissive parenting. Their final model revealed that responsiveness to partner mediated the relationships between attachment and parenting styles and these relationships did not differ between mothers and fathers[2].

Based on the income level of the parents most of> 2 million per month (78%) chose the democratic parenting style, with a high socioeconomic level of the parents can facilitate all the needs of children. According to Hetherington and parke (1979) that parents who come from middle and upper socio-economic class are more likely to be warmer than parents, who come

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from lower socioeconomic.These results can be said that the majority of parents have a tendency democratic parenting. This might be due to the high and low socioeconomic parents so that parents with high socioeconomic could meet the needs of children ranging from the cost of education, health, and other kebuthuhan pemenuhahan. Usually families with high socioeconomic tend to use democratic parenting and are warmer toward her.

The result showed that most children experience mild stress that is as much as 63% of respondents, whereas most of the severe stress experienced by boys as much as 19% of respondents. Mild stress level experienced by the children of preschool age 6 as much as 65%.Based on observations showed that most children experience mild stress that is as much as 71% of children. It is significant to a questionnaire distributed to parents about the incidence of stress experienced by children also expressed mild stress as much as 63%. The percentage difference could be due to the attitude of parents who are worried about a child could also have an impact stress, the study of severe stress occurs at the age of 4 years (67%). This is because at the age of 4 years of a child's cognitive process is not perfect and the rules of parenting or parenting styles when applied too strict, for example, excessive worry too much about the child so that when at home the child's attitude will be different and the symptoms of stress will be more visible. But when school children will be happier, because there is no rule prohibiting child's parents. For example, playing with his friends.

The results showed that the respondents who use democratic upbringing has mild stress levels as much as 80% .Pola authoritarian Foster have moderate stress levels as much as 62%. While permissive parenting resulted in severe stress levels as much as 29% and parenting penelantar result in severe stress levels as much as 43%. In the application of parenting preschoolers can not be separated from the control element and the warmth of the parents. Indeed, in the first years of life, family is considered as primarily responsible for child's care and development, and the parenting style experienced is proposed as a key precursor of the child's attachment pattern.This in turn could have contributed to reducing the frequency of their children's disruptive behaviors. Although causal effects cannot be clearly attributed, it would be reasonable to suggest that the current results support the association between parenting interventions and a reduction in child problem behaviors[8,9].

Declarations

Authors' contributions

In this study the author as the main researcher. Authors are directly involved in the management sample selection, sample control, collecting data by questioner, do observational student at Kindergarten, and author was proscessing of data in SPSS.

Ethics approval and consent to participate

This research is passed the test of proposal by supervisor, followed by process submission to ethics commission.

Availability of data and materials

Findings in this study can be published and can be used as supporting data in subsequent research. Researchers hope the publication results of this study

may contribute to nursing practice, especially psycology of prsechool child to reduce level of stress.

Competing interests

The author declare they have competing interest.

Funding

This research is only do by author as researcher

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THE RELATIONSHIP BETWEEN THE ROLE OF THE FAMILY WITH THE COMPLIANCE CONTROL IN PATIENTS WITH MENTAL DISORDERS IN MENTAL HEALTH POLY RSUD DR. DORIS SYLVANUS PALANGKA RAYA

Theo Andika Permana[1], Vina Agustina[2], Dwi Agustian Faruk Ibrahim[2]

[1]Nursing Student (Nursing Department, STIKes Eka Harap, Palangaka Raya, Indonesia)
[2]Lecturer at Nursing Department (STIKes Eka Harap, Palangaka Raya, Indonesia)
*corresponding author: farukibrahim13@gmail.com

Abstract

Background: Mental disorders are manifestations of the behavioral deviations due to the distortion of emotions that are found irregularities in acting. The family is among the key support recovery of Patients with mental disorders. This study Aimed to Determine the relationship between the role of the family with the compliance control in Patients with mental disorders in Mental health polydr. Doris Sylvanus Palangkaraya.

Methods: The study design correlational with 33 respondents with Purvosive Sampling sampling techniques. The collection of data is done by using a questionnaire consisted of demographic Data and questions the role of families and compliance controls. Bivariate analysis using chi-square test to analyze the relationship between the role of the family in control of compliance of Patients with mental disorders.

Results: The results of this study Showed the majority of respondents have a good family role 13 respondents (39.4%) with the compliance control of 12 respondents (36.4) and the role of the family is 15 respondents (45.5%) with compliance controls 11 respondents (33.3%). Obtained test results significant bivariate value is 0.001, the which means that there is a relationship with the family role of the compliance control of Mental Patients.

Conclusions: It is concluded that the role of the family is good and reasonably can increase of patient compliance controls in order to comply perform routine control. This research may be useful for Patients' families about the importance of the role of the family in control of patient compliance.

Keywords: Mental Disorders, Family, Family Roles, Compliance Control.

Background

Mental disorders are manifestations of a form of behavior deviations due to the distortion of the emotions that are found irregularities in behavior. This happens because of the decline of all the mental functions which include: the process of thinking, emotions, volition, and psychomotor, including talk. Recovery of patients affected the behavior of adherence to the treatment program. Compliance control schizophrenia treatment is patient adherence to treatment seen from coming or not patients have been defined, calculated from the arrival of at least 6 months [(1)].

According to WHO data in 2013 the number of people with schizophrenia achieve the 450 million people worldwide. Based on data from 2013 Riskesdas prevalence of severe disorders (schizophrenia) national of 1.7 per mil or absolute there were 400 thousand people over the Indonesian population[(1)]. According to the World Health Organization (WHO), that 20 million people in Indonesia have mental disorders, panic and anxiety are the most mild symptoms. Approximately 12-16% or 28 million of the total population experience symptoms of a mental disorder[(2)]. While in Central Kalimantan city of Palangkaraya amounted to patients who visit the Mental health poly dr. Doris Sylvanus during 2015 amounted to 2980 people. Preliminary results of a survey conducted by researchers for the 10 patients who exercise control in mental health poly, 3 states that can not control because outside the region, four people claimed that forgetting regular schedule control, and 3 states per physician control routine.

Someone who has an issue or depressed and others will experience a mental disorder. If not addressed will be bad for the patient and disturbing level of recovery. Mental patients in rehabilitation period which was treated by the family's own home or outpatient need support to comply with the treatment program[(1)]. Noncompliance treatment or follow-up of patients poses a great challenge to the effectiveness of the management and the hope of a cure health problems[(3)].

This research is useful to know the relationship Role of Families With Mental Disorders Patient Compliance Control in Mental health poly dr. Doris Sylvanus Palangkaraya".

Methods

The research design used in this study include the type of cross-sectional research. sample that included in this study were 33 sample, obtained with purposive sampling techniques in Mental health polyclinic dr. Doris Sylvanus Palangkaraya.

This study used a questionnaire which contained 25 questions the role of the family, and 25 questions about the role of the family, both the instrument is not standard so it is necessary to test the validity.Validity test is done on 15 families of patients with mental disorders in Kalawa RSJ Atei Palangkaraya. By providing a questionnaire with 25 statements about the role of families and compliance controls. Then the researchers to test the validity and reliability using SPSS computer program. So get a question that can be used is 19 questions.

Data analysis was performed univariate and bivariateanalysis. Analysis Univariate carried out on the characteristics of respondents including age,

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gender, past education, and employment.analysis Bivariate was conducted to see the relationship between the dependent and independent variables, the relationship significant if the p-value (value)<levelof significance (<5% = 0.05). Analysis of the data defines the relationships between two variables using a statistical test Chi-Square. The principle of the ethics of research is still being done to protect research subjects.

Results

Role of the familiy in mental Health polyclinic dr. Doris Sylvanus Palangkaraya

From table 1, it can be seen that 33 respondents based on the role of the family, there were 15 respondents (46%) the role of a good family, 13 respondents (39%) role enough, and 5 respondents (15%) less family roles.

Table 1. Role of the Family in Mental Health Polyclinic dr. Doris Sylvanus Palangkaraya

Role	N	Frequency%	Sig
Good	15	46	0,001
Simply	13	39	
Less	5	15	
Total	33	100	

Compliance Control in Mental health polyclinic dr. Doris Sylvanus Palangkaraya

From table 2, it can be seen that 33 respondents based compliance control, there were 23 respondents (70%) comply with the control, 10 respondents (30%) do not obey controls.

Table 2. Compliance Control in Mental health polyclinic dr. Doris Sylvanus Palangkaraya

Compliance	N	Frequency%	Sig
Complying	23	70	0,001
Not Complying	10	30	
Total	33	100	

Relationship Role of Families With Compliance Control

From table 3, it can be seenthe characteristics based on the role of families with mental patients control compliance shows that of the total 33 respondents the most are family roles quite that 15 (45.5%) with compliance controls 11 (33.3%) and non-compliant 4 (12.1%), respondents with good family role 13 (39.4%) with compliance controls 12 (36.4%) and non-adherent 1 (3.0%), respondents with less family roles 5 people (15 , 2%) with non-compliant control of five people (15.2%).

Table 3. Relationship Role of Families With Compliance Control

Role of Families	Compliance Control				Total		P
	Comply		No Comply				
	N	**F%**	N	**F%**	N	**F%**	
Good	12	36.4	1	3.0	13	39.4	**0,001**
Enough	11	33.3	4	12.1	15	45.5	
Less	0	0.0	5	15.2	5	15.2	
Total	23	69.7	10	30.3	33	100	

From the results of statistical analysis using Chi-square (x2) showed that H1 is accepted by the results of the P value = 0.001 means that the value obtained is less than the á, critical limit of 0.05 which means there is a relationship between the role of the family in control kaptuhan disorder patients soul in mental health poly dr. Doris Sylvanus Palangkaraya.

Discussion

Statistical tests were conducted by researchers with the questionnaire on the role and compliance controls that families get the results of statistical test Chi-square p value = 0.001 (<0.05) showed a relationship with the family role of mental patients control compliance, and this shows that the role of either the dutiful family in control. This study found that the role of the family is in need for treatment programs mental patients so that programs run properly. To enhance the role of the family in control accompanying family expected to pay more attention and provide support to patients so that treatment programs run by lancar.Berdasarkan result cross tabulation analysis the role of family relationship with the compliance control of mental patients showed that of the total 33 respondents the most is the role enough family of 15 people (45.5%) with compliance controls 11 (33.3%) and non-adherent 4 (12.1%), respondents with good family role 13 (39.4%) with compliance control 12 people (36.4%) and non-adherent 1 (3.0%), respondents with less family roles 5 people (15.2%) with non-compliant control of five people (15.2%).

The role is a set of behaviors that are expected by others of one's corresponding position in a system. There are two basic perspectives concerning the role of the pressing pengeruh struktralis orientation normative (cultural), the effect related to certain statuses and roles[5]. The research result Prihanti (2010), which discusses the relationship between the level of compliance controls with a recurrence rate of clients with mental disorders in the clinic RSJD Surakarta clients with mental disorders who underwent control Polyclinic RSJD Surakarta mostly have this level of adherence to good control, compliance control of the client at the Polyclinic RSJD Surakarta largely categorized submissive, recurrence of mental disorders in the clinic clients RSJD Surakarta largely categorized no relapse and no significant relationship (significant) between the level of compliance controls with a recurrence rate of mental patients in the Polyclinic RSJD Surakarta.

According Sacket in Niven, compliance is the extent to which the behavior of the patient in accordance with the provisions given by a health worker[6].

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Factors that affect mental patients control compliance as follows attitudes or motivation of individuals want to recover, individual beliefs, family support, social support, and support for health workers. In this case the role of the family with the previous control compliance family should understand or comprehend a treatment plan and how important family support is always with the patient while performing the control back.

Family is supporting the recovery of patients with mental disorders, families should support the recovery client by way of routine escort or accompany a patient to control. Mental disorder is a disease that can not be directly cured in the near future so that the family has a very important role to provide motivation and encouragement in the healing process, especially patient so that the patient does not feel alone and always feel cared for by the family.

Conclusions

There is a relationship between the role of the family in control of compliance of mental patients in the mental health poly dr. Doris Sylvanus Palangkaraya.The results of this study can provide a reference for further research and can be used as a source of initial data, on further research is expected to further explore more about other factors that the relationship with the family's role in the control of compliance of mental patients in the Mental health poly dr. Doris Sylvanus Palangkaraya.

Declarations

Authors' contributions

All Authors participated in the design of the research. All authors were part of conclusions and final result. DA drafted the manuscript and all authors read and approved the final manuscript.

Authors' information

[1]Nursing Studentin Nursing Department, STIKes Eka Harap, Palangaka Raya, Indonesia. [2]Lecturer at Nursing Department, STIKes Eka Harap, Palangaka Raya, Indonesia.

Consent for publication

Not applicable.

Availability of data and materials

Data may be shared with the contact email address on the third author.

Competing interests

The authors declare that they have no competing interests.

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DIFFERENCES BETWEEN MOTHER OF DEPRESSION WITH DOMESTIC WORKERS AND PUBLIC WORKERS AT GADING RT 04 RW 06 SELOPURO VILLAGE SELOPURO DISTRICT OF BLITAR

Edi Santoso

STIKes Ganesha Husada Kediri
Corresponding author: edi.singer@gmail.com

Abstract

Introduction: Depression is a feel about disfungsion of grieving and that symtomatic. Meny factor of depression, instrinsic, ekstrisic, and biologist factor. The purpose of this study was to determine differences in rates of depression among women domestic workers with the public in Gading RT 04 RW 06 Selopuro Village Selopuro District of Blitar.

Aim: The purpose of the research to knowing the difference levels of depression among mothers domestic workers with the public in the hamlet of Ivory RT 04 RW 06 Selopuro Village sub district of Blitar Regency Selopuro.

Methods: The design study is a correlation study with cross sectional approach. The population is all the mother in Gading RT 04 RW 06 Selopuro Village Selopuro District of Blitar with a sample of 65 respondents with 44 domestic and public respondents 21 respondents drawn with proportional cluster random sampling technique. The independent variable is the level of maternal depression domestic workers and public workers' levels of maternal depression. Collecting data using a questionnaire. The file showed in ordinal scale and analyzed Mann Whitney statistic from alpha 0,05.

Results: Majority of respondents from the group of domestic workers' depression levels were categorized as many as 30 respondents (68.2%), known to most respondents from the group of public workers mild levels of depression include as many as 15 categories of respondents (71.4%) of the total of 65 respondents, and no difference in rates of depression among women domestic workers with the public in Gading RT 04 RW 06 Selopuro Village Selopuro District of Blitar 2014 ($p = 0.002$). This is due to the psychological differences between the two. Mother house worker feeling have not a job and feeling inconfident of her self.

Conclusion: It was concluded that difference in rates of depression among mothers with the domestic worker public. It is recommended that the domestic worker mother to find a job so that the variation does not seemed monotonous life which can ultimately reduce the level of depression.

Keywords: level of depression, domestic workers, public worker

Background

Depression is a period in which the functions associated with nature feeling sad and companion symptoms including changes in sleep patterns, appetite down, psychomotor, concentration, fatigue, a sense of despair and helplessness, as well as suicide (20). Housewife (domestic workers) is a mother who much do work at home that do not have their own income (21). Depression can be experienced by anyone, whether men, women, any age or background jobs of any kind (8).

Based on data from the Office of the Chief of the village of Selopuro in the hamlet of Ivory RT 04 RW 06 Sub Selopuro Village Selopuro there are 77 mothers, there are 52 domestic worker mother (67%) and 25 public worker mother (32.5%). The head of the village of Selopuro sub-district of Blitar Regency Selopuro there are 2 mothers domestic workers who positively depressed. With a sad, emotional, easy to lose interest, excitement, and loss of appetite decreases is characterized by a decrease in the body of the mother, while public workers are not found there are signs of experiencing depression.

He onset of the depression can be caused by various factors such as a fragile personality, anger hidden, negative thinking patterns and causes of medical (7). According to Kaplan in Tarigan (2003) the causes of depression include genetic and biological factors, psycho social (20). Psychosocial factors one of which according to cognitive theories mentioned that depression occurs due to a negative view towards the future, a negative view towards yourself, consider themselves unable to, stupid, lazy, worthless, and a negative view towards life experience. If it is associated with the status of the mother is working and not working, then in the community there is still oversight housewife (domestic workers) are not working. This would create such a mindset of feeling helpless, worthless and other negative feelings. Different when mothers work outside the home (public workers) for example as a civil servant, working in the private sector, or trade) then they are considered independent. The difference in this mindset that according to cognitive theory will be the cause of depression. During this phenomenon often occurs in particular housewife (domestic workers), often experiencing the pressure or stress or depression (21). According to Rose (2013), women are often angry when at home so as to make their depression because of household task which is not easy. This triggered the rate of depression in the mother of the household (domestic workers), while on the women's career (public workers) levels of depression are lower compared to the domestic worker mother (21).

Beck's Cognitive theory 1967 says, the impact of depression in women is a negative view towards the future, a negative view against themselves, the individual considers himself unable to, stupid, lazy, worthless, a negative view towards life experience (12).

Remember the depression can arise from a variety of pressure problems are accepted, and severe depression can happen due to not being able to communicated with others, then for that building communication with the people closest to being the most important (5). That needs to be done so that the depression experienced by women did not increase at the level of the next depression is by increasing the therapeutic relationship, manage the concept of

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self, monitor levels of concentration and monitor the existence of activities to commit suicide as a result of depression, as well as holding activities that could produce a service or money with cooperation between the village head and Village Cadres so that the women there is bustle in addition to managing the household to avoid depression and lower levels of depression (18).

Methods

The design study is a correlation study with cross sectional approach. The population is all the mother in Gading RT 04 RW 06 Selopuro Village Selopuro District of Blitar with a sample of 65 respondents with 44 domestic and public respondents 21 respondents drawn with proportional cluster random sampling technique. The independent variable is the level of maternal depression domestic workers and public workers' levels of maternal depression. Collecting data using a questionnaire. The file showed in ordinal scale and analyzed Mann Whitney statistic from alpha 0,05.

Results And Discussions

The rate of depression in the mother a domestic Worker. The results showed that the majority of domestic workers are experiencing depression are namely 30 respondents (68.2%) out of a total 65 respondents. Depression is a period in which the functions associated with nature feeling sad and symptoms including changes in sleep patterns, appetite decrease, psicomotor, concentration, fatigue, a sense of despair and helplessness, as well as suicide (21). Depression is the natural feeling of disorder (mood) characterized by moodiness and sadness profound and sustainable so that missing the excitement of life, does not suffer interference in judging reality (Reality Testing Ability, still good), personality remain intact or does not suffer a fractured personality (splitting of personality), disturbed behavior but in the normal limit (17).

The majority of the respondents from the domestic worker level depression groups including categories are can be caused by psychological factors. On a housewife (domestic workers) will experience the conflict between work and family or parents. The various causes of domestic workers are mothers experiencing depression among other tasks everyday housewife relative does not require and does not cause the intellectual stimulation. Factors affecting domestic workers mothers depression among other factors intrinsic extrinsic factors, factors, and biology.

Nowadays a lot of women who have attended college and perhaps stool also already working, so is familiar with the demands of a professional intellectual stimulation elicited. So leave the world of College and the workforce then plunge in the world take care of the household are full time, he would lose a source of intellectual stimulation it. Duties of a housewife is generally not associated with other human level. So a housewife should be dealing with small children, a single level of intelligence far below him, where in this case the mother just gave and the child received only. As a normal human being is certainly in the works we need either co-workers or a service object can be invited to exchange ideas and share experience as well as the sense of, but if with young children we can't. Take care of the child especially toddlers is a daunting task because of the child's sleep schedule is erratic make a frazzled

housewife finally make the body uncomfortable and irritable, it will trigger a level of depression.

Level of depression in Mothers of public Workers. The results showed that the majority of public workers experiencing mild depression that is as much as 15 respondents (71.4%) out of a total 65 respondents. According to Rice (1992), depression is a mood disorder, the condition prolonged emotional coloring the whole mental processes (think, feel and behave). In general the mood which predominantly appeared is a feeling of helplessness and loss of hope (11).

According to Kusumanto (2008) depression is a feeling of sadness that accompanied the psychopathological origins' nature feeling sad, lost interest and excitement, energy depletion leads to increased state of fatigue after a very real work and reduced activity (7). According to Kartono (2002) depression liver gloom is (pain, opacity feelings) are pathological. Usually arise by inferior flavor, hurt, blame yourself and psychic trauma. If the depression it's psikotis nature, then it is called a melankholi (6). Most respondents from the public depression level group of workers including the categories light caused women workers more interact with others. This socialization or interaction will eliminate or reduce negative thoughts on him. Psychotherapist in New York, Robi Ludwig, saying, "we as humans were not created to live alone. The more we are alone, the more we look at all the things that we feel does not fit into our lives. This contributes to a person feel negative mental and attack yourself".

Besides the public workers in the mother also feels that he has his own income so that psychologically feel that itself as an independent people. The impact of the economic side is the mother felt is on the people who earn so little lot will add ability in meeting the needs of his life. Another thing that is perceived as a public worker mother, whatever his profession then this will be the application of media capabilities. Good work will give you satisfaction on someone. A variety of conditions which cause public workers get depressed in life with a level lighter.

The difference in the level of Depression among Mothers Domestic Workers with the public. Mann-Whitney Test results of this study showed no difference in rates of depression among mothers domestic workers with the public in the hamlet of Ivory RT 04 RW 06 Selopuro Village sub district of Blitar Regency Selopuro 2014 ($p = 0.002$).

As already expressed earlier that depression is a period in which the functions associated with nature feeling sad and penyertanya symptoms including changes in sleep patterns, appetite decrease, psikomotori, concentration, fatigue, a sense of despair and helplessness, as well as suicide (21). Depression is also closely related to the problem of psychology. If it is associated with the mother's work status (public workers) and it does not work (domestic workers), then in our communities there is still the assumption that the homemaker does not work. This would create such a mindset of feeling helpless, worthless, feeling behind and other negative feelings.

Different when mothers work (for example as a civil servant, working in the private sector, or even trade) then they are regarded as someone who is independent. The difference is in this mindset that according to cognitive theory will be the cause of the onset of the depression. The theory emphasized that there is a phenomenon that frequently occurs in the community especially

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housewives, they often experience a pressure or sress or depression (12). The difference in the level of depression among mothers domestic workers with the public caused the presence of psychological differences between them. Mothers who work at home felt that he didn't have a job so it feels that her low. In contrast to working mothers, psychologically feel self-sufficient so that more have self-esteem. People who are feeling low is generally more sensitive and prone to pressure even depression. This opinion is in line with previous research. Researchers from the University of North Carolina to analyze new mothers gave birth to 1,364, and follow developments in the family within the last 10 years.

Conclusion

There is a difference in the level of depression among mothers domestic workers with public workers in the hamlet of Ivory RT 04 RW 06 Selopuro Village sub district of Blitar Regency Selopuro by 2014. It is recommended that the domestic worker mother to find a job so that the variation does not seemed monotonous life which can ultimately reduce the level of depression.

Limitations

The condition of depression are not only caused by the status of domestic workers or the public, but various problems in life can cause depression. In this research researchers do not see the other respondents living conditions in addition to the factor of the work so that the result is not necessarily revealed that depression because one factor i.e. background improvements.

Authors Informations

[1] Nursing student of STIKes Ganesha Husada Kediri. [2] Lecturer of Research Methodology in STIKes Ganesha Husada Kediri, Indonesia.

Ethics Approval and Consent of Participate

This research was conducted on the basis of a permit the Chairman of the STIKes Ganesha Husada Kediri.

Avaibilityofdata and materials

Data may be shared with the contact email addres on th efirst author.

Consent Interest

The Authors declare that they have no competing interest

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LEVEL OF ANXIETY DIABETES MELLITUS PATIENTS WHO UNDERWENT OUTPATIENT IN SPECIALIST CLINIC DISEASES IN TRENGGALEK

Elok Yulidaningsih

Departement of Nursing, Universitas Brawijaya, Malang, Indonesia
Corresponding author: nadinasnafudin@gmail.com

Abstract

Background: Diabetes mellitusis alifelong disease and the number of sufferersis increases every year. Controlling (checking blood sugar levels), diet, regular exercise, taking medication is a must for all diabetics. With this kind of action, the sufferer is anxious, afraid, unhappy, even angry. Anxiety is an unpleasant subjective experience of anxiety or tensions in the form of tense and emotional anxiety experienced by a person. The study aimed to determine the levels of anxiety of the people with diabetes mellitus patients who underwent outpatient in Clinic Specialist Internal desease In RSUD dr. Soedomo Trenggalek.

Methods: This research design using descriptive. Population ofallpatients with diabetes mellitus who underwent outpatient in Clinic Specialist Internal desease In RSUD dr. Soedomo Trenggalek with the number of 333 patients, the samples used 30 respondents according to inclusion criteria by using consecutive sampling technique. The study was conducted on 2 to 8 April 2013. The population used in this study is all people with diabetes mellitus who underwent outpatient in the Clinic Specialist Disease In RSUD dr. Soedomo Trenggalek. Process of data processing using the scale of HARS (Hamilton Anxiety Rating Scale).

Result: The results showed that half of respondents (50%) experienced mild anxiety, almost half of respondents (40%) experienced moderate anxiety, asmall minority of respondents (10%) experienced severe anxiety.

Conclusions: Considering the results of this study, it is necessary for the role of health officers to provide information about disease and lifestyle of people with diabetes mellitus, which is expected to reducethe anxiety levels of diabetics mellitus in order not to fall on heavier anxiety.

Keyword: anxiety levels, diabetic mellitus, patient

Background

Diabetes mellitus has become the biggest cause of death in the world [21]. The current lifestyle that is motionless and eating a lot causes many people who have diabetes, hypertension, obesity, stroke, heart disease, joint pain and others [21]. Diabetes mellitus is a chronic condition that greatly affects the quality of life because prolonged blood glucose levels can cause nerve damage [18]. Diabetes mellitus is a serious disease because it can have seizures in the eyes, heart, kidneys, nerves, or possibly amputation because of wounds that never heal [18]. Seeing the complications that will happen so many people who become surprised and anxious when knowing himself was a diabetic sufferer. Anxiety is an unintelligible fear of targets and a sense of subjective experience that is unpleasant, about the feelings or pains, victims and emotions that a person fears. Like the three manifestations of anxiety experienced by those who just know if they have diabetes first is a positive reaction, they can not accept the feature itself diabetes or block laboratory results, the second reaction is angry, angry to those around him, The three reactions of depression because they feel no longer free to make friends, eat at will, choose activities that are liked, feel kept under surveillance and others [21].

From the results of research conducted by I Gusti Ngurah Putu Putra Luh Putu Swastini with the title of Anxiety Level Diabetes Mellitus Inpatients At Sanjiwani Gianyar General Hospital in 2008 with 22 respondents studied 81.82% suffered from severe anxiety level, 4.54% were exposed to moderate anxiety, and 13.65% experienced serious anxiety (http://isjd.pdii.lipi.go.id/21095761.pdf). Data obtained from medical record of dr. Soedomo Trenggalek diabetes mellitus patients who have undergone outpatient at the Clinic of Internal Medicine in 2011 as many as 2229 people and in 2012 was 3114 people. From preliminary study conducted by researchers on March 5 to 6, 2013 with the method of interviews from 7 patients who underwent outpatient at the Clinic of Internal Disease Specialist, 5 of them diabetes mellitus patients who have undergone outpatient said the fear due to illness that suffered due to illness must undergo treatment Specifically, and 2 new cases of diabetes mellitus say fear the amount of costs to be incurred during the treatment and complications that will happen to him.

Diabetes mellitus is a disease that no cure, and suffered for life [18]. Controlling (checking sugar levels), diet, regular exercise, taking medication and even having insulin injections is a must for all diabetics, this can not be released from life to prevent the possibility of complications. With this kind of action, there may be anxiety, fear of displeasure and even anger at the suggestion to conduct a lifetime blood test [21]. A mild anxiety that diabetics can often change their lifestyle, he becomes more disciplined, more diligent dieting and exercise, and more understanding how to deal with diabetes properly [21]. For moderate anxiety diabetics focus only on minds of concern, so it can motivate to be more vigorous to control and maintain lifestyle. Severe anxiety of diabetics is saturated with the condition that has a negative impact on lifestyle settings and regular health checks. Not only stress anxiety is also often approached people with diabetes mellitus. Great stress causes the hormone counter-insulin (which works against the insulin) is more active so that blood glucose will increase [21]. The role of health nurse in providing information

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through counseling or leaflet about diabetes mellitus disease to the patient is very important. Because information is an important function to help reduce anxiety [12]. In addition to anticipating the increase in blood sugar levels caused by anxiety, nurses also need to make laughter therapy. Because laughter can be used as a therapy for a number of diseases, including heart attack and diabetes [17]. Given the above problems need to be an effort to determine the anxiety level of people with diabetes mellitus so it can help in the early treatment of clients who experience anxiety. From the description of the above problems the authors are interested to examine "Anxiety Level Diabetes Mellitus sufferers who underwent Outpatient In Clinic Specialist Disease In RSUD dr. Soedomo Trenggalek". Based on the description of the above background, can be formulated research problems are: "How the anxiety level of people with diabetes mellitus who underwent outpatient in the Clinic Specialist Disease In RSUD dr. Soedomo Trenggalek?".

General Purpose of this study were knowing the anxiety level of people with diabetes mellitus who underwent outpatient in the Clinic Specialist in Internal Disease RSUD dr. Soedomo Trenggalek". Specific Objectiveswere to identify the anxiety level of patients with diabetes mellitus (mild anxiety, moderate anxiety, severe anxiety) in the face of his illness and undergoing outpatient in Specialist Internal Medicine Clinic dr. Soedomo Trenggalek".

Methods

This research design used descriptive research design where descriptive design is done with the main objective to make an objective description of something circumstances and used to solve or answer the problems that are faced in the present situation [16], in this research the researcher describes (explaining) Concerning the anxiety level of people with diabetes mellitus who underwent outpatient in Specialist Internal Medicine Clinic dr. Soedomo Trenggalek.

Variables in this study is the level of anxiety of people with diabetes mellitus who underwent outpatient in the Clinic Specialist Disease In RSUD dr. Soedomo Trenggalek.The study was conducted in the Specialist Clinic of Internal Medicine Dr. Soedomo Trenggalek. The study was conducted on 2 to 8 April 2013.

The population used in this study is all people with diabetes mellitus who underwent outpatient in the Clinic Specialist Disease In RSUD dr. Soedomo Trenggalek.

The number of samples in this study is so large that the researchers took samples in this study into 30 respondents in accordance with the minimum number of samples of research for novice researchers. According to the statement of (Sugiarto, 2001: 10 in Luskitaningrum, 2012: 31) that is generally for the initial stage or for beginner researchers, the sample is taken about 10% of the population is still considered large (more than 30) then the alternative that can be used is to take samples As many as 30.

The samples used in this study are some people with diabetes mellitus who underwent outpatient in the Clinic Specialist in Internal Medicine dr. Soedomo Trenggalek in accordance with the inclusion and exclusion criteria set as follows:

A. Inclusion criteria
   1) Patients with diebetes mellitus who underwent outpatient at Specialist Clinic of Internal Medicine Dr. Soedomo Trenggalek who has been diagnosed by a doctor and willing to be investigated by signing "informed concent".
   2) Patients who are in the Clinic Specialist Disease In, when researchers do research.
B. Exclusion criteria
   1) Patients who have comorbidities
   2) Patients are pregnant
   3) Patients who experience psychiatric disorders.

Type of sampling technique used in this research is Non Probability Sampling with sampling technique used is consecutive sampling that is samples taken from all subjects that come and meet the criteria of selection until the number is met (Saryono, 2011: 73).

Results

General data

Based on the result of research, it is found that respondent characteristic by age mostly (63%) is 40-59 years old. Characteristics of respondents based on health insurance are mostly (67%) using ASKES health insurance. Characteristics of respondents based on recent education is half (40%) last educated college. Characteristics of respondents based on control experience is that almost all respondents (97%) repeatedly have done the examination of sugar levels. Characteristics of respondents based on ever getting information is almost entirely (90%) already get information about the disease.

Spesific data

Frequency distribution based on the anxiety level of people with diabetes mellitus who underwent outpatient in Specialist Internal Medicine Clinic dr. Soedomo Trenggalek is Half of respondents (50%) experienced mild anxiety.

Discussions

Based on the results of the research level of anxiety patients with diabetes mellitus who underwent outpatient in the Clinic Specialist Disease In RSUD dr. SoedomoTrenggalek is known that of 30 respondents half of respondents (50%) experience mild anxiety. For most aged respondents (63%) were 40-59 years old, health insurance was mostly (67%) using ASKES as health insurance, the last known education was almost half (40%) were universities, for control experience Almost all respondents (97%) repeatedly check sugar levels, for information almost all respondents (90%) have obtained information about the disease.

Diabetes mellitus is a disease that no cure, and suffered for life [(18)]. Controlling is a must for all diabetics, it can not be released from life to prevent the possibility of complications. With this kind of action, there may be anxiety, fear of displeasure and even anger at the suggestion to conduct a lifetime blood test [(21)]. Not only blood sugar levels but diabetes mellitus patients should be on

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a diet, regular exercise, taking medication and even have to be injected with insulin, such circumstances can cause anxiety for the sufferer. Anxiety is an unpleasant subjective experience of anxiety or tension in the form of tense anxiety and emotion experienced by a person [(7)]. According to Peplau (in Suliswati et al, 2005: 109-110). Mild anxiety is attributed to the daily tension, the individual is still alert and the field of perception widespread, sharpening the senses. In motivating individuals to learn and be able to solve problems effectively and generate growth and creativity. With the mild anxiety people with diabetes can often Change his lifestyle, he becomes more disciplined, more diligent diet and exercise, and more understanding how to deal with diabetes properly [(21)].

According to Adikusumo (2003) factors affecting anxiety are: The age of requests for help from around decreases with age, help is requested when There is a need for comfort, reasurance and advice. The experience of individuals who have the capital ability to experience stress and have a way to deal with it will tend to consider more stress as heavy as a problem that can be solved. Each experience is something that is valuable and learning from experience can increase the skill of coping with stress.

Knowledge of someone who has knowledge and intellectual ability will be able to increase the ability and confidence in facing stress following various activities to improve self-efficacy will help many such individuals. Educational improvement can also reduce the sense of inadequacy to deal with stress. The higher a person's education will be easier and more capable Face the stress. Financial / Material Assets in the form of abundant property will not cause the individual to experience stress in the form of financial turmoil, when this happens compared to other people whose financial assets are limited.

From the description above was found that people with diabetes mellitus who underwent outpatient in the Clinic Specialist Disease In RSUD dr. SoedomoTrenggalek half of respondents (50%) experience mild anxiety, so between facts and theories indicate the suitability. This can be seen from the background of respondents most aged 40-59 years old age decreases the demand for assistance from the surrounding declining, most health insurance (67%) using ASKES here diabetics mellitus not worry about financial assets because it has used health insurance.

Education of respondents almost half (40%) of college where the patient is able to overcome and use effective and constructive koping, experience control almost all respondents (97%) repeatedly ever do checking sugar levels with the increasing number of people with diabetes mellitus to check sugar levels then Sufferers have the capability to experience stress and have a way to deal with it will tend to consider more stress as heavy as a problem that can be solved, information obtained almost entirely (90%) never get information about the disease whose name knowledge Asi) a person who has knowledge of science and intellectual ability will be able to improve the ability and confidence in the face of stress following various activities to improve self-efficacy will help many such individuals.

From the description above researchers assume that in the presence of diabetes mellitus disease that there is no cure and should maintain a healthy lifestyle can cause mild anxiety to the sufferer. Mild anxiety has a positive

impact on the patient is more alert to everything that happens to him. These precautions motivate frequent control and maintain their lifestyle. Therefore it is expected for health workers to provide information about the disease and lifestyle of people with diabetes mellitus, which is expected to suppress the anxiety level of diabetics in order not to fall on more severe anxiety.

Conclusions

From the results of general analysis can be concluded that the anxiety level of people with diabetes mellitus who underwent outpatient in the Clinic Specialist Disease In RSUD dr. Soedomo Trenggalek from 30 respondents half of respondents experiencing mild anxiety.

Declarations

Authors' contributions

This research is a novice research, hopefully the results of this study could be a reference for subsequent researchers as baseline data and can be done next research on therapy to reduce anxiety in patients with diabetes mellitus.

Authors' Information

The author is a teaching staff at the Trenggalek Nursing Academy since 2009 until now. The author since 2016 entered in the master of nursing university brawijaya Malang

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Ethics approval and consent to participate

The approval sheet for the respondent is circulated before the research is conducted so that the respondent knows the purpose and purpose of the research, and the impact that will occur during the data collection. If the respondent is willing to be researched they must be willing to sign the agreement, otherwise the researcher should respect the rights of the respondent. To maintain the confidentiality of the respondent's identity, the researcher will not include the subject's name on the data collection sheet (questionnaire) filled by the subject. The sheet will only be given a specific code.

Consent for publication

Not applicable

Availability of data and materials

This research is a novice research that is far from perfection

Competing interests

This research is a beginner's research, as a first step to open the insight in doing a research

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THE EFFECT OF FAT AND CARBOHYDRATE INTAKES ON OBESITY IN THE STUDENTS OF JUNIOR HIGH SCHOOLS IN SURAKARTA, INDONESIA

Emita Dewi Lilis Angkasa Wati[1], Eti Poncorini Pamungkasari[2], Ruben Dharmawan[2]

[1]Department of Public Health, SebelasMaret University, Surakarta
[2]Medical Faculty, SebelasMaret University, Surakarta
Corresponding author: emitadewi@student.uns.ac.id
EDLAW: emitadewi@student.uns.ac.id
EPP: etiponcouns@yahoo.com

Abstract

Background: The global obesity prevalence in adolescent increases in some last decades, that it, it is 4.2% in 1990, increasing to 6.7% in 2010, and expectedly increasing to 9.1% in 2020. Adolescent obesity very likely results in adult obesity. Obesity is a risk factor of chronic diseases such as cardiovascular and stroke diseases. This research aimed to analyze the effect of fat and carbohydrate intakes on obesity in the students of Junior High School in Surakarta, Indonesia.

Methods: This study was an observational analytical research with case-control design, taken place in Surakarta. The sample of research consisted of 140 students of Junior High School consisting of 80 students with normal nutrition and 60 with obesity statuses. The sample was taken using purposive sampling technique and the primary data was selected using fixed disease sampling technique. The data was collected using 24-hour recall and anthropometric measurement, and data analysis was carried out using a multiple linear regression.

Results: Fat intake (b=0.024; CI 95%=0.008 to 0.041; p<0.004) increased obesity statistically significantly in the students of junior high school, and carbohydrate intake (b= 0.000; CI 95%= -0.007 to 0.008; p=0.904)increased obesity statistically significantly in the students of junior high school.

Conclusions: Fat and carbohydrate intakes increased obesity in the students of junior high school. The school should hold a program based on the students' physical activity improvement and increase the fruit and vegetable selling in school environment.

Keyword: Fat intake, carbohydrate intake, obesity, students

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Background

Developing countries such as Indonesia experience double burden of nutrition. Although in the last ten years, Indonesia has successfully reduced nutrition deficiency rate, the prevalence of obesity increase more rapidly [1]. Obesity not only affects health in adolescence, but also harms the health in the future. The result of recent studies showed that obese adolescents are risky of being obese in their lifetime [2]. Obesity is also a risk factor of chronic diseases such as cardiovascular and strokeones constituting one leading cause of death in Indonesia [3].

Global data shows that the prevalence of overweight and obesity in adolescent increases from 4.2% in 1990 to 6.7% in 2010 and it will increase expectedly to 9.1% in 2020. There are about 43 millions overweight or obese children and 92 millions children risky of being overweight in the world, particularly in developing countries [4].

In Indonesia, the prevalence of overweight and obesityin adolescents aged 13-15 years is 10.8% consisting of 8.3% overweight and 2.5% obesity in 2013. Meanwhile, that in those aged 16-18 years is 7.3% consisting of 5.7% overweight and 1.6% obesity. DKI Jakarta is the province with highest obesity rate in Indonesia. Central Java belongs to 15 provinces with very obese prevalence referring to the national prevalence [5]. In 2015, the prevalence of obesity by age > 15 year is 28.97% in Central Java [6], whilein Surakarta the prevalence of obesity by age > 15 year is 838 adolescents [7].

Obesity is the excessive body fat accumulation [8]. The development of adolescent obesity is affected by many factors but the main factor comes from imbalance of calorie intake and energy expense [9].

The increase in carbohydrate and fat intake not compensated with adequate physical activity will result in obesity. It occurs through the effect of food intake, digestion, nutrition intake absorption, and body metabolism. Food intake should always be sufficient to supply body's requirement and not resulting in overweight because diverse and high-carbohydrate and –fat food will result in obesity [10].

Adolescents' eating pattern is dominated with eating high-calorie food, moreover urban areas provide more diverse food sources [11]. Budnik&Henneberg's (2017)study found that high-calorie food intake contributes to obesity [12]. Modern lifestyle leads the people to consuming more fast food than healthy food such as fruit and vegetables [13].

From the background above, the author is interested in studying the obesity factor so that the objective of research was to analyze the effect of fat and carbohydrate intake on the obesity of Junior High School students.

Methods

This study was an analytical observational research with case control design taken place in Junior High Schools in Surakarta. The sample of research consisted of the 1st and 2nd graders, with 140 respondents: 80 adolescents with normal nutrition status and 60 obese adolescents taken using purposive sampling and fixed disease sampling techniques. The data was collected using 24-hour food recall and anthropometric measurement. Data processing was carried out using a multiple linear regression at confidence interval of 95% ($p = 0.05$).

Results

The characteristics of respondent include: majority respondents (98 or 70.00%) are 13-15 years old, 29.29% are 10-12 years, and only few (0.71%) are 16-18 years. By sex, majority respondents (52.14%) are male and 47.86% are female. This is presented in table 1.

Table 1. Characteristics of Research Subject

Characteristics	Category	Frequency (n)	Percentage (%)
Age	10-12 years	41	29.29
	13-15 years	98	70.00
	16-18 years	1	0.71
Sex	Female	67	47.86
	Male	73	52.14

Tables 2 and 3present the result of univariate analysis indicating that adolescent nutrition status variable, according to Z-score IMT/U, obtained minimum valueof -1.93 and maximum value of 2.96, with the mean score of 0.98 and standard deviation ± 1.45. Fat intake variable hasminimum value of 43.10 and maximum value of 120.99, with the mean score of 80.62 and standard deviation ± 15.72. Carbohydrate intake variable hasminimum value of 212.65 and maximum value of 433.45, with the mean score of 304.30 and standard deviation ± 33.77.

Table 2. Univariate Analysis on Research Variable

Variable	Mean ± SD	Min	Max
Z-score IMT/U	0.98 ± **1.45**	-1.93	2.96
Fat Intake (g)	80.62 ± **15.72**	43.10	120.99
Carbohydrate fat (g)	304.30 ±**33.77**	212.65	433.45

Table 3. Univariate Analysis on Fat and Carbohydrate Intakes

Intake	Mean ± **SD**	Min	Max	% Allowance					
				10-12 yr (M)	13-15 yr (F)	16-18 yr (M)	10-12 yr (M)	13-15yr (F)	16-18 yr (F)
Fat intake(g)	80.62 ± **15.72**	43.10	120.99	115.17	97.13	90.58	120.33	113.55	113.55
Carbohydrate intake (g)	304.30 ± **33.77**	212.65	433.45	105.29	89.5	82.69	110.65	104.11	104.11

Table 4 presents the result of bivariate analysis using simple linear regression explaining that fat intake variable has regression coefficient (b) of 0.02 meaning that there is a weak positive relationship between fat intake and adolescent obesity with p value of.002 meaning that it is significant. Meanwhile, carbohydrate intake variable has b of -0.004 meaning that there is a weak negativerelationship between carbohydrate intake and adolescent obesity with p value of 0.263 meaning that it is insignificant.

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Table 4 The Result of Bivariate Analysis using Simple Regression

Variable	Coefficient of regression (b)	CI 95%		p	R^2
		Lower margin	Upper margin		
Fat intake	0.024	0.009	0.039	0.002	0.060
Carbohydrate intake	-0.004	-0.11	0.003	0.263	0.002

The result of multivariate analysis with multiple linear regression shows that every one unit increase in fat intake will increase body mass index by age by 0.024 unit (b=0.024; CI 95%=0.008 to 0.041; p<0.004). It can be seen in table 5.

Table 5. Result of Multivariate Analysis using A Multiple Linear Regression

Variable	Coefficient of regression (b)	CI 95%		p
Fat intake	0.024	0.008	0.041	0.004
Carbohydrate intake	0.000	-0.007	0.008	0.904
N observation	140			
Adjusted R2	0.053			
p	0.009			

Discussions

Fat intake affects the adolescent obesity. This research finds most adolescents consuming food containing more fat, particularly the obese adolescents are found consuming fat excessively and not compensated with physical activity.

Fat is the primary energy reserve in the body. In addition, fat also serves to protect body organs. Therefore, fat in food has efficiency level of 25% higher for body metabolism and then to be stored as energy reserve or stored between body tissues as structural fat. Fat is the substance with largest contribution (1 g fat will contribute 9 kcal energy) compared with other nutrients [14].

Jaguer (1994), as cited in Mourbes, stated that fat consumption will increase body weight easily. Fat surplus cannot result in fat oxidation, so that the fat is stored directly in adipose tissue. Thus, fat consumed in large volume but not compensated with physical activity will result in fat accumulation in the body leading to weight gain [14].

This research is in line with Mokolensang et al (2016) studying the relationship between eating pattern and adolescent obesity. This study found that fat intake contributes positively to obesity [15].

Wira's (2012) study also found that there is a relationship between fat intake and adolescent obesity, indicating that the adolescents consuming fat excessively has risk 9 times higher of developing overnutrition than those consuming fat in fair amount [16]. It is in line with Irianto's (2007) study finding that food excess in body will be stored in the form of fat particularly in subcutaneous tissue, around muscles, heart, lung, kidney and other body organs in the form of triglyceride in adipose tissue [17].

Carbohydrate intake does not affect obesity in junior high school students. Carbohydrate is the primary energy source for body. Carbohydrate surplus in

the body will be changed into fat and stored in it thereby leading to weight gain. This research finds that 52.15% of respondents consume carbohydrate less than its allowance. However, adolescents in this research consume much soft drink and fast food containing much fat.

This finding is in line with Aflah et al.'s (2012) study finding that carbohydrate does not affect adolescent obesity because the adolescents in this research prefer food containing low carbohydrate as they have known that high carbohydrate is not good to body and body shape [18].

In contrast, Marbun (2002)'s study find that there is a relationship between carbohydrate intake and obesity. When carbohydrate surplus will be stored as energy reserve in heart and muscle in the form of glycogen (heart and muscle glycogens) that can be used immediately any time it is needed due to physical activity, and if the surplus carbohydrate increases over times, fat will be created as the result of storage in subcutaneous adipose tissue [19].

Wulandari's (2016) study also found differently that there is a relationship between eating pattern and adolescent obesity incidence. One of macronutrient contained in food is carbohydrate. Macronutrient consumed excessively will be stored in the form of fat and will increased body weight. It is supported with the low physical activity of adolescents so that there is imbalance between eating pattern and physical activity [20].

Conclusios

Fat and carbohydrate intakes affect adolescent obesity. The obese students should reduce food containing high fat by means of improving life pattern by means of increasing fruit and vegetable consumptions and regular exercise.

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THE IMPACT OF USING POST-TEST EVALUATION ON BASIC CONCEPT OF PSYCHIATRIC NURSING

Erna Erawati1, Hermani Triredjeki, Bambang Sarwono

Department of nursing, Poltekkes Kemenkes Semarang
Correspondence: ernaerawati57@yahoo.com/085292006487

Abstract

Backgrounds: The preparation of final examination among nursing students for one semester were not maximized. They tend to learn overnight and memorize things quickly in a short amount of time. A new strategy was done using posttest evaluation every week for one semester. The aims of this study was to assess the impact of using posttest evaluation on basic concept of psychiatric nursing.

Methods: Focus groups were used as a research method and a form of interview used in qualitative study. to explore the impact for nursing students using posttest evaluation in basic concept of psychiatric nursing. We divided four focus groups, consisting of 10 participants. We interviewed nursing in the academic year 2016-17 who had learning evaluation in basic concept of psychiatric nursing.

Results: The finding show that there are three themes due to impact of using posttest evaluation in basic concept of psychiatric nursing. The impact were helping nursing students in learning performance, self motivation and behavioral changes.

Conclusions: Students learned the material over the semester as indicated by the overall help increase in student learning ability. Posttest has impact on learning performance, self motivation and behavioral changes. When used posttest strategy continually, could improved student learning. A quantitative studyusing quasi experimental method can becarried out to identify the effect of using posttest evaluation on learning performance, self motivation and learning behavior.

Keywords: Posttest; student learning; qualitative study.

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Backgrounds

The main measurement in nursing student learning is academic achievement. The problem is when the preparation of final examination, nursing student struggle so hard and have difficulty in memorizing all subject. They tend to learn overnight and memorized all things quickly in a short amount of time. This situation has been a challenge for lecturer to help students memorized and understand the subject. Learning outcome measure the quality of teaching.

Posttest evaluation is an easy way to assess learning outcome of nursing educational program. Posttest evaluation also measure how nursing student understand the subject that have been taught by lecturer and also provide feedback for lecturer. A new strategy was done using posttest evaluation every week in one semester - material was taught. We used the term new strategy because the posttest is given in the first class meeting after one week the material was taught.. The traditional prefer to "pre-test before the class" and "post-test after the class".

A posttest session to the routine didactic lecture could help students gain considerably from the lectures and measure the same [7]. Assessment of the impact of using posttest in student learning in based on posttests, is rare. Therefore, the aims of this study was to assess the impact of using post test evaluation in basic concept of psychiatric nursing.

Methods

We used a qualitative method with focus group discussion to explore the impact for nursing students using posttest evaluation in basic concept of psychiatric nursing. This focus group is composed of about 10 nursing student. The researcher plans a list of main issues on the impact of using posttest. The moderator plays a key role not only in eliciting comments from all members of the group but in formulating probes that follow up on responses to the main issues. The interaction among participants allows and encourages development of thoughts and ideas as the discussion progresses and is a positive aspect of the discussion.

This study took place in Prodi KeperawatanMagelang, PoltekkesKemenkes Semarang. Since the study was done as apart of the diploma nursing study program, we included the totality of our available student population in Kresna Class. We divided four focus groups, consisting of ten participants. We interviewed nursing in the academic year 2016-17 who had learning in basic concept of psychiatric nursing. Participants were asked to provide the impact after they participated posttest in six week using 18 test taking questions that developed by Cole [1]. This question allow nursing student to ask themselves as the main issue after every posttest. The posttest take for 20 minutes, once a week, during a six week.

Results

Focus discussion group provided meaningful and appropriate feedback to ensure the impact of using posttest. The data gathered were in the form of feedback from four group . All group were willing to participate in the activities as well as share thoughts and opinions on the focus group questions and

provide feedback. In each group session, the discussion increased after the finished all session. This information helped to find the impact of using posttest. It was important to only include the main theme due to the time of a focus group. The results addressed three main themes how the impact using posttest on basic concept of psychiatric nursing. The main themes are learning performance, self motivation and behavioral changes.

Learning performance

The results found that learning evaluation using posttest could help nursing students understanding and learning material in basic concept of psychiatric nursing subject. Students reported that have discussion and learning with peers while preparing the exams every weeks.

They discuss to arrange the question that will be asked on the posttest. Group A said that posttest help us to learn about the subject that have been taught before and help me understand the subject and memorized it. Group member A suggested that the preparation of posttest make them stud regularly every weeks and memorized the subjects through discussion with their peers. Group member C, noticed that although it was mentioned in the predictable post-test make them focus on what will the learned. This learning performances increased their confidence when finished the posttest examination.

Self motivation

The group member B found that the posttest make them motivated to explore and understand the subject. Also found that the subject was interested when learn together with. It was decided during the follow up interview to use the post-test to ensure reliability. This group also gave the opinion and recommendation using posttest as a follow up for the next class.

Behavioral changes

A participant in the sophomore group speaks, "We know it's hard to prepare every weeks, but this will pass. I truthly agree with the posttest and record all teacher explanation. Now I have read habit continuously. It was said by group member C, "if there is reinforcement of their score contribute significances to their cumulative index, they will learn hard as important as a big difference in results." For example, one question regarded behavioral changes and this group member suggested having the specific behavioral changes listed that would be handle the stress during the preparation posttest. Group member D said that knowing the strengthens and weakness in parts of the test raise the self awareness and that is the contribute factor that make the student nursing study harder. The posttest help us learn step by step and use my leisure time to study. It remain us to study regularly. Posttest strategy could affect the attitudes of the students. The lecturer prompts regarded the impression of the behavioral changes throughout the class. The willingness of study during the preparation. Many of the participants did not talk each other and do the best they can during posttest.

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Discussions

Learning performance measure the student's ability to retain and recall known facts. Testing previously studied information enhances long-term memory, particularly when the information is successfully retrieved from memory [9]. The discussion-type feedback which focuses upon the posttest questions would help to accomplish this goal. Positive climate through support is best demonstrated through effective co-operation between students and a good atmosphere [8]. Delucchi[2].mentioned that students performed better, on average, on the posttest. Student corrected on their fellow's answer as a feedback. Feedback on tests is known to aid learning [5].

The effect of pre-testing on post-test performance can have orienting and motivational [4]. For nursing students who answered the question correctly on posttest because the student knew the answer and expected outcome. another potential advantage of integrating standardized testing with instruction is self-regulatory and motivational, even in instances of failures [9]. Halimah Harun [3] affirms: "Attitude, interest and motivation play an important role in students' achievement. Reaction to the using using posttest evaluation in basic concept of psychiatric nursing experience were positive. This positive reaction motivate nursing student to actively participated both in learning and posttest.Attention means that learn must have attention and desire about a subject matter [6]. The eagerness to know needs to get excitement, therefore students will give attention. Reinforcement of basic concept of psychiatric nursing is essential for increased learning. Lecturer can focus more attention on these basic concepts early in the course. Students learned the material over the semester as indicated by the overall increase in student ability. Changes in question difficulty provide evidence for the importance of practice when learning concepts [10].

Conclusions

Students learned the material over the semester as indicated by the overall help increase in student learning ability. Posttest has impact on learning performance, self motivation and behavioral changes. When used posttest strategy continually, could improved student learning. . A quantitative studyusing quasi experimental methodcanbecarried out to identify the effect of using posttest evaluation on learning performance, self motivation and learning behavior.

Declarations

Competing interests :None

Author contributions:

EE was responsible for the study conception and design. HT and BS performed the data collection. EE, BS performed the data analysis. EE was responsible for the drafting of the manuscript. HT made critical revisions to the paper for important intellectual content. EE provided statistical expertise. EE, HT, BS provided administrative, technical and material support. HT supervised the study. We confirm that the manuscript has been read and approved by all

named authors. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

Authors' information

1. Erna Erawati, MN:
   Department : Prodi KeperawatanMagelang
   Institute : Poltekkes Kemenkes Semarang
   Email : ernaerawati57@ahoo.com
   Phone number : 085292006487
2. Hermani Triredjeki, SKep, Ns, MKes
   Department : Prodi KeperawatanMagelang
   Institute : Poltekkes Kemenkes Semarang
   Email : hermanitriredjeki@ymail.com
   Phone number : 082135578338/08164220866
3. Bambang Sarwono, SKp, MKes.Epid
   Department : Prodi KeperawatanMagelang
   Institute : PoltekkesKemenkes Semarang
   Email : bambangsmgl@gmail.com
   Phone number : 081392166262

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KNOWLEDGE OF DIABETIC ULCERS AND FOOT CARE IN PATIENTS WITH TYPE 2 DIABETES: A HOSPITAL BASED, CROSS-SECTIONAL STUDY

Fahrun Nur Rosyid[1], Supratman[2], Tomy Ady Prasetyo[3], Umi Nur Rahmawati[4]

[1,2,3,4]Lecturer at the School of Nursing, Faculty of Health Sciences
Universitas Muhammadiyah Surakarta, Indonesia
Correspondence 1 : fahrunnr.ums@gmail.com
Correspondence 2 : sup241@ ums.ac.id
Correspondence 3 : ums.tomy@gmail.com
Correspondence 4 : uminurrahmawati0@gmail.com

Abstract

Background: Diabetes mellitus is currently very worrying as its prevalence continues to increase and a major threat to global health. Diabetic foot complications are one of the most common causes for hospital admission. Moreover, it contributes to the occurrence of mortality and morbidity as it causes considerable physical, physiological and economic burden. This study aims to examine the level of knowledge of diabetic ulcers and foot care in patients with type 2 diabetes mellitus.

Method: The design of this study was cross sectional. The population in this study were all patients with type 2 diabetes mellitus in PERSADIA Branch of Surakarta City Central Java Indonesia. The sample size in this research was 44 people using purposive sampling technique. Independent variable in this research is knowledge of diabetic ulcers, while the dependent variable is foot care. The knowledge of diabetic ulcers and foot care data collection methods use questionnaires that have been tested for validity and reliability. Data analysis using spearmen correlation test.

Result: The result of this research get 4 people (9,1%) have knowledge of diabetic ulcer less with "foot care" less, 4 people (9.1%) knowledge diabetic ulcer enough with "foot care" less, 18 people (40.9%) knowledge diabetic ulcer Enough with sufficient foot care and 12 people (27.3%) knowledge of diabetic ulcers with good foot care. Data analysis with spearmen correlation test with significance level $p < 0.05$ got result $p = 0.02$ which means there is correlation of knowledge of diabetic ulcer with foot care.

Conclusions: This study shows the relationship of diabetic ulcer knowledge with foot care. In the future study, knowledge of foot care in DM patients through nursing education interventions should be improved to prevent disability (amputation) and death.

Keywords: Knowledge of diabetic ulcers, foot care and type 2 diabetes mellitus.

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Backgrounds

Lifestyle changes can cause the global prevalence of DM continues to increase rapidly. This can be a worrying and a major threat to global health. DM treatment requires a large cost of care. Interventions to awaken the community need to be improved. This is because DM is predicted to create the ultimate helplessness and killer in the productive age group within the next 20 years.[1,2] Diabetes mellitus can affect socioeconomic status in urban and rural populations. This socio-economic impact will be worse for poor countries.[1]

Diabetic foot complications are one of the most common causes for hospital admission,[3.4] whereas diabetic foot incidents increase worldwide.[5] Foot ulcers are one of the most serious complications and disabilities as well as the cause of non traumatic amputation in the leg.[6] Patients DM is 15-20 times more likely to amputate than non-DM.[6,7] Approximately 15-25% of patients with diabetes will develop diabetic foot ulcers during their lifetime.[4] Prevalence of risk and UKD in Indonesia is estimated to be high, as undiagnosed DM patients also Height.[8] According to Waspadji (2014) diabetic foot is one of the most feared chronic infections of DM, ending with disability (amputation) and death. In Indonesia, mortality and amputation rates are still high at 16% and 25% respectively.[9]

Apparently, diabetic foot complications contribute to the occurrence of mortality and morbidity in the diabetic population as it causes considerable physical, physiological and financial burdens in patients and society at large. It is estimated that 24.4% of total health spending among the diabetic population is related to foot complications[10] and the total cost of treating diabetic foot complications of approximately 11 billion USD in USA[11] and 456 million USD in the UK.[12]

Adequate knowledge of diabetes is a key component of diabetes care. Many studies have shown that increased patient knowledge of disease and its complications have significant benefits with adherence to treatment and prevention of DM complications.[13] Several studies have been conducted that relate to knowledge and management including health education on DM.[14-18] Knowledge of diabetes that needs to be Informed are related to diet, exercise, weight control, blood sugar monitor, drug use, foot and eye care and control of vascular macro risk factors (Murata et al., 2003) .[19] Knowledge and awareness related to DM, factors Risk, complication and management are important aspects for better control and improved quality of life.[20-21] This study aims to assess the level of knowledge of diabetic ulcers and foot care in patients with type 2 diabetes mellitus in Surakarta Central Java Indonesia.

Methods

The design of this study was cross sectional. The population in this study were all patients with type 2 diabetes mellitus in PERSADIA Branch of Surakarta City Central Java Indonesia. The sample size in this research was 44 people using purposive sampling technique. Sample criteria in this study were: (1) inclusion criteria: Patients with Diabetes Mellitus type 2 aged ≥ 35 years old, long suffering DM ≥ 5 years, willing to be respondents and Patients who can read and write; (2) exclusion criteria: suffer DM <5 years old have diabetic ulcers. Independent variable in this research is diabetic ulcer knowledge, while

the dependent variable is foot care. Methods of collecting knowledge data and foot care using questionnaires that have been tested for validity and reliability. Data analysis using spearmen correlation test. Ethical clearence in this study was obtained from the Commission of Health Research Ethics RSUD Dr. Moewardi/FK UNS Surakarta (Number: 180/III/HREK/2017). All participants get explanations and informed consent before data is collected.

Results

Table 1. Relation of knowledge of diabetic ulcers with foot care.

Knowledge	Foot care							
	Less		Enough		Good		Total	
	f	%	f	%	f	%	f	%
Less	4	9,1	3	6,8	0	0	7	15,9
Enough	4	9,1	18	40,9	12	27,3	34	77,3
Good	0	0	1	2,3	2	4,5	3	6,8
Total	8	18,2	22	50	14	31,8	44	100
$p = 0.02$								

Based on the table above 4 people (9,1%) knowledge of diabetic ulcers less with less foot care, 4 people (9.1%) sufficient diabetic ulcer knowledge with less foot care, 18 people (40.9%) sufficient diabetic ulcer knowledge with sufficient foot care and 12 people (27.3%) knowledge of diabetic ulcers is sufficient with good foot care. Data analysis with spearmen correlation test with significance level $p < 0.05$ got result $p = 0.02$ which means there is significant relation of knowledge of diabetic ulcer with foot care.

Discussions

Knowledge of foot care is very important to prevent foot ulcers in diabetic patients and is a fact that should be broadly conveyed. The results of this study found that most of the knowledge of diabetic ulcers is sufficient with sufficient foot care and a small percentage of diabetic ulcers less knowledge with less foot care as well as sufficient diabetic ulcer knowledge with less foot care. Data analysis showed that there was significant relationship of diabetic ulcer knowledge with foot care. The lack of knowledge of diabetic patients about diabetic feet in health care settings, lack of staff of doctors or nurses and crowds in the clinic is the cause. For the health education schedule in diabetic patients is usually difficult and the implementation on different days, will certainly have an impact on the additional cost. Education on foot care is usually given universally without being individually tailored to the risk of the patient's feet.[22]

Average knowledge is influenced by education level, duration of diabetes and advice on foot care. Patients without formal education, duration of diabetes less than 5 years and those who did not receive foot care advice had a lower average knowledge value. Patients with longer duration of diabetes tend to get repeated education, so as to match the value of their knowledge. Khamseh et al. (2007) also found that low knowledge scores were associated with lower education levels and did not receive foot care advice; However, duration of diabetes has no effect in his research. People with higher levels of education tend to be informed through reading and obtaining information from clinics.[23]

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Diabetic patients who check in outpatient clinics generally get counseling on holidays. The counseling was followed by all diabetic patients, but emphasized in newly diagnosed patients. Patients are usually only present once after they are diagnosed, then patients come only as needed. In addition, patients feel the counseling obtained does not match the transportation costs incurred. Diabetic patients with foot problems such as peripheral neuropathy often complain of pain so rarely to follow counseling. Diabetic patients with neuropathy only come to the clinic once, as well as get a prescription for treatment. For this reason, Ward et al. (1999) recommends that the schedule of diabetes education be more flexible, offering educational time at any time, so that patient comfort can be maximized and integrated at the time of consultation.[24] Educational programs should also take into account psychological and cultural factors, as this may affect self-care behavior.[25] Bell Et al. (2005) evaluated the long-term self-management of diabetes in the elderly population in the United States, found that patients were more likely to practice foot care than those who did not meet these criteria: patients who had received foot and patient advice that had been examined by a physician and Taught how to care feet. The facts show that the attention and behavior of doctors to improve foot care has a positive effect on the practice of foot care.[26] Another study conducted by Formosa and Vella (2012), found that there is an association of knowledge and foot ulcers in people with type 2 diabetes. This is done in diabetic patients either in groups with or without foot ulcers. This research is reminiscent of nurses, doctors and other health workers to improve knowledge about diabetic ulcers and foot care. [27]

Limitations in this study are: (1) the sample size is relatively small so it can not be generalized; (2) determination of research location for only one hospital, which is only partly describes clinical problem in Indonesia and (3) The research design of this study is cross sectional study. The results of this study indicate a correlation between the level of knowledge of diabetic ulcers and foot care in patients with type 2 diabetes mellitus. We recommend to know the effect of causal, prospective studies to evaluate the relationship of knowledge level of diabetic ulcers and foot care in patients with type 2 diabetes mellitus.

Conclusions

A small percentage of diabetic ulcer knowledge is less with less foot care and knowledge of diabetic ulcers is sufficient with less foot care and most knowledge of diabetic ulcers is sufficient with adequate foot care. There is a connection of knowledge of diabetic ulcers with foot care. Knowledge of diabetic ulcers and foot care in DM patients through nursing education interventions should be increased to prevent disability (amputation) and death so that quality of life can be improved.

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Ethics approval and consent to participate

Informed consent was obtained from each participant prior to the study. Participants were invited to participate in the study to assess the relationship between diabetic ulcer level and foot care in type 2 diabetes mellitus patients.

Participants were given an explanation of the research objectives. Participants are allowed to withdraw from this study at any time.

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THE RELATIONSHIP OF FAMILY SUPPORT WITH COMPLIANCE OF SCHIZOPHRENIA PATIENTS TAKING MEDICATION

Fajaruddin[1], La Ode Abdila[2]

[1]Master of Nursing Student, Faculty of Medicine, Universitas Brawijaya, Indonesia.
[2]Nursing Staf, Community Health Centers of Pure Muna
Corresponding author : fajaruddinlamudi@gmail.com

Abstract

Background: Schizophrenia patients experience a recurrence by 50% in the first year and 70% in the second year after coming out of hospital. One of the factors that most affect patient compliance is recurrence occurs against the treatment and medication. This causes the patients experience clinical exacerbation and need care back due to not obey the treatment therapy. The success of the therapy and the patient's treatment upon return to his family and society largely determined by family support.

Method: Design. A cross-sectional study. Aim. Explore the relationship support families with medication compliance in patients of schizophrenia. Setting. Poly Psychiatry of Mental Health Hospital of Southeast Sulawesi Province, Indonesia. Sample. Schizophrenia patients who came sought Poly Psychiatry 50 people in accordance with the criteria. Instrument of research used the questionnaire. Analyzed statistically used chi square test with the degree of significance < 0.05.

Result: Than 50 respondents there were 35 respondents (70,0%) that good family support and 15 respondents (30,0%) less family support. Than 50 respondents there are 33 respondents (66,0%) dutifully taking the drug and 17 respondents (34.0%) wayward taking medication. Of the 35 respondents with good family support, there are 30 respondents (60.0%) dutifully taking medication and 5 respondents (10.0%) wayward taking medication. Further than 15 respondents with less family support, there are three respondents (6.0%) dutifully taking the drug and 12 respondents (24,0%) wayward taking medication. Test result statistics retrieved value X2 calculate 20.206 (greater than value X^2 table 3,841).

Conclusions: There are relationships of support families with compliance of schizophrenia patients taking medication. The family must give attention, motivation and support to family members who have experienced psychiatric in improving medication adherence. Families are expected to plan a program of treatment of patients with good in order not to experience a recurrence.

Keywords: Skizofrenia, Family Support, Compliance of Medication

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Background

Schizophrenia is a group of psychotic reaction that affects a wide range of individual function areas good cognitive, affective, and social behavior which caused disorganization personality such as psychotic behavior, unrealistic thoughts and difficulties in processing information, interpersonal relationships and problem solving (1,2). The world health organization (WHO) in 2011, suggests the prevalence of disorders of the soul above 100 from 1000 people of the world and in Indonesia reached 264 of 1000 inhabitants. The World Bank concluded that the interruption of the soul can result in decreased productivity up to 8.5% (3).

Schizophrenia patients experience a recurrence by 50% in the first year and 70% in the second year post hospitalisation. Most factors associated with recurrence of schizophrenia patients was disobedience against the treatment and medication. This causes the patients experience clinical exacerbation and need care due to not obey the treatment therapy (2, 4). When patients do not take medication, then dutifully can experience recurrences (relaps). The patient could do back violent behavior, hallucinations, appears waham and incoherent talk (5).

Psychopharmaca therapy is influenced by the success of the participation and support of the family. Family support is a process of relations between families with social environment. Member of the families in dire need of family support as it makes individuals feel valued and are ready to provide support for the family provides assistance and life goals to be achieved by the individual (6). Family support in treatment compliance of schizophrenia patients is expected behavior of the family by the schizophrenic, which is based on the ability of families in providing emotional support, information support and real support. Family support and motivation is defined as active mover for the patient in maintaining and improving the behavior to be obedient in seeking treatment. The role of the initiator of the family can be done in a manner reminiscent of the time patients take medication, ask and make sure the patient has been drinking correctly (7).

The data of a mental hospital in Southeast Sulawesi Province by 2013, there are outpatient visits 9012 where the number of patients schizophrenia 41.53%. The number of patients schizophrenia medication as much as wayward 67.88%. By 2014 there are outpatient visits 5128 where the number of patients schizophrenia 69.31%. The number of patients schizophrenia medication as much as wayward 59.32% (8). The results of the preliminary study interview obtained data that from 10 schizophrenic who come visit (control) because the drug is exhausted and the presence of signs of recurrence such as anxiety, insomnia, anger, hallucinations and withdrew. There are 7 sufferers often forgot to take medication, should always be reminded in advance and overseen by family.

Methods

The type of the study was analitik deskriptif with *design* a cross-sectional study. The aim of the study was to explore the relationship support families with medication compliance in patients of schizophrenia. Sample retrieval techniques used are accidental sampling. The sample of the study was

schizophrenia patients who came sought poli psychiatry 50 people in accordance with the criteria. This research consists of variable independent variable is family support, and the dependent variable is the adherence to medication. Instrument of research used the questionnaire. Analysis of univariate data used frequency distribution and analyzed statistically bivariat used chi square test with the degree of significance < 0.05.

Results

The research was carried out in August until September 2015. Results of the study are outlined in the following:

Table 1. Frequency distribution of respondents based on demographic data: gender, age, education, employment

Demographic data	Frequency (n)	Percent (%)
Gender :		
Male	35	70,0
Female	15	30,0
Age :		
21 – 30 years	12	24,0
31 – 40 years	8	16,0
41 – 50 years	27	54,0
> 51 years	3	6,0
Education :		
Elementary school	7	14,0
Junior high school	8	16,0
High school seniors	23	46,0
Bachelor's degree	12	24,0
Employment :		
Not work	8	16,0
Private	37	74,0
Civil servants	4	8,0
Students	1	2,0

Based on table 1 shows that of the 50 respondents there are 70% sex men and 30% women, most respondents ages 41-50 years 54,0% and at least the age of more than 51 years 6.0%, most respondents education high school 46,0% and the little elementary school 14,0%, most respondents with work private 74,0% and the fewes is students 2,0%.

Table 2. Frequency distribution of respondents based on family support and adherence to medication

Variable	Frequency (n)	Percent (%)
Family support :		
Good	35	70,0
Less	15	30,0
Adherence to medication :		
Dutifully taking medication	33	66,0
Do not obey medication	17	34,0

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Based on the table 2 above shows that there are more than 50 respondents 70.0% with good family support and 30,0% less, 66,0% dutifully taking medication and 34,0% do not obey medication.

Table 3. Cross-tabulate support families with medication compliance

No	Family Support	Medication compliance				∑	%
		Dutifully		Do not obey			
		n	%	n	%		
1	Good	30	60,0	5	10,0	35	70,0
2	Less	3	6,0	12	24,0	15	30,0
Total		33	66,0	17	34,0	50	100

Based on table 3 above shows that of the 35 respondents with good family support there 60.0% dutifully taking medication and 10,0% do not obey medication. Further than 15 respondents less family support there is 6.0% dutifully taking medication and 24.0% do not obey medication.

Table 4. Chi-square test

	Value	df	Asymp.Sig. (2-sided)	Exact.Sig. (2-sided)	Exact.Sig. (1-sided)	Point Probability
P. Chi-Square	20.206	1	.000	.000	.000	
C. Correction	17.384	1	.000			
L.Association	20.383	1	.000	.000	.000	
Fisher's Exact Test				.000	.000	
Linear-by-Linear Ass	19.802	1	.000	.000	.000	.000
N of Valid Cases	50					

Based on table 4 above shows test result statistics retrieved value X^2 calculate 20.206 (greater than value X^2 table 3,841).

Discussion

Results of the study showed that of the 50 respondents there are good family support 70.0% and 30% family support is less. This is indicated with the family always remind patients to take medication, monitor patients taking the drug, urged patients taking the medication regularly, provide medical expenses, other family members give attention, came to the hospital to take the medicine the patient, reassuring patients that disease can be cured and treating patients with great affection.

Lack of support families affected by the low level of family emotional relationship of the family as a driving force against psychiatric patients. The emotional relationship of the family is an important factor that affects the behavior of human beings. In addition the support information in the form of communication and shared responsibility, including providing the solution of problems faced by patients at home, give advice, guidance, suggestions, or feedback about what is done by a psychiatric patient (9).

Among the 35 respondents who supported good family, there were 60.0% dutifully taking medicine and 10.0% disobedience. Whereas from 15 respondents

who support family less, there are 6.0% dutiful to take medicine and 24.0% disobedience. This suggests that the better the family support given to family members who are experiencing schizophrenia in both home care and treatment, the higher the level of patient compliance in taking medication regularly.

The results showed there was a relationship of family support with adherence to taking the drug of schizophrenic patients. Family and friend support is one of the most significant healing remedies for mental patients. Families should help foster self-sufficiency in the patient. Preventive efforts by attracting frustrations and other psychic difficulties, creating healthy, healthy social contacts, familiarize patients with a positive attitude of life and see the future with a sense of courage. Family support is a process of relationship between family and social environment (5). Family members desperately need support from the family as this will make the individual feel valuable and family members are ready to provide the assistance and purpose of life that the individual wants to achieve (6).

Family support helps patients solve problems and define situations as small threats and families act as mentors by providing feedback and being able to build patient self-esteem. The family of psychiatric patients as a companion who observes and feels due to worsening behavioral behavior in the patient or the surrounding plays a role in determining whether the patient will undergo hospitalization or stay with family at home. The family plays a role in early detection, healing process and prevent recurrence. Research has shown that a good family role will reduce hospital care rates, relapse, medication adherence and treatment and prolong the relapse of patients (10).

Conclusions

There is a relationship of family support to the adherence of taking the medicine for schizophrenic patients at Poli Psychiatry Mental Hospital of Southeast Sulawesi Province. The family must give attention, motivation and support to family members who have experienced psychiatric in improving medication adherence. Families are expected to plan a program of treatment of patients with good in order not to experience a recurrence.

List of abbreviations

WHO : World Health Organization

Declarations

Authors' contributions

In this study the author is not as the main researcher. The author helps direct the main researchers from the process of preparing research proposals, data collection and preparation of research reports. The second researcher in this study as the principal investigator.

Ethics approval and consent to participate

Not applicable

Consent for publication

The study was approved for publication in national and international journals

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Availability of data and materials

Findings in this study can be published and can be used as supporting data in subsequent research. Researchers hope the publication results of this study may contribute to nursing practice, especially family support in the prevention of recurrence and care of schizophrenic patients.

Competing interests

There was no conflict of interest in the study. This study was administered purely on the grounds of wanting to increase the role of families in the care of schizophrenic patients.

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THE EFFECT OF WET CUPPING THERAPY ON TOTAL CHOLESTEROL LEVEL IN PATIENTS WITH HYPERCHOLESTEROLEMIA AT GRAJAGAN HEALTH CENTER IN PURWOHARJO, BANYUWANGI IN 2015

Fajri Andi Rahmawan[1], Riyan Dwi Prasetyawan[2]

[1]Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
[2]Fresh Graduate in Institute of Health Sciences Banyuwangi
Corresponding author:
Fajri Andi Rahmawan: fajriandi0r.fa@gmail.com
Riyan Dwi Prasetyawan: riyandwi42@yahoo.co.id

Abstract

Background: Hypercholesterolaemia is a symptom of cholesterol metabolism impairment, which causes cardiovascular disease and blood flow problems.. There are two managements of hypercholesterolemia which are pharmacological and non-pharmacological therapy. Non-pharmacological therapy can be the right choice for hypercholesterolaemia treatment because it does not bring any bad effects. Using wet cupping therapy for patients withhypercholesterolemia will reduce the level of blood cholesterol.

Methods: Hypercholesterolemia patiens with total cholesterol level ? 240 were enrolled. The data were taken during 2 weeks and be analyzed with a one group pretest post test pre-experimental design. This study involved 30 respondents who had been adapted to the inclusion criteria. The data were collected by measuring total cholesterol levels in the blood before and after cupping therapy. Total cholesterol level was measured 10 minute before cupping followed by cupping therapy that was taken 3 times for 15 minutes. Cholesterol level, at last was measured 30 minutes after cupping process. Wilcoxon test with significant level of 5% (0.05) was used to analyzed the result of this study.

Results: The study found that after undergoing cupping therapy, respodents' total cholesterol levels were dropped. About 86.6%, respondents experienced a decrease of cholesterol level to 200-239 mg / dl and other 6.7%. got their level at <200 mg / dl. Provisions of significance when the results of the significance of SPSS 17 <5% significance level (0.05). The statistical finding of Wilcoxon test using SPSS 17 showed that a significance at 0,001. It meant that p <0.05 so there was a positive correlation between wet cupping therapy and total cholesterol levels in patient with hypercholesterolemia.

Conclusions: This finding, outlines the importance of wet cupping therapy to decrease total cholesterol level to be lower than that before undergoing the therapy.

Keywords: hypercholesterolemia, wet cupping therapy

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Background

Cholesterol is actually not a disease but is one component of fat, which is one of the yellowish soft fat compounds such as wax produced by the body especially in the liver. Most of the cholesterol produced by the body even as much as 80% made by the body and only 20% enter with the food[23]. As we know fat is one of the nutrients that are needed by our body, in addition to other nutrients such as carbohydrates, proteins, vitamins and minerals. Therefore, as a component of fat, cholesterol becomes one of the energy sources that provide the highest calorie which is also the basic ingredient of the formation of steroid hormones. Besides as one source of energy is actually fat or especially cholesterol is very needed by our body especially to form the walls of cells in the body.[18]

But if over cholesterol (hypercholesterolemia) will be buried in the blood vessel wall and cause a disease called arterosklerosis that narrowing or hardening of blood vessels. Hardened and narrowed blood vessels will inhibit blood flow in it to facilitate the occurrence of heart disease and stroke.[30]

According to the World Health Organization (WHO) report in 2011 it was recorded that 18.6 million (31%) of the 60 million deaths in the world are caused by heart disease and blood vessels. Of all the figures, the cause of death was caused by heart attack (8.3 million people), stroke (6.2 million people) and the rest caused by heart and blood vessel disease (4.1 million people). Prevalence in Indonesia globally is estimated to be 17.5 million people die of Blood Vascular Disease (PJPD), and 7.6 million is caused by heart attack, based on data from Basic Health Research in 2012 get death rate from heart disease and non-communicable disease In 2007 there was 59.5% and increased in 2012 to 70.5%.[5]

According to health survey of East Java Province in 2010, data of patients with heart disease and blood vessels obtained from East Java Provincial Health Office there are 355,000 people. According to visit data from puskesmas in east java visit caused by heart disease and blood vessel occupied percentage equal to 12,41% (East Java Province Health Office 2010). Based on observations in the working area of ??Grajagan Community Health Center, from the number of community visits during April 2015 to June 2015, people who have heart and blood vessel disease of 16% or 470 people, of that number according to data from the results of inspection visits in the laboratory of puskesmasGrajagan caused by high cholesterol as much as 6.8% or 32 people.[6]

One of the most effect factors for the possible accumulation of fatty substances in blood is obesity and lifestyle, especially diet[8]. But Hypercholesterolemia can also be caused by the process within the body itself. This may be due to an interruption in the process of fat metabolism that causes elevated levels of cholesterol in the blood caused by the body's lack of lipoprotein enzymes, lipases and LDL receptors, or it may also be caused by genetic abnormalities that result in increased cholesterol production by the liver, By a decrease in the liver's ability to clean cholesterol from the blood.[30]

In treating hypercholesterolemia has been done in two ways with non-pharmacological therapy and pharmacological therapy. Non-pharmacological therapy includes nutritional therapy (diet), physical activity, avoiding cigarettes, and traditional medicine one cupping therapy. Commonly used pharmacological

therapy is the use of fibrate acid group medicines, resin class medications, nicotinic acid drug groups, and ezetimibe.[9]

Cupping in general is divided into two namely dry cupping (HijamahJaffah) and wet cupping (HijamahRothbah or HijamahDamamiyah). Dry Cupping (HijamahJaffah) is a bruise that is not followed by the release of blood, which is relieve pain in an emergency or is used to relieve pain in the veins, thighs, stomach and others. Dry cups are suitable for diseases caused by hot and dry pathogens. While wet bruise (HijamahRothbah or HijamahDamamiyah), done with dry brush first, then the surface of the skin slashed with a scalpel or stabbed with a lancet needle, then around sucked by cupping set, hand pump, or other tubes to remove blood from the inside body. This wet cupping is used for treatment because of chi-dam diseases and improves blood circulation.[29]

Some of the mechanisms suspected to underlie the pathophysiology of therapeutic work of cupping (HijamahRothbah or HijamahDamamiyah) according to Saryono have at least 3 influenced physiological mechanisms, namely the nervous system, the hematological system and the immune system. When performing the right point (motor point), then on the skin (cut), subcutaneous tissue (sub kutis), fascia and muscle will be damaged from mast cells. As a result of this damage triggers a nervous system mechanism that provides regulatory effects of neurotransmitters and hormones such as histamine, bradykinin, serotonin, dopamine, endorphin, CGRP (Calcitoni-Gene Related Peptide) and acetylcholine. All of these hormones are removed because they are as toxic substances in the body.[20]

Based on the above explanation researchers are interested to conduct research on The Effect of Wet Cupping Therapy On Changes Of Total Cholesterol In Blood In Patients Hypercholesterolemia atGrajagan Health center in Purwoharjo, Banyuwangi in 2015.

Methods

Hypercholesterolemia patiens with total cholesterol level ≥? 240 were enrolled. The data were taken during 2 weeks and be analyzed with a one group pretest post test pre-experimental design. This study involved 30 respondents who had been adapted to the inclusion criteria. The data were collected by measuring total cholesterol levels in the blood before and after cupping therapy. Total cholesterol level was measured 10 minute before cupping followed by cupping therapy that was taken 3 times for 15 minutes.Cholesterol level, at last was measured 30 minutes after cupping process. Wilcoxon test with significant level of 5% (0.05) was used to analyzed the result of this study.

Results

Total cholesterol levels in the blood before being treated wet cupping.

From Figure 1 It was found that respondents suffering from Hypercholesterolemia in the working area of Grajagan Public Health Center mostly have total cholesterol level ≥ 240 mg/ dl (very high) that is 30 respondents (100%).

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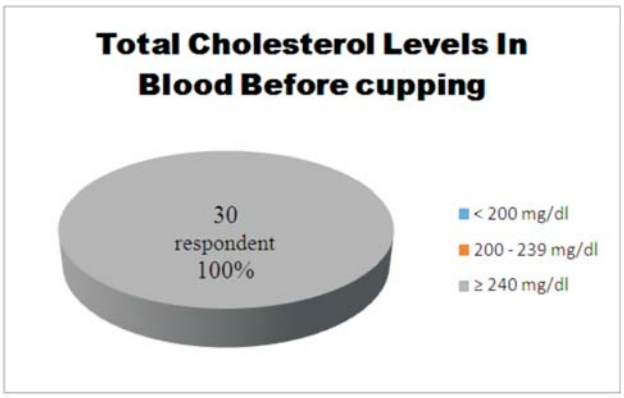

Figure 1 Cholesterol level Before cupping

Total cholesterol levels in the blood after being treated wet cupping.

From Figure 2 it was found that total cholesterol levels in blood of respondents <200 mg/dl as much as 2 oang (6.7%), 200-239 mg / dl counted 26 person (86.6%), ≥ 240 mg/dl counted 2 person (6.7%). So it can be concluded that the total cholesterol level in the blood of respondents after the wet brew therapy is mostly 200 - 239 mg / dl (high risk threshold) that is 26 respondents (86.6%).

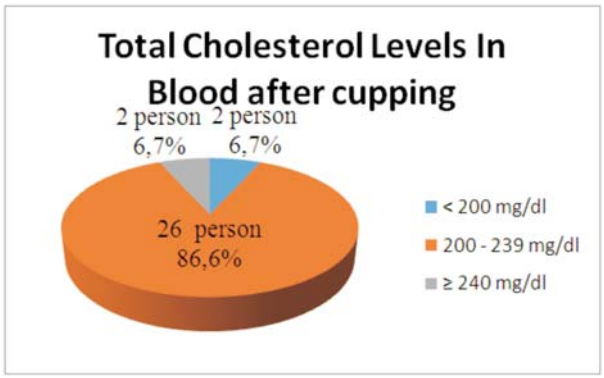

Figure 2 Cholesterol level Before cupping

Influence wet cupping therapy on changes in total cholesterol levels in blood in patients Hypercholesterolemia in Grajagan Community Health Center in 2015.

Table 1. Influence wet cupping therapy on changes in total cholesterol levels in blood in patients Hypercholesterolemia in Grajagan Community Health Center in 2015.

		N	Mean Rank	Sum of Ranks
Sesudah– Sebelum	Negative Ranks	29a	15.97	463.00
	Positive Ranks	1b	2.00	2.00
	Ties	0c		
	Total	30		

From Table 1 it was known negative rankings on the respondents as many as 29 people. These negative ranks provide information that there is a decrease in total cholesterol levels in the blood after wet brine therapy therapy from total cholesterol levels in the blood before wet bruise therapy. And there is a positive ranking of 1 person. Positive ranks provide information that the occurrence of elevated total cholesterol levels in the blood after wet brine therapy therapy from total cholesterol levels in the blood before wet brew therapy.

The effect of wet cupping therapy to changes total cholesterol in blood in hypercholesterolemia patient in the working area of Grajagan Health Center in 2015.

From statistical analysis it was Obtained the calculation Significance in the table above 0.001. Furthermore the significance value in the table is compared with a significance value of 5% (0.05). Provision of significance if the significance value <from the significance level of 5%. 0.001<0,05 = Ho is rejected, meaning that there is a significant effect of wet brewing therapy to the decrease of total cholesterol in blood in hypercholesterolemia patient in the working area of Grajagan Community Health Center 2015.

Discussion

The effect of wet cupping therapy on total cholesterol levels

On the results of wilcoxon test using SPSS 17 obtained calculation of significance in the table above 0.001. Furthermore the significance value in the table is compared with a significance value of 5% (0.05). Provision of significance if significance value of spss results 17 <significance level 5%. The number 0.001 <0.05 = Ho is rejected. From comparison of result of significance of result of spss 17 with 5% significance give information that there is decrease of total cholesterol level in blood at work area of Grajagan Health Center Purwoharjo Sub-district of Banyuwangi Regency 2015 after cupping therapy.

According to the results of the research above, that there is a decrease in total cholesterol levels in the blood in patients with hypercholesterolaemia,weet cupping is done at special points associated with the mechanism of disease, bruise therapy is done to lower total cholesterol is to provide injuries to the three points of the body, namely the hump, scapula right and scapula sinistra (saryono, 2010). Ahmadia et al (2009) said that the point of hump is a point that serves as a source of healing various diseases. This point is the meeting point of all the blood that flows throughout the body. So with the effort of providing a response to the cleaning of blood circulation and also provide an autoregulation effect. Some of the mechanisms suspected to underlie the pathophysiology of therapeutic work of cupping according to Ahmadia et al. (2009) have at least three physiological mechanisms influenced by cupping therapy, the nervous system, the hematological system and the immune system

This result same with Saryono (2010), the decrease of total cholesterol which is affected by cupping therapy intervention is assumed because the affect of hematology system mechanism which gives the main effect through the anticoagulation coagulation-regulatory system with increased blood flow and increased organ oxygenation. In a study conducted by Saryono (2010) showed

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an average decrease in total cholesterol levels after getting treatment of wet-cupping treatment as much as 17 points from before getting treatment.[1 20]

Conclusions

In Grajagan Health Center after responden give wet cupping therapy, The average was 25 points from the measurement of total cholesterol before getting therapy. To reduce the total cholesterol level in the blood to normal <200 mg / dl needs to be done again wet cupping therapy periodically in order to obtain a significant decrease.

So the action of wet cupping therapy in patients with hypercholesterolemia has a very effective. For that wet cupping therapy is one form of non-pharmacological treatment is good because it is cheap, easy, and effective to cope with someone who has hypercholesterolemia, and hope can be developed and followed up to examine the effect of cupping in overcoming various diseases, especially for health workers, especially for Nurses.

List of abbreviations

CGRP = Calcitoni-Gene Related Peptide

Declarations Authors' contributions

All author pariticipated in design of the research. all authors read and approved the final manuscript.

Authors' Information

[1]Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
[2]Fresh Graduate in Institute of Health Sciences Banyuwangi

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Ethics approval and consent to participate

Researchers have been taking permision on the Banyuwangi Health Department and Grajagan Health Center. Before start the research, the researcher has given informed consent to participants willing to include as responden.

Consent for publication

Not applicable

Availability of data and materials

Data may be shared with the contact email address on the first author.

Competing interests

The authors declare that they have no competing interests.

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EFFECT OF CONSUMPTION LEUCAENA LEUCOCEPHALA SEEDS (LEUCAENA GLAUCA L) ON DECREASE BLOOD GLUCOSE LEVELS

Fariz Tiarawan F.C

Nursing Shool Of Stikes Ganesha Husada Kediri
Coresponding author : farizcahyono@gmail.com

Abstract

Backgrounds: Leucaenaleucocephala (Leucaena Glauca L) is a plant that originated from tropical America that has a range of benefits one of them to lower blood glucose levels in patients with diabetes mellitus. Factors affecting blood glucose levels one irregular eating patterns. The purpose of the research to determine the effect of consumption leucaenaleucocephala seeds (Leucaena Glauca L) to decrease blood glucose levels in students in STIKesGaneshaHusada Kediri.

Methods: The research design was one group pretest-posttest, the population of all students in STIKesGaneshaHusada Kediri, a sample of 50 respondents, taken with technique purposive sampling. The independent variable is the leucaenaleucocephala seeds and the dependent variable is blood glucose levels reduction. Data collected by the observation sheet. Data were analyzed by T test with significance p <0.01.

Results: The result showed most of the respondents who had normal blood glucose levels before taking the middle of extract leucaenaleucocephala seeds (LeicaenaGlauca L) as many 33 (66%) of respondents, after consuming extract leucaenaleucocephala seeds (LeicaenaGlauca L) mostly of the respondents have under normal blood glucose levels which 36 (72%) of respondents, and there are significant of leucaenaleucocephala seeds consumption to decrease blood glucose levels (T test, p value 0.000 <0.01, then Ho rejected).

Conclusions: It was concluded that consume of leucaenaleucocephala seeds (Leucaena Glauca L) will certainly blood glucose levels. It is recommended that people with diabetes to consume leucaenaleucocephala seeds as recommended researchers.

Keywords: Consumptionof leucaenaleucocephala seeds (LeucaenaGlauca L), Decrease in Blood Glucose Levels.

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Backgrounds

Along with the development of science and technology as well as the type and amount of the disease new drug research business growing rapidly. Plants as a source of natural bioactive compound is a potential raw materials that support the search efforts compounds that have activity biologic against living cells, especially compound bioactive medical. The emergence of a variety of negative impacts arising from the use of synthetic chemical substances, leading to the use of natural materials is currently more done. Traditional medicine is a medicine derived from nature for example from herbs. In the traditional medicine material generally consists of several kinds of nutritious pharmacological simplistic, either in the form of coarse and fine cuttings. Even some of the material nature has shaped material of bio-pharmacy (such as guava leaves and temulawak). One of the nutritious plant that is often used as a source of medicinal plant is Parkia China (Leucaenaglauca l.). The part that is used as medicine is the leaves, roots, seeds, and all parts of the plant. The whole plant can be used as source materials traditional medicines (12).

Plants Huntersville (Leucaenaglauca l.) is a plant community of interest because it has many benefits. Part of the crop Huntersville (Leucaenaglauca l.) is the most widely used seeds. The main benefits of seed Huntersville (Leucaenaglauca l.) is as an anthelmintic, Huntersville (Leucaenaglauca l.) is also useful as a deciduous urine, menses, the antidote to the poison and treatment for diabetes mellitus (12). Blood glucose is a sugar found in the blood that is made up of carbohydrates in food and stored as glycogen in the liver and skeletal muscle (8). Energy for most of the functions of cells and tissues derived from glucose. The establishment of alternative energy can also be derived from the metabolism of fatty acids, but the line is less efficient compared to the direct combustion of glucose, and this process also produces metabolites-a dangerous acid metabolites when left to pile up, so that the levels of glucose in the blood is controlled by some homeostatic mechanism in good health can maintain levels in the range of 70 -110 mg/dl in fasting State (10).

According to the International Diabetes Federation (IDF) number of diabetics worldwide on 9 September 2012 to date there are about 366 million people. While the mortality rate caused by this disease reached 4.6 million per year. According to 2000 census data, the number of diabetics in Indonesia reached about 8.4 million people where Indonesia was ranked the fourth largest number of diabetics with the world (3). By 2030 it is predicted later the number of diabetics will experience increased up to 21.3 million people. Riskesdas data (Basic Health Research) in 2010 showed that the spread of diabetes sufferers in East Java province reached 300 thousand people. As for the Regency Kediri in 2015 according to the local Health Department achieve 13,375 people suffering from diabetes mellitus and is undergoing therapy to lower their blood sugar levels either chemical or herbal drug therapy.

According to Anna Setiadi, 1991, for lowering blood sugar levels with herbal remedies using seed extract Huntersville (Leucaenaglauca l.) are able to tolerate glucose and blood glucose levels in diabetic rats penelitianya object is induced with aloksantethidrat dose of 250 mg/kg. Extract given orally a dose 0.5 g/kg and 1 g/kg (body weight) showed a decrease in blood sugar levels of diabetic rats which means of 27.28 and 43.72 mg/dL mg/dL, the effects of this decline is smaller than in mice against give gliklazid 7.2 mg/kg (8).

Based on initial research about the influence the consumption of Huntersville (leucaenaglauca l.) against a decline in blood sugar levels to 10 respondents by consuming 1 scoop of Leucaenaleucocephala seed extracts are brewed with one glass of water for 1 time 24 hours gives the effect of a decrease in blood sugar during random with an average of 15 mg/dL.

High blood sugar levels can cause diabetes which is one of the types of diseases that are categorized as hard in the process recovery. To lower blood sugar levels naturally Leucaena seeds we can use to restore the performance of the pancreas to produce insulin hormones that play a role in stabilizing blood sugar levels. If it does not consume the seeds of Leucaenaleucocephala the respondents who have normal blood sugar levels up (180 mg/dL) may be at risk of illness of diabetes.Suggested solutions for the respondent who have normal blood sugar levels up (180 mg/dL) to regularly consume extract Huntersville (leucaenaglauca l.) as recommended, until the blood sugar down to normal limit with blood sugar checked regularly. Obtained from the results of the study stated that to lower the blood sugar levels of approximately 15 mg/dL then needed consumption of seed extract Huntersville (Leucaenaglauca l.) 1 tablespoon with mixed warm water for 1 time a day (18).

Methods

The research design used in this study is one group pretes-posttest design. The difference with the first design is, for the one group pretest – posttest design, there is a pretest before being given treatment, the results of treatment can be known with more accurate, because they can compare with the State before being given the treatment.To analyze the variables in this study the influence of Seed Consumption Huntersville (Leucaenaglauca l.) Against a decline in blood sugar levels in Student Stikes Ganesh Husada Kediri, researchers using a T-Test "one sample test" which is processed using the SPSS computer system 16.

Result and Discussion

This data is the result of research that has been conducted on May 5, 2016 – may 7, 2016 by using data collection instruments in the form of glucose meters and observation sheets for knowing blood sugar levels decrease in student Stikes Ganesh Husada Kediri who consume seed extract Huntersville (Leucaenaglauca l.) with the amount of research object of 50 students.that most of the respondents-sex women, i.e. 37 respondents (74%) and they have Body Mass Index (BMI) is normal, i.e. 28 (56%), 29 (58%) indicates that have regular eating patterns.Blood sugar levels before students consume seed extract Huntersville (Leucaena glauca l.). Based on the research results obtained normal blood sugar levels down, that is as much as 8 respondents (16%), normal middle as much as 33 respondents (66%) and normal up as much as 9 respondents (18%).Student blood sugar levels after consuming Huntersville seed extract (Leucaena glauca l.). Research results obtained in normal blood sugar levels down, i.e. as many as 36 respondents (72%), normal middle of as many as 12 respondents (24%) and normal up as much as 2 respondents (4%). Having done the research facts and theories are very concerned that there is a value between blood sugar before being given seed consumption Huntersville

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(Leucaenaglauca l.) that many of the respondents who have normal blood sugar levels and after being given the consumption of seeds Huntersville (Leucaenaglauca l.) many respondents who have normal blood sugar levels down, so it can be interpreted that the consumption of Huntersville seed extract can lower blood sugar levels. The result is also supported by the results of research using statistical test of T-test in the get the value r-value = 0000 is smaller than á = 0.01 which means H0 is rejected and the H1 is accepted so that it can influence the consumption of deduced There are seeds of Huntersville (Leucaenaglauca l.) against a decline in blood sugar levels in Stikes Ganesh Husada Kediri.Blood glucose is a sugar found in the blood that is made up of carbohydrates in food and stored as glycogen in the liver and skeletal muscle (8). Energy for most of the functions of cells and tissues derived from glucose. The establishment of alternative energy can also be derived from the metabolism of fatty acids, but the line is less efficient compared to the direct combustion of glucose, and this process also produces metabolites-a dangerous acid metabolites when left to pile up, so that the levels of glucose in the blood is controlled by some homeostatic mechanism in good health can maintain levels in the range of 70 -110 mg/dl in fasting State. For people who have high blood sugar levels due to heredity, diet, smoking habit, and unhealthy life pattern for it should be conditioned to eliminate smoking habit and do the healthy life patterns as well as consultation with medical personnel in have high blood sugar and diabetes mellitus are at risk. (10).

Conclusions

Based on the result of research, it can be concluded most of the respondent's blood sugar levels before Huntersville seed extract consumption (Leucaena glauca l.) are on the normal limit.The majority of the respondent's blood sugar levels after Huntersville seed extract consumption (Leucaena glauca l.) are at the lower limit of normal. There are influences between the consumption of seeds Huntersville (Leucaena glauca l.) against a decline in blood sugar levels in Student Stikes Ganesh Husada Kediri. Consume of leucaena leucocephala seeds (Leucaena Glauca L) will certainly blood glucose levels. It is recommended that people with diabetes to consume leucaena leucocephala seeds as recommended researchers.

This research is expected to serve as a basic reference in developing the research of nursing medical surgical nursing in particular in conducting similar studies regarding the influence of seed consumption Huntersville (Leucaena glauca l.) against a decline in blood sugar levels in people with diabetes mellitus.

Researchers noticed that in the preparation and implementation of the research still encountered limitations. Researchers are not capable of observing the pattern of eating after consuming extract seed Huntersville (Leucaena glauca l.) before post test.

Declarations

Authors'Informations

[1]Nursing student of STIKesGanesha Husada Kediri. 2Lecturer of Research Methodology in STIKes Ganesha Husada Kediri, Indonesia.

Ethics Approval and Consent of Participate

This research was conducted on the basis of a permit the Chairman of the STIKes Ganesha Husada Kediri.

Consent for publication

NotAplicable

Avaibility of data and materials

Data may be shared with the contact email addresonthefirstauthor.

Consent Interest

The Authors declare that they have no competinginterest

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COMPRESSION - ONLY CARDIOPULMONARY RESUSCITATION (CPR) BY BYSTANDERS IN OUT-OF-HOSPITAL CARDIAC ARREST (OHCA): A SYSTEMATIC REVIEW

Feri Ekaprasetia

Master of Nursing Student
(Department of Nursing, Universitas Brawijaya, Malang, Indonesia)
Corresponding author: FE : feriekaprasetia05@gmail.com

Abstract

Background: At the global, the first mortality in the world because of cardiovascular disease. One of that is cardiac arrest. The incident of cardiac arrest commonly occurs in the community setting, it's called Out Of Hospital Cardiac Arrest (OHCA). The solution for that case is a good quality of Cardiopulmonary Resuscitation (CPR) by bystanders who have trained about CPR. The American Heart Association recommend for action CPR by bystanders just do chest compression and no mouth-to-mouth. The aim of this systematic review was to identify the effectiveness of Compression only CPR by bystanders in Out Of Hospital Cardiac Arrest (OHCA).

Methods: This systematic review was done by searching and analyze some article from an electronic database. It emphasizes systematic review to identify the articles about the effectiveness of Compression only CPR by bystanders in Out Of Hospital Cardiac Arrest (OHCA). The terms used in this paper are Compression only in Cardiopulmonary Resuscitation (CPR), Cardiopulmonary Resuscitation (CPR) by bystanders, and Out Of Hospital Cardiac Arrest (OHCA).

Results: Nine studies between 2007-2014 (7 years) were analyzed. These study examined, observed and investigate the effectiveness of compression-only CPR by bystanders in Out Of Hospital Cardiac Arrest (OHCA). The results five article revealed that compression-only CPR by bystanders is increased the quality of life cardiac arrest patient. Three studies revealed that compression only CPR has a similar result with the CPR conventional.

Conclusions: Compression only CPR by bystanders is more effective than CPR conventional. The Out Of Hospital Cardiac Arrest (OHCA) patient should be done by compression-only CPR if the helpers are bystanders.

Keywords: Compression only, Cardiopulmonary Resuscitation (CPR), Out Of Hospital Cardiac Arrest (OHCA).

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Backgrounds

At the global, The number one death in the world is the result of cardiovascular disease(1). One of the dangerous and deadly cardiovascular disorders is cardiac arrest. Cardiac arrest is the leading cause of death in the world. Despite the management of cardiac emergencies outside the hospital, the survival rate is still low(2).Cardiac arrest rate> 90% occur in the community(3). There are approximately 360,000 victims of Cardiac Arrest Out-of-Hospital (OHCA) in the United States each year, in which OHCA accounts for 15% of all deaths(4). In Canada, the incidence of OHCA becomes a global incidence of 213 people per 100,000 population (5).

For OHCA handling, the first stage of survival chain is CPR(6). The absence of cardiopulmonary resuscitation (CPR) and/or electrical defibrillation, such as the absence of heart electrical activity (asystole), will be followed by death within minutes (6). Cardiopulmonary resuscitation (CPR) consists of chest compression and mouth-to-mouth ventilation(7). Without CPR, the victim's chances of the surviving drop about 10 percent every minutes (8). Doing CPR before EMS arrival was associated with a good survival rate in 30 days after an out-of-hospital cardiac arrest and that was more than twice as high as that associated with no CPR before EMS came (9). The American Hearth Association recommends for CPR actions by bystanders only performed chest compression (10). American Hearth Association [AHA] also recommends when there are bystanders who see cardiac arrest events should be immediately possible to activate EMS and perform chest compression with hard and fast with minimal interruptions(11). Based on the background, then this systematic review would like to know the provision of chest compression only in OHCA by bystanders.

Methods

This systematic review of the science literature discusses the effect of chest compression on OHCA by bystanders. This systematic review is derived from searching and analyzing the studies of electronic databases such as google scholar, ProQuest, and science direct.

Results and Discussion

The search lies in 8 eligible studies. 3 studies examined the effect of compression only on OHCA patients assisted by bystanders and 5 others looked at effect compression only and conventional CPR bystanders in terms of survival rate. This systematic review involves 4964 participants who receive hands-on assistance in OHCA settings.

A 2007 study stated that compression only by bystanders is better for resuscitation in adult patients. In this study 439 patients received cardiac-only resuscitation from bystanders, 712 patients received conventional CPR and 2917 received no bystanders CPR and cardiac-only resuscitation resulted in a higher proportion with the possibility of neurological outcomes compared with conventional CPR(7). This result is supported by several studies in 2010. 2900 who received no bystander CPR, 666 who received conventional CPR, and 849 who received compression-only cardiopulmonary (COCPR) from these results survival rates to the hospital, COCPR had the highest percentage of 13.3% if Compared to conventional CPR and no CPR bystanders (12).

In another study showed different results. A 2010 study with a total of 1495 participants with the cardiac cause was 888 (17%) of patients receiving compression only CPR and resulted in no difference between conventional CPR and compression only CPR (10). In another 2007 study showed Among 11 275 patients, 73% (n = 8209) received standard CPR, and 10% (n = 1145) received chest compression only. There was no significant difference in 1-month survival between patients who received standard CPR (1-month survival 7.2%) and those who received chest compression only (1-month survival 6.7%)(13). This is directly proportional to the results of the study in 2010 also with the number of participants 888 cardiac arrest patients who received cardiac only CPR with no significant difference results between cardiac only CPR with conventional CPR(10).

The result of this systematic review is compression only CPR for Out-of-Hospital Cardiac Arrest (OHCA) is more effective than conventional CPR although seen the percentage of survival rate after 30 days. The results above are not much different from the research in 2010 which focuses more on the survival rate of OHCA patients with CPR, either conventional CPR or Compression only CPR. The study yielded 1941 patients who met the inclusion criteria, 981 were randomly assigned to receive chest compression alone and 960 to receive chest compression plus rescue breathing(14). In the 2010 results of another study involving a total of 1276 patients, consisting of 620 patients receiving only hands-only CPR and 656 patients receiving CPR standard resulted in no significant difference between hands-only CPR patients and patients receiving CPR standards, but when seen Of survival rate in 30 days the percentage is greater in patients receiving hands only CPR(15).

Between a controversial result about some studies above, The author is more inclined to a statement that OHCA patient has to chest compression immediately before arrived at the hospital with minimum interruption. That's why CPR bystanders for the OHCA settings is more effective doing by compression only. It will take a several times if still use mouth to mouth ventilation. The AHA ECC Committee also suggest that a man who should receive Hands-only CPR from bystanders are all victims of cardiac arrest in out-of-hospital settings. They will benefit from delivery of high-quality chest compressions with minimal interruption, but that some victim such as pediatric victims, airway obstruction, acute respiratory disease, and apnea may effective for additional intervention taught in conventional CPR (11). AHA also hopes its recent recommendation encouraging people to give compression only will improve their odds and save more lives (8). At the other studies, bystanders CPR are more effective when there was a short delay to its onset, both cardiac only compression and ventilation provided, rather than just either, occurred in elderly people, and when cardiac arrest place at home (16).

Conclusions

Cardiac only CPR is more effective for Out-of-Hospital Cardiac Arrest (OHCA) if the helpers are bystanders. Although cardiac only CPR those seen are survival rates the patient OHCA is the higher percentage than conventional CPR. Bystanders must activate the emergency medical services a several minutes after Out-of-Hospital Cardiac Arrest (OHCA) occurred. The AHA also hope that it will save more lives for the victims.

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List of abbreviations

CPR = Cardiopulmonary Resuscitation
OHCA = Out-of-Hospital Cardiac Arrest
COCPR = Cardiac-Only Cardiopulmonary Resuscitation
AHA = American Hearth Association
EMS = Emergency Medical Service

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THE EFFECT OF ATTITUDE AND ACCESS TO CONDOM ON THE CONDOM USE IN GAY GROUP IN TULUNGAGUNG, INDONESIA

Fransisca Novalia Permana[1], Bhisma Murti[1], Argyo Demartoto[2]

[1]Department of Public Health, Sebelas Maret University, Surakarta
[2]Department of Sociology, Social and Political Sciences Faculty, SebelasMaret University, Surakarta
Correspondencing author: fransisca@student.uns.ac.id
FNP: fransisca@student.uns.ac.id
AD:argyodemartoto_fisip@staff.uns.ac.id
BM: bhisma.murti@staf.uns.ac.id

Abstract

Introduction: Sexual transmission, particularly the low condom use among gays, is one factor causing HIV/AIDS epidemic. The effectiveness of latex condom gives 80% protection against HIV and sexual infectious disease transmission. The phenomenon of attitude shown by the gays to condom use is interesting to study because so far some studies only discusses the perception on benefit and loss of condom use, while this perception determines the gays' attitude. This research aimed to analyze the effect of attitude and access to condom on condom use in gays in Tulungagung Regency.

Methods: This study employed a cross-sectional design and was taken place in Tulungagung Regency, Indonesia. The population of research consisted of 300 gays and the sample consisted of 165 gays. The respondents were recruited using simple random sampling technique. The data was collected using questionnaire and was analyzed using a multiple logistic regression. The independent variables were attitude and access to condom, while the dependent one was condom use among gays.

Results: Attitude (OR= 3.66; CI 95%= 1.75 to 7.65; p = 0.001) and access to condom (OR= 4.09; CI 95%= 1.83 to 9.14; p = 0.001) improved the condom use among the gays statistically significantly.

Conclusions and Recommendations: Attitude and access to condom improve the condom use among the gays. The gays should always use condom and lubrication in making sexual intercourse, either anally or orally. Health officer should improve communication, information and education concerning condom use to the gay community, because they have sexual behavior highly risky of being infected with HIV/ AIDS so that this risk can be suppressed.

Keywords: Access condom, Attitude, Condom use, Gay

Backgrounds

An effective strategy is required in Indonesian AIDS policy to make the promotion of preventing the sexually HIV transmission acceptable to the public and key population groups such as prostitutes, injecting drug users, gays, and transsexuals.It is just like what Thailand has done with government's and society's support successfully improving the condom use consistent with the risky sexual intercourse [1].

In Indonesia, the attempt of promoting HIV transmission prevention through condom use has been governed in Republic of Indonesia Health Minister's Regulation No. 21 of 2013 about HIV/AIDS Coping and Health Minister's Circular of 2013 mentioning that IMS and HIV transmission prevention is usually done by administering condom. The same policy has been developed by National AIDS Coping Commission in the form of both policy and program such as 100% condom use in 1990 and Sexually Transmitted HIV Coping (PMTS) program as apparent in HIV and AIDS Coping National Strategy (SRAN) in 2010-2014 targeting 100% condom use every time making risky sexual intercourse.

The number of HIV virus infection cases throughout world is 36.7 million in 2015 and there are 2.1 millions people newly infected with HIV. In Asia there is about 3.5 millions people infected with HIV and 2.1 millions people newly infected with HIV in 2015 [2]. The Republic of Indonesia's Health Ministry has reported HIV infection rate of 198,219 cases in 2016 with DKI Jakarta being the city with highest HIV infection (40,500) followed by East Java (26,052) and Papua (21,474). The largest transmission risk occurs in heterosexuals (51,692), Injecting Drug Users(8,835) followed with man making sexual intercourse with man (2,304), mother-to-infant (2,226), bisexual (399), and transfusion (201). The largest number of AIDS cases occur in East Java Province (13,623) followed with Papua (13,328) and DKIJakarta (8,093) [3].

The number of HIV/AIDS cases in Tulungagung Regency occupies the 5th rank in East Java (1465) [4]. AIDS Coping Commission of Tulungagung Regency suggested that the recent data per September 2016 show that there are 1480 HIV/AIDS cases. HIV cases are due to prostitutes (511 cases), man making sexual intercourse with man including gays (31 cases), transsexuals (18 cases), injecting drug users (18 cases), perinatal (30 cases), and others (872 cases). HIV cases occurring in gays in Tulung Agung increase in its number over times, so that a solution is required to this problem. Oral sex and anal sex in gays transmits HIV/AIDS virus considerably [5]. Anal sex made without condom is risky of transmitting HIV/AIDS 18 times more than vaginal sex.

HIV preventing attempt has been advancedas indicated with the condom effectiveness. The decrease of HIV prevalence in Uganda in 1990s and the policy of destigmatizing condom in Thailand, Cambodia, and Brazil show the significant decrease of HIV infection in the key population [7]. The effectiveness of latex condom shows 80% protection against HIV and IMS. It makes condom the key component in a comprehensive HIV prevention.

The increase of condom use consistently is assumed to decrease new HIV infection incidence and to suppress the HIV epidemic rate in long term. The consistently condom use is in this case defined as wearing condom in every sexual intercourse particularly in gays with different partners [8].

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Education, dependent number, economic status, community factor, condom price, and lubricant are important variables affecting the safe sexual behavior and HIV epidemic in gay group [9].

This research studied the attitude and access to condom using overlapping PRECEDE PROCEED theory [10]. This research aims to explain the access to condom and the condom use in gays in Tulungagung Regency.

Methods

This research employed analytical observational design with cross-sectional approach in Tulungagung Regency. The target population was gay *pelangi community*, consisting of 300 persons. The sample of research consisted of 165 subjects, taken using probability sampling with simple random sampling technique. Data was collected using questionnaire and data processing using a multiple logistic regression. Then, the questionnaire was validated using face and content validity and reliability tests with Cronbach alpha? 0.60 [11].

Result

Characteristics of Research Subject

Table 1. Characteristics of Research Subject

Characteristics	Criteria	Frequency	Percentage
Age	<20 years	65	39.4
	20-35 years	98	59.4
	>35 years	2	1.2
Education	<Senior High School	10	6.1
	≥Senior High School	155	93.9
Occupation	Not Working	102	61.8
	Working	63	38.2
Income	<Regional Minimum Wage	147	89.1
	> Regional Minimum Wage	18	10.9
Marital Status	Not Married	151	91.5
	Married	14	8.5

The characteristics of respondents were shown in table 1 including 98 (59.39%) persons aged 20-35 years, 65 (39.39%) aged < 20 years, and 2 (1.21%) aged >35 years. Majority respondents (155 or 93.9%) have education of Senior High School and above, and 10 (6.1%) have education below Senior High School. Data of respondents' occupation shows 102 (61.8%) respondents not working and 63 (38.2%) working. Data of income suggests that 147 (89.1%) respondentshave income lower thanRegional Minimum Wage (<IDR 1,537,150) and 18 (10.9%) have income higher than Regional Minimum Wage.

The result of bivariate analysis shows that gays with positive attitude to condom have 0.18 higher probability of wearing condom than those with negative attitude. P value (0.000) indicates that there is an effect of the gays'

attitude to condom use. The gays with easy access to condom have 0.16 higher probability of wearing condom than those with difficult one. P value (0.000) indicates that there is an effect of the gays' access to condomon the condom use. The data is presented in Table 2.

Table 2. Bivariate analysis on independent and dependent variables

Variable	Criteria	Condom Use		OR	CI (95%)		p
		No (%)	Yes (%)		Lower Margin	Upper Margin	
Attitude	Disagree	47 (72.3%)	18 (27.7%)	0.18	0.09	0.36	<0.001
	Agree	32 (32.0%)	68 (68.0%)				
Access to condom	Difficult	40 (76.9%)	12 (23.1%)	0.16	0.07	0.34	<0.001
	Easy	39 (34.5%)	74 (65.5%)				

The result of multivariate analysis using a multiple logistic regression shows that attitude (OR= 3.66; CI 95%= 1.75-7.65; p=0.001) statistically significantly improves the condom use among gays. It can be seen in Table 3.

Table 3. Result of Multivarite analysis with a multiple logistic regression

Variable	OR	CI 95%		p
		Lower Margin	Upper Margin	
Attitude (positive)	3.66	1.75	7.65	0.001
Access to condom (easy)	4.09	1.83	9.14	0.001

Discussions

The effect of attitude to condom use on the gays

Attitude affects the condom use. The gays who indeed have willingness to satisfy themselves when making sexual intercourse without wearing condom still have awareness of protecting themselves from sexually transmitted diseases such as HIV/AIDS. Condom is one means of preventing HIV/AIDS virus transmission from sexual intercourse. AIDS Coping Commission and Health Service always inculcate the self-awareness of protecting them from HIV virus infection and the consistently condom usewhen making sexual intercourse.

Knowledge, attitude is closely related to condom use. Low knowledge or education and misinformation concerning HIV/AIDS make the gays taking negative stance regarding condom as self-protector from sexually transmitted disease [12]. The gaysprefer making a safe sexual intercourse using condom because of their awareness to reduce the risk of being infected with HIV/AIDS [13].

Another study showed different result indicating that there is no relationship between attitude and consistent condom use. The gays becomenot caring about and feel submitted to the risk of being infected with disease when making sexual intercourse with their partner without using condom. However, the gays keep expecting that they will not be infected, and when they are infected they should assume the consequence [14].

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The effect of access to condom on condom use in the gays

Easy access to free condomfrom AIDS Coping Commission of Tulungagung supports the community to use condom. In addition to obtaining free condom and lubricant, they are informed continuously to keep wearing condom consistently every time they make sexual intercourse. Condom is always available in their place, so thatany time they want to make sexual intercourse they can wear it without buying or looking for it outside.

The gays accessing condom easily will always use condom compared with those accessing it difficultly. It explains that the gays with easy access to condom and availability of condom in work place more likely wear condom than those without it [15].

This current research shows the similar result, in which there is a significant relationship between access to condom and condom use. It indicates that the gays obtaining condom difficultly will not wear condom six times more than those obtaining it easily [16].

Another study shows that inconsistent condom use by the gays in fact is not due to the difficulty of obtaining it. However, dissatisfaction and unskillful negotiation with partner are other reasons why the gays do not wear condom despite very easy access to free condom [12].

Conclusions

Attitude and access to condom affects the improvement of condom use in the gays. During making risky sexual intercourse, including anal sex and oral sex, condom should be worn to protect from HIV/AIDS virus.

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THE EFFECT OF PROGRESSIVE MUSCLE RELAXATION THERAPY FOR REDUCING THE LEVEL OF INSOMNIA IN ELDERLY AT KARANGWIDORO DAU MALANG

Galuh Kumalasari

Universitas Brawijaya Malang
Corresponding author: galsyasss@gmail.com

Abstract

Background: Elderly often experience insomnia which can cause disruption to physical and mental health. Progressive Muscle Relaxation is an alternative non-pharmacological management that can be used to reduce insomnia symptoms.The aim of this study was to determinate the effect of progressive muscle relaxation therapy for reducing insomnia levels in elderly that living at KarangwidoroDau Malang.

Methods: Method used in this study wasquasy experiment without control group with pretest-posttest approach. The treatment that given a progressive muscle relaxation therapy. Population used in this study was all elderly living at RW 2 Karangwidoro Dau Malang who experienced insomnia, there were 22 participants. Data collection was performedusing format of Athens Insomnia Scale (AIS).

Results: The result of the measurement of insomnia level of elderly before treatment for mild insomnia, moderate insomnia, severe insomnia was 53%, 36% and 5% respectively. Meanwhile the level of insomnia after treatment for without complaint, mild insomnia and moderate insomnia was 27%, 64% and 6% respectively. Data analysis using Wilcoxon Match Pair Test, obtained that value of $p = 0,038$ ($p < 0,05$), it meant there was influence of progressive muscle relaxation therapy to reduce level of insomnia on elderly.

Conclusions: Progressive muscle relaxation was an effective therapy for reducing insomnia levels on elderly. Nurses need to apply progressive muscle relaxation at different ages, thereby allowing the discovery of age relatedness of respondents to the effectiveness of therapy delivery.

Keywords: Progressive muscle relxation, elderly, insomnia

Background

Elderly is a period of life span characterized by changes or decline in body function, usually starting at different ages for different individuals. According to data obtained from Darmojo (2006) that the number of elderly in Indonesia increased from the year 1990-2025 about 41.4%. Especially in 2020 there was an increase of 11.34%. Elderly experiencing various changes both physically, mentally, and socioeconomically. Disturbances are often found in the elderly are insomnia, stress, depression, anxiety, dimensia, and delirium (Park, 2011).

Insomnia is a sleep disorder experienced by a person with symptoms always feeling tired and exhausted throughout the day and continuously (more than ten days) having difficulty sleeping or always waking up in the middle of the night and difficulty sleeping back (3). Efforts to overcome insomnia complaints can be done by pharmacological and non-pharmacological, one non-pharmacological way is by behavioral techniques (relaxation). Behavioral therapy (relaxation) is proven effective and efficacious to overcome insomnia complaints as has been proven in research conducted Ziv (2008)(4).

Preliminary study in RW 2 KarangwidoroDau Malang, through interviews obtained the results, the elderly often complain of sleep disorders even every day have started doing bathing activities at 3:00 am morning, complained of dizziness and weakness. Results of interviews of 22 elderly people complain about sleep disorder. The eyes look red, and yawn. Efforts are made in dealing with this problem is to use sleeping pills, while the provision of sleeping drugs in the long term can cause side effects, addiction and if overdose can harm the wearer (5)

On the basis of this consideration researchers interested in conducting research on "Effect of Progressive Relaxation Therapy on Decreasing Insomnia Levels in the Elderly in RW 2 KarangwidoroDau Malang".

Methods

Method used in this study wasquasy experiment without control group with pretest-posttest approach. The treatment that given a progressive muscle relaxation therapy. Population used in this study was all elderly living at RW 2 KarangwidoroDau Malang who experienced insomnia, there were 22 participants. Data collection was performedusing format of Athens Insomnia Scale (AIS).Participant measurements were performed before and after progressive muscle relaxation exercises were administered for 20-30 minutes, once daily on a regular basis for one week.

Results

Respondents in this study were 22 Elderly. The following describes the characteristics of respondents

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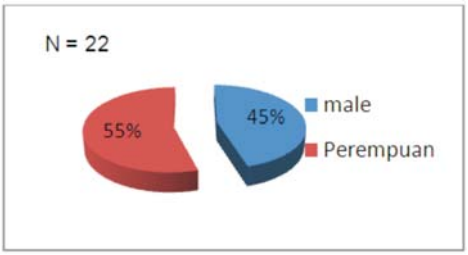

Figure 1. Pie Diagram Characteristics of Respondents Based on Elderly Gender with Insomnia in RW 2 Karangwidoro Dau Malang.

Based on figure-1 shows most of the respondents who studied are female, and a small part is male.

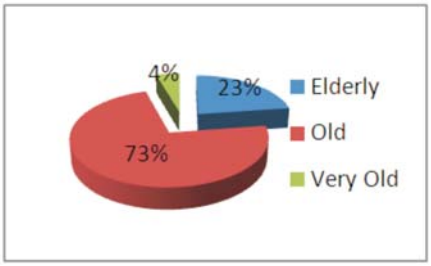

Figure 2. Pie Diagram Characteristics of Respondents Based on Age of Elderly With Insomnia in RW 2 KarangwidoroDau Malang.

Based on figure-2 shows that most respondents are in the age range of 75-90 years old, while the minority is in the elderly and very old age range.

Insomnia Pretest and Posttest Rate

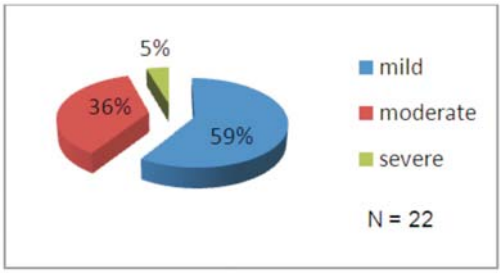

Figure 3. Pie Diagram of Elderly Insomnia Rate Prior to Progressive Relaxation Therapy at RW 2 KarangwidoroDau Malang.

Based on the figure 3 it is known that most respondents experience mild insomnia, almost half who experience insomnia levels are moderate and a small percentage who experience insomnia levels of severe.

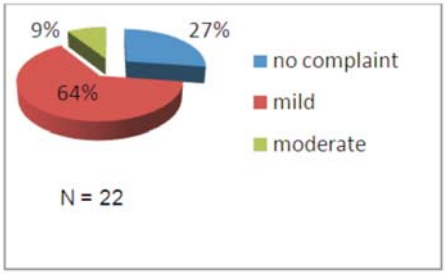

Figure 4. Pie Diagram of Elderly Insomnia Rate After Progressive Relaxation Therapy in RW 2 KarangwidoroDau Malang.

Based on the figure 4 it is known that almost half of the total number of respondents decreased the level of mild insomnia to no complaints, most respondents experienced mild insomnia, and a small percentage experienced insomnia level.

Effect of Progressive Relaxation Therapy on Decreasing Insomnia Level in Elderly at RW 2 KarangwidoroDau Malang.

Data analysis using Wilcoxon Match Pair Test,With 95% confidence interval, obtained that value of p = 0,038 (p <0,05), it meant there was influence of progressive muscle relaxation therapy to reduce level of insomnia on elderly at Karangwidoro Dau Malang.

Discussion

Identification of Insomnia Level Before Progressive Relaxation Treatment At the First Meeting.

The occurrence of insomnia in the Elderly who live in the Village Karangwidoro caused by several factors, among others, factors sex and age that also affects the incidence of insomnia in the elderly. The majority of respondents were female (12%) and male (10%) (10%). Aging is one of the important factors of insomnia, this incident is more common and often occurs in elderly. Based on data found in this study in line with the statement Pangkahila (2007), that the incidence of insomnia in Indonesia is affected by gender and age in the elderly, (6).

Comparison of Changes Level of insomnia (Athens Insomnia Scale) In the Elderly Living in the Karangwidoro Dau Malang

The results of differences in insomnia levels before and after progressive muscle relaxation exercise showed a significant decrease in the level of insomnia in the elderly after progressive muscle relaxation exercises for 20-30 minutes, once daily on a regular basis for one week. This is evidenced by the decrease of insomnia score in elderly, after intervention of progressive muscle relaxation exercise decrease the number of elderly at insomnia level light insomnia level become no complaint (26%) that is as much as 6 respondents, respondents have mild insomnia level 60 %) Ie as many as 14 respondents, who experienced insomnia level (9%) that is as much as 2 respondents. The above is in accordance with the theory proposed by Edmund Jacobson (1920) that progressive muscle relaxation exercises performed 20-30 minutes, once a day regularly for a week is quite effective in reducing insomnia.

The decrease of insomnia level in this study is also seen from the result of statistical analysis by using Wilcoxon Match Pair Test in obtain that the value of Z arithmetic (-3,742) is bigger than Z table. Also because the value of significance also shows a value smaller than alpha 0.05 (á = 5%), so H0 is rejected. And it can be concluded that there is an effect of progressive ralac- tive therapy on decreasing insomnia level of elderly in RW 2 of KarangwidoroDau Malang.

The elderly are vulnerable because of their high sensitivity and susceptibility to health problems as a result of decreased function and physical strength and

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cognitive function, inadequate financial resources, and social isolation (Friedman, 1998). In the degeneration process that occurs in the elderly, the effective sleep time will be reduced. So that does not achieve adequate quality of sleep and will cause various kinds of sleep complaints due to recovery of body functions and the brain can not be maximized. Sleep disorders (insomnia) in the elderly is also caused by biological factors and psychological factors. Biological factors such as the presence of certain diseases that cause a person can not sleep well. Psychic factors can be anxiety, psychological stress, fear and emotional tension (Lueckenotte, 1996).

When the elderly experience stress (emotional tension), then some muscles will experience tension so activate the sympathetic nervous system. In stress conditions, physiologically the body will experience a response called the fight or flight response. This response requires rapid energy, increased body metabolism in preparation for energy consumption in physical action. Heart rate, blood pressure, and breathing rate are rising, and muscles become tense. Active sympathetic nerves make the elderly can not relax or relax so that can not bring drowsiness. Through relaxation exercises the elderly are trained to elicit a relaxation response so as to achieve a calm state. The perceived relaxed condition is due to decreased production of cortisol in the blood, restoring adequate hormone expenditure to provide emotional balance and peace of mind (7).

The same is reinforced by the theory of Edmund Jacobson (1920) and Mentz (2003) that progressive relaxation techniques respond to tension, the response is due to the arousal activity of the parasympathetic nervous system parasympathetic nuclei rafe located in the lower half of the pons and in the medulla resulting in decreased metabolism Body, pulse, blood pressure, and respiratory rate and increased serotonin secretion. Serotonin secretion makes the body calm and easier to sleep (7). The progressive muscle relaxation exercise of the elderly can increase the expression of negative feelings into positive ones that help the elderly to change the pattern of life that can interfere with the quality and quantity of elderly sleep (9). It is also evident during the intervention that elderly people feel good, calm and relaxed conditions.

Conclusions

Progressive muscle relaxation was an effective therapy for reducing insomnia levels on elderly. Nurses need to apply progressive muscle relaxation at different ages, thereby allowing the discovery of age relatedness of respondents to the effectiveness of therapy delivery.

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YOGA AFFECT TO SYSTEM IMMUNE: A SYSTEMATIC REVIEW

I Gede Juanamasta[1], I Ketut Andika Priastana[2]

[1]Department Research and Community Serviceof Nursing, STIKes Wira Medika Bali, Denpasar, Indonesia
[2]Master of Nursing, Universitas Airlangga, Surabaya, Indonesia
*These authors contributed equally to this work
Email addresses:
IGJ: juana.masta.90@gmail.com
IKAP: priastanasembilan@gmail.com

Abstract

Background: Yoga is a spiritual therapy originated in India. This therapy is called spiritual because it integrates the mind, body and. Survey of the National Department of Health, United States 2007 said at least 19% of Americans adults do mind-body therapy such as Tai Chi, Qi Gong, meditation and Yoga. Yoga provides benefits complex, including physical postures and body, reduce stress, lower blood pressure, reduce fatigue, reduce asthma, improve circulation and boost the immune system. Many studies have proven the benefits of yoga include arthritis, stress, metabolic syndrome, asthma, pain and depression. The aim of this study was to identify the effectiveness of yoga intervention towards enhancing the immune system

Method: Search of journal articles done electronically using several databases such as Pubmed, DOAJ, Cochrane Library, and ClinicalTrials.gov with limitations of publication based on PICOT. Time limitation was used in January 2005 to 2017. There was only 15 articles of 117 articles obtained which match with inclusion criteria.

Result: Based on those, the most effective yoga to affect immune system is combination of yoga asanas, pranayama and meditation, within intensity and duration minimum to practice is everyday in 4 weeks.
Those 15 literatures had explained that yoga give an effect to increase immune system. Yoga increased amount of antibody that are IgA, salivary cortisol, SOD, leukocyte, eosinophils, monocytes, CD56 and stimulate inflammatory response namely, IL-1β, IL-10, IL-6, CRP, EC-SOD, NF-κB and IRF, glucocorticoid receptor, cAMP, and sTNF-RII.

Conclusions: Yoga give positive support to the person with acute or chronic diseases by maximizing implementation combination of yoga asanas, pranayama and meditation Therefore, yoga can provide many benefits and easy to use at all ages and conditions. We hope this systematic review can give contribution with research related to yoga.

Keywords: Immune system, Systematic review, Yoga

Background

Mind-body therapy is a concern worldwide. Researchers are looking for safe and effective therapies and can be widely used for many diseases. Survey of the National Department of Health, United States 2007 said at least 19% of Americans aged adults do mind-body therapy. Mind-body therapy consists of Tai Chi, Qi Gong, meditation, and Yoga(Morgan, Irwin, Chung, & Wang, 2014). Yoga is a complementary therapy that is recognized worldwide. Yoga is a spiritual therapy originated in India. This therapy is called spiritual because it integrates the mind, body, and soul(Cramer, Lauche, & Dobos, 2014). The integration is obtained based on the technique of yoga that consists of Yama and Nyama, Asana, Pranayama, Pratayara, Dharana, Dhyana, dam Samadhi. Based on these, yoga widely adopted as a complementary and alternative therapy in the treatment of disease(Cramer et al., 2014).

Development of yoga today is quite fast. The number of people who do yoga regularly in the world is estimated at about 30 million people. Approximately 6.1% of the American population populace into yoga practitioner. They do yoga to improve health. British National Health Department establishes yoga as a treatment is effective and safe for the health of all ages (Cramer et al., 2014).

Yoga provides benefits that complex, including physical postures and body, reduce stress, lower blood pressure, reduce fatigue, reduce asthma, improve circulation and boost the immune system. Many studies have proven the benefits of yoga include arthritis (Haaz and Bartlet., 2011), stress (Chong *et al*., 2011), metabolic syndrome (Inne and Vincent, 2007), asthma (Posadzki and Ernst, 2011),pain(Posadzki*et al*., 2011) dan depression (Uebelacker*et al*., 2010).

Based on these, the author would like to raise the issue of the effect of yoga on the immune system.

Methods

A search performed on the database Pubmed, the Cochrane Library, DOAJ, and ClinicalTrials.gov. Strategies ways in search journal are done by using the keywords intervention variables (yoga) and variable results (immune system), as well as using the word OR and AND (Appendix 1). After getting a lot of journals and then do the inclusion criteria based on Table 1. Table 1, the journal was in accordance with the inclusion and exclusion criteria as much as 15 journals (Figure 1).

Table 1. Study Inclusion Criteria

Design	Publication data
Population	Clinical or research population
Intervention	Yoga
Comparator/Control	Any control
Outcomes	At least one immune outcome
Time	At least 4 weeks
Minimum sample	15 participants

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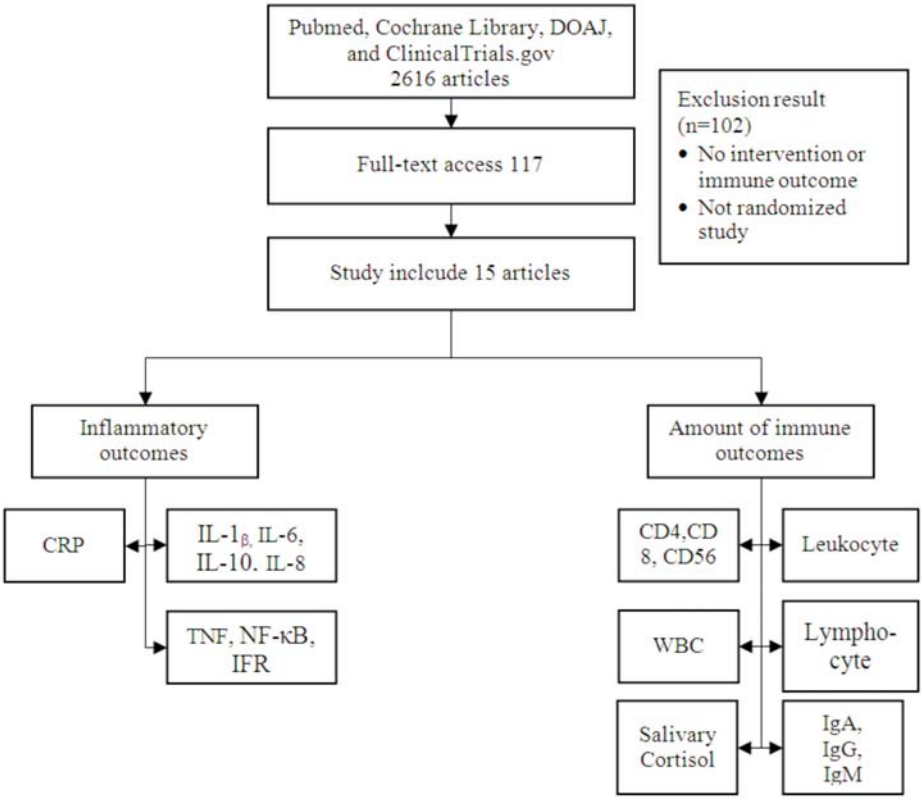

Figure 1. Study Framework

Table 2. Summary Evidence Review

Study	Variable achievements and measurement	Result
Rajbhoj, Shete, Verma, and Bhogal (2015)	IL-1$_\beta$ and IL-10	There are significant differences between the treatment groups and control IL-1$_\beta$ and IL-10 (p<0,05)
Kiecolt-Glaser et al. (2010)	IL-6 and CRP	There are no significant differences between beginners and experts, serum IL-6 levels beginner higher 41% than experts in all the session, and the possibility of beginners have higher CRP was 4.75 times compared to the expert.
Pullen et al. (2008)	IL-6, CRP	There are significant differences between the treatment groups and control IL-6 and CRP (p<0,05)
Pullen et al. (2010)	IL-6, CRP and extracellular superoxide dismutase (EC-SOD)	There are significant differences between control and treatment groups (IL-6, P = 0.004; CRP, P = 0.016; and EC-SOD, P = 0.012
Long Parma et al. (2015)	IL-6, IL-8, TNF-α and CRP	No influence on the pretest and posttest, and there was no significant difference in each group IL-6 (p=0,836), IL-8 (p=0,930), TNFα (p=0,277) and CRP (p=0,624)
Cade et al. (2010)	CD4 T-Cell and plasma HIV RNA	There is no significant difference between treatment and control groups in number CD4 T-Cell (p=0,21) and plasma HIV RNA (p=1,0)
Agnihotri, *et al.* (2014)	Leukocyte	Yoga significantly increase the amount of superoxide dismutase (SOD) (P <0.0001), and significantly decreased the number of eosinophils and monocytes (P <0.0001) in leukocytes (P <0.0001)

Subramanian S., Elango T., Malligarjunan H., Kochupillai V., and H. (2012)	**Lymphocyte**	**There is a significant difference to the value of lymphocytes in the treatment group and the control (p = <0.01)**
Sharma K. K., Prasada H. T., Udayakumara K., and B. (2014)	WBC	There are significant differences between the treatment group and the control number WBC (*P*=0,00212)
Rao et al. (2008)	Lymphocyte T (CD4 %, CD8 %, NK sel %), Serum Immunoglobulin (IgG, IgA and IgM)	There are significant differences between treatment and control groups CD 56% (*P*=0,02) and IgA (*P*=0,001)
Black et al. (2013)	(NF)-κBdan Interferon Response Factors (IFR)	There are significant differences in the control group and the treatment of NF-κB (p = 0.006), IRF1 (p = 0.040), plasmacytoid dendritic cells (*p*=0,002), B Limfosit (*p*=0,002)
Bower et al. (2014)	NF-κB, glucocorticoid receptor, cAMP, sTNF-RII, IL-6, CRP, and diurinal cortisol	There are significant differences in NF-κB (p = 0.0003), CREB (p = 0.0009), glucocorticoid receptor (p = 0.0026), ISRE (p = 0.0193), cAMP, and sTNF-RII (p = 0.032). There was no difference in IL-6 (p = 0.16), CRP (p> 0.40), and diurinal cortisol (p> 0.05)
Vadiraja et al. (2009)	Diurinal Salivary Cortisol	There are significant differences between the treatment groups and the pooled mean salivary cortisol and cortisol (P = 0.009 and P = 0.03)
Chandwani et al. (2014)	Salivary cortisol	There is a significant difference to the value of salivary cortisol in the treatment group and the control ST and WT (P = 0.023 and P = 0.008) and 1 week after XRT (P = 0.05 and P = 0.04)
Vogler J., O'Hara L., Gregg J., and F. (2011)	Salivary IgA and lysozyme	There is no significant difference to the amount of salivary IgA and lysozyme in the treatment group and control.

Result

Tabel 3. Study characteristic of 15 randomized controlled trials evaluating yoga affect to system immune

Study	Characteristics of the sample	Time intervention	Yoga program	Control imtervention
	Intervensi/control (*follow-up*)		DurasiIntervensi	
Rajbhoj et al. (2015)	37 respondent 19/18	12 weeks	Yoga class Institut Kaivalyadhama Yoga 45min/day, 6x/week	-
Kiecolt-Glaser et al. (2010)	50 respondent 25/25	3x different visit time	Yoga expert Hatha Yoga Walk on a treadmill 5miles/hour Watching video	Yoga beginners Hatha Yoga Walk on a treadmill 5miles/hours Watching video
Pullen et al. (2008)	19 respondent patients with chronic heart failure (CHF) after 6 months of treatment with a stable condition 9/10	10 weeks	Yoga Technique Asanas and Pranayama 70 minute/day, 2x/week 3rd weeks, add 1x sessions at home	Standard treatment therapy

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Pullen et al. (2010)	40 heart failure patients respondent 21/19	8 weeks	Yoga Technique Asanas, Hatha and modify 1 hour/day, 2x/week in studio, 3x/week in home.	Standard medical treatment
Long Parma et al. (2015)	72 breast cancer respondent CE 26/YF 20/C 26	6 months	Yoga Focus (YF): Hatha yoga exercise program Studio and/or in home 3hours/week	Comprehensive Exercise (CE): Aerobic, strength, flexibility exercise 3hours/week Exercise of choice 3hours/week
Cade et al. (2010)	50 HIV patients respondent 21/29	20 weeks	Yoga AstangaVinyasa 60minute/session 2-3x/week	Standard medical treatment
Agnihotri, *et al.* (2014)	241 mild to moderate asthmatics respondent 121/120	6 months	Yoga group (*Asanas, Pranayama*, and *Meditation*) 30 min/day, 5x/week	-
Subramanian S. et al. (2012)	43 respondent 21/22	6 weeks	SudarshanKriya and Pranayama 1x/day	-
Sharma K. K. et al. (2014)	23 patients with anemia 12/11	30 days	Yoga technique Asanas, Pranayamas, Meditation and Relaxation 60-70 minute/day	-
Rao et al. (2008)	69 respondents breast cancer patients stage II and III after surgery 33/36	4 weeks	*Integrated Yoga* (breathing exercises, *pranayama* and yoga relaxation techniques)	1. Education and social support 2. Exercise for postoperative shoulder
Black et al. (2013)	39 respondents to the dementia nurse	8 weeks	Yoga technique KundaliniKirtanKriya *Meditation* 12 min/day	Relaxation music 12 min/day
Bower et al. (2014)	31 responder patients with breast cancer stage 0-II 16/15	12 weeks	Iyengar Yoga	Health education
Vadiraja et al. (2009)	56 respondents breast cancer patients stage II and III 27/29	6 weeks	*Integrated Yoga* program (asanas, breathing exercises pranayama, meditation, and relaxation techniques of yoga *imagery* 60min session, 3x/week	Counseling 3-4x / 6 weeks
Chandwani et al. (2014)	163 respondents patients with breast cancer from stage 0 to III	6 weeks	Yoga group (Program *Integrated Yoga (preparatory warm-up synchronized with breathing; asana; deep relaxation (supine posture); pranayama* and *meditation*)) and Stretching (*Standing, lying down, sitting*) 60min/session/ week	-
Vogler J. et al. (2011)	38 elderly respondent 19//19	8 weeks	Iyengar yoga 2x / week in the classroom or at home everyday	-

Based on table 3, it can be seen most respondents with breast cancer stage 0-III, 5 research(n=319) (Rao*et al*, 2008; Vadiraja*et al*, 2009; Bower *et al*,2014; Chadwani*et al*, 2014; Long Parma *et al*, 2015),furthermore 5 studies using healthy adult respondents (n=207) (Kiecolt-Glaser *et al*, 2010; Vogler*et al*, 2011; Subramanian*et* al, 2012; Black *et al*, 2013; Rajbhoj*et al*, 2015)and 2 studies (n = 59) using a responder with heart failure (Pullen *et al*, 2008; Pullen *et al*, 2010). Other studies respondents with a history of mild asthma to severe (n = 241) (Agnihotri et al, 2014), a history of HIV (n = 50) (Cade et al, 2010), the category

of the elderly (n = 39) (Vogler et al, 2011) and a history of anemia (n = 23) (Sharma et al, 2014).The duration of treatment varies, begin from 4 weeks to 12 weeks. Treatment fatherly control group such as not conducting (Vogler et al, 2011; Subramanian et al, 2012; Agnihotri et al, 2014; Chadwani et al, 2014; Sharma et al, 2014; Rajbhoj et al, 2015), therapeutic treatment for disease (Pullen et al, 2008; Pullen et al, 2010), counseling (Vadiraja et al, 2009), health education (Rao et al, 2008; Vogler et al, 2011), social support (Rao et al, 2008), music relaxation (Black et al, 2013), and light up to a comprehensive exercise, and yoga (Long Parma et al, 2015).

Based on 15 of these studies, yoga provides a strong influence on NF-κB and IRF, glucocorticoid receptor, cAMP, sTNF-RII SOD, WBC, leukocyte, eosinophils, monocytes (Subramanian et al, 2012; Black et al, 2013; Agnihotri et al 2014; Bower et al, 2014; Sharma et al, 2014), but yoga provides weak influence or no influence on salivary IgA, lysozyme, lymphocytes T (CD4% CD8%, NK cell%), Serum Immunoglobulin (IgG and IgM), IL-8, TNFá, CRP, CD4 T-cell count and plasma HIV RNA (Rao et al, 2008; Cade et al, 2010; Vogler et al, 2011; Long Parma et al, 2015). Some studies have different effects on the effect of yoga on IL-6, CRP, salivary cortisol and IgA (Pullen et al, 2008; Rao et al, 2008; Vadiraja et al, 2009; Kiecolt-Glaser et al, 2010; Pullen et al 2010; Vogler et al, 2011; Chadwani et al, 2014; Long Parma et al, 2015).

Based on the results above overall, there are 9 research using yoga has an influence on the immune system that is anti-inflammatory (IL-1â, IL-10, IL-6, CRP, NF-êB and IRF, and TNF) and the amount of immune (IgA, salivary cortisol, SOD, leukocytes, eosinophils, monocytes, CD56). Based on these results, the discussions were divided into three groups of factors influence of yoga on anti-inflammatory and immune effect on the amount of blood or saliva.

Yoga on the response of inflammatory factor

Fourteen studies analyzing the effect of yoga with the factor of the inflammatory (IL-1β, IL-10, IL-6, CRP, EC-SOD, NF-κB and IRF, glucocorticoid receptor, cAMP, and sTNF-RII) with total the respondent amounted to 357 respondents.

1. IL-1_{β}, IL-10, IL-6. Total of six studies looking outcome variables interleukin by the number of respondents total of 249 respondents get the results of three studies get a positive result of the influence before and after yoga and have significant differences with the control group, two studies say there is no significant difference between results pre and post as well as the comparison between treatment and control groups, and 1 research obtain significant results between the pre and post but did not get the difference between treatment and control groups.

   The duration of the study in research that gets positive results range from 8-12 weeks with yoga intervention techniques Asanas and Pranayama Yoga, Hatha and modification, and the Yoga Institute Kaivalyadhama, while in the study who did not have positive results range from 12 weeks to 6 months / 24 weeks yoga Hatha yoga intervention techniques and Iyengar yoga.
2. CRP. Total of six studies looking outcome variables interleukin by the number of respondents total of 249 respondents get the results of three

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research get a positive result of the influence before and after yoga and have significant differences with the control group, two studies say there is no significant difference between results pre and post as well as the comparison between treatment and control groups, and 1 research obtain significant results between the pre and post but did not get the difference between treatment and control groups.

The duration of the study in research that gets positive results range from 8-12 weeks with yoga intervention techniques Asanas and Pranayama Yoga, Hatha and modification, and the Yoga Institute Kaivalyadhama, while in the study who did not have positive results range from 12 weeks to 6 months / 24 weeks yoga Hatha yoga intervention techniques and Iyengar yoga.

3. TNF, NF-κBdan IRF. Total of four studies looking outcome variables TNF, NF-κB and IRF with the number of respondents Total respondents 211 respondents get the results of two the study get a positive result of the influence before and after yoga and have significant differences with the control group and the two study says there was no significant difference between the pre and post as well as the comparison between treatment and control groups.

   The duration of the study on the research that gets positive results range from 4 weeks to 6 months or 24 weeks with the intervention of yoga techniques Iyengar Yoga, KundaliniKirtanKriya Meditation, whereas in the study who did not have positive results range from 12 weeks to 6 months / 24 weeks with the intervention of yoga techniques Integrated Hatha yoga and yoga (breathing exercises, pranayama, and yoga relaxation techniques).

Yoga on the amount of immune

Some seven the study looking outcome variables increase and lowering the amount of immune (IgA, salivary cortisol, SOD, leukocytes, eosinophils, monocytes, CD56), among others respondents Total respondents were 683 respondents to get the results of four the study get a positive result of the influence before and after given yoga and have significant differences with the control group, two studies say there is no significant difference between the pre and post as well as the comparison between treatment groups and control, and 1 research obtain significant results between the pre and post but did not get the difference in inter-group treatment and control.

The duration of the study on the research that gets positive results ranged 4 weeks to 6 months or 24 weeks of the intervention Yoga Techniques Yoga Asanas, Pranayama, relaxation, meditation, SudarshanKriya, integrated yoga, while in the study who did not have positive results ranging from 4 weeks to 20 weeks with intervention AstangaVinyasa yoga Techniques yoga and Iyengar yoga.

Discussion

Based on the results above, the overall yoga gives a good influence on the anti-inflammatory response and immune amount in the blood and saliva by respondents all clinical conditions. Yoga is the most powerful influence on the response of NF-κB and IRF among respondents with breast cancer. This is evident from the 15 studies, studies with variable output NF-κB and IRF provide significant results (Black et al, 2013; Bower et al, 2014).

In the duration or length of intervention yoga, yoga began to give effect after 4 weeks of doing yoga regularly every day (Rao et al, 2008). The more rarely does yoga will give less influence for the body. It is evident from the research that interventions 3 hours/week and 2-3x / week does not give good results, although the duration of a given last up to 6 months or 24 weeks (Long Parma et al, 2015).

Yoga techniques that provide the most impact are the asanas, breathing exercises, pranayama, meditation. It is proven from the 15 studies, 8 studies using these techniques provide good results on the reaction of anti-inflammatory and amount of immune (Pullen et al, 2008; Rao et al, 2008; Vadiraja et al, 2009; Pullen et al, 2010; Subramanian et al, 2012; Agnihotri et al, 2014; Chadwani et al, 2014; Sharma et al, 2014). Besides the technique, Sudarshan Kriya Kirtan Kriya Kundalini Yoga and Meditation Yoga is a positive influence (Black et al, 2013; Bower et al, 2014).

Longterm Yoga Practice

Yoga gives a good influence on the number of red and white blood cells. This is evidenced from research conducted Subramanian et al. (2012), Agnihotri et al. (2014), Chadwani et al. (2014), Sharma et al. (2014), Subramanian et al, 2012 get the results after practicing yoga for three weeks, the level of neutrophils and platelets decreased significantly. Further reductions in the level seen after six weeks of yoga practice not found to have any effect on PCV and MCV. Lymphocytes increased after practice yoga showed that the practice of yoga improves immunity. Research Agnihotri et al. (2014) showed that the level of hemoglobin and antioxidant superoxide dismutase (SOD) were significantly increased and a significant drop in leukocytes found in the yoga group compared to the control group calculates differential compared with the control group. Chadwani et al. (2014) study found that a significant difference to the value of salivary cortisol in the treatment group and the control ST and WT and 1 week after XRT. Kelompostyoga produce better results of subjective and objective of either stretching or usual care group. There is little difference between ST and WL groups. Sharma et al. (2014) to get the results from the experimental group were statistically significant proven to HB, HCT, TC, and PEFR. Every member felt improvement after yoga therapy program.

NF-êBdysregulation associated with respom inflammation, chronic disease and the growth and proliferation of cancer. Increased NF-κB dysregulation is a sign of chronic stress in humans. Niles et al mentioned by meditation can reduce the activity of NF-êB. Based on the technique of yoga asanas, pranayama, and meditation are very effective in lowering the immune dysregulation factor NF-κB. Besides Yoga provides good leverage against immunodulator (Black et al, 2013). Bower et al, 2014 to get the yoga not only improve fatigue but also causes changes in the molecular signaling pathways associated with inflammation in patients with breast cancer. Based on bioinformatics analysis showed a decrease in gene expression of pro-inflammatory NF-κB associated among women randomized to 12 weeks of Iyengar yoga relative to health education controls.

This is in line with research conducted by Rajbhoj et al. (2015). In his research using a sample of industrial workers who have direct contact with pollutants of industrial waste, waste industry stimulates directly macrophages

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and epithelial cells to produce inflammatory cytokines such as TNF-α, IL-6, IL-8 and IL-1beta that lead to different effects on health humans, especially cardiopulmonary system. The result decreased IL-1 beta and an increase in IL-10 which is a powerful anti-inflammatory and inhibits the downregulation of pro-inflammatory cytokines IL-1 beta. In line with the Long Parma et al. (2015) to get the muscle mass and an increase in IL-6.with improvements in muscle mass appears Improvement of body composition (body fat loss of 3%) and changes in body composition at YE group than other groups.

Pullen et al, 2008 mentioned inflammatory markers such as IL-6, hsCRP, and ECSOD showed significant improvement with based 8-week program of yoga in patients with systolic heart failure compensation. In addition, yoga offers more benefits for patients with HF compared with conventional forms of exercise. Cade et al. (2010) to get the result that practicing yoga for 20 weeks can reduce the risk of CVD in men and women infected with HIV who take antiretroviral therapy in this study population who have an increased risk of CVD. The practice of yoga reduces resting systolic and diastolic blood pressure, while the control group found no reduction. This change occurs with no change in glucose tolerance, insulin sensitivity, lipid levels proatherogenic, weight and central adiposity, suggesting that yoga directly act to lower blood pressure in people living with HIV.

Shorterm Yoga Practice

Kiecolt-Glaser et al. (2010) to get the result that regular yoga practice may reduce inflammation of the major risk factors such as age, abdominal adiposity, cardiorespiratory fitness, and depressive symptoms. The related increase in serum IL-6 is expected to greatly influence by mode, intensity, and duration of exercise. Results between novice and expert yoga is no different in terms of VO2max due to the same intensity and duration of the movement of yoga exercises so that any changes difficult to detect. This is in line with the Vogler et al. (2011) to get results in the short term Iyengar Yoga program by people who are not physically active aged 55 years and over can lead to improved health and well-being. significant improvements in physical health and well-being are evident in the overall muscle strength and range of motion active on the extremities, trunk, and hip. In this study, Iyengar Yoga, short-term results of the respiratory function (FEV1), lysozyme and measurement of salivary IgA. It is also influenced yoga participants taking the drug during the study and perform minor operations which affect the level and concentration of IgA secretion.

Limitation

Limitations in this systematic review are that they are heterogeneous respondents from other health conditions among healthy respondents, healthy elderly, patients with mild to moderate asthma, anemia, breast cancer stage 0-III, HIV and acute heart failure. Researchers hereafter must homogenize the population furthermore, given more accurate results.

Conclusion

Yoga gives the effect gradually. In the early start, yoga benefits perceived the form of improved flexibility and posture, as well as decreased stress and increase a sense of peace. The longer or more frequent the duration and intensity of yoga is done will enhance the immunity system gradually and provides many benefits to the body.

Based on the results, we can conclude that the most effective yoga techniques of the immune system to do is a combination of yoga asanas, pranayama, and meditation. Minimum intensity and duration required at least once every day for 4 weeks.

Declarations

Authors' contributions

Each author contributed to the study research finding and writing of the article.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

The data availability to be published as part of the final article

Competing interests

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FACTORS ASSOCIATED WITH ADHERENCE TO HEALTHY LIFE STYLE OF PATIENTS AFTER PERCUTANEOUS CORONARY INTERVENTION (PCI) IN CARDIAC SERVICE INSTALLATION, HASAN SADIKIN HOSPITAL, BANDUNG

Hasniatisari Harun[1], Kusman Ibrahim[2], Imas Rafiyah[3]

[1,2,3]Lecturer Fakultas Keperawatan Universitas Padjadjaran
Correspondence: hasniatisari.harun@gmail.com

Abstract

Introduction: Coronary artery disease (CAD) is a life threatening disease. One of the clinical management of CAD is percutaneous coronary intervention (PCI). The PCI treatment not only has the benefit but also it has risk for relapsing of CAD related to the patient's risk factors previously. Practicing healthy life styles can help to reduce the risk factors among patient with CAD relapse after PCI. The purpose of this study is to examine factors associated with adherence to implement healthy life styles of patients after PCI.

Methods: The quantitative study was conducted using cross sectional design. The samples of this study were post PCI patients at the cardiology outpatient clinic Hasan Sadikin Hospital. The sampling technique used was purposive sampling, with 48 respondents in cardiology outpatient clinic Hasan Sadikin Hospital Bandung. The instrument of this study used modifications Heart Disease Fact Questionnaire (HDFQ), attitude instrument, Enrichd Social Support Instrument (ESSI), Cardiac Self-Efficacy (CSE) and Medication Adherence Scale (MAS). Data were analyzed using chi-square and logistic regression for multivariate analysis.

Results: The results showed that there were significant correlations between knowledge (x^2=12.800, p=0.000), attitudes (x^2=4.269, p=0.039), self-efficacy (x^2=12.000, p=0.001) with adherence to healthy lifestyle . However there was no correlation between family support and adherence to healthy lifestyle (x^2=0.762, p=0.383). In multivariate analysis found that the most dominant factors on adherence to healthy lifestyle were knowledge and self-efficacy ($p<0.05$).

Conclusions: It can be concluded that the knowledge and self-efficacy significantly correlated with adherence to healthy lifestyle in post PCI patients.

Keywords: Adherence, coronary artery disease (CAD), healthy lifestyle.

Background

Coronary artery disease (CAD) is one of the leading cause of death and threatening illness among people. Data from *World Heart Organization* (2011) shows the mortality rate of CAD showed 17 million (around 30%) in every year at worldwide. Estimated in 2020 the CAD will be the main and the most common cause of death (36%) in all of mortality rate.

Based on the impact of CAD, the patients can improve their adherence to practicing healthy life styles. The healthy life styles associated with increasing of patients' quality of life. The healthy life styles include: no smoking, low fat diet, lowers blood cholesterol level, regular exercise, control of blood pressure for hypertension patients and blood glucose control for diabetics, weight loss control, adherence to treatment and stress management[4].

These are so many factors that can affect the patient to adhere in healthy life style such as factor of knowledge, attitude, family support, and self-efficacy. Previous studies with various experts have revealed of these factors. In accordance with Alm-Roijer, Stagmo, Udén, and Erhardt (2004) in Sweden with 347 respondents showed that there were significant correlations between knowledge related to risk factor of CAD toward change of life style such as the body weight, physical activity, stress management, cholesterol diet and adherence to taking medications [1]. In addition, a study conducted by Siddiqui, Rahman, Bhatti, Mirza, and Shahid (2008) in England with 82 respondents revealed that professional nurse need to understand the attitudes and knowledge of patients to anticipate the preventive of recurrence in patients[9]. According to Heid and Schmelzer (2004), another factor that related to adherence in healthy life styles of patients is family support. Family is the main support of a person in deciding something. Moreover, study by Sarkar, Alli and Whooley (2007) in America with 1024 respondents revealed that the low of self-efficacy related to low of health status, the severity of coronary heart disease and symptom of depression[8].

The researcher conducted observations in the CICU room and Cardiac Services Installation of Hasan Sadikin General Hospital and found the data include: (1) there were many patients undergoing PCI for the second time in different blood vessel and even found the patients with the same blood vessels (restenosis), (2) many patients were unable to control of PCI risk factor include: return of smoking, uncontrolled of diet, stop taking medication (aspilet) and irregular exercise, (3) discharge planning undertaken by nurses has been unstructured. Regarding to these data, there still found the number of patient who are unable to adherence in healthy life style. They has unwillingness and unable to implement a healthy life style and it can be a serious problem as well as in increase of morbidity and mortality. The patients will have recurrence of coronary obstruction and it will result in cessation blood flow unless the blood flow from collateral vessels is very small and can lead to death if untreated.

Regarding to the description of these problems, it can be identification the problem as follows: "What is the most dominant factors associated with adherence to implement of healthy life styles in patients post percutaneous coronary intervention (PCI) in Cardiac Service Installation, Hasan Sadikin Hosiptal, Bandung". The aim of this study was to examine the factors associated with adherence to healthy lifestyles in patients after PCI.

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Methods

The method of this study was a quantitative study. The selected design was used analytic correlation with cross-sectional. The purposive sampling technique was employed to recruit the sample in this study. The sample was 48 patient undergoing post PCI in the Cardiac Service Installation, Dr. RSUP. Hasan Sadikin Bandung. The instruments for data collection in this study consist of Modification of the Heart Disease Fact Questionnaire (HDFQ) instrument, attitude instrument, Enrichd Support Social Instrument (ESSI), Cardiac Self Efficacy (CSE) instrument and Medication Adherence Scale (MAS) instrument. The *chi-square* test and logistic regression test were used to analyze the data in this study.

Results

Multivariate analysis was used by connecting all independent variables (knowledge, attitude, family support and self-efficacy) together with adherence to implement a healthy lifestyle as a dependent variable which each independent variable controlling each other.

Table 1. The result of logistic regression test
Variable (s) entered on step 1: knowledge, attitude, family support and self-efficacy. Method: *Backward Stepwise* (*Likelihood Ratio*)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Knowledge	.383	.158	5.869	1	.015	1.467
Attitude	.031	.086	.133	1	.715	1.032
Family support	-.145	.138	1.101	1	.294	0.865
Self-efficacy	.258	.105	5.984	1	.014	1.294
Constant	-17.939	5.507	10.613	1	.001	000

As shown in Table 1, the correlation together using multivariate analysis with logistic regression by *Backward Stepwise* (*Likelihood Ratio*) method only variable of knowledge and self-efficacy (significant value <0,05) were have the most dominant effect to adherence implement a healthy lifestyle.

Discussions

In accordance with Fajri dan Senja (2000), knowledge is all the information that is known, intelligence that has been learned previously. The human will have experiences to change after learning because they will improvement knowledge, skills, attitudes and values.

Similarly, the study result from previous study discussed about relationship between knowledge and adherence to implement a healthy lifestyle. The study conducted by Counch (2008) in Australia on 65 female respondents who suffered from CAD, 64 respondents had good knowledge, but it has not followed by good health behavior. Further research from Alm-Roijer et al. (2004) in Sweden in 347 respondents revealed that there was a significant correlation statistically between general knowledge about risk factors of CAD and adherence to changes of lifestyle such as; body weight, physical activity, stress management, cholesterol diet and adherence to taking medications.

The result of this study showed that the patients had low level of knowledge (83%) with no adherence to implement a healthy lifestyle of patients. Likewise, the study result from Mulli and Clarys (2011) in Canada on 5000 respondents, reported that the lack of physical activity, the return of smoking activity, diet uncontrolled, overweight, the lack of fruits and vegetables intake are closely related to low knowledge level due to the low level of socio-economic factors and the level of education [6]. Moreover, another supporting research from Peterson (2010) reported that deficit of knowledge has an important role in the lack of motivation to change. Therefore, the knowledge factor in this study should be considered as supporter to determine whether the patient knows the healthy lifestyle or not [7].

According to Bandura (in Tomey & Alligood 2006), self-efficacy defined is one's belief of the extent to which individuals estimate their ability to perform responsibilities or perform a task necessary to support their health behavior. The belief of all abilities includes self-confidence, adaptability, cognitive capacity, intelligence and capacity to act in stressful situations.

This study finding was congruent with a previous study in UK conducted by Lau-Walker (2004) about relationship between disease representation and self-efficacy showed that there was a significant relationship between the perception of the disease with self-efficacy. The results also suggest that the longer of acceptance of disease conditions will affect the patient's self-efficacy, the higher of specific self-efficacy to maintain changes of diet and activity patterns.

One of the factors that influenced to self-efficacy is support from family or closest person. Providing support among patients post PCI will improve their self-efficacy due to the attention to manage the prevention of recurrence. Likewise, study by Kim et al. (2008) reported that the social support of family and friends associated with better diet control to avoid unhealthy foods. Accordingly, family or closest person will always remind or help the patients to avoid the unhealthy food which have affect to their cardiac or others patient's behavior that can influence to their health conditions. Another influential factor is knowledge. A study conducted by Almas et al. (2008) found that the understanding information given to the patient will improve self-efficacy in implement of physical activity to improving the ability in a higher level.

Conclusion

Several factors were found related to adherence are; (1) There was a significant relationship between knowledge and adherence to implement a healthy lifestyle ($p = 0.039$), (2) There was a significant relationship between attitudes and adherence to implement a healthy lifestyles ($p = 0,039$), (3) There was a significant relationship between self-efficacy with adherence to implement a healthy lifestyle ($p = 0,001$), (4) The most dominant factor to adherence in healthy lifestyle is knowledge and self-efficacy factor (significant value <0,05).

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SELF-EFFICACY OF EXERCISE PROMOTING PROGRAM FOR ELDERLY PERSONS WITH ARTHRITIS

Herliani, Y. K.[1], Matchim, Y.[2]

[1]Faculty of Nursing, University of Padjadjaran, Bandung, Indonesia
[2]Faculty of Nursing, Thammasat University, Bangkok, Thailand
These authors contributed equally to this work
Corresponding author
HYK: yusshy.kurnia@unpad.ac.id/(+62) 81217976321
MY: yaowarat.m@gmail.com

Abstract

Background: Osteoarthritis is one of the most universal diseases which have a multifactorial etiology characterized by degeneration of cartilage and its underlying bone and leads to pain and joint stiffness. The older adult population is of particular importance in promoting exercise for arthritis management due to the higher prevalence of arthritis comorbidity with other chronic diseases. Unfortunately, among adults with self-reported, doctor-diagnosed arthritis, more than 60% are not meeting recommended physical activity levels, of which 23.8% are completely inactive. Therefore, this literature review will carefully analyze several intervention studies that promote self-efficacy of exercise among elderly persons with arthritis.

Methods: A comprehensive search was undertaken using computers and electronic databases by using keyword combination of exercise and arthritis. Articles published through the year 2003-2013 were retrieved using MEDLINE®, CINAHL®, Google Scholar, PubMed, Proquest, Wiley Online Library and Science Direct. Ten selected articles were reviewed by point out into the intervention, result and effectiveness. Existing studies would be graded by using grading of recommendation to find quality studies and data would be extracted into evidence-based table.

Results: There are some program intervention that used in previous research among arthritis patient to enhance exercise self-efficacy such as FIT and Strong, The modified arthritis self-management program (ASMP), Choosing Arthritis Specific Appropriate Physical Activity (CASAPA), People with Arthritis Can Exercise (PACE) Program and WWE (Walk with Ease) program.

Conclusions: There are some intervention programs that used in previous research among arthritis patient to enhance exercise self-efficacy. However, they were not involved each source of self-efficacy into the program and the proposed intervention will be modification program from those interventions.

Keywords: Exercise, arthritis, self-efficacy , elderly

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Background

Osteoarthritis is one of the most universal diseases which has a multifactorial etiology including age, genetic predisposition, distress to joints, obesity, and some types of repetitive activities.(1) Osteoarthritis is a disease characterized by degeneration of cartilage and its underlying bone within a joint as well as bony overgrowth. The break of these tissues eventually leads to pain and joint stiffness. The joints most commonly affected were the knees, hips, and those in the hands and spine. The specific causes of osteoarthritis are unknown, but are believed to be a result of both mechanical and molecular events in the affected joint. Disease onset is steady and usually begins after the age of forty.(2)

The older adult population is of particular importance in promoting exercise for arthritis management due the higher prevalence of arthritis comorbidity with other chronic diseases. Studies have demonstrated that persons with arthritis can safely participate in appropriate exercise programs to improve their cardiovascular fitness, muscular strength, psychosocial status, and functional status.(3) Unfortunately, among adults with self-reported, doctor-diagnosed arthritis, more than 60% are not meeting recommended physical activity levels, of which 23.8% are completely inactive. (4)

Most people with arthritis tend to avoid physical activity due to their fear of overstraining themselves or pain exacerbations. Avoidance of activities may result in decreased muscle strength (force-generating capacity) and aerobic capacity, which can lead into further inactivity. Prevalence of inactivity for adults with arthritis 65 years or older is even higher at 31.1%. (4) Older adults report lack of knowledge of benefits of exercise, environments unsupportive of exercise, lack of exercise advice from a physician, and poor health as reasons for not engaging in exercise.(5)

Therefore, this literature review will carefully analyze several intervention studies that promote self-efficacy of exercise Among OA patients. Existing studies will be graded by using grading of recommendation to find quality studies and data will be extracted into evidence-based table. Therefore, this literature review will carefully analyze several intervention studies that promote self-efficacy of exercise among elderly persons with arthritis.

Methods

A comprehensive search was undertaken using computers and electronic databases. Articles published through the year 2003-2013 were retrieved using MEDLINE®, CINAHL®, Google Scholar, PubMed, Proquest, Wiley Online Library and Science Direct. Selected studies were randomized controlled trials (RCT) or experimental study with two or more group pre-test post-test of interventions that measure exercise self-efficacy as the outcome among elderly person with arthritis. By using keyword combination exercise and arthritis, the search strategy yielded 91 potentially relevant papers from various databases. The results were narrowed down to be 11 articles by selecting using inclusion criteria such as measure exercise self-efficacy, elderly participants, full-text, and written in English. Six selected articles were reviewed by point out into the intervention, result and effectiveness.

Results

FIT and Strong program

FIT and strong program is a facility-based intervention provided for older adults with osteoarthritis. This program has been developed and tested by Hughes and colleagues by combining the exercise, education, and group problem-solving sessions 3 times a week for 8 weeks.(6) The study of Hughes and colleagues reported that the participants in the exercise program experienced statistically significant improvements in exercise efficacy ($p = 0.009$), 6-minutes distance walk ($p = 0.018$) and reductions in lower extremity pain ($p = 0.019$) and stiffness ($p = 0.028$). In addition, 48.5% increase in exercise adherence ($p = 0.001$) was reported. Effect sizes for self-efficacy for exercise and for maintenance of physical activity were 0.798 and 0.713, and 0.905 and 0.669, respectively, in the treatment group at 6 and 12 months.(6)

The modified arthritis self-management program (ASMP)

ASMP was developed by Lorig and colleagues based on Bandura's concept of self-efficacy and behavior change.(7) The modified ASMP intervention was tested by Yip and colleagues and consisted of six 2-hour classes held once a week, led by registered nurses. The program focused on teaching participants as how to cope with and manage common knee OA consequences, such as arthritis pain, fatigue, daily activity limitations, and stress. The exercise were stretching exercises, walking, and Tai Chi types of movement aimed at enhancing exercise for the affected joints. Intervention group experienced a statistically significant increase in arthritis self-efficacy. (8)

Choosing Arthritis Specific Appropriate Physical Activity (CASAPA)

Goldbarg conducted a research using CASAPA to older adults with arthritis. The CASAPA was designed to increase knowledge, skills, and confidence for selecting arthritis appropriate physical activity in older adults with arthritis. The intervention consisted of 60-minute group session per week, for four weeks. The CASAPA curriculum focuses largely on different aspects of self-efficacy for exercise. (9) The program consisted of four session including; (1) interactive discussion and lead participants in identifying potential barriers to physical activity; (2) identifying exercise options and opportunities; (3) reviewed successes and difficulties with goals set during the previous week; and (4) dealt with facilitating participants' action plans, and encouraged use of self-monitoring goal setting techniques. Results show no significant change in self-efficacy levels for the intervention or control group. (9)

People with Arthritis Can Exercise (PACE) Program

PACE program is community-based recreational exercise program developed by the Arthritis Foundation in 1987 to promote the self-management of arthritis through exercise. PACE is a conducted by trained PACE instructors cover a variety of range-of-motion and endurance-building activities, relaxation techniques, and health education topics. All of the exercises can be modified to meet participant needs. The program's demonstrated benefits include improved functional ability, decreased depression, and increased confidence in one's

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ability to exercise. The basic 8-week PACE program typically meets two or three times per week for one hour.(3) Previous research conducted by Suomi and Collier using PACE program combined with Arthritis Foundation Aquatic Program (AFAP) reported that functional fitness and perceived ability to perform activities of daily living (ADL) were significant improvements.(10)

WWE (Walk with Ease) Program

The Walk with Ease (WWE) arthritis self-management program was developed by the Arthritis Foundation to be used in a community setting consisted of the 6-week long, participants met three times a week. Each meeting began with a pre-walk discussion covering a specified topic related to exercise and/or arthritis, followed by a 10–40 minute walk. Bruno and colleagues reported that Subjects who receive WWE program were more confident, less depressed, had less health distress, and less pain than subjects had in Group with other intervention.(11)

The aquarobic exercise program

This program was tested in the study of Kim (2012) and consisted of both patient education and aquarobic exercise. The aquarobic exercise was conducted three times a week in 1-hour sessions over 12 weeks. The pool was maintained at a temperature of 82.4°F and at a chest-high depth of 1.2 m. After completing each aquatic exercise class, the participants were invited to share their experiences. This program has 0.6 effect size that means medium effect size by Cohen. Furthermore, this program gave a significantly increasing score of self-efficacy compared to before intervention.(12)

Discussion

Most of the exercise programs provided for OA patients in this study were designed to foster self-efficacy for exercise. Self-efficacy was defined as an individual's belief in his or her capabilities to successfully execute a skill or target behaviors.(13) In Bandura's social cognitive model, self-efficacy can be enhanced through four major sources including; mastery experiences, vicarious experiences, verbal persuasion, and physiological and emotional states. (13)

Mastery experiences are believed to be the most influential source of self-efficacy because they are based on personal experiences and previous successes.(13) The exercise activities were attached into the programs to construct mastery experience such as provided walking exercises, (6, 11) stretching exercises, walking, and Tai Chi , (8, 11) modified exercises based on participant needs,(10) aquarobic exercise.(12) Mastery experience could be achieved through group of problem-solving, and discussion sessions related expectations of the exercise; and setting the goal, (6) goal-directed exercise components, (8) goal setting and action planning program, (9) identifying more opportunities for exercise to overcome obstacles. (12)

Vicarious experiences can be defined as situations that increase a person's belief by watching a similar individual's success in certain situations. The vicarious experience can be applied by conducting the activity in-group session so that participant can learn from and observe others members successfulness

(6, 8, 9). Moreover, sharing activity gave patients more confidence and willingness to sustain the exercise and vicarious experience were built. (12)

Verbal persuasion enhances self-efficacy through feedback and verbal cues to believe in the successful outcome of a specific situation. Discussing with the participants values of the exercise would be effective to encounter verbal persuasion while assisting the participants to solve problems encountered. (6, 9) Moreover, group discussion–educational component and health education programs were proved to be increasing self-efficacy. (11)

Finally, physiological and emotional states are how a person interprets the physiological and emotional states that empowers or disempowers a condition (14). Record of the participant's performance was part of physiological component of to reinforce a sense of exercise efficacy.(6) Furthermore, physiological component can be encountered by teaching participants as how to cope with and manage common knee OA consequences. It was designed to give participants skills they could use to optimize their ability to manage their condition to promote self-efficacy.(8)

Fit and strong program seems to be an effective intervention to enhance exercise self-efficacy among older adult with arthritis. However, this intervention did not clearly explain about each activity with related to self-efficacy component. (6) The CASAPA program focuses largely on different aspects of self-efficacy for exercise. However this program did not provide exercise program.(9) PACE program did not describe the source of efficacy. PACE modestly improves symptoms and strength but does not improve function, increase exercise endurance, or increase physical activity.(10) The WWE arthritis self-management program show that individuals who chose to participate in only the health-education program initially reported less confidence as compared with those who selected only the walking program.(11) The aquarobic exercise program was not developed based on Bandura's self efficacy theory. However, a lecture and demonstration in the educational sessions were ways to apply physiological and verbal persuasion.(12)

Conclusions

There were some programs that used in previous researches among arthritis patient to enhance exercise self-efficacy. However, some programs did not involve each source of self-efficacy into the programs. Therefore, to get the comprehensive exercise self-efficacy program, the proposed intervention will be modification program from those interventions. Nurses for the future research can selected appropriate activities and apply the activities which cover each component of self-efficacy or modified to be more practical.

List of abbreviations

Osteoarthirits (OA)

Randomized controlled trials (RCT)

Declarations

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First author was responsible for finding the appropriate journal and write down the article. Second author was responsible for writing the article

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THE EFFECT OF FAMILY SUPPORT AND COPING MECHANISM ON CERVICAL CANCER PATIENTS' QUALITY OF LIFE WHO UNDERWENT CHEMOTHERAPY IN DR. MOEWARDI HOSPITAL SURAKARTA, INDONESIA

Hidayah Nur Fadhilla[1], Ambar Mudigdo[2], Setyo Sri Rahardjo[2]

[1]Department of Public Health Science, Sebelas Maret University, Surakarta, Indonesia
[2]Faculty of Medicine, Sebelas Maret University, Surakarta, Indonesia
Corresponding author: fadhillahidayah@student.uns.ac.id
Email addresses:
HNF: fadhillahidayah@student.uns.ac.id
AM: ambar.mudigdo@yahoo.com
SSR: toifarmakouns@yahoo.co.id

Abstract

Background: Cervical cancer is a variety of cancer disease which occurs in women with high morbidity and mortality rate in the world. The diagnosis of cervical cancer has become a burden for both patient and the family. Plentiful alterations which can be physical, psychological, or social ensue in cervical cancer patient which influence quality of life due to long term therapy. The aim of this research is to find out how family support and coping mechanism affect in promoting cervical cancer patients' quality of life who receive chemotherapy.

Methods: This research use cross-sectional design and is done in Dr. Moewardi Hospital Surakarta, Indonesia. The population in this research is all cervical cancer patients in Dr. Moewardi Hospital. The samples are 100 cervical cancer patients who is undergoing chemotherapy and qualified of inclusion and exclusion criteria. Data collecting method is using QLQ-C30 and QLQ-CX24. Data analysis is using multiple linear regression.

Results: The result showed that there is a strong correlation between family support and coping mechanism to cervical cancer patients' quality of life patient who underwent chemotherapy and statistically significant (p=0.001, Adjusted R2=51.4%). A strong family support would increase cervical cancer patients' quality of life patiens by 1.28 (b=1.28; 95%CI=0.84 to 1.72; p=<0.001), whereas patients with positive coping mechanism would increase cervical cancer patients' quality of life by 1.38 (b=1.38; 95% CI=0.61 to 2.15; p=0.001).

Conclusions: Cervical cancer patients' quality of life who underwent chemotherapy could increase with a strong family support and also positive coping mechanism.

Keywords: family support, coping mechanism, quality of life, cervical cancer, chemotherapy

Background

Cervical cancer is one of malignant diseases attacking women with high global morbidity and mortality rate. The malignancy of cervical cancer is caused by Human Papilloma Virus (HPV) infection. According to the result of a survey by GLOBOCAN (2012), every year there are 527.600 new invasive cervical cancer and it caused 265.700 deaths across the world in 2012 [1]. Meanwhile, according to American Cancer Society, there were approximately 12.990 new invasive cervical cancer cases and 4.120 deaths due to cervical cancer in United States in 2016 [2]. The result of Indonesia's Basic Health Research in 2013 showed that cervical cancer makes up 0,8% or 98.692 of all cancers [3].

Cancer is described as a continuous disease (*continum*), starting from diagnosis, therapy, remission, recurrence or deterioration and terminal stage. It makes it difficult for the patients to accept their diagnosis and it takes adjustment at every stage and treatment. At diagnostic stage, doctors are able to determine the correct action, whether surgery, radiation therapy/ radiotherapy or chemotherapy. Chemotherapy is a treatment using drugs to kill cancerous cells [4].

Family involvement in helping patients face treatments for cervical cancer can help cervical cancer patients achieve optimum quality of life [5].

Methods

The present study is an analytic observational study with cross-sectional design. The study was performed in Dr. Moewardi Hospital, Surakarta, on February to March 2017. The population was all cervical cancer patients being treated in Dr. Moewardi Hospital. The samples were selected by fixed disease sampling and produced 100 samples. The data collection used questionnaire by interview and medical record data. Quality of life questionnaire was measured by EORTC QLQ-C30 and EORTC QLQ-CX24 specifically to assess the quality of life of cervical cancer patients. The questionnaire has been translated and validated by a previous study. The data analysis used SPSS version 22. The data analysis technique was multiple linear regression [6,7].

Results

Characteristics of Subject

The research subjects were 35 to 60 years old, with the majority of them being over 45 (61.0%) and has stage III cervical cancer (56%). Most subjects had low education (61.0%) and jobs (58.0%). The economic level of most subjects was lower middle class, although their monthly incomes were above regional minimum wage. All patients used BPJS facility, whether independently or from the government.

Quality of Life

The average domains of research subjects' quality of life by EORTC QLQ-C30 and QLQ-CX24 are shown in table 1 and table 2, respectively. Most cervical cancer patients' quality of life was poor as there were declines in some functional scales and increases on symptom scales. The functional domain of cervical cancer patients, i.e. physical, emotional and social functions, declined after chemotherapy. Moreover, sexual function, sexual and sexual pleasure of

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cervical cancer patients also declined. There were increases on symptom scales, such as menopause and peripheral neuropathy. Financial difficulty also increased along with chemotherapy treatment stages.

Table 1. Cervical Cancer Patients' Quality of Life by EORTC QLQ-C30

Explanation	Good	Bad
Global health status	42	58
Functional scales[1]		
Physical functioning[1]	49	51
Role functioning[1]	57	43
Emotional functioning[1]	44	56
Cognitive functioning[1]	68	32
Social functioning[1]	32	68
Symptom scales / items[2]		
Fatigue[2]	55	45
Nausea and vomiting[2]	69	31
Pain[2]	57	43
Dyspnoea[2]	86	14
Insomnia[2]	51	49
Appetite loss[2]	57	43
Constipation[2]	70	30
Diarrhoea[2]	93	7
Financial difficulties[2]	36	64

Table 2. Cervical Cancer Patients' Quality of Life by EORTC QLQ-CX24

Explanation	Good	Bad
Functional scales[1]		
Body image[1]	70	30
Sexual activity[1]	12	88
Sexual enjoyment[1]	12	88
Sexual/vaginal functioning[1]	12	88
Symptom scales / items[2]		
Symptom experience[2]	51	49
Lymphoedema[2]	95	5
Peripheral neuropathy[2]	44	56
Menopausal symptoms[2]	49	51
Sexual worry[2]	55	45

All of the scales and single-item measures range in score from 0 to 100. A high scale score represents a higher response level.

1 *A high score for a functional scale and the the global health status represents a high/ healthy level of functioning and QoL.*

2 *A high score for a symptom scale/ item represents a high level of symptomatology/ problems.*

Family Support and Coping Mechanism

Based on the result of Pearson's correlation analysis, strong family support had strong correlation with cervical cancer patients' quality of life and it's statistically significant (r=0.67; p=<0.001). Meanwhile, positive coping mechanism also had strong correlation with cervical cancer patients' quality of life and it's statistically significant (r=0.60; p=<0.001).

The result of multiple linear regression analysis showed statistically significant effect by family support on quality of life (b=1.28; 95%CI=0.84 to 1.72; p=<0.001). There was also statistically significant effect by coping mechanism on quality of life (b=1.38; 95% CI=0.61 to 2.15; p=0.001).

Discussions

The research subjects were 35 to 60 years old which are below life expectancy in Indonesia, which is 70. Productive age is the peak risk of getting cervical cancer which can affect quality of life.Most subjects had low education. Education level affected individual in developing life capacity, which could affect survival, such as in finding job, improving economic welfare, and controlling life to maintain health.

Quality of life was assessed by The European Organisation for Research and Treatment of Cancer (EORTC) QLQ-C30 and QLQ-CX24 specifically to assess the quality of life of cervical cancer patients. QLQ-C30 consists of several criteria, i.e. 5 functional scale items, 3 symptom scale items, global health status, and 6 individual items. Meanwhile, QLQ-CX24 consists of 4 functional scale items and 5 symptom scale items. Higher score shows better function or worse symptom. The assessment of quality of life can be concluded from global health status [8, 9].

The quality of life of most cervical cancer patients in this study was poor as there were declines in some functional scales and increases on symptom scales. The functional domain of cervical cancer patients, such as physical, emotional and social functions declined after chemotherapy. It was because chemotherapy affects the body system. Sexual function, sexual activity and sexual pleasure of cervical cancer patients also lowered due to medication and because there were concerns about the disease. Most cervical cancer patients had narrowing and drying of vagina. Symptom scales also increased, i.e. menopause and peripheral neuropathy. Patients below 45 years old had higher menopausal symptoms. Financial difficulty also increased along with chemotherapy stages.

This was consistent with the study by Park et al., (2007) which states that cervical cancer patients have worse clinical issues, such as in social function, constipation, diarrhea, and financial difficulty. There were also worse lymphedema and menopause and reduced sexual function and sexual concerns [10]. Another study also reports that assessment of quality of life is significantly worse in physical function, role, cognition, and social function, nausea/vomiting, soreness, loss of appetite, frequent urination, and reduced sexual function [11]. Although the effects of chemotherapy aren't as bad as the effects of

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radiotherapy, cervical cancer patients depend on others for their basic needs and bodily functions.

Family support affected the psychological condition of cancer patients, reducing their depression. The study by Krug et al., (2016) states that cancer patients who have palliative treatment which involve their families have increased overall quality of life toward the ends of their lives, although their physical functions declined. Cancer patients' families play an important role in palliative treatment at home, understanding cancer patients' dependency or disability and being caretakers in their daily needs [12].According to Castro (2013), all supports, especially from family and friends, play an important role in the aspects of quality of life, i.e. quality of life in general, satisfaction to health, physical, psychological, social and environmental conditions [13].

The seriousness of cancer raises anxiety and fear of death among people with cervical cancer. There are many psychological changes experienced by cervical cancer patients during chemotherapy, i.e. irritability [14].The research result showed that the overall quality of life of cancer patients undergoing chemotherapy was low. It's because chemotherapy makes them nervous and has poor impacts of cancer patients' quality of life. There should be intervention focused on physical and psychological issues to improve cancer patients' quality of life [15]. It's in line with the study of Mardiana et al. (2013) which states that cervical cancer patients' quality of life is significantly related with the coping mechanism used by the cervical cancer patients. Cervical cancer patients look for solution for their problems by looking for information and treatment to reduce soreness [16].

Conclusions

The quality of life of cervical cancer patients undergoing chemotherapy was affected by strong family support and positive coping mechanism.

List of abbreviations

EORTC : The European Organisation for Research and Treatment of Cancer
GLOBOCAN : Global Burden Cancer
QLQ : Quality of Life

Declarations

Authors' contributions

Hidayah NF, Ambar M, Setyo SR.

Authors' Information

First author : Student of Public Health Science, Surakarta, Indonesia
Second author : Lecturer on Faculty of Medicine, Sebelas Maret University, Surakarta, Indonesia
Third author : Lecturer on Faculty of Medicine, Sebelas Maret University, Surakarta, Indonesia

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Ethics approval and consent to participate

The work described in this article has been carried out in accordance with the ethicalclearance number 84 / II / HREC / 2017 by The Health Research Ethics Committee Dr. Moewardi General Hospital/ School of Medicine Sebelas Maret University, Surakarta, Indonesia.

Consent for publication

Not applicable

Availability of data and materials

The data in this study can be share to the public.

Competing interests

We (the authors) declare that we have no competing interests.

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THE EFFECT OF THERAPEUTIC COMMUNICATION ON CLIENT ANXIETY WHEN GETTING INVASIVE TREATMENT IN IRD RSUD WANGAYA

I Gusti Agung Tresna Wicaksana[1], Gusti Ayu Puja Astuti Dewi[2]

[1,2]Sekolah Tinggi Ilmu Kesehatan (STIKES) Bali
Corresponding author:
Wicaksana: tresnawicaksana.stikesbali@gmail.com

Abstract

Background: Anxiety arises as a result of various things in nursing actions performed to clients such as invasive treatment. One of the factors that can reduce client anxiety is therapeutic communication. The aim of the study was to analyze the effect of therapeutic communication on client when an invasive treatment is performed in IRD RSUD Wangaya.

Methods: The study used a pretest to posttest Quasi-experiment design with non randomized control group. The number of samples in this study were 30 respondents, of which 15 respondents were given therapeutic communication and 15 respondents were not given therapeutic communication. Non probability sampling was used as sampling technique in this study. In the data collecting, researchers using observation sheet and HRS-A questionnaire.

Results: The study found that value of client anxiety after being given therapeutic communication is 13.13 while clients who are not given therapeutic communication before getting an invasive treatmen is 27.00. This research uses t-independent test and got the result p value 0.00 with significance level 0.05. This research showed that the provision of therapeutic communication can reduce significantly the velue of client's anxiety.

Conclusions: Therapeutic communication is very important in implementing nursing care. Because with therapeutic communication the client feels more comfortable and can share the feelings experienced with the nurse.

Keywords: Anxiety, Therapeutic Communication, Invasive Treatment.

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Background

Nurse is a profession that plays an important role in caring, nurturing, helping, and protecting someone because of illness, injury and the aging process [1]. The primary role of professional nurses is to provide nursing care to clients [2]. Implementation of nursing care can not be separated from the role of communication. Communication is an essential component of nursing care, listening to client complaints or questions and explaining nursing procedures, are examples of communication that nurses should take during nursing practice [3].

Communication is a process undertaken by nurses in establishing good cooperation with clients or with other health workers, in order to help solve client problems. Nurse will not be able to carry out the nursing process properly, if there is no good communication between nurses and clients. Nurses and clients should foster a trusting relationship called therapeutic relationships [3].

Therapeutic is an adjective associated with the art of healing, and can be interpreted as anything that facilitates the healing process which consists of communicating words, deeds and expressions [4]. Therapeutic communication is communication by nurses and other health personnel who are planned and focused on client recovery [5].

Competent nurses must be effective communicators. Nursing communication is very important in providing nursing orders. Nurses who done the routine activities have the authority to reduce client anxiety about its presence in the hospital [6].

Anxiety is a subjective feeling that a person experiences, especially by new experiences, including clients who will get invasive treatment. Reported clients experience anxiety due to hospitalization, examination and medical procedures that cause discomfort [7].

Anxiety disorders can be encountered in various aspects of life such as family, work, economy, health etc. In the health aspects of anxiety caused by illness, medical expenses, seeking treatment, and invasive measures such as surgery, blood taking, injection, catheter installation, infusion and other [8].

Invasive treatment is a stressful situation, nurses and other health workers need to give attention and help to overcome the client's anxiety problem, that is with therapeutic relationship [9]. It is estimated that those who experience anxiety reach 2% - 4% of 5% of the population [10]. Research on the effectiveness of pre-operative teaching on clients' anxiety level, in the inpatient ward of RSUD Karanganyar, about 80% of clients who will undergo surgery reported experiencing anxiety and there are 50% who still have anxiety [11].

Based on preliminary study conducted at IRD RSUD Wangaya on 6 respondents showed that, anxiety value 21-27 (66.6%), and anxiety value 14-20 (33.3%). Some anxiety is generally caused by a lack of information about the process of nursing care, that nurses will perform in the hospital. Communication problems are a cause that should always be considered in the provision of health services. Some literature identifies one of the factors that can reduce anxiety of the client, is an effective nurse communication or known as therapeutic communication, but in fact therapeutic communication as anxiety handling methods still not applied properly when giving nursing care [6].

Based on the phenomenon, researchers are interested to conduct research on The Effect of Therapeutic Communication On Client Anxiety when Getting Invasive Treatmen in Instalasi Rawat Darurat (IRD) Rumah Sakit Umum Daerah (RSUD) Wangaya.

This study aims to analyze the effect of therapeutic communication on the client's anxiety value when an invasive treatment is performed on the IRD RSUD Wangaya.

Methods

This research uses Quasi-experiment design, to reveal causal relationship by involving control group and treatment group. This design uses a subject group that has been formed fairly, so that from the beginning could have both groups of subjects have different characteristics. Treatment groups were given therapeutic communication while did't in control group [2]. This study also uses non-randomized control group pretest-posttest design, where in this model the treatment group and the control group were given a pre-test using Hamilton Rating Scale for Anxiety (HRS-A) to measure the value of the first anxiety. Next Respondents in the control group, not given therapeutic communication. Other parties in the treatment group were given therapeutic communication. After the intervention was completed, the treatment group and the control group were administered post-test using HRS-A to determine the value of final anxiety.

The population in this study is based on the average visit per day, which clients aged ≥ 15 years old in IRD RSUD Wangaya amounted to 71 clients. Sample size in this research is taken using experimental design hence minimum sample amount is 15 subject [12]. Sample size in this research as many as 30 subject. There were 15 subjects for the control group, and subjects for the treatment group meeting the criteria of inclusion and exclusion.

Inclusion criteria in this research is client who visiting IRD RSUD Wangaya, male or female, aged ≥ 15 years old, accepted become respondent and who have been invasive treatment, also have signed informed consent. The exclusion criteria in this study are clients who experience decreased awareness, clients who experienced severe bleeding, respiratory failure, severe head injury, and severe burns, and clients in anxiety.

The sampling technique used in this research is nonprobability sampling. For the clients to be given therapeutic communication by the nurses, are included into the treatment group, while clients who were not given therapeutic communications, were included in the control group until the fulfillment of 15 respondents for each group. Until the end of the study, the number of samples as many as 30 respondents and no one drop out.

The data collection technique begins with the permission of the research, after the license is obtained, proceed to the implementation stage. The first step of the researcher is to explain the intent and purpose of the research to the nurse at IRD RSUD Wangaya. Nurses who accepted participate in this study, were asked to sign informed consent as evidence of nurse participation in the research. Nurses who participated in this research amounted to 11 persons. The researchers then divided where 6 nurses were assigned to the treatment group to provide therapeutic communication. While 5 nurses were assigned to a

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control group that did not provide therapeutic communication at the time of invasive treatment.

Researchers and nurses conduct a review of the therapeutic communication stages, critical points that the nurse must perform while providing therapeutic communication and performing roll play examples of how to perform good and correct therapeutic communication. The purpose of the exercise is to perform a common perception of how to give good and true therapeutic communication.

The next step was to determine the sample, in which the sample in this research amounted to 30 subjects, of which 15 subjects were for the control group, and 15 subjects for the treatment group. The number of samples according to the inclusion and exclusion criteria, until the end of the study sample amounted to 30 subjects.

Furthermore, clients who get an invasive treatment as potential respondents. Prospective respondents are given an explanation of the intent and purpose of the research. After the prospective respondent gets an explanation and accepted become respondent, the prospective respondent is asked to sign the informed consent as proof of approval to be the respondent. The number of respondents who signed informed consent are 30 clients.

The next stage researcher gave pre-test in the form of a preliminary questionnaire using HRS-A, in the treatment group and control group to determine client's anxiety value. When the intervention was done by the nurse, the researcher observed the nurse's action in the control group and the treatment group. The nurse's communication was assessed by the researchers using an observation sheet. After the intervention was completed, the researcher again gave post-test to measure the anxiety value of the respondents both in the control group and the treatment group using HRS-A. and then, researchers examined the completeness of the data obtained after doing research. After the data obtained, then performed data analysis process begins with data processing.

Research ethics that need to be considered in collecting data in this study, where Informed consent is a sheet containing about approval to respondents that prospective respondents are accepted become respondents. In this research, the researcher has given explanation about the purpose and benefit of the research to the prospective respondent, and the prospective respondent who accepted to be the respondent by signing the approval sheet. Anonymity means did not need to put the name on the questionnaire sheet. Respondents simply put the initials on the questionnaire sheet. Confidentiality means the researcher is obliged and must maintain the confidentiality of the data and respondents answers on the questionnaire, store the respondent's answer in a safe location, and will destroy the data about the respondents who are not needed for research.

Results

From the table analysis showed that the average value of client anxiety given therapeutic communication is 13.13 where in the category of anxiety included in the state not anxious, with standard deviation 2.39, whereas for those who are not given therapeutic communication, the average value of

anxiety clients is 27.00 where in the category of anxiety include moderate anxiety, with a standard deviation of 2.48.

Table 1. Average Distribution of Client Anxiety Levels Provided and Not Given Therapeutic Communication at IRD Wangaya Hospital in 2014 (n = 30).

Therapeutic Communication	Mean	SD	P value	α
Given	13.13	2.39	0.00	0.05
Not Given	27.00	2.48		

Based on table 1, it can be concluded there is a significant difference for the average value of client's anxiety between given and not given therapeutic communication when carried out invasive treatment in IRD RSUD Wangaya in 2014 (p value = 0.00, α = 0.05).

Discussion

From the results of statistical tests that have been done in the study can be concluded that, there is a significant difference to the average value of anxiety between clients are given and not given therapeutic communication when carried out an invasive treatment in IRD RSUD Wangaya in 2014 (p value = 0.00 with α = 0.05).

The average patient's anxiety value given therapeutic communication is smaller than the average patient anxiety value that is not given therapeutic communication. The results of this research in accordance with the opinion Mukripah which states therapeutic communication can help clarify the burden of feelings and thoughts and can reduce anxiety clients. So it need of better communication skills in providing nursing care to clients [13].

Providing therapeutic communication, the client feels that his interaction with the nurse is an opportunity to share feelings and information in order to achieve optimal nursing goals [14].

The results of this study in accordance with research conducted by Mulyani, with the title Influence of nurse-client therapeutic communication and therapeutic relationships to anxiety in major pre-surgical clients, to 60 pre-surgical men and women over the age of 17 years old at Doris Palangkaraya Hospital, with Quasi-experiment, the results showed that there was influence of nurse-client's therapeutic communication and relationship to anxiety on major pre-surgical clients (p value = 0.00 with á = 0.05) [15].

Conclusions

Therapeutic communication is very important in carrying out nursing care. By providing therapeutic communication the patient feels that his interaction with the nurse is an opportunity to share feelings and information in order to achieve optimal nursing goals. It is expected that nurses always use therapeutic communication when performing nursing care, so that client anxiety can be reduced.

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List of abbreviations

IRD; Instalasi Rawat Darurat., RSUD; Rumah Sakit Umum Daerah., HRS-A; Hamilton Rating Scale for Anxiety.

Declarations

As a form of tri Dharma implementation as junior lecturer in STIKES Bali.

Authors' Contribution

GATW were responsible for the study conception and design, performed the data collection and manuscript preparation.

GAPAD performed the data analysis, provided administrative, technical or material support and supervised the research.

Authors' Information

[1]Junior lecturer at STIKES Bali
[2]Senior lecturer at STIKES Bali

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Ethics Approval and Consent to Participate.

In this research the researcher used informed consent as the approval sheet as a participant.

Consent for Publication

Not applicable.

Availability of Data and Materials

The data will not be shared, to keep the privacy of the respondents who have participated in this research.

Competing Interest

No conflicts of interest has been declared by the authors.

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THE EFFECT OF INTERRUPTIONS DURING NURSING INTERVENTION IN EMERGENCY DEPARTMENT: A SYSTEMATIC REVIEW

I Gusti Ngurah Juniartha

Postgraduate Student of Master of Emergency Nursing Program, Department of Nursing, Universitas Brawijaya, Malang, East Java, Indonesia
Email address: ngurah_juniartha@yahoo.com

Abstract

Background: A nurse whose working in emergency field is always based on time with multitasking intervention for all kind of unique patients. While giving an interventions, there is alwaysoccurs something that will affect nurses' time, which is referred as an interruption. The interruption is one of the main problems which can cause of increasing time in the process of patient care, and affect the quality of care in the Emergency Department.Therefore, the purpose of this systematic review is to describe the occurence of interruptions and how it's influence during nursing interventions.

Methods: This literature review conducted by searching and analizing articles which relevant tothe topic on some online databases such as EBSCO, Proquest, Pubmed, Science Direct, journal articles, and review articles. All the literatures used in this review were within 10 years time span, which relevant to the theme of this review, which is the effect of interruptions that occurs in Emergency Department during nursing intervention is given.

Results: Seven studies that have most relevance with the theme and within the 10 years time span were searched and analized. The result revealed that interruption is a common thing that can occured on every nurses' shift in Emergency Department. It can affect the concentration and focus of nurse when intervention was given. Also it can affect the time needed for given any intervention especially for nurses, which can lead into decreasing the quality of care.

Conclusions: Interruption is a common thing that happened on every nurses' shift in Emergency Department (ED). Interruption also one kind of main disruptor which occurs during mid task, between task, and systems failure in emergency department. It can affect the time needed, medical error's occurence, and decrease the quality of care given by a nurse. Further study are essential to conducted, in objective to firmly confirmed the effect of interruption on medical error caused by a nurse in ED.

Keywords: Interruptions, Emergency nursing, Emergency Department

Background

Working as a staff in emergency field is always based on time to provide services. Each cases of emergency has a golden period of time to get the most out of relief in patients. In carrying out it's task, the nurses in the Emergency Department(ED) will be confronted with a variety of tasks that were done at the same time (1). Therefore, this multitasking will affect the occurence of something that can decrease nurses' concentration and prolong of the time to give an intervention for the patients. The existence of this extra time is often referred to as an interruption(2).

The interruption is one of the main problems of increasing time in the process of patient care in the ED(3). It also said that an interruption would be increased the amount of time needed for decision making.It will impact negatively on the quality of service of an emergency nurse. A study conducted by Ulrich (4), stated that the existence of interruptions in the granting of services of nursing will affect not only the time to conduct intervention but also the patient safety in hospital. As we know in ED, everything is based on time, if information gathering process is interrupted, absolutely it can affect the decision making process, then at last the patient safety's target is affected too.

Interruptions in Emergency Units often occur during a nurses give an intervention for their patients. One study stated that it happens as much as 200 times during 60 hours of observation. Thus, this finding indicated that every hour, there was an interruption of approximately 3.3 times (5). The number of such interruptions, most causes medication error during the awarding of action especially in nursing. Most frequent causes were interruptions bycolleagues (30.2%), nursing staff (29.7%), and by telephone/beeper calls (16.3%)(6).

Nurses in ED conduct interactions with patients as much as 37% of the total time guard per shift (7). In the study also mentioned that interruptions occur twice every hour. This indicates that the incidence of frequent interruptions occurred during the action, but it is not known directly by nurses themselves. Therefore, the purpose of this systematic review is to describe the occurence of interruptions and how it's influence during nursing interventions.

Methods

This literature review conducted by searching and analizing articles which relevant tothe topic. All the literatures were obtained by searching on some online databases such as EBSCO, Proquest, Pubmed, Science Direct, journal articles, and review articles. The literatures which used in this review were within 10 years time span from now on. The writer analized the effect of interruptions that occurs in Emergency Department during nursing intervention is given.

Results

From 129 literatures were found on searching, then analized to choose the most relevant for the topic, 37 literatures have a good relevance in emergency setting. Then in the end, only seven relevant and eligible studies were used in this review. This systematic review focused on describe what kind and the effect of interruptions which happen while an intervention was given by a nurse in emergency department setting.

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A study in 2007 shown that the interruption which becaused of noise, is one kind of main disruptor which occurs during mid task, between task, and systems failure in emergency department. Firstly, an interruption that occurs during treatment, always give a negative impact for emergency nurses. Those impact especially influenced nurse's concentration while do their job (8). Second, as for between task, it could make a nurses lost their focused while doing patient's refferal and hand over. And last, for system failure it occurred in 53.1% of the administration process, and associated on procedural failures (12,1%) andclinical errors (12,7%) (9). Therefore, interruption can influenced nurse's concentration, medical reports, and medical errors.

The study which held in 2014, with 10 shifts of duty in emergency found that interruptions happened 488 times with 80 patients in those period. It means that every 8 hour shift, 49,8 interruption had happened. This finding is the same as research conducted in 2009 with a total of interruption during nurse's work about 374 times during medication process (10). Those two finding also lead for medical errors as an interruption effect. It can say that any interruption which occured while nurse on duty, will lead to medical error.

Another study in 2010 found that interruption during nurse intervention not only happened while preparing patient's medication, but also on administering the drugs (11). If interruption happen while nurses are administering drugs, it can affect the quality of care. This literature also shown that nurses in emergency room were interrupted by many sources such as telephone calls, information transfer between staff while hand over, and distraction from other sources.

A study in 2011 also found that during 60 hours of observation, about 200 interruptions were occured. From 11 types of interruption which observed, 95% related to communication process with other ED's staff and caused extra time to assess patient condition(5). This is also explained in study which conducted in 2016, it's say that not only the interruption can prolonged the patient's assessment, but also it can prolonged the time for information gathering, thus it can affect the time needed to make a risky decision (3). This result also supported by research conducted in 2014, which found that any interruptions caused by distraction such as opening the door, providing conveniences to visitors, and communication between nurse and family member of patients could lead into delayed time to give an intervention (2). It shown that interruption can occured while face to face communication with others which can lead to prolong the time of intervention given by a nurse.

Discussions

As one components in healthcare system, nurses facing complexity in their job. Because of this complexity, nurse not only faced multitasking when give an intervention, but also have a responsibility to maintain it's quality especially in emergency setting (1). As we know, emergency setting in hospital is a primary door for all the patients and it's represent how good are the healthcare system on every hospital. If an interruptions happened while assessing a patient, it can disrupt their ability to analize and synthesize of assessment's finding, thus it can lead to medical errors (4).

The interruption also said to be a common thing among health workers especially for nurses(2). And combined with an environment with fast-paced

of workload such as ED, it can make even more susceptible to frequent interruptions. Heavy workload will affect the occurence of interruptions in emergency department (12). Thus it also can affect the stress level and satisfaction not only for patients, but also for nurses too. Beside that, while communicate with others staff in ED nurses lost their concentration and can lead to medical errors too(5).

Although a solution to attach the sign "Do Not Disturb"on nurses while preparing some meds, it's still leak when nurse distracted by communication with others staff (13). Thus, to solve this problems, it would be better to conduct some researchs about the effect of communicationon medical errors in ED. As those problems are already being identified, the author suggested to identify the sources which could lead an interruption happen, and they must focused on how to manageinterruption such as using a collaboration and a team work for effective communication on duty(14).

All the result that included in this review can be a basis data to conduct some researchs which focused on developing an intervention to reduce and manage any kind of interruptions. Although many studies had conducted before, the definition of medication errors because of an interruption still varied on some hospital(3)(3, 7), (8), (11). Also nurses' work in ED is characterized by rapidly changing of many tasks pattern in a short time (7). But, the tasks itself didn't specificly described on the literature. And it could be best to conduct a research to firmly confirmed about relation beetwen interruption and medication error especially on ED.

Conclusions

Interruption is a common thing thathappened on every nurses' shift in Emergency Department (ED). Interruption also one kind of main disruptor which occurs during mid task, between task, and systems failure in emergency department. It also can affect the time needed for patient's assessment, decision making process,medical error's occurence, and decrease the quality of care given by a nurse in ED.

List of abbreviations

ED : Emergency Department

Declarations

Author's contribution

The idea for this review is come from the author only. There is no one other author participate on this liteature review.

Author's information

Author is a postgraduate student of Master of Emergency Nursing Program, Department of Nursing, Universitas Brawijaya, Malang, East Java, Indonesia.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

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Availability of data and materials

All data in this review might be shared through author's email.

Competing interests

I declare that i don't have any competing interests.

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DIABETES MELLITUS RELATED WITH RETINOPATHY ON EYE POLY RSUD DR. M. YUNUS BENGKULU

Ida Rahmawati[1], Asih Dewi Setyawati[2], Fitra Dwi Maryanto[2]

[1]Magister of Nursing, UniversitasBrawijaya Malang, Indonesia.
[2]STIKES Tri MandiriSakti Bengkulu, Indonesia
Corresponding author
Email addresses:
Ida Rahmawati: idarahmawati1608@gmail.com
Asih Dewi Setyawati: asihdewi01@gmail.com
Fitra Dwi Maryanto: fitradwi16@gmail.com

Abstract

Background: Retinopathy is one of the microvascular complications of diabetes mellitus that may lead to a blindness. The blindnesswhich is caused by diabetic retinopathy is a serious complication and a major healthy concern in the world because the blindness could reduce the quality of life and productivity of a patient. The main problem in the treatment of diabetes retinopathy is late diagnosed process due to most of the patients in the early stages does not show any visual impairments. People with diabetes mellitus disease will have diabetic retinopathy only when he has suffered more than 5 years. If a person has had diabetes for over 20 years then there is usually an abnormality in the mesh or retinal membrane. The aim of this study is to determine the relationship between diabetes mellitus with retinopathy on patients who were seeking treatment at eye poly in RSUD DR. M. Yunus, Bengkulu.

Methods: The study was a quantitative, cross-sectional design which targeted all patients who went tothe eye poly in RSUD DR. M. Yunus hospital Bengkulu. The total samples were about 92 people. The sampling technique that used in this study was the Proportional Random Sampling. The data were collected by observing documentations eye poly in RSUD DR. M. Yunus, Bengkulu and analyzed with univariate and bivariate analysis by using Chi-Square.

Results: The results showed that: (1) There are 35 people (38%) of retinopathy and 57 (62%) had not retinopathy; (2) there were 59 people of diabetes mellitus (64.1%)and 33 people without diabetes mellitus (35.9%).

Conclusions: there is a significant relationship between diabetes mellitus with retinopathy in patients who were seeking treatment at eye poly in RSUD DR. M. Yunus Bengkulu, with a poor relationship category, and (4) Patients with diabetes mellitus are on risk of retinopathy by 3,355 times compared with non-diabetes Mellitus patients.

Keywords: Diabetes Mellitus, Retinopathy

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Background

Retinopathy is one of the microvascular complications of diabetes mellitus and it is the leading cause of blindness in adults [1]. Blindness due to diabetic retinopathy be wary of health problems in the world because of blindness will reduce the quality of life and productivity of a patient eventually cause social burden[2]. The main problem in the treatment of diabetes retinopathy is late diagnosed because most of the patients in the early stage do not have visual impairments. Eye pathology in patients with diabetes mellitus (diabetic retinopathy) caused by changes in the small blood vessels in the retina of the eye. The retina is part of the eye that receives and transmits information about the shadow of the shadow to the brain. Retina section contains a lot of arteries, arterioles, and capillaries[3].

Manifestations of the disease can occur in 80% of all diabetics who have suffered for more than 10 years or 15 years. Diabetic retinopathy in type I diabetes seen at least 3-5 years after onset, where as type II diabetic retinopathy can already occur prior to diagnosis.The Diabetic Care Asia 2011 Study involving 1785 patients with diabetes mellitus in 18 primary and secondary health centers in Indonesia reported that 42% of people with diabetes may develop complications of retinopathy, and 6.4% of them are diabetic proliferative retinopathy [4].

Based on the data of patients who seek treatment at Poly Eye Hospital dr. M. Yunus Bengkulu 2015 as many as 1097 people and who experienced retinopati as many as 418 people. These conditions indicate that the incidence of retinopathy in hospitals dr. M Yunus Bengkulu is quite high[5].

Methods

This study design was*cross-sectional* that means a researcher directly measure variables at the same time. The population in this study were all patients who were seeking treatment at eye poly RSUD DR. M. Yunus Bengkulu in 2015 as many as 1097 people with retinopathy as many as 418 people. The sample size in this study was 92, with 35 samples of 418 population retinopathy and 57 samples of 679 populations is not retinopathy taken by *systematic random* sampling. The sampling in this study multiple of 12 of the 418 population of retinopathy and a multiple of 12 of the 679 population does not retinopathy. Data analysis techniques using univariate and bivariate analysis by using *Chi-Square.*

Results

Univariate Analysis

Overview Retinopathy Frequency Distribution in Space Eye PolyRSUD dr. M. Yunus Bengkulu.

The result of retinopathy frequency according to the table 1, itcan be seen that of the 92 samples contained 35 people (38%) of retinopathy and 57 (62%) had no retinopathy.

Table 1. Frequency of Retinopathy

Retinopathy	Frequency	Percentage
Yes	35	38
No	57	62
Total	92	100.0

Overview Frequency Distribution Diabetes Mellitus in Space Eye Poly RSUD. DR. M. Yunus Bengkulu.

The result of retinopathy frequency according to the table 2 it shows that of the 92 samples contained 59 people (64.1%), diabetes mellitus and 33 (35, 9%) without diabetes mellitus.

Table 2. Frequency of Diabetes Mellitus on Retinopathy Patients

Diabetes Mellitus	Frequency	Percentage
Yes	59	64.1
No	33	35.9
Total	92	100.0

Analysis Bivariate Relationship between Retinopathy in Diabetes Mellitus Patients Treated in Space Eye Poly RSUD dr. M. Yunus Bengkulu.

Table 3 desribes the cross tabulation between diabetes mellitus with retinopathy, turned out of 59 people there are 28 people with diabetes mellitus retinopathy and retinopathy 31 people and 33 people with diabetes mellitus are 7 retinopathy and retinopathy 26 people.

The results of the statistical test *Chi-Square (Continuity Correction)* values obtained χ^2 by= 5.121 $\rho = 0.024 < \alpha = 0.05$ means that a significant, then Ho is rejected and Ha accepted. Therefore, there is a significant relationship between diabetes mellitus with retinopathy in patients who seek treatment at Eye Poly Space RSUD dr. M. Yunus Bengkulu.

The result of *Contingency Coefficient*was obtained with a value of C = 0.251 $\rho = 0.013 < \alpha = 0.05$ means significant. The C value compared to the value of C_{max}= 0.707 (for the lowest value of the row or column is 2). Because the value of C is much to the value of C_{max}= 0.707 then the category of weak ties.The test results obtained value estimate risk OR = 3.355 means that people with diabetes mellitus are at risk of retinopathy by 3,355 times compared with no diabetes mellitus.

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Table 3. Correlation Between Diabetes Mellitus and Retinopathy Patient

Diabetes Mellitus	Retinopathy			χ^2	*p*	*C*	*OR*
	Yes	No	Total				
Yes	28	31	59	5.121	0.024	0.251	3.355
No	7	26	33				
Total	35	57	92				

Discussion

Overview Retinopathy in Patients Treated in Space Eye Poly RSUD dr. M. Yunus Bengkulu.

The results of the 92 samples contained 35 people (38%) of retinopathy showed that the fraction of patients seeking treatment experienced retinopathy. Retinopathy one of which can occur due to complications of diabetes mellitus and 57 (62%) had no retinopathy showed that most patients who seek treatment do not experience retinopathy but suffered other eye diseases such as glaucoma and cataracts. Non-proliferative diabetic retinopathy is a clinical reflection of hyperpermeability and incompetents affected blood vessel. Capillaries form tiny sacs stand like dots called micro aneurysms, whereas retinal vein dilated and winding (6).

Retinopathy caused by the blockage and capillary leakage, the change mechanism is unknown but it has been studied the changes in the vascular endothelium (basement membrane thickening and loss of perisit) and hemodynamic disturbances (in the red blood cell and platelet aggregation) [8]. Here the microvascularchanges in the retina is limited to retinal layers (intra-retinal). Characteristics of this type is encountered multiple micro aneurysms formed capillaries that form little bags that stand out like dots, retinal vein dilated and winding, spotting intra-retinal hemorrhage. Bleeding can occur at all layers of the retina and flame-shaped due to its location in the nerve fiber layer which is oriented horizontally. While bleeding form of dots or patches located in the deeper retinal layers where cells are vertically oriented axons.

Overview Diabetes mellitus in Patients Treated in Space Eye PolyRSUD Dr. M. Yunus Bengkulu.

The results of the 92 samples contained 59 people (64.1%) with diabetes mellitus showed that most patients who went to Poly experience diabetic eye disease and 33 (35.9%) without diabetes mellitus showed that the fraction patients treated did not have diabetes mellitus. Based on the research results more diabetes mellitus patients who went to Poly's eyes because people with diabetes mellitus have complications such as eye disease retinopathy, glaucoma and cataracts.

Diabetes mellitus is a chronic disease that is valid when the pancreas does not produce enough insulin or the body can't use insulin that is produced effectively, and this resulted in the concentration of glucose in our blood increases [3]. The seeds factor is one of the main causes of diabetes mellitus which is derived

according to the lineage of the family [7]. Blood-borne people with diabetes more likely to develop the disease than those who do not have diabetes.

Relations with Retinopathy in Diabetes Mellitus Patients Treated in Space Eye PolyRSUD Dr. M. Yunus Bengkulu.

Cross tabulation results between diabetes mellitus with retinopathy, turned out of 59 diabetic retinopathy are 28 people showed that patients with diabetes mellitus have increased pressure in the blood due to elevated levels of glucose in the blood and if the situation continues to occur up to 5 years more will lead to changes in blood vessels in the retina and lead to retinopathy.

The results are consistent with previous study [3], he said that the patients with diabetes mellitus usually have hight level of blood pressure and blood sugar. If the increase occurs in the retina will cause changes in the blood vessels and the impact on the occurrence of retinopathy.

Based on research carried out there were 31 people with diabetes mellitus but did not experience as diabetic retinopathy patients experienced retinopathy has not impacted on the circumstances, however, patients who went to the eye poly has suffered complications of eye diseases other than retinopathy of them suffered glaucoma and cataracts. Of the 33 people, there are 7 people with diabetes mellitus retinopathy. Based on the research conducted there were 7 patients had not yet experienced disease diabetes mellitus retinopathy is By N, By.H, By.M, By.S, By.F, By.S, and By.F show that there are other factors can result in the occurrence of retinopathy in patients with diabetes mellitus apart from factors such as babies born prematurely. While 26 people are not diabetic retinopathy not due to suffer where minus, plus eye, corpus alineum, astigmatism, pterygium. The circumstances indicate that the patient was not diabetic does not increase pressure inside the blood due to increased levels of glucose in the blood so as not resulted in changes in retinal blood vessels and cause retinopathy.

By using *Contingency Coefficient,* the results have obtained weak relationship category. Categories weak relationship indicates that there are other factors associated with retinopathy.In addition, to diabetes mellitus among infants born prematurely and suffered diabetes disease duration. The test results *Risk Estimate* diabetes mellitus patients at risk of developing retinopathy by 3,355 times compared with no diabetes mellitus.

Conclusion

Based on the resultsanalysis by using *Chi Square,* there is a significant relationship between diabetes mellitus with retinopathy in patients who seek treatment at eye poly Space RSUD dr. M. Yunus Bengkulu, with a weak relationship category. Patients with diabetes mellitus are at risk of retinopathy by 3,355 times compared with no diabetes mellitus.

It is recommended to the patient to pay more attention to the pattern of his life. Because of the unhealthy lifestyle may cause various diseases such as diabetes mellitus contained an assortment of complications, especially in the retina that can cause blind.

Suggestions for nurses is to always do not stop to give health education to the patient so that after coming home from the hospital, patients get the latest

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information about the pattern of a good diet in patients with diabetes mellitus, as well as taking medication regularly in order soundness DM patients with retinopathy can be reduced.

List of Abbreviations

a. RSUD : RumahSakitUmum Daerah (Regional General Hospital)
b. DR : Doctor
c. M. Yunus : Muhammad Yunus
d. OR : Odd Ratio

Declarations

Authors Contribution

Ida Rahmawati[1] The contributing of the first author is mentor in providing input and direction in the process of preparing the skripsi from chapter 1 to chapter 5. Asih Dewi Setyawati[2] The contributing of the second is mentor in providing input and direction in the process of preparing the skripsi from chapter 1 to chapter 5. Fitra Dwi Maryanto[2] Studentof Nursing in STIKES Tri MandiriSakti Bengkulu who make a skripsi

Authors Information

Ida rahmawati[1]is a lecturer in STIKES Tri MandiriSakti Bengkulu Departement of Nursing who is studying in master of nursing university brawijaya. AsihDewiSetyawati[2]Is a lecturer in STIKES Tri Mandiri Bengkulu SaktiDepartement of Nursing. FitraDwi Maryanto[3] is a sudent of Nursing in STIKES Tri MandiriSakti Bengkulu.

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Ethics Approval and consent to participate

Not Applicable

Consent for publication

The publication concentration in this research is to develop the science of nursing, especially adult nursing in sensory system of perception and endocrine system because it discusses about complication to the eye due to chronic disease of DM.

Availability of data and materials

To collect research data using secondary data. Secondary data that is data taken from medical record book of Eye Poly Room RSUD dr. M. Yunus Bengkulu covers the total number of treatment patients and retinopathy patients in Poly Eyes during 2015. Initial surveys were undertaken prior to drafting proposals that were problematic in the background as reasons for formulating proposals. Data collection techniques are made based on check lists and short interviews with the subject. The time of the study was conducted in July 2016.

Competing interests

There are no competing interests involving this study

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ORGANIZATIONAL CHARACTERISTICS AND QUALITY OF NURSING WORK LIFE ON TEMPORARY NURSING IN HOSPITAL

Ike Nesdia Rahmawati

Department of Nursing, Universitas Brawijaya, Malang, Indonesia
Email addresses: nesdia@ub.ac.id

Abstract

Background: Quality of nursing work life is a term for the balance of personal and professional life that is an ongoing struggle for most professionals including chronic care nurses. Poorquality of nursing work life can lead to feelings of frustration, inadequacy,and guilt. Chronic care nurses may feel particularly difficult for the balance because of the nature of their work caring for patients and families who are often suffering and in crisis. If it is prolonged, it can lead to turnover incident. It is still unclear whether quality of nursing work life are influenced by organizational characteristics such as career development, staffing, organizational culture, income system and leadership. The aim of this study was to examine the relationships among organization characteristics and quality of nursing work life as well as to determine the strongest indicator of those variables.

Methods: An explanative cross sectional survey design was used in this study. Data were collected by using questionnaire among 30 nurses working at different units in hospital through simple random sampling and analyzed by partial least square (PLS).

Results: Data analysis showed that organizational characteristics affect quality of nursing work life significantly (path coef 0,677; T-value 5,878). All indicator of organizational characteristics which measured in this study were valid as well as the quality of nursing work life. Organizational characteristics were strongly affects by income system indicator (loading factor 0,891; T-value 7,328). The indicators of quality of nursing work life which have strongest correlation was the work context (loading factor 0,855; T-value 6,916).

Conclusions: There are relationships among organization characteristics and quality of nursing work life.Improving organizational characteristics including career development, staffing, organizational culture, income system and leadership can be used to determine a strategy for improving quality of nursing work life. Further research should examine other aspects such as personal and work characteristics for the correlation with the quality of nursing work life.

Keywords: Quality of nursing work life, organizational characteristics, career development, staffing, organizational culture, income system, leadership, nursing management

Background

Nurses as the largest group of health care providers should enjoy a satisfactory quality of work life to be able to provide quality care to their patients (1). Quality of nursing work life (QNWL) is a term for the balance of personal and professional life that become an ongoing struggle for most professionals, and chronic care nurses are no exception (2). Poor QNWL can lead to feelings of frustration, inadequacy, and guilt. Chronic care nurses may feel particularly difficult for the balance because of the nature of their work caring for patients and families who are often suffering and in crisis (2). If it is prolonged, it can lead to turnover incidents (3–5).

The prevalence of nurse turnover incidents in the world ranges from 10-21% per year (6). Developed countries such as America and Australia reported an average turnover of nurses over 20% per year (7). In the first 6 months of service, there were 6 nurses of Airlangga University Hospital resigned from their jobs. The survey conducted by the hospital on 2013 showed there were 25,4% of nurses have quality work life in low level and 25,4% in moderate level. It was become the attention to determine the influencing factors of QNWL.

It is still unclear whether QNWL are influenced by organizational characteristics such as career development, staffing, organizational culture, income system and leadership. The aim of this study was to examine the relationships among organization characteristics and QNWL as well as to determine the strongest indicator of those variables.

Methods

This study used an explanative cross sectional survey design to find an explanation of the relationship between independent and dependent variables which were collected at the same time. It was conducted in Airlangga University Hospital from February to April 2014. The population of this study is all of temporary nursing from many wards in the hospital. The number of 30 nurses were selected as the research through sample random sampling. Variable independent of this study was organizational characteristics including career development, staffing, organizational culture, income system, leadership and variable dependent was QNWL.

Data were collected by using questionnaires. The tool of career development and staffing were adopted from the questionnaire used in Prihastuty research, each of which contains 10 questions (8). The income system tool was a questionnaire containing 10 questions which was the development of four sub-dimensions of salary satisfaction according to questionnaire developed by Heneman including the level of salary (pay level), structure/management of salary (pay structure/administration), payroll (pay raise) and benefits (benefit). The tool of leadership usesd situational leadership instrument from Hersey and Blanchard containing 12 items of situation statements and each situation there are 4 action options. Based on the most values will show a tendency in the type of coaching, directing, facilitating, and delegating. Organizational culture tool used organizational culture assessment instrument (OCAI) that can differentiate into clans, markets, hierarchies, or adhorations. The QNWL tool was adopted from the QNWL questionnaire after translated into Indonesian which contained

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41 questions consisting of 4 sub-labels including work life-home life, work design, work context and work world (9). The collected data was analyzed by using partial least square (PLS) to examine the relationships among organization characteristics and QNWL as well as to determine the strongest indicator of those variables.

Results

Sample characteristics

Sample in this study was composed of 30 nurses, of whom 5 were male (16,7%) and 25 were female (83,3%), with 66,7% from younger than 25 years, 30% from 25 to 30 years, and 3% older than 30 years. Two-thirds of subjects were married (66,7%), 35% had no children, 65% had one to two children, and no more than two children.

Organizational characteristics

Organizational characteristics which measured in this study were career development, staffing, organizational culture, income system, and leadership. The collected data showed that most of sample perceived that career development, staffing, and income system were on moderate level (81,1%, 75,8%, 84,8%). The organizational culture in this hospital tend into clan category (51,5%) and the leadership was in directing type (81,8%) (See Table 1).

Table 1. Organizational characteristics

Organizational characteristics	Iterpretation	F	%
Career development	High	4	12,1%
	Moderate	27	81,8%
	Low	2	6,1%
Staffing	High	0	0%
	Moderate	25	75,8%
	Low	8	24,2%
Income system	High	5	15,2%
	Moderate	28	84,8%
	Low	0	0%
Organizational culture	Clan	17	51,5
	Market	6	18,2%
	Hierarchy	7	21,2%
	Adhocracy	3	9,1%
Leadership	Coaching	2	6,1%
	Directing	27	81,8%
	Facilitating	3	9,1%
	Delegating	1	3%

Quality of nursing work life

The results of QNWL showed that more than half of sample was on moderate category (56,3%). The three dimensions of QNWL including worklife-

homelife, work design, and work world are on moderate categories with a percentage in sequence are 65,5%, 81,3%, and 62,5%. Only on the work context dimension was on high category (62,5%) (See Table 2).

Table 2. Quality of nursing work life

Aspect	Low		Moderate		High	
	f	%	f	%	f	%
Worklife-Homelife	2	6.3	21	65.6	9	28.1
Work design	2	6.3	26	81.3	4	12.5
Work context	0	0	12	37.5	20	62.5
Work world	4	12.5	21	65.6	7	21.9
Quality of nursing work life	0	0	18	56.3	14	43.8

Relationships among organization characteristics and QNWL

Initial phase of analysis with PLS was item validity determined from loading factor value. The value of the loading factor indicates the correlation between each indicator and the construct (latent variable). The latent variables in this study are organizational characteristics (X) and QNWL (Y). The indicator is determined to have good validity when it has loading factor value > 0.05 and or T-statistic value > 1.96. The value of the loading factor of the highest indicator indicates that the indicator is the strongest measure of the latent variable (See Table 3).

Table 3. Leading factors of variable indicator

Variabel	Indikator	*Loading Factor*	T-Statistik
Organizational characteristics	Career development	0.505	1.560
	Staffing	0.674	2.150
	Income system	0.891	7.328
	Organizational culture	0.305	1.199
	Leadership	0.139	0.681
QNWL	Worklife-Homelife	0.791	4.499
	Work design	0.788	5.774
	Work context	0.855	6.916
	Work world	0.445	2.039

All indicators of organizational characteristics and QNWL has were valid. Career development, organizational culture, and leadership has t-statistic < 1.96 but the loading factor was > 0.05, therefore those indicators were valid. Organizational characteristics were strongly affects by income system indicator (loading factor 0,891; T-value 7,328). The indicators of QNWL which have strongest correlation was the work context (loading factor 0,855; T-value 6,916). The next stage of the analysis using PLS is assessing the reliability of variables by looking at the Cronbach's Alpha and Composite Reliability (construct reliability). The variable is stated to have high reliability when it has value > 0.7.

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Organization characteristics and QNWL has value of Cronbach's Alpha and Composite Reliability > 0.07, so it is stated to have high reliability (See Table 4).

Table 4. Value of construct reliabilities

Variabel	Cronbach's Alpha	*Composite Reliability*
Organizational characteristics	0.732	0.744
QNWL	0.718	0.820

The final stage was to get answers from the research hypothesis that was showed in the figure 1.

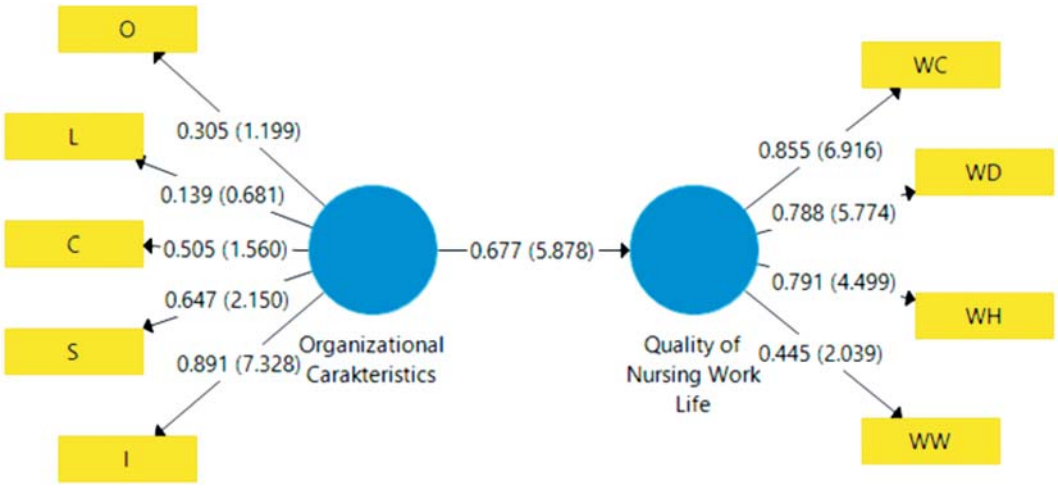

Figure 1. Analysis of relationships among organization characteristics and QNWL

The relationship among organization characteristics and QNWL has path coefficient 0,677 which was > 0.5 and t-statistic 5.857 which was > 1.96, it showed significant values (See Table 5).

Table 5. Analysis of relationships among organization characteristics and QNWL

Hypothesis	*Path coefficient*	T-Statistik	Result
Relationships among organization characteristics and QNWL	0.677	5.878	Signifikan

Discussion

Organizational characteristics which measured in this study were career development, staffing, organizational culture, income system, and leadership. The collected data showed that most of sample perceived that career development, staffing, and income system were on moderate level. The organizational culture in this hospital based on the collected data was categorized in clan. Units that are characterized by a clan culture provide better quality of care, both in the eyes of the nursing staff as in the eyes of outsiders (10). The Clan culture identifies values that emphasize an internal, organic focus and do things together (11). Based on the result, It was indicated that the leadership in the hospital was directive style. Directive defined as low

supportive behavior in conjunction with high directive behavior which was suitable for the enthusiastic beginner, who is characterized as low on competence but high on commitment (12). It was compatible to be applied in this hospital which was recently operating.

The results of this study showed that the majority of nurses had a moderate level of QNWL. It was in accordance to many prior studies which indicated that nurses have an average QNWL (13–15). In Boonrod's research the overall mean score of the level of quality of working life among professional nurses in Thailand was at a moderate level (14). Nayeri et al. carried out a descriptive study to investigate the relationship between QNWL and productivity among 360 clinical nurses working in the hospitals of Tehran University of Medical Sciences. Their findings showed that QNWL was at a moderate level among 61.4% of the participants (13).

QNWL is formed by four sub variables including worklife-homelife, work design, work context, and work world (9). The highest quality QNWL subvariabel for temporary nursing staff in RS UNAIR is the work context and the lowest is the work design. While on the results of analysis using PLS, work context is the most influence in forming QNWL and then followed by sub variable work design and worklife-homelife. Work world subvariables are the least influential in forming QNWL. Factors covered in the work context include relationships with colleagues, communication, career development, supervision, rewards, work facilities, and a sense of security (9).

Work design, based on the results of the PLS analysis, gives a great influence in forming QNWL after the work context. The results showed that the work design has the most negative value for nurse. So when the value was low, work design will greatly reduce the QNWL. This results in only a small percentage of nurses with QNWL in either category. Work design is defined as the composition of the nurse's work and the actual tasks done by the nurse. Factors that build work design is satisfaction, workload, autonomy, proportion of work, performance, and staffing (9).

This study indicated that there were relationships among organization characteristics and QNWL. It means that changes in any of these organizational characteristics may affect the QNWL. Previews research showed that a lack of organizational career decrease the retention of qualified nursing staff (16). Staffing, cultural organization, leaderships, and income system as the factors affecting QNWL, based on this study results, were in line with the prior study which classified those factors into environmental, operational, and administrative factors (9).

Conclusions

Based on the findings of the present study, organization characteristics were discovered to be correlated with QNWL. Improving organizational characteristics including career development, staffing, organizational culture, income system and leadership can be used to determine a strategy for improving QNWL. Considering the results, managers should adopt appropriate policies to promote the QNWL. Further research should examine other aspects such as personal and work characteristics for the correlation with the QNWL at various points in time.

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List of abbreviations

PLS = partial least square
OCAI = organizational culture assessment instrument
QNWL = quality of nursing work life

Declarations

Authors' contributions

The author was responsible for the study conception and design, performed the sampling and data collection, performed the data analysis and prepared the draft of the manuscript.

Authors' Information

None

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We wish to acknowledge all the participants who contributed to the completion of this article, to director of Airlangga University hospital who permitted this study to be held.

Ethics approval and consent to participate

The ethical aspect of this study was approved by the ethics committee of public health faculty Airlangga University. Permissions were also obtained from the authorities of the hospital officials before data collection. All participants signed a written informed consent in which the purposes of the study were explained and they were assured of the confidentiality of their personal information.

Consent for publication

Not applicable

Availability of data and materials

Not applicable

Competing interests

The author declare that it has no competing interests

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TELEPHONE TRIAGE FOR BETTER MANAGEMENT IN EMERGENCY DEPARTMENT: A SYSTEMATIC REVIEW

Ilham Akbar

Magister of Nursing, Universitas Brawijaya, Malang, Indonesia
Corresponding author
Ilham Akbar : knightakuba@gmail.com

Abstract

Background: Sometime decision is a very crucial when we face life threathening conditions, witness' lack of ability to recognize patient/victim's urgency to get immediate treatment may reduce patient's survival. Even in the hospital, without proper preparation in triage unit may delay patient's treatment. Therefore, nursing and more importantly emergency medical services need innovation like telephone triage to guide and direct witnesses and bystander when they find critical patient as well as to manage faster preparation related to triage services.

Methods: This systematic review was collected and analyzed from the amount of six article journals about telephone triage in prehospital setting. Most of the article journals collected through electronic databases such as SagePub, ScienceDirect, and ProQuest, and using the terms "telephone triage" and "emergency prehospital nursing". The criteria of articles that used in this systematic review had full text and published in period between on 2007 to 2017.

Results: There were amount of 6 article journals reviewed from a pool of 45 articles. Telephone triage reflected both effective and efficient system to manage triage in emergency services. There are some strategies that can be applied to minimize delay in prehospital setting. It is the role of the caregiver to help the bystander recognize or even decide what is the best decision and action that they have to deal with in order to safe others life in emergency conditions.

Conclusions: Telephone triage may become a solution for effective triage management and minimizing delay that occurs in the prehospital setting. Further research is greatly needed to identify the best solution and alternative related to how to apply and establish telephone triage in small and developing country.

Keywords: telephone triage, emergency nursing, management

Background

Nowadays, the art of caregiving and medical technology has been enhanced so that the caregiver especially nurses may work easier in the terms of alternatives and conventional treatment. Technology may be a good step to extend patient's life even to prevent someone's death. The problem is sometimes the improving technology often lead to ethical conflict and dilemmas, especially conflicts that related to health and illness. In these situations we usually become unable to make a hard decision [12].

Some of the diseases may be fatal for the patient, and sometime, the family, or whoever who found the patient may become a key person to patient's survival. Some of diseases may lead to patient's death when there is no treatment that used to deal with it, and maybe further examination is needed for some of them such as in many seizure and heart attack incidents. Delay in prehospital setting may become a very disturbing problem that occurs almost in every country, whether it is in developing country or even in an advanced country. For example in heart condition specifically on STEMI cases, delay in prehospital setting hold the major percentage (83.3%). And 60% from delay in prehospital setting were related to patient's decision to call the medical services. It means that the witnesses often fail to recognize or even reluctant to deal with patient with emergency symptom such as chest pain in STEMI [1]. This statement has been strengthening by another heart condition related research, most of the witnesses are not capable to identify cardiac arrest when they found an unconscious patient. They may activate the EMS or even call for ambulance, but they don't do CPR immediately. This kind of situation may greatly impair the survival rate of patient with cardiac arrest. From the article journal we can conclude that patient and witnesses' knowledge may maximize patient's survival rate when they recognize the sign and symptom and immediately taking action to the patients.

Witnesses' capability to determine what's best for the patient is crucial. Some of the symptoms may hold a grieve deal to the patient when they fail to recognize the urgent symptom that occur. Therefore, telenursing especially telephone triage is one of the key technology that may become a solution or alternative to enhance emergency nursing process. Therefore, the purpose of this systematic review was to reveal the telephone triage's main role to provide comprehension on how important telephone triage to our emergency management related to life threatening cases.

Methods

Electronic databases (SagePub, ScienceDirect, and ProQuest) were searched using the key word "telephone triage" in combination with the terms "prehospital" and "nursing". The inclusion criteria were specific "telephone triage", "management" and "emergency nursing" and the article journals used in this systematic review had full text and published on reliable databases for the time period between on 2007 to 2017. All articles identified by the systematic search were screened for relevancy first by their titles/abstract.

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Results

Of 6 articles were reviewed from a pool of 45 articles meet the inclusion's criteria that reported on the telephone triage's role to effective management triage and minimizing delay in prehospital. Some studies accommodate telephone triage recommendation and telenursing consultation into their real daily emergency lives and the other studies, showed the result that telephone triage may fasten the management of triage in emergency services.

A research explained that Japan used 7119 as the center code of the telephone triage specified telenursing that has been managed by the NHS (National Health Services). The statistical analysis showed that from the amount of cases that nurse acquired by telenursing (88.651 participants) is divided into 6 triage categories, red, orange, green, blue, yellow and unclassified that contains 18,629 (21%) cases, 35,094 (40%) cases, 11,373 (13%) cases, 2,604 (3%) cases, 19,171 (22%) cases, 19,171 (22%) cases and 1,780 (2%) cases respectively [15]. The key point of this article journal is about how telephone triage plays a major role in 7119 triage system and may be used for patient that doesn't have a personal doctor or doesn't have time to consult their medical condition.

The narrative research related to how effective telephone triage that used as referral or safer emergency system. The research revealed that nurse has the highest average appropriate referral (AR) rates by 91%, and physician's AR rates by 82%. This research suggested that the telephone triage is very effective and useful on work hours at full complete systems. And the key point of this research suggested that with improved training, standards and quality, the 24/7 clinical call center may have a potential system to improve emergency services using telephone triage even to represent the national standard [16].

Another research showed that telephone triage is effective to manage emergency department with crowded situation [10]. These conditions often related to many low acuity patients that visit hospital so that it will reduce efficiency and causing crowded situation. The statistic revealed that overall there are a significant increasing of volume calls as well as patient's visit to hospital, which is means that telephone triage has a crucial role that may impact patient's believe to call the emergency system. Furthermore, it was revealed that level 1, 2, 3's patient was increased during telephone triage implementation, and reducing the low acuity patients (level 4 semi urgent and level 5 no urgent) that visit the emergency department by 2.4%. This research concluded that using appropriate telephone triage may maximize the effectivity of emergency department by reducing the low acuity patients that causing crowded conditions.

A Research work on slightly different field which was the use of telephone clinic as well as telephone triage in academic ambulatory clinic [4]. The research revealed that from 336 calls, 68% of them were serious enough to be referred to house physician, 64% of them called with medical complains and symptoms, and 4% of them were sent to emergency department directly based on the information acquired by the calls. This research showed highly satisfaction and active communication from the patients. The practice implication of this research was that the telephone triage could become a source of communication to obtain information about patients and to manage their crisis better.

Another research explained to us that telephone triage led by nurse was likely to be a safe method for triaging patients to the most appropriate place to receive treatment, which was very effective when it used on the emergency department [6]. The result of the research also revealed that the initial data showed satisfactory among callers, patients, medical providers as well as clinician. It means that from this research we can conclude that telephone triage was very useful to manage patients in emergency department.

Another research revealed another benefit of telephone triage especially in obstetric population to screen the symptom during pandemic disease such as H1N1 [7]. This research using influenza-like illness (ILI) triage protocol to assess and to decide which one of them needs immediate in-person evaluation and initiate treatment and which one of them were only given advices and guide to preserve their health. The result of the study showed that from 230 pregnant women evaluated for ILI from October 2009 through January 2010, 95 (41%) of them were treated over the telephone, and 135 (59%) were evaluated and treated in person. Of these 135 women, 120 were seen in the evaluation unit, 13 on labor and delivery, 1 on the postpartum and 1 in the ICU. The result of this study is crucial because pregnant women that infected with influenza have increased morbidity and mortality compared to non-pregnant women. Which is why it is important to fasten the treatment using telephone triage to manage which one of them needs immediate treatment and evaluation.

Discussion

There are many researchs that define the functions and how the telephone triage used in the emergency unit. According to some research provided information that in emergency unit, telephone triage focused on assessing caring need so that the medical unit may built a decision on whether or not the caller needs for emergency treatment, providing advices to patient and which health services are appropriate to apply [2] [3] [9]. Telephone triage also includes instructions to encourage and to empower patient's self-care to acute health problem, and to provide instruction on how to use pain, fever and other acute related medications [5]. Telephone triage is a complex process that used to identify patient's problem, to estimate the level of urgency, and giving advice from telephone. Nurses giving advices using principles of safety, appropriately and timely disposition to patient's symptom [16]. It means that telephone triage is a media of communication technology, a branch from telenursing that specifically used in the emergency nursing triage area to optimize nursing process especially at long distance.

Research that have conducted in United Kingdom conclude that telephone triage have become popular to nurses and physician especially in UK or even internationally more than over the last ten years backwards [13]. It means that there are many emergency units overseas that applying tele nurse in form of telephone triage to optimize the nurses and other medical technician to acquire patient's data related to assessment, to diagnose even in the terms to provide advice or first aid to patients with emergency condition. Using this technology (telenursing) may lead to effective and efficient care, giving the most appropriate treatment management and even minimizing delay on life threatening cases [15].

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The advices and decisions that made via telephone triage are very much related to many factors, the nurses that given the role of telephone triage must be capable of some skills and experiences such as extensive knowledge about health problems, diseases, and interaction as well as patient's education [8] [14]. Non skilled nursing who given the role of telephone triage will often cause negative response and even complaint from the patient, which is why it is important for the call receiver to have wide knowledge as well as good communication to active listening patient and giving them the best advices and decisions. Nurses who given the role as call receiver in telephone triage management needs to be trained for them to be expert to improve the quality of telephone triage [11]. Furthermore, training may improve nurse's skill to evaluate patient's needs and health conditions via telephone triage.

Conclusions

Managing triage in emergency services is vital in the terms of life saving. It sometimes contains complex proposition from patient's knowledge, bystander's decision, and how the caregiver (based on the skills and experience) to guide the civilians to make the best decisions or even the best action that may lead to improve the patient's survival rate. Some of the symptom often occurs in prehospital setting, and some of them carry a very grieve consequences if there is no treatment applied to them immediately. It is the nurse's role to reduce this major complication by using telephone triage to fasten the triage management and even to minimize delay in prehospital setting. However, further research is greatly needed to identify the best solution and alternatives related to how to apply and establish telephone triage in small and developing country.

List of abbreviations

a. AR : Appropriate Referral
b. CPR : Cardio Pulmonary Resuscitation
c. ICU : Intensive Care Unit
d. ILI : Influenza-Like Illness
e. NHS : National Health Services
f. STEMI : ST- Elevation Myocardia Infarct
g. UK : United Kingdom

Declarations

Authors' Information

Author is student in magister of nursing, Universitas Brawijaya Malang.

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Ethics approval and consent to participate

Not applicable

Consent for publication

The publication concentration in this research is to develop the science of nursing, especially related to emergency nursing and telephone triage's function to develop management in pre-hospital or intra hospital nursing.

Availability of data and materials

There are no reason to hold back data in this systematic review because all the data in this review were collected using electronic databases which free to access.

Competing interests

There are no competing interests involving this study

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THE EFFECTIVENESS OF SIMULATION LEARNING METHOD ON ACADEMIC PERFORMANCE AMONG UNDERGRADUATE NURSING STUDENTS

Iriene Kusuma Wardhani

Institute of Health Science Catholic St. Vincentius a Paulo Surabaya
Corresponding Author
Iriene : irienekw@gmail.com

Abstract

Background: The background of this research is there are several factors that could adversely affect the learning process, including factors of teachers, students, facilities, tools and media available as well as environmental factors. In terms of the achievement of competence, there are several aspects: knowledge, understanding, skills, values, attitudes and interests. Less attention to the factors affecting learning activities and aspects of this competency could will affect the learning process, especially for the improvement of the competence of the students to practice at the clinic / hospital. There are around 35% Nursing students in semester III and V are still not understood about the nursing process well of subject Medical Surgical Nursing. The purpose of this study to identify the effectiveness of simulation learning method on academic performance among undergraduate nursing students.

Methods: This study used descriptive statistics and post test design. Samples in this study were all students of fourth semester (n = 51 students) with purposive sampling method.

Results: The study of student learning outcomes in the fourth semester among undergraduate nursing students in subject Nursing of endocrine system using the simulation learning method showed good result. Fourth semester students who have learning result 41.18% is good and 19.6% is moderate.

Conclusions: The results of this research show that the simulation learning method can be chosen as an effective method as an effort to improve student learning outcomes of nursing science program.

Keywords: Simulation method, nursing students, academic performance

Background

Learning is one way to increase knowledge. Proper learning can support the achievement of expected learning outcomes. Variations of learning are the demands of adult learning that require a variety of ways of learning, one of them Is a simulation. In the Catholic STIKES in the odd semester and then get the phenomenon of the decline in learning outcomes, especially about understanding the assessment in nursing care.

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Learning activities can occur anywhere, anytime, and by anyone [1]. A person can be said to learn if in him there is a change from not knowing to know, from cannot do something to be able to do something. However, not all changes can occur because of learning.

There are activities in the learning process of the soul itself. Teachers only provide certain conditions and stimuli. Without the activities of the subjects concerned it is impossible for what is called learning. From the recapitulation of the value of several subjects of Medical Nursing Surgical undergraduate of Nursing Stikes St. Vincentius a Paulo Surabaya there are about 35% in the third semester and V who still do not understand about the nursing process well. There are several factors that can affect the learning process activities, including teachers, students, facilities, tools and media available As well as environmental factors. And in the achievement of competence there are several aspects of knowledge, understanding, skills, values, attitudes and interests. And if the factors that affect the learning activities and aspects of this competency less attention will affect the learning process, especially for improving the competence of students to practice in the clinic / hospital. With less competent / skilled students can have an impact on health services such as patients or families do not want if students who provide nursing actions, less trust nurses and doctors if students who provide health services to patients. So to realize the mission and philosophy of nursing education is not achieved that is preparing a competent nurse and able to provide nursing care to patients to the fullest. To improve students who are skilled in nursing action requires competitive and innovative learning to improve the quality of individuals who can compete. The ability to compete is produced by a conducive and effective education. The use of learning media in teaching and learning can generate new desires and interests, generate motivation and stimulation of learning activities and even bring psychological influences on students [2]. To improve the knowledge and understanding of students can use various learning methods such as the use of simulation methods. From the simulation learning method can improve the effectiveness and efficiency of the learning process such as developing the imagination of learners, strongly influencing one's emotions, cultivating the interest and motivation of learning, developing the thoughts and opinions of the students, clarifying abstract things and providing a more realistic picture [3].

Methods

Design

Based on research objectives, research design used in this research is descriptive that describes the results of student learning outcomes in the fourth semester Prodi S1 Nursing STIKES Catholic St.Vincentius a Paulo Surabaya on MA Nursing endocrine system using simulation learning method. In this study using a variable that is the result of student learning semester IV Prodi S1 Nursing Stikes Catholic St.Vincentius a Paulo Surabaya on MA nursing endocrine system. The affordable population in this study were all students of the fourth semester of Study Program 1 of Nursing College of Catholic Health Sciences St. Vincentius A Paulo Surabaya that meets the inclusion criteria of students who have received nursing assessment materials, students who never have received learning by simulation method and willing to be studied.

Data analysis

Data collection process.

The first step of the researcher submits a letter of application for permission to conduct research to the head of the Catholic School of Health Sciences St. Vincentius A Paulo Surabaya. After obtaining the permit, the researchers then approached the students of S 1 nursing program of the fourth semester of St. Catholic High School of Catholic Health. Vincentius A Paulo Surabaya for approval to be a research respondent by signing an informed consent. The 52 students were divided into 7 groups, to be given explanations about the role play method and the case for each group. Students after being given the task are then given the opportunity to exercise independently in the next group are evaluated. For evaluation each group plays a role in accordance with the case obtained in front of the other group.

Data Collection Instruments.

In this study, we use observation sheet to assess psychomotor level of the students by using combination of way of assessment between psychomotor skill taxonomy according to Reilly and Oermann (1990) there are 5 levels of imitation, manipulation, accuracy, articulation and naturalization (used for assessment up to level Accuracy) with actions or practices based on quality. There are 3 levels of guided practice, practice by mechanism and adoption [(1)]. This study was conducted in March 2015 at the laboratory of Medical Nursing Surgery College of Catholic Health Sciences St. Vincentius A Paulo Jl. Jambi number 12-18 Surabaya.

Results and discussion

The result of the study shows the description of the students' learning outcomes in the fourth semester of Study Program of Nursing STIKES St.Vincentius a Paulo Surabaya in MA Nursing of endocrine system using the method of simulation learning (role play) showed good result. Fourth semester students who have value / learning result A as much as 41.18% and value / learning outcomes as much as 19.6%. Adoption (adoption) is an action or practice that has developed meaning that what is done not just routines or mechanisms but has been done modification or action quality [(1)]. The learning of motor skills requires factors such as practice, duration and frequency of practice period, re-learning and environment in laboratory and clinical environment [(10)]. Hospitals put individuals in the world where nurses practice. The nature of the hospital environment is related to how the environment is used to teach psychomotor skills. Learners who have met the level of achievement of the prescribed skills then they can continue into the clinical environment to practice hands-on because the learning of a skill is more meaningful and economical when it is associated with the application. Fourth semester students who have psychomotor adoption rates despite not having practiced in the clinic, with re-learning in the laboratory can produce stronger memories over a longer period of time, resulting in increased adaptability and automatic response to environmental guidance and the need for repetitive skills training in the lab. The laboratory is an environment that contains the multimedia required to explain the process and critical elements of an essential

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skill and model for practice in which learners can learn the manipulation of the equipment in relation to the expected process and results. Students who are assisted by faculty as well as instructional media in the laboratory can show confidence in showing their abilities compared to those who are not assisted by faculty while studying in the laboratory (Baldwin: 1991).

Conclusions

Based on the results of the above discussion can be concluded that the picture of student learning outcomes in the fourth semester Prodi S1 Nursing STIKES Catholic St.Vincentius a Paulo Surabaya on MA Nursing endocrine system using the method of play (role play) result majority (41.18%) shows good (A) and the simulation learning method can be chosen as an effective method as an effort to improve student learning outcomes of nursing science program.

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THE EFFECTIVENESS OF READING HOLY AL QUR'AN ON PEAK FLOW EXPIRATION ON GROUP OF BREATHING EXERCISE FOR ASTHMA PATIENT

Ita Yuanita[1], Ernawati[1], Nia Damiati[1], Ridwan Lubis[2]
[1] School of Nursing Program, Universitas Syarif Hidayatullah, Indonesia
[2] Faculty of Ushuludin, Universitas Syarif Hidayatullah, Indonesia

Email addresses:
Ita : iyuanita@uinjkt.ac.id
Erna : ernawati@uinjkt.ac.id
Nia : nia_dnia@yahoo.com
Ridwan : ridwan.lubis@uinjkt.ac.id

Abstract

Back ground: Peak Expiration Flow (PEF) score is one of indicator of Asthma's controlled. Breathing exercise for asthma is the one of non-pharmacological for asthma controlled. The principle of breathing exercise for asthma is the same with reading Holy Al Qur'an. In this study, we aimed to explore the effectiveness of reading Holy Al Qur'an on PEF score on group of breathing exercise for asthma patient.

Methods: This research used quantitative with pre and post test pre experiment design. Sample was taken by purposive sampling with 18 patient asthma who have joined breathing exercise' for asthma.

Results: Most of respondent were women (83,3%), the frequency of breathing exercise for asthma one time/week (77,8%), and all respondent were not smoker (100%). Reading Holly Al Qur'an for a week had a statistically significant positive effect on PEF's asthma patient who have joined with breathing exercise (p value < 0,05). The power of effect of Reading Al Qur'an on PEF was very strong (Eta squared = 0,47).

Conclusions: Asthma can be controlled by reading Holy Al Qur'an because of reading Holy Al Qur'an could increase PEF score.

Keyword: sAl Qur'an, PEF, Asthma's controlled

Background

Incidence of asthma has increased in the past fifteen years. WHO estimates new asthma cases will reach 235 million in the world [1]. Based on the 2011 NHIS sample, it was estimated that 39.5 million Americans, or 129.1 per 1,000 persons, had been diagnosed with asthma by a health professional within their lifetime [2].

The number of asthma mortality in 2009, 3,388 people died of asthma, a 26% decrease since 1999 [2]. Approximately 64% of these deaths occurred in women [2]. Most of deaths due to asthma occur in poor and developing countries [1]. Asthma has lower mortality rate than other chronic diseases, however at least hundreds of thousands of people die of asthma in 2005.

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During an asthma attack, the patient will have a trouble sleeping, fatigue and decreased in activity daily living. This condition is caused by the imbalance of oxygen demand with oxygen supply. Asthma is an abnormal response of the airway to various stimuli that cause widespread narrowing of the airway[4,5]. If asthma has not treated properly can decrease activity daily living up to 30%[6]. According to report of eight Asia Pacific Country, asthma had impact to quality of life such as sleep disorder in a week (28,3 %).

Asthma can be controlled by pharmacology and non pharmacology. Some people avoid to use medicine to controlled their asthma. They prefer to choose non pharmacology for asthma's control. Breathing exercises are commonly incorporate in overall to asthma prevention program. There are several type of breathing exercise for asthma such as Buteyko, diaphragm breathing, breathing retaining and pursed lip breathing.

Patients who regularly perform breathing exercise for asthma will be able to control his asthma and have a good quality of life. Adult asthma patients who performed breathing exercise can control the symptoms of asthma [7]. Exercise of respiratory muscles combined with physical therapy can improve the efficiency of respiratory mechanics [8].

According to our survey, we found only 40% asthma's patient had joined breathing exercise for asthma and some patient avoid to using medicine for controling their asthma. These conditions can increase the morbidity and mortality of asthma. Base on technique of reading Holy Al Quran, we found reading Holy Al Qur'an with tartil need arrange breathing. Qori should use diaphragm breathing to reading Holy Al Qur'an[14,15]. They should take a deep breathing with diaphragm and release the air (expiration) slowly while they reading Holy Al Qur'an with tartil. We interest to investigate how effecttive reading Holy Al qur'an on PEF's score asthma's patient.

Methods

Institutional Ethical Committee approval was obtained for pre experiment pre & post study design. This study was conducted in 2 hospitals in Jakarta which had a group of breathing exercise for asthma. By purposive sampling, 20 asthma's patient who were joined a group of breathing exercises for asthma fulfilling our selection criteria were fully explained the nature of the study and a written informed consent was obtained from them. The criteria of our study were Moslem, competent in read Holy Al Qur'an, asthma patient, moderate – persistent asthma and no used bronchodilator agent. Subjects were not matched by age, gender, body mass index, smoker or not smoker and frequency of exercise.

Almost all subjects (91%) could not read Holy Al Qur'an correctly. They had been trained by trainer for 7 – 14 days. We had three trainers. The trainer was a moslem who has mastered in reading Holly Al Qur'an. The trainer would inform us that participant have been able to read the Qur'an correctly. During the training the researchers observed the course of the training at least 2 times. There were two participants who resigned during the training period. Total participant who had involved this study were 18 people.

Participants were instructed to read holly Al Quran 20 minutes a day throughout the 7 days' experiment period. The trainer accompanied researchers during the experiment, to ensure the subjects had read Holy Al Quran correctly. Participant had been measured PEF before and after reading Holly Al Quran. PEF was measured by peak flow meter. Statistical analysis consisted of descriptive statistics, and differences between PEF before and after 7 days interventions were analyzed with independent t tests.

Results

Characteristics participants

The characteristics of participant features are presented in Table 1. According to table 1, most of participant were women (88.9%), no smoker's participant (100%), and most of participant had joined breathing exercise less than 1x/ week.

Table 1. Characteristics of participant feature

Variable	Frequency	Percentage
Gender		
- Women	16	88.9
- Men	2	11.1
Frequency of exercise		
- ≤ 1 x/week	14	77.8
- > 1 x/week	4	22.2
Smoker		
- Smoker	0	0
- No smoker	18	100

Table 2. Anthropometry and age feature

Variables	**Mean**	**Min-max**	**SD**
Age	57.72	37 - 74	10.99
Body Mass Index	23.66	16.44 – 29.90	22.75

Reading Holly Al Qur'an and Peak Expiratory Flow

There were significant differences between PEF's score before and after reading Holly Al Qur'an (table 3). In other word we could say 'intervention of reading Holy Al Qur'an were effecting on peak expiration flow on a group of breathing exercise for asthma patient. The mean PEF's score before reading Holy al Qur'an were 260.48 L/minutes (SD 56.11) and PEF's score after reading Holy Al Qur'an were 280.00 (SD 56.11). The p value was < 0.05 and eta square was 0.47. According to Cohen (1999) eta square 0.47 means there were a big effect reading Holy Al Qur'an on peak expiratory flow score on asthma patient who were joined exercise breathing for asthma.

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Table 3. The effectiveness of Reading Holy Al Qur'an on PEF's score

variable	n	Mean	SD	P value
Pre intervention PEF's score	18	260.48	56.115	0.002
Post intervention PEF's score	18	280.00	56.115	

Discussion

The result of this study clearly showed improvements in PEF's asthma patient who reading Holy Al Qur'an in 20 minute a day for one week. A technique reading Holy Qur'an have same principles with pursed lips Breathing and diaphragm breathing. Pursed lips breathing is a form of controlled ventilation in which the patient consciously prolongs the expiration phase of breathing [11]. in reading Holly Al Qur'an, we should use diaphragm breathing and prolong expiration while reading Holy Al Qur'an with tartil. This technique can control ventilation and improve lung function [11].

A sequence of breathing and relaxation exercise has been found to reduce asthma symptoms by a third. This involves a specific diaphragm breathing technique, emphasize nose breathing and development of breathing pattern to suit current activity [12]. The enhancement of PEF occurred because breathing exercise lead enhancement of lung's compliance. Breathing exercises can cause alveolar stretching, which this condition will stimulate surfactant excretion so that alveolar tension will decrease [13]. Anyone who read Holy Al Qur'an should be able to arrange his breathing because there are any regulation (tajwid) when we read Holy Al Qur'an [14,15]. They used diaphragm breathing and breathing retaining. Diaphragm breathing can improve peak expiration flow [9]. Other research also showed there were significant differences vital lung capacity between Qori and non Qori[15].

Conclusions

Asthma's patient can control their asthma by reading Holy Al Qur'an with tartil in 20 minute a day. Reading Holy Al Qur'an with tartil can increase peak expiration Flow rate.

Declarations

Authors' contributions

All off author had contributed to the study and writing this articles

Ethics approval and consent to participate

This study had been approved by Ethical committee and all participant had been explained. A written inform consent was obtained from them.

Consent for publication

We didn't have written permission for publication, instead only oral permission.

Availability of data and materials

We will have shared our data if it need for validating, instead it is not for publication

CORRELATION BETWEEN ABDOMINAL OBESITY AND FASTING BLOOD GLUCOSE LEVELS IN ADULT MEN

Jeki Refialdinata[1]

[1]Magister of Nursing, Universitas Brawijaya, Malang, Indonesia
Corresponding Author:
Jeki R. : Email: jekirefialdinata@gmail.com

Abstract

Background: Abdominal obesity is one of the better predictors of type 2 diabetes mellitus (type 2 DM) than Overall obesity. Increased fat in the abdominal area leads to a downward trend in action insulin on target tissues that give rise to elevated levels of glucose in the blood. The aim of the study was to explore the association between abdominal obesity and fasting blood glucose level in adult men.

Methods *Design.* A cross-sectional observational study. *Setting.* Health Centre of Kuranji Padang, West Sumatera, Indonesia. *Subject.* A total of 30 men with abdominal obesity between 30-60 years old using purposive sampling technique. *Main Outcome measures.* Abdominal obesity was defined according to the metabolic syndrome using the waist circumference (WC): >90 cm. Fasting blood glucose (FBG) level was measured in the morning after an 8-hour fast and was determined by using glukocheck. The SPSS. 15 software was used for statistical analysis.

Results: The mean of WC was 95.70 cm and FBG was 112.50 mg/dl. *Spearman's Test* correlation coefficients between WC and fasting blood glucose level were statistically significant (0.017). The results of the study showed that increased measurement waist circumferences can raise to increase fasting blood glucose level in adults men with abdominal obesity. Also, the determinant coefficient explored WC in adults men with obesity abdominal have contribution 13.6% in increasing FBG.

Conclusions: The positive correlation was seen between obesity abdominal and FBG level. These results indicate that in non-diabetic adults men, abdominal fat is associated with increasing of fasting blood glucose level. Abdominal obesity is useable as a predictor of type 2 diabetes mellitus risk among adults men.

Keywords: Abdominal obesity, fasting blood glucose, adults men

Background

Obesity and abdominal obesity are the main factors that lead to increased glucose in type 2 diabetes. Individuals with obesity or abdominal obesity will experience a progressive increased in blood glucose, so that individuals are at increased risk to suffer diabetes mellitus (DM), especially type 2 diabetes [1] [2] [3]. On obesity, fat cells will produce some substances that are classified as adipocytokine which amount more than the state is not fat. The adipocytokine substances are most often produced by fat cells lining the organs of the

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stomach. It is these substances that cause insulin resistance [4]. The more fat accumulation in the abdominal region, the higher the production of adipocytokine, thereby increasing the level of glucose in the blood resulting from insulin resistance. This is what causes individuals with abdominal obesity is very at risk to suffer DM disease due to a progressive elevation of blood glucose levels.

Abdominal obesity is more commonly experienced by men than women [5]. This happens because of the different body shapes of men and women. In general, men have an apple-like shape (large waistline), while women are shaped like a pear (large hip size) [6]. That's what causes the fat accumulation of men is more dominant in the abdomen or upper body. With such circumstances also that causes men are very at risk for increased blood glucose levels for the occurrence of DM disease than women.

Several previous studies have found that increased health risks are more associated with central obesity than in general obesity. In a study of the association between diabetes mellitus and obesity based on body mass index and waist circumference of RISKESDAS 2007 data, it was found that central obesity based on waist circumference was more causes DM than general obesity based on BMI [7].

Adipose of the upper body is measured through waist circumference or waist-to-hip ratio has a closer correlation with blood glucose level of DM in a number of cross-sectional and prospective studies [1]. However, this is opposite to the results study of Lipoeto (2007) that show there is no relationship between waist circumference and blood glucose levels [8].

The International Diabetes Federation (IDF) (2010) estimates that by 2030 there will be 438 million or 7.7% of the population aged 20-79 years who will have DM [9]. In addition, compared with women the prevalence of DM 4-5 times more common in men [10]. Given that anthropometric measurements (such as waist circumference) have a strong association with metabolic disorder parameters (e.g. elevated blood sugar levels), it is well known that anthropometric measurement necessarily provides cheaper alternative options when compared to laboratory tests to predict metabolic disorders such as DM against a person, especially men.

A number of behaviors, such as consuming high-calorie and low-fiber foods as well as lazy exercise have become the lifestyle of people in the city of Padang, West Sumatera, Indonesia [11]. The lifestyle of the community causes the buildup of fat in the body, especially around the abdomen, so that blood glucose levels cannot be set again [12].

The progressively increased blood glucose levels resulting from fat accumulation is a risk factor for DM disease, especially if familial predisposition is present [1]. Areas that have a high population events of diabetes mellitus cause individuals with obesity at risk to experience to elevated blood glucose levels that will lead to DM disease. Based on preliminary study results in the health departmentt of Padang City, it was found that the population with the highest DM incidence was in the working area of ??Kuranji Community Health Center (Puskesmas Kuranji).

Methods

This type of research is quantitative research with descriptive correlation design which aims to determine the correlation between independent variable is abdominal obesity and the dependent variable is fasting blood glucose level. The approach used in this research is cross-sectional study.

This research was conducted in the working area of ??Puskemas Kuranji Padang City, West Sumatera, Indonesia from May to June 2014. The sample in this study amounted to 30 male respondents of adult age are selected by purposive sampling technique with 30-60-year-old age criteria and abdominal obesity with the waist circumference of >90 cm. Blood glucose measurements were performed by checking the blood glucose level of the capillary using a device called gluco check, and measuring the waist circumference measured midway between the lower border of the rib and iliac crest, using a horizontal ribbon size at the end of expiration with both limbs dilated 20-30 cm. Measurements of blood glucose and hip circumference were carried out after the previous respondents fasted at least 8 hours.

Data were analyzed univariate and bivariate using *SPSS.17*. Univariate analysis was performed to see the frequency distribution of waist circumference, and blood glucose level. Furthermore, the bivariate analysis is a correlation analysis to determine the direction and strength of the relationship between fasting blood glucose levels and abdominal obesity status. The direction and strength are tested using Pearson analysis (if the data is normally distributed) or Spearman's test (if the data is not normally distributed) [13]. The normality of data is determined by the Shapiro-Wilk test. After that, if the data is normally distributed, regression analysis test will be done, but if the data is not normally distributed will be done a determinant coefficient analysis. Regression analysis aims to predict how far the changes in blood glucose levels if the size of abdominal obesity is raised or down. Meanwhile, the determinant coefficient analysis was performed to determine the amount of contribution size of waist circumference in explaining fasting blood glucose levels in adult men with abdominal obesity [14].

Results

Univariate analysis

Table.1 shows that the average size of the waist circumference of adult men is 95.70 cm (91-106), with an average fasting blood glucose level of 112.50 mg/ dl (97-267).

Table 1. Distribution of measurements of abdominal obesity and fasting blood sugar level on adult men

	N	Minimum	Maximum	Mean	Std. Deviasi
Waist Circumference	30	91	106	95,70	3,495
Fasting Blood Glucose	30	97	267	112,50	29,913

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Bivariate analysis

Hypothesis test used to determine the strength and direction of the correlation between abdominal obesity and fasting blood glucose levels in adult men was Spearman's test because, after normalized test using Shapiro-Wilk, the data did not distribute normally.

Table 2. Correlation between abdominal obesity and fasting blood glucose levels on adult men

	R	*p* (value)
Waist Circumference Fasting Blood Glucose	0,431	0,017

Based on the results of statistical tests of Spearman's in table 2 can be concluded that the increased in waist circumference can lead to the elevated fasting blood glucose levels in adult men with abdominal obesity.

Furthermore, the bivariate analysis is to determine the effect of the size of waist circumference of adult men to fasting blood glucose levels by using regression analysis test cannot be done, because the data is not qualified for regression test that is not normally distributed data. However, from the statistical analysis can be obtained determinant coefficient value.

Table 3. The coefficient determinants of abdominal obesity and fasting blood glucose levels on adults men

R	R Square	Adjusted R Square	Std. Error of the Estimate
0,407(a)	0,166	0,136	27,806

Table 3 shows the value of R-square (R2) or the determinant coefficient of 13.6%. This means that size of waist circumference has 13.6% contribution to fasting blood glucose, and 86.4% are influenced by other factors beyond the waist circumference in adult men with abdominal obesity.

Discussion

The first hypothesis in the study, thirty adult men population in the working area of ??Puskesmas Kuranji Padang City, has obtained results that describe the correlation between abdominal obesity and fasting blood glucose levels. Based on statistical analysis, it is known that Abdominal obesity has a moderate positive relationship with Fasting Blood Sugar Level in adult men. That means an increase in waist circumference can lead to a rise in fasting blood glucose levels in adult men with abdominal obesity.

Abdominal obesity is an example of accumulation of body fat is dangerous because lipolysis in this area is very efficient and more resistant to the effects of insulin compared adipocytes in other areas. The high process of lipolysis causes the amount of oxidative stress produced is also very high. Increased

oxidative stress causes metabolic disorders, both glucose intake in muscle and adipose tissue and decreased insulin secretion [15] [16]. The process is what causes insulin resistance, so glucose level in the blood increases (hyperglycemia).

In addition, the accumulation of fat in the abdomen area is adipocyte cells (fat cells) that produce the most adipocytokine substances compared with fat accumulation in other areas [4]. Adipocytokine substances that can cause insulin resistance, such as interleukin 6 (IL-6), tumor necrosis factor-a (TNF-a) and monocyte chemotic protein-1 (MCP-1) [15]. The more fat cells increase, there will be imbalance release of adipocytokine substances. Therefore, an individual with abdominal obesity has elevated blood glucose levels resulting from insulin resistance caused by substances produced by adipocyte cells.

The results obtained, in line with the results of a study by Sandep (2010) that states that visceral fat which is a component of abdominal obesity associated with insulin resistance in Asian-Indians without diabetes [17]. This is also reinforced by Kumari (2013) suggesting that abdominal obesity measured by waist circumference is associated with an increased risk of developing diabetes [18].

The second hypothesis is bivariate analysis with regression analysis can not be done because the data is not normally distributed. This is probably caused by the lack of respondents due to the short time of the study and the incompatibility of the measurement of waist circumference with fasting blood glucose levels. Increased waist size is not always followed by an increase in blood glucose levels. Sometimes the size of the large waist circumference is followed by low blood glucose levels or otherwise. The condition may be influenced by the patient's knowledge and lifestyle of the respondents who were not examined in the study, such as the habit of eating fibrous foods.

The level of education has an influence on the incidence of type 2 diabetes mellitus. People with a high level of education will usually have a lot of knowledge about health [19]. Given that knowledge, people will have awareness in maintaining their health [20]. Therefore, highly educated individuals usually have good knowledge about the efforts that can be done to prevent the occurrence of diabetes mellitus.

Fiber intake can improve blood glucose levels associated with the speed of food absorption (carbohydrates) into the blood flow, known as the glycemic index (GI). Foods that are quickly broken and quickly absorbed into the blood flow have high GI score, it can increase blood glucose levels. In contrast, the slowly broken food and slowly absorbed into the blood flow have a low GI score, so it can decrease blood glucose levels. Fiber intake is known to slow or decrease the rate of carbohydrate absorption into the blood flow [21] [22]. Furthermore, blood glucose levels slowly decrease, and cause the need for insulin is also reduced, so it can play a role regulate blood glucose and slow the rise in blood glucose. This is what causes the inconsistency of blood glucose levels in the subject of study. This is appropriate for research by Robert (2012) which states that by providing fiber intake can decrease fasting blood glucose levels in diabetics [23].

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Table 7. shows that waist circumference has an effect of 13.6% to increase of fasting blood glucose levels in adult men with abdominal obesity. This means that the relationship between risk factors of DM type 2 is complex and there is no single factor sufficient to assess the risk of diabetes mellitus in a person. Compared with obesity in general as measured by body mass index (BMI), abdominal obesity as measured by waist circumference is a good predictor of elevated blood glucose levels [1] [2] [7] [24] [25] [26]. Given that the blood glucose level is one of the parameters to establish the diagnosis of diabetes mellitus, it can be seen that measuring waist circumference to determine the status of abdominal obesity can predict the risk of individuals with abdominal obesity to get diabetes mellitus. Therefore, early detection and immediate treatment can reduce the prevalence of type 2 DM.

Conclusions

The results of this study explain that the increase in waist circumference can lead to increased blood glucose levels in adult men in the working area of Puskesmas Kuranji, Padang City. Therefore, the need for prevention and control of type 2 DM by promoting the size of waist circumference that can cause increased blood glucose levels, so that people can identify their own risk of diabetes by measuring waist circumference, then make preventive efforts.

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

I approve if my research data is publicized.

Competing interests

There aren't conflicts of interests in the study.

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THE DIFFERENCE OF WORK PRODUCTIVITY AMONG NURSES WHO HAVE EXPERIENCE JOB ROTATION AND THOSE WHO HAVE NOT

Karsim

Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia

Corresponding Author
karsimners@gmail.com

Abstract

Background: One of human resource development in human resource management (HR) staffing is work rotation. Work rotation for nursing staff at Muhammdiyah Hospital lamongan is to complete the shortage of nursing staff unit Hospital service unit, fill the formation of positions in service units, career development/coaching and prevent saturation. The purpose of this research is to explain the difference of productivity of nurses who have been in work rotation and has never been in work rotation at Muhammadiyah Lamongan Hospital.

Methods: This research is a comparative research with survey approach. The sampling technique used in this research is Purposive sampling that is by choosing the nurses who have been rotated and never rotated among the population in accordance with the desired researcher. The total samples obtained by the researchers are nurse samples ever rotated by 40 nurses and nurse samples that have never been rotated by 40 nurses.. The analyst uses the test Man Withney U test.

Results: The results of this study show the productivity of rotation group work and not the rotation of work that the average value of the rotation group is 34.48 and the mean value of the group that has not a rotation of work is the mean 46.53.As Mann-Whitney test results found that p = 0.006 means There are differences in work productivity of nurses who have rotated work and has never rotated work at Muhammadiyah Lamongan Hospital.

Conclusion: The results of this study show that nurses who have never rotated productivity better than nurses who had rotated work. It can be used by Muhammadiyah Lamongan Hospital especially in the field of nursing as a tool for preparing rotation guideline of work and preparing fixed procedure of work rotation of nursing staff in improving work productivity.

Keywords: Work productivity, work rotation.

Background

One of human resource development in human resource management (HR) staffing is work rotation. Employee rotation from one place to another is not a wrong activity in the personnel world. Based on Sucahyono research in 2006 about the effect of work rotation on work productivity states that the

work rotation activity is an absolute activity especially for the leadership in the development of employees (1). Nurses undergoing work rotation may think that work rotation is a sanction imposed by the institution (2). The work rotation at Lamongan Muhammadiyah Hospital is carried out to meet the needs of other unit nursing personnel as well as sanctions for nursing staff who are considered to make mistakes. Work rotation is done every year for contract nurse I to II contract and for permanent staff to fulfill the need of other unit nursing staff or as nurse career development. Various attitudes will also emerge against the work rotation policy. a to the work rotation policy with a positive there is also a negative attitude. According to behavioral experts in the company (3) said that work rotation should be a planned activity, intentional and goal-oriented. This also happens to hospital nurses who experience work rotation (3). Nurses are the most hospitalized employees compared to other employees. Specific strategies undertaken by hospitals to improve the productivity of the work of hospital nurses are to rotate the work. But until now the difference in work productivity between nurses who have been rotated and have not been in a rotation is not known.

The result of a preliminary study on nurse rotation data at RS Muhammadiyah Lamongan through an interview to Head of Nursing about data of nurse rotation at RS Muhammadiyah Lamongan showed that 92 nurses (60%) from total 160 nurses had undergone work rotation during work. Rotation of work in RS Muhammadiyah Lamongan implementation is done based on the decision letter by the director of the hospital and not scheduled every year because the rotation of work done to overcome the lack of nurses in a unit of care, sanctions against nurses who are judged to make mistakes. A quarter gave by the researchers to 20 nurses about whether you stress when the rotation of work then the results obtained are 5 people (25%) said very stress, 8 people (40%) said stress and 7 people (35%) said no stress. Although there are nurses who volunteer to rotate work, sometimes tenants conflict.

Nursing rotation is done to overcome the saturation in the nurse to work and its work environment (4). The consequence of the policy is that nurses must adapt continuously to changes in job demands. For some nurses, the changes provide a sense of security, but some like to experience changes in work in terms of job rotation. This creates a conflict within the nurse that sometimes affects his / her relationship with colleagues. Conflict is always present in every aspect of life, including the world of work, both in individual conflicts and in conflict with co-workers (5).

Rotation of work is necessary to overcome saturation and provide a variety of work. However, the implementation technique also needs to be studied in depth because the impact of the lesser techniques can cause fear or chaos of individual work environment (6). In order to gain a positive understanding and response in terms of job rotation, it is necessary to formulate a fixed rule or procedure on work rotation policy and where to rotate. This principle is socialized and run on the principle of equality, continuity, and consistency. So the problem in this research is 65% of nurses experiencing stress due to work rotation is one factor of decreasing work productivity. Based on the phenomenon that occurs then the researchers are interested to conduct research on the comparison of work productivity of nurses who have rotated work and nurses who have never rotated work.

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Methods

The research design used in this research is comparative research design. The formula is a research problem formula that compares the existence of one or more variables in two or more different samples or at different times. In this study, the work productivity variables of nurses who rotated work will be compared with variables of work productivity of nurses who have never rotated work. In this study, the population is all the nurses at Muhammadiyah Lamongan Hospital. The population of 160 nurses consists of 92 nurses who have been rotated and 68 nurses who have never been in rotation. The sampling technique used in this research is Purposive sampling that is by choosing the nurses who have been rotated and never rotated among the population in accordance with the desired researcher. The researcher determines the nurse directly in accordance with the previously established inclusion and exclusion criteria. The total sample obtained by the researcher is a sample of nurses who once rotated by 40 nurses and nurse samples that have never been rotated by 40 nurses. Then to know the difference of work productivity of nurses who had rotated work and nurses who have never been in work rotation, comparation test with Mann-Withney U Test (comparation test 2 free/ independent sample).

Results

The result of this research is rotation group work productivity and not the rotation of work that mean rotation group value is mean 34,48 and mean value of group which not yet work rotation is mean 46,53.

Table 1.1 Distribution of Work Productivity Differences Nurses Who Ever in rotation Work And Never in rotation Work at Muhammadiyah Lamongan Hospital Year 2014

No	Work Productivity	Group Rotation		Group Not in Rotation	
		f	%	f	%
1.	Less	6	15	3	7.5
2.	Enough	30	75	22	55
3.	Good	4	10	15	37.5
	Mean	34,48		46,53	
	Mann-Whitney Test	p=0,006			

While the result of statistic test with Mann-Whitney found that p = 0,006 which show hypothesis H1 accepted mean there is a difference of work productivity of nurse who ever rotated work and never rotated work at Muhammadiyah Lamongan Hospital.

Discussion

The results as listed in Table 1.1 above show that for the rotated group, most of the productivity nurses work adequately (75%) and a small nurse productivity works good (10%). It can be affected by the factor of the nurse's working period. The results showed that for the rotated group, most of the nurses were 3-5 years old, with relatively long service period and nurses had

been rotated, the nurse had started to work well and showed a sense of dedication to the job even though the level of productivity was still included Enough category.

There are nurses who respond to the work rotation policy with a positive there is also a negative attitude. This condition will be related to several aspects of one of them, there are work conflicts in the nurse (7). According to the behavioral expert in the company Stephen (3) said that work rotation should be a planned activity, intentional and goal-oriented.

Stages of Work Rotation according to pandarion (8) are 1. Ask the employee if he wants the job rotation. Sadly, I've heard of a manager who instantly moved employees without questioning his willingness, resulting in high stress on displaced employees then, of course, a decrease in performance. This stage is often forgotten by the boss, they often move employees because thinking job rotation is always positive. Generally, resistance will be high at this stage if the employee finds her new job has an unpleasant atmosphere. Additional payments may be granted if the employee is willing to move. 2. Perform incoming testing of employees as they are recruited. Psychological tests, interviews with new bosses and partners are mandatory before acceptance. This is to prevent employment mismatch with employee personalities. People who like to exploration can become stress when getting monotonous work. 3. Provide training when needed. Incorporating new skillful employees is a great way to get the person out of the company and undermine a group's performance. 4. Move employees per group of friends. The new employee is likely to be under high stress if his new workplace does not have an old friend he knows before. The level of stress can be higher if the employee is in a foreign group that has a culture that is much different (eg: expatriate). Moving employees along with friends can reduce this stress (as Nokia does, their job rotation is per team not per person). 5. Monitor the performance of employees. Document the employee's work on a new place to ensure that the employee can adapt to his new environment. 6. After several months (3 months for example), ask if the employee is comfortable. After a while, ask if the employee still wants to work on a new place or go back to the old place.

Work rotation has a sense of nursing removal activities in the framework of the task or service from installation to another installation or from one room to another in the field of nursing. Rotation of work is done in order to increase knowledge and skills and work productivity in the field of nursing, giving opportunities to nurses and understanding the philosophy, purpose and work procedures where the power is placed, and prevent saturation in work. In the results of this study, the group that had rotated its work productivity was mostly enough and a small number of good, even 15% of the respondents had less work productivity, it shows that the work rotation has not been effective yet. This can be seen from the answers of respondents in questionnaires no 5 and 6 that answers the value <5 as 7 people mean that the rotation of work done greatly interfere with the work and daily activities of the respondents. Of the 7 people, the first 5 people in the rotation and 2 people more than 2 times rotated work. This illustrates that there is a need for nurse participation in the rotational planning of work so that the nurses who are rotated are ready from an early age. The intended participation is to ask the nurse's readiness of the

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work rotation to be performed. Guidelines for work rotation programs and SOPs that exist in RS Muhammadiyah lamongan there is no stage stages in the rotation/rotation of work. The SOP has not included the participation of the nurses who will be rotated and the absence of nurse criteria to be performed by the work rotation. So that the work rotation that aims to increase work productivity become stressor for nurses who in work rotation. Improvements to the work rotation program guidelines and the fixed rotational procedures of nursing workers are expected to obtain results that are appropriate to the work rotation objectives derived from existing theories.

The results showed that for the group that has not been rotated, most of the respondents have enough work productivity (55%) and some good work productivity (37.5%). This can be caused by several factors, namely the factor of age and work period.

According to (9), one's work productivity is influenced by intrinsic and extrinsic factors. Intrinsic factors include work experience, attitudes and education will affect skills and skills in addition to technological developments. Extrinsic factors are management, work facilities, a work environment that will affect social relationships between individuals. A good working environment and good social relations will provide a high work motivation that will increase a person's work productivity. One's work productivity will describe the work productivity of the organization that is effectiveness and efficiency. Many institutions employ rotational work such as an accidental or routine event, without good planning. If a nurse does not understand the purpose of rotation of work applied by the institution, then in the execution of work rotation work will arise conflicts of work such as intrapersonal and interpersonal conflict (10). Some opinions above can be seen that the main conditions of employees increasingly important and determine the level of employee productivity that is education, motivation, passion, discipline, skills, attitudes and work ethics, nutrition, and health, income levels, environment and work climate, technology, , Management, achievement opportunities and social security. With the hope that employees are more passionate and have a passion for working (11). Finally, can enhance the quality of work, increase production and work productivity.

The results as listed in table 1.1 show that the productivity of rotation group work and not the rotation of work that is the average value of the rotation group is 34.48 and the average value of the group that has not a rotation of work is 46.53. The results indicate that the productivity of the nurse group that has not undergone a job rotation is better than the group that has ever rotated. While the results of statistical tests with Mann-Whitney obtained a difference in the productivity of work nurses who had rotated work and has never rotated work at Muhammadiyah Lamongan Hospital.

From the results of the research above shows that nurses who work at a place and within a certain time will help nurses in adapting both adaptations of space, facilities, and infrastructure, colleagues and leaders will affect the level of calm in work so that will increase productivity as well. The level of nurse discipline that has not been better rotated with the rotated nurse is evident from the observation result showed that the nurse who rotated working hours lost there are 3 respondents equal to 15% compared with nurses who have never rotated working hours lost 2 respondents by 10%.

Conclusion

Based on the research objectives that have been made then can be drawn a conclusion that is: Rotated group, most of the nurse productivity work enough (75%) and a small nurse productivity good work (10%). While the group that has not been rotated, most of the respondent's productivity enough work (55%) and some good work productivity (37.5%). There is a difference in work productivity of nurses who have rotated work and has never rotated work at Muhammadiyah Lamongan Hospital. In the operational standard of nursing work rotation procedure at Muhammadiyah Lamongan Hospital, there are no stages of work rotation include: Asking the nurses about the readiness to rotate work, the existence of psychological test and interview as in recruitment, The existence of training when needed and Need for evaluation of nurse performance after In work rotation. It is necessary to revise the guidelines of the work rotation program and SOP in Nursing at Muhammadiyah Hospital Lamongan by following the stages of the work rotation.

DECLARATIONS

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

I approve if my research data is publicated.

Competing interests

There aren't conflicts of interests in the study

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DEVELOPMENT OF THE GUIDELINES FOR DIABETIC FOOT ULCER PREVENTION IN DIABETES MELLITUS PATIENTS IN INDONESIA

Kharisma Pratama,[1*], Nichapatr Phuttikhamin[2*]

[1] Master of Nursing Science (International Program), Khon Kaen University, Khon Kaen, Thailand
[2] Departmen of Nursing Science, Khon Kaen University, Khon Kaen, Thailand

Email addresses:
KP :kharisma@stikmuhptk.ac.id
NP: thithi@kku.ac.th

Abstract

Background: This descriptive study aimed to develop the guidelines for diabetic foot ulcer (DFU) prevention in DM patients. The Stetler Model of Research Utilization (2001) was utilized as the development framework. Data collection was carried out from March to April 2017. Target population were 20 nurses who work at IPD of provincial hospital and 20 nurses who worked at IPD of city hospital in Pontianak, West Borneo, Indonesia.

Methods: The study instruments included: 1) guidelines for DFU prevention, 2) nursing competency for DFU prevention, 3) nurse opinion questionnaire, and 4) nurse agreement on guideline. The content validity of the Nurse Opinion Questionnaire was 1.0 and Nursing Competency for DFU prevention was 1.0. The internal consistency of Nurse Agreement on Guideline using Cronbach's alpha was 0.89. Data analysis was performed using descriptive statistics.

Results: The study findings showed that: 1) the guidelines of DFU prevention in DM patients who admitted into the hospital has been developed, and 2) most nurses agreed with all of the guideline statements. The agreement levels ranged from agree to strongly agree. Similar result of nurse opinion on guideline implementation, all nurses agreed with all of the statements. The agreement levels ranged from agree to strongly agree.

Conclusions: It can be concluded that the guidelines of DFU prevention are useful and important for nursing practice. Nurses who work with DM patients in in-patient units can use the guidelines for DFU prevention which include assess of diabetic risk, categorize diabetic of risk, and provide the foot care intervention. In addition, some recommendations for nursing practice and further study were proposed.

Keywords: Diabetik foot ulcer, diabetik foot ulcer prevention, diabetic foot ulcer and diabetes mellitus

Background

Diabetic Foot Ulcer (DFU) is one of microvascular complications and likely the significant segment of the diabetic foot.[1] DFU affects quality of life, and it increases morbidity and mortality, also incurs a substantial economic burden for society, patients and their families.[2] DFU increases from year by year.[3] There

were 15% of DM patients who had DFU during their lifetime.[4] The prevalence of DFU in Indonesia is approximately 15%[5] and the incidents among DM patients are 29 times.[6]

The ideal treatment of DFU prevention includes regular foot inspection, risk foot assessment, transfers knowledge related risk for DFU and early detect risk of DFU, appropriate DFU intervention.[3]

The DM patients suffering from DFU need a long treatment period for wound healing process and it would expend the wound cost. The patients need to spend approximately 15 - 23 USD per visit. Additionally, the routine care is perceived lack of addressing the occurrence of DFU among DM patients. Nurses use diabetic foot risk category at DM clinic, but the guidelines for DFU prevention was not available. This study aimed to develop the guidelines for DFU prevention in DM patients. The guidelines for DFU prevention is very important because it would help nurses to early detect DFU in DM patients and it would save cost for DM patients if DFU can be prevented.

Methods

This study design was based on the conceptualization of the Stetler model[7] of research utilization to facilitate evidence based practice. The Stetler model consists of preparation phase, validation phase, comparative evaluation/decision making phase, translation/application phase, and evaluation phase. Each phase guided the development of guidelines for DFU prevention. This study was conducted in an IPD of Province and city hospital Pontianak, West Borneo, Indonesia. Subsequently, 40 nurses were considered as target population for implemented the guideline. The study instruments consist of guidelines for DFU prevention, nursing competency for DFU prevention, nurse opinion questionnaire, and nurse agreement on guideline.

Results

Demographic data of the nurses

The average age of the nurses who worked in IPD of provincial hospital was 30.4 (SD=5.5) years old and ranged from 24 to 43 years old. The average age of the nurses who worked in IPD of city hospital was 28.3 (SD=3.2) years old and ranged from 25 to 40 years old. 85% the nurses who worked in IPD of provincial were dominantly female whereas 60% nurses in IPD of city hospital were male. Most nurses from provincial hospital earned diploma degree (90%) whereas most nurses from city hospital earned bachelor degree (60%). In Provincial hospital, the average years of working experience with DM patients was 6.3 (SD=2.6). In city hospital, the average years of working experience with DM patients was 4.6 (SD=1.6). Only two nurses from provincial hospital had wound care certificate (10%) while eight nurses from city hospital had wound care certificate (40%).

Development of the guidelines for DFU prevention

Preparation phase. During preparation phase, goal of study had been determined. The goal was development of the guidelines for DFU prevention. The sufficiency findings of research articles supported to reach of the goal. The

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articles were found in multiple sources including Cochrane, Pubmed, Cinahl, and Ovid by keywords such as diabetic foot ulcer/DFU, DFU prevention, risk assessment, diabetic risk category, and diabetic foot care.

Validation phase. 19 research articles had been recruited, there were four research articles excluded. Using the guideline for research critique adapted from Melnyk and Fineout-Overholt,[8] the level evidence of articles had been analyzed and critiqued. Nine articles were level 1,[9-17] and 10 articles were level 4.[18-27].

Comparative evaluation/ decision making phase. In this phase the research findings were drafted into guidelines for DFU prevention. Five nurses who expert in DM and DFU had analyzed and considered that the guidelines were practical. The guidelines can be seen in table 1-3.

Table 1. Diabetic foot assessment

Components	Assessment
History	Duration of DM: ask the patient how long she or he has had DM
	History of ulceration and history of amputation: ask the patient about previous ulcer and assess the skin for signs of previous ulcer such as scars, Ask the patient about previous amputation and assess the skin for total toes and shape of foot for abnormalities
Physical examination	Neurological: Normal sensory can be indicated if the patient can feel the touching and giving pain on the feet and abnormal sensory can be indicated if the patient can not feel the touching and giving the pain on the feet
	Vascular (PAD/ PVD examination): Palpation dorsalis pedis and posterior tibial
	Dermatologic: Inspection formed callus and fissures
	Musculoskeletal: Inspection foot deformity such as hammer toe, claw toe, hallux valgus, hallux rigidus, pes planus, charcot, and limited joint mobility
Footwear	Assess kinds of footwear that have been used

Table 2. Diabetic risk category (Level of Evidence IV)

Risk Categories		**Definition**
Low risk	Group 0	Absence of neuropathy or PVD
High risk	Group 1	Presence of Neuropathy, Absence of PVD or foot deformity
	Group 2	Presence diabetic neuropathy and foot deformity, PVD, or diabetic
	Group 3	Presence of Neuropathy + deformity History of DFU amputation

Table 3. Diabetic foot care intervention

Risk Categories	Diabetic foot care intervention
Low risk (Group 0)	- Education Diabetic foot care 1. Daily feet inspection (injury, pain, color change, swelling, redness, breaks in the skin, etc.) including areas between the toes. 2. Regular washing of feet with careful drying, especially between the toes. 3. Advice on buying shoes: Shoes interior must be 1–2 cm longer than the foot. Low heels (<5 cm). Fasten shoes with lace to hold foot back in shoe, wearing socks reduces friction toes. 4. Demonstration of proper pedicure
High risk (Group 1)	- Education Diabetic foot care (Except no. 4) - Nurse demonstrate regular foot care and ask the patients to do demonstrate 1. Washing feet, cutting nails, removing callus 2. Use of creams for dry skin, tinea pedis and onychomycosis
Group 2	- Education Diabetic foot care (Except no. 4) - Nurse demonstrate regular foot care and ask the patients to do demonstrate 1. Washing feet, cutting nails, removing callus 2. Use of creams for dry skin, tinea pedis and onychomycosis - Vascular consultation as needed: a cold, pink, painful foot is an indication of severe ischaemia and requires urgent vascular intervention
Group 3	- Education Diabetic foot care (Except no. 4) - Nurse demonstrate regular foot care and ask the patients to do demonstrate 1. Washing feet, cutting nails, removing callus 2. Use of creams for dry skin, tinea pedis and onychomycosis - Dermatology consultation as needed: When traumatic wounds progress to foot ulcer, requires urgent dermatology intervention and patient education on need for rest, regular dressings, early reporting of problems.

Translation/ application phase. All of the nurses involved in training how to apply the guideline. All nurses had ability in implementing the guidelines for DFU prevention in DM patients. There were 11 nurses (27.5%) who had good performance, they were four nurses from provincial hospital and seven nurses from city hospital. There were 23 nurses (57.5%) who had satisfaction performance; they were 12 nurses from provincial hospital and 11 nurses from city hospital. Unfortunately, there were six nurses (15%) who had poor performance; they were four nurses from provincial hospital and two nurses from city hospital. The nurses with poor performance were retrained until they

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passed and met the satisfaction level.

Evaluation phase. Nurses agreement and opinion on the guideline were assessed by questionnaire. The content validity of the Nurse Opinion Questionnaire was 1.0 and the internal consistency of Nurse Agreement on Guideline using Cronbach's alpha was 0.89. The agreement levels ranged from agree to strongly agree. There was only one nurse who disagreed on the statement number 11, which is advice on buying shoes for all categorized patients. Overall, most nurses agreed with all of the statements. The opinion levels ranged from agree to strongly agree.

Overall, all nurses agreed with all of the statements. Nurses considered for applying the guideline as routine care for preventing DM patient from DFU.

Discussions

19 research articles were recruited and four research articles were excluded. Four research articles was excluded due to the year of published were very old. In previous chapter, the researcher has explained related criteria of literature study. Melnyk and Fineout-Overholt[8] views that valid articles for EBP should not use reference more than five years. However, Whitehead[29] argues that there is no definite about optimum range year of references. In this study, the researchers decided to choose references within 10 years with the reason that the content of the research articles are still applicable and relevant to current practice.

The result from evaluation of nurse agreement on the guidelines showed that most of the nurses agreed and strongly agreed with the guideline statements. Only one statement was rated disagreed by one nurse. Similarly, all nurses agreed with the guideline implementation. Nurses agree to decisions and actions for applying research findings when it provide especially strong evidence[30]. In the other hand, the statement "advice on buying shoes for all of categorized patients" was rated disagreed by one nurse. One possible explanation is that shoes provided for DM patients is not much available in Pontianak and its price is considerably expensive. Based on the experience of researchers, the store which sells shoes for DM in Pontianak is only in one store. According to Polit[30] nurses will consider and accept nursing intervention which is cost-effective and beneficial for patients.

Conclusion and recommendation

The guidelines for DFU prevention have been developed. The guideline is useful and significant for nursing practice. Nurse agree with all the guideline statements and guideline implementation. The researcher has not evaluated the DM patients after implementation of the guidelines for DFU prevention. Therefore, further study should evaluate the result of implementation of the guidelines for DFU prevention in DM patients.

Declarations

Authors' contributions

All authors meet at least one of the following criteria and have agreed on the final version: 1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; 2) drafting the article or revising it critically for important intellectual content.

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Ethics approval and consent to participate

The study protocol was approved by the Khon Kaen University Ethics Committee for Human Research based on Declaration of Helsinky and the ICH Good Clinical Practice Guidelines.

Consent for publication

Not applicable

Competing interests

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of the research reported.

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RELATIONSHIP BETWEEN TYPE OF PERSONALITY WITH LEVEL STRESS TOLERANCE IN ADOLESCENTS IN MALANG

Lilik Supriati
Nursing program, Faculty of Medicine University of Brawijaya
lylyiex@yahoo.co.id

Abstract

Background: Stress is the one of psychological problems that often happens caused of many stressor related with developmental condition in adolescents. The incident of stress determined by the ability adaptation to manage stressor that is called the stress tolerance. One factor that deals with the stress tolerance is the type of personality. Personality are an organization dynamic in individual consisting of psiko-bio and sosio aspects that determines mannerisms and specific trait of humans. This research aimed to understand the relationship between typeof personalitywith the level of stress tolerance in adolescents in Malang city.

Methods: This research used descriptic correlational design with cross sectional method. The sample consist of the 110 adolescent in senior high at Malang city. Technique sampling with purposive sampling who meet criteria inclusion. Variable type of personality measured in this research using Eysenck Personality Inventory (EPI) and level of tolerance stress measured by Smith Rating Scale for Stress Tolerance (MsSRS-ST) . The bivariate statistic used chi square test.

Results: The result of this research showed that the majority of type personality were extrovert personality about 75 respondents (68,18 %) and stress tolerance were in low level of stress tolerance about 59 respondents (53,63 %) . statistic test by chi square showed p value 0,001 which means there was a significant relationship between type of personality with level of stress tolerance in adolescents in Malang City.

Conclusions and Recommendations: We can conclude that the adaptation ability against stressor has related to personal characteristic. One of them is about skill to using adaptive coping mechanism. So the nurse can educate the adolescent to be assertive people and choose adaptive ways to solve the problems. It is also important to involve parents role to make a good communication to adolescent.

Keywords : adolescent, type of personality, level of stress tolerance

Background

Adolescence characterized by a big change in physical and psychological, seek self identity and to make new relationship to other. Adolescence called as a period of a storm and stress caused of tension emotion due to transition the process of growing from children to adulthood (Hall, 2005). One psychological problems that frequently occurs is stress. Teenagers are required to able to adjust self or adapt to stressor in his life. This ability to adaptation with stressor is called stress tolerance.

The stress tolerance is level and duration stress tolerable without being disorderly and irrational. The level of tolerance against stress it refers to the ability of an individual to endure in the face of stress without resulting maladaptive disorder (Asmika, 2008). Prevalence of stress in adolescents in category medium and heavy level was relativeoften happened with various causes and its scope.

Prevalensi stress pada remaja dengan kategori sedang dan berat relative tinggi dengan berbagai penyebab dan ruang lingkupnya. Jika tidak tertangani dengan baik dapat menyebabkan distress yang berkepanjangan dan cenderung maladaptive. If it is not handled well can cause a prolonged distress prolonged and tending to maladaptive condition. One factor that related to the stress tolerance is type of personality. This research aimed to understand the relationship between type of personality with the level of stress tolerance in adolescents in Malang city

Methods

This research used analytic observational correlational study with cross sectional design**.** The population of this was teenagers in senior high school in Malang City. A sample size were 120 teenagers. It is determined using the formula of the sample size, considering the Alpha 0.05 were enrolled using criteria inclusion by purposive sampling technique.

Variable type of personality measured uses a questionnaire that adapted from Eysenck personality inventory (EPI) which consist of 24 items. variable the level of stress tolerance measured uses a questionnaire that adaptation of Miller Smith Rating Scale For Stress Tolerance (MSRS-ST) which consisted of 20 items. The questionnaire has been tested validity using a technique correlation pearson product moment and reliability test use the coefficients alpha cronbach. The result was a significance more than 0,06. The corelation between two variables used analytic statistics by Chi Square (alpha 5%). This study was approved at the meeting of the Vice Chancellor for Research Ethics Committee of Medical Faculty of Brawijaya University. Before, the aims of the study were explained to the respondent and the consent was obtained.

Results

In this study, 74,54 % (82 respondents) of the total participant were female, teenagers age ranged between 15 – 18 years old who the most was 16 years old (62,72%). all of teenagers (100%) have java ethnic. The mostly type of personality is extrovert personality 75 respondents (68,18 %). Level of stress tolerance is in enough level59 respondents (53,63%). Bivariate statistic show there is a significant relationship between type of personality with level of stress tolerance in teenagers (P-value = 0,001) which shown in table 1.

Table 1. Cross Tabulation Relationship Between Type of Personality and Level Stress Tolerance of Teenagers in Malang City

Discussions

The research results showed that 68,18 % respondent have extrovert personality and 31, 18 % in the category of introvert personality. Personality are an organization dynamic in individual consisting of psiko-bio and socio aspects

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that determines mannerisms and specific trait of humans. Personality means unique characteristic of someone like a personal trait. Type extrovert personality have out orientation which the mind, feeling and actions determined by surrounding environment (Maramis, 2004). Sex also determine personality, woman tend to have extrovert personality. Women prefer to gossip, expressive, easy to express feeling , and more to talk that indicate this personality.

The average age of respondent were 15 years old. Srivastava, Gosling and Potter (2003) said that age near 20 years will be more organized and more discipline. This condition Suitable to the indicator in extroverted personality that the most widely as the results of this study.

Respondent in this research mostly have a high level stress tolerance. Statistic test showed there was a significant relationship type of personality with stress tolerance inadolescent (p-value= 0,001) less than alpha 5%. When facing a problem, extrovert people easier to express their problem to other so can reduce the burden of their problems. While the introvert people, tends to keep emotion felt, overcome their own problems and be more serious with problems. the characteristics and personality affect the ability adaptation to stressor and coping mechanism to solve the problem. So the nurse can educate the adolescent to be assertive people and choose adaptive ways to solve the problems. It is also important to involve parents role to make a good communication to adolescent

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THE EFFECT OF FOOT EXERCISE ON ANKLE BRACHIAL INDEX (ABI) LEVEL IN ELDERLY WITH HYPERTENSION IN PUSKESMAS DENPASAR UTARA II

Bayu Oka Widiarta[1], I Wayan Suardana.[2], Indah Mei Rahajeng[1]

[1]Nursing Department, Faculty of Medicine, Universitas Udayana, Denpasar, Indonesia)
[2]Lecturer of Community Nursing (Poltekkes Denpasar, Denpasar, Indonesia)

Coresponding Author:

Email Addresses:
Bayu: widiartaoka@gmail.com

Abstract

Background: Elderly with hypertension have a high risk for experiencing a decrease in Ankle Brachial Index (ABI). ABI level indicate the status of the blood circulation to the peripheral such as the legs. Foot exercise is one of the non-pharmacological treatments for decreasing the ABI level. This study aimed to identify the effect of foot exercise on ABI level in elderly with hypertension.

Methods: This research was a pre-experimental one group pre-post study using Paired t statistical tests with a significance level á 0.05. The samples were all elderly with hypertension in Banjar Tulang Ampiang that were 28 people. All of respondent got foot exercise three times a week within 3 weeks. Data was collected by using observation sheet and physical examination.

Results: The study found that the first and second week showed there was no significant effect of foot exercise on the increase of ABI level in elderly with hypertension, the value of one-tailed Sig = 0.114. Whereas in the third week showed that there was a significant effect of foot exercise on the increase of ABI level in elderly with hypertension with the value of one-tailed Sig = 0.000.

Conclusions: This study is significant valuable providing comprehensive understanding related to the impact the foot exercise on ABI level in elderly with hypertension.

Keywords: Hypertension, Foot Exercise, ABI level.

Background

Hypertension is becoming a problem in the elderly because it is often found and becomes a major factor earned the heart and coronary heart disease blood pressure (1). Indonesia still at risk communities against hypertension, especially for urban communities that more easily to access unhealthy modern lifestyle, such as consume many fast food, alcohol, foods high in cholesterol and smoking. In the elderly patients with hypertension, there is the possibility the blood flow towards the legs and kidneys would be reduced (2). The Ankle Brachial Index (ABI) is an indicator of the effectiveness of normal blood flow to

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the peripheral such as foot (3). Survey from the Central Bureau of statistics estimated, the number of elderly in 2020 reached 11.34% of the total population of Indonesia (4). Health Study reported a 52% of patients with the level of the Ankle Brachial Index (ABI) < 0.90 have high blood pressure. Special attention to decreasing ABI in hypertension patients is the ABI will cause more and increasing the risk of death due to cardiovascular diseases (5). Foot exercise are good for fixing the level of the ABI.

A preliminary study found at Puskesmas Denpasar Utara II, has never done research on effect of foot exercise on ABI in elderly with hypertension. The health care provider had never implemented the procedure of foot exercise in elderly with hypertension. The highest number of elderly with hypertension in Denpasar was located in North of Denpasar, as many as 36 people. The condition aspects influenced researchers interested in conducting research. General purpose of this research is to analyze the effect of foot exercise on ankle brachial index level in the elderly with hypertension in Banjar Tulang Ampiang Puskesmas Denpasar Utara II.

Methods

Research design

The research design used one-group pretest-posttest design (6). The research was carried out at the elderly integrated service station (Posyandu) Puskesmas Denpasar Utara II. This research will be carried out during 4 weeks, starting in December to January 2014 that was trained every Tuesday, Friday and Sunday.

Population and sampling

Target population in this study are all of the elderly patient with hypertension in the Puskesmas Denpasar Utara II. Researchers took samples with a total of 36 people. Sampling was done by Non Probability Sampling with total sampling technique. As many as 28 people who meet the criteria of inclusion and entry into a sample of research.

Research instruments

Data collection was done by physical examination on blood pressure, to calculate Ankle Brachial Index (ABI) level that using Standard Operational Procedure (SOP) of ABI level examination. Techniques of foot exerciser researchers using SOP foot exercise guideline.

Data collection and analysis procedures

From the selected sample, the researcher explains the procedures and objectives of the study and training of foot exercises. Next the sample signed inform consent as respondent. Data retrieval was preceded by 3 times a week foot exercise within 3 weeks. Furthermore, after the sample finished doing foot exercise and rest for 5 minutes, the researchers measured the blood pressure on ankle and brachialis to calculate the level of ABI. Measurements are done before the first day of practice and after the third day of practice each week. After the data collected, the level of ABI in the description with a range of values

0-1.4. For analyze the effect of foot exercise on increasing the level of ABI in elderly hypertension, computer program were used for statistical paired t test with significance level p <0.05 and level of trust 95%.

Results

From table 1, it can be seen that most respondents are female namely 16 respondents (57.1%). In table 2, it can be seen that the majority of respondents is elder in the middle age range (45-59) as much as 17 respondents (60.7%). Next from table 3, it can be seen that the majority of respondents underwent therapeutic pharmacology regularly as much as 20 respondents (71.4%). In table 4, it can be seen that the majority of respondents do light activity as much as 17 respondents (60.7%).

Table 1. Frequency Distribution Characteristics of Respondents Based on Sex in Posyandu Lansia

Sex	**F**	**%**
Man	16	57.1
Women	12	42.9
Total	**28**	**100**

Table 2. Frequency Distribution Characteristics of Respondents Based on Age in Posyandu Lansia

Age (Year)	**F**	**%**
45-59 (*middle age*)	17	60.7
60-74 (*elderly*)	11	39.3
Total	**28**	**100**

Table 3. Frequency Distribution Characteristics of Respondents Based on Pharmacological Therapies Regularity in Posyandu Lansia

Pharmacology Therapies	**F**	**%**
Reguler	20	71.4
Irreguler	8	28.6
Total	**28**	**100**

Table 4. Frequency Distribution Characteristics of Respondents Based on Daily Activities in Posyandu Lansia

Activities	**F**	**%**
Light	17	60.7
Moderate	10	35.7
Strenuous	1	3.6
Total	**28**	**100**

Continue to table 5, that respondents who consume sodium (Na) > 2400 Mg/day (> 1 teaspoon) compared with consumption of sodium (Na) < 2400 Mg/day (< 1 teaspoon) has the same amount that as much as 14 respondents (50%). And then from table 6, showed that the majority of the respondents were not smoking as much as 23 respondents (82,1%). Finally based on table

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7, it can be seen that, before foot exercise, characteristic level of ABI seen from the average (mean) namely 0.87. The middle value (median) 0.88. The value of the lowest (minimum) ABI is 0.70. The value of the highest (maximum) ABI that is 0.99.

Table 5. Frequency Distribution Characteristics of Respondents Based on Consumption of Sodium (Na) in Posyandu Lansia

Sodium Consumption (Na)	**F**	**%**
<2400 Mg/day (1 teaspoon)	14	50
>2400 Mg/day (1 teaspoon)	14	50
Total	**28**	**100**

Table 6. Frequency Distribution Characteristics of Respondents Based on Their Smoking Habit in Posyandu Lansia

Smoking	**F**	**%**
Yes	5	17.9
No	23	82.1
Total	**28**	**100**

Table 7. Distribution of ABI Level Characteristics Before Foot Exercises

Measuring	**ABI Level Before Foot Exercise**
Mean	0.87
Median	0,88
Modus	0.89
Minimum	0.70
Maximum	0.99

After foot exercises, In table 8 the ABI level characteristics were seen from the mean (average) in the first week after foot exercises, remained the same as before foot exercises, while in week 2 and 3 it increased by 0.01. Median ABI after foot exercise on week 1 and 2 remained the same, while at week 3 increased by 0.01. The most frequent ABI level in weeks 1 and 2 after foot exercises remain the same, while in the third week it increased by 0.10. The lowest (minimum) level in week 1 remained the same but in week 2 and week 3 increased 0.01 and 0.02. The highest ABI level (maximum) at weeks 1.2 and 3 remained the same as before the foot exercise of 0.99.

Table 8. Distribution of ABI Level Characteristics After Foot Exercises

Measuring	**ABI Level After Foot Exercise**
Mean	0,89
Median	0.89
Modus	0.99
Minimum	0.73
Maximum	0.99

The result of data analysis using paired t test with $\alpha = 0.05$ get Asymp value. Sig. One-tailed at weeks 1 and 2 is 0.114, which has a value greater than α research that is 0.05. This shows that in weeks 1 and 2 there is no significant

effect between foot exercises on the level of ABI in elderly hypertension. Asymp value. Sig one-tailed at week 3 that is 0.000, this value is smaller than α research that is 0.05 meaning there is significant effect of foot exercise of ABI level on elderly hypertension.

Discussion

The ABI level of elderly with hypertension before being given foot exercise, mean value is 0.87. The level of ABI most frequently appeared in respondents (mode) is 0.89. The lowest level of ABI (minimum) is 0.70. The highest ABI level (maximum) is 0.99 where this value is entered in normal ABI level. The value of the mean, median, mode and a minimum at the data above shows the level of ABI on the elderly hypertension before foot exercise are at below normal range (0.9-1.4). The level of the ABI in elderly patients with hypertension are at risk for a decline (7). On the elderly with hypertension blood vessel condition will experience a thickening and stiffness due to atherosclerosis, cause peripheral blood pressure increases, while a decline in the volume of blood through the blood vessels (8).

The level of the ABI on the second week is seen an increase in the level of the mean of 0.87 became 0.88, as well as an increase in the minimum value of 0.70 became 0.71. This indicates that, after being given a foot exercise in the first week, there was an increase in ABI seen from the mean and the minimum level. The mean level indicated that, the entire level of the ABI on the respondents experienced an increase. The minimum level indicates the lowest level of ABI, on results seen in the second week of an increase in the mean level. Followed by the level of the ABI in third week, is seen a significant change in all measuring mean, mode, and the minimum, whereas the level of the maximum remained the same. This shows that on the third week, there was an increase in the level of the ABI, which increased only as highest 0.99.

The data showed that the change in the level of the ABI, which occurred in the elderly with hypertension, began to appear on the second week after foot exercise, and continues with a significant change in the third week after doing exercise. This is supported by research conducted by (9), influence of exercise on foot towards the peripheral blood circulation which found that, after 2 weeks of implementing foot exercise on 38 respondents, obtained results there are peripheral blood circulation improvement on the elderly. Besides that the other research found that, there was significant influence between the giving of the foot exercise against the blood circulation of the legs, where after giving of foot exercise against 29 people respondents is as much as 5 times in 1 week, as many as 27 people respondents experience increased blood circulation to the feet (10).

On the elderly with hypertension, a condition of the blood vessels will be stiffness of the blood vessel walls (7). The stiffness of the blood vessels, especially in the peripheral parts of the body such as the feet. This will effect conferring on a decline in the number of blood volume that can meet the needs of nutrients and oxygen in peripheral parts of the body (8). With a decrease in blood volume due to arterial stiffness, it will be followed by a decline in the level of the ABI. If the level of the ABI went down, then the risk of peripheral tissue damage will increase especially the brain, legs and kidneys. In addition

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with the declining level of ABI, then the risk of death from cardiovascular disease will progressively increase (5).

Foot exercise is one example of complementary therapy (non-pharmacological) against hypertension patients with declining level of ABI (11). In this case the bivariate analysis used is a paired t-test to compare before and after the treatment and seen the level of their significance. Based on the results of the comparison of the first week is obtained p value (0.114) this shows that before and after the treatment, there was no significant difference, whereas in the second week, it brings the results of the p value (0,114). It is also not significant which means, that there is no difference between before treatment and after treatment, then on the third week of the p value obtained value (0.000), it can be concluded on the third week of the most significant results obtained, so the hypothesis (Ho) denied and give a conclusion, there is a difference between before and after treatment of foot exercise on ABI level in elderly hypertension.

It is influenced by foot exercise. On this foot exercise going on the movement of a limb resulting in limb muscles stiffen and pressed the muscles around the veins, it will push blood back to the heart and decreased venous pressure, this mechanism will help launch the blood circulation to the legs, improve blood circulation, strengthens the small muscles in the calf muscles (12).

Basically the physical exercise will lower blood pressure. On arterial stiffness due to the aging process of LDL will tend to settle a narrow blood vessel walls. Powered by the force of gravity causes atherosclerosis a lot happens on the peripheral organs of the body such as the feet. Foot exercise, with movement that is done, will reduce the chances of LDL deposited in the walls of blood vessels and stimulates the burning of prospective LDL into energy, so as to reduce the chance of precipitates and causes peripheral rigidity. Body movement will also stimulate the hormone adrenaline so that pressing endorphins vasoconstriction of the blood vessels do not occur (13). So the vasodilator will occur the blood pressure decreases, and on improvement effect conferring level of ABI.

The results of research showed that the elderly, who are given four square exercises step i.e. one step foot in dynamical movement regularly for 4 weeks, had better blood circulation compared to before the exercise (14). This is supported by research showed 29 of those respondents, obtained as a result of the significant influence of foot exercise against the blood circulation of the legs (15). Both the results of the research is also supported by research that the Range Of Motion (ROM) high intensity, exercise on the elderly 3 times a week within 4 weeks, can increase muscle strength and blood circulation to the legs, with a p value < 0.05 (16).

Conclusions

Before foot exercise, the level of the mean, median, mode and a minimum of data, showed the level of ABI on the elderly hypertension before foot exercise are at level below normal range. The level of ABI elderly with hypertension before given foot exercise, has the average level (mean) 0.87. The level of the ABI is most often appear on the respondents (mode) namely 0.89. The value of

ABI lowest (minimum) obtained 0.70. The value of the highest (maximum) ABI that is 0.99. The level of the ABI in patients with elderly hypertension are at risk for a decline (7).

The level of ABI after done treatment in the first week after foot exercise, remain the same. The level of the ABI started having increased in the second week after practice, judging from the level of the mean and the minimum level. The increase in the level of the ABI significantly began to happen in the third week after the exercises. The highest level of ABI before and after foot exercise remains the same 0.99.

On the results bivariate test of the t-test paired, p value the first week (0.114) so not too significant, also in the second week of the p value (0.114). However, in the third week of the p value (0.000). It is mean Ho denied and there is a difference in treatment before and after treatment. Foot exercises have a significant effect on increasing the level of ABI. Foot exercise is significant to boost the level of the ABI, which could have an impact is great for the health of elderly with hypertension.

List of abbreviations

ABI: Ankle Brachial Index; BPS: Badan Pusat Statistik; LDL: Low Density Lipoprotein ROM: Range of Motion; SOP: Standard Operational Procedure;

Declarations

Authors' contributions

All Authors participated in the design of the research. WS and Im performed the data analysis. All authors were part of conclusions and final result. IM drafted the manuscript and all authors read and approved the final manuscript.

Authors' information

[1]Nursing Student in Nursing Department, Faculty of Medicine, Universitas Udayana, Denpasar, Indonesia. [2]Lecturer of Community Nursing in Poltekkes Denpasar, Denpasar, Indonesia. [3]Lecturer of Maternity Nursing in Nursing Department, Faculty of Medicine, Universitas Udayana, Denpasar, Indonesia.

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Ethics approval and consent to participate

Researchers have been taking care of permits service research on the Dinas Perijinan Provinsi Bali and Dinas Kesehatan of Denpasar city. After that research has also passed an ethical clearance in Sanglah Hospital. Before doing exercise, the respondent elected, has approved and signed the inform consent willingness following the research.

Consent for publication

Not applicable.

Availability of data and materials

Data may be shared with the contact email address on the first author.

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Competing interests

The authors declare that they have no competing interests.

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BARRIERS TO THE OPTIMAL EARLY IDENTIFICATION AND INTERVENTION OF DEVELOPMENTAL DELAYS IN INDONESIAN CONTEXT

Mardiyanti[1*§], Cuthbertson[2*], Jewell[3]

[1]Child and Maternal Department
School of Nursing, Faculty of Medicine and Health Science Islamic State University, Jakarta, Indonesia
[2]School of Nursing & Midwifery, Flinders University, Adelaide, Australia
[3]Disability and Community Inclusion, Flinders University, Adelaide, Australia;

*These authors contributed equally to this work
Emailing address:
MY: *mardiyanti@uinjkt.ac.id*
LC: lesley.cuthbertson@flinders.edu.au
PJ: paul.jewell@flinders.edu.au

Abstract

Background: Child's developmental surveillance have been implemented in developed countries as the basis to identify developmental disabilities earlier, however, this is not happened in Indonesia. More investigation is needed to find barriers to the implementation of developmental surveillance.

Method: Eleven community health nurses have been participated in a multiple semi-structured specialized interview.

Findings: Four themes of barriers emerged, these include lack of support to conduct development assessment, time constraint as a result of a high patients' number, parents' lack of knowledge about the child development, and a lack of recognition of nurse's role.

Conclusion: Trainings of developmental screenings and awareness of early intervention program are imperative for the nurses beside of reforming local policy regarding the implementation of developmental screenings.

Keywords: *Developmental delay, screening, barrier, children, Indonesia*

Background

Developmental delay in both developed and developing countries remains a significant problem in promoting early identification and intervention, despite many enhancements in health care services. Within this context, developmental monitoring/surveillance and screenings are believed to be the main contributors in identifying developmental delay early in a child's life (American Academy of Pediatrics, 2006; Pizur-Barnekow et al., 2010). WHO stated that developmental delays can be a basis for identifying children who may experience a disability. Early identification however, should be underpinned by early intervention services to fully support the needs of children with developmental delays or disabilities and their families (WHO, 2012).

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Previous study found that Indonesia's developmental screenings (literally calls as *Kuesioner Pra Skrining Perkembangan* or KPSP) were not yet implemented in Banten province's community health centres, Indonesia (Mardiyanti, 2015). Meanwhile, Indonesian Ministry of Health has enacted two policies; number 741 and 828, which stated that Early Identification, Detection and Stimulation of Child Developmental Program (literally called as *Stimulasi, Deteksi, Intervensi Dini Tumbuh Kembang* or SDIDTK) as part of minimum health services (literally called as *Standard Pelayanan Minimal* or SPM) in Indonesian community health centres (Mardiyanti, 2015). These may create barriers for local governments as they may also have limited resources including limited expertise and funding. Therefore, investigating the barriers to early identification and intervention of children with developmental delays and disabilities in the Indonesian context remains important in solving current problems.

Methods

An interpretive qualitative approach with multiple semi-structured specialised interviews has been employed to collect data (Munhal, 2007; Sarantokos, 2013). Eleven participants were recruited from 4 community health centres in City of Tangerang Selatan, Banten Province Indonesia. Participants had been working for a minimum of 12 months in the centres. Twice interviews have been conducted, however only five out of eleven participants participated in the second interview due to their business. These participants were approached with a written summary of the first interview, to be read and they were asked to add notes of clarification or addition. All of those written documents were returned and were signed by this group of participants to show their agreement with the content of first interview. In addition, all of the interviews were audio-recorded and transcribed. Thematic analysis (Braun & Clarke, 2006) was used to analyse data. The data were translated from Bahasa Indonesia into English version by the main researcher who originally from Indonesia.

Results

Barriers refer to any external or internal factors that prevent the participants from performing an optimal monitoring of child development including assessment and intervention. There are four themes including, lack of support to conduct development assessment, time constraint as a result of a high patients' number, parents' lack of knowledge about child development, and lack of recognition of nurse's role.

1. Lack of support to conduct developmental assessment

A lack of support consisted of shortage of training, limited nurses on staff and an unsupported work system. All of the participants clearly indicated that they had not received any training related to child development monitoring and assessment, including SDIDTK training. Fionna, while aware of health promotion and maintenance, quite clearly indicated the logistical limitations to including this in the nurses' practice.

> *"We never had any training in relate to child service, there was only IMCI training for child health service, but that allocated for doctors in this centre, meanwhile other centres has allocated to nurses (grinning)…" (Clara, Centre 1)*

As a result of lack of support, two participants who perceived the early identification of developmental delay as their roles believed that they need to commit the child developmental milestones to memory.

"It's because limitation; I can't memorize that entire child development milestone (Lisa, Centre 2)

In addition, as a result of lack of support and no program regulating child developmental assessments in the centre; three participants acknowledged that they rarely did developmental assessments. As a result of no training, the nurses felt inability to conduct a developmental screening. A lack of knowledge about and the inability to perform developmental screening was reported by some of participants who showed confusion, limited skills and limited understanding of some disabilities. The last comments by Ruth and Susanne illustrate this lack of knowledge.

"If there a child with development problems come… that is…I feel hard…I feel myself does not really understand (hesitance, look confuse)…how to assess, how to implement the nursing care…", (Susanne, Centre 3).

2. Time constraint as a result of a high patient' numbers

Three of nurses described the significance of time constraints which were connected to the high number of patients they saw on a daily basis as barriers to conducting a developmental assessment. Susanne commented that this workload took a heavy toll on their energy levels.

"Too many patients, the patient average were high, we need to be quick" (Clara, Centre 1)

3. Parents' lack of knowledge about child development

A low level of awareness of child development by the parents emerged from the data. The nurses perceived that parents did not understand their child's development, in terms of developmental delay or its management. They felt that parents only attended the centre if there was a health issue and did not see the significance of seeking confirmation of the child's developmental progress. Some participants believed this to be influenced by a low socioeconomic status. Five out of eleven participants mentioned this sub-theme some of which are shown in the comments below.

"You know that generally only people from low economic status and low education who come here, and they only come if they ill, if they not ill, they won't come here to check their child" (Ruth, Centre 4)

4. Lack of recognition of Community Health Nursing (CHN) role

Lack of recognition was an aspect that participants believed and had experienced in their child health service in the centre. Seven participants believed that monitoring child development was part of their community nursing roles. Some of them understood the difference between growth and development. One of them explained that socioeconomic status has a correlation with developmental delay. Another participant explained the delay was due to a lack to parental understanding.

"Nurses have a role in detection and finding the case of the developmental delay because this case usually comes from low social economic status" (Michelle, Kelly, Anne, Centre 2)

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Moreover, as there were midwives responsible for the maternal and child health program, four nurses believed midwives were responsible for monitoring the child's development. As a result, the nurses perceived their role was to focus on other more acute needs of the child mandated by the managers. This perception is clearly evident in the following quotes.

> *"Child developmental screening should be done by the person responsible in the program, and mostly midwife who is the person responsible for child program" (Barbara, Centre 1)*

Two participants disclosed that the government only employed Nursing Diploma degree to be accepted as civil servant in the centres, whereas those of their colleagues who hold a Bachelor of Nursing degree can only be employed as an additional worker on less income. This situation may depict a lack of recognition of CHN role in the CHCs.

Discussion

Barriers to the optimal detection of early identification and intervention of developmental delay are described in various ways. Participants highlight a lack of training in child developmental assessment as the major barrier. In fact, none of the participants have received any training in relation to child development support including SDIDTK training. There was some confusion shown by the participants in describing their experiences in this area, as they believe they need to memorize developmental milestones. As a result, they often assess child development without any guidelines or referral to the doctors in the centres. Furthermore, participants feel unqualified to conduct child developmental assessments including screenings and provide early intervention of developmental delay. Other barriers emerging from the study include time constraints as a result of caring for large numbers of patients and dealing with parental lack of knowledge of child development including child developmental delay. This may relate to the fact that there are only 7 nurses in centres with inpatient and emergency services and 3 nurses in the other centres with no inpatient service. In addition, participants mention that, on average, child patients' number between 35 and 50 per day. The scale of the nurses' workload is compounded by the fact that the population of Tangerang Selatan is approximately 10 million and has only 25 Community Health Centres in total (BPS, 2010; Siknasonline, 2013).

In regard to the participants' education background, none hold a bachelor degree in nursing. In contrast, nurses in primary care services and particularly community child health, in other countries, and in particular those from developed countries graduate with bachelor degrees in nursing (Walsh & Mitchell, 2013), plus a child health post graduate certificate (Barnes et al., 2003). These qualified nurses are commonly known as child health nurses or child and family health nurses (CaFHN) (Fraser, 2014). This significant difference in educational level may enhance their knowledge of child developmental delays and disabilities as well as knowledge about child developmental assessment.

Government initiatives in the child welfare service may also influence the roles of nurses in Indonesian settings. The lack of initiative in providing child developmental assessments using SDIDTK guidelines as suggested by the

Ministry of Health may result in inappropriate assessment without any guidelines. In fact, there are four government documents that regulate how SDIDTK guidelines are used as part of child developmental services in the CHCs. These include the Indonesian Ministry of Health Regulation Number 128 (2004) which outlines CHCs basic regulations; Number 741 (2008) concerning minimal standards of health service in Districts/City; Number 828 (2008) which covers the technical operations of the minimal standards of the health service in Districts/City, and Regulation Number 19 (2011) which is about integration services in *Posyandu* (Ministry of Health, 2004, 2008a, 2008b; Ministry of Home Affairs, 2011). From these three Ministry of Health regulations, it can be concluded that child developmental monitoring is included in the minimal standards of health service in each of the Indonesian Districts/cities which authorizes baby-health visits and child under 5 health services (Ministry of Health, 2004, 2008a, 2008b; Ministry of Home Affairs, 2011). It can be concluded that the local department of health fails to comply with the standard minimal service regulations as the participants said that they did not know about SDIDTK guidelines.

Early identification of developmental delays and disabilities is critical to support the optimal development of children. One of the main aims of an early identification program is to ensure that children in need receive appropriate and timely intervention. Although early identification of developmental delays and intervention for children with developmental delays and disabilities exist in most developed countries (Barbaro & Dissanayake, 2012; Barbaro, Ridway & Dissanayake, 2011) this may not happen in developing countries, particularly in Indonesia.

Conclusion

Indonesian nurses face significant barriers which differ from other nurses' roles in developed countries. Beyond low levels of education, lack of training, managing too many patients, being concerned with parental lack of knowledge about child development and too few child developmental programs, nurses in Indonesia face lack of recognition of their roles in community health. As a result, they often feel under confident to carry out developmental screenings and monitoring yet is ready to act if they meet children with atypical development.

Declarations

Authors' contributions Concept generation, data collection, writing and editing of the manuscript (MY), Concept generation, critically reviewed, writing and revision of the manuscript (LC), critically reviewed and revision of the manuscript (PJ).

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THE EFECTIVENES OF FAMILY PSHYCOEDUCATION IN PATIENT DIABETES MELITUS PROBLEMS : A SYSTEMATIC REVIEW

Maria Paulina Dafrosa Pili

Master of Nursing Student, Faculty of medicie Brawijaya University, Indonesia

Corresponding Author
Maria Paulina : **rarolinda.don@gmail.com**

Abstracts

Background: Diabetes Mellitus (DM) is a health problem that affects productivity and can degrade Human Resources. The disease does not only affect the individual, but also on the family as a care giver. Diabetes mellitus is a disease that takes a long time for the healing process and it requires no small cost, causing problems in the family both physically and psychologically. Currently, DM disease prevention efforts have not occupied the main priorities in health care. Family psychoeducation is very effective to help solve the problems of family members with chronic illness issues one of which diabetes mellitus. The aim *systematic review* this is to determine the effectivity of psychoeducation family in patients with chronic disease diabetes mellitus

Methods: Making *systematic review* this starts with finding and analyzing all eligible studies research, review articles and contained in the electronic database is PubMed, Medline, Proquest, Science Direct. The literature review emphasizes on the research granting family psychoeducation in patients with chronic disease diabetes mellitus

Results: Of the eight research articles were analyzed, there are several approaches to family psychoeducation in treating patients with diabetes mellitus. Among *multisystemic therapy* (MST) *Behavioral Family Systems Therapy with diabetes* (bfst-D), ES, SC, into one practice evidence-based strategies that are relevant and effective in improving the consistency, quality of life in patients with diabetes mellitus. The results showed a significant change towards the positive in patients with family involvement. research studies have tested two intervention models of family therapy were adjusted for *diabetes:multisystemic therapy* (MST) and *Behavioral Family Systems Therapy with diabetes* improving treatment adherence and reduce the number of emergency room visits. Two studies found that the presence of parents can affect glycémie better control. The results of another study showed that, in the family psychoeducation in 5 sessions showed the p-value (0.000) <á (0.05). These results show psychoeducation effective in lowering the level of anxiety family as a *care giver* in the care for sick family members Chronic Diabetes mellitus.

Conclusion: The provision of family psychoeducation in patients with chronic disease diabetes mellitus In family suggested systematic review do not experience psychological problems in treating patients long with a considerable cost.

Keywords: family psychoeducation, load ancestry, diabetes mellitus

Background

Chronic disease is a prolonged illness and rarely cured perfectly. Although not all chronic disease is life-threatening, but it would be an economic burden for individuals, families, and society as a whole. Chronic diseases will lead to medical problems, social and psychological that would restrict the activities. National Congress sponsored by the national program of Robert Wood Johnson Foundation" *Improved Chronic Illness Care"* (ICIC) in collaboration with the *Institute for Healthcare Improvement* (IHI) said that "chronic diseases spend the direct medical cost of US $ 470 billion and a decline in productivity of more than $ 230 billion per year. ICIC has developed the Model treatment of chronic, which identifies changes in the health system needed to manage chronic diseases effectively. this model emphasizes on the four components of major system changes to provide better care to the chronically ill: (1) Utilizes use of community resources and health care providers, such as nurses and health educators (2) engaging and consulting with patients and families to help manage chronic conditions (3) Redesign the delivery of care to improve services for people with chronic pain (4) to encourage the health system to operates with guidelines or explicit protocols and utilizing the latest clinical information systems. Diabetes mellitus is a chronic disease that requires the participation of the family in care for the improved quality of life.

Patients with diabetes mellitus (DM) in Indonesia is currently ranked fifth in the world. Based on data from the IDF Diabetes Atlas, in 2013 people with diabetes in the country reached 8,554,155 people. Even these figures further increase in 2014 to reach 9.1 million people. In 2035 the number of people with diabetes is predicted to soar up to a value of 14.1 million people with 6.67 percent prevalence rate for the adult population. The disease is related to lifestyle. Education about the disease is very important to prevent and improve the quality of both patient and family therapy can get the maximum treatment,(1)Research Goodridge revealed diabetes can affect the quality of life of sufferers associated negative emotions, social effects, decreased social activity, family conditions are unfavorable as tense or concern excess, work very less (obstructed) to financial problems. Patients with both diabetes type 1 and type 2 decreased quality of life-related to fear experienced on the complications that can be caused by the disease. The quality of life is - matters contained in the individual *(Health Related Quality of Life / HRQOL)* which cover physical, psychological, and social, of the health sector. Quality of life of the patient should be an important concern for health professionals can be a reference for the success of an action or intervention or therapy.

DM is a disease in which glucose (a simple sugar) in the blood is high because the body can not release or use insulin adequately. Insulin is a hormone released by the pancreas, is responsible for maintaining normal blood sugar levels. Insulin sugar into the cells so that it can produce energy or stored as energy reserves. If you already have the disease the patient physically and psychologically annoyed. Generally, the impact diabetes complications are quite alarming, such as paralysis, wound incurable, disease even followers. To cope with diabetes, need special handling, which is a comprehensive method of medical treatment. In addition to medical treatment, the patient is also treated as a psychological form of education about diabetes. Given this expected quality of life for people with diabetes can increase

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Methods

The method used is *systematic* reviews. The sources used in the study of literature and electronic databases search results are PubMed, Medline, Proquest, Science Direct, the keywords used to search the international journal is family psychoeducation, chronic disease diabetes mellitus, family therapy in nursing mental, psychological therapy in diabetes mellitus., journals used by 7 of the journal which is used in the manufacture of review systematic that have been selected based on criteria of exclusion and inclusion. Defined criteria are 1) the accessibility of clinical practice guidelines published in journals indexed by internationally through web-based portal, 2) Specifics on psychoeducation family of chronic disease diabetes Mellitus, 3) methods of research in the article used is mixed qualitative and quantitative methods, observational, case-control and experiment), 4) the period of publication of the article of research is years from 2010 to 2017, 5) characteristic of respondent families with family members of patients who have diabetes mellitus

Results

Journaling on a systematic literature search of this review begins with identifying the various titles and abstracts of therapy family in patients with Diabetes Mellitus, then evaluated journals are obtained as many as 15 relevant journals, later selected again more specifically into exclusion and inclusion criteria in order to obtain seven major journals used for *systematic* review. Of the seven such journals, there are 3 articles that are highly relevant to good quality.

Research studies have tested two intervention models of family therapy were adjusted for *diabetes:multisystemic therapy* (MST) and *Behavioral Family Systems Therapy with diabetes*. The research found that MST improves treatment compliance and reduce the number of emergency room visits. Bfst-D delivered in 12 sessions over 6 months and includes PST, communication training, cognitive restructuring, and functional family therapy. Families were randomized to bfst-D, compared with educational support (ES) and SC, had a significant reduction in conflict and improved diabetes control gliken were checked in the period of 6, 12, 15, and 18 months. Two studies found that the presence of parents can affect glycémie better control (2).

The other study was also conducted in patients with diabetic ulcers with respondents as many as 15 people in the control group and the treatment group. In the treatment group given family psychoeducation in 5 sessions, There is a significant decrease in anxiety in the family in caring for patients with Diabetes Mellitus ulcer before and after the family psychoeducation. The results showed the p value (0.000) <á (0.05). Psychoeducation effective in reducing anxiety. before psychoeducation on keuarga, there are 64.67% had anxiety, and after the family psychoeducation be 28.73%.

Research conducted in 2012 using a mix of methods to explore the perceptions and knowledge of family members to provide support to family members who do not provide support for compliance and control blood sugar levels. In the group of family members who do not support the behavioral control of your blood sugar levels are poor, and in the process of treatment in these studies do not provide support families who obtained the expressions of family members who say that they do not get support from the family.

In the same year (2012), Luciano dkk conducted a review on the *care giver* who have earned psikoedukasikeluarga /family psychoeducation (FPE) they concluded that FPE leads to better outcomes for patients and family members. The results showed that nearly half of the respondents have a social support in both categories by 40% and the level of anxiety in the category of 56.7%. Based on the results of Spearman correlation test p-value = 0.000, r = 0.737, which means there is a strong relationship between social support and anxiety in patients with diabetes mellitus. Social support involves emotions and a positive assessment on the individual in the face of problems. This support is very influential for individuals to adapt and interact with their environment. Social support can be obtained from family members, friends, relatives and caregivers who are external sources that can provide relief to the patient in the face and the face of a problem, especially regarding the disease (3).

In the journal of the Society of General Internal Medicine in 2012 researchers conducted eight focus groups audiotaped in African Americans (four with diabetic patients and four with no family members diagnosed with diabetes). Analyzed with a grounded approach. Family members said the inconvenience of meeting the needs of family members with diabetes mellitus, the family considers their communication did not help, and confused about their role in the treatment of diabetes. "In addition, recent studies have shown aspects of family functioning can affect weight loss among African Americans that do not have the disease diabetes mellitus (2).

Samantha Estrada University of Northern Colorado, Greeley, Colorado, the United States of researching on family support for the healing of mental health. Psychoeducation family made online to address critical gaps.psychoeducation conducted during the 8-week online in families with family members who have health problems are psychological. the study qualitatively to explore the family in dealing with problems in the family who has a problem in this way is optimal in the treatment of patients with approach mixmethode study conducted to explore the relationship between participants' perceptions of the self-care knowledge of diabetes in family members. Here are discussed the behavior of people with diabetes who are very supportive and don't support which resulted in compliance and control blood sugar levels. The study provides family psychoeducation for 6 months. Results reported an increase in behavioral support and decrease the behavior of family members do not support family members (Kang et al). Researchers also conducted on 11 focus groups with two to six participants, a trained facilitator and a note taker trained. Each focus group discussions 60 minutes and after it conducted a survey of 20-30 minutes. Behavioral support families and rated the lists are friendly behavior Behavioral Diabetes / *Diabetes Family Behavior Checklist* (DFBC) of 16 items DFBC was 0.82 for the scale of the support and 0.74 for the subscales were not supportive. Shapiro-Wiik normality test and Mann-Whitney test, family members who do not support the behavior associated with the reported adherence to dosage worse against diabetes medications ($p = 0.44$, $p < 0.001$), the value of ALC higher ($p = 0.29$, $P = 0.03$). Thus, adherence to dosage encourage relationships between behaviors that do not support families and poor treatment adherence overall ($p = 0.43$, $P < 0.001$) (4).

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Discussion

Patients with diabetes mellitus experiencing emotional stress, the emergence of a feeling of negative feelings, including feelings of hopelessness, helplessness, anxiety and depression. This condition can occur given that diabetes mellitus is a chronic disease that requires changes in both the short term and long term. Diabetes mellitus is also associated with a lifestyle to affect aspects - aspects of the life of individuals with diabetes mellitus. The impact of diabetes mellitus on aspects - aspects of life requires a complex and demanding management of individuals with diabetes mellitus can implement behavior change program appropriately and discipline. Relatives of the family members, who face mental health challenges often burdened with financial pressures, as well as health problems. People - people facing mental health challenges such as schizophrenia often rely on family members for emotional and financial support.

Families are considered important for the recovery of the patient when they are equipped with knowledge and skills to support the healing process of a family member in this case the role of the family is needed in the process of healing the family members who are having problems or diseases such as chronic illness Diabetes mellitus , The family were members of the family suffered chronic disease often experience a "burden on my family in which" the most common problems reported were depressed due to financial difficulties, feelings of isolation, lack of socialization, feel confused, worried about the stigma, worry about the future, and not able to do the optimal treatment. Involving the family in treatment is critical to patient recovery and family functions. The nurse's role in this regard encourages families to establish social support. While multi-family group provides benefits both in terms of social relations and cost, and can improve treatment compliance. Families are required to attend group sessions, compared with a therapist visit home. Evidence shows that MFPE as effective as single-family psychoeducation (SFPE).(5)

In another journal says that the disorder is the relationship between mother and child in the family is the primary relational context of the emergence of a lack of confidence in daughter. Clinical observations and theories have asserted eating disorders in diabetes patients in the diet due to interference with the relationship between mother and child, which is characterized by failure empathy mother and unresponsive. Management of Diabetes Mellitus requires adherence to the treatment plan. It would be difficult to run by many teenagers who do not get along with the support of the family. Family involvement is widely recognized to provide physical and emotional healing of the population, optimal well-being, quality of life and survival. Effective communication between nursing staff and *care giver* is very important for people with this as it may struggle to meet their needs effectively. Family involvement can support care in reducing the symptoms of behavior by identifying the social and emotional needs, or medical requirement is not met. (6)

Participants reporting does not support the behavior of family members associated with suboptimal adherence to treatment regimens in diabetes someone. Nurses should be about providing psychoeducation to family members about diabetes to improve the motivation that does not interfere with treatment efforts. Diabetes treatment is associated with increased glycémie control to prevent complications and death. Most theories of health behavior

change required to improve diabetes self-care includes components of social support, and family members are considered as a significant source of social support for people with diabetes. Family members can have a positive or negative impact on the health of diabetics. Gilliland et al. conduct experiments on three groups of Native Americans that group psychoeducation for adults family members with diabetes, psychotherapy in patients without family members, and the control group. Treatment was conducted from June to December 2010 in patients with diabetes, some participants reported their family members are not motivated to make lifestyle changes or supporting diabetes self-care behaviors of their own. Therefore, it can be said that in order to achieve a change towards better things, in this case, a better quality of life, it is required for family support. Family-based interventions for the management of chronic diseases and diabetes family interaction. Several studies have shown that the involvement of family members in the recovery process can reduce the likelihood of relapse and readmission to a mental health facility for people who need. The importance of these findings led to the line of family psychoeducation research with therapeutic purposes: (a) educate participants to improve understanding and coping skills, and (b) improve communication skills and problem-solving. Psychoeducation is usually done by a group of people, but the family members and patients were separated during the session. In addition, family psychoeducation has been explored in a variety of settings in order to establish the evidence-based practice, procedures, and recommendations for treatment and education about mental health. Accumulated research on educational family psychoeducation and empirical basis for developing a family program.(7)

Online psychotherapy is not without advantages. First, online psychotherapy can reach people who might not be reached by traditional means. Second, the internet-based interventions (IBIS) offers consumers an increased privacy and anonymity through cost-effective method to reach minority populations and people in isolated geographic. For example, Knaevelsrud, brand, Lange, Ruwaard, and Wagner (2015) were able to offer Internet-based innervations for posttraumatic stress disorder (PTSD) in the area of conflict in Iran. Health promotion using the Internet to reach consumers in their own homes and with a personal message in their own time. As well as in different formats such as video and audio sketches, interactive training and customized feedback to consumers.

In the case of this study, some of the cases studied are limited by their relationship to online psychoeducation program called Family Healing Together. Furthermore, Healing Families Together is an eight-week online course offered to family members of individuals facing mental health challenges. Healing Families Together is one of a kind in the sense that the courses provide online psychoeducation, as well as the philosophy behind this program unique. In this study, I am trying to understand how the philosophy of the program and the employment impact of class participants and how participants feel the benefits and limitations of the program. This type of question can only be answered with the exploratory case study. Finally, methods for the study were (a) semi-structured interviews with some of the cases, (b) a document in the form of evaluation reports, and (c) the checks the website and virtual settings FHT

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program. Participants of this study are part of the original staff of the Family Healing Together. Participants are manufactured Practice Recovery.org and through this website, he provides curriculum Healing Families Together through our Restoring a course known as Restore Hope and our family. The first participants in this study have been working with Healing Families Together curriculum for more than ten years. While he no longer identifies with the diagnosis given to him at an early age, his own experiences shaped the philosophy (8)

Conclusions

Family support in patients with diabetes can reduce the level of anxiety in patients with diabetes mellitus. Family pssychoeducation affects the quality of life of patients with diabetes mellitus. This means that in family therapy, effect on the increase in quality of life of people with diabetes mellitus

Declarations

Authors & contributions

The author contributed in the whole process of main this article

Ethics approval and consent to participate

Not applicable

Consent for publication

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Availability of data and materials

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THE EFFECT OF BITTER MELON FRUIT (MOMORDICA CHARANTIA) EXTRACTS ON SHORTENED INFLAMMATION PHASE OF DEGREE 2 BURN WOUNDS IN WISTAR STRAIN RAT

Miftakhul Ulfa[1], Fariz Aditya Permana[2]

[1]Department of Mental Health Nursing, Universitas Brawijaya, Malang, Indonesia
[2]Departement of Emergency Health Nursing , Prasetya Husada Hospital, Malang, Indonesia
Corresponding Author :
MU: mimiulfah@yahoo.com
FAP: Fariz_4ever@yaho.co.id

Abstract

Background: Burn is an injury as a result of direct contact or exposure to heat sources (thermal), electricity (electrict), chemicals (Chemycal), or radiation. The burn is a type of trauma that may cause high morbidity and mortality, therefore it requires special handling. Bitter melon fruit that contains of flavonoid can be useful as an anti-inflammatory by inhibiting the release of arachidonic acid and secretion of lysosomal enzymes. The study was conducted to find out the effect of bitter melon fruit (Momordica charantia) extracts to decrease inflammation phase of degree 2 burn wounds in wistar strain rats.

Methods: Design of the study used was experimental with true experimental research approach. The sample of the study included 18 wistar strain rats (3-4 months old and 200 -250 grams weight) that were divided into 2 groups. Data were obtained from measurements of erythema values using RGB (Red, Green, Blue) with software adobe photoshop cs 3 and the measurement of the diameter of the wound by a ruler.

Results: The result indicated that the extracts of bitter melon fruit (Momordica charantia) can shorten the duration of the inflammation phase of degree 2 burn wounds on the subject. Statistical data revealed that there was a difference signification on Independent T- Test that showed the value of $p < 0.5$ ($p = 0.000$) in erythema values and $p < 0.5$ ($p = 0.000$) on the measurement of the diameter of the wound. It can be concluded that there is significant effect of bitter melon fruit (Momordica charantia) extracts in shortening the degree 2 burn wounds at inflammation phase on the wistar strain rats.

Conclusions: In conclusion, this findings highlights the importance of extracts of bitter melon fruit (Momordica Charantia) to shorten the duration of the inflamation phase on degree 2 burn wounds on the subject.

Keywords: Bitter melon Fruit Extracts, Inflammation, 2nd degrees superficial burns.

Background

Burn injury is only a type of injury but it involves a damage or loss of tissues caused by higher level of heat or cold generated from various sources such as electricity, chemical, light, radiation and friction. Burn injury can corrupt important tissues such as those in muscle, bone, blood vessel, and epidermis which will initiate deeper destruction in nerve system.

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Based on statistical data from special service unit at RSUPN Cipto Mangunkusumo Jakarta, the number of treated case in 1998 was 107 cases or 26.3% of all treated plastic surgery cases. Of these cases, more than 40% are burn injury at Level II-III with mortality rate of 37.38%.

The recovery of burn injury is a process by which dead/damaged tissues are replaced by new healthy tissues by the body through a way of regeneration. Injury can be said as healing when the surface of injury unites agains and the strength of tissues returns to normal. There are two categories of injury healing. First is the restoration of tissues, meaning that tissues will regenerate into its previous condition in terms of its structure or function. Second is the repair of tissues, meaning that damaged tissues are restored and it is followed by replacement of them by the fixing tissues.

The recovery of injury at inflammation stage proceeds until Day 5. Injury may initiate bleeding. The body stops this bleeding with vasoconstriction, or by creasing the broken end of blood vessel (retraction), or with hemostasis reaction. Hemostasis happens because thrombocyte comes out. This thrombocyte releases prostaglandin, thromboxant, other chemicals, and certain amino acids, that will influence blood coagulation, regulate tone of blood vessel wall, and do chemotaxis against leukocyte.

A treatment for burn injury is using sterilized normal saline liquid. This liquid is a physiological liquid that covers all parts of the body, and it is quite functional to prevent hypersensitivity reaction from sodium chloride. Sterilized normal saline liquid is safe for any conditions. Na and Cl as the contents of sodium chloride remain in plasma form. This liquid may not influence red blood cells, but it can protect tissue granulation at dry condition, maintain humidity around injury, and help injury to proceed healing process. NaCl, however, has weakness. In treating burn injury, NaCl is only supplementary or functional to be the moistener of injury. Therefore, a new idea is emerging in relation with burn injury treatment, respectively using the material from *bitter melon fruit*.

Using natural source for traditional medicines is a fact that is known and acceptable by all nations in the world. There is an idea that traditional medicines are safe or secured more than modern drugs. The reason is that the side-effect of traditional medicines is relatively less than modern drugs. Some researches have found some natural materials that can be used as medicine. Few plants are subjected to examination, and the result indicates that those with positive effect on burn injury healing are vegetables and kitchen spices. One alternative for medicating burn injury is *Bitter melon fruit* (*Momordica charantia*). In this case, *Bitter melon fruit* or *Paria* is used by Indonesian as a material for traditional medicines or herbs. One benefit of *Bitter melon fruit* that may be less exploited until now is that *Bitter melon fruit* has anti-inflammatory effect in the burn injury treatment.

Bitter Melon Fruit is a plant growing well in tropical area including Asia, East Africa and South America. Not only consumed as vegetable, *Bitter melon fruit* is also used as medicine. Anila and Vijayalakshmi (2000) have noted that two attributes give *Bitter melon fruit* with anti-inflammatory effect, and these are flavonoid and saponin. Flavonoid is a secondary metabolite of the plant working as potential anti-oxidant to prevent the establishment of free radicals.

Saponin is known for its characteristic similar to a soap or "Sapo". Saponin is an active compound with strong surface which easily produces a foam when it is mixed with water. Taking account this phenomenon, the author attempts to understand how big is the effect of *bitter melon fruit* (*Momordica charantia*) extract on shortening inflammation period of shallow second-degree burn injury in wistar strain white mouse.

This research is aimed to understand the effect of *Bitter melon fruit* (*Momordica charantia*) extract in cutting inflammation period of shallow second-degree burn injury. It provides scientific explanation about the benefit of *Bitter melon fruit* extract in healing burn injury, especially shallow second-degree burn injury, and it is also useful to save maintenance cost.

Methods

Research is conducted at biomedical laboratory and chemical laboratory in University of Muhammadiyah Malang. Design of research is Experimental True Study. Population of research is Wistar Mouse and it is used as trial animal. The sample is divided into 2 groups, respectively control group and treatment group. The grouping is done by simple random sampling, and each group comprises of 9 animals. The criteria of sample include age of 3-4 months old, body weight of 200-250 grams, male, healthy (without physical disturbance), burn injury area of 1x2 cm^2, similar cause of burn injury due to boiled water, and receiving similar kind of nutrients.

Bitter melon fruit is weighted before and after drying, and the result is 1,000 grams and 550 grams. In the beginning, *Bitter melon fruit* is cleaned and washed with water, and then cut into small pieces. The cuts are dried in open air with good air circulation. It is kept from direct sunbeam by covering them with black flannel cloth. Drying at higher temperature due to direct sun exposure can damage active components of *Bitter melon fruit*. After *Bitter melon fruit* is dried, it is grinded into dust using blender or pound. *Bitter melon fruit* dust is then macerated with ethanol solution and stored into Erlenmenyer Glass. The macerated product is brownish liquid which is then extracted using rotapavor. The liquid in rotavapor is 100 ml *Bitter melon fruit* extract in the form of viscous brownish solution.

Each group is subjected to shallow second-degree burn injury using boiled water. Different treatment is provided for each group. One group has its burn injury area smeared with *Bitter melon fruit* extract, while the other group is treated with NaCl smear on its injury area. The mass of inflammation or burn injury erythema is observed using Digital Camera SONY 12 Megapixel whereas the diameter of erythema is measured with ruler.

The obtained data are analyzed with data homogeneity test using *Test Levene Variances* at significance level of 5%. Data normality test is conducted with *One-Sample Kolmogorov-Smirnov Test* at significance level of 5%. Statistic test is performed with *independence t-test* at trust interval of 95% (Sugiyono, 2006). The calculation of scores is facilitated with a program computer SPSS Version 13 for Windows at significance level of 5%.

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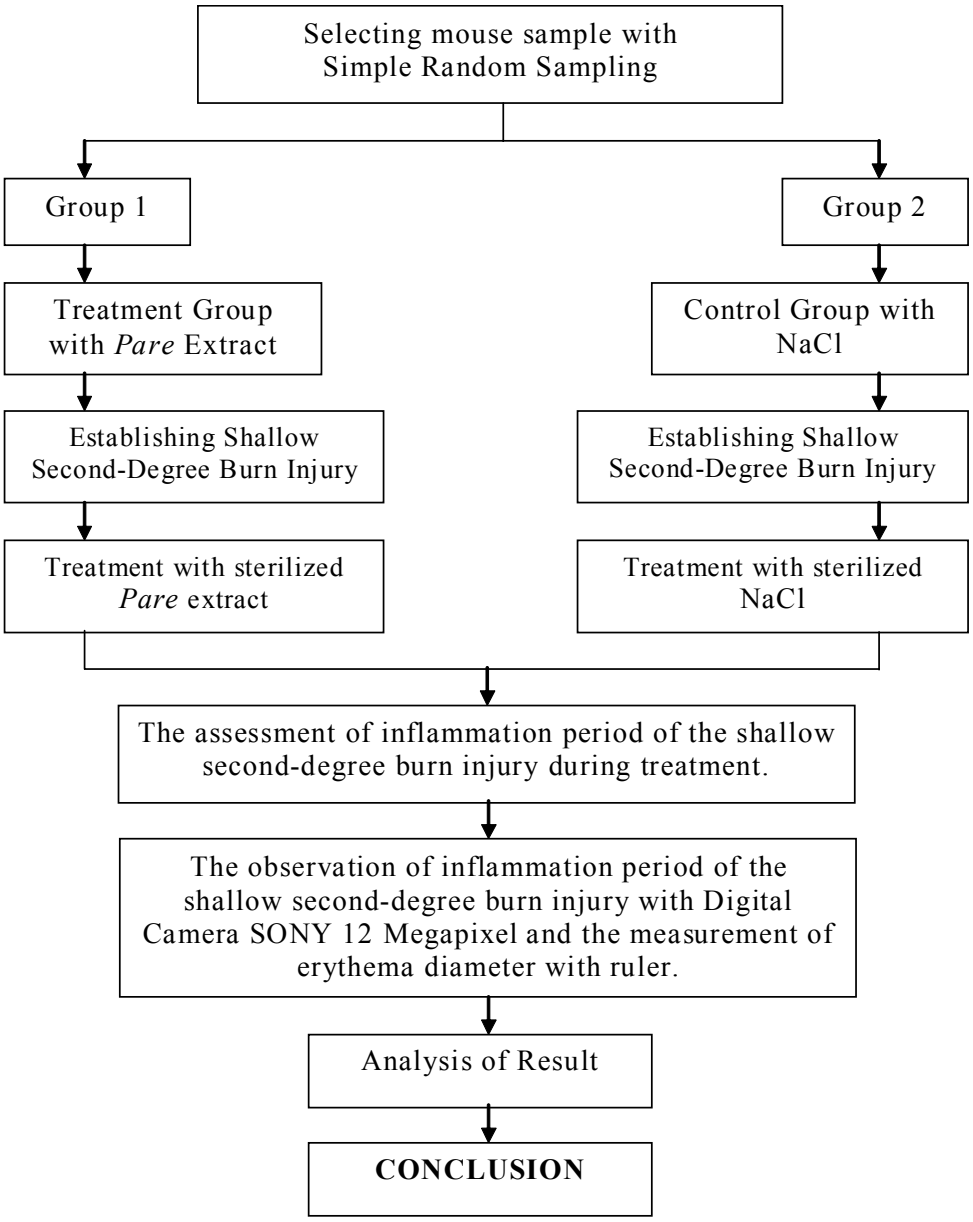
Figure of Research Procedure



Results

Normality test applies *One-Sample Kolmogorov-Smirnov Test*, and the result shows that erythema rate and erythema diameter have normal distribution with significance level of $p > 0.5$. Based on homogeneity test with Levene Variance Test, it is shown that data have homogenous population at significance level of $p > 0.5$. Because data have normal distribution and homogenous population, then independent t-test is carried on. Erythema rate is significantly different between extract group and control group. Erythema diameter is also different between both groups at significance level of $p = 0.000$, and therefore, the difference is significant ($p < 0.05$). Normal value of erythema in mouse skin before the subjection with shallow second-degree burn injury is 111 dpi, while after subjected with shallow second-degree burn injury, the value becomes 152 dpi.

Table 1. Erythema average rate of each group (in dpi unit)

Group	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Extract	110.083	97.694	89.305	84.75	82.555	80.333	75.583	73.305	64.027
NaCl	141.972	126.888	117.555	100.111	94.305	90.222	86.5	84.861	79.972

Table 1 show mean rate of erythema of each group for 9 days. Result of extract group also shows that at first day, erythema rate is 110.083, while NaCl group has 141.972 dpi for its erythema rate. The value of Δ (biggest differential) in extract group is 12.389 and found on first day and second day, while that for NaCl group is 15.084 obtained also at first day and second day.

Table 2. Injury diameter (in cm unit)

Group	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Extract	1.088	0.777	0.655	0.511	0.411	0.377	0.277	0.233	0.177
NaCl	1.088	1.077	0.855	0.6	0.588	0.566	0.533	0.525	0.411

Table 2 display the mean of injury diameter of each group in 9 days. The decline of injury diameter in extract group is still better and stable. For extract group, injury diameter on first day is 1.088 cm, while that for NaCl group is 1.088 cm. The value of Ä (biggest differential) in extract group is 0.311 and derived at first day and second day, while that in NaCl group is 0.222 obtained at first day and second day. During research period, there are 2 subjects in NaCl group suffering from scars.

Discussions

In group treated with *Bitter melon fruit* extract, it is observed that such treatment has shortened inflammation period of shallow second-degree burn injury. Such event is considered as possible because *Bitter melon fruit* extract is anti-inflammatory which may shorten inflammation period of burn injury. One substance in *Bitter melon fruit* extract presumed as having anti-inflammatory effect is flavonoid compound. Precisely, flavonoid compound with anti-inflammatory activity includes apginin and luteolin. There are also synthetic or semi-synthetic flavonoid compounds which are potential to be anti-inflammatory agents, which in this case, these agents are known with name of routin hydroxyethil O-B and quercetin derivate.

Anti-inflammatory mechanim involves some actions. It includes preventing metabolism path of arachidonate acid, establishing prostaglandin, releasing histamin, or "radical scavenging" against target molecule. Through this mechanism, cells are more protected from external negative effect, and thus, it improves cellular viability.

Flavonoid works at microvascular endothelium to reduce the hyper-permeability and inflammation. Some flavonoid compounds can hamper the release of arachidonate acid and also obstruct the secretion of lysosom enzyme from membrane by blocking cyclooxigenase path, that is considered as first path toward eicocanoid hormones, such as prostaglandin and thromboxant.

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Treatment using NaCl 0.9% does not impact on shortening inflammation period because NaCl is only a physiological liquid for treating standard injury. It cleans injury and gives skin with adequate humidity to allow the process of epithelisation. Because NaCl is only physiological liquid, it does not have anti-inflammatory effect like flavonoid in *Bitter melon fruit* fruit. Humid condition causes oxygenation in the injury to decrease, and it may prolong inflammation phase.

Conclusions

Result of research indicates that both *Bitter melon fruit* extract group and NaCl group are different in terms of erythema rate reduction, injury diameter, and biggest differential. However, the effect of *Bitter melon fruit* extract group is more significant. Therefore, it is discovered that the extract of *Bitter melon fruit* (*Momordica charantia*) can shorten inflammation period of shallow second-degree burn injury. It is suggested to have more research on bitter melon fruit (Momordica charantia) dose to shorten inflammation phase of degree 2 burn wound in order to determine the effective dose of the extract of bitter melon fruit by using a comparison of other group such as (SSD) Silver Sulfadiazine, and also to be applied in clinical practice

Declarations: -

Authors' contributions

MU and FA designed this study and participated in ideation and design of visualizations and interactions for the tool. MU and FA tested the tool and suggested improvements.

Authors' Information

[1] (Department of Mental Health Nursing, Universitas Brawijaya, Malang, Indonesia), Correspondence :mimiulfah@yahoo.com/ 08815534930

[2] (Departement of Emergency Health Nursing , Prasetya Husada Hospital, Malang, Indonesia), Correspondence :Fariz_4ever@yaho.co.id/ 089613167875

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Ethics approval and consent to participate

The study was approved by at the Stikes Widyagama Husada following the ethical standards and guidelines of the National Ethical Committee. Written informed consent was obtained from all trial animals who participated in the current study. Laboratory animals are to be provided with humane care and healthful conditions during their stay in any facilities of the institution

Consent for publication

Not applicable

Availability of data and material

Availability of materials and tools in this research has been provided by biomedical laboratory and chemistry laboratory of University of Muhammadiyah Malang

Competing interests

The authors declare that they have no competing interests.

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A SYSTEMATIC REVIEW: IN PRETERM INFANTS ADMITTED TO NEONATAL INTENSIVE CARE UNIT, HOW DOES SINGLE-FAMILY ROOM (SFR) AFFECT THE NEUROBEHAVIORAL OUTCOMES?

Nenden Nur Asriyani Maryani, Ikeu Nurhidayah[2], Henny Suzana Mediani, Sri Hendrawati [4] Fanny Adistie[5]

[1,2,3,4,5] Pediatric Nursing Department, Faculty of Nursing, Universitas Padjadjaran
Bandung, West Java, Indonesia
Email: nenden.nur@unpad.ac.id/081221077887

Abstract

Introduction: The neonatal intensive care unit is important for the survival of preterm infants. However, the Indonesia NICU's environment which support the developmental care is not feasible yet. Whereas, previous studies shows the positive affects of single-family room in neonatal outcomes. The aim of this study was to conduct an evidence-based systematic review and provide an academic estimation of the effect of single-family room on neurobehavioral outcomes of preterm infants in NICU.

Method: The search for resources of this study is confined only to EBCOHost, Proquest, and Pubmed. Studies published in English from 2006-2017 inclusively considered as criteria in this review. The quantitative component of the review was considered as experimental and epidemiological study. Data extracted and summarized by reviewer using Joanna Briggs Institute (JBI). Three prospective studies were included in this review.

Result: The result of this systematic review showed that preterm infants with single-family room had greater neurobehavioral outcomes than preterm infants without single-family room. These improvements are related to family involvement and developmental care support.

Conclusions and Recommendations: Single-family room can benefit preterm infants, families and health care providers alike. Policy makers are able to utilize this review related single-family room to improve the neurobehavior outcomes of preterm infants.

Background

Every year, around 15 million babies were born preterm (babies born alive before 37 weeks of pregnancy are completed) and around 1 million children die each year due to complications of preterm birth. Globally, prematurity is the leading cause of new-born deaths (babies in the first four weeks of life) and the second leading cause of death after pneumonia in children under the age of five. In 2013, Indonesia is the 5th from 10 countries with the greatest number of preterm births (675 700 in numbers) and the 9th of 10 countries with the highest rates of preterm birth per 100 live births: 15.5.(1) The infant born with specific condition require admission to Neonatal Intensive Care Unit (NICU).

The neonatal intensive care unit is important for the survival of preterm infants. Preterm infants are vulnerable to experience various stressors while treated in NICU. In order to lessen the stress of preterm infants, health care provider should develop and implement the developmental care. Furthermore, developmental care had been widely studied as procedure in individualizing care and improving neonatal outcomes. One of the most importants element of developmental care is NICU environments. Nowadays, NICU environments are being redesigned into more developmentally appropriate with some features; single rooms, controlled light and noise, clustered medical intervention and a family-centered approach to preterm infant care. Recommendations for Single-Family Room (SFR) in NICU initially proposed in the 1990s.[2] Single-Family Room (SFR) in NICUs aimed to reduce infant stress, to implement strategies to manage environmental challenges, and to individualize the plan of care to meet the special needs of the preterm infant.[3]

Moreover, no systematic review has been assessed the effect Single-Family Room in NICU on neurobehaviolar outcomes. Despite the many known benefits of Single-Family Room (SFR) for preterm infants and the acknowledgement of its safety, this environment is still not applied in Indonesia healthcare settings. Whereas, the health care providers should improve their quality of care. In considering this approach the evidence of its effectiveness needs to be evaluated as an essential first step. The aim of this study was to conduct an evidence-based systematic review and to provide an accurate estimation of the effect of Single-Family Room (SFR) in NICU on neurobehaviolar outcomes.

Clinical Question/PICOT Question

In Preterm Infants Admitted to Neonatal In Intensive Care Unit, How Does Single-Family Room (SFR) Affect the Neurobehavioral Outcomes?

Methods

Criteria for Considering Studies for this Review/Inclusion Criteria

Types of participants

The quantitative component of this review will consider studies that include preterm infants in NICU.

Types of intervention

The quantitative component of the review will consider studies that evaluate Single-Family Room (SFR) on neurobehavioral outcomes

Types of outcomes

This review will consider studies that include the following outcome measures: neurobehavioral outcomes.

Types of studies

The quantitative component of the review will consider both experimental and epidemiological study designs including randomized controlled trials, non-randomized controlled trials, quasi-experimental, before and after studies, prospective and retrospective cohort studies, case control studies and analytical cross sectional studies for inclusion.

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Search strategy

Keywords

Initial keywords was utilize the MeSH term that commonly used. Population (P) used Preterm/Infant/neontates/baby. Intervention (I) single-family room used Outcomes (O) used neurobehavioral outcomes. Keyword combination utilize Boolean Operator with used "AND" or 'OR".

Initial search

The search strategy aims was to find published studies. An initial limited search of Proquest, EBCOhost, and PubMed have be undertaken followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe article. Studies published in English and in years 2006-2016 was considered for inclusion in this review.

Data extraction

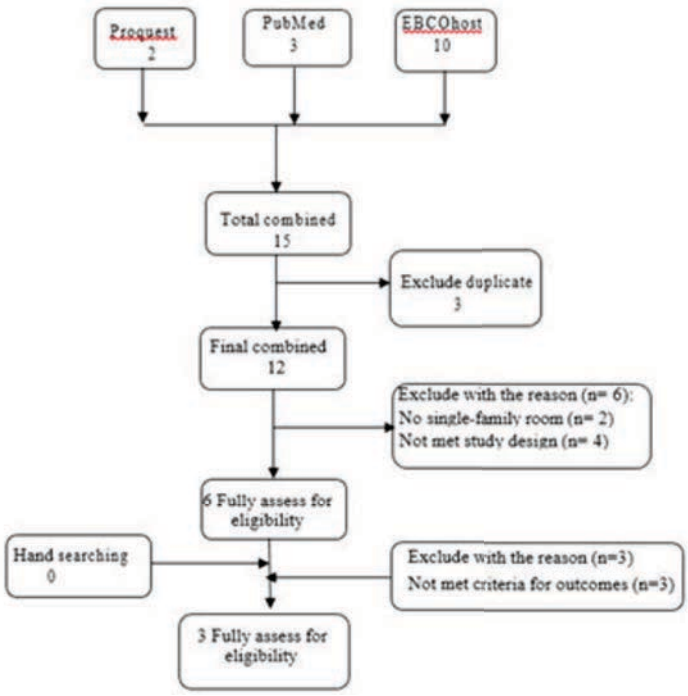
Data extracted by the reviewers and summarized using the JBI data extraction tool. Collected data includes participant demographics, sample inclusion and exclusion criteria, study setting, number and reasons for with-drawal from study, type and description of complementary therapy intervention, application and follow up of intervention, measure of outcomes, statistical methods and study outcome descriptions.

Results

Searching Results

The literature searches generated 14 records through searches of databases, excluding duplicates (3). From above number, we exclude the studies that were not single-family room (2), not meet study design (4). For total reviewed the full text of the remaining 6 records. Finally, author only included 4 studies to be reviewed. Even though we only include 3 studies but the 3 studies have key strength in method.

Figure 1. Flow diagram of study selection



Study Results

The review about SFR on neurodevelopmental outcomes in preterm infants comprises three prospective studies. The result of this review showed that SFR is an effective NICU design to improve the neurodevelopmental outcomes of pretem infants in NICU.

Table 1. Data synthesize of massage therapy for infants

Authors	Level (JBI)	Purpose	Participant /study	Method	Intervention	Results
Lester et al, 2014 [4] (United State of America)	2C	To determine single-family room (SFR) NICU, including factors associated with the change to a SFR NICU on improvement of medical and neurobehavioral outcomes	151 infants in an open-bay NICU and 252 infants after transition to a SFR NICU.	Longitudinal, prospective, quasi-experimental cohort study Conducted between 2008 and 2012 comparing medical and neurobehavial outcomes at discharge	Open-bay NICU and Single-Family Room (SFR) NICU	Statistically significant results showed that infants in the SFR weighed more at discharge, had a greater rate of weight gain, fewer medical procedures, had a lower GA at full enteral feeds, and had less sepsis. Infants in the SFR also demonstrated increased attention, less physiologic stress, less hyper tonicity, less lethargy, and less pain. The neurobehavioral outcomes showed that the statistically significant differences between the 2 NICUs in attention, stress, and pain were also mediated by developmental support or maternal involvement.
Lester et al, 2016 [5] (United State of America)	2C	To determine whether the single-family room (SFR)-NICU is associated with improved 18 month neurodevelop ental outcome, especially in infants of mothers with high maternal involvement.	151 infants in an open-bay NICU and 252 infants after transition to a SFR NICU.	Longitudinal, prospective, quasi-experimental cohort study	Open-bay NICU and Single-Family Room (SFR) NICU with maternal involvement	High maternal involvement is associated with improved 18-month neurodevelopmental outcome, especially in infants cared for in a SFR-NICU. Infants in both the open bay and SFR NICU high maternal involvement groups had greater Cognitive and Language Composite scores and greater Receptive and Expressive Communication scores on the Bayley-III than infants in the open-bay and SFR low maternal involvement groups

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Authors	Level (JBI)	Purpose	Participant /study	Method	Intervention	Results
						On the PDDST-II there were only 17 infants with a positive screen (≥5). Accordingly, we compared the number of infants with no ASD symptoms to the number of infants who had any (≥1) ASD symptoms among the 4 groups. Infants who had ≥1 symptom of ASD were 4.9 times more likely to be in the open-bay low maternal involvement group (n = 42, 76.4%; OR = 4.91, 95% CI = 2.2-11.1) than infants in the SFR high maternal involvement group (n = 23, 39.7%).
Pineda et al, 2014 [6] (United State of America)	2C	To evaluate associations between NICU room type (open ward and private room) and medical outcomes; neurobehavior, electrophysiology and brain structure at hospital discharge; and developmental outcomes at two years of age.	136 preterm infants born <30 weeks gestation from an urban, 75-bed level III NICU from 2007-2010.	Prospective longitudinal cohort study	Private rooms and open ward	At 34 weeks PMA, higher levels of arousal on the NNNS were observed in infants in private rooms compared with open wards [mean open ward 2.9 ±0.7; mean private room 3.4 ± 0.8; p=0.0004, Beta 0.5 (0.9, 0.2)], and associations remained after controlling for CRIB score, insurance type, and cerebral injury [p=0.008, Beta 0.5 (0.9, 0.1)] with good model fit (p=0.02 / r square change 0.1).

Methodological quality

Two studies that conducted Longitudinal, prospective, quasi-experimental cohort study Lester et al, 2014[4] & Lester et al, 2016[5] has been identified as a good quality of study with grade A of recommendation refers to JBI grading system. The other study conducted prospective longitudinal study Pineda et al, 2013[6]. This study also have grade A recommendation also refer to JBI grading system.

Discussion

The result of this review showed that SFR is an effective NICU design to improve neurodevelopmental outcomes of preterm infants. In addition, previous studies showed that SFR has positive effect on neurodevelopmental, neonatal outcomes, parental and NICU staff satisfaction.[3, 7, 8] The SFR design can provide some protection from the stressful NICU environment and allow a private space for parents and pretem infants. The other studies also reported that the SFR is related with preterm infant recovery and may lessen the severity of future impairment.[5] Author only included 3 studies that meet the eligible criteria, it seems that SFR is important but still needs to be widely considered in its implementation in NICU, especially in Indonesia.

Conclusions

The SFR is associated with improved neurobehavioral outcomes of preterm infants in NICU. These improvement related with NICU environment which support the developmental and family involvement. These information strongly support SFR in preference to the traditional open ward facility in NICU. Author reinforce that the SFR should be the new standard for NICU care. Thus, policy makers are able to utilize these information to constitute newest NICU protocols based on reports of neurobehavioral outcomes of pretem infants. Further research is necessary to reveal the SFR on the particular neurodevelopmental outcomes.

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THE EFFECTS OF FAMILY-BASED TREATMENT (FBT) ON ADOLESCENTS WITH ANOREXIA NERVOSA (AN): A SYSTEMATIC REVIEW

Ni Made Candra Yundarini

Master of Nursing, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia

Corresponding author
Email address:
Candra : cyundarini@gmail.com

Abstract

Background: Adolescence is a transition time of human development that occurs between the ages of 11 and 20 years. They are forced to face their own physical, cognitive, and emotional changes which can be very stressful to handle, so they are at a high risk of mental health disorders. The common mental health disorders to develop in adolescence are eating disorders (EDs). These disorders, especially anorexia nervosa (AN), usually undertake in adolescence and continue into adulthood and disrupt the growth and development process. Family-based treatment (FBT) is considered as a therapy that can be used in treating adolescents with AN.

Methods: The phrase "Family Therapy AND Anorexia Nervosa" was used as search terms in the databases' general search engines. Several inclusion criteria were established in order to eliminate the insignificant findings. The inclusion criteria were studies classified as original research, studies involving adolescents diagnosed with AN, and studies comparing family interventions to other interventions in treating adolescents with AN. After going through elimination steps, six eligible articles were included in this systematic review.

Results: The literature search performed in this study discovered six eligible research articles from the year 2013-2016 which met the inclusion criteria. All of these studies showed the effects of FBT on Adolescents with Anorexia Nervosa. Based on the articles, FBT showed some effects on adolescents with AN, such as improving family functioning, reducing eating disorder and depressive symptoms, decreasing menstrual problem, and increasing remission rate of treatment. Even though this treatment was considered less effective than parent-focused treatment (PFT), FBT was way more effective than adolescent-focused individual therapy (AFT) in treating youth AN.

Conclusions: FBT is proven to be an effective treatment in treating adolescents with EDs, especially adolescents with AN. Further research is needed in order to find the most effective implementation strategy of this treatment in adolescents.

Keywords: family-based treatment, adolescent, anorexia nervosa

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Background

Adolescence is a transition time of human development that occurs between the ages of 11 and 20 years. They are forced to face their own physical, cognitive, and emotional changes which can be very stressful to handle. Because these fraught changes are quite difficult to cope with, this stage of development is at a high risk of mental health disorders. Many mental health disorders begin in adolescence, and if they are not properly treated, they will persist into adulthood (1). According to The Second Australian Child and Adolescent Survey of Mental Health and Wellbeing, almost one in seven (13.9%) 4-17 year-olds were assessed as having mental disorders in the previous 12 months. The same survey found that adolescents were almost three times more likely to experience a severe mental disorder compared with children with mental health disorder (2). The common mental health disorders to develop in adolescence are eating disorders (EDs). EDs are fatal psychological illnesses that frequently undiagnosed and often treated incorrectly. These disorders usually occur to people with low self-esteem, lack of self-respect, and body dissatisfaction (3). In Australia, a survey found that low weight problem eating behaviors (underweight on the age-adjusted BMI and practicing weight-controlling behaviors) were reported by 1.1% of 11-17 year-olds while binge eating and purging were reported by 1.3% of 11-17 year-olds (2). EDs in children and adolescents are extensive and have solemn medical and psychological consequences (4). These disorders, especially anorexia nervosa (AN), usually undertake in adolescence and continue into adulthood and disrupt the growth-and-development process (5).

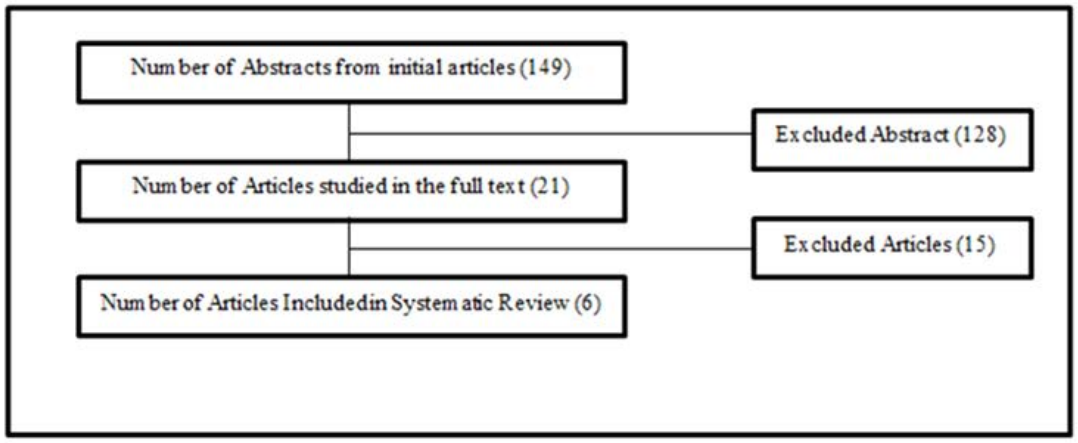
AN is characterized by a morbid fear of obesity and half of the cases had not been detected in the health care system. Symptoms include dissatisfaction of body image, preoccupation with food, and refusal to eat (6). At age 13, 63.2% of girls were described as being afraid of gaining weight or getting fat and 11.5% as being terrified of gaining weight while food restriction was reported at a high level in 2.4% of girls and 1.8% of boys (7). AN has a subtle impact on physical and psychological health. The lifetime prevalence of prior fracture was 59.8% higher in those with AN as compared to those without AN (8). Suicide Mortality Ratio (SMR) were 5.35 for AN, 1.49 for bulimia nervosa (BN), 1.50 for binge eating disorder (BED), 2.39 for narrowly defined eating disorders not otherwise specified (ED-NOS), and 1.70 for widely defined ED-NOS. These findings showed that mortality in AN is excessive and considerably higher than the other eating disorders (9). Some studies suggest that death rates among young women with anorexia nervosa may be as much as 12 times higher than age-matched community comparison groups and up to twice as high as other female psychiatric populations (10). It is important to treat AN early and effectively as otherwise, it can have long-term effects. One of the treatments used in treating this mental health disorder is Family-based treatment (FBT). FBT is a 3-phase, multidisciplinary treatment model for the treatment of AN, focusing on restoration of a healthy weight to reverse and prevent the medical complications of starvation and malnutrition (18). FBT is considered as a therapy that can be used in treating adolescents with AN. It is because this treatment pays close attention to adolescent development and aims to guide the parents eventually to assist their adolescent with developmental tasks (11). The

objective of this systematic review was to identify the effects of FBT on adolescents with AN.

Methods

References were discovered through three different databases (i.e. PubMed, Science Direct, and Proquest). The phrase "Family Therapy" AND "Anorexia Nervosa" was used as search terms in the databases' general search engines. 149 kinds of literature were found through this step. Several inclusion criteria were established in order to eliminate the insignificant findings. The inclusion criteria were studies classified as original research, studies involving adolescents diagnosed with AN, and studies comparing family interventions to other interventions in treating adolescents with AN. 21 original articles met the inclusion criteria based on their relevance and significance to the aim of this study. Among these articles, 6 eligible articles were included in this systematic review (Figure 1).

Figure 1 - Results of literature search and selection process



Results and Discussion

The literature search performed in this study discovered six eligible research articles from the year 2013-2016 which met the inclusion criteria. All of these studies showed the effects of FBT on Adolescents with Anorexia Nervosa. Family functioning from the perspective of 121 adolescents with AN ages 12-18 and their parents was assessed at baseline after one year of treatment. This research comparing FBT and Adolescent-focused Therapy (AFT) showed that FBT was more likely to improve several points of family functioning than the latter. These points were communication ($F(1,82)55.20$, $p=0.03$) and behavioral control subscale ($F(1,82)57.41$, $p=0.008$) which were discovered after a series of repeated measures mixed design analyses of variance (ANOVAs). The communication happened in the family was considered clearer and more direct, while there was increased clarity and appropriateness regarding rules about behavior, according to the perception of all family members (12).

Hughes, et al (13), conducted a study of 42 adolescents aged 12–18 years (88% female) treated with FBT. This study suggested that FBT is an effective therapy to treat patients with atypical AN. During treatment, there were

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significant reductions in some aspects, such as eating disorder and depressive symptoms ($p < 0.05$), the overall prevalence of amenorrhea ($p<0.05$), as well as the broader category of menstrual irregularity ($p<0.05$). During the 6 months of FBT, 12 (75%) of 16 females with amenorrhea at presentation had the return of menses. Individual weight change is shown in this study, ranging from a loss of 10.4 kg to a gain of 13.7 kg, but there was no significant change in percent of median BMI for age and gender for the sample as a whole (105 vs. 106%, $p= 0.128$).

A research comparing FBT in randomized trial care (RTC) with specialty clinical care (SSC) showed that FBT in RCT was more effective than the latter in treating adolescents with AN. Research conducted by Accurso, et al (14) examined outcomes of 84 youth AN at an outpatient eating disorder clinic up to 12 months post-baseline. At the end of this study, it was found that weight restoration was achieved faster in RCT compared to SCC.These findings suggested that FBT was an effective treatment in weight restoration in clinical settings with the broader range of youth with AN.

A study organized by Madden, et al (15) aimed to identify whether early weight gain in FBT predicted greater weight and remission at end of FBT and 12-month follow-up. This study conducted with the samples of eighty-two adolescents, with AN, participated in a randomized control trial (RCT) comparing brief hospitalization for medical stabilization and hospitalization for weight restoration to 90% expected body weight (EBW) (1:1), followed by 20 sessions of FBT. This study showed that weight gain greater than 1.8 kg at FBT Session 4 predicted greater %EBW (99.18 SD=6.93 vs. 92.79 SD=7.74, $p<0.05$) and remission at end of FBT (46% vs. 11%, $p<0.05$) and at 12-month follow-up (64% vs. 36%, $p=0.05$).

Another study was conducted in order to compare the relative efficacy of FBT and parent-focused treatment (PFT) on 107 adolescents ages 12-18 with AN. Participants were assessed at baseline, end of treatment (EOT), and at 6 and 12 months after finishing 18 outpatient treatment sessions over 6 months. This study found that the differences in remission rates between PFT and FBT at follow-up were not statistically significant. Remission was higher in PFT than in FBT at EOT (43% vs. 22%; $p=.016$, OR = 3.03, CI = 1.23-7.46), but did not differ statistically at 6-month (PFT 39% vs. FBT 22%; $p=0.053$, OR = 2.48, CI = 0.989-6.22), or 12-month follow-up (PFT 37% vs. FBT 29%; $p=0.444$, OR = 1.39, 95% CI =0.60-3.21) (16).

An exploratory study reported relapse from full remission and attainment of remission during a 4-year open follow-up period using a convenience sample of a subgroup of 65% (n=79) from an original cohort of 121 participants after a completion of an RCT comparing FBT and adolescent-focused individual therapy (AFT). Two participants (6.1%) relapsed (FBT: n=1, 4.5%; AFT: n=1, 9.1%), on average 1.98 years (SD ¼ 0.14 years) after remission was achieved at 1-year follow-up. This study suggested that there were no differences based on treatment group assignment in relapse from full remission long-term follow-up (17).

According to the articles reviewed above, FBT is considered as one of the best treatment option in treating adolescents with AN. FBT is a 3-phase, multidisciplinary treatment model for the treatment of AN, focusing on

restoration of a healthy weight to reverse and prevent the medical complications of starvation and malnutrition. FBT as an effective treatment for adolescent might have specific outcomes as mentioned in those studies because it has some points which differ it from another treatment. FBT is a solution-focused therapy aimed to help parents to change behaviors of AN in their children (18). This treatment pays close attention to adolescent development and aims to guide the parents eventually to assist their adolescent with developmental tasks (11). In this treatment, AN is viewed as being in control of adolescent's behavior. Improving parental control over adolescent's eating is needed to help adolescent dealing with AN. At this point, the adolescent is in need of a great deal of help from his or her parents. Therapist, on the other side, should primarily focus on the weight restoration in the early parts of treatment, because the early weight restoration can predict the outcome of this treatment (11). Eventhough FBT is not the only option available in treating adolescents with AN, FBT is one therapy that encourages the family to support their adolescents in the battle against AN. Family as a support system for adolescents with AN is an important aspect for the treatment. It is because parents' involvement in the therapy is vitally important to reach the best treatment outcomes in adolescents with AN.

Conclusions

AN in adolescent has serious medical and psychological consequences and increased potential for long-term complications. One the treatments used in adolescents with AN is FBT. This systematic review indicates that FBT is an effective therapy for adolescents with EDs, specifically AN. Based on this review, FBT has some effects on adolescents with AN, such as improving family functioning, reducing eating disorder and depressive symptoms, decreasing menstrual problem, and increasing remission rate of treatment. These outcomes related to the different approach used in FBT than another treatment in treating this mental health problem in adolescents. The different between FBT with another treatment is that it pays close attention to adolescent development and aims to guide the parents eventually to assist their adolescent with developmental tasks. But from the review, none of the articles explained more about implementation strategy of FBT in adolescents. Because of that, further research is needed in order to find the most effective implementation strategy of this treatment in adolescents.

Declarations

Author's contribution

The author contributed in the whole process of making this article.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

The data will be shared to the readers who ask for data and materials of this article. The readers could approach the author through contact details shown above to get more information regarding this article.

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COGNITIVE-BEHAVIORAL SOCIAL SKILLS TRAINING (CBSST) FOR SCHIZOPHRENIA : A SYSTEMATIC REVIEW

Ni Made Sintha Pratiwi

Master of Nursing, Faculty of Medicine, Universitas Brawijaya

Corresponding author
Sintha: sintha.libra@gmail.com

Abstract

Background: Mental disorder nowadays inclines significantly. Severe mental disorder prevalence, such as schizophrenia, reaches approximately 400,000 people or as much as 1.7 per 1,000 citizen. Treatments of schizophrenia patients involve three aspects, which are biology, psychology, and social. Varieties of psychotherapy have been done by practitioners in order to help patient to cope their problems up, one of the ways is CBSST. Cognitive Behavioral Social Skills Training (CBSST) is a group psychotherapy which is a combination of Cognitive Behavioral Therapy (CBT) and Social Skills Training (SST) to improve functioning in patients with schizophrenia. The aim of this systematic review was to identify the effectiveness of CBSST as one of psychotherapy treatment to improve functioning in patients with schizophrenia.

Methods: This study conducted by gathering literatures in the form of scientific articles using the keywords "CBSST" and "Cognitive Behavioral Social Skills Training in schizophrenia", which is obtained through Google Scholar, ProQuest, Science Direct and Pubmed between 2007 and 2017 in the form of full text and scholarly journal. Then, the articles that fulfill inclusive needs were analyzed, namely randomized controlled trial study articles, articles that had been done towards middle-aged and older people, also focus on the impact of CBSST to schizophrenia.

Results: Six studies were analyzed based on relevance, eligibility, and study design**.** There were three articles compare Therapy as Usual (TAU) and CBSST, also three other articles were compare Goal-Focused Supportive Contact (GFSC) and CBSST**.** The results indicated that CBSST was proved to be more effective in increasing the cognitive and social function of schizophrenia patients compared to either TAU or GFSC. It is also effective to train problem-solving and overcomes neurocognitive disorder.

Conclusion: The results suggest CBSST is an effective treatment to improve functioning and experiential negative symptoms in patients with schizophrenia. The findings from six CBSST clinical trials suggest that CBSST should be offered over supportive goal-setting interventions to geriatric and nongeriatric patients with schizophrenia.

Keywords: CBSST, Schizophrenia, Cognitive Behavioral Social Skills Training in schizophrenia

Background

Mental health is a part of health thoroughly. It is a prosperous condition which related to feeling happy, achievements, optimistic, and clear expectations (1). Problems about mental health, also called as mental disorder, can be defined as maladaptive response towards stressor from internal and external environment, which is proved by mind, feeling, and behavior that is not suitable with local norms or culture, and it disturbs social function, job, and/or physic (2).

Mental disorder nowadays inclines significantly (3). Based on World Health Organization (WHO) on 2016, it shows that there are 35 million people got depression, and 21 million got schizophrenia. In Indonesia, a number of mental disorder cases are increasing. Based on Basic Health Research, Ministry of Health on 2013, emotional mental disorder prevalence, showed by depression symptoms and anxiety of 15 years old teenagers, reaches 14 million people or 6% from the number of Indonesia citizen. Meanwhile, severe mental disorder prevalence, such as schizophrenia, reaches approximately 400,000 people or as much as 1.7 per 1,000 citizen (4). Schizophrenia is one of severe disorders that is showed by some behavior such as unable to take care of themselves, unwilling to socialize, feeling unworthy, and/or showed unnatural effect, so it causes social dysfunction in daily life (5).

Treatments of schizophrenia patients involve three aspects, which are biology, psychology, and social. Biology treatment provides medicine and Electro Cardio Therapy (ECT), while psychology treatment provides psychotherapy. Kinds of psychotherapy treatment to schizophrenia patient are individual therapy, group therapy, environment therapy, and family therapy (6). Varieties of psychotherapy have been done by practitioners in order to help patient to cope their problems up, one of the ways is CBSST. Cognitive Behavioral Social Skills Training (CBSST) is a group psychotherapy which is a combination of Cognitive Behavioral Therapy (CBT) and Social Skills Training (SST), which trains coping technique, social function skill, problem solving, and handles neurocognitive disorder (7). CBSST aims to improve function and life quality of schizophrenia patient (8). Based on the background above, this study intends to know the effectiveness of CBSST as one of psychotherapy treatment that can improve function of patient with schizophrenia.

Methods

This study conducted by gathering literatures in the form of scientific articles using the keywords "CBSST", "Cognitive Behavioral Social Skills Training in schizophrenia", which is obtained through Google Scholar, ProQuest, Science Direct and Pubmed between 2007 and 2017 in the form of full text and scholarly journal. Then, the articles that fulfill inclusive needs were analysed, namely randomized controlled trial study articles, articles that had been done towards middle-aged and older people, also focus on the impact of CBSST to schizophrenia.

Result and Discussion

The number of articles gathered with those keywords is 26,655, which is obtained from Google Scholar (18,400 articles), ProQuest ((4,614 articles),

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Science Direct (3,552 articles) and Pubmed (89 articles). After analysis had been done, it was collected 15 articles focusing on CBSST towards schizophrenia. Reviewing 15 literatures, it gained 6 literatures based on relevance, eligibility, and study design (Figure 1 and Table 1).

Figure 1. Results of literature search and selection proces

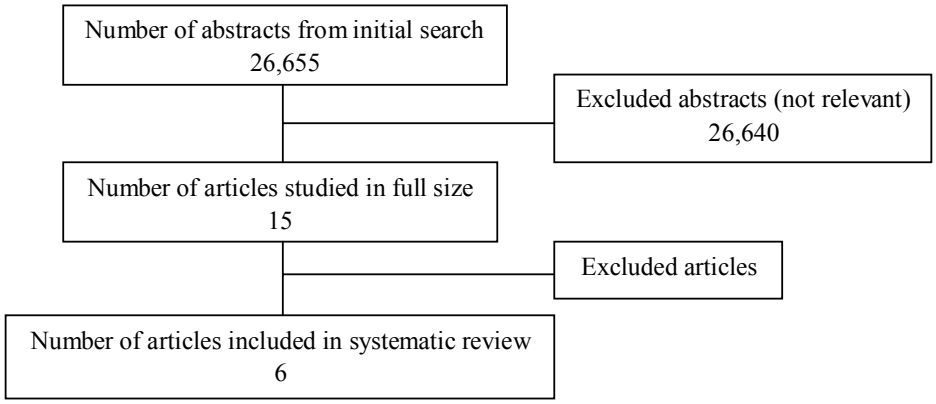

Table 1. Included Randomized Controlled Trial

No.	Authors & Year	Purpose	Method (design, sample, instruments, treatment, data analysis)	Major Findings	Weakness	Strength
1	(9)	Validated psychotherapy interventions that improve functioning in older people with schizophrenia	RCT, N=76, ILSS, TAU & CBSST	The significantly greater skill acquisition and self-reported performance of living skills in the community seen in CBSST versus TAU patients at the end of treatment were maintained at 12-month follow-up	Statistical analysis was not explained	A well-controlled clinical trial design
2	(10)	The study examined whether neuropsychological impairment at baseline moderated functional outcome in CBSST relative to TAU	RCT, N=65, CMT & ILSS, TAU & CBSST, Linear regression	Participants with schizophrenia in CBSST showed significantly better functional outcome than participants in TAU	Exclusion of people with current comorbid substance dependence may reduce the generalization of the findings	A well-controlled clinical trial design, appropriate mediation/moderation analyses. an understudied population, good retention of participants, and a relatively thorough evaluation of neuropsychological abilities associated with functional outcome in schizophrenia
3	(12)	The purpose of this study was to examine whether group interventions can impact social attitudes to improve functional outcome	RCT, N= 79, ILSS & RSAS, CBSST & GFSC, Linear regression	Within the CBSST group, improvers showed significantly better functioning than nonimprovers on the ILSS. Within the GFSC group, the difference between improvers and nonimprovers was not significant.	The functioning measure employed was a self-report measure. A more objective indicator or performance based functioning measure might provide a more accurate estimate of everyday functioning	The study sample was drawn from 2 separate ongoing randomized clinical trials
4	(11)	To determine whether insight moderated the effect of CBSST on treatment outcomes	RCT, N=62, BIS & ILSS, TAU & CBSST, Post hoc analyses	Post hoc analyses showed that reduction of insight-linked hopelessness may have accounted for the positive effect of CBSST on functioning relative to TAU	Small sample and subgroup sizes, lack of control for nonspecific therapist contact factors, and use of a brief self-report insight measure, with a limited range of scores for the subscales.	Strengths of this study include treatment randomization, blind raters, well-matched groups at baseline on all variables, a manualized intervention, treatment fidelity monitoring, and good participant attendance and retention
5	(13)	To determine whether CBSST is an effective psychosocial intervention to improve functioning in older patients with schizophrenia	RCT, N=79, CMT & ILSS, GFSC & CBSST, mixed-effects regression	CBSST is an effective treatment to improve functioning in older patients with schizophrenia	The failure of the randomization to match the treatment groups on the primary outcome measure (ILSS) at baseline	A well-controlled clinical trial design
6	(14)	Identifying treatments to improve functioning and reduce negative symptoms in patients	RCT, N=149, ILSS & PANSS, GFSC & CBSST, Chi-square	CBSST is an effective treatment to improve functioning and experiential negative symptoms in patients with schizophrenia	This clinical trial had a high dropout rate, which limits interpretation of results, because group	This study is the first clinical trial to demonstrate significantly greater improvement in

A study in 2007 compared between Treatment as Usual (TAU) with CBSST to 76 respondents based on DSM-IV criteria ranged from 24 to 74 years old to find out the most effective intervention to increase patient function. These respondents divided into two groups, control group and intervention group. 24 sessions of CBSST was given to intervention group with 12 month of follow up. The significant greater skill acquisition and self-reported performance of living skills in the community has seen in CBSST versus TAU patients at the end of the treatment which maintained for 12-month of follow-up ($p < or = .05$). Participants in CBSST also showed significant greater cognitive insight at the end of treatment relative to TAU (9).

Similar study also conducted in 2008 about TAU and CBSST comparison in increasing schizophrenia patient function. The correspondences were 65 with 53.3 mean age. They are divided into two groups, 32 people with TAU intervention, 33 people with CBSST. CBSST session in the study was 24, the same with 2007 study with 12 month of follow up. Size of the effects for the difference between treatment groups on functional outcome measures at 12-month follow-up were similar for participants with relatively mild (d=.44–.64) and severe (d=.29–.60) neuropsychological impairment. Participants with schizophrenia in CBSST showed significantly better functional outcome than participants in TAU (10). Mutual result was also showed in 2009 study that aims to determine whether insight of moderated the effect of CBSST on treatment outcomes. The study took 62 schizophrenic patients with 42 to 72 age range. The CBSST group showed a trend for having lower rates of hopelessness than the TAU group (÷2 = 3.12, p = 0.08), with double the rate of hopelessness in TAU relative to CBSST, and higher rates of hopelessness in patients with higher insight (CBSST: high n = 3 of 12 = 25%, low n = 3 of 19 = 16%; TAU: high n = 7 of 14 = 50%, low n = 5 of 16 = 31%). Post hoc analysis showed that reduction of insight-linked hopelessness might have accounted for the positive effect of CBSST on functioning compared with TAU (11).

Besides TAU, some research use Goal-Focused Supportive Contact (GFSC) which compared to CBSST. Study conducted by Granholm, Ben-Zeev and Link (12), involves 79 participants. The study uses 36 sessions of CBSST. Within the CBSST group, improvers showed significantly better functioning than non-improvers on the ILSS (mean difference = 0.050, t38 = 2.19, P = .035). Within the GFSC group, the difference between improvers and non-improvers was not significant (mean difference = 0.033, t37 = 0.95, P = .347). Similar study in 2013 compared GFSC and CBSST effects towards the functions of 79 participants with 45 to 78 age range. 36 CBSST sessions was used in the study within 18 months. The results indicated that CBSST has an effective psychosocial intervention to improve functioning in patient with schizophrenia. Functioning trajectories over time is improved in CBSST but declining in GFSC (13). Similar result was also existed in 2014 with bigger total sample (N=149). Functioning outcomes improved to a greater extent in CBSST than in GFSC, suggesting specific CBT and SST interventions had more potent interventions than goal setting and supportive contact method. Experiential negative symptoms and defeatist performance attitudes also improved to a significant greater extent in CBSST relative to GFSC (14).

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From the reviewed article, there were three articles comparing TAU and CBSST, also three other articles which compare GFSC and CBSST. The sessions of CBSST used in this research are various. The research conducted by E. Granholm et al (10) used 24 sessions, while the next research in 2013 used 36 sessions (13). The difference of the amount of sessions in those research obtained the same result namely CBSST, was proved to be more effective in increasing the cognitive and social function of schizophrenia patients compared to either TAU or GFSC. Comparing CBSST with TAU, participants of TAU did not show meaningful improvement in symptom domains and showed declining function over time, thus improvements found in the present study for GFSC are greater than it had been expected before in standard care. However, the functioning improved to a greater extent in CBSST than in GFSC. The results indicated that CBSST is an effective psychosocial intervention to improve functioning in patients with schizophrenia.

CBSST can potentially increase the life quality of schizophrenia clients through: (1) Decreasing cognitive vulnerabilities, such as stiff and powerless mind, (2) Increasing individual's ability to face stressor, such as increasing interaction, practising to ask some support, and (3) Increasing the compliance of treatment programs. CBSST trains cognitive and behaviour skills, social function skill, problem-solving, and overcomes neurocognitive disorder (15). CBSST has an effective role in repairing cognitive and social response on schizophrenia patients. Cognitive response is the central role in adaption process, where the cognitive factors influence the effect of a certain event that is highly stressful, choose a coping that will be used, and the reaction of a person's emotion, physiology, behaviour, and social. In addition, behavior response reflects the emotion and fisiologis responses as the result of cognitive analysis in facing a certain stressful situation (16). Therefore, based on CBSST concept which clients hopefully able to use positive interaction experience to overcome their problems (1). The findings from six CBSST clinical trials suggest that CBSST should be offered over supportive goal-setting interventions to geriatric and nongeriatric patients with schizophrenia.

Conclusion

The results suggest CBSST is an effective treatment to improve functioning and experiential negative symptoms in schizophrenia patients. Thus, the six CBSST clinical trials' findings conclude CBSST should be given over supportive goal-setting interventions to geriatric and nongeriatric patients with schizophrenia.

Declarations

Authors' contributions

This research was conducted by single author.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and materials

Data may be shared with the contact email address.

Competing interests

The author has declared that no competing interests exist.

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EFFECTIVENESS OF COGNITIVE BEHAVIOURAL THERAPY (CBT) ON DIABETES MELLITUS WITH DEPRESSION: A LITERATURE REVIEW

Ni Made Sri Muryani[1,2]

[1]Akademi Keperawatan Kesdam IX/Udayana
[2]Magister of Nursing, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia.
Coresponding Author
Email : s.muryani11@yahoo.com

Abstract

Background: Diabetes Mellitus is one of the chronic or prolonged diseases. Depression is usually related to some of chronic diseases, in which, the strongest link is to diabetes mellitus. Cognitive Behavioural Therapy (CBT) is a renowned psychological therapy to challenge dysfunctional thoughts, negative behaviour, and belief effectively. Therefore, CBT is said to be effective on patients with anxiety and depression.

Methods: Articles that are used as sources were obtained from Google Scholar, Pro Quest, and Science Direct from the year of 2010 to 2017. After obtaining it, then articles were assessed until the literature review writing. The search started by using keywords based on the topic, then, the reviewed articles were obtained.

Results: Cognitive Behavioural Therapy (CBT) is effective to decrease depression symptoms. Seven international journals that were reviewed showed effective result of CBT on type 1 and 2 diabetes mellitus patients with depression compared to merely education, support system, or routine treatment.

Conclusions: CBT is effective to decrease depression on diabetes mellitus patients.

Keywords: CBT, depression, diabetes mellitus

Background

Chronic disease is a serious health problem and is the biggest cause of death in the world. In 2008, the cause of death of 36 million people in the world was chronic disease or equal to 36% death in the world. Chronic disease is one of the prolonged diseases that occur for a long time and is fatale, which could cause physical and mental function decline or deterioration (11).

Diabetes Mellitus is one of the chronic or prolonged diseases, where the body cannot produce insulin or cannot use insulin effectively (5). Based on International Diabetes Federation (IDF) year 2014, diabetes mellitus' prevalence increases each year. In 2013, there were 382 million of world population that suffered from diabetes mellitus. In 2014, there were 415 million people, and it is projected that in 2040, it will increase to 642 million of world population who will suffer from diabetes mellitus.

Negative emotional response often occurs on patients with diabetes mellitus, it could be in the form of rejection, anxiety, anger, feeling sinful, and

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depression (2). Depression is generally identified to have links to several chronic diseases, the most prominent link is to diabetes mellitus (3). One out of four diabetes mellitus type 2 patients is reported to experience depression symptoms (4). Depression on diabetes mellitus could increase complication risk, where there are 13% to 18% diabetes mellitus patients experience clinical depression and more than two third of diabetes mellitus patients have not gotten any intervention to manage both in a proper way (3).

Depression could cause worse self-maintenance behaviour, hence, fixing depression is very important for diabetes mellitus patients. Cognitive Behavioural Therapy (CBT) is a psychological therapy which is renowned to challenge effectively dysfunctional thought, belief, and negative behaviour, therefore, CBT is said to be effective for patients with anxiety and depression (12). Several researches show that CBT is effective in decreasing depression on diabetes mellitus. On the research of Steven A. Safren, et al., year 2014, it is stated that CBT is an effective intervention for depression, compliance, and blood sugar control on diabetes type 2 patients. On the research of Norbert Hermanns, et al. year 2015, the result is similar, that CBT is effective in decreasing depression on diabetes mellitus patients.

Based on that background, it is important to do literature review to find out the effectiveness of Cognitive Behavioural Therapy (CBT) on diabetes mellitus patients with depression.

Methods

The method used on this literature review started with topic selection, then, choosing keywords for journal search using English and Indonesian language through several databases, such as Google Scholar, Pro Quest, and science direct. This search was limited for journals that were published between 2010 and 2017. The English keywords used were "cognitive behaviour therapy", "depression", "diabetes", "effectiveness". For Indonesian language, the keywords used were *"efektivitas"*, *"terapi kognitif perilaku"*, *"depresi"*, *"diabetes"*.

Articles that were chosen, then, would be reviewed based on the study following inclusion criteria. The inclusion criterion on this literature review is cognitive behavioural therapy implementation towards diabetes patients with depression. The search using the above keyword encountered 32 articles. From all of the articles, the ones that met inclusion criterion were 7 articles. Those 7 articles then observed and Critical Appraisal was conducted and presented on table 1.

Results and Discussion

Literature review assessed seven international journals regarding Cognitive Behavioural Therapy (CBT) on diabetes mellitus patients with depression (Table 1). The research obtained from several searches describes CBT impact towards diabetes mellitus patients with depression.

Somaye Ahmadi, et al., 2014 on the journal, studied the effectiveness of cognitive behavioural therapy on anxiety, depression, and blood sugar control on children with type 1 diabetes. This research was conducted with quasi-experimental test with pre test, post test, and group control. The research

population were children with type 1 diabetes who were treated at Imam Reza Hospital in Masyhad. The research variables were anxiety, depression, and blood sugar on children with diabetes and cognitive behavioural therapy group as an independent variable. The children were randomly divided into two groups, which were control group and experimental group. Each group consisted of 15 people with the range of age of 6 to 14 year-old. A test was conducted before and after intervention using multidimensional anxiety scale for children, which was a self reporting instrument with 39 items to evaluate anxiety factor in the 7-18 year-old group and kovacs depression scale to measure cognitive, behavioural, and emotional symptoms on children and teenagers aged 7-17 year-old with 27 questions. The implementation of cognitive behaviour was conducted at the Psychology Clinic Department, University of Ferdowsi Masyhad in eight sessions, two hours, for experiment group, interval between sessions was three days in one week and the control group were not taught about how to control anxiety, depression, and blood sugar. After eight sessions were concluded, post test was carried out with multidimensional anxiety scale for children and kovacs depression scale. The result shows significant decrease of anxiety, depression, and blood sugar on children with type 1 diabetes. This shows that cognitive behaviour therapy is effective on diabetes mellitus patients with depression.

Table 1. Study Summary Table

No.	Writer, year	Treatment	Control	Sample	Method	Random	Result	
							Measured	Findings
1	Somaye Ahmadi, Zahra Tabibi, Ali Mashhadi,Peyman Eshraghi, Foad Faroughi, Parisa Ahmadi. 2014	Eight sessions of CBT	Intervention was not given	30 children with type 1 diabetes who were treated in Imam Reza Hospital in Masyhad were divided to 2 groups, 15 for experiment group and 15 for control group.	Quasi-experimental test with pre-test, post-test, and control group	Yes	1. Multidimensional anxiety scale for children 2. Kovacs depression scale.	Result shows significant decrease of anxiety, depression, and blood sugar on children with type 1 diabetes
2	Zhi-da Wang, Yu-fei Xia, Yue Zhao and Li-ming Chen. 2017	Cognitive behavioural therapy (CBT)	Routine treatment	834 patients with diabetes mellitus (including 417 patients on CBT group and 417 patients on control group	a meta-analysis of randomized control trials	Yes	1. CES-D (Centre for Epidemiological Studies scale for Depression) 2. BDI (Beck Depression Inventory) 3. MADRS (Montgomery–Asberg Depression Rating Scale) 4. CGI (Clinical Global Impression) or/and 5. PHQ-9 (PatientHealthQuestionnaire-9)	CBT is better in decreasing depression symptoms compared to the control group

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No.	Writer, year	Treatment	Control	Sample	Method	Random	Result	
							Measured	Findings
3	Steven A. Safren, Jeffrey S.Gonzalez, Deborah J. Wexler, Christina Psaros,Linda M. Delahanty,Aaron J. Blashill, Aleksandra I. Margolina, and Enrico Cagliero. 2014	9-12 sessions of CBT	Enhanced Treatment as Usual (ETAU)	87 diabetes patients who were divided into 2 groups: 45 people on the CBT group and 42 people on the ETAU group	single-blind randomized trial	Yes	1. Medication event monitoring system (MEMS; ARDEX Inc.) 2. One Touch Ultra meters (LifeScan, Inc.) 3. The Montgomery -Asberg Depression Rating Scale (MADRS) 4. The blinded assessor also used the 5. Clinical Global Impression 6. Assessment of diabetes control was determined by measurement of A1C.	High compliance, depression decrease, and high blood sugar control compared to the regular treatment group.
4	Farkhondeh Sharif, Maria Masoudi, Ahmad Ghanizadeh, Moh ammad Hossein Dabbaghmanesh, Haleh Ghaem,and Samir a Masoumi. 2014	Eight sessions of CBT	No intervention	60 diabetes patients who were divided into two groups, each group consisted of 30 participants.	a randomized controlled clinical trial involving pre- and post-tests	Yes	1. Beck's questionnaire 2. HbA1c	CBT is effective in decreasing depression on diabetes patients.
5	Norbert Hermanns, Andreas Schmitt, Annika Gahr, Christian Herder, Bettina Nowotny, Michael Roden, Christian	Five sessions of CBT	Diabetes education	172 diabetes patients divided into two groups, each group consisted of 76 participants	The study was a monocentral , prospective, randomized trial with two	Yes	1. The German version of the CES-D (25). 2. Health Questionnaire-9 (PHQ-9)	CBT is effective in decreasing depression symptoms.

The similar thing is explicated by Zhi-da Wang, et al., 2017 in the journal titled "Cognitive behavioural therapy on improving the depression symptoms in patients with diabetes: a meta-analysis of randomized control trials". This research used meta-analysis to evaluate the impact of cognitive behaviour (CBT) in mending depression symptoms on diabetes patients. Literature search was conducted in PubMed and Embase until October 2016 without early date. The research's inclusion criteria were the research type should deploy random control try out, participants were diabetes mellitus patients who were more than 18 year-olds, the impact of CBT (CBT group) on depression symptom was evaluated by comparing it with regular treatment or other routine therapy (control group) on diabetes mellitus patients, and the depression symptom result was evaluated. About five random control try outs included 834 patients with diabetes mellitus (including 417 patients on CBT group and 417 patients on the control group) were included in this meta-analysis. The publication years were between 2005 to 2015. Intervention duration was reported in three studies and ranging between 3 to 12 months. Criteria to evaluate depression were CES-

D (Epidemiology Study Centre for Depression), BDI (Beck Depres-Inventaris sion), MADRS (Montgomery-Asberg Depression Evaluation Scale), CGI (Kesan Global Klinis) or/and PHQ-9 (Patient Health Questionnaire-9). Three studies analysed the average change of depression symptoms after intervention, between CBT group and control group, showed that CBT was better in decreasing depression symptoms compared to the control group. This showed that CBT is effective in decreasing depression on diabetes mellitus patients.

Research about cognitive behaviour therapy on diabetes with depression was also conducted by Steven A. Safren, et al., 2014, titled "A Randomized Controlled Trial of Cognitive Behavioural Therapy for Adherence and Depression (CBTAD) in Patients with Uncontrolled Type 2 Diabetes". This research was conducted on 87 people whose age ranged between 18-70 year-old with type 2 diabetes, which were controlled suboptimum, and who met the DSM-IV criterion for depression. This research was a single-blind research in 12 months with random test and all participants had gotten the usual treatment. Before intervention, all participants met once with the teacher nurse to determine self monitoring blood glucose (SMBG), twice with nutrition expert to determine individual diet and the objective of physical activities, and once with counsellor to help compliance with the objective of self management. Intervention group participated in 9-12 CBT sessions. After intervention, then, four-monthly evaluations were conducted (soon, post treatment) and assessment after eight months of intervention. Evaluation on the fourth month was high compliance percentage, depression decline, and high control on blood sugar compared to the regular treatment group. This advantage was maintained for eight months, whereas, after eight months, participants were still able to show compliance and improvement from depression. This shows that cognitive behavioural therapy (CBT) is effective to decrease depression on diabetes patients.

The fourth journal is from Farkhondeh Sharif, et al., 2014, titled "The effect of cognitive-behavioural group therapy on depressive symptoms in people with type 2 diabetes: A randomized controlled clinical trial". This research was a clinic test with random control by using simple random sampling with random number table of the diabetes patient list, and then divided into intervention group and control group with the number of 30 patients each group. The inclusion criteria in this research were: minimum education was elementary school, type 2 diabetes patient, and volunteered to get involved into the research, did not undergo heavy depression based on DSM-IV, diabetes history more than one year, did not have suicidal history, mental disturbance, misuse of drugs, and did not consume psychiatric drugs. The participants were given eight sessions of cognitive behavioural therapy. Two sessions were conducted each week in one and a half hour. The level of depression was evaluated before intervention. For control group, there was no intervention at all. Data were collected from questionnaire and evaluation was analyzed by using SPSS version 11.5. The depression average scores between groups were evaluated before and after training with statistics test of Mann-Whitney and Wilcoxon. The research result showed that CBT is effective in decreasing depression on diabetes patients.

The fifth journal is from Norbert Hermanns, et al., 2015 which also discussed the effectiveness of CBT on diabetes patients with depression. This

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research was monocentral, prospective, random test with two treatment groups. The participants were recruited from a diabetes overnight ward in Germany. People with diabetes and subclinical depression were randomly assigned to one of the groups that underwent intervention which was just developed in DIAMOS program or Control Group (cg). The number of participants was 214 people with 107 participants in each group. The inclusion criteria in the research were: diabetes mellitus patients, increasing depression symptoms, aged between 18 to 70-year-old, able to speak German, and completing the informed consent form. Intervention of cognitive behaviour was divided into small groups comprised of 3-6 people, consisted of five sessions with 90 minutes each session. Evaluation comprised of four-time measurement, which were baseline, right after the intervention, and 12 months after intervention. The preliminary measurement and the 12-month measurement were conducted on the study centre and two other measurements were conducted through phone and letter. Depression measurement used CES-D (25) German version and Patient Health Questionnaire-9 (PHQ-9). The evaluation result on the 12th month showed depression symptom decrease. This shows that cognitive behavioural therapy (CBT) is effective on diabetes patients with depression.

The sixth journal is by K Annika Tovote, et al., 2014, titled "Individual Mindfulness-Based Cognitive Therapy and Cognitive Behaviour Therapy for Treating Depressive Symptoms in Patients with Diabetes: Results of a Randomized Controlled Trial". This research used multi-centre randomized control trial (RCT) with three conditions, which were: CBT, MCBT, and waiting list control condition. Inclusion criteria during the research were: type 1 or type 2 diabetes which were diagnosed at least three months before inclusion, aged between 18 and 70 year-olds, and had depression symptom which was evaluated by BDI-II with ? 14 score (cut-off score showed at least light depression symptom). The amount of samples used was 94 patients with diabetes from out-patient care who had depression symptom. Samples were divided into three groups, which were MBCT, for 31 people, CBT 32 people, and 31 people on the waiting list. MBCT and CBT were conveyed individually in around eight months with 45-60 minutes in each session. MBCT was based on the procedure developed by Segal, et al., with the components of formal meditation, yoga exercise, and daily cautiousness practice and CBT based on the procedure developed by Beck, et.al., with behaviour activity component and cognitive restructuration. Evaluation was conducted every three weeks during intervention. Meanwhile, for participants on the waiting list, they did not accept any psychological intervention for three months. The research result showed that MBCT and CBT are effective in decreasing depression symptom compared to the condition on the waiting-list control. This shows that CBT is effective on diabetes patients with depression.

The seventh journal is from Jillian Inouye PhD, et al., 2015 that studied the influence of cognitive behaviour therapy towards quality of life, general health perception, depression symptom, and glikemia of people from Asia and Pacific islands with type 2 diabetes. This research was a randomly controlled clinical test with double blinding condition, where the patients and service provider did not know the objective and result of the study, unless for the given intervention. Participants were Asians and Pacific islanders that suffered from type 2 diabetes

who were 18-76-year-old. Samples were 207 people and divided randomly into two groups, which were cognitive behavioural therapy group (CBT) for 104 people and diabetes education and support group (DES) for 103 people. CBT and DES groups met to do therapy for six sessions consecutively each week with 1-2 hours per session and the size of group was around 2 to 6 people. On the CBT, six sessions focused to behaviour that included stress management, biofeedback, relaxation, mood management, restructuration cognition, empowerment, value clarification, problem solving, and decision making. The DES group also got the same number of meetings and duration as the CBT group, however, DES group focused on personal experience sharing and receiving education about diabetes. The psychosocial and clinical result assessment was obtained before and after the session and 12 months after the session. The CBT group has improved the depression symptom score from before the session until after the session compared to the DES group. This shows that CBT is effective in decreasing depression symptom on diabetes patients.

Implication towards Nursing Practices

This literature review implicates nursing practice, especially chronic nursing as well as towards mental nursing. Based on the researches that have been analyzed, it shows that cognitive behavioural therapy (CBT) is effective on diabetes patients to decrease depression symptoms compared to only giving education about diabetes or only providing support. Based on Oemarjoedi (2003), basically CBT believes that humans' thought pattern is formed through response cognition stimulus (RCS) which are correlated to each other and form an RCS network in the brain, where cognitive process becomes the determining factor in explaining how humans think, feel, and act. Cognitive aspect on CBT is changing the way of thinking, belief, assumption, imagination, identifying, and changing mistakes on cognitive aspect. Meanwhile, behavioural aspect on CBT is changing the wrong link between problematic situations and problem response habit, learn to change behaviour, calming the mind and body to feel better and think clearer. Therefore, CBT is able to play the role as protection mechanism from the looming anxiety and depression, because patient has learned to overcome the factors that cause anxiety and depression.

This implication of cognitive behavioural therapy (CBT) is very possible to be done by nurse, considering that the use of anti-depressant medicine often causes side effect that could worsen patient's condition. CBT could be done to anyone, not limited to age, sex, and diabetes type. What should be considered in giving CBT to diabetes patient with depression is the depression level of that patient, whereas, it is suggested that CBT is given to patients with light depression, which is evaluated by BDI-II with ? 14 score or not experiencing heavy depression based on DSM-IV measurement. Cognitive behaviour therapy on diabetes patients not only could decrease depression symptom, but also could increase compliance and help to control blood sugar.

Conclusions

After reviewing seven journals, it could be concluded that: CBT is effective in decreasing depression symptom on type 1 and 2 diabetes patients, CBT could also increase compliance and high blood sugar control on diabetes patients, it

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is more effective in decreasing depression symptom compared to merely providing education and support. CBT is given to patients with light depression, it could be done to anyone, not limited to age, sex, or diabetes type and CBT could be done individually as well as in group

Declarations

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The author contributed in the whole process of making this article

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QUALITY OF LIFE ON HYPERTENSION PATIENTS: A PHENOMENOLOGY STUDY

Ni Putu Kamaryati[1*], NLP Dina Susanti[2*], Ni Wayan Kesari Dharmapatni[3*]

[1]Department of Adult Nursing, STIKES Bali, Indoonesia
[2]Department of Maternity Nursing, STIKES Bali, Indonesia
[3]Department of Emergency Nursing, STIKES Bali, Indonesia
Correspondence: kamaryati.stikesbali@gmail.com/+6282146957794)

Abstract

Background: Chronic diseases, especially hypertension gives an impact on physical, psychological, social, and environment dimension for hypertensive patient in their daily lives. Patient satisfaction with their quality of life is main indicator of succession of health care delivered. The Aim of this study was to explore experience of patient living with hypertension about their quality of life.

Methods: This study used qualitative design with phenomenology approach. There were 8 participants involved by purposive sampling in Primary Health Center (Puskesmas) Mengwi II Badung, Bali. Data were collected by in-depth interviews based on questions and recorded. Further data was transcribed to find a theme.

Results: Findings found that there were five themes related to quality of live in hypertensive patient. They were elderly exercise, examination and treatment, positive thinking and enjoy life, relatives attention, and self-care.This study indicated that patients with hypertension had variedexperience about their quality of lives.Exercise for elderly couldreducetheir stress and blood pressure. In addition, routine examination, regulartreatmentandpositive thinking made them enjoyed their life. Moreover, attentive familywas a great support for them in undergoing hypertension treatment. Consequently, elderly were still able to fulfill their needs and take care of their selves independently.

Conclusion: The study providesinsight and knowledge of quality of life.There are varied experiences expressed by hypertensive patients about their satisfaction. Therefore, health care professionals should involve patient's family in managing hypertension treatment to improve patient's quality of life.

Keywords: quality of life, hypertension, patient.

Background

There are many research using quality of life as the outcome of health services. The concept of quality of life was being contrary in researchers. Some people say quality of life is defined as subjective then also define as objective[14,33]. World Health Organization (WHO) (1997)define the quality of life as an individual perception about life in case of culture, value system where the person's live that related to their purposes, wishes and awareness. Quality of life is strongly related to cronic diseases. The duration of someone suffering from

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diseases is able to influance someone's experience in interpreting their quality of life[33,37].

Currently, both of modern country or developed country, cronic illnesses non-communicable diseases such as hypertension, diabetes mellitus, cancer and other else have been increased than communicable diseases. Hypertension specifically still being the third rank of severe diseases after lung tuberculosis and stroke[35]. Global Health Observatory reported that hypertension is estimated will be caused of 7.500.000 death (12,8 %) from total of death in the world[36]. Based on WHO showed that Indonesia stayed in the rank of 29 (25,26 %) of death caused by hypertention per 100.000 inhabitant in the world[38]. In Bali, every year the number of hypertension was increasing in each regency[39].

By literature review, the research of quality of life in cronic illnesses was focused as quantitative by using questionnaire to measure the quality of life[14,40,37]. Otherwise, only few researcher using qualitatif as the research method and there is covered yet the qualitative study especially for hypertension. Based on that reason, the researcher interested to explore experience of patient living with hypertension about their quality of life by using the respondent's coversation in depth to know the phenomena. The aim of this study was to explore experience of patient living with hypertension about their quality of life

Methods

This study used qualitative design with phenomenology approach. The data was collected on January to February 2016. The participants were involved by purposive sampling based on inclusive criteria such asparticipantswere diagnosed hypertension, lived in Puskesmas MengwiII, not in severe condition or suffering from other complication and willing to be participants. There were 8 participants involved where 6 of them were patients and the remains were the family. Data were collected by indepth interviews based on questions and recorded by tape recorder. The interviews was conduct two times which is for 30-45 minutes for each participants.in the first depth interviews data was transcribed then to the second interviews, that transcribed will be clarified by the respondents. Further the data had been transcribed will be analysed to find a theme.

Results

This study conducted in Puskesmas Mengwi II, Badung Regency. There were 8 participants involved and will be interviewed indepth. Six participants were hypertensive elderly and 2 participants were patients' family. Moreover, the rate of age of participants were 63 years old which was the length of suffering of hypertension from 5 months to 14 years.

After analysing the data, there are 5 themes including (1)elderly exercise, (2) examination and treatment, (3) positive thinking and enjoyed life, (4) relative attention and (5) self care.

1. Elderly Exercise

To prevent the complication of hypertension, there are some prevention might be conducted by reducing salt and fat consumption, avoiding obesity, do not smoking and drinking alcohol, implementing healthy life style and reguler physical exercise such as walking, swimming and cycling. It is not

recommended to exercise which is harmful the condition for instance boxing, wrestling or weightlifting, because it could be worsen the diseases. Exercise is one of physical exercise that positively affects the level of someone's physical ability[11]. Exercisefor elderly including low impact aerobic exercise with mild to moderate intensity, and is comprehensive with movements that involve most of the muscles of the body[12]. Doing physical exercise regularly is proven to improve the quality of life physically and mentally.

The participants said that by attending elderly exercise that holding by Public Helath Center and village, the body feel fresh and healthier. It can be seen as follows:

"saya ikut senam, seneng saya ketemu temen-temen..kalo ada yang ngundang saya sebagai mangku ke upacara baru saya dikasi ke luar sama gung aji kalo ada yang nikah dan lain-lain gak saya dikasi... saya dah tua ngapaen ikut kayak gitu"(R.01)

(I was really love to do elderly exercise because I could see each other)

"Routine saya senam kalo ada waktu terus saya ikut. Seneng saya. Seneng je saya ketemu teman-teman. Ahahhh...." mereka itu baik baik dengan saya…selalu support saya"(R.02)

(I did exercise regularly and I was very happy to meet my friends)

The family also support this participant's statement that by attending the exercise their parents become healthier and they could interacted to environment especially in banjar, in line with the statement follows:

"Kalau menurut saya ya…ibu mertua saya itu cukup aktif dan banyak disenangi keluarga dan tetangga…aktif senam atau ikut kegiatan di banjar"(Klg.02)

(My parents in law were very active in exercise and activities led by community)

"Mungkin kalau saat sakit disuruh kerja gitu ya bu…tapi kami tidak pernah minta mertua untuk kerja..lebih baik diam dirumah saja…kalau senam atau ketemu keluarga ya kami antar bu"(Klg.01)

(We never ask the elderly to do other activities except elderly exercise)

Another participants also revealed that by attending the exercise regularly in each banjar together with health provider and health volunteer have been made them healthier and having friends to talk. This would be found out by the statement follows:

"Makanya saya suka senam-senam, ketemu temen, ngobrol..."(R.04)

(so... I loved doing exercise, meet others)

"*Iyaa, seneng saya ikut senam, ke pura-pura saya di ajak sama anak saya, dirumah saya sama anak saya paling kecil, di rumah ada 4 cucu..iya..". " saya gak pernah kenapa-kenapa, orang lain gak juga kenapa-kenapa sama saya, kalo saya punya apa-apa saya kasik, saya gak pelit orangnya, ya ramah-ramah"(R.03)*

(I loved exercise, I gave others something that I had)

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2. Examination and treatment

Non-adherence in taking antihypertensive drugs can cause complications related to organ damage including the brain, because uncontrolled hypertension can increase the risk of stroke. Furthermore, hypertension increases the workload of heart affecting heart enlargement, thus increasing the risk of heart failure and heart attacks[2].Nonpharmacologic treatment is as important as pharmacological treatment, especially in the treatment of first-degree hypertension. Nonpharmacologic treatment can control blood pressure so that pharmacological treatment is not necessary or its administration may be delayed. If antihypertensive drugs are required, pharmacological treatment may be used as a complement to better treatment outcomes[3].

Treatment and examination is always done by the participants, they said seeking treatment to doctors, health centers and midwives in the village. It can be seen from the following statement:

"Saya berobat ke dokter, dokter pribadi itu namanya? Pil bulanan saya dikasik..apa itu suami saya yang sakit-sakitan sekarang, jadi anak saya yang nganter...". "apa men ya?, semuanya yang cukup bagi saya... yang saya pikirkan itu ya.. suami saya yang sakit-sakitan, sempet jatuh dia di jalan jadinya bingung-bingungan suami saya..."(R.02)
(I visited physician and I was given antihypertension drugs every month)

"saya berobat ke dokter lilik, saya dikasi pil apa itu namanya, ee....warna merah, setiap hari satu satu..iya untuk turunin tensi" Kalau tensi naik biasanya saya diem dulu…setelah itu saya tetap bias kerja jagain warung depan kalau ada yang nyewa gitu bu."(R.03)
(I visited physician and he gaveme medication)

"tensi saya biasanya 130..140... saya waktu ni ..ee.. cek tensi di kantor prebekel, tsaa cek juga di rumah sakit, atau di puskesmas, di kangkang...di.di.. nggih di puskesmas pembantu, dikasi saya obat.... enggak, sekali-sekali aja saya minum udah ilang...enggak berani saya minum obat terlalu lama kalo udah ilang ya selesai minum obat. Yaa... demi Tuhan, setiap 5 bulan saya sakit cek tensi saya ya 140 150, sendiri saya meperiksa, kalo pas dirumah, kalo saya sakit kepala, cek tensi kadang normal, pan aris yang nganter saya, anak saya, cucu saya ada 2..enggak, kalo saya bisa bilang saya walaupun kayak gini, saya masih bisa ke sawah, dari pagi sampai sore.. iyaa... iyaa..."(R.06)
(I checked my blood pressure regularly at Puskesmas, and nurse gave me antihypertantion....my family always accompany me to visit Puskesmas)

The family also said that participants regularly took medicine and will be escorted by the child, daughter or other family for control, it can be seen in the following statement:

"Kalau saya mungkin saat sakit atau tensinya naik..ya batasi apa yang boleh dilakukan mana yang tidak boleh..yah istirahat saja..jadi ya saya akan bantu ibu saya itu kalau sedang sakit. Terus ya kami antar ibu ke dokter atau puskesmas…ya pokoknya apa keperluan ibu ya harus dibantu gitu.."(Klg.01)
(When my mother had high blood pressure, I usually accompany her to visit the physician or Puskesmas)

Other families said the same thing by bringing participants to the health center for control or to the doctor. This can be seen in the following statement:

"Mungkin ya bu…. Perawatan dirumah seperti gimana keluarga memberikan obat…ngajak control ke puskesmas maupun ke dokter menemani yang sakit…terus mungkin membantu keluarga yang sakit. Gitu saja"(Klg.02)
(Family reminded to consume the medicine and accompany patient to Puskesmas)

3. Positive thinking and enjoyed life

In relation to health, emotions are closely related to physiological components. When a person's emotions increase, such as anger, there will be physiological changes in the body. Some parts of the brain, the autonomic nervous system and the indocrine system will play a significant role[21] . The elderly can be declared to have a good level of quality of life, if a condition that states the level of satisfaction in the mental, physical, social, and comfort and happiness of his life[31].

Psychologists said that positive thinking was a common motivational method used to improve one's attitude and encourage self-growth. Simplepositive think is the activity of thinking that we do with the aim to build and evoke positive aspects in ourselves, whether that is the potential, passion, determination and our self confidence[1]. While enjoying life is one of the complementary ways of thinking a person. When a person is able to think positively then they will be able to enjoy his life.

Participants declared to prevent stress and tension increased their positive thinking and enjoy living with children, grandchildren and all families. Participants also said meeting family and friends can prevent stress and be happier. It can be seen in the following statement:

"Apa ya bu.....yang penting saya bahagia sekarang ini karena punya keluarga yang baik dan selalu menyayangi saya....."(R05)
(...now I am very happy because all family member love me)

"enggak gimana, ya biasa-biasa aja, iyaa.. yang penting gak ada masalah... saya gak pernah berpikir beini begtu, menantu saya polos." (R.06)
(I never thought any negative thing, my daughter in law was a kind person)

The family also stated the same thing:
"Menurut saya kualitas hidup itu ya bagaimana seseorang menikmati hidup nya..gitu kan bu hehe...ya kalau puas dengan hidup yang dijalani berarti baik dia tapi kalau sakit sakitan mungkin tidak baik." (Klg.01)
(Quality of life was what they were feeling)

"Apa ya bu....yah mungkin jika kita menikmati hidup itu yang namanya hidup berkualitas nggih...saya ya terima apa adanya hidup ini ndak perlu muluk muluk bu... walaupun mertua saya sakit ya ndak apa apa..saya akan rawat beliau.itu tugas saya."(Klg.02)
(..even my parents in law suffered from disease, I would to take care of them because that was my task)

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Other participants also say the same thing, like the following statement:
"Menurut saya....hidup saya ini sudah sangat bagus....tidak ada masalah....saya menikmati kok hidup saya."(R.03)
(My life was enjoyable, I loved it)

"Biasa saja ibu…..seperti saya katakana tadi..saya menikmati apa yang saya sudah punya"(R.02)
(I satisfied what I was done)

4. Relative attention

The family is the only vital place to provide support, services and comfort for elderly[7] and family members is also a source of the most meaningful support and assistance in helping other family members change their lifestyle[10]. When interviewed, participants revealed that their health was strongly influenced by the attention of their children, grandchildren, and all the big families. Participants also said that stress and high tension would be avoided if everyday life is happy with the whole family, the statement can be seen below:

"Saya senang dirumah ini karena banyak yang sayangi saya…disamping itu… saya merasa nyaman saja karena ada anak dan lainnya. Kalau cemas apa yang perlu saya cemasin…. Ndak ada bu."(R.03)
(I was happy in my hause because all loved me)

"keluarga perhatian, menantu juga perhatian" kalau senam ya saya ikut bu…disini biasanya kita rame rame rembug bu…ya macam macam topiknya heheeh masalah mejejaitan atau lainnya"(R.06)
(My family gave much attention)

In addition to the participants, the family also tells the same story, how families pay attention to their parents and family. The statement can be seen below:

"Jangan sampai ibu menjadi setres…atau buat masalah karena kalau ada masalah ibu akan kepikiran terus nah lama lama menjadi stress si ibu..nanti alahan tensi naik bu…kasih sayang perhatian itu yang penting…rukun juga bu penting"(Klg.01)
(Keep harmonies in family to reduce mother stressing)

Other family also said the same thing as follows:
"Walaupun sakit ibu saya tidak langsung drop kondisinya, yah ibu masih bisa kok kerja ..nyapu lihatin cucu gitu…Ibu kami sayang dengan ibu saya. biasanya senang curhat dengan saya..cerita banyak tentang jaman dulu dengan saya hehe."(Klg.02)
(I loved my mother…usually I talked each other)

"Jangan sampai ibu menjadi setres…atau buat maslah karena kalau ada masalah ibu akan kepikiran terus nah lama lama menjadi stress si ibu..nanti alahan tensi naik bu…kasih sayang perhatian itu yang penting…rukun juga bu penting"(Klg.01)
(Don't make stressing, because it could make mom be stress)

5. Self care

Self-care is defined as the practice or activity of individuals initiating and demonstrating their own needs in maintaining life, health, and well-being[20]. Participants said they have always been cared for by her family if they are sick and unable to meet their needs. It can be seen from the following statement:

"bersama menantu, anak, cucu ada 2 di rumah..hahahhaa..." kalau dirumah ya gini tempat masih bisa saya jangkau…kalau kencing deket..makan ya masih tetap saya yang ke dapur langsung makan"(R.05)

(I could fulfill my needs (toileting and eating) by myself)

"Gini saya setiap..sekarang sekarang sejak ini, saya nyapu paginya trus saya minta nasi setelah makan masih pagi kan udah pada kerja semuanya, habis minum teh jeg pusing kepala saya setelah makan nasi jeg ngantuk ngantuk.. sekali saya.. sampai saya tidur, setelah bangun jeg seger dah saya. Kalo saya gak ambil kerjaan jeg ngantuk aja saya, tidurrr daah..." kalau bangun seger..bisa kerja begitu"(R.01)

(I had to do activities at home. If I did not do activity, I would be sleepy)

Families also say the same thing related to the participants' self-care, if participants can not carry out self-care or meet their needs, the family will provide assistance. It can be seen in the following statement:

"Ya tanggung jawab kami sebagai anak bu..seharusnya sih kalu ibu pengei makan ya dekat dengan dapur, kamar mandi..tapi sekarang kan masih agak jauh tempatnya..kami belum bias bikini ibu kamar sendiri..ya tugas saya yang bantu ibu gitu"(Klg.01)

(That was our main task to help the parent needs)

"Apa ya bu….kami berusaha diruamah bu… bantu dan menyiapkan semua keperluan ibu saya itu….jka tidak bias ya saya yang bantu bawain nasi ..anter ke kamar mandi tapi biasanya ibu masih bias sendiri kok..kan dekat dapur dan kamar mandinya"(Klg.02).

(We tried to prepare everything that parents need)

Disscussion

The aim of this study was to explore experience of patient living with hypertension about their quality of life. There are elderly exercise, examination and treatment, positive thinking and enjoyed life, relative attention and self care that will be discussed as follows:

At the first theme found that six participants who suffer from hypertension regulerly doing exercise which is conducted in each *banjar* (subvillage). The reason of whole participants took exercise because they felt happy to be gether and talk each other with their friends. The results of this study are in line with research conducted by Nooryana[17] reported that quality of life in hypertensive patients can be increased by doing exercises. The reason is by doing exercises regularly every week or month willgive positive impact in decreasing blood pressure.

Drug adherence is important in hypertension treatment because taking regular antihypertensive medications can control blood pressure. Because of

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this, in the long term, the risk of organs damage of the body, such as heart, kidneys, and brain can be reduced. The results of the second theme of this study found that the six participants routinely performed blood pressure checks to health services either to a private doctor or to a nearby community health center. All of participants admitted to routinely follow the treatment of hypertension but there was a participant who said only take medication when symptoms arise like dizziness. This is because participants are afraid if they continue to take medication, there are many side effects from the medication.

Based on the third theme, the elderly can be declared having a good level of quality of life, if a condition that states the level of satisfaction in the inner, physical, social, and comfort and happiness of his life[31]. The results of this study showed that of the six participants, five said enjoyed their life and felt no problem despite the illness. This is because of the role of families to support participants. In contrast, there was a participant who said more often feel stressed not because of his disease condition but because of problems in the family. The study by Degl'Innocenti suggested that cardiovascular disease due to hypertension can cause problems in the quality of life of the elderly, so that the quality of life of the elderly will be disrupted and the life expectancy of the elderly will also decline[44]. Meanwhile, according to research Kustanti most elderly states have been satisfied with their current physical condition[15]. Several factors to the acceptance of the physical state of the elderly today are the acceptance of God's gift.

Elderly who have experienced a decrease in both physiological and psychological function and have a chronic illness in desperate need of support and assistance from others. Based on the fourth category, this study found that five out of six participants received attention from their respective families. So by supporting from family, the five participants can enjoy their life despite the condition of suffering from hypertension. While a participant said feeling stressed due to problems in the family so feel less attention, especially by his own son. Based on the results of interviews with two families shown that the family performs its role well in providing motivation or support to members who were sick. Both families said they always invited sick family members to control and assist in the treatment, but both families also did not limit the activity of sick family members as long as the condition is healthy and happy.

In the fifth theme, self-care, according to Orem (1985) self-care is defined as the practice or activity of individuals initiating and demonstrating their own needs in maintaining life, health, and well-being[20]. In the research results obtained where four participants are able to do self-care either to move to meet the needs of life such as eating, bathing and others, maintaining health or work. While two participants were not able to move as usual especially for working. In addition, a participant said the disease caused the participants to frequently back and forth to the bathroom so that it need bathroom facilities close to the room of participants to facilitate and also prevent the occurrence of fall incidents in the elderly. The family also said they had facilitated this case by moving participants to a room closed to the bathroom.

This study has limitations when the interview can not be implemented more deeply due to the time and condition of participation. In addition, when triangulated in this case is the family of participants who are in procession that

can not be implemented maximally because the information in the family is not necessarily felt by the participants.

Conclusion

As the result of study shows that patients with hypertension had vary experience about the quality of life.There are five themes experienced by patients which were exercise for elderly as aerobic low impact could reducestheir stress and blood pressure. In addition, regular examination and treatment also positive thinking makes them enjoyed their life. In this condition, hypertensive patient, attentive family is a great support for them in each examination and treatment that will be done frequently by them. The last theme, self-care in which the participants are still able to meet the needs and take care of their self.

Declarations

Authors' contributions

All of authors contributed in writing of this article. The first author managed to finish the article.

Authors' Information

The first author is a nursing lecturer since 2005 in private nursing college in Bali, Indonesia.She is interested in chronic illness and quality of life. Many research projects and community service project have been done until now.

Ethics approval and consent to participate

This study was approved by ethic committee of Udayana University, Bali, Indonesia. The study also considered about anonimity, confidentiality, and before signing informed consent the participants were given information about the study.

Consent for publication

Not applicable

Availability of data and materials

The author will share the data if needed. The whole data will be saved by author.

Conflict of Interest

There is no conflict of interest in current study.

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FACTOR ANALYSIS AFFECTING ELDERLY VISIT AT POSYANDU ELDERLY IN PUSKESMAS GANTING, GANTING VILLAGE SUB DISTRICT GEDANGAN, DISTRICT SIDOARJO

Nina Rizka Rohmawati

Master of Nursing, Faculty of Medical School, Brawijaya University
Email/Hp : ninarizkarohmawati@yahoo.co.id

Abstract

Introduction: Posyandu elderly is heading elderly health care, where elderly get health care to keep their health so there is no reaction in health status. The low visitation to to posyandu showed that there are many elderly who did't understand the importance of visitation the posyandu. The aim of the study was to analyses the most influenced factor on elderly visitation to posyandu elderly.

Methods: Design use in this research was descriptive study. This research used systematic sampling method, 58 responden. Were include independent variabels were knowladge, attitude, age, gender, education, work, economic status, acces to health service, family support, and the role of health volunter. The dependent variable as elderly visitation to the posyandu. In this study has exclusion criteria that are not used to be respondents, the elderly who αre experiencing severe pain and can not get out of bed. The data were collected using questionnaires. The analyzed by using Spearman's rho with significant level α <0,05 and correlation coefficient with significant level α <0,05.

Results: In this study there was correlation between knowladge (p=0.021), the economic status (p=0.001), family support (p=0.004), and education (p=0.000).

Conclusions: It can be concluded that knowledge, the economic status, education and family support have influence on elderly visitation to posyandu. Family support was the most influenced factor to elderly visitation. Further research should accumulation data may be a researcher to increase interview method.

Keyword: Knowledge, attitude, age, gender, education, work, economic status, access to health service, family support, and the role of health volunter, visitation to the posyandu elderly.

Backgrounds

Decreased health status in the elderly can be influenced by several factors changes in the elderly itself, ranging from physical changes elderly, mental changes and psychosocial changes. According to the World Health Organization (WHO) divided into four stages, namely: middle age (middle age) age 45-59 years, elderly (elderly) aged 60-74 years, elderly (old) age 75-90 years and Very old age above the age of 90 years (Nugroho, 2008).

Survey of Center for Data and Information Ministry of Health RI year 2013 about the number of elderly in all Indonesia got the highest three percentage,

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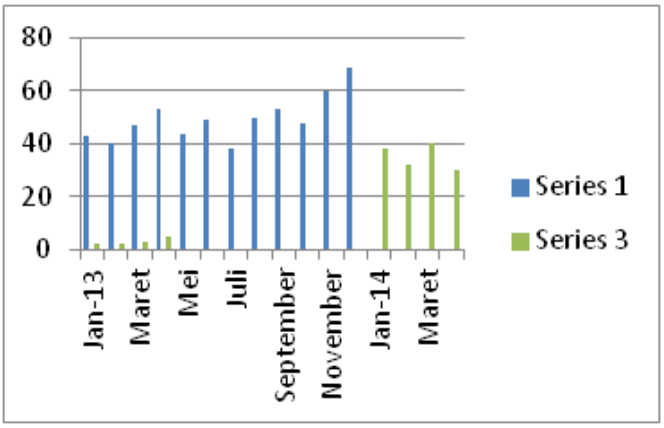
namely: DI Yogyakarta (13,04%), East Java (10.4%), and Central Java (10.34%). Increasing the number of elderly, especially in East Java needs a means to know and monitor health condition lansi. So the elderly have a good knowledge about the importance of health. Where the good knowledge of health of the elderly can encourage elderly behavior to attend Elderly Posyandu activities. Elderly Posyandu itself is an integrated service post for elderly people in certain areas that have been agreed, and that is driven by the community where they can get health services. Elderly Posyandu activities include preventive, promotive, curative and rehabilitative (Iswandi, 2010). Through this posyandu expected elderly health can be observed by health workers, so hopefully no delay in handling health.

This research will be conducted at Puskesmas Ganting, Gedangan Sub-district, Sidoarjo Regency with total population of 5235 people in RW 3, with 411 elderly people with data of last 6 months only 50-70 elderly people who come to Elderly Posyandu. With a total of 7 cadres. Posyandu elderly held every 1 month at week 2-3.

Figure 1.1 Elderly Attendance Diagram at Elderly Posyandu targeted at Puskesmas Ganting, Gedangan Sub-district, Sidoarjo Regency.



Based on figure 1.1, from the total number of elderly people, in 2013, the number of elderly attendance increased, but in 2014, it decreased by 50%. The elderly activeness in following Elderly Posyandu, therefore made the researcher want to know the behavior of India in the utilization of Elderly Posyandu with Several factors, as well as to find out which factors are the most dominant influence on the behavior of elderly to attend elderly Posyandu located in Ganting Village.

According to Andersen's theory of behavior has three factors, namely: Predisposing factors (predisposing factors) consisting of knowledge, attitude, age, gender, education, employment. Both enabling factors consist of economic status, support of the family, and the role of cadres. The third factor is the need factor (factor factors) where this factor arises if there are complaints of pain in patients. Meanwhile, the benefits of posyandu elderly itself to improve the health status of the elderly.

In this study the researchers used an elderly sampel who active and not active in posyandu lansia. So health officers are able to anticipate and provide

solutions to the elderly who are less actively attended posyandu elderly and look for the dominant factors affecting the visit at Posyandu Lansia. For the sake of welfare and the increasing of health degree in elderly

Integrated Health Service Post (Posyandu) is a forum for community empowerment activities, which will run well and optimal if there is a leadership process, organizing process, group members and cadres, and funding (Azizah, 2011). According to Efendi (2009), the outline of the goal of elderly Posyandu, namely: Increasing the reach of elderly health services in the community, so that the establishment of health services in accordance with the needs of the elderly and closer service and improve the role of society and the private sector in health services, The elderly.

In this research, researchers will look for the dominant factors that influence visitation at Elderly Posyandu, ie knowledge, attitude, age, gender, education, occupation, economic status, access to health service, family support and cadre role.

Methods

The design of this research using Descriptive with Cross Sectional approach, that is research which emphasizes time of inauguration / observation of independent and dependent variable data only once in one time (Nursalam, 2008). This study uses questionnaires which contains questions about the number of factors that influence the behavior of elderly in the utilization of Elderly Posyandu. Where in this study wanted to examine which factors are most influential of the factors that affect the behavior of elderly in the utilization of Elderly Posyandu. Sempel in this study using Systematic Sampling, the elderly living in the village of Ganting, reduced by the exclusion criteria in get 58 people. Exclusion criterion in this research is elderly sick with high dependence (can not get out of bed).

The types of instruments in this study were questionnaires, scales, and observations that were compiled by researchers based on data needs in the form of Dichotomy Question, for questions with yes and no answers to elderly knowledge about posyandu elderly, access to elderly posyandu and cadre roles. As for questions about attitudes, family support, using Scale Scale, and observations are used for data on elderly visits, age, gender, education, employment, and economic status. For the elderly visit the researcher conducted data verivication on monthly visit report per year with answer response in questionnaire. The scale used is the intervention with the assessment of routine visit data, ie 10-12 visits, 7-9 visits and less than 6 visits.

In this study to test the validation for questionnaire to be tested to the response where aims for the results of researcher bias obtained the maximum data. The instrument will be considered valid if it is greater than 0.3 or it can be compared with r table. If r arithmetic> r table then valid (Sugiyono, 2009). For the knowledge instrument, 10 valid questionnaires, 16 valid items of validity attitude instruments, 5 health items of access to health care instruments, 16 family support instruments, and cadre's role instruments of 17 items are valid. While for the reability of knowledge instrument, r = 0,953, attitude instrument r = 0,912, instrument of health service access r = 0,858, instrument of family support r = 0,941, and for instrument of cadre r = 0,959.

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Before conducting the research the researcher gives informed consent to the respondent for approval and this research uses probability sampling type, where loyal people have the chance to be elected. For the elderly who can not read or write, the researcher helps to fill out the questionnaire by reading and marking (X) on the questionnaire according to the elderly (answer) choice. After that done the manual counting, from the data in the search standard devisiai then counted t score, to know the positive or negative results. Data in cross table then tested using Spearman Correlation Rho α <0,05 and Test Contingency Coefficient α <0,005.

Results

Knowledge

Table 1: Relationship between knowledge with elderly visit to Elderly Posyandu

	Elderly visit in Ganting Village							
Knowledge	Routine		Medium Routine		Less Routine		Total	
	n	%	n	%	n	%	N	%
Good	6	10.53	7	12.1	21	36.2	34	**58.6**
Medium	0	0	1	1.7	17	29.3	18	**31.0**
Less	1	1.7	0	0	5	8.7	6	**10.3**
Total	**7**	**12.1**	**8**	**13.8**	**43**	**74.1**	**58**	**100**
Spearman Rho ***r = 0,302***				***p = 0,021***				

The result of statistical test shows that p = 0,021 there is a significant correlation between knowledge with elderly visit where the direction of relation α = <0,05 where the better the less knowledge of routine visit to Posyandu Elderly. And for strong relationship, obtained value of r = 0,302 which means there is a low relation between Knowledge of elderly to visit elderly to Posyandu Elderly.

Attitude

Table 2. Relationship between Attitudes with elderly visit to Posyandu elderly.

	Elderly visit in Ganting Village							
Attitude	Routine		Medium Routine		Less Routine		Total	
	n	%	n	%	n	%	N	%
Positive	7	12.1	8	13.8	35	60.3	50	**86.2**
Negative	0	0	0	0	8	13.8	8	**13.8**
Total	**7**	**12.1**	**8**	**13.8**	**43**	**74.1**	**58**	**100**
Spearman Rho			***p = 0,078***			***r = 0,234***		

Positive attitude is less routine follow Posyandu lansia with percentage 60.3%. Obtained p value = 0.078 which means Ho accepted. This shows that there is no correlation between attitude with elderly visit at Elderly Posyandu.

Age

Table 3. Relation of Age with visit to Elderly Posyandu

Elderly visit in Ganting Village								
Age	Routine		Medium Routine		Less Routine		Total	
	n	%	n	%	n	%	N	%
≥ 60 years old	4	6.9	2	3.4	8	13.8	14	**24.1**
45 - 59 years old	3	5.2	6	10.3	35	60.3	44	**75.9**
Total	**7**	**12.1**	**8**	**13.8**	**43**	**74.1**	**58**	**100**
Spearman Rho	***p = 0,021***				***r = 0,302***			

Obtained p value = 0,064 so it can be concluded that there is no relation between age with elderly visit to posyandu elderly.

Gender

Table 4. Relationship of Gender with elderly visit to Elderly Posyandu

	Elderly visit in Ganting Village							
Gander	Routine		Medium Routine		Less Routine		Total	
	n	%	n	%	n	%	N	%
Man	3	5.2	4	6.9	21	36.2	28	**48.3**
Woman	4	6.9	4	6.9	22	37.9	30	**51.7**
Total	7	12.1	8	13.8	43	74.1	58	**100**
Contingency Coefficient	***p = 0,963***							
Uji *Chi Square* p= 0.953								

The result of Contingency Coefficient test of p value = 0,064 can be concluded that gender does not have relationship with elderly visit to Elderly Posyandu.

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Education

Table 5. Older Education Relationships with Visits to Elderly Posyandu

	Elderly visit in Ganting Village							
Education	Routine		Medium Routine		Less Routine		Total	
	n	%	n	%	n	%	N	%
Senior High School	7	12.1	6	10.3	8	13.8	21	**26.2**
Junior High School	0	0	1	1.7	17	29.3	18	**31.0**
Primary School	0	0	1	1.7	10	17.2	11	**19.0**
no school	0	0	0	0	8	13.8	8	**13.8**
Total	**7**	**12.1**	**8**	**13.8**	**43**	**74.1**	**58**	**100**
Spearman Rho			***p = 0,000***				***r = 0,561***	

Obtained p value = 0,000 which means H1 accepted. This shows that there is a significant relationship between education and elderly visit to Elderly Posyandu.

Work

Table 6. Employment relationship with elderly visit to Elderly Posyandu.

	Elderly visit in Ganting Village							
Work	Routine		Medium Routine		Less Routine		Total	
	n	%	n	%	n	%	N %	
PNS/TNI/Polri	4	6.9	3	5.2	5	8.6	19	**32.8**
Wira / Swasta	3	5.2	3	5.2	16	27.6	23	**39.7**
Farmers	0	0	1	1.7	14	11.1	8	**13.8**
does't work	0	0	1	1.7	8	13.8	8	**13.8**
Total	7	12.1	8	13.8	43	74.1	58	**100**
Contingency Coefficient				***p = 0,065***				
Uji *Chi Square* p= 0.065								

Obtained p value = 0.064. This indicates that there is no relation between respondent's job and elderly visit to Posyandu elderly.

Economic Status

Table 7. Relationship of Economic Status with elderly visit to Elderly Posyandu

	Elderly visit in Ganting Village						
Economic Status	Routine		Medium Routine		Less Routine	Total	
	n	%	n	%	n %	N	%
> Rp 1.000.000	5	8.6	5	8.6	9 15.5	19	**32.8**
Rp 500.000-Rp 1.000.000	2	3.4	2	3.4	19 32.8	23	**39.7**
< Rp 500.000	0	0	0	0	13.8 8	8	**13.8**
Not Earning	0	0	1	1.7	12.1 8	8	**13.8**
Total	**7**	**12.1**	**8**	**13.8**	**43 74.1**	**58**	**100**
Spearman Rho	***p = 0,001***			***r = 0,004***			

Obtained value p = 0.001 which means H1 accepted. In this case, there is a relationship between Elderly Posyandu visit with Economic Status.

Access to Health Services

Table 8. Health Service Access Link with elderly visit to Elderly Posyandu.

	Elderly visit in Ganting Village					
Acces to health service	Routine		Medium Routine		Less Routine	Total
	n	%	n	%	n %	N %
Good	6	10.3	5	8.6	24 41.4	35 **60.3**
Medium	0	0	2	3.4	11 19.0	13 **22.4**
Less	1	1.7	1	1.7	8 13.8	10 **17.2**
Total	**7**	**12.1**	**8**	**13.8**	**43 74.1**	**58 100**
Spearman Rho	***p = 0,242***				***r = 0,271***	

In get value p = 0.242 which means Ho accepted. This suggests that there is no significant relationship between access to health services with elderly visits to Elderly Posyandu.

Family support

Table 9. Relationship of Family Support with elderly visit to Elderly Posyandu.

	Elderly visit in Ganting Village						
Family Support	Routine		Medium Routine		Less Routine	Total	
	n	%	n	%	n %	N	%
Good	7	12.1	8	13.8	26 44.8	41	**70.7**
Medium	0	0	0	0	4 6.9	4	**6.9**
Less	0	0	0	0	13 22.4	13	**22.4**
Total	**7**	**12.1**	**8**	**13.8**	**43 74.1**	**58**	**100**
Spearman Rho	***p = 0,004***				***r = 0,009***		

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Obtained value p = 0.004 which means H1 accepted. This suggests that there is a significant relationship between family support and elderly visits to Elderly Posyandu.

The Role of Cadres

Table 10. Relationship Role of Cadres with elderly visit to Elderly Posyandu.

	Elderly visit in Ganting Village							
Role of Kader	Routine		Medium Routine		Less Routine		Total	
	n	%	n %		n	%	N	%
Good	7	12.1	7	12.1	34	58.6	48	**82.8**
Medium	0	0	1	1.7	8	13.8	9	**15.5**
Less	0	0	0	0	1	1.7	1	**1.7**
Total	**7**	**12.1**	**8**	**13.8**	**43**	**74.1**	**58**	**100**
Spearman Rho	***p = 0,183***				***r = 0,170***			

In get value p = 0.183. This shows that there is no relationship between the role of cadres towards elderly visit to Elderly Posyandu.

Conclusions

Based on the results of this study indicates that of the many factors that affect the visit lanisia to Elderly Posyandu only four factors that affect the presence of elderly in Posyandu Elderly. And family support is the most dominant factor affecting the elderly visit to Elderly Posyandu. Suggestions for health agencies (Puskesmas) can make policies for programs to increase elderly visits by involving across programs and across sectors. While the next researcher may be this research can be added by the method of interview.

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HOW COULD A FLIGHT AFFECTING YOUR RESPIRATORY SYSTEM? IS IT INDUCING EMERGENCY?: A SYSTEMATIC REVIEW

Nur Hafizhah Widyaningtyas

Master of Nursing, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia.

Corresponding Author:
Email addresses:
zhanintyas@gmail.com

Abstract

Background: People enjoy being airplane passengers since they give important benefit, time efficiency. Despite of their convenience, commercial flights which have pressurized cabin aircraft may lead to some physical complaints. Having headache, nausea, breath difficulty are some symptoms usually occur in healthy people during the flight. In this way, those symptoms are able to be the sign of in-flight hypoxia that should be noticed soon. Hypoxia is actually an emergent effect related to increasing altitude. It means that aircraft passengers have a high risk of hypoxia since they are hanging in high altitude during flight. The aim of this study is to describe risk of hypoxia during flight in commercial aircraft passengers.

Methods: This was a literature review article that letting in seven eligible journal articles emphasized in physical conditions during flight. Those articles were chosen by using Google search engine and ProQuest database within time span 2007-2015. Terms used in accumulating articles are hypoxia during flight, pressurized cabin and passengers' discomfort.

Results: The chosen articles described that hypoxia occurred during flight had correlation with changes in human respiratory system as a physiological response of high altitude. The reported symptoms occurred were nasal stuffiness (18.9%) and at least one upper respiratory symptom which are reported by a third of passengers. Increasing altitude from ground level to the situation of 7000 to 8000 feet decreased oxygen saturation by approximately 4 percentage points. In addition, high altitude might lead into hypoxic pulmonary hypertension since increased pulmonary artery pressure provoked systemic oxygen delivery by elevating blood flow into areas of lung with comparatively lower blood flow, so that recruiting a greater fraction of the total alveolar capillary surface area for gas exchange.

Conclusions: High-altitude condition may affect human physiology especially respiratory system. Decreasing oxygen saturation in blood occurs in that condition which is consequently establishing discomfort. Poorly, the further complication of hypoxia is risk of death. We recommend you to have physical fitness before having flight to avoid any further complaints

Keywords: High-altitude medicine, in-flight hypoxia, passengers' discomfort, effect of pressurized cabin

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Background

People today choose aircraft as a transportation to travel around the world based on its amenities like world-class service and some entertaining facilities. The convenience itself is actually originated from pressurized cabin that makes oxygen pressure in a high-altitude is similar to ground level so the passengers can breathe normally(1, 2). Despite those benefits, a high-altitude condition should be concerned by all air-cabin crews and passengers since that affecting people physiologically especially respiratory system. Some incidents involving passengers sudden death have been reported for last two years which the latest case occurred in October 2016 (3). Early investigation said that they died due to cardiac arrest but some of them told that chest discomfort appeared in the early phase of flight. Breathing difficulties, chest discomfort and headache can be the signs of oxygen transport impairment which in this case is hypoxia. It is a threatening condition in healthy people and it can be worsen in people with cardio respiratory problem. So, it is very important to conduct some studies related to in-flight hypoxia, thus people will be prepared before having flight. The aim of this study is to describe risk of hypoxia during flight in commercial aircraft passengers.

Methods

This was a literature review study. This article was letting in seven eligible journal articles emphasized in physical conditions during flight. Those articles were chosen by using Google search engine and ProQuest database within time span 2007-2015. Terms used in accumulating articles are hypoxia during flight, pressurized cabin and passengers' discomfort. From approximately 20 articles founded, 7 articles were chosen to obtain this study. Types of elected articles were original research, literature review and case report. All of those eligible articles were reviewed and analyzed by the writer to conclude information related to the topic mentioned.

Results

Why should an Aircraft Cabin Be Pressurized?

An aircraft's cabin was basically pressurized except in some small plane or military airplane (4). People using un-pressurized cabin aircraft usually equipped with oxygen mask that should be worn during the flight like what air forces do. The aim of pressurized cabin was to improve intra-cabin comfort and safety. The pressure should be maintained at stable condition during flight to avoid hearing discomfort and organ impairments (5). The pressure was maintained to make intra-cabin oxygen pressure was able to be inhaled by humans so they can breathe normally (2).

Lungs Adaptation in High-altitude

Lungs especially its vessels responding high-altitude by having contraction that increases pressure. Smith et al conducted a research that showed peripheral oxygen saturation was affected by elevating mean arterial pressure (MAP). This study involving eight healthy passengers flying with Boeing 777 from London to Denver for nine hours. They were observed using Doppler echocardiography both in a high-altitude: 5280 feet or 1610 meters and ground

level after arriving in Denver. This research described that passengers' oxygen saturation during flight were decreased to 95% level and their systolic pulmonary arterial pressure (sPAP) were increased 20% or 3 mmHg; however, these conditions occurred until twelve hour after flying (6). Besides, pulmonary vascular resistance also elevated during high-altitude within 1600-2500 m or oxygen fraction reduction between 0.15-0.18 that leads to hypoxic pulmonary vasoconstriction (7). This condition had correlation with pulmonary arterial pressures which in adult could be returned to normal level within two years after having flight (8). In addition, increasing altitude from ground level to the situation of 7000 to 8000 feet decreased oxygen saturation by approximately four percentage points from normal level (9).

Emergent Condition: In-flight Hypoxia

A span-new prospective observational study explained that 18% of passengers with chronic obstructive pulmonary disease had at least mild respiratory distress during a flight (10). Besides, in-flight cardiac emergencies were the most common cause of flight diversions and in-flight deaths, and silent pulmonary hypertension could be a contributing factor in some conditions (6). Another emergent condition was appearance of brain injury that leads to brain lesion. It had been reported that Severe U.S. Air Force pilot, including the U-2 community suffering severe neurological decompression sickness in flight despite the extreme altitudes at which they operate. The injured pilot experienced permanent cognitive deficits that correlated with focal lesions present on magnetic resonance imaging of his brain (11). This was the emergent condition occurred if aircraft cabin is not pressurized and altitude changes so fast.

Discussion

The pressurized cabin itself though may give impact to physical fitness, really important to make people in the aircraft breathe normally. Unpressurized cabin may lead into decompression sickness as experienced by military aircraft pilot (11). A pressure given is to maintain the stability of air density in a high altitude. Cabin condition is manipulated as ground condition. A research conducted by Larson explained that machine makes oxygenated air is pressurized in the cabin (1). Changes occur during takeoff process such as increasing cabin pressure. This pressure would be in a stable condition after reaching a proper altitude. The pressure is slightly fluctuating during flight based on the air condition outside. Research conducted by Karakucuk mentioned that cabin pressure is usually design similar with the air condition in 2.400 meters above sea level which is claimed as the best flight safety condition (4). Contrary, though the pressurized cabin is constructed to maintain comfort and good physical health during flight, it brings some consequences that affect human body.

A common symptom occurs as a response of flying in high altitude is hyperventilation, pulmonary vasoconstriction and activation oh oxidation enzyme. It appears because oxygen concentration is decreased approximately 1% in every increasing altitude at 300 meters (2). In this way, some complaints occur during flight should be beware since it can be a sign of hypoxia specifically hypoxic pulmonary vasoconstriction.

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This response, hypoxic pulmonary vasoconstriction which is clinically proven in some studies. This phenomenon, hypoxia causes an elevation in pulmonary artery pressure that can lead to pulmonary hypertension and dramatically right heart failure, for instance in hypoxic lung disease and at high altitude. Hypoxic pulmonary vaso-reactivity varies greatly between individuals and high reactivity predisposes to hypoxia-related diseases such as high-altitude pulmonary edema. Some individuals may likely be at risk of hypoxia-induced pulmonary hypertension and its squeal during air travel (2, 6).

In this way, at cabin pressures similar to an altitude as high as 8915 ft. (2700 m), alveolar oxygen tension (PaO2) is 59 mm Hg and arterial oxygen tension (PaO2) 55 mm Hg in a healthy person. In a patient with a resting PaO2 of 50 mm Hg at sea level, PaO2 may decrease to 30 mm Hg during air travel. In patients with reactive pulmonary hypertension, pulmonary arterial pressures may substantially increase during a flight, and hypoxemia may increase (8).

Conclusions

High-altitude condition may affect human physiology especially respiratory system. Decreasing oxygen saturation in blood occurs in that condition which is consequently establishing discomfort. Poorly, the further complication of hypoxia is risk of death. It is absolutely important to make a good preparation before having flight. Passengers willing to fly with commercial aircraft have to prepare physical fitness before flying. Having a proper sleep and avoiding alcoholic drink are example of it followed by drinking clear water as needed. Swallowing, in addition can help people to release some organs' tract blockage so some symptoms be reduced. Breastfeeding mom may breastfeed her child during takeoff and landing to avoid any discomfort. Preparation should be done not only by passengers but also airplane crews. They have to make sure that they are in a good physical condition before working in high-altitude. In addition, airlines management should make the passengers fill in the form related to their health issue. This preparation will make the cabin crew easily to understand passengers' physical condition and their risk which may appear during flight. Further study related to oxygen saturation in airplane passenger can be conducted in different location such as Indonesia. It is important since every-country has its own geographical uniqueness which may vary the result. Another suggestion is the further researcher can find some solutions to minimize those complaint during flight besides having a good pre-flight physical and psychological preparedness.

Declarations

Authors' contributions

Author is the only person who writes this article based on her idea and proven by scientific study.

Authors' Information (optional section)

Author is postgraduate student nurse who have a high concern in flight nursing.

Acknowledgements (optional section)

Master of Nursing Universitas Brawijaya

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and materials

There is no statistical data to be shared. Data are collected from journal articles, if you wish to cite some data please contact the authors of the listed sources in references part.

Competing interests

There is no conflict of interest.

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NURSING CARE MANAGEMENT TOWARDS PATIENT'S WITH FEMUR FRACTURE AT MUHAMMADIYAH HOSPITAL PALEMBANG

Oscar Ari Wiryansyah[1,2] and Ersita[2]

[1]Master of Nursing, Faculty of Medicine, Brawijaya University
[2]Department of Nursing, Bina Husada College of Health, Palembang, Indonesia

Corresponding author
Email addresses:
Oscar: [1]oscarariwiryansyah@gmail.com

Abstract

Background: Fracture is a musculoskeletal disease that has a familiar matter we hear, the fracture caused the death of ± 1.25 million people each year although a broken bone, the surrounding tissue will also be affected, caused to soft tissue edema, muscles and joints hemorrhage, joint dislocations, tendon rupture, nerve damage and blood vessel damage if not treated quickly can result in disability or death. From the several problems that arise nurses play an important role in providing nursing care include: assessment, diagnosis, intervention, implementation and evaluation of nursing care.

Method: This study was being qualitative descriptive research with the phenomenological approach. The method used in-depth interviews and observation. This research was conducted in head to toe in Ibn Rushd room on April 23rd until May 9th, 2014 with data sources obtained from 4 nurses, 1 head of the room and 1 patient.

Result: The result showed that the assessment carried out in areas with head to toe in Ibn Rushd room and when patients came. The diagnosis was established after the assessment that resulted in patient data. Made a plan must be based on the results of the assessment and diagnosis were found from patients, nurses implement the nursing actions performed in the patient immediately by giving priority to the most important diagnosis and evaluation of nursing redone by observing the patient's condition and progress notes in the patient's progress notes for documentation. The procedure of data analysis in this study was done by reading the transcripts repeatedly and thoroughly to gain an understanding of the phenomenon suffered in the management of nursing care in patients with a femoral fracture. Furthermore, the categories has been grouped under the theme perfectly. Furthermore, writer classified subjects into specific objectives. Next, writer validated the results of the analysis in the form of the themes of the show grille theme to the informant.

Conclusions: It was expected that the hospital could improve the HR *(Human Resources)*, especially nurses to conduct training on nursing care in patients with a healthcare professional. Next researchers can then examine the things that have not been controlled in this study such as research on the time needed a nurse to make nursing care from assessment to evaluation.

Keywords: Management, Nursing care, fracture of the femur

Background

Musculoskeletal diseases have become a problem is found in many health service centers around the world. Even the WHO has set this decade (2000-2010) into the bone and joint decade. The cause of most fractures is due to traffic accidents.[1] Traffic accidents, in addition to causing a fracture, according to the WHO, also caused the death of ± 1.25 million people every year, where most of the victims are teenagers or young adults.[2]

Based on data from South Sumatra Provincial Health Office in 2007 found about 2700 people experiencing the incidence of fractures, 56% of patients experienced a physical disability, 24% were killed, 15% experienced healing and 5% experienced a psychological disorder or depression on their fracture.[3]

Data obtained from the Medical Record Muhammadiyah Hospital Palembang patients with femur fractures in 2011, there were 52 patients, in 2012 as many as 130 patients, in 2013 as many as 194 patients who on average had include hospitalization in the room for 4-9 days.[4]

Fractures of the femur is the loss of continuity of the femur, femoral fracture clinical conditions could be open femur fractures are accompanied by soft tissue damage (muscle, skin nerve tissue, and blood vessels) and closed femoral fracture which can be caused by direct trauma to the thigh.[5] Despite a broken bone, the surrounding tissue will also be affected, resulting in soft tissue edema, bleeding into muscles and joints, joint dislocations, tendon rupture, nerve damage, and damage to blood vessels.

Based on the issues that can arise in patients with femoral fracture then health workers especially nurses play an important role in implementing the nursing care. Musculoskeletal trauma, especially fractures require a comprehensive nursing care. Nursing care is primarily intended for basic needs and prevent impaired clients reduce complications especially immobilization. In providing services and proper nursing care and aims to remind the health of the client, the nurse should be able to know how the response generated by the client in adapting to changes in oneself and the surrounding environment.[6]

The picture of the management of nursing care in patients with femur fractures based on observations and short interviews with the head of the room on Tuesday, 22 April 2014 that containment procedures nursing care runs fine ranging from assessment, actions to evaluations carried out documentation well, but not all of the action is noted formative evaluation. Installation space Ambulatory Surgery Ibnu Rusyd Zaal has 6 rooms, 2 classrooms II containing respectively 5 bed and 4 classrooms III containing respectively 8 bed so the total beds in the room Installation Inpatient Surgery Zaal Ibnu Rusyd totaling 42 beds. And for the number of nurses in Surgery Room there are 18 nurses, including the head of the room and head of the team, 16 staff nurses and two male nurses.[7]

Based on that data, Resercher is interested in studying Nursing Management in Patients with Femur Fractures in Muhammadiyah Hospital Palembang 2014.

Methods

Methods This study is a qualitative descriptive study using a phenomenological approach.

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The source of the information in this study is:

a. Head room in Zaal Ibnu Rusyd room Muhammadiyah Hospital Palembang
b. Nurse of Zaal Ibnu Rusyd room at Muhammadiyah Hospital Palembang
c. Patients with fractures

The method used in this research is in-depth interviews and field notes/ observations. Data collection tools in this study is the researchers themselves, interview, field notes and tape recorder/phone. The data collection exercise carried out after obtaining permission in writing or orally of Bina Husada College Palembang and Muhammadiyah Hospital Palembang. In the data collection procedure, the researchers conducted himself. Before conducting in-depth interview with the informant, the informant must first sign an agreement to become informants. The researchers explained that the form of questions to ask during the interview process is an open question. In granting expected informant information to answer honestly according to experiences of what they experienced.

The data in this study starts from the document data by arranging the data in the form of recording interviews, field notes and print out a transcript. Data analysis procedures in this study conducted by reading a transcript repeatedly and thoroughly to get an understanding of the phenomenon experienced in the management of nursing care in patients with femur fractures in Muhammadiyah Hospital Palembang. Furthermore, the perfect categories grouped in themes. Then researchers categorize the themes into a special purpose. Researchers validate the analysis results in the form of themes by showing grille theme to informants.[8] The information obtained is the primary information, because the researchers directly obtain data from information sources, namely the head of the room, nurses, and patients with fractures. To ensure the validity of the information in this study, the researchers conducted triangulation and triangulation methods.

Results

a. Nursing assessment

1. Theme 1 How do assessments
   a) Anamnesa category
      "Caranya yang pertama kita tanyakan pada pasien keluhan pasien...."(LA)
      This is in line with statements from patients about anamnesis obtained the following quote:
      "Pada saat masuk ke ruangan perawat menanyai penyakit saya kondisi saya masih sakit apa tidak yaitu dia mengecek dan melihat infus, sudah"(AS)
   b) Physical examination Categories
      "Yang kami lakukan pengkajian secara rutin yang pertama itu head to toe yaitu dari ujung rambut sampai ujung ke kaki."(DS)
      "Pengkajian ini dilakukan secara rutin dari kepala sampai kaki...."(LA)
      "Pertama kita melakukan pengkajian secara rutin, lihat dari fisik pasien dari ujung rambut sampai ke ujung kaki dari struktur tubuh."(FB)
      "Biasanya melakukan pengkajian secara rutin dengan cara head to toe dari ujung rambut sampai ujung kaki"(WR)

This is in line with a question to the room on physical examination obtained the following quote:

"Perawat melakukan pengkajian secara rutin dari ujung rambut sampai ke ujung kaki atau head to toe."(LW)

2. Theme 2 Time of assessment

   From interviews obtained the following quote:

   "Pengkajian dilakukan pada saat pasien masuk ke ruangan"(DS)

   "Pengkajian itu dilakukan pada saat pasien masuk di ruangan bedah"(FB)

   "Biasanya kami melakukan pengkajian pada saat pasien masuk dalam ruangan"(WR)

   This is supported by another informant that the head space of the assessment time to fracture patients obtained the following quote:

   "Ya pengkajian dilakukan pada saat pasien masuk keruangan bedah lah."(LW)

   It is supported by key informant statements about the timing of the assessment to fracture patients obtained the following quote :

   "Dilakukannya saat pasien masuk ruangan"(LA)

3. Theme 3 data/response of the patient

   a) Pain Category

      "Respon yang sering kami temukan pada pasien fraktur ini yaitu pertama sekali nyeri,.."(DS)

      "Respon yang sering ditemukan yaitu nyeri pada bagian frakturnya..."(FB)

      "Kebanyakan respon yang sering ditemukan pada pasien fraktur terutama nyeri,..."(WR)

      This is in line with the statement of the head of the room about the pain that obtained the following quote:

      "Pada pasien fraktur yang sering kita temukan yaitu nyeri, yang paling sering yang paling utama nyeri selanjutnya..."(LW)

      It is supported by a statement of key informants about pain in patients with fractures obtained the following quote :

      "Biasanya data-data yang ditemukan itu nyeri pada pasien fraktur,..."(LA)

   b) Impaired sense of comfort category

      "...karena nyeri itu bisa menimbulkan gangguan rasa nyaman pada pasien."(DS)

      "...kemudian nyeri itu sendiri dapat menimbulkan rasa tidak nyaman."(WR)

      This is in line with the statement of the head of the room on a comfortable acquired taste disturbances following excerpt:

      "...selanjutnya bisa mungkin, ya namanya nyeri bisa menimbulkan tidak nyaman ya banyak faktor lainnya."(LW)

      It is supported by key informant statements about interruption nrasa comfortable in patients with fractures obtained the following quote:

      "...nyeri tersebut juga dapat menimbulkan ketidaknyamanan".(LA)

4. Theme 4 How to get the data

   Here's an excerpt:

   "Dengan pengkajian secara langsung dengan pasien"(DS)

   "Terus melakukan pengkajian sehingga dapat data-data yang kita temukan pada klien"(FB)

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"...data-data itu dapat dari pengkajian head to toe tadi yang kemudian bisa menghasilkan data si pasien"(WR)

This is in line with the statement of the head of the room on how to get the data obtained the following quote :

"Kan dilakukan pengkajian, setelah kita lakukan pengkajian lalu mendapatkan data,.."(LW)

It is supported by a statement of key informants about how to obtain data on patients with fractures obtained the following quote :

"Data-data tadi didapatkan dari hasil pengkajian, mulai dari kepala sampai kaki kemudian kita tanyakan kepada keluarga pasien."(LA)

5. Theme 5 inhibitors data collection

Here's an excerpt:

"Masalah yang menghambat proses pengumpulan data seperti pasien yang tidak kooperatif dan ...."(DS)

"Saat pasien tidak kooperatif...."(FB)

"Kebanyakan yang menghambat proses pengumpulan data biasanya pasiennya kurang kooperatif,...."(WR)

This is in line with the statement of the head of the room on the collection of data obtained inhibitor quote as follows:

" ...mungkin pasiennya kurang kooperatif atau keluarganya belom ada."(LW)

It is supported by a statement of key informants about how to obtain data on patients with fractures obtained the following quote :

"Kalau penghambatnya seperti pasien yang tidak kooperatif,...."(LA)

b. Nursing diagnoses

1. Theme 1 Problems commonly arise

Here is an excerpt:

"Masalah yang paling sering itu ya yang sudah kita bilang tadi kan, kita nyeri pertama sekali..."(DS)

"Biasonyo pasien nyeri, nyeri pada bagian frakturnya, ..."(FB)

"Biasanya masalah utama yang sering kami temukan dari fraktur itu terutama nyeri dan..."(WR)

This is in line with the statement of the head of the room on a common problem appears obtained the following quote:

"Sesuai dengan pengkajian tadi yang sering kita temui nyeri,..."(LW)

It is supported by key informant statements about common problems occur in patients with fractures obtained the following quote :

"Masalah yang sering ditemukan pada pasien fraktur femur itu biasanya nyeri..."(LA)

2. Theme 2 How to formulate diagnoses

Here's an excerpt:

"....setelah pengkajian dan data sudah terkumpul kami bisa merumuskan diagnosa yang bakal timbul dari pengkajian yang kita lakukan tadi."(DS)

"....pertama yaitu pengkajian, data-data sudah terkumpul kami bisa merumuskan diagnosa yang bakal timbul dari pengkajian yang kita lakukan tadi."(FB)

"Biasanya setelah pengkajian, data-data sudah terkumpul kami baru bisa merumuskan diagnosa yang bakal timbul dari pengkajian yang akan kita lakukan tadi."(WR)

This is in line with the statement of the head of the room on how to formulate diagnoses obtained the following quote:

"Setelah perawat melakukan pengkajian, setelah data yang kita inginkan mencukupi, perawat bisa merumuskan diagnosa apa yang bakal timbul dari pengkajian tadi"(LW)

It is supported by a statement of key informants on how to formulate a diagnosis in patients with fractures obtained the following quote :

"Untuk menentukan diagnosa keperawatan kita kan melakukan pengkajian, dari pengkajian tersebut kita dapat mengetahui keluhan kemudian kita dapat merumuskan diagnosa yang akan timbul pada pasien tersebut ."(LA)

c. Care plan (intervention)

1. Theme 1 Creating a nursing plan

   Here is an excerpt:

   a) Position set Category

      "...berkolaborasi jika pasien tidak nyaman atur posisi supaya nyaman kita harus atur posisi pasien itu biar senyaman mungkin..."(DS)

      ".....jika pasien tidak nyaman ya atur posisinya supaya nyaman dan jika timbul..."(FB)

      "...jika pasien tidak nyaman ya atur posisinya supaya senyaman mungkin..."(WR)

      This is in line with the statement of the position the head space obtained the following quote:

      "...ya kita atur posisi pasiennya kita buat supaya pasiennya nyaman..."(LW)

      It is supported by a statement of key informants about the set position in patients with fractures obtained the following quote:

      "....kemudian kita atur posisi pasien yang nyaman sehingga dapat mengurangi rasa nyeri pasien..."(LA)

   b) Giving medicine Category

      "....menghilangkan rasa nyerinya itu kita kasih dulu obat analgetik yaitu anti nyeri lalu dan untuk mengurangi rasa sakitnya..."(DS)

      "...lalu lakukan tindakan untuk mengurangi rasa nyeri, melalui pengobatan..."(FB)

      "...Dan berkolaborasi dengan dokter,.."(WR)

      This is in line with the statement of the head of the room on the administration of drugs obtained following excerpt :

      "...mengkaji tingkat nyeri ya bisa kolaborasi yang..."(LW)

      It is supported by key informant statements concerning the administration of drugs to patients with fractures obtained the following quote :

      "...selain itu juga kita bisa berkolaborasi dengan tim dokter dalam pemberian obat analgetik..."(LA)

d. Nursing actions (Implementation)

1. Theme 1 nursing actions

   Here is an excerpt:

   "...jadi kita harus mengatasi rasa nyerinya terlebih dahulu dan berkolaborasi jika pasien tidak nyaman atur posisi supaya nyaman kita harus atur posisi pasien itu biar senyaman mungkin dan jika timbul masalah lain kita juga harus mengatasi masalah yang lain tersebut..."(DS)

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"...dari pengkajian tadi kita dapatkan diagnosa nyeri jadi kita harus eee mengatasi rasa nyerinya dan berkolaborasi dengan berkolaborasi jika pasien tidak nyaman ya atur posisinya supaya nyaman dan jika timbul masalah lain kita juga harus mengatasi masalah yang timbul.(FB)
"...Tindakannya biasanya kita langsung ke pasien tapi kita lihat dulu tindakan yang harus didahulukan biasanya kan nyeri jadi kita atasi nyerinya dulu..."(WR)
This is in line with the statement of the head of the room about when trouble obtained the following quote:
"Perawat harus menetapkan terlebih dahulu dari perencanaan tersebut supaya tindakan yang dilakukan ee bisa sesuai dengan apa yang dirasakan pasien.(LW)
It is supported by key informant statements about when problems occur in patients with fractures obtained the following quote:
"...tindakan keperawatannya pasien nyeri ya kita kaji skala nyeri, atur posisi pasien ya sama seperti rencana keperawatan apo intervensi yang kita lakukan.(LA)

2. Theme 2 Ways nursing actions
   Here's an excerpt:
   a) Against patients Category
      "...tindakannya kita langsung ke pasien..."(DS)
      "....kita langsung ke tindakannya ke pasien tapi..."(FB)
      "Tindakannya biasanya kita langsung ke pasien..."(WR)
      This is in line with the statement of the head of the room on to the patient obtained the following quote:
      "Tindakan ya kita lakukan terhadap pasien, ya tindakan kita langsung ke pasien..."(LW)
      It is supported by a statement of the key informants on patients with fractures obtained the following quote :
      "...kita langsung tindakannya kepada pasien ya..."(LA)
   b) Pain category
      "...biasanya nyeri jadi kita atasi nyerinya terlebih dahulu."(DS)
      "....kita lihat dulu tindakan yang harus didahulukan biasanya nyeri jadi kita atasi nyerinya terlebih dahulu...."(FB)
      "...kita lihat dulu tindakan yang harus didahulukan biasanya kan nyeri jadi kita atasi nyerinya dulu...."(WR)
      This is in line with the statement of the head of the room about the pain quote obtained as follows :
      "...misalnya nyeri kita atasi nyeri tadi kan,kalau tidak nyaman ya kita buat nyaman....."(LW)
      It is supported by a statement of key informants about pain in patients with fractures obtained the following quote:
      "...kita lihat dulu kan kita tanyakan misalnya skala nyerinya kita ibaratkan dari angka satu sampai sepuluh sehingga kita tahu skala pasien itu berat ringan atau sedang."(LA)
   c) Constraints during implementation category
      "Kalau pasien tidak kooperatif kita..."(Tn. D)
      ".....jika pasien tidak kooperatif yang dilakukan...."(Ny. F)
      "jika pasiennya sendiri tidak kooperatif biasanya...."(Ny. W)

This is in line with the statement of the head of the room on the current implementation constraints obtained the following quote :

".....kalau memang merasa tidak mau diajak kerjasama ya kita mintak bantuan dari keluargannya."(Ny. L2)

e. Evaluation

1. Theme 1 thing that needs to be evaluated

Here's an excerpt :

"...kita evaluasi yaitu berdasarkan diagnosa yang muncul seperti nyeri, nyerinya berkurang atau tidak, jika tetap nyeri kita kaji lagi tindakan nyerinya kita evaluasi sesuai SOAP yang ada.(DS)

"Berdasarkan dengan diagnosa yang muncul seperti nyeri,nyeri berkurang atau tidaknya jika tetap nyeri kita kaji lagi tingkat nyerinya kita evaluasi sesuai dengan SOAP".(FB)

"...perlu dievaluasi yaitu berdasarkan dengan diagnosa yang muncul seperti nyeri,nyeriya berkurang atau tidak jika tetap nyeri kita kaji lagi tingkat nyerinya kemudian kita lakukan evaluasi sesuai dengan SOAP."(WR)

This is in line with the statement of the head of state of the patient's room on information obtained as follows :

"Tadi kita temukan diagnosa ya, nyeri ya kita evaluasi nyerinya berkurang apa tidak apa pasiennya terus meringis kita kaji lagi tingkat nyerinya kita evaluasi sesuai dengan SOAP ya kalu kita disini hanya SOAP tidak sampai SOAPIER ya kalau nyeri kurangi rasa nyeri berkurang taau tidak."(LW)

It is supported by key informant statements about the state of patients with fractures obtained the following quote :

"...kita evaluasi ya diagnosa intervensi yang kita lakukan misalnya nyeri kan nyerinya itu kita tanyaberkurang atau tidak atau kalau misalnya nyerinya tidak berkurang ya kita lakukan intervensi kembali atau melakukan apo sesuai dengan SOAP.(LA)

Discussion

a. Nursing assessment

Based on information obtained from five informants found that the assessment carried out in head to toe from head to toe, one informant said the assessment was also carried out by means of anamnesis, assessment is done while the patient is first entered into the room, the response is often found when the assessment is pain that can cause patient discomfort, assessment data obtained with head-to-toe examination and ask questions directly with patients and problems that hinder the process of data collection is uncooperative patients and does not provide true information.

This is consistent with the theory according to Nursalam, assessment is the initial stage of the nursing process and a systematic process of collecting data from various sources to evaluate and identify the client's health status.[9]

And supported by excerpts from the book Doenges that assessment includes data collected through interviews gathering medical history, physical examination, laboratory and diagnostic examinations, as well as the Review previous records.[10]

Based on the theory of Nursalam, quote Doenges and the results of the study investigators believe that the assessment is the initial stage of the nursing

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process and is a process of data collection, data collection is done by the time the patient entered the room by history and examination physical (head to toe) response often discovered when the assessment is pain that can cause discomfort the patient, problems that hamper the process of data collection is uncooperative patients and does not provide true information, then the data that has been collected will be selected and set the data collected and documented in the form of nursing care. However, researchers found flaws in the implementation of nursing care in this room that the nurses do not perform regularly amamnesa of the five informants who were interviewed mendalah only one who did so the data in the anamnesis can be less accurate and not fixed targets that can slow the healing process of patients.

The failure to diagnose/interviews regularly by nurses according to excerpts of the interview Doenges that provide data that nurses get from the patient and significant other through conversation and observation. Perorganisasian and improvement of this data assists in the identification of the needs of sustainable patient care and nursing diagnoses. All parties in the interview process should be aware that the data collected are used in the planning of patient care.[10] so in the anamnesis assessment/interview is very important to identify the problem further.

From the results above quotation researchers concluded that to create a good nursing care process, the assessment should be done regularly, comprehensive and well targeted anamnesis/patient interview or physical examination because the data obtained will be a reference to continue the nursing process to do next.

b. Nursing diagnoses

In addition, based on the results of observations conducted by researchers of the same informant regarding the management of nursing care in determining diagnosis of nursing in terms of availability of nursing diagnosis format, availability of manuals/references and results of nursing diagnoses documented in the form of nursing care. Based on information obtained from the five informants obtained nursing problems commonly found in patients with fractures after an assessment is pain and disruption of activity. Nurses can formulate a diagnosis after doing an assessment that generates the data, after the data has been collected so nurses can formulate diagnoses that would arise from patients who have been studied.

Results of the discussion is supported by the theory of NANDA (*Nort American Nursing Diagnosis Association*) that nursing diagnosis is a clinical decision regarding individual response (the client and the public) on health matters is actual or potential as the basis for selection of nursing interventions to achieve nursing care in accordance with the authority of nurses, which can be made through the formulation of the problem - the cause - signs and symptoms.[11]

From the results of research and observation in the room investigators found nurses to uphold the nursing diagnosis just from the guidelines SOP (*Standart Operation Procedures*) surgery so sometimes it is not targeted to the patient, because it should be adapted to the conditions or complaints of patients when performed study, it can happen because of the level of busyness nurses very solid. And also the room should always update the guidelines/reference of

nursing care in the room with the latest to add insight and knowledge of the nurses in this classroom so that the nursing care services in a professional manner.

c. Nursing interventions

Based on the information obtained through interviews with informants in Zaal Ibnu Rusyd Muhammadiyah Hospital Palembang in planning in patients with femur fractures obtained information about making a plan of nursing.

In addition, based on the observation of diruangan Zaal Ibnu Rusyd had done research on the same informant regarding the management of nursing care in planning showed that for planning should be based on the results of the assessment and diagnosis were found from patients which aim to reduce problems arising from the assessment.

The results also supported the theory according to Lyer, Taptich and Bernocchi-Losey, in Nursalam, planning includes developing design strategies for prevention, reduce, or correct the problems identified in the nursing diagnosis and concluded the plan documentation.[12]

From the research results and the above theory, the researchers found in the planning of nursing carried out after the issue gained arise from diagnostics and based assessment that has been done, in the planning of nursing can not be separated from the diagnosis is made and the planning of nursing do in Ibnu Rusyd room is already based because nursing theory nursing plan is a plan of nursing actions to address the problems of nursing of patients, the results of observations conducted by researchers, nurses did make a care plan created by SOP surgery after the diagnosis is obtained.

d. Implementation of Nursing

Based on the information that has been obtained through in-depth interviews in the operating room Ibnu Rusyd with the informant on the implementation of nursing actions or implementation in patients with femur fractures that nursing actions performed to patients with femur fractures.

In addition, based on the results of observations made by researchers to the same informant on the implementation of nursing actions or implementation showed that the implementation of nursing that is made from the assessment and then get the diagnosis, ie diagnosis of pain so it should assess the degree of pain and cope with the pain, if the patient does not comfortable set the position for comfort, and if other problems arise we also need to address other issues, how to a nurse do actions in patients with fractures performed on patients directly by giving priority to diagnose primary eg pain, So to overcome the pain first, and if the patient can not do the cooperation then do is ask for help to the family or close relatives in the implementation of nursing implementation.

From the research supported the theory by Lyer et al, in Nursalam that implementation is the implementation of an intervention plan to achieve specific goals, the implementation phase starts after the plans drawn up and an intervention plan aimed at nursing orders to help clients achieve the expected goals[9].

From the research results and the above theory researchers argue that nursing implementation of nursing actions performed in the room is in conformity Ibnu Rusyd existing theory but to improve the quality of nursing

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care nurses should be able to modify the action delightful patient to patient feel comfortable on the actions of nurses do.

e. Evaluation of Nursing

Based on information obtained through in-depth interviews with informants Ibnu Rusyd space and evaluate the implementation of nursing actions in patients with femoral fracture patients found that the things that need to be evaluated in nursing care.

Based on the results of observations conducted by researchers of the same informant regarding the management of nursing care in evaluating the implementation of nursing actions showed that the evaluation of nursing is done by observing the patient's condition to determine what actions are still done and what actions may be terminated and record the progress patients in nursing progress notes for documentation.

The results are supported by Ignatavicius and Bayne's theories, in Nursalam, that evaluation of the success of nursing diagnoses, intervention plans and their implementation. The evaluation stage allows the nurse to monitor the "neglect" that has been lodged during the assessment, analysis, planning and implementation of the stage of the intervention.[13]

From the results of research and based on the above theory researchers believe that the evaluation of nursing performed after the action / implementation of nursing is given by paying attention to the patient's response to nursing actions performed. Evaluation of the action is used to assess how far the action has been performed in accordance with what the patient needs, and whether the action is resolved or stop.

Conclusions

a. Nursing Assessment

The assessment was done head to toe, one informant said the assessment was also done by anamnesis, the assessment was done when the patient first entered the room, the response often found during the assessment is pain that can cause patient discomfort, data The assessment was obtained with a head to toe examination and inquired directly with the patient and the problems that impeded the data collection process were patients who were uncooperative and did not provide the information correctly.

b. Nursing diagnoses

In nursing diagnoses obtained information is a nursing problem commonly found in patients with fractures after doing the assessment is the pain and disruption of activity. Nurses can formulate the diagnosis after the assessment that produces the data, after the data has been collected the nurse can formulate the diagnosis that will arise from the patient was.

c. Nursing Interventions

To make a plan should be based on the results of the assessment and diagnosis found from the patient, such as the plan to be done is to reduce the pain so the nurse position and administer an anagesic drug to reduce pain.

d. Nursing Implementation

Implementation of nursing is from the assessment in getting a diagnosis of pain so must assess the level of pain and overcome the pain, if the patient is not

comfortable set the position to be comfortable, and if other problems arise we also have to overcome the other problems, the way nurses in carrying out nursing actions in patients with fractures performed on the patient directly by prioritizing major diagnoses such as pain, so overcome the pain first, and if the patient can not cooperat then it is done that ask for help to the family or close relatives in the implementation of nursing

e. Evaluation

Nursing evaluation is undertaken by re-observing the patients condition to determine what action to take and what actions may be stopped and to record the patient's progress in the developmental record of care for documentation.

List of abbreviations

1. HR - Human Resources
2. WHO - World Health Organization
3. NANDA - Nort American Nursing Diagnosis Association
4. SOP - Standard Operational Procedures

Declarations

Authors' contributions

In this study the author as the main researcher. The author is directly involved in his own research ranging from retrieving preliminary data and looking at hospital phenomena, room observation, selecting research samples, conducting in-depth interviews to conclude research results. The writing of the interview result and the reading of the result is done by the main researcher. The writing is all done by the first researchers. The second researcher in this study serves as a mentor in the research process as a supervisor in the research.

Authors' Information

Now the authors are continuing education of Postgraduate Program, Master of Nursing student, Faculty of Medicine, Brawijaya University.

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Ethics approval and consent to participate

Not applicable

Consent for publication

The study was approved for publication in national and international journals.

Availability of data and materials

Findings in this study can be published and can be used as supporting data in subsequent research. Researchers hope the publication results of this study may contribute to nursing practice, either in nursing education or on clinical practice sites in patient's with a femur fracture.

Competing interests

There was no conflict of interest in the study. This study was conducted purely on the grounds of wanting to know in depth and develop nursing care at the hospital in patients with a femur fracture.

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COMPARATIVE STUDY METHOD OF LEARNING DEMONSTRATION AND PRACTICE-REHEARSAL PAIRS ON ACHIEVEMENT OF COMPETENCY POST-OPERATION WOUND CARE COURSE DIGESTION SYSTEM II ON STUDENT LEARNING PROCESS STIKES HUSADA JOMBANG

Prawito[1,2], Karisma Dwiana[2]

[1]Master of Nursing, Faculty of medicine, Universitas Brawijaya, Malang, Indonesia

[2]Nursing Program Stikes Husada Jombang

Coresponding Author:
Email: nsprawito@gmail.com
Email: rismamakna@gmail.com

Abstract

Background: Kinds of The learning process are, learn how to listen, observe, ask questions about certain subjects, and discuss them with others. Implementation of demonstration and practice-rehearsal pairs may stimulate response learning process in all aspects which are cognitive, affective, psychomotor skills in improving hard and soft skills competencies in order to achieve wound care competency in clinical laboratories.

Methods: The design of this research is quasi-experiments post-test only. The total sample is 36 respondent with 18 respondents have been recruited based on inclusion criteria. Variables of this study are the demonstration and practice-rehearsal pairs method and its implementation in the institute's integrated laboratory. Data were collected using a questionnaire and observation sheet. Analysis of the data using Mann-Whitney U test with significance value á < 0.05.

Result: The results of this study indicate that the level of psychomotor practice-rehearsal pairs group is higher than the demonstration of learning methods (p = 0.03). Measurement of attitudes on both methods had no difference (p = 0.418). Psychomotor ability by using the method of practice-rehearsal pairs higher than the demonstration method (p = 0.012).

Conclusions: Practicing teaching methods, which is better is combining both rehearsal pairs in increasing the knowledge and psychomotor competencies to achieve digestive system: post surgery wound care on students' ability.

Keywords: The demonstration, practice-rehearsal pairs, affective, cognitive, psychomotor.

Background

In accordance with the development of science, technology, and globalization of the world can be direct to the service system to the community, including health care in nursing. Nurses are required to appear professional when giving nursing care. This can be done for the needs of a comprehensive

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and can meet the basic needs, needs of bio, psycho, socio, and spiritual clients. A graduate of Nursing education can be: • Service Provider (Nursing Career) • Communicator (Interaction and transactions with family, and health team) • Health educator and promoter (family and community) • Manager and leader (Researcher)[2].

Postoperative wound care is also one of the important competencies of nurses in the provision of nursing care health problems that commonly occur in adulthood on the digestive system with various pathological causes such as inflammation / infection, congenital, neoplasm and trauma since the incidence of digestive disorders, especially patients who experience gastrointestinal surgery Also still quite high. Competence is started from someone to a nursing student and is expected to be able to think critically and solve patient problems by increasing learning process and practice method in use, [9].

At the academic stage of undergraduate education must take the burden of learning at least 144 units of credit semester [10]. The average learning process in one sks is an average of 160 minutes of student learning process from 50 minutes face to face, 50 minutes of structured activity, and 60 minutes of self-study. 1sks practicum activity is equal to 160 minutes, [3].

The amount of SKS on the course of digestive system2 3 SKS. One of the main subjects of the course is post-surgery wound care. In addition to student theory also in a teaching practicum. The implementation of postoperative wound care practicum activities in STIKES Husada Jombang uses demonstration methods conducted in the laboratory, where after learning the learners are given a practicum simultaneously, nature is individualized with a predetermined number of participants (8-9 people). Demonstration learning is done by learning and running a role assigned to it. Or practice / try various models or procedures that have been prepared [10].

The learning process with PRP (practice Rehearsal Pairs) is a strategy derived from active learning, which explains that this strategy is a strategy used to practice a skill or procedure with a student learning with practice over and over using information to learn it. Implementation of demonstration learning methods and practice-rehearsal pairs can lead to learning process responses or stimuli, ranging from cognitive, affective, psychomotor in improving hard skills and soft skills to achieving competence of wound care, this learning have been developed to help to learn through repetition and context [1]

Students take learning, with the support and cooperation of others, to improve self-efficacy and critical thinking is in need to achieve the relevant learning competencies this is determined from how to choose and apply appropriate learning strategies and learning process, [7]

Based on preliminary study conducted at STIKES husada jombang in obtaining the value of lab skills on the competence of wound care in the digestive system subjects Academic Year 2015-2016 in getting data as much as 1 student with less value, 12 students with Enough value, and 18 students with value Good, and 3 students with very good grades. From the data shows that with the use of the method of learning demonstration the average student has not mastered the learning material of the digestive system II well. Based on the description, the researcher wanted to compare the use of the method of learning demonstration with the use of practice rehearsal pairs (PRP) method

on the achievement of the competence of wound care of the gastrointestinal system of 2 students in the 5th semester STIKES Husada jombang academic year 2016-2017. The purpose of this study was to compare the method of demonstration learning and Practice rehearsal pairs towards the achievement of wound care competence post-surgery course of the digestive system II on the learning process at STIKES husada jombang

Methods

The method used in this research is Quasi Experimental post-test design only. The purpose of Quasi Ekspermien research is that researchers analyze the problem of wound training practice and compare it with the new method with the subject used by the researcher is the student. The researcher used 2 groups representing the first group by using the demonstration learning method which was commonly done at practicum activity at STIKES Husada Jombang and the second group using practice-rehearsal pairs method or new method. Post-test design is meant in this study is the researcher conducted an evaluation or measurement of student ability after implementing wound care treatment by using two different methods in integrated laboratory STIKES Husada Jombang and compared the results of both.

Table 1. Research Design Scheme Study Comparative Learning Method Demonstration And Practice-Rehearsal Pairs On Achieving Wound Care Competence STIKES Husada Jombang

Group	Dependent ariabel	Post Test
G-A	(X_1)	O_1
G-B	(X_2)	O_2

Keterangan :
G-A = Group A
G-B = Group B
X_1 = Have an Intervention with demonstration method
X_2 = Have an Intervention with *practice-rehearsal pairs* method
O_1 = Result group Demonstration Methods
O_2 = Result group *practice-rehearsal pairs Methods*

The research instrument used is using 3 kinds of measurement instruments, namely: questionnaire used to know Knowledge of post operative wound care, observation sheet to identify attitude (Affective) in wound care and use observation sheet to identify Skill (Psychomotor).

The population used in this study as many as 36 students semester V academic year 2016-2017 STIKES Husada Jombang. The sampling technique uses the total population. That is a number of 36 students divided into 2 groups: group 1 a number of 18 students received the treatment of learning by the method of demonstration, group 2 a number of 18 students received treatment methods of practice rehearsal pairs (PRP).

The instrument has been tested the validity and reliability by using 10 respondents in getting the results of the validity of the total score of each

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variable> 0.25 for each item question. And reliability results with cronbach alpha value: 0.993 which means high reliabilities, [13].

Measurement is done only on the post test only means that after they get a new learning process in the assessment. Test analysis used is using Man-Whitney U test. This test is appropriate because the data comes from different groups. The dependent variable data scale is the ordinal scale, [12].

Before the data in test Man-Whitney U test. Then need to do the test Normality of data. In this case, the select saphiro-wilk test because the sample size is less than 50. In test of shapiro-wilk normality in getting normally distributed data that is Sig. 0.212 (Table 2). This is Higher than the significant level of 0.05. It shows normally distributed data, [13].

Table 2. Shapiro-Wilk Normality Test Data

Shapiro-Wilk		
Statistic	**Df**	**Sig.**
.932	18	.212
.927	18	.171

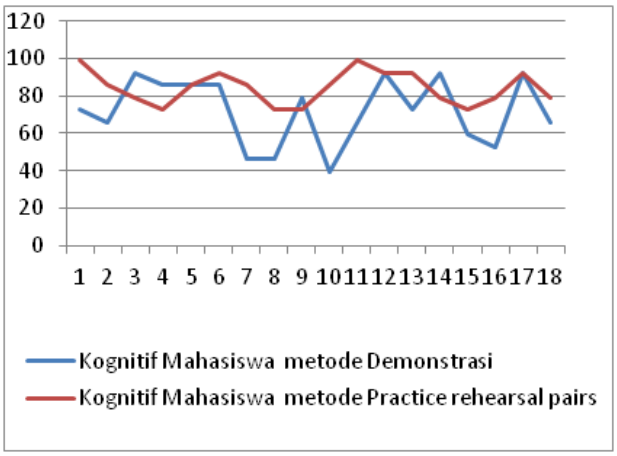
Result

In this research will be in the description of the comparison between the use of demonstration methods and practice methods rehearsal pairs. In the first test will be in the analysis of knowledge level (cognitive) of the questionnaire results. In the demonstration method and PRP method in obtaining the data as follows:

Students Cognitive

Figure 2 in the cognitive data obtained students in treating postoperative wounds. In the demonstration method of 18 subjects in getting good cognitive results: 9 people, enough: 6 people, less: 3 people. While cognitive students in treating postoperative wounds on Practice rehearsal pairs method of 18 subjects in getting good cognitive results: 16 people, enough: 2 people, less: 0 people. From both methods, the students' knowledge is dominated by Good knowledge.

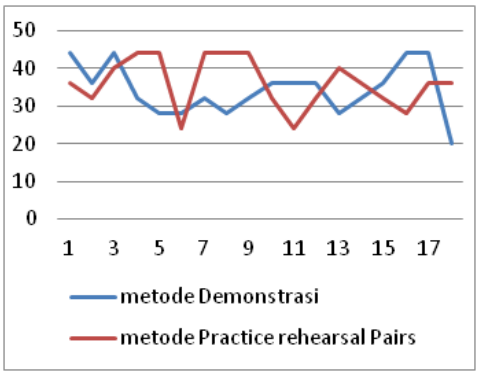
Figure 1. Cognitive STIKES husada jombang students in postoperative wound care after demonstration methods and PRP methods.



Affective Students

The result of attitude observation on the demonstration method in getting the results of the assessment there are 4 affective students are very positive, 9 positive affective students, 5 affective negative students, and on Practice rehearsal pairs method get the results of the assessment there are 7 very positive affective students, 8 positive affective students, 3 students Negative affective. Of the two methods, the student has the most dominant attitude is Positive attitude

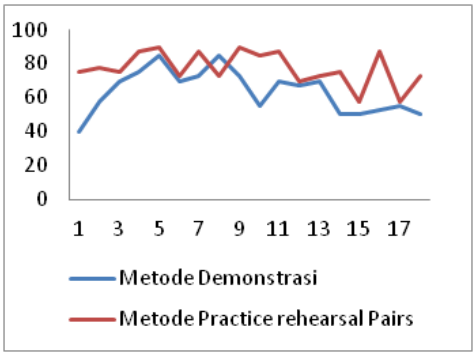
Figure 2 Affective of STIKES husada jombang students in post-operative wound care after demonstration methods and PRP methods.



Psychomotor Students

On student psychomotor observation in getting data on demonstration method that is very good value: 2 students, good: 8 students, enough: 7 students and less: 1 student, while student psychomotor observation on PRP method is very good value: 7 students, : 9 students, enough: 2 students and less: 0 students. Both methods are dominated by students' Psychomotor ability with Good score

Figure 3. Psychomotor of STIKES husada jombang student in post-operative wound care after demonstration methods and PRP methods.



Discussion

The learning process can contribute to improving student confidence in this case supporting the idea that clinical practice experience, with quality institutions, improving nurse ability, level of trust in all nursing competence domains [5].

In the learning process needs to note the environmental factors that can affect the success of learning, in addition to environmental factors interpersonal

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factors that will give different impetus or impediment to the success of learning,[11]. When students gain confidence, they can work in a clinical area with patients and mentors in focus. Students' self-confidence is obtained when they are in more comfortable conditions in the clinical environment, they begin to assume the role of nurses. Until students understand the clinical picture. Their clinical decision-making ability is limited, which is why they require knowledge, experience, and confidence to understand a clinical picture [4].

The purpose of the discussion of the comparative study of the use of demonstration methods and PRP methods. In order to achieve the competence of wound care after surgery on the course of digestive system II in STIKES husada jombang is to know which method is the most effective in use as a learning process to students. There are many factors that can influence the success of the learning process as well as environmental factors, Interpersonal, Attitude, self-confidence and so forth. In this case, the researcher focuses on the cognitive aspects of students, affective, and Psychomotor students in implementing post-surgical wound care practice. This is certainly intended to make students more able to think critically and have clinical decision-making ability [6].

Based on the results of the research in 3 aspects that are measured, affective aspect is the only one that there is no difference in both methods either on the demonstration or on the PRP method. This also shows that the characteristics of students become an important thing in the learning process, [6].

Conclusions

In the research results obtained some things that get from this research are: Student cognitive based on Test Man-Whitney U test from student cognitive questionnaire in getting test result Man-whitney U test Asymp. Sig. (2-tailed) shows 0.034 which means smaller than p = 0.05 this shows there is a significant difference in the use of demonstration methods and PRP methods

Affective students based on the results of the Whitney U Test Man Observation from the cognitive questionnaire of students in the test results Man-whitney U test Asymp. Sig. (2-tailed) shows the results of 0.418 this is greater than the value of p = 0.05. In the affective analysis test the students did not get differences on Demonstration methods and PRP methods. Psychomotor student Test the difference with Man-Whitney U test from observation result in getting Asymp. Sig. (2-tailed) shows 0.012 this is smaller than p = 0.05 which means there is a significant difference between demonstration method and PRP on Psycomotor Observation Student STIKES Husada Jombang.

There are significant differences in cognitive and psychomotor achievement using the method of demonstration learning with practice method of rehearsal pairs on the achievement of wound care competency post-surgery digestive system 2 on the learning process of STIKES Husada jombang students.

Students have a service learning experience as an educational and personal experience that is beneficial to them, And they can get to know each other with their learning partner through Practice rehearsal pairs learning method. it is recommended for other student students to continue to be involved in the learning process in the next school year while preparing for the final assignment for their undergraduate degree, (Fraile et al., 2017)

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EMERGENCY NURSES' ROLE OF PROVIDING END-OF-LIFE CARE IN THE EMERGENCY DEPARTMENT: A LITERATURE REVIEW

Rasdiyanah Muhlis[1]

[1]Master of Nursing Student, Postgraduate Program,
Faculty of Medicine,Universitas Brawijaya Malang, Indonesia
Rasdiyanah: rasdiyanahners@gmail.com/082347771850,

Abstract

Background: The provision of end-of-life care (EoL) in the emergency has been increasing globally in recent years and has a different scope than traditional emergency medicine. Emergency nurses work in clinical areas where treatment measures are usually given rapidly, and they have little time to make contact. In addition to life-saving interventions, emergency nurses provide care for dying patients. Little is known about the experience of emergency nurses treating patients who die in the emergency department. The aim of this literature review was to identifythe role of emergency nurses regarding the provision of EoL care in emergency departments.

Method: This literature review is conducted by searching and analyzing all eligible studies from electronic databases, other study reference lists, and review articles. This emphasizes articles that investigate the perception of emergency nurses regarding the provision of EoL care in emergency departments using a qualitative approach.

Result: Seven studies with span of time between 2010-2016 were analyzed. This study investigates and investigates the perception of emergency nurses regarding the provision of EoL care in emergency wards using a qualitative approach. The results indicate that the nurse has a role in the end-of-life care: (1) doing the best for the dying patient, (2) facilitating family involvement and involvement, (3) promoting personal growth and professionalism, and (4) expressing the ambiguity of resource dissemination. The findings suggest that emergency nurses believe that the Environment makes it difficult to care for patients who die and their families because of unpredictability, busyness, noise, lack of privacy, and the need to manage multiple patients simultaneously. Nurses are also placed in a position to care for family members who suddenly lose their homes, which are seen as a very challenging aspect of their role.

Conclusions: Caring for adults who die in the emergency is a difficult and challenging aspect of the role of emergency nurses. Emergency nurses believe that they are doing their best to provide lifelong intervention treatments, which bring a sense of professional satisfaction. Future suggested interventions include advocacy for ED design and physical layout to support compassionate, compassionate end-of-life care, provision of policies and training to support family and family attendance, and support from staff nurses,

Key Words: End-of-life care, emergency nurses' role

Background

End-of-Life (EoL) care is an important component of palliative care (PC) and aims to provide patient care during the last stage of life. The scope of care hasshifted to include making dying patients as comfortable aspossible by

minimizing invasive and life-prolongingtherapies and helping patients and their families adapt tomourning. Health professionals not only provide treatmentto relieve symptoms and control pain but also respond tothe psychosocial and spiritual needs of patients and familiesand emphasize dying with dignity [1-3].The World Health Organization has estimated that the proportion of the world's population that is older than 60 years will double from 11% to 22% between 2000 and 2050 [4]. Although people now have longer life spans, quality of dying and death issues have been overlooked. Large numbers of people are expected to be treated in emergency departments during the EOL stage, increasing the demand for EOL services.

A patient's death in the emergency department creates many additional challenges for nurses because of the constant care demands of acutely ill patients, lack of resources, lack of time to prepare for a death, the immediacy of decisionmaking and interventions, and lack of an established relationship with the patient and family. For family members, death in the emergency department usually occurs in crisis, regardless of whether the patient's death was expected or unexpected, [4] and emergency nurses bear witness to the intense pain and suffering of suddenly bereaved families. Because of the volume of other patients in the department, time to provide care to the bereaved familymembers is limited because nurses are expected to move on to care for the next patient. [5-7]

Emergency nurses are key to EOL services. [6,9]ED health professionals have generally been found to be lacking in EOL knowledge but are trained to provide immediate response to patients' health conditions. [1,6] Although some emergency nurses have indicated that they consider an emergency department to be an unsuitable setting for a good death, there is a need for EOL care. [10]Many studies focus on how health professionals perceive the effectiveness of pain and symptom control at EOL. [1,3,11] However, few studies have examined emergency nurses' experiences in providing EOL services.

Methods

This study is literature review of scientific literature covering perception of emergency nurses regarding the provision of EoL care in emergency departments. The literature review conducted by searching and analyzing all eligible studies from electronic database, other study reference lists, and review articles, such as Science Direct, Nature and Proquest. The writer examined the perception of emergency nurses regarding the provision of EoL care in emergency departments.

Results

The search with 15 article meeting the inclussion criteria and the result were:

It is not a nice place to die

The theme "It is not a nice place to die" reflected theparticipants' view of the EDenvironment.This theme consisted of 2 categories: "Emergency is intense" and "Being pulled in all directions." The emergency department was described by the participants as very intense, fast-paced, and busy, with a lack of space and time to provide compassionate care to dying patients and

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familymembers. As participantDnoted, "It is just too busy for patients who are dying. It's noisy. And there's too much commotion. It's not an ideal atmosphere." [20]

I see the grief

The theme "I see the grief" contained 3 categories: "witnessinggrief," "peering into people's lives," and "seeing beyond the moment." "Witnessing grief" described the nurses' experiences of bearing witness to the intense and raw grief of family members. All participants agreed that dealing with the death of a patient is part of the work of emergency nursing; however, dealing with family members after a death and seeing the intensity of their grief was one of the most difficult situations they faced in their profession. All participants shared stories of how they were sometimes unsurewhether they could control theirown emotions and of feeling helpless for not being able to remedy a situation. As participant I said, "You see this woman and she's just falling to the floor and uncontrollably crying and devastated and rightfully so…and you can't say I understand or it will be okay because it's not going to be okay and at that time, you just cry with her."[20]

Needing to know you've done your best

The third theme, "Needing to know you've done your best," consisted of 2 categories: "Trying to make it better" and "reflecting back." Through their stories, participants shared how they tried to make the situation better for families by meeting family members where they are in the grieving process and by allowing the family to be present with their loved one as much as possible. The mostimportant way the participants tried to make the situationbetter was by attempting to create an environment that was private, quiet, and seemingly more peaceful and one in which the patient's dignity was maintained amidst the chaotic emergency department. As participant J said, "We try to give them their own spot, away from the hubbub, away from the noise, away from the clatter and chatter. You basically try to move them to a spot where there is the least amount of traffic, and that is not always easy."[20]

Doing good for dying patients

Estimating the Duration of Stay and EOL Care

Participants understood that when patients were referred to the EOL service, they have entered the last stage of life. Care priorities shifted to maximize quality of life during the patients' remaining time; this was considered suitable care as opposed to active and invasive life sustaining interventions. As Nurse E stated, "We all know that they [EOL patients] are terminally ill and will not respond to current interventions…they don't need to suffer with controversial and invasive treatment…letting them pass away comfortably." [8]

Promoting Desirable Locations for EOL Care

Participants appreciated the renovated private single room provided for patients and their families during their final moments. Patients and their families were relaxed in a private, peaceful environment without disturbance. Nurse O commented, "It (the Osiris room) is a good place for dying patients,

compared to the medical ward. It is just like upgrading from economy to business class on the plane…he (the EOL patient) has suffered for a long time, let him be more comfortable in the EOL room with his family accompanying him."[19]

Providing Comfort and Care to Meet the Needs of EOL Patients

Almost all participants expressed a belief that the ultimate goal of EOL care was to provide comfort for dying patients, using various interventions. Opioid-type medications were commonly used for pain relief, particularly in patients with malignancies. Participants expressed concern regarding the benefit-risk balance of increasing medication dosage. Some participants believed that large doses of opioid medication would accelerate the dying process, whereas others believed that higher doses could offer effective pain relief. Nurse C said, "The physicians visit the EOL patients and order a morphine infusion, which helps them control pain continuously, making them look peaceful and comfortable." [17]

Facilitating family engagement and involvement

Realizing Family Involvement in Choosing Intervention Options

Most participants had negotiated with patients' families regarding which intervention options to use during EOL care. In particular, feeding issues were a source of conflict between patients' families and health care professionals. One participant had bargained with families over the amount of milk fed to patients via a nasogastric tube. Participants understood that wishes being rejected could affect families during their bereavement and grieving; therefore, they attempted to educate families regarding EOL issues. Nurse L noted, "Some families insist on continuing to feed [the patient] as usual, request that the amount is decreased but not withheld…we have to compromise with the families on the amount of milk the patient can tolerate, from a half to a quarter (of the full) amount…. I understand the frustration of the families when their opinions are ignored, so I would not neglect to show them how tolerant the patient is." [8]

Supporting the Family in Expressing TheirConcern and Love to the EOL Patient

A few participants had encountered families who repeatedly requested various types of support for patients. Although some nurses felt exhausted by frequently answering families' questions, they understood that their requests were an expression of concern and love. Nurse L commented, "The family kept pressing the call bell every 15 minutes, as they noted that the patient was complaining of chest pain. They wanted me to get the glyceryl trinity rate (TNG) tablet for the patient, but the physician had already signed off the pills! They were family; they just wanted to help and were concerned about the patient's comfort. [17]

Balancing Family's Needs and Patient's Interests and Dignity While Dying During the Final Farewell

Most participants acknowledged the need for family presence and company during the final stage of life. The meaning of the final farewell was essential, as it could influence family members' grief and bereavement. According to Nurse P, "Allowing them to stay with the dying patient is important…if you do not allow it, they would feel something missing in their lives…this could help (them0 to get through the grieving process well." Some

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participants considered the needs of the EOL patients to be more important than family members' requests for a final farewell. They were conflicted in balancing patients' best interests against the Chinese cultural belief in unconditional filial piety and prolonging the dying process. [19]

Enhancing personal growth and professionalism

Reflecting on the Meaning of Life and Death

Although death was encountered frequently in the emergency department, caring for EOL patients prompted some participants to reflect on the meaning of death. Nurse M noted, "Death is unavoidable…. I didn't think about it much before…. With the chance of caring (for) EOL patients, I found there was strong bonding within families…they (the family members) worried and also suffered throughout the process. Death is not a personal issue and attaches to families…. I would definitely treasure my family and life more…." Participants experienced an opportunity to reflect on the meaning of life and death after observing bonding between patients and their families during EOL care. [19]

Revitalizing Participants' Passion for Nursing as a Caring Profession

Participants stated that most ED work was task oriented, but caring for EOL service users was different, allowing them to reinforce their competencies and maintain their professional knowledge and skills, particularly those involving therapeutic relationships and their patient advocacy role in communication with other health professionals. Nurse I noted, "It allowedme to reflect…why I wanted to be a nurse at the beginning…umm…I worked for a few years in the ED,my passion has "cooled" with busy and heavy daily routines…when families expressed their deep sense of gratitude for my work, I was motivated, and (it) inspired (me to remember my)reasons for being a nurse, and (I) would continue to accomplish my mission of being a nurse." [17]

Expressing ambiguity toward resource deployment

Manpower Constraint and Service Priority in an Emergency Context

Participants stated that, even as delegated EOL case nurses, their time was occupied with other work. A few gave the EOL service the lowest priority relative to other clinical duties.They explained that this was because of insufficientmanpower in the emergency department, which meant that they could not provide appropriate one-on-one EOL care. Nurse D commented, "Even as the delegated nurse for (the)EoL service, if an acute pulmonary edema (occurred and the) patient's condition deteriorated, I would go to care (for) the APE (acute pulmonary edema) patient first and put their (EoLfamilies') requests aside." [19]

Effectiveness of Resource Utilization in Emergency Contexts

Resources, such as spacious single rooms and designated teams of staff caring for one EOL patient, were provided in all cases. However, some participants questioned whether resources for ED EoL services were used effectively and met current patient demands and needs. For example, Nurse I said, "We have all EoL facilities ready, a spacious room, a delegated nurse and physician…sometimes I wonder if that is too much to care only one single EoLpatient and family at a time…how about serving 2 to 3 patients at the same time?.... I believe it is workable." [19]

Discussion

Findings in this study describe how emergency nursesperceive the relationship of ED EOL care with the patient,family, and themselves. The participants in this studyexpressed their ambiguity about the ED EOL service. Toemergency nurses, the emergency department was a placefor active medical treatment, resuscitation, and saving lives,and they stated that patients' needs should not beneglected.[1,9,18] The goal of EOL care differs from thoseof other types of ED care, and it takes time for emergencynurses to transit. Once patients' EOL stage has beendetermined, care can be tailored to better meet their needsin the final stage of life. Participants understood thatprognosis was important in planning suitable and meaningfulEOL care.

Elements of psychosocial and spiritual care for EOLpatients should focus on their fear of death, concernssurrounding physical symptoms, reflection on the meaningof life, and dying with dignity.19 Participants described being challenged by the intensivehelp-seeking behavior of EoL patients' families. Althoughsome nurses felt exhausted by responding to such requests,the majority applauded this behavior and believed that it demonstrated family members' concern and eagerness to help their loved ones. Similar literature suggested that this behavior may occur as a means via which family members fulfill their information and psychosocial needs when the patient reaches the EOL stage.[16] Although some nurses in other countries have expressed reluctance or unwillingness to provide EoL care withinemergency departments, with adequate training to improvetheir competencies, emergency nurses can provide highqualityEOL services. [4,11, 14]

Emergency nurses expressed a lack of competency incommunication surrounding EoL issues, particularly inbreaking bad news and supporting families during the EoLstage. [18] Good communication with patients' families wouldallow nurses to determine care needs and provide the helprequired by families to manage grieving and accept suddenor unexpected death.However, physical comfort strategies, as well as manipulationof the environment by such means as dimmingthe lights, helped offset these challenges.Participants described ways that they cared for family,such as by communicating clearly with family membersabout the patient's condition, allowing family to be present,and encouraging them to say good-bye to their loved one.These strategies have also been identified in the literature asimportant for end-of-life care. [8,11,13,15,16]In being able toprovide quality end-of-life care, nurses invest themselves inthe nurse-patient-family relationship and are better able tomanage their occupational stress and create a positiveexperience in an event with an undesirable outcome.[8]Teamwork and debriefing were recognized by theparticipants as helping them deal with dying patients andtheir families and enabling them to continue to work in theemergency department. Previous studies highlight theimportance of being supported by colleagues as an integralfactor in helping nurses cope with tragic events. [3,12]

Conclusions

These findings provideinsights into service improvement, which could benefitEOL patients in emergency departments. There is a needfor further research examining the perspectives ofpatients and caregivers, including

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families, other healthcare professionals, and hospital administrators, whichcould refine and support future EOL development in emergency departments. The results of this literature review demonstratethat despite the constraints of the emergency department, nursesperceive they are able to deliver compassionate care to dyingpatients and support family members during a difficult time.Findings also indicate that nurses feel they are part of a team andthat despite the challenges in caring for patients who die in theemergency department, they are able to find meaning andsatisfaction in their role. Future interventions that focus on ED design, supporting families, and supporting nursing staff shouldbe implemented and studied.

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COGNITION IMPROVEMENT AFTER PARTICIPATING IN COGNITIVE STIMULATION THERAPY FOR PEOPLE WITH MILD TO MODERATE COGNITIVE IMPAIRMENT

Renata KOMALASARI[1]

[1]Faculty of Nursing, Universitas Pelita Harapan, Tangerang, Indonesia)
Email addresses:
RK: renata.komalasari@uph.edu

Abstract

Background : Previous study on effectiveness of Cognitive Stimulation Therapy (CST) in Kelurahan Binong, Tangerang, Banten, Indonesia showed an increase in cognitive function of people with mild to moderate cognitive impairment after participating in 14 sessions therapy. However because the sample size was small (n=5), the effectiveness of CST was left inconclusive. The purpose of the current study was assessing effectiveness of CST with larger sample size.

Methods: Conducted in Kampung Cijengir, Binong, from August to October 2014, the study involved 11 participants. Purposive sampling was used with the following inclusion criteria: elderly aged 50 plus, domicile in Binong, Tangerang, ability to communicate and understand Indonesian language, having mild to moderate cognitive impairment (scored 10-26 on Montreal Cognitive Assessment-Bahasa Indonesia version (MoCA-Ina). Analysis of cognition used MoCA-Ina.

Results: Mean scores on MoCA-Ina was 19.09 at pretest and 24.54, indicating 5.45 point increase on cognitive function. Paired t-test analysis showed significant difference between pre- and post-test on the MoCA scores (p=0.001); £= 0.05).

Conclusions: CST showed promising improvements in cognition of people with mild to moderate impairment. Future study is needed to consider the participants' general level of function in everyday life and the impact CST may have on family caregivers as they are key partners in the process of care.

Keywords: Cognitive Impairment; Montreal Cognitive Assessment; Cognitive Stimulation Therapy; Cognitive Function

Background

The number of persons aged 60 years or older in the world is estimated to be 605 million in 2000 and in 20150 it might increase to nearly 2 billion [1]. The overall total population (both sexes and all ages) in Indonesia in 2015 is 255,708,785 [2]. With improvement in health services and increase in the Indonesian life expectancy, the number of elderly people increases. In 2012, the Indonesian life expectancy was 67 years old [3], which increases to be 72.45 in 2015. In 1990, 6.3 per cent of the population was elderly. In the year of 2000, the figure increased to 7.2 per cent and was estimated to reach 11.1 per cent in 2020 which accounts for as many as 36 million of elderly population age 60 years plus [4].

With age, comes along varieties of degenerative conditions. Dementia is one of the many degenerative diseases afflicting the brain which affects cognitive function of the elderly. In 2002, the population of older people with dementia in Indonesia is estimated to reach 25.5 million (11.37% Indonesian population) [5]. Undang-Undang Repulik Indonesia Number 13 (1998) defined elderly as those who age 60 years and above and chapter 4 of the legislation explained the importance of improved life expectancy and productive years of the elderly that they may live independently and prosperously [7]. This calls for affordable efforts in preventing further deterioration from dementia.

A good deal of literatures reported different kinds of psychological interventions for demented people [8, 9, 10, 11, 12,13]. Among those interventions, cognitive stimulation therapy (CST) has been known to offer the most significant results [13] and gained increased recognition as an alternative to pharmacological treatment for people with mild to moderate dementia [8].

Kampung Cijengir, Binong, Tangerang is located in Banten with 233 elderly populatoion (Nursing Profession Practice Report University of Pelita Harapan, 2014). In a previous study conducted in Kampung Cijengir involving 150 elderly respondents, half (61,33%) respondents were reported to have mild to moderate cognitive impairment, with 22% had severe cognitive impairment and only 16% had normal cognition [14]. It showed that a larger proportion of the elderly in this area had cognitive impairment. This study was aimed at knowing whether cognitive functions of elderly with mild to moderate cognitive impairment in Cijengir improved after participating in 14 sessions of Cognitive Stimulation Therapy (CST).

Methods

This study was held at Kampung Cijengir, one of the four main areas in Kelurahan Binong, Tangerang. Elderly in this area were invited to come for a cognitive function screening held in in one of the residents' house. The use of the house was decided on consideration that it belonged to a respectable person in the area and was situated within easy reach by the elderly participants, expectedly increasing participants' involvement in the study. Snowballing technique was used to spread information about the group therapy. Elderly who came to the appointed location were then asked to complete the Montreal Cognitive Assessment-Bahasa Indonesia version (MoCA-Ina) to measure their cognitive functions. The investigator would read the items on the MoCA questionnaires to the respondents as they were illiterate. Purposive sampling was then used to screen elderly with the following inclusion criteria: elderly aged 50 plus, domicile in Binong, Tangerang, having the ability to communicate and understand Indonesian language, having mild to moderate cognitive impairment (as measured by MoCA-Ina scores of 10-26). Cognitive function measurement was done at pre- and post-test. Paired t-test was used for analysis of differences of cognitive functions before and after participating in the group therapy.

Cognitive stimulation therapy (CST) is a group therapy involving eight to ten participants aiming at improving cognitive function of people with mild to moderate cognitive impairment. It consists of 14 sessions of themed activities that are run as a two-hour session twice a week, over seven weeks. CST usually

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is run by two group leaders with previous training [8]. Facilitators who run the sessions were not professionally trained but may have experience of working with older people can run the sessions [15]. Other benefits of this group therapy may include improved quality of life [8, 16, 17], communication, behavior, and global functioning as well as reduced level of depression and anxiety [8].

In addition, the efficacy of this non-pharmacological group intervention has been reported to be comparable to some antipsychotic drug. Cost-effectiveness of this group intervention has been reported by Knapp et al, 2006. CST can help optimizing cognition of elderly with mild to moderate dementia [18]. Its benefits on cognition following 14 session of cognitive stimulation can be maintained for nearly six months [19]. Lastly, cognitive function of older age and female elderly were reported to benefit the most after participating in CST program [17].

This study used Montreal Cognitive Assessment-Bahasa Indonesia version (MoCa-Ina). This instrument was originally developed in Montreal-Canada by Dr. Ziad Nasreddine in 1996. It was adapted to accommodate the Indonesian culture by Husein et al. in 2009 [20] and was named MoCA-Ina. MoCA consisted of 13 item covering eight domains such as *visuospatial/executive (5 points);* naming task (3 points), memory and delayed recall (5 points), and attention (5 points), language (3 points, abstraction 2 points, and orientation (6 item). The highest score is 30 with scores of 18-26 showing mild cognitive impairment; scores of 10-17 showing moderate cognitive impairment and <10 showing severe cognitive impairment [21]. It was suggested that anyone can administer the test as long as he understands and follows the instructions carefully. MoCA is preferred because it is more sensitive than the more frequently used Mini-Mental State Examination (MMSE) in detecting Mild Cognitive Impairment (MCI) [22].

Results

This study took place in Kampung Cijengir, Binong, from August to October 2014. Twenty four (24) respondents aged fifty five to seventy one years old participated at pretest. Out of 24, 13 dropped out, leaving 11 respondents meeting 70% attendance requirement to be eligible for analysis. The scores of cognitive functions of the respondents were measured at pretest and posttest. At pretest, cognitive function of the average respondents was 19.09, as measured by the Montreal Cognitive Assessment-Indonesian version (MoCA-Ina). At post-test mean MoCA was 24.54, indicating 5.45 points increase on cognitive function. Paired t-test analysis showed significant difference between pre- and post-test on mean MoCA scores ($p=0.001$); £= 0.05). This showed participating in 14 sessions of cognitive stimulation therapy improved cognitive function of the elderly. This finding is in line with a series of previous CST studies by Spector et al which had become strong evidence of the CST practice in the UK [8] and some Asian countries such as Japan [23] and in Hongkong [24].

Improvement in cognition following participation the 14 sessions group therapy may be due to use of combined concepts of reality orientation [8], reminiscence therapy [6], and psychosocial therapies for dementia [24]. The use of reality orientation (RO), with benefits such as improved cognition and

behavior, quality of life, mood and well-being when delivered 30 minutes per day, five days per week for four months, can be traced back in the late 1950s when older patients in hospital units in the USA showed confusion and disorientation and RO was developed as the prototype of the cognitive stimulation approach [25].

Discussion

The use of CST key principles were maintained throughout the group sessions, as follows: mental stimulation, use of new ideas, thoughts and associations, orientation, sensitivity and implicity, opinions, rather than facts, reminiscence, and as an aid to the here-and-now, providing triggers to aid recall, continuity and consistency between sessions, implicit (rather than explicit) learning, stimulating language, stimulating executive functioning, person-centred, respect, involvement, inclusion, choice, fun, maximizing potential, building/strenghtening relationship (Aguirre, Spector, Streater, Hoe, Woods, and Orrell, 2012). The fourteen themes used in the group therapy were adapted from *The manual for group leader* written by Aguirre et al (2012). The themes used in the CST were as follows my life, current affairs, food, creativity, number games, domino, sounds, favorite resort places, categorizing objects, physical exercise, useful tips (use of herbs) household treasures, art discussion, and phrase game.

Conclusions

The result of this study showed that cognitive stimulation therapy is effective in improving cognitive function on people with mild to moderate cognitive function. This study is the second CST study by the author after the previous CST which used very small size sample (n=5) (Komalasari, 2013). The current study in Cijengir still focused on assessing cognitive function of elderly but involving larger sample size (n=11). Future study is needed to consider the participants' general level of function in everyday life and the impact CST may have on family caregivers as they are key partners in the process of care.

Declarations

This study has been presented in the 5th International Nursing Conference 2015, 16 - 18 September 2015, Jakarta, Indonesia but no proceeding was available from the conference.

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ENCOURAGING INDEPENDENCE IN SCHIZOPHRENIA PATIENTS THROUGH COMMUNITY MENTAL HEALTH NURSING PRACTICE

Retno Lestari

Lecturer at Department of Mental Health Nursing, University of Brawijaya, Malang, East Java, Indonesia
Retno: retno.lestari98@gmail.com/+6234156911 7ext125

Abstract

Background: Schizophrenia isa chronic mental illness which affects how a person think, feel and behaves. Patients with schizophrenia have limited social interaction with other people and focused on any meaningful activity. It is a challenge to create activities for the patients to motivate them so they have abilities to work productively.The community mental health nursing program which was located in a Community Integrated Village in Bantur, Malang, East Java provided several activities held monthly, called as "Bengkel Artis" has increased level of independence among schizophrenia patients.**The aim** of this study was to assess current level of independence living skills among schizophrenia patients in a Community Integrated Village in Bantur.

Methods: Survey of 156 patients selected from medical records. The Modified of Independent Living Skills Survey was used to measure the level of independence living skills in schizophrenia patients. Data were collected for three consecutive months (January-March 2017).

Results: The results showed that most of the patients (75.6%) were independent, 13.5% have a partial dependence care, and 10.9% have a total dependency. Among these patients, adults have high percentages (85.3%). Therefore it makes the program easier to run well.The program of "BengkelArtis" was held to promote the patients to have social interaction, make several arts, such as a miniature of a house or buildings, house accessories and handmade tools. Further, these home activities were practiced at home. This study showed improvements in patients' activities, so they have daily routines.

Conclusions and Recommendations: It is a challenge to promote meaningful activities among patients with schizophrenia. A community mental health nursing program in Bantur revealed that higher percentage of independent living skills improved after "Bengkel Artis" Program. It is recommended that this program could be maintained so the patients also have social interaction with others.

Keywords: Independence, Schizophrenia, Community Mental Health Nursing

Background

Schizophrenia is a chronic mental illness which affects how a person think, feel and behaves. There are two main symptoms in schizophrenic patients, the positive symptoms and the negative symptoms. The 'positive' symptoms of schizophrenia include hallucinations, such as hearing voices; and delusions, such as paranoid thoughts. Additionally, the 'negative' symptoms consist of feeling restless, attention disorder, and reduction in speech content [1].These

conditions influences their functional status including activities of daily living (ADLs). These include self-care, work status, social relationships.Deficit ofself-care related to impairment in hygiene activities such as taking bath, changing clothes, eating and eliminating properly. In addition, other living skills include safety and health, money management, and leisure time [2]. Patients with schizophrenia have limited social interaction with other people and focused on any activity [3]. It is a challenge to create activities for the patients to motivate them so they have abilities to work productively [4].

The treatment goals of schizophrenia are reducing the symptoms and maintaining the recovery from the effects of illness. Antipsychotic medication reduces the symptoms of schizophrenia; however the problems were still arising when many people have issues in medication adherence. It increases the risk of relapse, self-harm and rehospitalization. Meanwhile, psychotherapy and social interventions are used in combination with pharmacotherapy to improve the health of schizophrenic patients [5,6].

The community mental health nursing program which was located in a Community Integrated Village in Bantur, Malang, East Java provided several activities held monthly, called as "BengkelArtis" has increased level of independence among schizophrenia patients.The program itself increased patients' involvement in activity of discussion in a team. Additionally, during discussion, they made several art projects based on the topic which were provided by health professionals.

Previous study revealed that patients participating in the community program show improvements in daily routine activities. These living skills include self-care skills, communicational skills, and challenging with behavioral problems.Meanwhile, this type of program could optimize social interaction among patients. Through community mental health nursing program, schizophrenia patients have opportunitiesin challenging the real world [7]. The aim of this study was to assess current level of independence living skills among schizophrenia patients in a Community Integrated Village in Bantur.

Methods

Survey of 156 patients selected from medical records. The Modified of Independent Living Skills Survey was used to measure the level of independence living skills in schizophrenia patients. This survey measured individual's abilities toperform daily activities whiche consists of 4subscales: (a) Memory/Orientation, (b) Self-Care, (c) Medication Management, and (d) Social Adjustment [8].Data were collected for three consecutive months (January-March 2017) in Community Integrated Village, Bantur, Malang, East Java, Indonesia.

Results

Community Mental Health Nursing Practice is a community-based care which highlights the the importance of mental health services in community. The rehabilitation services for schizophrenia in community provided a real world to increase patients' productivity. The program of "BengkelArtis" was held to promote the patients to have social interaction, make several arts, such as a miniature of a house or buildings, house accessories and handmade tools.

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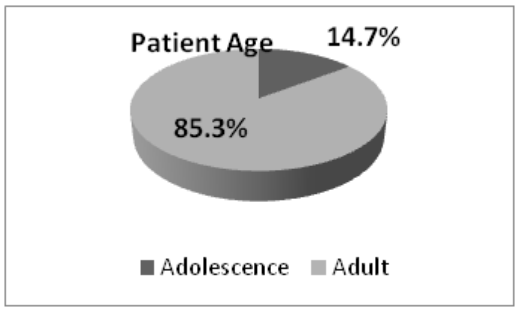
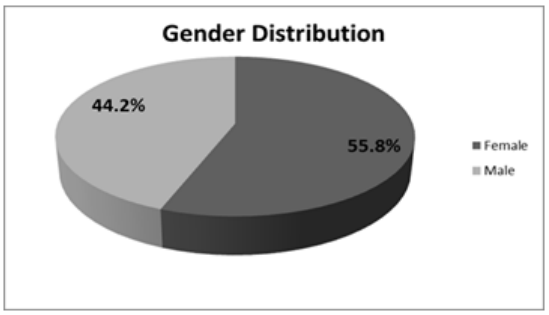
Further, these home activities were practiced at home. This study showed improvements in patients' activities, so they have daily routines. As seen in Pie Chart 1, among these patients, adults have high percentages (85.3%). Therefore it makes the program easier to run well. In addition, female has a higher distribution (55.8%) among population.

Pie Chart 1. Age of Patients

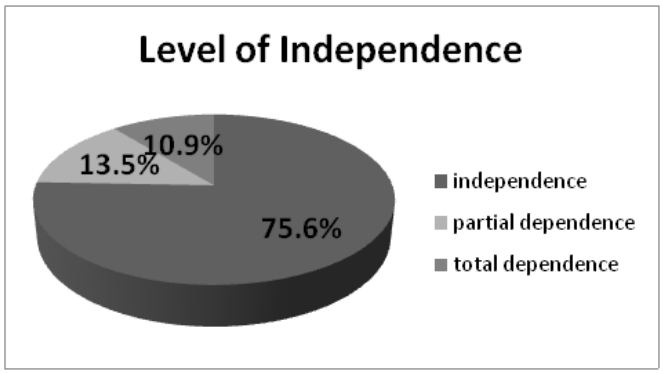


Pie Chart 2. Gender Distribution



The results showed that most of the patients (75.6%) were independent, 13.5% have a partial dependence care, and 10.9% have a total dependency, as figured below:

Pie Chart 3. Level of Independence



After living in the community for 5 years of community mental health nursing program, there was significant improvement in scores of Independence Scale. These skills wereprovided in a meeting which was scheduled monthly. During this program, patients could build social networks. This study also revealed about 95% recognized their friends, family names and their addresses. Mental health nurses worked in this program stated also that there was a significant improvements in their behaviors.

Previous study showed that there were significant differences between rehabilitation services in hospital and community. In the hospital, patients found difficulties engaging insocial networks; however patients could develop social relations easier in community. Basic concept of psychosocial rehabilitation stated that patients can build a life in society connected with the different levels without losing their uniqueness [9,10].Maintaining motivation through community showed effectiveness in enhancing retention of mental health education. This program has abilities in maintaining the engagement of patients, mental functioning and quality of life [11].

An evidenced-based practice investigated that schizophrenia patients could achieved several benefits through community mental health services, such as medication management, assertive communitytreatment, family psychoeducation,and integrated treatment [12]. In addition, positive outcomes of mental health treatment would be achieved if there is a collaboration between mental health services, patients and families [13,14].

Conclusions

It is a challenge to promote meaningful activities among patients with schizophrenia. A community mental health nursing program in Bantur revealed that higher percentage of independent living skills improved after "BengkelArtis" Program. It is recommended that this program could be maintained so the patients also have social interaction with others.

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DRINKING WATER THERAPY REDUCE HYPERTENSION OF ELDERLY IN TECHINICAL IMPLEMENTING SERVICE UNIT (UPT) LANSIA GLENMORE BANYUWANGI.

Rudiyanto[1], Fredi Ardiansyah[2]

[1]Department of Nursing, Universitas Brawijaya, Malang, Indonesia
[2]Department of Nursing STIKES Banyuwangi
Rudiyanto: rudiyanto.roqy@gmail.com

Abstract

Background: Hypertension is a chronic disease that very often occureto many elderly, One of the causes decreasing vital organs and obstruction in the blood vessels. Non-pharmacological therapy can be the right choice for hypertension treatment because it does not cause bad effects that make the patient condition worse than before. By drinking water treatment hypertension of elderly will reduce. The objective of the research is to determine the effect of drinking water treatment to hypertension on elderly in Technical Implementing Service Unit (UPT) Lansia Glenmore Banyuwangi.

Methods: The study was conducted at UPT Lansia Glenmore Banyuwangi during August - September 2015, the population of elderly people without hypertension non complications 60 people. The research method used is experiment with quasi-experimental research which in both eksperimen and control groups started with pre-test, and after treatment was held again (post-test) measurement. Samples taken with total sampling technique were 60 respondents then divided into experimental group of 30 respondents and 30 control group. The results of the measurements in both groups were analyzed using Wilcoxon matched pair test with a significant level of 0.05.

Results: The results showed that drinking water therapy decreased hypertension in the elderly. In the experimental group prior to drinking water therapy, it was found that more than 50% of respondents with mild-stage hypertension were 17 respondents (57%) and 12 respondents (40%) of moderate hypertension. Then after the treatment of blood pressure decreased 17 respondents (57%) normal blood pressure and 10 respondents (33%) mild hypertension. In the control group after administration of therapy in addition to drinking water does not decrease blood pressure significantly, only 2 respondents who experienced a decrease in blood pressure level to light level. From the test results Wilcoxon test matched pair test test using SPSS 15. Significant value of 0,05 (ñ <1,960), and the result of Z count 2,524 greater than 1,960, then H1 accepted mean influence of drinking water therapy to decrease hypertension in elderly.

Conclusions: When water is consumed based on the body needs (1 litre for elderly) everyday it can reduce the risk of obstruction blood vessels. It can decrease the thickness of blood vessels besides water can dissolve and remove waste from body. When blood vessels blockage is decreased heart will work normally so hypertension can be decreased because blood vessel path will runs well. Because of an effect in drinking water treatment to the decreasing of hypertension in the elderly, it is expected that drinking water treatment can be a choice to be implemented by health worker, especially nursing profession to the patients with hypertension without using any drugs.

Keywords: Elderly, hypertension, drinking watertreatment.

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Background

Elderly is the process of becoming older with age reaching 45 years and over. In the elderly will experience a physical, mental and social decline. As one example of physical degeneration in the elderly is the vulnerability of elderly to disease, especially degenerative diseases. Examples of degenerative diseases are common in elderly sufferers one of them is hypertension (24). Hypertension is a disease due to increased blood pressure due to constriction of blood vessels due to constricting or pathological response of disease due to accumulation of blockages in blood vessels (29). Hypertension is often called the main problem in public health, which is generally experienced by the elderly.

Deaths from cardiovascular disease globally are about 17 million deaths per year, and of these approximately 9.4 million deaths per year are caused by complications of hypertension. Data from WHO show that worldwide, 972 million people or 26.4% of the world's population suffer from hypertension with 26.6% male and 26.1% female ratio. In Indonesia, hypertension is the third leading cause of death after Stroke and Tuberculosis, reaching 6.7% of the population of all-age mortality. Results of basic health research (Riskesdas) balitbangkes in 2007 showed the prevalence of hypertension nationwide reached 31.7% and most cases have not been detected. According to health survey of East Java Province in 2010, data of hypertensive disease patients obtained from East Java Provincial Health Office there are 275,000 people with hypertension. From the survey data from the Health Office of Banyuwangi District, the people who visited the health facilities were 60,541 and those with hypertension were 6.9%. While data obtained from UPT Glenmore in December 2014 there are 70 elderly, who experienced hypertension reached 60 elderly and the number has increased significantly every year.

Alleged factors may contribute to the cause of hypertension such as uncontrollable factors (age, psychological stress, heredity), and controllable factors (such as obesity, lack of exercise, smoking and excessive alcohol and salt consumption) (11,12). There are various ways to treat hypertension, among others, by taking blood pressure-lowering drugs, dietary regulation, exercise, reducing stress, avoiding alcohol and cigarette (17). Non pharmacological therapy is given to change lifestyle. Lifestyle has an important role for non hypertensive individuals and individuals who have experienced hypertension. Non pharmacologic therapy as an alternative treatment treatment because it does not have side effects that damage other organs, therefore it is necessary to make modifications in lifestyle with dietary regulation and consumption of enough water. From a wide range of alternative treatments that can be done to treat hypertension, by through the consumption of water, because the benefits of water are plentiful for health. (27,28).

The benefits of consuming water include lowering blood pressure, maintaining elasticity of blood vessels, maintaining heart health, promoting the disposal of toxins from the body and maintaining kidney health. In general, the content of mineral substances that are needed by the body very much, including iron (Fe) and magnesium (Mg). Drinking water properly can help lower high blood pressure. This is because white water dissolves sumbatanya (atherelosklerosis and fat plag). So that the workload of the heart can be reduced because the blood vessel channels have reduced clogs. Another benefit

of water in addition to dissolving the blockage in the blood vessels, is to maintain the viscosity of blood, so the blood is not too thick that can cause hypertension.(17,27).

Results of research conducted by Dr. Jacquelinne Chan, PH and colleagues Synnove Knutsen, MD, Ph.D (2006) of 8,280 men and 12,017 women for 6 years recorded the incidence and development of coronary heart disease. Research results conducted by Chan and Knutsen published in the American Journal of This epidemiology mentions the risk of heart attacks in respondents who drink water more than 5 cups per day reduced to 41%. While men who continue to consume other beverages including tea, coffee, juice, milk, and alcohol remain at high risk of heart attack. According to researchers, drinking water will be absorbed into the bloodstream. This can lower the thickness of the blood vessels. So the risk of heart attack that triggers blood clots will be reduced. Conversely, other beverages will thicken the blood vessels. Because, after digestion of this material will contain the same concentration with blood. That can eventually lead to blood clots that can cause high blood pressure and lead to coronary heart disease

Based on the above data, the researchers are interested to conduct research on "Effect of Drinking Water Teraphyto reduce Hypertension of elderly in UPT Glenmore, Banyuwangi.

Methods

This research uses quasi experimental research design. This design is similar to pretest-posttest control group design, only in this design the experimental group or control group is not selected randomly (1)

The population in this study were all elderly in UPT Lansia Glenmore Banyuwangi. Sample in this research is elderly who have hypertension counted 60 people. The sampling technique used is the total sample. Independent variable in this research is drinking water therapy. The dependent variable in this study is the reduction of hypertension.

The materials used in this research are observation sheet (questionnaire sheet), mercury sphignomanometer, and stethoscope. Instruments in this study were mild hypertension: systole 140-159 mmHg, diastole 90-99 mmHg, moderate hypertension: systole 160-179 mmHg, diastole 100-109 mmHg, hypertension weight if systole ?180 mmHg and diastole ?110 mmHg

This research will be conducted from August to September 2015 located at UPT Lansia Glenmore Banyuwangi. From the data collected and then edited, coding, and tabulation, then the data were analyzed by using the Wilcoxon Match Pairs Test with the help of SPSS 15 program. This test is used to test the significance of the two-sample comparative hypothesis that correlates when the data is ordinal (tiered scale) . This test aims to assess the effect of drinking water therapy on the reduction of hypertension before and after therapy.

The statistics test result on SPSS 15 gives Z count and significance value. There are two ways to know the significance of the Wilcoxon Match Pairs Test:

1. Compare Z Calculate with Z Table at 5% significance level. Significant provisions when Z Count> Z table. If the result Z Count> Z Table, it can be stated that there is influence of drinking water therapy to decrease hypertension.

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2. Compare the significant value with a significant level of 5%. Significant provision if significant value <5% significance level. If the statistics results in accordance with the above provisions it can be stated that there is influence of drinking water therapy to decrease hypertension.

Results

The research was conducted in August - September 2015 with data collection, obtained 60 respondents who are in UPT Lansia Glenmore Banyuwangi. In get the following results:

Blood pressure prior to administration of drinking water treatment in the experimental group.

Table 1.Distribution of blood pressure prior to administration of drinking drinking water in the elderly against hypertension in UPT Elderly Glenmore, banyuwangi

Stadium hypertension	Total responden	Percentage
Normal	-	0%
Light	17	57%
Medium	12	40%
Weight	1	3%
Total	**30**	**100%**

From table 1. that was explained that blood pressure before drinking water treatment was given in know that more than 50% respondents with mild stage hypertension were 17 respondents (57%) and 12 respondents (40%) of moderate hypertension.

Blood pressure after the treatment of drinking water in the elderly who suffer from hypertension.

Table 2. The distribution of blood pressure after administration of drinking water therapy in the experimental group.

Stadium hypertension	Total responden	Percentage
Normal	17	57%
Light	10	33%
Medium	3	10%
Weight	0	0%
Total	**30**	**100%**

From table 2 that was explained that blood pressure after therapy can be known that 17 respondents (57%) normal blood pressure and 10 respondents (33%) mild hypertension.

Blood pressure prior to non-pharmacological treatment in addition to drinking water in the control group

Table 3. Distribution of blood pressure prior to non-pharmacological treatment in addition to drinking water in the control groups.

Stadium hypertension	Total responden	Percentage
Normal	0	0%
Light	16	53%
Medium	12	40%
Weight	2	7%
Total	30	100%

From table 3 that was explained that blood pressure before non pharmacy therapy was given in addition to drinking water in know that more than 50% of respondents with mild stage hypertension as much as 16 respondents (53%) and 12 respondents (40%) of moderate hypertension.

Blood pressure after non-pharmacological treatment in addition to drinking water in the control group

Table 4. Blood pressure distribution before after nonpharmacologic treatment in addition to drinking water in the control group

Stadium hypertension	Total responden	Percentage
Normal	0	0%
Light	18	60%
Medium	10	34%
Weight	2	6%
Total	**30**	**100%**

From table 4 that was explained that blood pressure after non-pharmacological treatment was given in addition to drinking water in the know that the blood pressure of respondents there was no significant decrease, 18 respondents (60%) mild hypertension and 10 respondents (34%) of moderate hypertension.

The influence of drinking water therapy on blood pressure in elderly with hypertension.

Table 5. Comparison of Blood Pressure before and after administration of drinking water therapy in the experimental group.

Stadium hypertension	Total responden		Percentage	
Normal	-	0%	17	57%
Light	17	57%	10	33%
Medium	12	40%	3	10%
Weight	1	3%	0	0%
Total	**30**	**100%**	**30**	**100%**

Table 5 shows that blood pressure levels in 30 respondents in the experimental group after drinking water treatment decreased, normal blood pressure was 17 respondents (57%), and mild hypertension were 10 respondents (33%).

Effect of non-pharmacological treatment in addition to drinking water against blood pressure in the control group.

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Table 6. Comparison of Blood Pressure before and after administration of drinking water therapy in the control group.

Stadium hypertension	Total responden		Percentage	
Normal	0	0%	0	0%
Light	16	53%	18	60%
Medium	12	40%	10	34%
Weight	2	7%	2	6%
Total	**30**	**100%**	**30**	**100%**

From table 6 shows that blood pressure levels in 30 control group respondents after giving therapy other than drinking water did not decrease blood pressure significantly, only 2 respondents who experienced a decrease in blood pressure level to moderate level.

Discussions

Blood pressure in elderly who suffer from hypertension before drinking water therapy is given

From the results of data in table 1 it was explained that more than 50% of respondents with mild-stage hypertension were 17 respondents (57%) and 12 respondents (40%) of moderate hypertension.

Hypertension is a condition in which a person experiences an increase in blood pressure above normal which results in an increase in morbidity and mortality. Abnormal pressure in the blood vessels leads to an increased risk of stroke, heart failure, and kidney damage (Widian Nur I, 2010: 39). Hypertension is also caused by several precipitating factors namely age, genetic and hormonal changes. And also from certain diseases or disorders such as; Kidney disease, adrenal gland, coarcation of the aorta, head trauma or cranial tumor, pregnancy-induced hypertension (Mary B, 2008: 49)

Hypertension is influenced by age and sex factors. This is evident from the general data that the majority of respondents are in the age group of 45- 59 years amounted to 38 people (63%). This is because the older the age of a person, the vital organ function of the person will decrease, so the ability of the heart as blood pumper will also decrease, so the heart will work harder to meet the blood supply throughout the body, as well as the presence of blockage in the blood vessels , Be hypertension. Another factor is sex, where female sex is more at risk of high blood pressure (hypertension). This is because in women there is an estrogen hormone that plays a role in hypertension.

Blood pressure in elderly who suffer from hypertension after given drinking water therapy

From the results of data table 2 it is explained that blood pressure after therapy can be known that 17 respondents (57%) normal blood pressure and 10 respondents (33%) mild hypertension.

Blood pressure in the respondents mostly decreased in the mark with the data that the normal blood pressure stage 17 people or 57%, mild hypertension 10 people or 33% and moderate 3 people or 10% of this is due to drinking water therapy. White water generally contains minerals that are naturally

dissolved from the soil, among which is Iron (Fe) is beneficial to maintain the body's metabolism as well as maintaining brain function and Magnesium (Mg) is beneficial to maintain bone health and maintain muscle strength.

When we drink water, the water we drink will be absorbed into the bloodstream. This can lower the thickness of the blood vessels. So the risk of heart attack that triggers blood clots will be reduced. Conversely, other beverages will thicken the blood vessels. Because, after digestion of this material will contain the same concentration with blood. That can eventually lead to blood clots that can cause high blood pressure.

If viewed from specific data, it can be seen that almost all respondents experienced a decrease in blood pressure, it is also in because respondents follow instructions that researchers provide. Respondents follow the indicators that must be done, and there are 2 respondents who did not experience changes in blood pressure because they did not follow the instructions of the researchers. This is in because the 2 respondents did not spend a drink at least 1 liter in 1 day, in accordance with the criteria set by the researchers.

Effect of drinking water therapy to the blood pressure of the elderly at UPT Glenmore Banyuwangi

On the results of wilcoxon test using SPSS 15 obtained calculation Z count of 2.524. Next Z Calculate compared with Z Table with 5% error level with Provisions significant when Z Count> Z Table. Z error level Table at 5% of 1,960. Figures 2,524> 1,960. Then the alternative hypothesis is accepted and the null hypothesis is rejected, it means there is influence of drinking water therapy to blood pressure at elderly in UPT Service of elderly of Glenmore Banyuwangi year 2015. This is proved by elderly before giving of drinking water treatment with normal category 0% after done Therapy to 57%, in mild category 57% after therapy to 33%, in moderate category 40% after therapy to 10%, and weight category 3% after therapy to 0%.

In accordance with the results of the study above that there is the influence of drinking water therapy against blood pressure in elderly people with hypertension, this is because white water generally contains minerals that are naturally dissolved from the soil, including iron (Fe) Maintain the body's metabolism as well as maintain the function of brain and Magnesium (Mg) are beneficial to maintain bone health and maintain muscle strength.

When the water is in drinking, the water will be absorbed into the bloodstream. This can lower the thickness of the blood vessels. So the risk of heart attack that triggers blood clots will be reduced. Conversely, other beverages will thicken the blood vessels. Because, after digestion of this material will contain the same concentration with blood. That can eventually lead to blood clots that can cause high blood pressure.

So when a person drank enough water in accordance with the ideal needs of the body (for the elderly 1 liter) every day, then the water was able to reduce the risk of blockage in the bloodstream, because the nature of water that dissolves and remove waste from the body. In the end, when the blood vessels decrease sumbatanya, then the hypertension can be slowly dropped because the path of blood vessels become smooth.

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So the act of giving drinking water therapy to the elderly who suffer from hypertension has a very effective effect. Therefore, drinking water therapy is one of the good efforts to cope with someone suffering from hypertension especially for the elderly, and drinking water therapy is one form Non-pharmacological treatment that hope can be developed and followed up for health workers especially for nurses.

Conclussions

This research is type of experimental research by using quasi experiment design, the respondent is all elderly who have non hypertension complication in UPT Glenmore banyuwangi number 60 people. Sampling with total sampling technique and divided into group of experiment and control group respectively 30 responder. The experimental group was given drinking water treatment while the control group was given non-pharmacological treatment in addition to drinking water. Before and after the experimental group treatment and control in the measurement of blood pressure.

Of the 30 respondents before the experiment conducted 57% therapy experienced hypertension and after doing hypertension therapy decreased respondents who normal blood pressure as much as 57%. This is very inversely with the control group 60% experienced hypertension but which decreased only 2 respondents. The influence of drinking water therapy on the reduction of hypertension in the elderly. Non-pharmacological treatment of drinking water with a minimum dose of 1 liter in the elderly can make the choice especially for nurse gerontik and community nurses to provide solutions and health education in hypertensive patients to always prioritize non-pharmacological therapy because it has no excessive side effects.

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

I approve if my research data is publicated.

Competing interests

There isn't conflicts of interests in the study

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THE EFFECT OF THERAPY ACTIVITY GROUP (EXPRESS FEELING) TO DECREASE BLOOD PRESSURE IN HYPERTENSION

Septa Putra Utami

Master of Nursing Student, University Brawijaya, Malang, Indonesia
Email: Septap2@gmail.com (085267187211)

Abstract

Background: Hypertension is generally associated with stress that is not well regulated. Sustained stress conditions can increase sympathetic nerve activity and stimulate the release of adrenal hormones. It can affect the cardiovascular system, through increased systemic vascular resistance or increased cardiac contractility. Then also able to produce a further impact, an increase in blood pressure commonly called hypertension. One of the actions that can be done by the nurse in the self is to provide group activity therapy in the form of (Express Feeling).

Methods: Design quasi experiment with pre and post test without econtrol 20 people divided into 2 groups, 10 treatment group.

Results: The results obtained are Zhitung -2.102, because Zhitung <Ztabel is -2.102 <1.96 then it can be concluded that H1 is acceptable, which means there is difference before and after TAK (express feeling) to decrease blood pressure in hypertension patient. Meanwhile, if viewed from p value of 0.036 <value of á is 0.05 concluded that H1 is acceptable, which means there is difference before and after given TAK (express feeling) to decrease blood pressure in hypertension patient. From the test results using friedman test also obtained p value 0.008 <value of á 0.05 concluded that H1 is acceptable, which means there is no TAK (express feeling) effect on the decrease in blood pressure in hypertensive patients.

Conclusion: From the above exposure results are more often done group therapy therapy in patients with hypertension then the blood pressure will be normal or decreased.

Keywords: Therapy group activities (express feeling), blood pressure, hypertension.

Background

Hypertension is a progressive cardiovascular syndrome as a result of other complex and interconnected conditions of the American Society of Hypertension (ASH). Health statistics in the United States says that 1 in 4 adults suffer from hypertension. If the disease is not controlled, it can cause heart attacks, strokes, kidney disorders, and blindness. And the case of hypertension is very often found in various parts of the world, with world hypertension prevalence rate reached 29.2% in men and 24.8% in women (World Health Statistic, 2012).

Hypertension as the third leading cause of death after stroke and tuberculosis, the number reached 6.8% of the proportion of causes of death at all ages in Indonesia (Riskesdas, 2010). Then other data also show that the prevalence

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in Indonesia reaches 31.7% of the population at age 18 and above. Of that amount, 60% of hypertensive patients end up in stroke.In Indonesia the number of hypertensive patients is estimated at 15 million people, and there are only 4% who are controlled hypertension. Prevalence 6-15% in adults, 50% of whom are not aware as hypertensive patients, so they tend to become severe hypertension because they do not avoid and do not know the risk factors, then there is also 90% is essential hypertension (Armilawaty, 2011).

While data from Prabumulih City Health Office in 2010, there were 48,245 people affected by hypertension. Then in 2011 increased to 57,738 inhabitants. In the work area of ??Puskesmas Pasar Prabumulih South Sumatera in 2012, there were 3,078 people and increased in 2013 by 4,096 people who suffer from hypertension. Hypertension is generally associated with stress that is not well regulated. Stress regulation is important in patients with hypertension that can be taken through various methods, such as with Laughing Therapy (Andol, 2009). In this case, the therapy used is Express Feeling, a series of Group Activity Therapy (TAK) process that allows to be applied in hypertension patients in an effort to regulate stress and lower blood pressure.

Based on the data and problems above, the researchers are interested to know about the influence of group activity therapy (Express Feeling) to decrease blood pressure in hypertensive patients in the work area of ??Puskesmas Pasar Prabumulih South Sumatera.

Methods

The research village used in this research is quasi experiment with pre and post test without control approach. Population used in this research is all hypertensive elderly patient in Puskemas area of ??market town of prabumulih sumatera Selatan number 50 people. The sample used in this research is partially hypertensive elderly patient in puskemas market area of ??prabumulih city of South Sumatera about 20 people, consist of treatment group of 10 people and control group of 10 people. To determine the sample is determined first with inclusion and exclusion criteria:The inclusion criteria in this study for treatment group are:Willingness to be a respondent, Patients with hypertensive elderly,Not use anti-hypertensive drugs and Follow group therapy therapy routinely. For control group : Willingness to be a respondent, Patients with hypertensive elderly, and Using anti-hypertensive medication

Hypothesis in this research is there influence of group activity therapy (Express Feeling) to decrease of blood pressure in patient of hypertension in puskemas market area of ??Prabumulih city south Sumatera.

Result

The following will be presented data research results on the subject of research.

Table 5.1 Distribution of frequency by age

No	Age (year)	Frequency	Persentase (%)
1.	50 – 60	3	30
2.	61 – 70	5	50
3.	71 – 80	1	10
4.	81 – 90	1	10
Amount		10	100

Based on Table 5.1 it can be seen that from 10 respondents studied most respondents aged 61 - 70 years ie 5 respondents (50%) a small number of respondents aged 71-80 years ie 1 respondent (10%).

Table 5.2 Distribution of frequency by sex

No	Gender	Frequency	Persentase (%)
1.	Male	3	30
2.	Female	7	70
Amount		10	100

Based on Table 5.2 it can be seen that from 10 respondents who researched most of the sexWomen were 7 respondents (70%) while a small number of male gender were 3 respondents (30%).

Table 5.3 Distribution of frequency by education :

No	Eduacation	Frequency	Persentase (%)
1.	Primary School	1	10
2.	Junior High School	4	40
3.	Senoir High School	4	40
4.	Collage	1	10
	Amount	10	100

Based on Table 5.3 it can be seen that from 10 respondents who studied most of junior high school and high school is 4 respondents (40%)..

Table 5.4 Frequency distribution of respondent's blood pressure prior to group activity therapy

No	Blood Presure	TAK I		TAK 2		TAK 3	
		F	%	f	%	f	%
1	High	7	70	7	70	8	80
2	Normall	3	30	1	10	2	20
3	Low	0	0	2	20	0	0
Amount		10	100	10	100	10	100

Based on table 5.4 can be known blood pressure before the group activity therapy on the first day until the third day on average have high blood pressure that is 7-8 respondents (70-80%).

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Table 5.5 Frequency distribution of respondent's blood pressure after group activity therapy

No	Blood Pressure	TAK I		TAK 2		TAK 3	
		f	%	F	%	f	%
1	High	4	40	4	40	6	60
2	Normal	3	30	4	40	1	10
3	Low	3	30	2	20	3	30
Amount		10	100	10	100	10	100

Based on table 5.5 can be known blood pressure after the group activity therapy on the first day and the second day there are 4 respondents whose high blood pressure is 4 respondents (40%) for normal blood pressure ie 3 - 4 respondents (30-40%) and who have Low blood pressure was 2-3 respondents (20-30%), while on the third day high blood pressure rose to 6 respondents (60%), normal blood pressure dropped to 1 respondent (10%), and low blood pressure 3 Respondents (30%). According to Elsanti (2009) the higher the age of a person the higher the blood pressure, so older people tend to have high blood pressure from younger people. Most respondents were aged 61-70Year, so to overcome hypertension required appropriate treatment and therapy, one of them with group activity therapy (Express Feeling).

Discussions

Hypertension is generally associated with stress that is not well regulated. Continuous stress conditions will increase sympathetic nerve activity in stimulating the release of adrenal hormones that affect the cardiovascular system through systemic enhancement, vascular resistance, or increased cardiac contractility resulting in continued effects of increased Blood Pressure

In group activity therapy (Express Feeling) model used is focal conflict model where Leader must facilitate and give opportunity to member to express feeling and discuss it for problem solving (Purwaningsih, 2010). From this study can be seen that some respondents have decreased blood pressure after doing group activity therapy (Express Feeling). So this group activity therapy is very useful in reducing blood pressure by expressing feelings.

From the results of Friedman Test test obtained P value 0.008 <value of α 0.05 can be concluded thank H1, which means there is influence group therapy therapy (Express Feeling) to decrease blood pressure in hypertensive patients in the puskemas market prabumulih city south sumatera.

Wilcoxon Signed Ranks Testdidapatkan Z value arithmetic -2.102, because Z arithmetic <Z table is -2.102 <1.96 then it can be concluded H1 accepted, which means there is a difference before and after giving therapy group activity (Express Feeling) to blood pressure in people with hypertension In the puskemas market area of Prabumulih city of southern Sumatra

The results showed that there was a decrease in blood pressure between before and after therapy. A person is said to have hypertension if his blood pressure is above the normal or optimal limit of 120 mmHg for systolic and 80 mmHg for diastolic (Agrina, 2011). Risk factors are.

Affects uncontrolled and uncontrollable hypertension, examples of controlled risk factors such as obesity, lack of exercise, drinking coffee, and stress, and for those who can not be controlled by sex, age and genetics. Most of the respondents are elderly, this is because in people who are elderly much decreased organs.

In addition, risk factors that can affect other hypertension also greatly affect the increase in blood pressure. Hypertension is generally associated with stress that is not well regulated. This stress regulation is important in patients with hypertension that can be taken through various methods, for example with Laughing Therapy. (Andol, 2009). In the state of stress as well, the body increases the production of stress hormones namely cortisol and adrenaline. Both of these improve the work of the heart, which if continually exposed will make a disturbance to the heart. When viewed from the nervous system, stress can cause hypertension by stimulating the nervous system in increasing hormones that constrict blood vessels, so that blood pressure to rise.

Conclusions

Blood pressure prior to group activity therapy (Express Feeling) the first day until the third day on average have high blood pressure that is 7-8 respondents (70-80%) for normal blood pressure is 1-3 respondents (10-30%) And those with low blood pressure were 2 respondents (20%) on the second day.Blood pressure after group therapy (Express Feeling) the first day until the third day on average have high blood pressure that is 4-6 respondents (40-60%) for normal blood pressure is 1-4 respondents (10-40%) And those with low blood pressure were 2-3 respondents (20-30%).There is influence of group activity therapy (Express Feeling) to the decrease of blood pressure in hypertension patient in Prabumulih Market Community Health Center area supported by Friedman Test result obtained P value 0.008 <value of á 0.05, so accept H1.

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

I approve if my data is publicized

Competing interests

There aren't conflicts of interest in the study

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EMERGENCY NURSES MANAGEMENT OF PATIENTS WITH SEVERE TRAUMATIC BRAIN INJURY: A LITERATUR REVIEW

Serly Sani Mahoklory

Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
Serly : sany.mahoklory04@gmail.com

Abstract

Background: Traumatic brain injury is the primary cause of death and disability in the world wide. Most cases of death in the emergency department are the impact of traffic accidents and the management of patients with severe traumatic brain injury that is not optimal, so, the effective and efficient nursing management is needed in the early treatment of patient with severe traumatic brain injury.

Aim: The purpose of this this literatur review is to determine the effectiveness of the emergency nursing management specific to patients with severe head injury.

Methods: A literatur review Preparation begins with finding and analyzing all eligible studies research, review articles and contained in the electronic database that is PubMed, Medline, Proquest, Science Direct, and Elsevier. The literatur review is emphasized in the research articles of nursing severe traumatic brain injury management in the emergency department.

Results: From 8 research articles that analysed in time period of 2010 to 2017 (7 years), there are three methods that potentially relevant in nursing management. Those are the method of care bundle, neurologic care wake up (NWT), and standard rehabilitation. From the three methods, care bundle become an evidence based practice strategy that is relevant and effective in improving the consistency, quality and safety of emergency treatment in patients with severe traumatic brain injury. The results showed a significant positive change in the patient with severe traumatic brain injury, in four major areas: (1) the usage of ETCO2 monitoring (0% vs 56.0%, P <0.001), (2) the frequency of respiratory level assessment (25.0% vs 72.0 %, P <0:01), (3) the assessment of pulse rate and blood pressure frequency (55.0% vs 88.0%, P <0:03), and (4) the position of the patient through the head of the bed 30 degrees (6.3% vs 75.0%, P < 0001).

Conclusion and Recommendation: Nursing management care bundle is one of the strategies recommended by this literatur review in the early treatment of severe traumatic brain injury in the emergency department.

Keywords: Nursing management, severe traumatic brain injury, emergency department.

Background

Traumatic brain injury is the primary cause of death and disability in the world wide[1]. In the United States the prevalence of traumatic brain injury visit in the emergency department gaining 1,365,000 patients. The death rate of

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traumatic brain injury to 18.4% per 100,000 people with an average of 53,014 of deaths per year[2]. According to the World Health Organization (WHO) during the year of 2000 to 2020 showed the rate increasing of traumatic brain injury incidents, particularly in the developing countries and low income such as East Timor, Laos, Indonesia and Vietnam[3,4].

Based on the main results of Riset Kesehatan Dasar (Riskesdas) 2007-2013, the prevalence of national injury in Indonesia is 8.2% where the results improved since 2007 that the prevalence is 7.5%. While the presentation of the injury caused by land transport accidents based on Riskesdas in 2013 is increasing highly then the previous record in 2007, that is 25.9% to 47.7% in 2013[5]. Most of the death cases in the emergency department is the impact of traffic accidents and the management of patients with severe traumatic brain injury that is not optimal yet[6].

Generally, the management of traumatic brain injury is divided into 3 parts based on glas gow coma scale score of ? 13 correlates with a mild, 9 to 12 is a moderate and ? 8 a severe traumatic brain injury[7]. So that emergency nurses have an important role in the early treatment and independent decision making in emergency conditions of brain injury, especially in severe traumatic brain injury. It requires more knowledge and skill of the nurse in clinical practice service standards facilitated by health care providers to provide a quality care[8].

However, until now a days the guidelines for the management of traumatic brain injury that have international standards are still closely related to intervention of medical doctor as the ACS TQIP Best Practices The Management Of Traumatic Brain Injury 2015, Managing Patient With Severe Traumatic Brain Injury in 2014 and Severe and Penetrating Traumatic Brain Injury in the Context of War of 2008 and the applicability that are not specific to the nursing, so it is difficult to be implemented by the nurse in the emergency department[9].

Adherence to Brain Foundation guidelines for management of traumatic brain injury Patients: study protocol for a literatur review and meta-analysis states that the existence of a literatur guideline that is developed as a recommendation to guide practitioners of nursing in making the appropriate and specific decisions in severe traumatic brain injury[10]. Therefore, the authors are interested in analysing the literatur review to know the management of effective emergency nursing in the treatment to the patients with severe traumatic brain injury.

Methods

The form of this research is literatur review. The resources were obtained from the study of literature and the results of six electronic databases, namely PubMed, Medline, Proquest, Science Direct, and Elsevier with the keywords used to search the international journal which is Nursing Management, Emergency Department, Traumatic Brain Injury and Severe Traumatic Brain Injury. There are 8 relevant journals that became the main foundation in this article, which have been sorted according to the criteria of exclusion and inclusion. The criteria are (1) The publication of the research article is on the period of 2010 to 2017, (2) the accessibility of clinical practice guidelines is published in international journal through a web-based portal, (3) Specific to

the management of traumatic brain injury in emergency departments, (4) the characteristics of respondents by the age of 17-45 years and the rate of severe head injury by GCS assessment, (5) the research methods used in the article is a mix of qualitative and quantitative methods, observational, case-control and experiment.

Results

The searching of the journal literature on the literatur review begin by identifying the 136 titles and abstracts of traumatic brain injury, then through the process of evaluating the complete text journal article, it obtained 17 relevant research. By some of this research article, then it is specified further into exclusion and inclusion criteria, so that there are 8 main journal that can be used for this literatur review. The 3 of 8 articles are highly relevant articles with good quality, 4 articles classified into medium quality and one article belonging to the low quality.

Table 1. Nursing Management of patients with severe TBI(Care Bundle)

Observational areas	Pre (n = 20)	Post (n = 25)	X^2	*p*
Airway management: Confirm ETT placement – ETCO2	0 %	56 %	13,75	0,00
Oxygenation and ventilation: Regular observation of respiratory rate	25 %	72 %	8,03	0,01
Circulation and fluid balance: Blood pressure monitoring at least every 15 minutes	55 %	88 %	4,62	0,03
Disability and management of intracranial pressure: Head of bed elevated 30 degrees	6,3 %	75 %	15,54	0,00

A study conducted in 2013 concluded that there are five main areas that are identified for improvement of patients care with severe TBI: (1) end-tidal carbon dioxide (ETCO2) monitoring and targeting; (2) the usage of analgesia and sedation; (3) the position of the patient; (4) the frequency of nursing assessment; and (5) the dose of diuretics Mannitol, which is evaluated through the participation of 34 nurses to two phases of research in the form of knowledge and observation of nurse clinic. In stage 1 (response rate 91.9%) and the number of correct responses ranged from 33.3% to 95.2% (Mdn = 71.4%, IQR = 57.1 to 80.9%). In stage 2, a total of 160 points of measurement were

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observed in 20 Patients with severe traumatic brain injury over 40 hour, with time care in the emergency department was 95 minutes (IQR = 60-140)[11].

Any similar situation stated by a different approach of study is a comprehensive literature. It is stated that a bundle of care evidence-based focused on seven main elements: (1) establish a secure airway along with c-spine protection, (2) maintain adequacy of oxygenation and ventilation, (3) maintain circulation and fluid balance, (4) assessment of GCS, and pupil size and reactivity, (5) maintain cerebral venous outflow, (6) management of pain, agitation, and irritability, and (7) administer for urgent CT scan[6].

Another study in 2015 showed that the care bundle is one of the strategies that relevant to nurses in the management of patients with severe traumatic brain injury in the emergency department. By examining the perception of nurses through two phases during the period of implementation, it obtained the results of the study on the first phase that there are 5 important factors that can be identified; (1) quality of service, (2) competing priorities, (3) inadequate equipment, (4) the anxiety of patients and (5) teamwork. While the result of the second phase covering three main themes: (1) the quality of care and patient safety, (2) positive changes in nursing practice and (3) the new knowledge, skills improving and self-confidence increasing[6].

The same result got by the study that was held in 2015. The result told that there is any statistically significant difference of clinical characteristics of the patients in terms of minimum systolic pretest (p = 0.003). There are two patients who died in the pre-test group, while patients in the post test was transferred from the emergency department to the intensive care unit (p = 0.005). It shows the effect of care bundle on implementation on emergency nurse clinical management of the patient with severe traumatic brain injury. There is a significant positive changes in the clinical care of patients with severe traumatic brain injury, in four major areas: (1) the use of ETCO2 monitoring (0% vs 56.0%, P <0.001), (2) the frequency of the assessment of respiratory level (25.0% vs 72.0 %, P <0:01), (3) assessment of pulse rate and blood pressure (55.0% vs 88.0%, P <0:03), and (4) the position of the patient with the head of the bed 30 degrees (6.3% vs 75.0%, P < 0001)[8].

Another different result of the study in 2017 showed that there are 4 major keys in the treatment of the patients with severe traumatic brain injury: (1) Neurocritical care management of traumatic brain injury focuses on the prevention and appropriate cure of the secondary treatment, (2) traumatic brain injury is very susceptible to the deviation of physiological of the body normally and by the values that can be tolerated, (3) provision of prophylactic therapy for the intra-cranial hypertension or signs and symptoms that threaten the others' life has not been proven as beneficial in clinical test and sometimes cause the undesirable effect, (4) the future progress of science in the management of traumatic brain injury requires treatment that is appropriated to the specific subtype, such as patients of diffuse or surgery of traumatic brain injury with hematoma[12].

A study in 2016 showed that totally 5 clinical practice guidelines (CPGs) can provide 50% well treatment of traumatic brain injury that was adjusted based on the changes. Three of the CPGs received 70% to 80% and the two received a score of 61% - 67%, those are guidelines New Zealand Group (NZGG), 2006

(ICC 0.876; Interval P <0.001), ABIKUS, 2007 (ICC 0.923; Interval P <0.001), Cincinnati 2009 (ICC 0.852; interval P <0.001), RCP 2009 (ICC 0.868; interval P <0.001) and SIGN 2013 (ICC 0.697; interval P <0.001). based on the data, it can be concluded that there are five clinical practice guidelines (CPGs) that are eligible to be recommended further as clinical practice guidelines in severe traumatic brain injury[2].

Skoglund guidelines in his research shows the different treatment methods, namely neurological wake-up test (NWT) that gave to special neurocritical patient (NCC) for improving the survival of severe traumatic brain injury patients. The results showed a 100% response rate, which all of the NCC center used the monitoring intracranial brain perfusion pressur, otherwise the new monitoring techniques such as microdialysis, jugular bulb oximetry, and oxygenation were brain tissue are rarely used during the survey period. Half of the NCC centre uses propofol infusion as main tranquilizers, this poses a significant distinction in the NWT, which has never been used in 50% center since of 1999 to 2009[13].

There is also a different methods of evaluating the condition of patients with severe traumatic injury. Through rehabilitation methods performed by three groups of 62 patients with severe traumatic injury, group A after rehabilitation baseline (n = 16), group B followed the procedure of rehabilitation standard (n = 34) and group C followed the procedure after rehabilitation standard (n = 12). The results were Group A showed a significant time span shorter than the time of admission to a rehabilitation center from group B and C (p <0.001). PTA was significantly lower in group B than in group A (p = 0.038). Gose in patients in group C was significantly lower (p = 0.004) in the hospital. FIM was significantly higher compared to group B (P = 0.005) at the time when entering a rehabilitation centre so that it can be concluded that based on the prognosis, group A has the quality of rehabilitation and the best effect in the long term for patients with severe traumatic brain injury[14].

Discussions

Severe traumatic brain injury is defined by the assessment of score glas gow coma scale less than 8 which can lead to death and disability. That is why in the last 25 years the guideline for the management of patients with severe traumatic brain injury is developed, in order to bring specific results in the management of clinic nursing care[15]. In the treatment of severe traumatic brain injury, the guideline of treatment becomes an important aspect of patients management, where patients with severe traumatic injury need the effectiveness of the actions of the nurse as an initial treatment in the emergency department[7].

Management of nursing clinics frequently become a standard in determining the prosperity rate of health care in emergency department, particularly in traumatic brain injury. According to Blissitt, (2012) in his research entitled *Controversies in the Management of Adults with Severe Traumatic Brain Injury,* there is some controversy in the management of severe traumatic brain injury with the implications for nursing, those are; (1) The best use of the technological progress that force the nurse to must be able to synthesize the data and manipulate a variety of physiological parameters needed to optimize the results of the examination, (2) the use of mannitol and hypertonic saline to

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manage the increasing of intracranial pressure in other words the nurses have to follow the development of the latest research related to the effectiveness of mannitol and hypertonic saline for the management of safe and effective in the improvement of ICP, (3) the use of decompressive craniectomy and barbiturate coma in refractory Increased intracranial pressure. It means the nurse must be aware of the potential for complications and noted the improvement of the patient's condition, through multimodalyti monitoring to assess the patient's of coma barbiturate , (4) therapeutic hypothermia as a neuroprotectant, where the nurse must have the knowledge and skills to recognize the prerequisite and manage the effects of physiological hypothermia therapy during the temperature management, (5) anemia and the role of blood transfusions, by advocating the supply of blood transfusion, if the physiological parameters of the body indicate the need of hemoglobin or changes in hematocrit levels, and (6) venous prophylaxis of thromboembolism in severe traumatic brain injury, that is to provide the best care for the prophylaxis of VTE and also pay attention to potential of complications, so that the manual management of nursing effective and efficient clinic for severe traumatic brain injury is needed[15].

The research findings indicate that the usage of care bundle can be used as specific guidance on the clinical treatment of severe traumatic brain injury in the emergency department. Care bundle approach is one of the relevant strategies used to improve the consistency, quality and safety of emergency care to the patients of severe traumatic brain injury[6]. So the application of management of nursing severe traumatic brain injury in the emergency department based on evidence based practice and recommended for the literatur review are the care bundle: (1) the use of end-tidal monitoring of carbon dioxide, (2) the frequency of the breathing level , (3) the frequency of the pulse and assessment of blood pressure and (4) the position of the patient[8].

Conclusions

The management of nursing injury clinic is an important aspect that must be owned by a nurse in the emergency department as a guideline in early treatment of severe traumatic brain. Various methods of severe TBI treatment are be developed continuously , and one of the management methods based on evidence based practice recommended in this literatur review is the Care bundle which is a new strategy to improve the consistency, quality and safety of emergency treatment in severe traumatic brain injury patients. So that, it is expected to the nurses to develop the best studies of nursing management in severe traumatic brain injury in order to reduce mortality and disablement of patient.

List of abbreviations (optional section)

1. ETCO2 - End Tidal Carbon Dioxide
2. FIM-Functional Independence
3. GCS - Glasgow Coma Scale
4. ICP - Intracranial Pressure
5. IQR-Interquartitle Ranges
6. MDN - Median
7. NCC - Neurocritical

8. NWT - Neurologic Care Wake Up
9. PTA - Post Traumatic Amnesia
10. WHO- WorldHealthOrganization

Declarations

Authors' contributions

In this study the author as the main researcher. Authors are directly involved in reviewing the best nursing managements in the management of patients with severe traumatic brain injury.

Consent for publication

The study was approved for publication in national and international journals

Conflict of interest

No conflict of interest has been declared by the authors

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OPTIMIZING THE FUNCTION OF NURSE MANAGERS IN IMPROVING THE ACHIEVEMENT OF NURSING QUALITY INDICATORS IN PRESSURE ULCERS PREVENTION IN X HOSPITAL: A *PILOT STUDY*

Siti Anisah[1], Hanny Handiyani[2], Sri Purwaningsih [3]

[1]Student in Master of Nursing Science-specialized in Nusrsing Leadership and Management & Nurse in Indonesia Army Central Hospital Gatot Soebroto Jakarta [2]Basic Nursing Department, Nursing Faculty Universitas Indonesia [3]Head of Nursing in Persahabatan Hospital Jakarta

Universitas Indonesia, Depok, 16424, Indonesia
E-mail: anisah_19@yahoo.com

ABSTRACT

Introduction: A nurse manager conducts the prevention of pressure ulcers during the time when a patient is hospitalized as an effort to improve the quality indicators in clinical nursing, however this action has not been optimal. Any incidence of pressure ulcer demands high hospitalization cost, extends the patient's hospital stay, and causes pain and complications, which might lead to a decline in quality and patient safety. The purpose of this paper is to identify the optimization of the nursing manager's function in implementing the wound prevention strategy. The chief nurse and the head of the room play the role as a nursing manager should perform its function and then maintain its achievement with various strategies.

Methode: The pilot study method optimized the function of nursing manager with situation analysis strength weakness opportunity threat (SWOT), followed by fishbone diagram, plan of action (POA), implementation, evaluation and gap analysis with literature review.

Result: The result of the implementation is the formation of a champion team; Draft guidance and consolidation; preparing the draft of clinical pathway flow of prevention activities; revising standard operating procedures (SPO); revising medical record (RM); brainstorming ideas for the pressure ulcer prevention, and initiation of research. The results of the consolidation of the champion team stated that the guidelines facilitated the prevention effort. Brainstorming increased 23.8% of nurse knowledge.

Conclusison: It is recommended that managers perform managerial functions with new strategies, strong commitment and adhere to their implementation.

Keywords: quality indicators, pressure ulcers, nurse managers, strategies

Introduction

The incidence of pressure ulcer is a useful parameter of system-level quality and patient safety and because it is a costly problem, prevention is a way to reduce expenditure and potential cost savings (1). The incidence of pressure ulcer is something that can be prevented. Top nurse managers and teams

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perform managerial functions in the optimization of pressure ulcer prevention programs. It is used as the basic competence of nurse managers in carrying out its functions. The lack of optimum managerial competence in preventing the incidence of injuries is a crucial issue as the incidence of pressure ulcers in hospital patients is correlated with increased morbidity, mortality, and costs, thus degrading the quality of care. All nursing managers perform their function in an effort to improve the achievement of the quality indicators in clinical nursing and patient safety on the prevention of pressure ulcer. Although nursing care plan has been followed, the incidence of pressure ulcer in the hospital continues to occur. Based on this, it is necessary to optimize the functions of top managers and first line managers, which will be discussed in this paper.

AIM

The purpose of this paper is to answer the phenomenon about the function of nursing managers in improving the achievement of nursing quality indicator: decreasing pressure ulcer incidence in the hospital. The decrease in pressure ulcers incidence in X hospital in the last two years was not the most optimum result as there were many factors influenced the outcome and the prevention strategies were not optimal. Nurse managers do prevention by identifying evidence-based problems using multicomponent strategies.

METHODS

This paper is written using a pilot study methodology approach. Methods are carried out with situational analysis, plan of action (POA), implementation, evaluation and gap analysis using review literature including benchmark of two hospitals, local and abroad. Sampling techinique used in this study is random sampling technique for inpatient, combined with purposive sampling for taking sample of the nurse and head of room. The instrument of data collection used are observation of quality reporting activity, check list of structured interview, documentation study and questionnaire. Interviews are conducted to the head of nursing service, head of evaluation monitoring section, and seven room heads. Questionnaires were distributed to 44 inpatient care nurses. This study also utilized documentation of hospital data by studying performance report of 2015, guidance, documentation of nursing care, standard of operational procedure (SPO) and students of FIK UI (medical faculty – Universitas Indonesia) residency report last year.

The author uses situational analysis, strength weakness opportunity threat (SWOT), in addition to making problem analysis in fishbone to know the main cause and problem. Problems are prioritized with participants at the initial meeting. The problems are solved with the concept of plan-do-check-action (PDCA) as part of the Kaizen concept in an effort to maintain sustainable quality indicators.

RESULTS

The incidence of injuries in X hospital in the last two years for each quarter is still fluctuating, thus strong commitment and new strategies are needed in its prevention efforts. From studying the documented data and interview results

with the head of nursing services and seven head nurses, it is suggested that the incidence of pressure ulcer stems from three possible situations: it might occur during the hospitalization; it might occur in another hospital; and it might happen from home before the patient was hospitalized. Patients who experience a home-based pressure ulcer incidence are not re-admission patients from X hospital. The incidence of pressure ulcer in the first quarter of 2015 was 0.07 ‰ and increased to 0.14 ‰ in the first quarter of 2016. While the rate in the second quarter of 2015 was 0.06 ‰ and rose to 0.10 ‰ in the second quarter of 2016. Among the things that have not been done by the nurse manager are: planning integrated program; preparing guidance; revising SPO and RM; forming champion team; preparing the draft of clinical pathway for prevention activities; staff development schedule; regular briefing focus; and performance evaluation with feedback.

DISCUSSION

The discussion includes the incidence of pressure ulcers in the hospital, preventive optimization, manager functions, and pressure ulcers prevention strategies.

The prevalence of pressure ulcers on patients in the hospital

Several countries, including the UK, reported the incidence of press injuries had decreased from 3.1 to 2.0 in 2011 and 2012 ($p<0.001$). Lebanon reported a decrease from 6.63% to 2.47% in 2012 to 2013 (Mallah et al., 2015). Korea reported the prevalence went down from 21% to 4% in the intervention group between 2006 and 2007. Canada reported an average incidence of pressure ulcers of 25.1%, 29.9% in the acute ward, 29.9% in the non-acute ward and 15.1% in the population (95% CI) in 2013 (1).

The international quality library indicator establishes the case of the second or lower-grade stage pressure ulcer that occurs during the hospitalization of the patient who was found at the time of the survey or direct observation was 100% which means no incidents were found. The health care quality standard set by the World Health Organization (WHO) incidence of pressure ulcers is 0% (13). Modern nursing undergoes a major transformation, especially in information technology with electronic records on patient records and reporting. The implementation of electronic health records (EHR) applications is useful to prevent the incidence of pressure ulcers (16). The hospital has not yet implemented the system so it needs to be long term for its implementation.

The nurse is responsible for the quality and safety of the patient. Nurses perform early detection of pressure ulcers as this will reduce the potential cost of wound care during hospitalization (4,17). Patients who do not have presssure ulcers will be more comfortable and satisfied which are the achievement of quality indicators of nursing service (17).

The study stated that the prevention of pressure ulcers is not just by means of documentation but further documentation of pressure ulcers prevention requires trained nurses (9). The quality of nursing care is all about patient safety including the integrity of the skin and it is a challenge for nursing managers and teams.

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The incidence of pressure ulcers is still fluctuating every quarter. Nurse managers and team evaluate each increment or change with root cause analysis (RCA) and PDCA. The upgrading efforts were also conducted at the San Diego Hospital inpatient with a capacity of 536 beds with an increased rate of presssure ulcers to 16.7% in June 2008. Efforts with PDCA are undertaken for quality improvement efforts aimed at reducing the incidence of pressure ulcers.

Although the incidence is still below the required maximum standards, a manager has a target of achieving the lowest possible incidence of pressure ulcers for optimal quality improvement. Managers make continuous efforts to improve achievement on patient safety. This is consistent with the study that nurse managers plan, encourage the provision of sustainability in all aspects for patient safety and eventually improve patient quality and dignity (14)

The United Kingdom has used reports of patient safety on the occurrence of pressure ulcers since 2012. The incidence of pressure ulcers is used as an indicator of the clinical area in the category of hospital infection control measures. The strategic objective to be achieved by managers is the realization of quality nursing service system and patient safety. Data collection activity is done once a month, with the calculation of the numerator, the number of pressure ulcers occurrences divided by denumerator, number of days of bedrest multiplied by a thousand. The national standard refers to the International Library Measure (ILM) determined that < 1.5‰ (13).

Functions of Nurse Managers

The functions of a manager include planning, organizing, staffing, directing and controlling. The author discusses the functions associated with prevention strategies and defend them. The head of the nursing service and the team is fully aware that nurse is the only health care provider who always stays close to the patient. Nurses become very influential on the quality and safety of patients. Nurses play a role in maintaining the integrity of skin during hospitalization.

The incidence of pressure ulcers is a parameter of patient quality and safety, and its prevention is a way to reduce spending and real cost savings potential (1). The incidence of pressure ulcers is one of the individual performance assessments of hospital management expressed in technical guidelines by Dirjen Bina Upaya Kesehatan (BUK) (Ditjen Bina Pelayanan Keperawatan Kemkes RI, 2008). The success of pressure ulcers prevention should be fully supported by the nursing manager. Several studies supported the statement, nurse managers in particular the director of nursing (DoN) and chief nursing officer (CNO) and clinical teams (6). The functions of nurse managers are to encourage the opening of horizontal and vertical communications, inspire and encourage, share vision projects, show dedication on the way to vision, motivate and contribute to positive change, give individual attention to staff, and enable joint decision making. Senior nursing leadership allocates the resources needed and removes barriers to care for the prevention of pressure ulcers (5). The identification of the nursing manager's functional issues will be described in table 1.

Table 1. The Functions of Nurse Managers in X hospital

Role	Activities
Planning	Establishing a policy on preventing and treating pressure ulcers in the form of guidelines. Technical guides have not yet been created. Creating SPO on prevention and treatment of pressure ulcers. SPO is revised according to evidence based nursing. Creating tools or instruments to record quality indicator reports about pressure ulcers. Documentation is to be made daily and monthly. Establishing an evaluation format for the effectiveness of training activities related to the prevention of pressure ulcers
Organizing	The formal structure of senior wound nurses and second layer links (nurse in charge at night) with a coordination system in each unit of inpatient has not been established. The ward prevention and handling workflow for the incidence of wound upon hospitalization has not yet been established. Team that work with nursing faculty to conduct wound-related research has not yet been established
Staffing	The field of nursing with the wound care team undertakes recruitment and interviews for senior nurses to be placed as wound care nurse coordinators in a room with potential pressure ulcers. A staff development schedule has been developed in the prevention and care of pressure ulcers with portfolio and inhouse training activities. No poster contest activity has been conducted on the quality improvement of the presssure ulcers theme on hospital anniversary activities.
Actuating/ Directing	Ensuring coordination between head of nursing service with head of education and training in motivating wound care team, in addition to conducting monthly briefings on head nurses.
Controlling	Evaluating performance achievement on KPI assessment once a month. Performing daily assessment on the quality activities of nursing services related to patient safety incidents, especially those who have the incidence of pressure ulcers through duty nurse activities.

The author conducted an analysis that the nurse manager must be optimal in performing its function. Nurse managers need strategic efforts to optimize the improvement of performance and continuity of activities with improvisation. Observations during the activities on the hospital revealed that the team's joint nurse managers had performed several activities but needed new strategies and remained consistent with the activities that had already been done. This is demonstrated by attitudes and morals serving patient safety, in preparation for increased initiation of Joint Commission International (JCI) standard accreditation.

The nurse manager conducts briefing to influence the subordinate staff and runs the management function steps by discussing content and key points to achieve results (7). Implementation of the briefing is also an effective effort for nurse managers to control prevention efforts. Nurse managers need creative and strategic effort in their dominant function upon implementing prevention efforts. In accordance with EBP, managers need optimization efforts and strategies in reducing the incidence of pressure ulcers during hospitalization.

Pressure Ulcers Prevention Strategy

The implementation strategy is done in stages related to managerial functions namely planning, organizing, staffing, actuating and controlling. Those activities in the nurse manager's function will be described as follows:

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Forming the champion

Champion wound care team is established to identify pressure ulcers prevention program, conducts root cause analysis (RCA) with the nurse manager.

Preparing a guidebook

Although the size of the quality of care continues to improve, reducing the prevalence of pressure ulcers has been proved as difficult. Preparation of the guidelines will provide a technical and detailed description of pressure ulcers prevention activities. Managers perform functions to ensure that effective and efficient guidance is implemented by staff.

Education and training

National Database of Nursing Quality Indicators (NDNQI) and supported by the American Nurses Association (ANA) mentioned that the incidence of pressure ulcers in the hospital as one of the indicators performed by more than 1,400 hospitals worldwide (3). Based on the abovementioned points. nurses require knowledge, accuracy and reliability in identifying the incidence of pressure ulcers. The manager continuously ensures staff competence. During the benchmarking activity, it was also adopted by the director of nursing SHLV Tangerang, as an effort to ensure the quality of prevention of pressure ulcers.

LIMITATIONS

The limitation of this residency activity is the time is limited to do all the POA, commitment to do Braden assessment and documentation. Not all standard medical records can be accessed for repair; it is realized to be the privacy of the hospital data so that corrections and suggestions are given directly to the nurse manager. EHR data was developed to help nurses make clinical decisions in preventing pressure ulcer therefore suppressing the incidence of pressure ulcers. The Braden scale is designed to show pressure ulcers prediction for three shifts. (4). The guidelines are not fully tested yet because it is still in the process of getting input from experts.

IMPLICATIONS

Hospitals as a place for student practice make innovations and strategies as a guarantee of services that refers to patient safety. This pilot study can be used as a reference for future relevant research in identifying the effect of the use of pressure ulcers prevention guidance on patient safety efforts in improving the achievement of nursing clinical quality indicators.

CONCLUSION

The incidence of pressure ulcers during the time a patient is treated is one of the quality indicators of nursing clinics. Managers perform functions with prevention, which is an effective and cost-effective way (Stansby, Avital, Jones, & Marsden, 2014).

Head of nursing and team are responsible in management and clinical areas. This is supported by international quality standards in Agency for Healthcare Research and Quality (AHRQ) guideline. The manager identifies the

achievement of the nursing clinical quality indicator in the prevention of pressure ulcer and arranges strategies to improve it continuously. (AHRQ, 2014).

Some strategies can be done by nursing managers and teams to prevent the incidence of press injuries including the formation of a champion team; drafting and consolidating the draft guidelines; preparing the draft of clinical pathway flow of prevention activities; revising standard operating procedures (SPO); revising medical record (RM); brainstorming ideas for the pressure ulcer prevention, and initiation of research.

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THE RELATIONSHIP BETWEEN KNOWLEDGE OF DYSMENORRHEA AND DYSMENORRHEA HANDLING RATES IN YOUNG WOMEN

Siti Nurhadiyah[1], Wiwit Dwi Nurbadriyah[2], Erna Puspitasari[3]

[1]Nursing Student (Nursing Department, STIKes Kepanjen, Malang)
[2]Lecturer at Nursing Department (STIKes Kepanjen, Malang)
[3]Lecturer at Nursing Department (RSUD Kanjuruhan Kepanjen, Malang)
Email Addresses:sitinurh57@yahoo.com

Abstract

Background: Dysmenorrhoea is one of the menstrual disorders that women often experience. As many as 92% of adolescents experience dysmenorrhoea, and 14% of teens often do not attend school. This predicament is due to a lack of knowledge in dealing with dysmenorrhoea. This condition is also seen in high school students in PGRI 01 Kromengan where some students are unable to handle dysmenorrhoea even though there are various ways of handlings. This study aims to analyse the relationship between knowledge of dysmenorrhoea and dysmenorrhoea handling rates.

Methods: The research design was analytical descriptive with cross-sectional time approach. The samples are 67 students taken through purposive sampling technique. Data were collected through questionnaire and checked and analysed by Chi Square correlation test with the significance level of (á) 0,05.

Results: The result of the research shows that most of the students, 44 students (65.67%), have the knowledge and 48 students (71.64%) have adequate dysmenorrhoea treatment. Statistical test results in the correlation coefficient value of 22.752 with probability value (p) = 0,000.

Conclusion: There is a relationship between knowledge of dysmenorrhea and dysmenorrhoea handling rates in young women. It is suggested that health education for young women can increase knowledge in handling dysmenorrhoea.

Keywords: Knowledge, Handling of Dysmenorrhoea, Young Women

Background

Menstruation is a physiological phenomenon that is periodically experienced by every woman of reproductive age. For some women, menstruation is common, but for others, it is not the case. Various kinds of disorders appear even a few days before menstruation. One of the menstrual disorders that women often experience is abdominal pain/cramps that occur in the early days of menstruation. Physical disturbances in the form of pain / abdominal cramps are called dysmenorrhoea (Dita, 2010).

Handling of dysmenorrhoea can be done by pharmacological and non-pharmacological ways. Pharmacologic treatment can be done by administering analgesics, hormonal therapy, and therapy with nonsteroidalanti-prostaglandin

(Sarwono, 2009). While non-pharmacological handling, among others, is done by compression, water drinking, regular exercise, adequate rest and others (NurNajmi, 2009).

Knowledge of handling dysmenorrhoea is obtained through various ways. This knowledge can be achieved through information and advice. Through information and counselling, teenagers will know how to handle dysmenorrhoea (Sarwono, 2009). Unfortunately, not all young women have sufficient knowledge in managing dysmenorrhoea properly even though in general the various efforts to treat dysmenorrhoea is widely known through various sources. Also, some girls know how to handle dysmenorrhoea, but they do not do it.

Epidemiological studies in the adolescence (12-17) in the United States, Klein and Litt reported those with dysmenorrhoea complain of having pain; 12% severe, 37% moderate, and 49% light. The study indicated that dysmenorrhoea causes 14% of teens to not attend school. The incidence of dysmenorrhoea in adolescents is reported to be about 92% (Anurogo, 2008). In contrast to those mentioned by Senior (2009), in Indonesia, the incidence of primary dysmenorrhoea is experienced by 54.89% of women in productive age, which occurs about 3 or 6 years after menarche. In Surabaya, it was found that 1.07% to 1.31% of the number of patients came to obstetrician due to dysmenorrhoea (Noviana, 2008).

From the preliminary study on October 31, 2012, on ten girls in SMA PGRI 01 Kromengan through interview, seven female students (70%) said that they know the emergence of menstrual pain, three female students (30%) stated that they are not aware of the onset of menstrual pain. Of the ten students, three (30%) reported that they cope with dysmenorrhoea by drinking herbal turmeric, one student (10%) with rest, one student (10%) with drinking water and five female students (50%) that ignored it.

Menstrual pain/ dysmenorrhoea result from the excessive release of F2 alpha prostaglandin from uterine endometrium cells. This release worsens the uterine hypoxia that occurs in menstruation, resulting in severe pain. It is these pains that create discomfort and often interfere with activities such and resulting in the absence of women at work/school hours.

The pain felt during menstruation is a natural thing that every woman experiences, but the handling efforts must be appropriate. Health education is one of the efforts to increase knowledge. This way, there needs to be cooperation between the UKS staff with health personnel in providing health education, primarily reproductive health.

Based on the various efforts to handle dysmenorrhoea made by SMA PGRI 01 Kromengan students, the researchers are interested in conducting research on "the relationship between knowledge of dysmenorrhoea and dysmenorrhoea handling rates in young women".

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Methods

Research Design

The research design is a descriptive analysis through survey/research exploring how and why health phenomenon happened (Notoatmodjo, 2010).

Population and Sampling

The population in this study are girls aged 15-18 years old in SMA PGRI 01 Kromengan Malang Regency with 80 female students. 67 students are taken as samples through purposive sampling technique.

Research Instrument

The research instrument used as the variable for the level of knowledge of dysmenorrhoea is a questionnaire with ten questions, for the variable handling rate of dysmenorrhoea is a checklist of ten questions. Data were analysed by a Chi Square test with a significance level of (á) 0,05.

Results

Respondent Characteristic

Based on Table 1, the biggest distribution frequency of respondents by age is 16 years with as many as 27 respondents (40.2%). While based on information obtained about dysmenorrhoea (table 2), most respondents, i.e., 53 respondents (79.10%) stated that they never receive information about dysmenorrhoea. Based on the source of information (table 3), most respondents obtain information via electronic media amounting to 14 respondents (20.89%). Respondents who receive information through friends are ten respondents (14.92%) and through parents as many as eight respondents (11.94%).

Table 1. Distribution Frequency ofRespondents by Age

Age	Frequency	Percentage
15 years	9	13,4 %
16 years	27	40,2 %
17 years	17	25,4 %
18 years	14	20,9 %
Total	67	100 %

Tabel 2. Distribution Frequency of information obtained

Information obtained	Frequenscy	Percentage
Get information	53	79,10%
Never receive information	14	20,89%
Total	67	100%

Tabel 3. Distribution Frequency ofsource of information

Source of information	Frequensi	Percentage
Electronic media	14	20,89%
Book	2	2,98%
Parents	8	11,94%
Friends	10	14,92%
Electronic media + parents	3	4,47%
Electronic media + friends	2	2,98%
Book + friends	1	1,49%
Parents + friends	3	4,47%
Electronic media + parents + friends	3	4,47%
Electronis media + book + parents + friends	7	10,44%
Never receive information	14	20,89%
Total	67	100%

Custom Data

Based on Table4, it is known that most of the respondents, 44 respondents (65,67%), have enough knowledge and the fewest respondent, eight respondents (11,94%), have limited knowledge.

Table 4. Distribution Frequency of the Level of Dysmenorrhoea Knowledge in Young Women

Level of Knowledge	Frequency	Percentage
Good	15	22,38%
Fair	44	65,67%
Limited	8	11,94%
Total	67	100%

Table 5 shows that most respondents, 48 respondents (71,64%), have sufficient dysmenorrhoeal handling and the least respondent, five respondents (7,46%), have good dysmenorrhoea handling.

Table 5. Distribution Frequency Level of Dysmenorrhoea Handling in Young Women

Level of Handling	Frequency	Percentage
Good	5	7,46%
Fair	48	71,64%
Limited	14	20,89%
Total	67	100

Based on Table 6, the results obtain $\div^2$ value of (22,756) with probability = 0,000, which means there is a correlation between the level of dysmenorrhoea knowledge with the level of dysmenorrhoea handling in girls in SMA PGRI 01 Kromengan Malang Regency.

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Table 6. Cross-tabulation between Dysmenorrhoea Level of Knowledge and Level of Dysmenorrhoea Handling Rates in Young Women

Dysmenorrhoea Level of Knowledge	Dysmenorrhoea Handling Level			
	Good	Fair	Limited	Total
	f	f	f	f
Good	3	11	1	15
Fair	1	36	7	44
Limited	1	1	6	8
Total	5	48	14	67
Statistical test results obtained r value of (22,752) with probability = 0,000				

Discussion

Dysmenorrhoea Knowledge Level in Young Women

Based on Table 4, it is acknowledged that most of the respondents have fair knowledge; 44 respondents (65,67%). Accordingto Notoatmodjo (2003), knowledge is influenced by internal factors and external factors which both affecting cognitively in forming behaviour.

Several factors that influence the knowledge of young women in SMA PGRI 01 Kromengan include:

1. Age

Respondents in this study are mostly aged 16 years, amounting to 27 respondents (40.2%). According toNotoatmodjo (2003), the older the age, the more mature their maturity and strength in thinking and working is. Thisconclusion suggests that with a more mature age, reasoning and logical thinking is more developed in acknowledging a problem.

2. Information

A total of 53 respondents (79.10%) claimed to have received information about dysmenorrhoea. Information obtained, among others, comes from electronic media, print media, parents and friends. Respondents in this study mostly get information via electronic media amounting to 14 respondents (20.89%).

Muliadi (2008) stated that printed and electronic media is the result of official publication that is accountable as a source of information to gain knowledge. Today, with the advances in thetechnology of various mass media; television, radio, internet, newspapers/magazines are very familiar with the development of teenagers today. Thus, any information sought will be easier to obtain and increase knowledge and produce a change.

A total of 8 respondents (11.94%) obtained information about dysmenorrhoea from parents, and ten respondents (14.92%) obtained information about dysmenorrhoea from friends. Girls in SMA PGRI 01

Kromengan get information about dysmenorrhoea through parents because they assume that parents have more authority and experience, which they undeniably will follow without other looking for another source of truth. Thisresult is consistent with Haris's (2008) statement, stating that parents are an authority figure in the family in which a child must respect a parent's decision to deal with a problem.

Aside from those factors, friends also have a role because one of the functions of thepeer group is to provide various information about the world outside the family. Teens learn about whether what they do is better, just as good, or worse than what other teenagers do (Santrock, 2003). It shows that when a teenager has a problem, they will be looking for the right solution, one of which they can get from a friend because teenagers in their development spend more time with friends.

Based on the above statements, it can be concluded that with a more mature age, a person will think more systematically in absorbing information affecting their cognitive development.

Level of Dysmenorrhoea Handling in Young Women

Based on Table 5, most respondents handle dysmenorrhoea in the fair category; 48 respondents (71,64%) seen from the various handling done. This statement is supported by the theory proposed by Sarwono (2009), dysmenorrhoea is a symptom that most often causes young women to go to the doctor for consultation and treatment. With the diverse handling of dysmenorrhoea done by high school girls in PGRI 01 Kromengan, it can be concluded that they have taken treatment (action to overcome dysmenorrhoea).

Relationship of Dysmenorrhoea Knowledge Level with Dysmenorrhoea Level of Handling

Table 6 shows that most high school students in PGRI 01 Kromengan have fair knowledge and handling level; 36 respondents (53,7%). While based on the correlation test results, it obtained $\div^2$ value of (22.752) with probability = 0,000. This means that there is a relationship between the dysmenorrhoealevel of knowledge with the level of handling of dysmenorrhoea in adolescent girls in SMA PGRI 01 Kromengan.

By looking at the relationship between the two variables, it can be concluded that: the better the level of knowledge of young women, the better the behaviourdoneto overcome dysmenorrhoea. When a person has good knowledge, the attitude shown will be good which will affect behaviour. By the theory mentioned by Notoatmodjo (2003), knowledge is a very important domain for the formation of one's actions. So, with the knowledge of the girls of SMA PGRI 01 Kromengan, it will facilitate them in dealing with dysmenorrhoea.

Conclusions

Based on the results of the research and discussion, it can be concluded as follows:

1. The level of dysmenorrhoea knowledge in female adolescents in SMA PGRI 01 Kromengan Malang Regency is mostly in the fair category amounting to 44 respondents (65.67%).

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2. The handling rate of dysmenorrhoea in female adolescents in SMA PGRI 01 Kromengan Malang Regency is mostly in the fair category amounting to 48 respondents (71,64%).
3. There is a relationship between the level of dysmenorrhoea knowledge with the level of dysmenorrhoea treatment in adolescent girls in SMA PGRI 01 Kromengan Malang Regency.

Declarations

Authors' contributions

All Authors participated in the design of the research. All authors were part of conclusions and final result. DA drafted the manuscript and all authors read and approved the final manuscript.

Authors' information

[1]Nursing Student (Nursing Department, STIKes Kepanjen, Malang)
[2]Lecturer at Nursing Department (STIKes Kepanjen, Malang)
[3]Lecturer at Nursing Department (RSUD Kanjuruhan Kepanjen, Malang)

Consent for publication

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Availability of data and materials

Data may be shared with the contact email address on the third author.

Competing interests

The authors declare that they have no competing interests.

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NEEDS ASSESSMENT OF PARENTS IN DIABETIC CARE MANAGEMENT CHILDREN WITH DIABETES MELLITUS TYPE I

Sri Hendrawati[1§], Ikeu Nurhidayah[2*], Henny Suzana Mediani[3*], Nenden Nur Asriyani Maryam[4*], Fanny Adistie[5*]

[1, 2, 3, 4, 5] **Departement of Pediatric Nursing, Faculty of Nursing, Universitas Padjadjaran, Bandung, West Java, Indonesia**

Email addresses:
SH: sri.hendrawati@unpad.ac.id
IN: ikeu.nurhidayah@unpad.ac.id
HSM: henny.mediani@unpad.ac.id
NNAM: nenden.nur@unpad.ac.id
FA: fanny.adistie@unpad.ac.id

Abstract

Background: Diabetes mellitus (DM) is a serious disease that has potential to cause complications and affects all ages, including children. Diabetic care management is needed to maintain blood glucose levels at a sufficient level. However, children in all ages, experienced tedious process which requiring direct supervision from the family, especially parents. Children, especially in the early age, have the inability to perform various tasks related to diabetic care management appropriately. The application of family centered care is one of the strategies to empower families in diabetic care management to prevent complications. The purpose of this study was to explore needs of parents in diabetic care management in children with DM type 1.

Methods: This study used qualitative descriptive research method. Seven parents who have children with DM type 1 participated in this study. They were selected by using purposive sampling. This study conducted in Hasan Sadikin Hospital Bandung. Data were collected by structured interview and focus grup discussion. A qualitative content was analyzed by using Miles and Huberman model.

Results: The results showed that there were five main themes: emotional needs to gain comfort in times of stress and understanding of the child's condition; physical needs to see children feel physical comfort; information and education needs about diabetic care in children; psychosocial needs include support from family, nurse, doctor, parent group, and peer group children with DM type 1; and needs collaboration and cooperation between parents, nurses, and doctors.

Conclusions: Nurses should be aware the importance of the family to be actively involved in the care of their child. Nurses can help parents to meet the needs of diabetic care management in children, especially the information and education that parents need. Education that can be provided by nurses, including regular administration of insulin, regular blood glucose control, physical exercise activity, appropriate menus, and self-management or self-care in children to improve quality of life in children with diabetes.

Keywords: Children, diabetic care management, need assessment, parent

Background

Diabetes mellitus (DM) is a serious disease that has potential to cause complications and affects all ages, including children. After asthma, DM is the second most common chronic disease in children.[1] Almost all over in the world, there are 1 to 35 cases per 100,000 children under 14 years old with DM.[1] Incidence and prevalence of DM type 1 in children are increasing, but not as rapidly as for type 2 diabetes. Data from study of Children Endocrinologi Work Units throughout Indonesia in early March 2012 showed that the number of DM in children as well as teenagers under 20 years old recorded as many as 731 children. This amount is quite a lot and all these children need insulin for life. The number of children with DM type 1 based on Family Association of Children and Teenager with DM in Indonesia has reached as many as 400 people.[2]

DM can interfere the growth and development of children, family lifestyle, personality and mental, social, and family economic conditions.[3] Hypoglycemia, hyperglycemia, and ketoacidosis are the most common complications in children with diabetes and can cause children to hospitalization. Other physical complications, including visual, renal, cardiovascular, and neurological disorders. The disease can cause blindness, kidney failure, heart attack, stroke, and amputation. To overcome complications and reduce the risk of mortality due to DM type 1, children need special care in the long term.[4]

The main key in diabetic care management children with DM type 1 is discipline and regularity medication and daily life styles. Diabetic care management aims to maintain blood glucose levels at a sufficient level.[5] To maintain stable blood glucose and optimal metabolic status, children with DM type 1 require regular insulin injections, blood glucose measurements, activity program plans, and appropriate dietary menus. Recommended diabetes care includes ongoing insulin therapy, medical visits every 3 months, repetitive home glucose testing, and dietary monitoring. However, children in all ages, experienced tedious process which requiring direct supervision from the family, especially parents.[6] Children, especially in the early age, have the inability to perform various tasks related to diabetic care management appropriately.[7]

The results showed that parental supervision and cooperation in diabetic care management during children and adolescence with DM type 1 resulted in better metabolic control.[8,9] In addition, various research results indicate that family centered care is an effective intervention to maintain blood glucose and metabolic control in children with DM type 1. The application of family centered care is one of strategies to empower families in diabetic care management to prevent complications. In this case, nurses have very important roles to advocate the participation of family members to follow up diabetic care management children with DM type 1 at home. So family centered care (FCC) has an important role in diabetic care management children with DM type 1.[10]

Applications of family centered care is influenced by various factors, namely family, health care providers, hospital facilities and hospital policy. Family factors, in this case the assessment of the needs of parents, is a first step for parents to be involved in family centered care. Parents have needs related to the care of their children, including practical, spiritual, psychosocial, information, emotional, and physical needs. The nurse is the primary source of information for parents, the nurse must be competent in providing support and

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intervention to children and parents. Therefore, nurses should be able to identify the needs of parents in diabetes management so that nurses can help and facilitate parents to meet these needs.

Therefore, based on that background, family role is required through family centered care in children with DM type 1. Thus, a study is needed to analyze the need for family centered care in diabetic care management children with DM type 1. So that can find out what family needs related to diabetic care management in children with DM type 1.

Methods

This study used qualitative descriptive research method. Seven parents who have children with DM type 1 participated in this study. They were selected by using purposive sampling. Sample inclusion criteria in this study were parents of children with DM type 1, children were undergoing treatment at Hasan Sadikin Hospital Bandung, and children in a good condition. Exclusion criteria in this study were children with severe diabetes complications such as hypoglycemia, hyperglycemia, and ketoacidosis, which led to an unstable condition. This study conducted in Hasan Sadikin Hospital Bandung. Data were collected by structured interview and focus grup discussion about needs of parents in diabetic care management in children with DM type 1. A qualitative content was analyzed by using content analysis with Miles and Huberman model, include: data collection, data reduction, data display, and conclutions.

Results

The results showed that there were five main themes related to needs of parents in diabetic care management children with DM type 1, include emotional needs; physical needs; information and education needs; psychosocial needs; and collaboration and cooperation needs between parents, nurses, and doctors.

1. Emotional Needs

Emotional needs is needs of parents to gain comfort in times of stress and understanding of the child's condition. Parents experience confusion and anxiety about the condition of their children who have diabetes mellitus.

" .. if blood glucose drops or rises, my child immediately experienced a decrease in his condition .. Me and his father sometimes feel confused why it can happen .." (P.1)

" .. I am afraid if my child condition become drop .. I am fear of complication later .." (P.3)

2. Physical Needs

Physical needs are needs of parents to see children with diabetes mellitus feel physical comfort, free from symptoms, get optimal nutrition, and have the ability to perform daily activities. This need is important as a basic understanding of parents in diabetic care management for this children. Here are some parents' phrases:

" .. child often complain fatique .. so lazy to move .." (P.2)

" .. my child also often complain fatique .. how to overcome it? .." (P.3)

" .. my child is difficult to have appropiate menu for diet .. She is also difficult to be prohibited .. so its blood glucose easily increase .." (P.6)

3. Information and Education Needs

Needs information is needs of parents to get information about diabetic care management in children with DM type 1 to reduce confusion and anxiety about the condition experienced by their children. General information about diabetic care management, such as how to administer insulin, how to control blood glucose, physical exercise, proper diet, and weight control in children with diabetes mellitus is the most commonly information. They also need written information that can be a reference when they can not directly ask professional health care providers. In addition, parents also need education in diabetic care management children with DM type 1. Parents were trying to find information in dealing with complaints experienced by children to nurses and doctors. As the following phrase:

" .. parents should actively ask nurses and doctors related to child care .." (P.4)

" .. that's right, we must actively ask, after that it will be explained by nurse or doctor about condition of children and how to care .. if we don't ask, we are assumed already understand ..." (P.5)

" .. we must actively ask .. after that we will get an explanation .." (P.3)

" .. if we ask, it will be explained by nurse or doctor about condition of children .. I once asked what foods that may and should not be eaten by my child, I got an explanation from his nurse .." (P.6)

" .. if possible, should be made a note or leaflet to take home about information regarding care and treatment should be done on children with diabetes .." (P.7)

" .. written information is needed, so when we forget about any of the information, we can see that leaflet .." (P.1)

4. Psychosocial Needs

Psychosocial needs are the needs of parents who are associated with feelings of self-worth, competence, and respect. This need is related to family relations and acceptance in the community. The most important psychosocial need is social support sourced from families, nurses or doctors who care for their children, fellow parents who have children with diabetes mellitus, and support peer group fellow children with diabetes mellitus. As the following parent discloses:

" .. family support is needed to give strength .." (P.1)

" .. support from nurses and doctors also giving a much spirit .." (P.2)

" .. sharing information with fellow parents who have children with the same disease sometimes also can help each other .." (P.4)

5. Collaboration and Cooperation Needs

Parents also expect a good collaboration and cooperation between nurses and doctors to caring for their children, especially in preventing complications. In addition, parents also hope to be involved or empowered in doing care for their children. Here are some parent's phrases:

" .. I see nurses and doctors have cooperated sprightly .." (P.3)

" .. I am happy if can be informed about how to administer insulin, choosing the appropiate food, and choosing the child activity .. so that I become know how to care my child .." (P.5)

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Discussions

The results showed that parents of children with diabetes mellitus have emotional needs to gain comfort in times of stress and understanding of the child's condition; and physical needs to see children feel physical comfort. Parents are afraid their children have complications of diabetes mellitus, such as hypoglycemia, hyperglycemia, and ketoacidosis. Diabetic care management aims to maintain blood glucose levels at a sufficient level.[11] To maintain stable blood glucose and optimal metabolic status, children with DM type 1 require regular insulin injections, blood glucose measurements, activity program plans, and appropriate dietary menus. However, for children of all ages, this is a tedious process and requires direct and close supervision from the family, especially parents.[12] Children, especially children of the early age, have an inability to perform various tasks related to management in diabetes appropriately.[13] In this case, nurses have a role to provide health education to children and their parent to improve their adherence in self care management. So that children can feel the physical comfort, free from symptoms, get the optimal nutrition, and have the ability to perform daily activities.

The next needs is the needs of information and education related to diabetic care management. Information and education needed primarily on how to administer insulin, control blood glucose levels, determine physical activity, determine appropiate diet, maintain weight, and prevent complications. The information required not only verbal information, but also written information throught leaflets, pamphlets, and posters. Information and education can be a force for parental empowerment and involvement in caring their children.[14] Parental empowerment allows for a more effective information transfer process, both information needed by professional health care providers in making care plans, as well as information that family needs on diabetic care management children with DM type 1. So the family becomes more confident and feel appreciated because his opinion is taken into the implementation of treatment. Children become more calm and not too anxious. This effect make the healing process becomes faster. Nurses have a role to educate parents about diabetic care management for their children so that children have a good quality of life at home, at school, and in their social environment.[15]

In taking care of their children, parents also need social support from families, nurses, doctors, other parent's children with diabetes, and even support peer groups children with diabetes. The main psychosocial need for parents is the support from parents who also have children with the same disease. In addition, husbands and wives who care for each other's needs, become more openly and honestly will find it easier to shape positive coping during child care.[16] In Hasan Sadikin Hospital Bandung, a professional health providers on duty looks friendly and polite when discussing the condition of the child with their parents. Most of the professional health care providers, showing attention not only for parents but also for children. In addition, support from professional health care providers, especially nurses, is a major factor affecting the ability of parents to have more positive coping of their child's illness.

Other needs is needs collaboration and cooperation between parents, nurses, and doctors. The role of nurses in providing nursing care to children should be aware of parental empowerment and involvement. The results

showed that parents feel good when they can be involved in care and treatment of the child, such as giving insulin, choosing food menu, and choosing activities for children. Parents are involved in the course of care and treatment children with diabetes, including in the administer of insulin, diet, exercise, and education.[1,2] During child care in the hospital, professional health care providers need participation from parents in child care, symptom monitoring, and treatment or therapy.[12]

Parents have an essential role in care of their children, so that nurses and professional health care providers should know about it and apply the principle of family centered care in the care of children with diabetes. In this case, the nurses play an important role in advocating the participation of family members to follow up diabetic care management on their children at home. So family centered care (FCC) has an important role in the diabetic care management in children.[17]

Conclusions

There were five main themes as needs of parents in diabetic care management children with diabetes mellitus type 1, namely: emotional needs to gain comfort in times of stress and understanding of the child's condition; physical needs to see children feel physical comfort; information and education needs about diabetic care in children; psychosocial needs include support from family, nurse, doctor, parent group, and peer group children with DM type 1; and needs collaboration and cooperation between parents, nurses, and doctors. Nurses should be aware the importance of the family to be actively involved in the care of their child. Nurses can help parents meet the needs of diabetic care management in children.

The results of this study are expected to provide initial information to develop intervention approaches in meeting the needs of family centered care in the management of diabetes in children with diabetes mellitus, for example through the approach of education on diabetes management interventions to meet the needs of information and education. Education that can be provided by nurses, including regular administration of insulin, regular blood glucose control, physical exercise activity, appropriate menus, and self-management or self-care in children thus improving the quality of life in children with diabetes. So with proper diabetes management, the child will have better physical condition. Nurses also can form parent support group intervention for parents to meet emotional and psychosocial needs. In addition, nurses and doctors can encourage and involve parents in the care of their children.

List of abbreviations

DM: Diabetes mellitus; FCC: Family centered care.

Declarations

Authors' contributions

SH conceptualized and designed the study. IN, HSM conducted the literature search and reviewed data. NNAM, FA drafted the manuscript. All authors contributed to the writing of the manuscript. All authors read, edited, and approved the final manuscript.

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Authors' information

SH is a pediatric nursing lecturer with a research interest in children with chronic illness, children with cancer, and neonatal with critical illness. IN is a pediatric nursing lecturer with expertise in children with chronic illness, terminal ill, cancer, palliative care, family centered care, HIV AIDS, and children with disabilities. HSM is a senior pediatric nursing lecturer with expertise in all areas of pediatric nursing: pain management, psychosocial problems, chronic illness, hospitalization, pediatric palliative care, children with disabilities (autism and mental retarded), HIV AIDS pediatric clinical nursing research, qualitative research, and child development. NNAM is a pediatric nursing lecturer with a research interest in neonatology. FA is a pediatric nursing lecturer with a research interest in children with critical illness and therapeutic communication.

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Ethics approval and consent to participate

Ethical approval was obtained from Hasan Sadikin Hospital Research Ethics Committee, ref. LB.04.01/A05/EC/290/IX/2016. Written informed consent was obtained from participants.

Consent for publication

Not applicable.

Availability of data and materials

Due to ethical concerns (maintenance of confidentiality of children of parents participating in structured interview), supporting data cannot be made openly available.

Competing interests

The authors declare that they have no competing interests.

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ELDERLY GYMNASTIC EFFECT TO BLOOD PRESSURE TO ELDERLY HYPERTENSION PATIENT AT PUBLIC HEALTH CENTER ULAK KARANG PADANG 2016

Sujarwo[1], Sintya Azwir[2]

[1]Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
[2]Post Graduate In Stikes Syedza Saintika Padang , Indonesia

Email addresses:
Sujarwo : soedjarwo90@yahoo.com
Sintya : sintya@yahoo.com

ABSTRACT

Introduction: Hypertension is included into 5 main diseases suffered by people of West Sumatra which have prevalence reaching 22,6 % . Meanwhile, in Padang city, hypertension is the third ranks of ten deathly diseases.

Aim: The purpose of this research is to see elderly gymnastic effect to a blood pressure of elderly hypertension at public health center Ulak Karang Padang in 2016.

Methode: Research type applied is quasi experiment pre-test and post test which was conducted on 11th of August and 20th of August in 2016. The population of elderly hypertension patient with a number of population is 1620 and sample technique is purposive sampling with number of 15. Data collection uses sphygmomanometer, stethoscope and guidance of elderly gymnastic. The data was computerized with analysis univariate average tables and bivariate analysis applies test t-dependent with the level of meaning $\alpha = 0,05$.

Result: The result of research is the average of elderly blood pressure before doing an elderly gymnastic is 152,67/95 mmHg and after doing an elderly gymnastic it is 148/86 mmHg. There is an effect of elderly gymnastic to blood pressure to elderly hypertension patient ($p = 0,014$).

Conclusion and Recommendation: Movement in elderly gymnastics is to encourage the heart beat to work optimally, increasing energy needed by the cells, tissues and or gans. The achievement of elderly people, who followed the exercise can be increased, it takes the role of health workers to motivate the elderly people.

Keyword: Blood pressure, Elderly gymnastic

Background

Hypertension is one of the global health problems that require special attention. People with hypertension are often not aware of the condition because the disease is not too show symptoms *(The Silent Killer).* According to *the Joint National Committee on the Detection, Evaluation, and Treatment of High Blood Pressure* Hypertension is the number one cause of death in the world

*(JNC,*2014). Meanwhile, the *Word Health Organization* (WHO) states that one billion people worldwide suffer from hypertension and an estimated 7.5 million deaths (12.8%) of the total deaths caused by this disease. Meanwhile, according to *the American Heart Association* (AHA), approximately 77.9 million people in the United States or one of three adults suffer from this disease. Even expected to rise 7.2%, or about 83.5 million people in 2030 [1] [2].

In Indonesia the prevalence of hypertension increased, data from Riset Kesehatan Dasar in 2013, the prevalence of hypertension in adults aged 18 years and over increased from 7.6% in 2007 to 9.5% in 2013 [3]. in west Sumatra, hypertension included into five most diseases, while in the city of Padang hypertension ranks 3rd of 10 causes of deaths, the prevalence of hypertension was 22, 6% and the elderly become the highest contributor of hypertension cases [4]

Body function decline due to aging will be impact on physical changes, psychological, social and spiritual which tends to be a problem in the elderly. Naturally elderly will decline in organ function and blood pressure lability experience to have hypertension [5]. Therefore, hypertension is often the case that the problem in the elderly, because it leads to various complications such as heart disease, stroke, kidney failure, eye disorders, and diabetes mellitus [6].

The increased incidence of hypertension and the many complications that will occur, then it takes the role of health workers to improve the prevention and health promotion. One effort to improve the quality of life of the elderly can be done by health workers who have hypertension is to exercise regularly or by means of physical exercise in accordance with the age of the elderly such as strolling, cycling, swimming, doing homework and gymnastics [7]. Character of aerobic exercise such as gymnastics is a way to provide improvements to the physical or psychological, physical exercise will help your body stay fit, provide a stimulus to the nerves were weak and strengthen the heart muscle that can contract less in pumping blood volume quantities and encouraging the heart to work more optimally and to help improve the strength of the heart pump, so that blood flow can be returned to normal [8]. Therefore, researchers are interested to see the elderly exercise influence on blood pressure in elderly hypertensive patients in health centers Padang Ulak Karang Year 2016.

Methods

The study was conducted in Puskesmas Padang Ulak Karang in July 2016 to September 2016 using the design of *experiments quasi pre-test and post-test* (Table*1).* In this study, the treatment given to the independent variable, namely gymnastics elderly for 2 months, the exercise is done every Friday and Sunday. Blood pressure measurements carried out two times, before treatment*(pretest)*and after being given treatment*(posttest)*[9]. The population in this study were elderly patients with hypertension as many as 1620 people. Samples were taken 15 respondents who met the inclusion criteria according to technique. *purposive sampling* Sample is determined based on the formula of sampling :

$$(n - 1) \times (t - 1) \geq 15$$

Description:

n = The sample size

T = Number of treatment

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Results

The working area of Puskesmas Padang Ulak Karang had hypertension of 1620 elderly people. Posyandu activities just do gymnastics elderly as much as 8 times a month, but not all elderly doing gymnastics elderly, it is because the distance is too far Posyandu, drawn from at least elderly people who follow gymnastics elderly. Based on the research that has been done in Puskesmas Padang Ulak Karang about elderly exercise influence on blood pressure in elderly hypertensive patients, with the number of respondents 15 people, obtained the following results.

Table 1. Frequency Distribution by Age Elderly In July-September

Number	Age	Frequency	Percentage
1	50-59	9	60%
2	60-69	5	35%
3	70-80	1	5%
Jumlah		15	100

The frequency distribution in Table 1, the characteristics of respondents by age elderly obtained in July to September, from 15 respondents grouped some age groups. The age group 50-59 years (60%), age group 60-69 years (35%), while the age group 70-80 years only (5%). While the sexes are more dominated by older women (70%) than elderly men (30%). While the frequency distribution in Table 2 is based on the length of the elderly exposed to hypertension, more than half of the elderly had one last year had hypertension (65%), while (35%) of elderly ? 2 years has experienced hypertension.

Table 2. Exposure Time Frequency Distribution Based Hypertension In July-September

Number	Duration	Percentage	Percentage
1	1 last year	10	65%
2	□2 years	5	35%
Total	15	100	100

Table 3. Average Blood Pressure Elderly*(Pre test)*

Variabel	Mean	SD	Min-Max	n
Pre test	152,67/92	12,799/10,142	140-180	15

Based on the univariate analysis in Table 3, the average blood pressure of elderly before exercise elderly is 152.67 / 92 mmHg to 140 mmHg pressure is the lowest and the highest is 180 mmHg. Furthermore, based on table 5 average blood pressure after doing gymnastics elderly elderly is 148/86 mmHg to 130

mmHg pressure is the lowest and the highest was 170 mmHg. The bivariate analysis was conducted to see the effect of the elderly exercise on blood pressure in elderly hypertensive patients. Based on table 5, the value of the average systolic blood pressure before exercise elderly is 152.67 mmHg and after doing gymnastics elderly obtained systolic blood pressure is 148.00 mmHg difference in blood pressure is 4.667 mmHg elderly. The average diastolic blood pressure before exercise elderly elderly is 92.00 mmHg and after elderly exercisers gained 86.00 mmHg difference in blood pressure is 6.000 mmHg.

Table 4. Mean Blood Pressure Elderly*(Post test)*

Variabel	Mean	SD	Min-Max	N
Postest	148/86	10,142/9,103	130-170	15

Table 5. Elderly Gymnastics Effect for Blood pressure In Elderly Patients with Hypertension

T-*Test*	Mean	Standart. Deviation	95% confidence interval of the difference		*T*	df	*P* value
			Lower	Upper			
Pretest and Posttest	4,667/6,000	6,399/8,281	1,123/ 1,414	8,211/ 10,586	2,824/2,806	14	0,014

Statistical test results *t-test* obtained value *P* = 0.014, significant at α = 0.05, elderly gymnastics look influence on blood pressure in elderly hypertensive patients in health centers Padang Ulak Karang 2016.

Discussion

Univariate analysis

Pre-test

Results of this study stated, the average blood pressure of elderly before exercise elderly is 152.67 / 92 mmHg with α standard deviation was 12.799 / 10.142 mmHg. The lowest pressure is 140 and the highest is 180. The results are consistent with research conducted by Irmawati [10] [15] on the effect of exercise on blood pressure in elderly hypertensive elderly in the village of East Ungaran Leyangan District of Semarang District, found blood pressure before exercise elderly is 159.33 / 103.33 mmHg. It was concluded that prior to gymnastics elderly, blood pressure elderly are at stage I hypertension (140-159 mm Hg).

Blood pressure is the blood attempt to pass through each wall of blood vessels and pressure on the artery walls. Arterial pressure consists of systolic pressure that is when the ventricle contracts, then there is a maximum pressure of blood flowing in arteries, around 100-140 mm Hg, while the diastolic is when the heart relaxes, only between 60-90mmHg, an increase of more than normal is called hypertension. One of the factors that influence age, the increasing age

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of a person, the substance metabolism regulation chalk (calcium) is disturbed. This led to many calcium circulating in the bloodstream, resulting in the blood becomes solid resulting in increased blood pressure.

Therefore, according to Nilsson [11], based on current evidence, it is very important for the elderly to control the blood pressure as an effort to improve the quality of better health, as we all know that hypertension has risk factors for cardiovascular disease are particularly vulnerable to the elderly , On the one hand the use of drugs is effective to lower the blood pressure, but on the other hand we must remember that not all elderly people able to compensate for the side effects of antihypertensive drugs. That requires individual approach in controlling blood pressure of elderly with physical exercise like gymnastics [11].

Post-test

When do gymnastics elderly, found that the average blood pressure was 148/86 mmHg with a standard deviation of 10.142 / 9.103 mmHg. Lowest blood pressure was 130 mmHg and the highest was 170 mmHg. From the measurement results appear reduction in systolic pressure of 130 mmHg as much as 6.7% 33.3% 140 mmHg, 150 mmHg as much as 40.0%, 13.3% as much as 160 mmHg and 170 mmHg as much as 6.7%, but 4 of 15 respondents did not experience a decrease in blood pressure, this is because the elderly are not able to follow the movements of gymnastics to the optimum. The results are consistent with research conducted by Margiyati [12] [16] on the effect of exercise elderly to decrease blood pressure in elderly patients with hypertension in the elderly Posyandu Ngudi waras Dusun Kemloko Bergas Kidul of Semarang, found an average blood pressure after doing gymnastics, namely 10.69 / 6.11 mmHg.

According Maryam [7] exercise can improve cardiac output will be accompanied by increasing oxygen delivery to parts of the body that need, while at the parts that require less oxygen will occur vasoconstriction, for example in the digestive tract. The increased cardiac output will certainly affect on blood pressure [17]. With the physical exercise or gymnastics will help power the heart pump, so that blood flow can be returned to normal. If done regularly will give a good effect on blood pressure of elderly [19].

Bivariate Analysis

Based on the results, the average difference in blood pressure of elderly before and after exercise elderly are 4.667 / 6.000 with a standard deviation of 6.399 / 8.281. Statistical test results *t-test* obtained value *P*= 0.014, significant at α = 0.05, elderly gymnastics look influence on blood pressure in elderly hypertensive patients. The results are consistent with research conducted by Jatiningsih [19] on the effect of exercise elderly on blood pressure in elderly patients with hypertension in Posyandu elderly in the village Wotgaleh Sukoharjo, found the influence of gymnastics elderly on blood pressure in elderly patients with hypertension(P = 0.001).

Do sports like gymnastics elderly to encourage the heart to work optimally, exercise can improve energy needs by the cells, tissues, and organs of the body, as a result of these improvements will increase the activity of respiratory and

skeletal muscle, from the increase in respiratory activity will increase the venous return, causing an increase in stroke volume which will directly increase cardiac output, peripheral resistance will decrease resulting in increased arterial blood pressure was [7]. Cardiac output is determined by the stroke volume and heart rate while peripheral resistance is determined by the diameter of arterioles, when the diameter decreases (vasoconstriction), the peripheral resistance increases when the diameter is increased (vasodilation), peripheral resistance will decrease [13].

The increase in arterial blood pressure will occur in the resting phase, as a result of this phase, able to decrease the activity of respiratory and skeletal muscle and cause the sympathetic nerve activity and epinephrine decreased, but the activity of the sympathetic nerve increases, then the rate of the decreased heart rate, stroke volume decrease and arteriolar vasodilatation vein. Because of this decrease resulted in a decrease in cardiac output and a decrease in total peripheral resistance, so that the decrease in blood pressure [7].

Exercise regularly can improve blood circulation, provide a stimulus for weak nerves and the heart muscle becomes stronger so it can pump to contract less in blood volume in the same amount. Decreased heart rate decreases cardiac output, which eventually led to a decrease in blood pressure were also due to reduced peripheral resistance, because physical exercise will relax the blood vessels so that blood vessels will undergo widening and relaxation and can reduce the risk of accumulation of fat in the blood vessel wall [14]. Besides gymnastics can also lose weight in elderly obese, as we all know that obesity is closely associated with hypertension and increased risk of heart disease, stroke, and diabetes mellitus [8].

Conclusions

There gymnastics elderly effect on reduction of blood pressure in elderly hypertensive Puskesmas Padang Ulak Karang in 2016. The average blood pressure before exercise elderly is 152.67 / 95 mmHg, but after the gymnastics elderly, the average blood pressure of elderly to 148/86 mmHg. This indicates that there is the influence of the elderly exercise on blood pressure in elderly hypertensive patients in health centers Padang Ulak Karang in 2016 ($p = 0.014$). For the gymnastics of the elderly can be an alternative non-pharmacological therapy to improve blood pressure in elderly hypertensive, so it needs to be included in the activities of the group or the elderly integrated services program and their efforts to increase knowledge about the special benefits gymnastics elderly.

List of abbreviations

WHO: *Word Health Organization;* AHA: *American HeartAssociation;* Riskesdas: Basic Health Research; mmHg: Millimeter Hydrargyrum.

Declarations Authors' contributions

All Authors Participated in the design of the research. All authors were part of Conclusions and the final result. IM drafted the manuscript and all authors read and approved the final manuscript.

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Authors' information

[1]Lecturer of Nursing in Nursing School of Syedza Saintika Padang, Indonesia, [2]Post Graduate of Nursing School of Syedza Saintika Padang, Indonesia

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Ethics approval and consent to Participate

Researchers have been taking care of permits service of research on the Kesbangpol province of West Sumatra, Padang city Health Department and Community Health Center of Ulak Karang. Before doing the exercise, the respondent Elected, has approved and signed the informed consent willingness following the research.

Consent for publication

Not applicable.

Availability of the data and materials

data may be shared with the contact email address on the first author.

Competing interests

The authors declare that they have no competing interests.

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COMMUNITY NURSING PROBLEMS RELATED NON-COMMUNICABLE DISEASES (CASE STUDY AT RW 02, KELURAHAN SENTUL, BLITAR CITY)

Suprajitno

Nursing Department Poltekkes Malang
suprajitno_skp@poltekkes-malang.ac.id, bedonku@yahoo.co.id

Abstract

Background: Individuals aged 15 years and over as people at risk of suffering non-communicable diseases are the target of community nursing care. Aim of this study is formulating community nursing problems related to non-communicable diseases as the case study.

Methods: This case study used documentary study of nursing practice report. The subjects used were all peoples over the age of 15 years living in RW 02, Kelurahan Sentul, Blitar City as much as 283 people (117 families). Time study conducted February 20 to March 1, 2017. The assessment using questionnaires. Data analysis using critical thinking. After formulating nursing problems continued prioritization shared between subjects, community leaders, and health center nurse.

Results: Nursing problems are risky health behaviors with a score of 208 and deficiency community health with a score of 168. The community nursing interventions were done of health education by methods of lectures, discussions, and simulations and aimed to community empowerment will have an autonomy to negotiate the nursing problem.

Conclusions: Non-communicable diseases can be used as a target of community nursing.

Keywords: non-communicable disease, community nursing, health behavior

Background

Non-communicable diseases (NCD) is a disease that is not caused by infection and including chronic degenerative diseases, that is heart disease, diabetes mellitus (DM), cancer, chronic obstructive pulmonary disease (COPD), a disorder resulting from accidents, and violence. NCD implemented in Indonesia since 2012 with the main goal of healthy communities, risky, and aged 15 years or over (7). Some of the nurse's role according to Doheny (1982 cite in (9)), that a nursing caregiver, coordinator of the community potential, and the changes agent. The steps of the nursing process are assessment, diagnosis, planning, implementation, and evaluation namely ADPIE (1; 3; 16). The first step of the nursing process is the assessment that continued formulate nursing diagnoses. The nursing problem is a stage to develop a nursing intervention. The purpose of writing was formulating community nursing problems related non-communicable diseases as the case study.

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Methods

This study design used documentary study of the results of community nursing practice report. The subjects used were all peoples over the age of 15 years living in RW 02, Kelurahan Sentul Blitar City as much as 283 people (117 families). Time study conducted February 20 to March 1, 2017. The assessment used standardized questionnaires (8). Data analysis used critical thinking to produce nursing problems. The next nursing problems prioritized shared between subjects, community leaders, and nurses Health Center dated March 3, 2017.

Results

Characteristics of the subjects are presented in the table below.

Table 1.Characteristics of subjects in RW 02, Kelurahan Sentul Blitar City (n = 283)

No.	Characteristic	f	%
1	Sex:		
	- Male	141	49,8
	- Female	142	50,2
2	Aged:		
	- 15 – 20 year old	50	17,7
	- 21 – 40 year old	110	38,9
	- 41 – 59 year old	71	25,1
	- ≥ 60 years old	52	18,3
3	Education:		
	- Elementary (SD – SMP)	120	42,4
	- Secondary (SMA)	121	42,8
	- Graduate (Bachelor)	42	14,8

Based on the interviews, family history of disease that has occurred as table 2 below.

Table 2. Family history of disease that has occurred in 2016 (n = 117 families)

No.	Family history of disease	f	%
1	Abnormal blood lipid levels	1	0,9
2	Diabetes Mellitus	10	8,5
3	Hypertension	40	34,2
4	Heart disease	10	8,5
5	Brain vessels rupture	9	7,7
6	Nothing	47	40,2

Style and unhealthy lifestyle of individuals in families in table 3 below.

Table 3. Style and unhealthy lifestyle of individuals in families in 2016 (n = 117 families)

No.	Style and unhealthy lifestyle of individual	f	%
1	Smoking in the home	86	73,5
2	Drinking alcoholic	2	1,7
3	Frequent eating salty foods	69	59,0
4	Often eat high-fat foods	86	73,5
5	Frequent consumption of foods/drinks sweet	65	55,5
6	Little consumption of vegetables	26	22,2
7	Little consumption of fruits	49	41,9
8	Lack of activity (30 minutes / per day, 3-4 days/week)	79	67,5
9	Felt tension / anxiety / panic (> once a day)	30	25,6
10	Consumption of energy drinks	4	3,4
11	The use of drugs without a prescription	16	13,7

Utilization of health facilities conducted as table 4.

Table 4. Utilization of health facilities in 2016 (n = 117 families)

No.	Utilization of health facilities	f	%
1	Means used:		
	- Hospital	39	33,3
	- Public Health Center	78	66,7
2	A number of visits:		
	- < 10 times a year	83	70,9
	- ≥ 10 times a year	34	29,1
3	Appropriation during a visit:		
	- Health counseling	57	48,7
	- Medical examination	32	27,4
	- Immunization	28	23,9

Formulation of nursing problems with critical thinking (10) based on tables 2, 3, and 4 obtained two issues are health behavior risk and deficient community health (5; 10; 12).

Discussion

Non-communicable diseases in Indonesia is a serious threat since the Basic Health Research conducted in 2007 by the tendency of an increase in deaths as the effect of NCD in 1995 of 41.7% to 59.7% in 2007. Efforts to reduce risk was being made of Posbindu (Pos Pembinaan Terpadu / Integrated Development Place) of NCD since 2012. Posbindu of NCD is a form of public participation in the conduct of early detection and monitoring of risk NCD factors implemented in an integrated, routine, and periodic. Risk factors for non-communicable diseases include smoking, alcohol consumption, unhealthy diet, lack of physical activity, obesity, stress, hypertension, hyperglycemia, hypercholesterolemia, and follow up early risk factors are found through health counseling and immediately refer to basic health services (7).

Table 1 illustrates that the targets as much as 56.6% belong to the productive age (15-40 years) that is a period when a person is still able to work and produce something (6). Described in Riskesdas 2013 that the collection of

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NCD data is done at the age < 30 years to assess asthma and cancer, also at the age < 15 years to assess disease chronic obstructive pulmonary disease (COPD), diabetes mellitus (DM), hyperthyroidism, hypertension, coronary heart disease, heart failure, kidney disease, rheumatic disease, and brain vessels rupture. Riskesdas illustrated that the prevalence of asthma, COPD, and cancer, respectively 4.5 percent, 3.7 percent, and 1.4 per mile as well as the prevalence of asthma and cancer is higher in women and the prevalence of COPD was higher in males (8). Thus, a very precise age of 15 years as the main target of NCD served in Posbindu.

The community education level into parts that need attention. This is consistent with the results of Zahro research (15) that a person with elementary education has a PHBS (Perilaku Hidup Bersih dan Sehat / clean and healthy living behaviors) tend to moderate, while secondary and high education has a PHBS tend to high. Based on community education, health behaviors tend to be balanced between intermediate and high.

Based on table 2, 3, and 4 further analysis and synthesis which results in nursing problems. Community nursing problem can be formulated that risky health behavior and community health deficiency. Furthermore, the prioritization. Implementing prioritization nursing problems by nurses, kader (community health volunteers), community subject, and community leaders. Priority method using Hanlon Priority Scoring Method (in 11; 13). Calculate the priority score using the formula D = [A + (2 x B)] x C where D = Priority Score; A = Size of health problem ranking; B = Seriousness of health problem ranking; and C = Effectiveness of intervention ranking. The value of each size A, B, and C between 0-10 (in 11) and the resulting value is an agreement by implementers such as table 5.

Table 5 Priority score community nursing problems

Nursing Problem	A Size	B Seriousness	C Effectiveness of Intervention	D Priority Score (A + 2B) C	Rank
risky health behavior	10	8	8	208	1
community health deficiency	6	9	7	168	2

Forward, formulated of nursing objectives. The nursing objective is increasing community health behaviors. The nursing intervention did of health education as an effort to improve knowledge and attitudes so that to have a healthy behavioral habits. The method used lectures, discussions, and simulations. The material is a pattern and healthy lifestyle for youth and elderly to keep fit. The target was all of the individuals at RW 02 aged > 15 years and has a risk of non-communicable diseases.

Health education to directed as a community empowering because the community has an ability to carry out of the nursing problems. Empowerment in question is capable of changing the target style and lifestyle as well as developing and mobilizing the environment (14). This effort can inspire public became a pioneer of self-health and the environment. If empowerment is

successful then the community nursing problems can be resolved independently and nurse only as a facilitator and provide minimal assistance.

Conclusion

Community nursing problems in order of priority using Hanlon Priority Scoring Method is risky health behaviors with a score of 208 and a deficiency of community health with a score of 168.

Recommendation

Individuals at risk of suffering from non-communicable diseases can be used as a target of nursing care.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

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PEER GROUP TEACHING EFFECT ON KNOWLEDGE AND BEHAVIOR OF GENITAL HYGIENE IN PRIMARY SCHOOL STUDENT

Tetti Solehati,[1] Cecep Eli Kosasih[2], Mamat Lukman[3]
[1,2,3] Faculty of Nursing, University of Padjadjaran

Email addresses:
TS: tsh_tetti@yahoo.com
CEK: ek_cecep@yahoo.co.id
ML: mamat_lukman@yahoo.com

Abstract

Background: The vaginal discharge is a disease that risk to attack girls including elementary school age due to attitudes and behaviors that are less supportive of doing genital hygiene. The problem occurs because of a lack of sufficient knowledge about vaginal hygiene. Therefore we need an education method that is easy to understand and tailored to their age to raise awareness and behavior. Peer group teaching is one method that is appropriate to the age of school children. To determine the effect of peer group teaching on knowledge, attitudes, and behaviors of genital hygiene in elementary school students.

Methods: Design of the study was quasi experiment by pre and post test design with self care aproach. The study was conducted at the SDN Bojong Asih, SDN Pasawahan, SDN Leuwi Bandung Wetan, and SDN Cangkuang Dayeuhkolot. The population in this study was all students in grades 4 to 6 (144 people). The samples using total sampling. However, 19 samples were exclude after three months. Thus the final sample for the Month 3 was 125 samples. The instrument used questionnaires to assess knowledge and checklist sheet to assess the behavior of genital hygiene. The knowledge and behavior was measured before and after the intervention. The Data were Analyzed by the SPSS statistics software package (version 15.0), univariate, and bivariate (dependent *t*-test).

Results: The study found that an increase in the mean knowledge of genital hygiene student of good category from 5 (3.50%) to 55 (38.2%), an increase in the behavior of students who support genital hygiene from 11 (8.8%) to 79 (63.2%).

Conclusions: There is the effect of peer group teaching to the level of knowledge and behavior of students in performing genital hygiene. It needed guidance, cooperation, and ongoing evaluation of vaginal hygiene program continuity, both in the clinic and education office.

Keywords: Peer group teaching, Female Student, Genital hygiene.

Background

Adolescence begins from 10 to19 years. This period is the transition from childhood to adulthood. At this time the girls will undergo several changes, including the reproductive organs that are influenced by hormonal, vaginal discharge starts and they begin to menstruate. In the study (1) found that 13 female students aged 10 years (40.6%) had experienced menarche. In addition,

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the research (2) showed that most adolescents (31.33%) had menarche at age 12 years. With the menarche indicates that reproductive hormones in girls already started functioning. Therefore, children need to obtain adequate information about the treatment of genital hygiene. By an adequate knowledge, it will improve their behavior. According Skiner (3) One of the factors that influence a person's behavior is knowledge. Through doing a good genital hygiene, it will avoid a sense of discomfort in the vaginal area and avoid the vaginal discharge disease. Genital hygiene includes cleanliness around the mons veneris, labia minora, labia majora, clitoris, urethra, perineum, vagina, and anus (4)

Cleanliness of the genital organs is a problem of reproductive health in adolescents. Lack of adequate knowledge due to lack of proper information, the sense of taboo that consider the girl is not old enough to have knowledge about vaginal hygiene, the notion that vaginal hygene less important a factor the incidence of reproductive problems in adolescents.

Not optimal health promotion at elementary school students is one factor contributing to the low achievement of health indicators. Provision of health promotion at the primary level is important, since teenage daughter at school age is a large number of community for the future generation, the largest group of the age group of children who apply compulsory education, this age is very sensitive to instil the healthy life habits, being in a period of growth and development, but this group is prone to various diseases, one of them is vaginal discharge. Health education through the school children is very effectively changing behavior and healthy habits in general. Health behaviors of children implanted at the school is expected to be brought into the home and apply them into their daily lives. Not optimal health promotion regarding genital hygiene, causing the female student at risk of vaginal discharge.

Vaginal discharge problem is now beginning to spread in young children elementary school age. A study (1) on 42 school girls at primary school in Dayeuhkolot reported that 59.53% girls have a poor knowledge and 45.24% have complaints of vaginal discharge. Other studies Solehati (5) at 61 students in the private elementary school in Baleendah reported that 32,8% girls still have a bad knowledge about genital hygiene. Study (6) in 1057 female students in Turkey reported that 13.0% students have a history of genital infection, 93.4% use cotton underwear, 47.2% changed underwear every day, 67.8% use genital washers at the genital area.

The assessment results to students at SDN Bojong Asih 1, SDN Leuwi Bandung, SDN Pasawahan, and SDN Cangkuang Dayeuhkolot the District Dayeuhkolot Bandung regency nearly all students do not understand the treatment of genital suach as: replace the underwear, the type of healthy clothes, dry the genital area after the wipe, have an improper cleanliness habits (95.2%).

The girls of primary school age need sufficient knowledge of the treatment of genital hygiene to raise awareness and change their unhealthy behaviors. According (3), the behavior is based on the knowledge will take longer than otherwise. Therefore, it is necessary to raise awareness by providing education about genital hygiene in accordance with the level of development of their age. So the education is easily understood by them and raises awareness / concerns them which will increase genital health behaviors that support them in their

daily lives. One of the appropriate educations for the school-age children is peer group teaching. Peer education is a common approach to encourage health-enhancing behaviors. Peers can effectively communicate with their peers and transfer information throughways which cannot be used by the health personnel (7). In the case of peer group teaching actively interacts among peers to share knowledge and experience so as to increase understanding and a sense of caring that will change behavior

Nurses have an important role in providing health promotion regarding genital hygiene in adolescents. One of the roles of nurses (8) was an educator (health educator). Nurses can work with teachers to provide information tailored to their age level.

Based on the results of research and study, the authors are interested in doing research about the influence of peer group education teaching on the students' knowledge and behavior of genital hygiene to maintain the health of students and to prevent health problems caused by the lack of healthy behavior of students.

Methods

Design of the study was quasi experiment by pre and post test design with self care aproach. The study was conducted at the State Elementary School (SDN) Bojong Asih, Cangkuang, SDN Pasawahan, and SDN Leuwi Dayehkolot District of Bandung Regency Bandung. The study was conducted from March to November 2016. The population in this study was all elementary school grades 4-6 (144 samples). Sampling used was total sampling. After three months the samples were measured again. However there were 19 samples joining another activity, so those samples were excluded. Finally, the number of sample after three months was 125 samples. Instrument used in this study consisted of a questionnaire to measure knowledge about genital hygiene, and checklist sheet to assess the behavior of genital hygiene.

Peer group teaching method consisted of 5 stages. Phase 1 conducted a workshop on the policy maker of the district, village, health services, education services, and the principal. At this stage the researchers did socializing with the policy maker officials (Regency of Bandung, the Village Head of Leuwi Bandung, Headmaster of SDN Bojong Asih, Headmaster of SDN Pasawahan, Headmaster of SDN Cangkuang, and Headmaster of SDN Leuwi Bandung) for the program of genital hygiene as part of reproductive health programs in schools and can be used in the school program properly. Stage 2 was education to all teachers using video lectures and question and answer session. Stage 3 was education to all students using discussion and video lectures by researchers and teachers. In stage 4, students are divided into small groups of 5 people per group. Then given sheets of paper that contain issues related to the treatment of genital hygiene was common in primary school-age girls to be discussed among the groups with the help of researchers and teachers as tutors in each group. Before and after the intervention, students are given the knowledge and sheet checklist questionnaire to measure the behavior of their genital hygiene. Stage 5 was evaluation. Evaluation of genital hygiene behavior of students was done after 1 month of intervention.

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The data analysis in this study consisted of descriptive data analysis of univariate and bivariate inferential analysis of the data. In the descriptive analysis, it presented in the form of frequency and percentage, whereas for bivariate data were analyzed using *t*-test. Before conducting the study researchers have asked permission from the local government Bandung Regency, Bandung District Health Office, District Education Office Bandung, and 4 elementary schools as the population in this study.

Results

Knowledge level of the student

Table 1. Knowledge level of the student

Frequency Distribution of the genital hygiene knowledge level of students Before and after the intervention in SDN Bojong Asih 1, SDN Leuwi Bandung, SDN Pasawahan, and SDN Cangkuang Dayeuhkolot District of Dayeuhkolot Bandung District 2016 (n = 144).

Knowledge level	Before Intervention		After Intervention	
	f	%	*f*	%
Good	5	3,50	56	38,2
Poor	139	96,5	88	61,1
Total	144	100.	144	100

From Table 1 it can be seen that most respondents 139 (96.5%) had poor genital hygiene knowledge before the intervention and after the intervention to be more than the majority of respondents 55 (38.5%) have good knowledge. To determine the influence of peer group teaching to student learning, it is necessary to compare differences in the average level of knowledge before and after the intervention period.

Table 2. Knowledge Level before and After Intervention

Table 2. Differences in the mean of genital hygiene knowledge of students before and after the intervention in SDN Bojong Asih 1, SDN Leuwi Bandung, Pasawahan SDN, and SDN Cangkuang Dayeuhkolot Dayeuhkolot District of Bandung District 2016

Knowledge level	Mean	SD	*p*
Before intervention	10,78	2,52	0.000
After intervention	12,91	3,11	

Table 2 showed that there were differences in the mean level of knowledge before and after the intervention of the female students (p = 0.000).

Genital hygiene behavior

Table 3. Genital hygiene behavior

Frequency Distribution of genital hygiene behavior of students before and after the intervention in SDN Bojong Asih 1, SDN Leuwi Bandung, SDN Pasawahan, and SDN Cangkuang Dayeuhkolot Dayeuhkolot District of Bandung District 2016 (n = 125)

Behavior	Before Intervention				After Intervention			
	Supported		Did not support		Supported		Did not support	
	f	%	*f*	%	*f*	%	*f*	%
Genital hygiene	11	8,80	114	91,2	79	63,2	46	36,8

Table 3.Showed that the minority of students 11 (8.8%) had a behavior support of genital hygiene before the intervention, and increased to 79 (63.2%) had a behavior support.

Table 4. The Effect Of Interventions On Genital Hygiene Behavior

The mean difference of genital hygiene behavior among students before and after the intervention in SDN Bojong Asih 1, SDN Leuwi Bandung, SDN Pasawahan, and SDN Cangkuang Dayeuhkolot Dayeuhkolot District of Bandung District 2016 (n = 125)

Behavior	Before Intervention				After Intervention			
	Supported		Did not support		Supported		Did not support	
	f	%	*f*	%	*f*	%	*f*	%
Genital hygiene	11	8,80	114	91,2	79	63,2	46	36,8

The effect of interventions on genital hygiene behavior can be seen in Table 4. Table 4 showed that there were differences in the mean behavior of genital hygiene before and after the intervention on students (p = 0.002).

Knowledge level	Mean	SD	p
Before intervention	0,28	0,48	0,002
After intervention	1,19	1,36	

Discussions

The results showed that the majority of students 139 (96.5%) had a poor knowledge of genital hygiene before the intervention and after the intervention to be more than the majority of respondents 55 (38.5%) have good knowledge. On further analysis obtained that there were differences in the average level of knowledge (χ = 10.78) before and (χ= 12.91) after the intervention of the female students (p = 0.000). This showed that the education with peer group method of teaching was attractive and accessible to facilitate and understand the materials about genital hygiene, thereby enhancing their knowledge. Knowledge of good genital hygiene is expected to prevent students from complaints on her genitalia area and protected from the reproductive system diseases, such as vaginal discharge, infection in the genital area, and cervical cancer. The research (9) found that women who have poor personal hygiene of genital organ have an increased risk of cervical cancer than 19.386 times than the the good one. The results are consistent with research (10) which showed that women with poor personal genital hygiene organs were at greater risk of cervical cancer than the good.

Education by a peer group teaching model also succeeded to increase genital hygiene behaviors become a better students. This can be seen in the results of the research showed that a few female students 11 (8.8%) had a behavior support to genital hygiene before the intervention, and increased to 79 (63.2%) had a behavior support. On further analysis it was found that there

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were differences in the mean behavior of genital hygiene before and after the intervention of the female students (p = 0.002). This showed that peer group teaching influential in improving genital hygiene behavior becomes better. A good health behavior is preventive for the issue of reproductive health. Research (11) at 179 in elementary school student indicated that the peer group teaching was an effective strategy to promote preventive behaviors.

Adequate knowledge and behaviors support of genital hygiene is very important for the teen age from an early age, not only for middle and high school levels but also for elementary school age. Nowadays, the age of menarche shifts of menarche at age of SMP into the elementary school age. This is because the nutritional value consumed the better girls that led to the growth and development of the body's organs better, including the reproductive organs. Research (5) at 61 private elementary schools in Baleendah found that most of the students aged 10 years (40.6%) had menarche at age 11 years. Therefore, the provision of adequate information about genital hygine required from an early age so that they are ready to take care of either sex area during menstruation or for the reproductive health now and the future, thus it will avoid the risk of developing the disease in their reproductive systems during their life. Research (12) proved that there was a relationship between increasing knowledge with personal hygiene habits and improves the prevention of genitourinary infections.

Girls should get information not only from their parents but also through their teachers at school with methods which adapted to the age of them, such as the peer group teaching. Teachers and parents should not feel taboo to communicate about treatment genitalia in girls of primary school age. It will restrict communication between girls with parents / teachers, so the girls do not understand and sometimes make poor decisions about their reproductive health (13). Whereas, the girls will receive more informations about everything from the mother or the teacher, as the closest person. A research (14) in 79 girls in SMP Muhammadiyah Yogyakarta showed that the sources of information about menstrual hygiene students from the mother received 64 students (81%) and the teachers as many as 53 students (67.1%).

The importance of genital hygiene information provided by the nurse to the elementary school and the provision of up to date information about genital hygiene to teachers and parents students will increase student knowledge more accurate. Reproductive health education should be started at the elementary level by empowering the role of teachers and parents students. The results of the reviewed (15) on 21articles relating to the reproductive health of 12-19 year-olds found that school-based intervention program showed that there was a considerable increase in the level of awareness regarding girls with knowledge about reproductive health issues. Thus informative and educable intervention had a positive effect on the level of consciousness that will ultimately drive the expansion of knowledge and positive health habits of the girls. In the research (16) on primary school students in Bandung Dayeuhkolot found that the school community empowerment affected the behavior. Thus it was important to empower teachers, parents, and students themselves to improve the understanding and health behaviors, including genital hygiene. Teachers and parents should be informed about proper genital hygiene of health workers

(nurses) in order to communicate to the students and their daughter adequately. The research results (17) on adolescent girls in Tehran showed that teens who received information about the periods of health personnel trained to behave better in menstrual hygiene compared to obtain information from the teacher or family. By this also applies to health problems perineal hygiene. Therefore we need cooperation between nurses and teachers in educating and evaluating the genital hygiene behavior in the girls. So, the provision of education to students not discontinued. Nurses can transfer knowledge about genital hygiene to teachers and parents. Further, they work together with nurses provide information to the students.

Conclusions

Peer group teaching affected in improving the knowledge and behavior of genital hygiene of the students. Peer group teaching was one of the appropriate methods that can be applied in school age children.

It needs for the consolidation to unify understanding of the treatment of genital hygiene in school age children, that genital hygiene is part of health education in schools. Also it needs for increasing attention from the clinic to carry out and evaluate treatment of genital hygiene school-age students as health promotion efforts that are part of the working community health centers, whereas it has been rarely used as area to exposure of health promotion. It needs to increase the cooperation between the policy maker to raise up the reproductive health proggram in elementary school children.

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THE EFFECT OF AUTOGENIC RELAXATION ON LEVEL OF BLOOD PRESSURE INELDERLY WITH HYPERTENSION IN CENTRAL CILACAP

Titi Alfiani[1], Esti Oktaviani Purwasih[2]
[1]Lecturer of Mental Nursing (Akademi Keperawatan Serulingmas, Cilacap, Indonesia)
[2]Lecturer of Medical Surgical Nursing (Akademi Keperawatan Serulingmas, Cilacap, Indonesia)

Email Addresses:
Titi: fifineez@gmail.com
Esti: estioktaviani@gmail.com

Abstract

Background: Autogenic relaxation is a therapy predicted for handling hypertension. The autogenic term specifically implies that we have the ability to control various body functions, such as heart frequency, blood flow, and blood pressure. The purpose of this study was to determine the effect of autogenic relaxation on hypertension among the elderly.

Methods: The study applied a quasi-experiment with pretest-postest control group design. The population in this study was elderly with mild to moderate hypertension in Central Cilacap. The samples were recruited using total sampling technique that is all elderly with hypertension in Central Cilacap that were 42persons, divided into two groups. The treatment group was treated by the autogenic relaxation therapy and the control group didn't receive any treatment. The blood pressure in both groups was measured pre and post treatment. The instruments for measuring blood pressure were sphygmomanometer and stethoscope. The statistical test used Paired and Independent Sample T-test.

Results: The results of this research showed that there was a significant effect of autogenic relaxation on the decreasing of systolicand diastolic blood pressurein elderly with hypertension between treatment and control group with the valuesystolic: *P*=0.000 and diastolic: *P*=0.008.

Conclusions: It could be concluded that the autogenic relaxation is recommended for decreasing the blood pressure in elderly with hypertension.

Keywords: AutogenicRelaxation, BloodPressure, Elderly, Hypertension.

Background

Hypertension or often referred to as high blood pressure is a common disease and has become a major problem in public health in some countries in the world (1). The study in America, high blood pressure was found to be one in every three people or 65 million people (1). All people with hypertension are only one third who are aware of the situation and only 61% are medicated (2). Patients with hypertension in Indonesia are estimated to reach 15 million

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people, with a prevalence of 6-15% in adults, patients with hypertension who do not know that they actually suffer from hypertension by 50%, about 90% are people with essential hypertension, and only 4 % Controlled hypertension or who is undergoing treatment. The figures indicate that in Indonesia there are still few who undergo treatment (3). Hypertension is a degenerative disease, so the sufferer will continue to grow with increasing age (4).

A new report from the Framingham heart disease study has shown that after middle age and elderly, 90% have hypertension in their lives (2). Uncontrolled and continuous hypertension can lead to stroke, heart failure, heart attack, aneurysms, kidney damage, even death. Thus, management of hypertension is necessary(5).There are many options for management of hypertension in the elderly, such as non-pharmacological management, especially for people with mild elevation of blood pressure (6).Relaxation exercises that can be used as non-pharmacologic management to control or overcome hypertensive diseases include autogenic relaxation (7). The autogenic relaxation technique is a relaxation technique performed by an individual with a passive concentration combined with certain psychological therapies (mills and buud).Autogenic relaxation techniques carry the body's orders through autosuggestion to relax so that breathing, blood pressure, heart rate and body temperature can be controlled (8). A preliminary study found at Puskesmas Central Cilacap has never done research on the effect of autogenic relaxation on level of blood pressure in elderly with hypertension in Central Cilacap. The health care provider had never implemented the procedure of autogenic relaxation in elderly with hypertension. The highest number of elderly with hypertension in Cilacapwas located in Central of Cilacap, as many as 51 people. Aspects of conditions, affecting researchers interested in conducting research. The general purpose of this study was to analyze the effect of autogenic relaxation on level of blood pressure in elderly with hypertension disease at Central Cilacap.

Methods

Research design

The research design used quasi-experiment with pretest-postest control group design (9). The research was conducted in Central Cilacap community. This research was conducted for 3 days, starting on 28 until 30 December 2014.

Population and sampling

The target population in this study are all of the elderly patientswith hypertension in the Central Cilacap. Researchers took samples with a total of 51 people. Samplingwas done by nonprobabilitysampling with total sampling technique.As many as 42 people who meet the criteria of inclusion and entry into a sample of research.

Research instruments

Data collection was performed by physical examination of blood pressure using sphygmomanometer and stethoscope.The research technique used Standard Operational Procedure (SOP) autogenicrelaxation.

Data collection and analysis procedures

From the selected sample, the researcher explains the purpose of autogenic relaxation research. Furthermore, the researcher explained the training proce-

dure of autogenic relaxation study in the group given treatment (intervention). All research samples signed consent as respondents. Data collection was preceded by blood pressure checks in the intervention and control groups. Subsequent autogenic relaxation exercises were performed for 3 consecutive days in the treatment group. Subsequently, after the treatment group completed an autogenic relaxation exercise for 3 days, the researchers measured blood pressure in the treatment group and the control group. Measurements are made before the first day of practice and after the third day of practice.For the analysis of the effect of autogenic relaxation exercise on blood pressure level in elderly with hypertension was used computer program for paired and independent t statistic test with significance level *P*<0,05 and 95% confidence level.

Results

Table 1. Frequency Distribution Characteristics of Respondents Based on Age in Central Cilacap

Age	Group	
	Intervention	**Control**
Mean	58.90	60.29
Minimum	45	45
Maximum	79	79

Table 2. Frequency Distribution Characteristics of Respondents Based on Sex in Central Cilacap

Sex	Group			
	Intervention		**Control**	
	Frequensi (n)	**%**	**Frekuensi**	**%**
Man	1	4.8	3	14.3
Women	20	95.2	18	85.7
Total	**21**	**100**	**21**	**100**

Table 3. Frequency Distribution Characteristics of Respondents Based on Pattern of Life in Central Cilacap

Pattern of Life	Group			
	Intervention		**Control**	
	F	**%**	**F**	**%**
Smoking	1	4.8	1	4.8
Drinking coffee	8	38.1	10	47.6
Alcohol	0	0	0	0
Tidak ada	12	57.1	10	47.6
Total	**21**	**100**	**21**	**100**

From table 1, it can be seen that the age frequency distribution in the intervention group ranged from 45 to 79 years with the average age of respondents 58.90 years. While in the control group, the age of respondents ranged from 45 to 79 years with an average age of 60.29 years. In table 2, it can

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be seen that most of the respondents are female namely20 respondents (95.2%) in the intervention group and 18 respondents (85.7%) in the control group.Next from table 3, showed the pattern of life most often done by respondents is the habit of drinking coffee that is as much as 8 people or 38.1% in the intervention group and 10 people or 47.6% in the control group of total respondents. No respondent has a habit of drinking alcohol.

Table 4. Blood Pressure Level in Elderly with Hypertension Before Relaxation Autogenic (Pre-test) in Central Cilacap

Group	Variable	N	Mean (Average)	Min	Max
Intervention	Systolic (mmHg)	21	155.24	140	175
	Diastolic (mmHg)	21	97.38	90	110
Control	Systolic (mmHg)	21	155.24	140	175
	Diastolic (mmHg)	21	95.95	90	100

Table 5. Blood Pressure Level in Elderly with Hypertension AfterRelaxation Autogenic (Post-test) in Central Cilacap

Group	Variable	N	Mean (Average)	Min	Max
Intervention	Systolic (mmHg)	21	138.57	120	160
	Diastolic (mmHg)	21	89.52	80	100
Control	Systolic (mmHg)	21	152.61	130	175
	Diastolic (mmHg)	21	95	90	105

Continue to table 4, showed that the mean (average) before autogenic relaxation (pre-test) systolic blood pressure in the intervention and control group was the same are 155.24 mmHg. While the mean diastolic pre-test blood pressure in the intervention group was 97.38 mmHg and the control group was 95.95 mmHg.And then from the table 5, it can be seen that the mean (average) of systolic blood pressure after autogenic relaxation (post-test) in the treatment group was 138.57 mmHg and the control group was 152.61 mmHg. While the mean diastolic post-test blood pressure in the intervension and control group which are 89.52 mmHg, 95 mmHg respectively.

Figure1. Differences in Blood Pressure Level in the Intervention Group (Pre-test and Post-test) Autogenic Relaxation Given in the Intervention Group

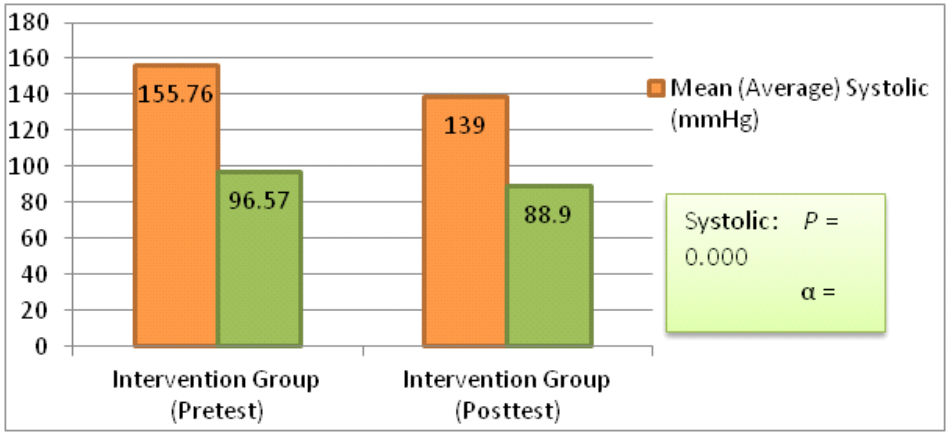
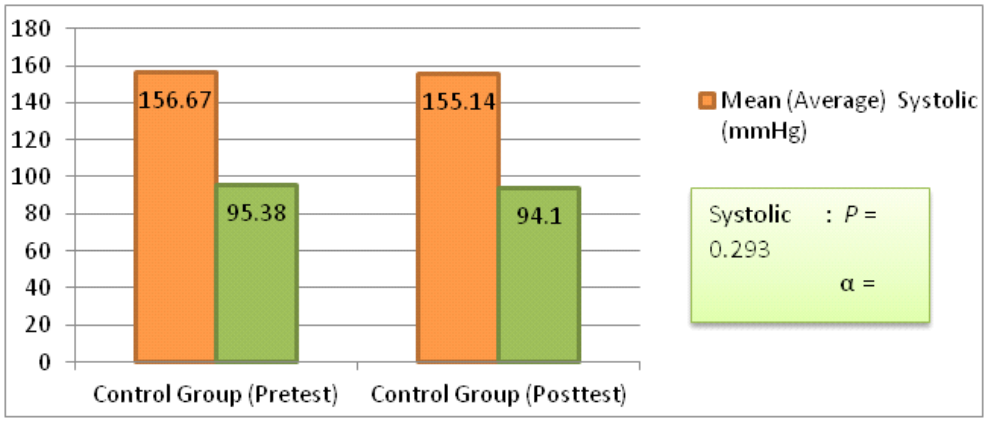
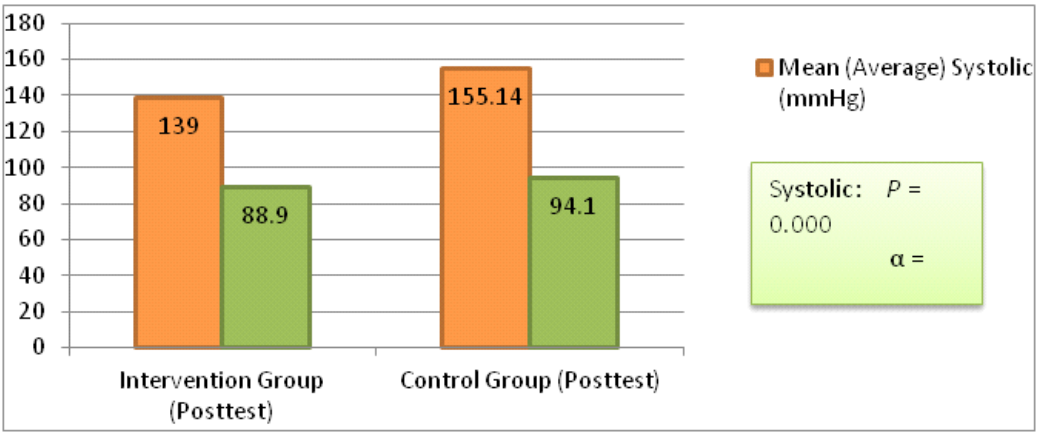


Figure2. Differences in Blood Pressure Levels in the Control Group (Pre-test and Post-test) Autogenic Relaxation Given in the Intervention Group



In figure 1, showed that the mean (average) blood pressure before autogenic relaxation was given in the intervention group was 155.76 mmHg in systolic and 96.57 mmHg diastolic. Whereas after autogenic relaxation the mean blood pressure in the intervention group decreased to 139 mmHg in systolic and 88.9 mmHg in diastolic.The result of the statistical test shows that the significance value (*P*) in paired sample t-test is 0,000 (*P*<0.05). This means that there is a significant difference between systolic and diastolic blood pressure in the intervention group before and after the intervention group is given autogenic relaxation. Continue to figure 2, showed that the mean (average) blood pressure before autogenic relaxation was given in the control group was 156.67 mmHg in systolic and 95.38 mmHg in diastolic. Whereas after autogenic relaxation the mean blood pressure in the control group was 155.14 mmHg in systolic and 94,1 mmHg in diastolic.The result of statistic test showed that there was significance (*P*) in paired test of systolic t-test sample was 0.293 (*P*>0,05) and at diastolic *P* = 0,090 (*P*>0,05). This means there was no significant difference between systolic and diastolic blood pressure in the control group before and after the intervention group was given autogenic relaxation.

Figure3. Differences in Blood Pressure Levels in the Intervention Group and Control Group (Post-test)Autogenic Relaxation Given in the Intervention Group



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From figure 3, the result of data analysis using independent sample t-test with $\alpha = 0.05$, which is $P = 0.000$ in systolic and $P = 0.008$ in diastolic, has a value smaller than á research that is 0.05 meaning there is significanteffect of autogenic relaxationon the level of blood pressurein elderly with hypertension.

Discussions

The mean (average) age of the study respondents was age 58.90 years in the intervention group and 60.29 years in the control group. This is in accordance with that theory States the incidence of hypertension increases with age (10). Sex factors also affect the incidence of hypertension. (10) Men experience more hypertension during middle age, while women are more likely to have hypertension when entering old age (over 65 years). The theory is aligned with the results of this study that most of the respondent's female sex in the intervention and control groups, wichs are 20 and 18 people respectively. Several factors that play a role in the occurrence of hypertension is obesity, emotional disturbance, excessive alcohol consumption, excessive coffee stimulation, tobacco, and drugs (11). This theory supports the results of research that 8 respondents treatment group and 10 respondent control group in this study have a habit of drinking coffee, smoking one person and 12 respondents intervention group and also 10 respondent control group do not have a habit of smoking and drinking coffee.

The mean (average) blood pressure in the intervention group before the autogenic relaxation treatment was 155.24 mmHg for systolic measurements and 97.38 mmHg for diastolic. The mean blood pressure in the control group before the intervention group was given autogenic relaxation was 155.24 mmHg for systolic and 95.95 mmHg for the diastolic outcome. This suggests that in the intervention and control groups before the intervention group was given autogenic relaxation, the two groups had the same classification of systolic and diastolic blood pressure categorized as belonging to the category of mild hypertension.This is in accordance with that theory states that there are factors that affect the blood pressure of each person that is the factor of sex, age, and medication (12). Patterns of life and race are also a risk factor for hypertension (11).In addition to these factors, physical changes also affect hypertension, especially changes in the cardiovascular system in which the heart mass increases, the left ventricle is hypertrophied and the ability of the heart stretch is reduced due to changes in connective tissue and lipofuscin accumulation, this will affect the elasticity and permeability, systolic pressure and tissue perfusion (13). Thus the blood pressure will increase, thus causing the prevalence of hypertension in an elderly increase (14).

Based on the results of the research in figure 3 it can be seen that the pressure of elderly blood pressure (BP) in the intervention group after autogenic relaxation was given had mean (average) systolic blood pressure was 139 mmHg and the mean diastolic 88.9 mmHg were included in the classification of high-normal blood pressure category. While the elderly blood pressure in the control group after the intervention group was given autogenic relaxation it was found that the mean (average) systolic blood pressure was 155.14 mmHg and the mean diastolic was 94.1 mmHg which was included in the classification of first-degree hypertension or mild hypertension.The result of data analysis using

independent sample t-test (systolic: P = 0.000 and diastolic P = 0.008) meaning there is a significant effect of autogenic relaxationon the level of blood pressurein elderly with hypertension.In the intervention group, there was a significant difference in BP value in both systolic and diastolic before and after autogenic relaxation during3 days.Implementation of daily routine otogenic relaxation for three days with a duration of each 15-20 minute intervention was performed in this study and influenced the differences in systolic and diastolic values ??before and after autogenic relaxation in the intervention group.This autogenic relaxation works through the interaction of physiological and psychological responses. In addition to lowering blood pressure by decreasing muscle tension, this relaxation also lowers blood pressure by lowering levels of the hormone cortisol (15). This is supported by the results of Mandle (2000) study that clients who performed autogenic relaxation for 15 minutes were known by electroencephalogram that the original brainwave was a beta wave transformed into an alpha wave accompanied by a decrease in respiration, heart rate, and blood pressure. Beta brain waves function adequately in everyday life, but for decision-making capabilities in dealing with problems, alpha brain waves are much more adequate than beta brainwaves, so this autogenic relaxation is very useful for converting the mind from beta brainwaves into alpha brainwaves so that can reduce stress (8).

Autogenic relaxation will give effect quickly if done regularly (15). Autogenic relaxation will give effect after 3 times where each session is done for 15-20 minutes (16).This autogenic relaxation is a relaxation that has the greatest power to decrease stress (15). The client claimed to feel a heavy and warm sensation after autogenic relaxation (15). This is in accordance with the results of this study that this relaxation does provide a warm and severe sensation that eventually proved to affect blood pressure decrease. The warmth is the result of peripheral vasodilation of the arteries while the severe sensation is the result of the loss of muscle tone (15). In line with the results of this study, the autogenic relaxation is a mental exercise that focuses on the varying sensations of the body in silent conditions by closing the eyes has been shown to cause feelings of heavy and warm extremities, making heart rate stable, regulated rhythmic breathing, warm to the abdomen and cold on the head (17).

One of the advantages of this autogenic relaxation is that this relaxation can be performed by the client once it is taught by the therapist. In addition, this autogenic relaxation gives a positive effect when performed on hypertensive clients (18). In accordance with 35 studies with randomized control trial design in psychologic-related studies evaluating pre and post intervention, found that otogenic relaxation had the most minimal side effects compared to other psychological therapies (Stetter & Kupper 2002, in (18)). The autogenic relaxation side effects can increase blood pressure if exercise is not done properly and can lower blood pressure if it takes too long (15). However, researchers assume these side effects can be prevented by providing the client with the correct information and encourage the client to monitor his or her own physical condition while performing this autogenic relaxation so that the client knows when autogenic relaxation should be stopped. The autogenic relaxation as one of these complementary therapies can increase the motivation of cure clients with old hospitalization, as clients feel able to control their comfort from

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themselves (19). Although pharmacological therapy is an important contribution to lowering BP, non-pharmacological treatments such as autogenic relaxation can provide physical and mental comfort for clients without going through an invasive procedure. Complementary therapy is not considered to cure the disease, but it can provide additional support for clients (19). Penson in (19) states that palliative care and complementary therapies are complementary holistic approaches to each other in providing medical care and nursing care to hospitalization clients.

Conclusions

Autogenic relaxation for three times in one session 15-20 minutes in the elderly with hypertension had an effect on blood pressure in the treatment group. The mean difference in systolic blood pressure before and during autogenic relaxation in the intervention group was 16.76 mmHg. The mean difference in diastolic blood pressure before and last in the intervention group was 7.67 mmHg. The result of statistical test is significant (systolic P = 0,000 and diastolic P = 0.008 which means $P<0.05$ with 5% error rate then H0 (zero) is rejected H0 (zero) is rejected means autogenic relaxation gives effect on blood pressure in elderly withit is necessary for the improvement, therefore, the need for dysfunction so that for the next researchers to further develop the characteristics and homogeneous of respondents, including weight and other types of lifestyle such as nutrition, lack of activity and not exercising that can be a risk factor causes hypertension need to be controlled. Suggestions for further researchers.

List of abbreviations

BP: Blood Pressure; SOP: Standard Operational Procedure.

Declarations

Authors' contributions

All Authors participated in the design of the research. EOP and I am performed the data analysis. All authors were part of conclusions and final result. EOP drafted the manuscript and all authors read and approved the final manuscript.

Authors' information

[1]Lecturer of Mental Nursing (Akademi Keperawatan Serulingmas, Cilacap, Indonesia). [2]Lecturer of Medical Surgical Nursing (Akademi Keperawatan Serulingmas, Cilacap, Indonesia).

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Ethics approval and consent to participate

Researchers have been taking care of permits service research on the DinasPerijinanKabupaten Cilacap and DinasKesehatan of Cilacap city. Before

doing exercise, the respondent elected, has approved and signed the inform consent willingness following the research.

Consent for publication

Applicable.

Availability of data and materials

Data may be shared with the contact email address on the first author.

Competing interests

The authors declare that they have no competing interests.

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SPIRITUAL EXPERIENCE OF ELDERLY TO OVERCOME SLEEPING DISORDER AT UPTD GRAHA BINA LANJUT USIA SEKAYU

Yabani Azmi[1], Lukman[2]

[1]Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
[2]Department of Nursing, Poltekkes Kemenkes Palembang, Indonesia
Email addresses:
Yabani : azmiyabani27@gmail.com

Abstract

Background: Aging process that experienced by the old people caused them to experience a wide range of feelings such as sadness, anxiety, loneliness, and irritability that can cause problems on the needs of restful sleep. Closer to God is a way to strengthen in the face of a wide range of feelings and problems that arise in the process of aging especially the need of sleeping disorder.

Methods: The design of this study used a qualitative approach with indepth interview and observation. The informan was a nursing officer/nurse and elderly as respondence.

Results: The results of this study obtained by the informant that spiritual religion, prayer, and the law of God. And the sleeping disorder were frequent night awakenings and difficulty to sleep the night, could not sleep anymore symptoms and body felt weak, and the cause was due to the presence of disturbing thought. Spiritual act that was performed by informants to overcome sleep disorders such as a break with prayer, dzhikir, and reading al-Quran. The benefits of actions according to the informant was a quiet mind and a good night's sleep again. Spiritual activities conducted in orphanage of lectures and spiritual guidance remains scheduled for the old people.

Conclusions: Based on the results it can be seen how the old people knowledge about spiritual, sleeping disorder, symptoms of sleeping disorder, the cause of sleeping disorder, spiritual act that was performed to overcome sleep disorder, the benefits of spiritual act conducted, and the spiritual activities conducted in homes in orphanage. It was expected to Graha Bina LanjutUsiaSekayuto improve the services and activities that were beneficial to the old people so as to minimize the problems occur in the old people especially sleeping disorder.

Keywords : Spiritual Experience, Elderly, Sleeping Disorder

Background

Elderly is the stage of old age in the development of individuals with age limit more than 60 years old[1]. Various problems and diseases are often faced by the elderly, namely easy to fall, tired easily, difficult to hold urine and water, acute mental disorders, visual acuity disorders, respiratory diseases, cardiovascular disease, joint and bone diseases, diseases caused by The process of malignancy, difficulty sleeping (insomnia) and others[2].

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Sleep disorders are caused by internal factors (illness, psychological stress) and external factors (environmental changes, social functions)[3]. The aging process experienced by the elderly causes them to experience various feelings such as sadness, anxiety, loneliness, and irritability[4]. Worries and anxiety can delay a person to sleep, usually only a few nights. However, both of these can occur regularly in the elderly [3].

Spiritual activities such as prayer, recitation, and dhikr can reassure the soul and the physical. God has told us the spiritual importance of it. In the Qur'an there is a proposition which reads "Who have believed and whose hearts have rest in the remembrance of Allah. Verily in the remembrance of Allah do hearts find rest" (QS. Ar-Ra'd verse 28).

At UPTD Graha Bina LanjutUsiaSekayuconsists of elderly people aged 60 years and over. From the results of interviews with one of the nurses found that almost 50% of the elderly there suffered health problems that can cause the pattern of activity and sleep resting patterns in the elderly disturbed.

Methods

Basically the theoretical foundation of qualitative research is fundamentally based on phenomenology. Phenomenology is a thinking view that emphasizes the focus on human subjective experiences and world interpretations. In a phenomenological view the researcher seeks to understand the meaning of events and their relation to people in certain situations[5].The method used in this research is in-depth interviews and field notes / observations.Data collection tools in this study is the researchers themselves, interview, field notes and tape recorder / phone.

Results

A. Knowledge

The results of in-depth interviews with the elderly about spiritual knowledge, sleep disorders, sleep disorder symptoms, the cause of sleep disorders as follows:

- **Theme 1 (Knowledge of Spiritual)**

Results of in-depth interviews with four informants regarding sleep break disorders :

" *...spiritual itu tentang agama, sholat, dan puasa-puasa, berdzikir..." (AKD)*
" *...agama itu sendiri ek, itulah banyak-banyak ji ku mengerjakan sholat e dak, dan banyak-banyak berdoa kepada Tuhan..." (M)*
". *..yang pasti tentang keagaman itu mengenal Tuhan, kenal dengan Allah, jadi kapan kenal dengan Allah..." (AK)*
" *...menurut syariat dari Tuhan kitek dan perentah dari nabi Muhammad..." (S)*

- **Theme 2 (Knowledge of Sleep Disorder)**

Results of in-depth interviews with four informants regarding sleep disorders :

" *..Aaaseringterbangunmalam..." (AKD)*
". *..dari jam 12 nggak bisa tidur..." (M)*
" *...Lahpastiitu, kapanadepikirangeknegatiftu..." (AK)*
" *...gangguandakpacaktidotubkndakpacaktido, gangguannyetukiteklahtido, dikityek..." (S)*

· **Theme 3 (Symtoms of Sleep Disorder)**

Results of in-depth interviews with four informants regarding symptoms of sleep disorder :

" *...kite enggan tido lagi sampai sianggalak gejala nye..." (AKD)*
" *...dak sehat badan, susah tidur men dak sehat badan..." (M)*
" *...tande-tandenye badan lesu, kepala pusing, matek ngantuk terus, itulah..." (AK)*
" *...tentu badan kitek lesu, pokok e dak semangat..." (S)*

· **Theme 4 (Causes of Sleep Disorders)**

The results of in-depth interviews with four informants on the causes of sleep disorders are as follows:

"...penyebab ee itulah yang sering teganggu itulah, pemikiran kitek tu agak kacau..." (AKD)

"...penyebab ee tu sakit kepala, pikiran pusing, itu menyebabkan dak bisa tidur.." (M)

"...itulah penyebab ee galak-galak datang pikiran negatif.." (AK)

"...penyebab enye itulah penyebanye amon aku oleh kitek ade masalah..." (S)

B. Action

Based on the results of in-depth interviews with four informants about the spiritual actions undertaken informants to overcome sleep disorder as follows :

" *...nah misal nye kitek dang tebangon malam-malam kitek sholat malam, sholat tahajjud,ape sholat dhuha, sholat hajat, berdoa..." (AKD)*
" *...sholat kalau saya, ambil wudhu sholat, mangkin pikiran tenang, sudah itu dzikir, baca yasin..." (M)*
" *...melalui sholat, tahajjud, bace quran, itulah obat gek paling mujarab..." (AK)*
" *...kitek amon kitek enggan tido kitek banyak-banyaklah bedzikir, banyak-banyak mengingat Allah..." (S)*

C. Benefits

Results of in-depth interviews with four informants about the benefits of the actions taken to overcome sleep disorder :

" *...manfaat ee sehat, 1 sehat, 2 pikiran tenang ee dak, tidur ee nyenyak, itulah..." (AKD)*
" *...tenang, pikiran tenang, dak ade gangguan lagi..." (M)*
" *...lah pasti tenang ek, tidonye nyenyak, badan sehat..." (AK)*
" *...manfaat ee kitek dem sehat, ao dak lagi ingat-ingat itu dak..." (S)*

D. Activities

The results of in-depth interviews with nurses on spiritual activities in the nursing home are as follows :

" ...kalau kegiatan-kegiatan disini itu pengajian dan bimbingan kerohanian, itu dari hari senin sampe sabtu kecuali hari minggu... " (ML)

The result of in-depth interview with the nurse whether the spiritual activity has been permanently scheduled for the elderly, as stated by the nurse below:

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" *...iya sudah terjadwal tetap, itu setiap hari dari senin sampai sabtu kecuali minggu libur, pada jam 09.30 sampai 11.00 wib..." (ML)*

The results of in-depth interviews with nurses on the benefits of spiritual activities are as follows:

" *...untuk dari segi kesehatannya ini misalnya kanbadannya istilahnya kalau sudah sholat tu kan tenang, pikirannya tenang terus pula sebelum sholat nenek itu dianjurkan untuk mandikan biar badannya bersih, sudah mandi dianjurkan kalo waktunya sholat untuk menjalankan sholat jadi badannya bersih pikirannya tenang kan kalau sudah sholat itu dari segi kesehatannya, terus pulok kan lagi kalo dari segi psikologinya kan mungkin yang selama ini kan dia selama ini kan terlantar dak ada yang ngurus jadi kalo disinikan ada yang ngurus terus ada yang ngingatkan untuk sholat kan, untuk banyak-banyak zikir itu ada yang ngingatkan..." (ML)*

Discussions

A. Knowledge

· **Knowledge of Spiritual**

According to the informant, the spiritual is about religion, submitting to God, drawing closer to God, and knowing God.This is consistent with Tanyi's assertion that religion relates to a part of deed or a particular system of practice relating to a people, a sect, or a form of worship. Religion is an organized belief system and worship that one practiced to express outward spirituality [6]. Judging from the theory and the results of research, according to the researcher's analysis of the spiritual sense in accordance with the above statements that the spiritual is a relationship between living things with something high (God).

· **Knowledge of Sleep Disorder**

nterruption of sleep breaks according to informants is often awakened in the middle of the night and difficult to sleep at night.This is in line with Zorick's assertion that insomnia is a symptom experienced by clients who have difficulty sleeping or short sleep or nontestorative sleep [7]Whileinsomnia is the inability to sleep despite the desire to do so. Insomnia complaints include an inability to fall asleep, frequent waking, an inability to go back to sleep and wake up in the early hours [8].Judging from the theory and the results of the above research, according to the researcher's analysis that sleep break disorder is an inability to sleep so that lack of quality and quantity of sleep.

· **Symptoms of Sleep Disorder**

According to informants symptoms of sleep break interruption is not usually to sleep again after waking at night while the other three informants said symptoms of sleep breaks disorders of the body feels weak. Insomnia is a sleep disorder characterized by difficulty sleeping. People with insomnia have one or more of the following symptoms: 1) Often wake up at night and have difficulty sleeping again, 2) Wake up too early in the morning, 3) Feeling tired after waking [9]. In terms of theory, As well as related research above, according to the researcher's analysis that the symptoms of sleep break interruption is not usually sleep after waking at night and the body feels weak so it can interfere with the activities undertaken.

· **Causes of Sleep Disorder**

According to informants the cause of the sleep break disorder is by the existence of problems that cause the mind is disturbed causing sleep disturbed. Based on the causes according to Bliwise often elderly clients experience a loss that leads to emotional stress. Retirement, physical impairment, the death of a loved one, and loss of economic security are examples of situations that predispose the elderly to anxiety and depression. Elderly, as well as other individuals who experience depressive feelings, often experience a slowdown to fall asleep, early REM sleep, often awakening, increased sleep time, less sleep, and rapid awakening [7]. Anxiety and depression will cause Disturbance at rest and sleep frequency. This is because the anxious condition will increase norepinephrine blood through the sympathetic nervous system. This substance will reduce the IV stage of NREM and REM.10 Based on research Dian Sekartika most elderly experience insomnia caused by psychological factors (anxiety, and emotion), cognitive and physiological. The elderly's inability to overcome this insomnia is a reference for the need for safe therapies and can address the immediate causes of insomnia [2]. Judging from the theory, the results of research and related research then according to the researcher's analysis of the cause of the sleep break interference of the informant that is the perceived problems that cause anxiety that causes the mind disturbed.

B. Action

Actions done by informants to overcome sleep disturbances are in the form of prayer, prayer, dhikr, and recite the Qur'an.This is in accordance with Narayanasamy's claim that individuals connected with themselves, others, nature, and God or other supreme beings adapt to the stresses caused by crisis and chronic illness [6]. And also according to Cavendish et al the client can relate to God Through prayer. Praying is a personal communication with their Lord. It gives hope, strength, and security, and is part of trust[6]. Even long before that Allah has informed us through the Prophet Muhammad SAW in the Quran: "Believers, ask for help with patience and pray, Allah is with those who are patient" (Surah 2: 153)). Narrated also from Amar bin Syuaib received from his father, onwards and his grandfather Abdullah bin Amar bin Ash that the Prophet SAW said: "If any one of you experienced a tactful sleep, let him say a prayer which means:" I take refuge With God's perfect words from His anger and punishment and from her destiny "Then the devil can not bring disaster upon him".In line with the results of research by Sholichatinonfarmakologis therapy such as the voice of Tartil Al Qur'an can reduce the level of anxiety in preoperatively planned patients because of psychological benefits (relaxation) that can be felt by respondents at Aisiyah Islamic Hospital and Military Hospital of Malang City [2]. Judging the theory, the results of research and related research then according to the researcher's analysis of the spiritual action in overcoming sleep break interruption is by closer to God by way of praying, dhikr, praying, and reading the Qur'an.

C. Benefit

Based on the results of the research is known that the benefits of spiritual acts performed to overcome sleep resting disorders that the mind becomes

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calm, the body feels healthy, and sleep soundly.Viewed from the point of health, prayer contains a deep psychoteraupetik element. Psychoreligious therapy is no less important than psychotherapy, psychiatry, because it contains spiritual strength / spirituality that evokes self-confidence and optimism [11]. The results of this study are in accordance with the assertions of Smith's beliefs and expectations of the individual will affect one's physical and psychological well-being. Many of these influences are related to neurological and hormonal functions. For example, relaxed and directional comparative exercises can improve immune function and decrease the perception of pain and anxiety.

Indeed the verses of the Qur'an also include the most important dhikr because it has a great virtue to clear the heart and cleanse the soul. Seeing responses from elderly respondents who strongly support and agree with the sound of the verses of the Qur'an rather than sound or other music, reinforce the notion that a decrease in insomnia can occur [2].

Based on the study of Dian Sekartika elderly who given therapy Tartil Al Qur'an has better sleep quality. Sleep time of elderly respondents increased from an average of 4 hours to 5 to 6 hours. In addition, the time required to start sleeping becomes shorter ie the average of each respondent before therapy is given about 1.5 to 2 hours to half an hour to one hour after being given therapy Tartil Al Qur'an [2]. This is in accordance with research conducted by Suarnata that most of the elderly have decreased levels of insomnia after progressive relaxation therapy which benefits are not much different from the spiritual activities of insomnia treatment in terms of psychological [2]. Judging from the theory, the results of research and the results of related research then according to the researchers' analysis of the benefits of spiritual actions that are done in overcoming sleep restriction is the mind becomes calm, and will make the quality and quantity of sleep better so the body feels healthy.

D. Activities

Based on the results of research known that the spiritual activities undertaken by the nursing home is read Quran every Monday-Saturday at 09.00-11.00 pm and spiritual guidance is held every two weeks. These activities have been regularly fixed and have good benefits for the elderly.This result is consistent with Koenig et al's statement in one study, the researchers found that adult individuals who professed religion and spiritual flow and participated in religious activities reported better physical health, less depression, and better social support. Trust and confidence in a person is the most powerful resource for the healing processJudging from the theory and results of research, according to the researchers' analysis of spiritual activities held by the orphanage that the spiritual activities that have been carried out have been scheduled even held almost every day, and spiritual activities are very useful for the elderly.

Conclusions

A. Knowledge

· **Knowledge of Spiritual**

Based on the results of the research is known that the spiritual is the relationship between living things with something high (god), about religion, prayer, and know god, and religion according to the shari'a from god.

· **Knowledge of Sleep Disorder**

Based on the results of the study note that sleep break interruption is the inability to sleep due to frequent waking the night and hard to sleep the night so the lack of quality and quantity of sleep.

· **Symptoms of Sleep Disorder**

Based on the results of research can be known that states symptoms of sleep disturbance disorder is not usually to sleep again after waking at night and the body feels weak.

· **Causes of Sleep Disorder**

Based on the results of the study it can be concluded that the cause of the sleep break interruption that is by the perceived problems that cause anxiety that causes the mind disturbed.

B. Action

Based on the results of research can be dismpulkan that the spiritual action done in overcoming sleep break interruption is by closer to God by way of prayer, dhikr, pray, and recite the Qur'an.

C. Benefit

From the results of the research note that the perceived benefits of spiritual acts performed in overcoming sleep restriction is the mind to be calm, and will make the quality and quantity of sleep better so as to make the body feel healthy.

D. Activities

From the results of research known that the spiritual activities held by the orphanage in the form of pengajian and spiritual guidance, and spiritual activities have been scheduled to remain even held almost every day, and spiritual activities are very useful for the elderly both for physical and psychological.

List of abbreviations

REM : Rapid Eye Movement

NREM : Non Rapid Eye Movement

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Declarations

Authors' contributions

In this study the author as the main researcher. The author is directly involved in his own research ranging from retrieving preliminary data and looking at nursing home phenomena, room observation, selecting research samples, conducting in-depth interviews to conclude research results. The writing of the interview result and the reading of the result is done by the main researcher. The writing is all done by the first researchers. The second researcher in this study serves as a mentor in the research process as a supervisor in the research.

Authors' Information

Now the authors are continuing education of Postgraduate Program, Master of Nursing student, Faculty of Medicine, Brawijaya University.

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Thanks to the counselor who has guided this research to completion from composing proposals, composing interviews, to concluding research results.

Ethics approval and consent to participate

Not applicable

Consent for publication

The study was approved for publication in national and international journals

Availability of data and materials

Findings in this study can be published and can be used as supporting data in subsequent research. Researchers hope the publication results of this study may contribute to nursing practice particularly in gerontik nursing.

Competing interests

There was no conflict of interest in the study. This study was conducted purely on the grounds of wanting to develop how spiritual can overcome sleep disorders.

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THE EXPERIENCE OF THE ELDERLY WITH POST STROKE IN THE VILLAGE OF TRAJI SUB-DISTRICT PARAKAN TEMANGGUNG CENTRAL JAVA "ANALYSIS OF PHENOMENOLOGY"

Yafet Pradikatama Prihanto[1], Blacius Dedy[2], Windy Asih[3]

[1,2,3] Nursing School Of STIKES Immanuel Bandung
Yafet: yafetpradhika@gmail.com

Abstract

Background: Stroke is a disease caused by two things, namely blockage or rupture of blood vessels in the cerebral blood vessels. Clinical manifestations of stroke depend on which cerebral areas are experiencing a blockage or rupture of blood vessels. Experience any elderly who have had a stroke and is currently in post-stroke recovery phase or different, and it certainly was different nursing care delivery. The purpose of this study was to determine the post experience of elderly stroke.The specific objective of this study were a) Identify the experience of older adults with post stroke. b) Identify the experience of post workout Traji stroke elderly in the village. c) Identify the use of health care experience of older adults who have had a stroke and is currently in the process of healing. d) Identify the experience of post-stroke elderly diabetes management by the family.

Methods: The study use qualitative analysis approach to phenomenology. Participants in the study were six people consisting of three men and three women aged over 70 years with provision had experienced a stroke. Elderly in the village of Traji willing to be a participant without the slightest compulsion. Methods of data collection by in depth interview.

Results: Where the research conducted in the village of Waterford District Parakan Traji District Central Java. The results obtained five themes, namely: a) concerned with the current situation (post stroke). b) accept the current situation. c) physical exercise. d) lack of monitoring the health center. e) lack of knowledge of post-stroke diet.

Conclusions: Disclosure of the experience of elderly post-stroke may be useful for IHC Health Center in order to improve the performance of older adults can be monitored so that the health of the elderly. On further research can be used as reference material qualitative research.

Keyword : Eksperience, Eldery, Post Stroke

Background

According to WHO stroke is the clinical signs rapidly due to impaired brain function or global focal with symptoms lasting 24 hours or more which causes of death in the absence of other obvious causes other than vascular (1). Risk factors of stroke that can be modified are obesity, hypertension, cholesterol, heart disease, diabetes mellitus and emotional stress (4). Risk factors of stroke that cannot be changed are heredity, gender (men are most than women) and age (the higher the age, the greater the risk to be exposed to the disease stroke)

(2). The WHO survey of 2006 recorded 15 million people in the world suffer from stroke each year, of which 5 million of whom died and 5 million others suffered a disability due to a stroke. According to the National Stroke Foundation in 2010 in Australia approximately 60,000 new stroke occurrence or recurrence of stroke occur each year. Stroke as well as the third largest cause of death in the United States with the death toll reaching 143.579 thousands of people each year (5).

The incidence of Stroke in Indonesia according to the data of the basic health research results 2013 shows figures for the incidence of stroke 83 per 1000 inhabitants, and the stroke is the leading cause of death as much as 15.4% of the mortality rate in Indonesia. One factor that is closely related to the occurrence of a transient ischemic attack is a stroke (TIA), where the risk of ischemic stroke is high after experiencing TIA within 30 days and 90 days that is a 3-17.3% (4). Often the onset of TIA this doesn't look out for until finally a stroke (3). The highest stroke cases in Central Java province was in Semarang city namely of 3,986 cases (17.91%) compared with the total number of cases of Stroke in the county or other cities in Central Java (3). The overall number of cases compared to the incidence of other diseases in the city of Semarang, there is the proportion of 3.18%. While the second highest case is Sukoharjo Regency i.e. 3,164 cases (14.22%) and when compared with the total number of other diseases in Sukoharjo Regency is 10.99%.

In a society sick in July 2014 obtained in Clinics found that Traji in the village of Traji found seven cases of strokes, i.e didusun Coral Senen one man, Hillbilly Bon Gedhe Grogol village two people and four people. When done the interview with nurse Traji Clinic in October 2014 obtained data that the number of elderly who experience stroke are still remaining is just six people, one elderly in the hamlet of Karang Senen, two people in the hamlet of Bon Gedhe and three elderly people in Grogol Village. One elderly in Grogol village had died in August and September. According to Traji, a public health nurse elderly in Grogol Village died of coronary heart disease (Laporan Triwulan Puskesmas Traji, 2014).

Methods

The design used was qualitative research with study method of Phenomenology, the participants of this research is the entire elderly who have experienced stroke and is currently in the stage of healing in the village of Traji Sub-district Parakan Temanggung, Central Java. Method of data collection using in-depth interview technique by using open questions (7).

Results

In this study found 5 themes, namely the worry and fear with the current state, expressed by all participants, because the stroke elderly post less knowledge about disease processes. The second is the elderly post stroke received a State having already surrendered to God. The third theme that is doing physical activity such as the physiological needs of fulfillment for herself. The fourth theme is the elderly post stroke says that the lack of monitoring of the health officer about his health. The fifth theme is diet Knowledge is lacking, so that elderly post stroke ate the same with other family members who had never suffered a stroke.

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Theme 1

Worry and fear with the current state of diugkapkan by all participants. This is due to the stroke elderly post less knowledge about the disease process and how to stroke treatment. There are also elderly who fear if not get rid of the situation now. Stress-adaptation model according to (9) integrating aspects of biological, psychological, and environmental sosiokultural. When done the interviews, there is also an elderly former experience worry and fear with her condition after stroke, but due to the support of the family, then post this elderly stroke be not worried and stroke again, this proves that stress can be reduced in elderly stroke post due to psychological support from family and neighbors who always give morale.

Chronic diseases as optimal Koping ability to manage optimally the disease (6). Chronic disease sufferers with optimal koping feel comfortable to face, live and live with the struggle, suffering, struggle in the face of all the emotional situation in the course of his illness. Matura is a mechanism of Defense of a healthy adaptation of adult life (1).

Research results related to this research is the research Budianto 2005 entitled relationship of body image Anxiety in Elderly Elderly With RW 06 Kelurahan Krukut Subdistrict Limo, Depok. States that there is no meaningful relationship between body image anxiety with the elderly.

The fifth participant characteristics that are not yet causing matur proceedings against recovery after stroke is becoming a bit difficult, because the participants face a stressor with all diskonstruktif. It is caused by lack of knowledge due to the lack of information on the process of the disease and its treatment. Emotion focused coping is an emotional response and setting the situation full of stress (2). Individuals can manage the settings of the response his emotions with emotional support from seeking friend or family, the preferred activities. Other ways that can be used by individuals in the setting of his emotions is to think and give an assessment about a stressful situation. It is experienced by participants, namely 1 participant 3 had the support of his family, so the worries and fear of disease is reduced because of the feeling that there are care about the current situation. It can be concluded that the elderly post stroke feel scared and worried because of the less understood about the disease process and lack of support from his family, and there were no significant effects of the changes in body image against worries.

According to the opinion of the researcher, the biggest thing that meyebabkan the participant experience worry and fear is the absence of support from family or the people closest to you, and concerns were compounded by the lack of information lead to less knowledge about disease processes. Participants concerns can be associated also with the theory on as follows. Koping mechanism is a maladaptif work done in completing individual problems due to the stressor or pressure that is negative, detrimental and destructive and can not solve the problem completely (9).

Theme 2

In research conducted in-depth interviews, and found that 2 participants receive the current state of the grounds received because it was dipasrahkan unto the Lord, and there is no point if regret the pain that this has happened.

2 the participant resigned to God's will and against 1 person participants choose to be grateful for what was going on at the moment.

Self awareness or self conscious is the sensitivity to external events that affect one's life. In this process, the individual doing the initial assessment against environmental change or a stressful situation to determine the meaning of these events (9). The theory supports the theory of Berry (6) stating that the stressor was a situation, event, or any object that creates demands in the body and causes physiological reaction. Stressor can be a frustrating condition, pressure or conflict. Similar research is research Brigitta Imelda, in 2010 entitled Factors Affecting the incidence of falls in Elderly Stroke in Workhouses Tresna Wredha Sleman Yogyakarta also reinforces the fact that most of the elderly receive if the case is not as strong as it's been in the past and are prone to falling.

In this qualitative research the majority of the participants receive State experienced now, it proved they are grateful and resigned against the will of God. The results of this research are almost the same as the research belongs to Brigitta, the point is to accept his illness at this time. The relationship of the theory with which occurred in the participant is a participant already realize that her stroke, pain and all that has happened, then there is no point to regret. Therefore the participants choose to accept the current state of abandonment, against the will of God and be grateful for all that is experienced at this time. In theory it was also mentioned that a person who is long experienced the pain or pressure then after passing through some of the process then will experience the stages of acceptance. Can be drawn the conclusion that the results of these studies support the theory that there is, namely a State of physiological and environment can cause the perception of certain individuals.

According to the author, what the analysis carried out by the participants is already true, i.e., by accepting the current state, resigned to God's will then be grateful. It can make life feels easier traveled though the physical condition experienced weakness or distraction. Conversely, if the participants of the pain always complain over what happens then it can aggravate the pain because there is no motivation to recover.

Theme 3

In this qualitative study found that 3 participants per day doing physical activity as light as the roads in accordance with his physical ability, 1 participants do the physiological needs of fulfillment every day in accordance with the ability of her body like taking food and drink alone and do fulfillment needs eliminasinya, and 1 participant sport light streets in the morning but don't do it every day.

In theory it is said that some effort could be done by physiotherapists in addressing problems faced by sufferers of stroke among others in the form of heating, electrical stimulation, massage and exercise therapy, where this practice is useful in therapy to restore motion and functional ability. To utilize to the maximum possible capacity of the brain cells that are still in need of healthy exercises that in fact is the learning process again (2). While waiting for the occurrence and simultaneously spur cell repair brain cells, functional exercises are also aimed at preventing the onset of stiffness of muscles and joints thus achieved an alignment between the central level and improvements in the rights conditions muscles of locomotion (1). Active exercises on sick or

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paralyzed arm with the help of a healthy hand can improve awareness of the position of the arm (2). With the ability of brain repair after stroke as well as knowledge about the science of motion then introduce and teach functional movement will accelerate the return of patients to be able to do a functional movement of the back (1).

In a study conducted by Yudhi Eko Prastowo in 2008 entitled the identification needs of the daily activities In Elderly Stroke/Stroke HOSPITALS Post Kanjuruhan Kepanjen. The results of such research is the level of activity of everyday life (AKS) elderly stroke on a maintenance room in the PROVINCIAL HOSPITAL Kanjuruhan Kepanjen is 8% of the respondents on the level of dependency in the bath, while in dress, toileting, continence, switching, and eating at that level. As much as 92% of the respondents at the level of a functional dependency in all its activities, both in bathing, dressing, toileting, continence, and eat. When a given score independence then 8% are on a score of 1 means a self-supporting in five functions and depends in one function and 92% at 6 in a sense hanging in all six functions.

Research results belong to Yudhi Eco contrary to the results of this research. If in such research most of the elderly experiencing dependence in performing daily activities, and in this study it was found that elderly independent in conducting daily fulfillment. In this study it was found that participants do physical exercise every day not to use tools that are located in the basement of physiotherapy, remember all participants live in rural areas. So committed participants is doing light physical activity tailored to his physical ability. An example is the roads, do the physiological needs such as taking the fulfillment of eating and drinking, doing fulfillment needs of urine and fecal elimination even though it still was assisted by members of his family. According to the theory, the activities already carried out by the participant are correct, by reason of physical activity can prevent mild kontraktur muscle and nerve center of balance between the spur and the movement of the extremities. It can be concluded that although the elderly do not have the tools to do the workouts post stroke, but they still do light physical activities that suit her body, and this greatly affects the healing process of a stroke that had befallen him.

According to analysis from researchers, participants are already doing the right actions i.e. do light physical exercise in accordance with the ability of the body. Physical exercise this will menstimulus the nerves to work better and physical exercise can also prevent muscle kontraktur elderly with post stroke. If the elderly do not stroke the post activities then it will make the elderly feel limp, and will even cause dekubitus.

Theme 4

In this study it was found that three elderly post stroke says that during stroke pain there has never been a health worker or a nurse from clinics that visit him, when asked what the reason, elderly stroke is not megetahuinya post. 1 participant said that once visited by mantri who was near his home. His visit was to give guidance about the stroke, but the visit was long, and only once. The majority of participants also stated that come to Clinics or other health services only when pain only.

Foster community participation is not easy, it requires understanding, awareness, and community against penghayatan health problems of their own, as well as attempts at solving them. It is necessary for the health education community through organizing and community development. So the main approach proposed by Winslow in order to achieve the objectives of public health actually is one strategy or approach to health education. The next public health activities that include environmental sanitation, health education, disease eradication (hygiene), management (organizing) health services and the development of social engineering in order maintenance public health (5). Of the 5 areas of public health activities, including activities of 2 i.e. hygiene education activities and social engineering is concerned the activities of health education. Whereas the activities of the field sanitation, eradication of diseases and health services not just the provision of means of physical health and treatment facilities, but efforts need to be understanding and awareness to the community about the benefits and importance of efforts or the physical facilities in order maintenance, enhancement and restoration of their health. When not accompanied by efforts this then means the services or facilities are not or less successful as well as optimal.

Research results are berhubugan with the role of health centers in providing outreach or health education research is Clifford Dwi Natalia in 2008 entitled factors related to blood pressure on the elderly Hypertension Sufferers in Clinics Pembina Plaju Palembang. The results of his research are the elderly and the family in order to always keep a diet and lead a healthy life patterns, maintain weight, the importance of controlling blood pressure. and to health workers particularly in Clinics Pembina Plaju Palembang to always provide guidance and guidance in improving information on hypertension in the elderly group, complications and penanggulangannya.

In theory it is said that agencies should serve the community service society, one of them is doing extension and register anyone who is sick in the community and then figure out what the right profession to help resolve problems in the community. On the research of property Clifford Dwi Natalia also mentioned that the elderly should check regularly to Clinics so that his health was observed. Of the two explanations can be drawn the conclusion that the participants in this study did not examine on a regular basis can be caused because there is no guidance on the importance of check on a regular basis by the clinic. Participants also said that there is no health worker who came home to check on her condition. The relationship of the problems experienced by participants is probably not terpantaunya elderly post stroke in the village of Traji because the elderly have never check routine to the Clinics, so that existing community nurses at the Clinics did not know of the problems that were in his area.

The elderly post stroke does not incur the community nurse is caused by several things, the first is the elderly did not know about the functioning of health services, so the place need to be given guidance about the importance of place health services. The second cause is the elderly stroke is never coming to the clinic are routinely checked for the condition of fsiknya, so the chances of ill elderly this is not tracked by the Clinics, so Clinics considers that elderly residing in the area that his fine or no life-threatening health problems. The

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cause is not operation katiga program Posbindu or Posyandu elderly health centers. Health services one of which serves to organise (management) programs for community service (5).

Very reasonable if the elderly have never accosted by nurses because of the possibility of the existence of elderly ill post stroke are not tracked by the clinic. Would be even better if the family of the elderly initiative for health condition checked elderly residing at home.

Theme 5

In the study it was found that 2 participants diet or food is the same as the rest of the family, 1 participant materials in the same or a little food sekai does not contain salt, 1 participants eat food as his heart, and 1 participant the same before eating foods exposed to pain stroke. The majority of participants did not know about how food specifically for the elderly post stroke.

Food consumption patterns or dietary habits are human behavior in fulfilling his needs would include eating attitudes, knowledge, trust and the selection of food (1). Food consumption patterns or dietary habits is a variety of information that can provide information that can give you an idea about the amount, type, and frequency of food eaten every day by someone and is the characteristic for a specific community groups. Actual consumption patterns are not able to determine the nutritional status of a person or society directly, but can only be used as preliminary evidence will likely occurrence of malnutrition someone or society (9). Understanding different food consumption with nutrient adequacy. The consumption of a meal is something real, whereas the adequacy of nutrition is the content of nutrients contained in foodstuffs. The level of consumption of someone largely determined by the quality and quantity of food. The quality of food shows that there are all the necessary body nutrients contained in food, while the quantity of food shows the number of each of these nutrients to the needs of the body (8). Nutritious food is said to contain if enough food in quantity and quality in accordance with the needs of the body.

Research related to the elderly is diet study conducted by Adianto Sabi in 2003, entitled factors that affect nutrient intake and nutritional status of the elderly dipanti wredha pucang gading semarang. The results of such research is the result of the research shows that there is a meaningful influence of income, nutrition knowledge and acceptance rate menu, against intake of energy and protein intake.

In theory it is said that the pattern of food intake of elderly affected by several things, including the knowledge of the diet. In research belong Adianto Sigit also mentioned that the intake of energy and protein intake is dependent on several factors, such as knowledge. Both of these results strongly support the findings from this study i.e. the participants eat food the same as the rest of the family, eat as you wish and must not eat too much salt. Cause the participant to do that is because participants did not know about a special diet the right stroke. The conclusion that can be drawn in this theme is knowledge of special diets have an effect on a person's behavior in determining the types of foods that will be eaten.

It is extremely reasonable when elderly post stroke eating food the same as the rest of the family, eat your heart and even eat the same food at the moment before the pain. It was likely caused by a lack of information obtained by the elderly and elderly families with cases of post stroke. It would be better to mention in elderly stroke that hospitalized and was allowed to return home, his family was given an explanation first sports dietitian about diet post stroke right, so when at home or in the condition of post stroke elderly nutrition post stroke needs can be met effectively. The nurse's role here is as a facilitator and mediator between elderly family post stroke and a nutritionist.

Conclusions

Based on the results of research and discussion, it can be concluded that the participants have the experience that began when the participants experienced a stroke with a wide variety of signs and symptoms. The experience is the elderly are worried and frightened by the situation at the moment is not yet understood about how ill treatment of stroke, but after that the elderly post stroke, grateful and willing to accept the abandonment to God for what had happened at the moment. The existence of elderly post stroke in the village of Traji Sub-district Parakan Temanggung is not observed by community nurses who were in the clinic Traji, possibly this is caused by the elderly post stroke coming to Clinics only when sick, so nurses can monitor not community health.

Elderly food post stroke in the village of Traji also does not comply with diet post stroke because the elderly post stroke and his family did not know the correct stroke post diet. Post stroke in the elderly this research daily physical activity is already doing a light, gentle exercise and do physiological needs fulfillment that could be classified that the elderly do light physical exercise in accordance with his physical ability. Advice from the research is so Clinics are running again, so that the elderly Posyandu program health status of elderly post stroke can be controlled and live better.

List of Abbreviations

TIA : Trancient Ischemic Attack

Declarations

Authors' Contributions

All Authors participated in the design of the research. BD and WA performed the data

Authors' Informations

1Nursing student of STIKES Immanuel Bandung. 2Lecturer of Research Methodology in STIKES Immanuel Bandung, Indonesia, 3Lecturer of Gerontic Nursing in STIKES Immanuel Bandung, Indonesia.

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Ethics Approval and Consent of Participate

This study have ethical approving and under supervision of Head of community health center Traji, Temanggung, East Java Indonesia.

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Consent for publication

Not Aplicable

Avaibility of data and materials

Data may be shared with the contact email addres on the first author.

Consent Interest

The Authors declare that they have no competing interest

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THE RELATIONSHIP OF FAMILY SUPPORT WITH GANGRENOUS WOUND HEALING PROCESS OF DIABETES MELLITUS (DM) TYPE II PATIENTS IN COMMUNITY HEALTH CENTER OF DINOYO, MALANG

Yanti Rosdiana[1], Warsono[1], Okta Febi Krisdiana[2]
[1]Department of Nursing Sciences, UniversitasTribhuwana Tunggadewi, Malang, Indonesia
[2]Student of Department of Nursing Sciences, UniversitasTribhuwana Tunggadewi, Malang, Indonesia

Email addresses:
Yanti: yantirosdiana0@gmail.com
Warsono:sony_nita12@yahoo.co.id
Febi: feby@gmail.com

Abstract

Background: Gangrenous is one kind of complication that experienced by diabetes mellitus type II patients that has been decomposed, marked by blackish dead tissue and smelled because of bacterial activity. The role of the family in the gangrenous wound healing process is needed especially in providing material, information, instrumental and emotional supports.This study aimed to determine the relationship of family support with gangrenous wound healing process of Diabetes Mellitus (DM) Type II patients in Community Health Center of Dinoyo, Malang.

Methods: The research design was analytical observation using cross sectional approach. The population in this study was 30 patients of diabetes mellitus type II who were determined using total sampling method. Data collection techniques used a questionnaire that aimed to determine the level of family support, type of family support and stages of gangrenous wound healing process. Data analysis using Spearman Rank correlation test.

Results : The results showed that 27 respondents (90.0%) received good family support and 26 respondents (86.7%) were at the wound regeneration stage. Spearman Rank correlation test results significant correlation (0.002< 0,050).

Conclusions : This research concluded that there was a significant relationship between family supports with gangrenous healing process of diabetes mellitus (DM) type II patients in Community Health Center of Dinoyo, Malang.

Keywords: Family Supports, Gangrenous Wound Healing, Diabetes Mellitus Type II, Malang

Background

Diabetes Mellitus (DM) is a chronic disease that occurs when the pancreas does not produce enough insulin or when the body could not effectively use the insulin [1]. Diabetes Mellitus (DM) patients worldwide are around 422 million people in 2014 [2]. Data of Indonesian Basic Health Researches showed that the

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prevalence of diabetes mellitus patients in East Java is 2.1% or categorized as the fifth highest prevalence in Indonesia [3]. DM II has physical, psychological, social and economic complications. Physical complications such as eye damage, kidney damage, heart disease, high blood pressure, stroke even to cause gangrenous [4].

Diabetic gangrenous is a decayed and widespread diabetic injury, characterized by dead blackish-colored tissue and smelly due to bacterial decomposition [5]. Factors that affect the occurrence of diabetic ulcers or gangrenous are bad management of the foot, the presence of neuropathy, vascular complication that make worse blood flow to the wound, decreased immune response, and low knowledge about gangrenous.

Family supports have a significant role in wound healing of gangrenous patients. Family supports have four dimensions include emotional supports, award supports, instrumental supports and informative supports [6]. Previous studies showed that the higher family support resulted higher self-esteem of diabetic ulcers patients. Other studies had also shown that family support greatly influenced the level of behavior in the management of type 2 diabetes mellitus in both good and sufficient categories.

The role of the family for patients with type 2 DM is helpful in the healing process of gangrenous wounds because the family plays an important role to monitor the patients' check up schedule. The family also helps patients in supporting their efforts to do DM-related treatments such as diet settings, drug-taking arrangements and providing treatment-related information such as by using traditional plants that could lower blood sugar levels and for wound care [7].

Methods

This research used correlational descriptive design with cross sectional approach. This study correlated the relationship of family support to the healing process of gangrenous wound in type II DM patients. Population was 30 people of type 2 DM patients in community health center of Dinoyo, Malang. Sampling was chosen using non-probability sampling technique with total sampling approach.The data was analyzed using Spearman Rank correlation test.

Results

General Characteristics of Participants

The participants were equal for women and men. Most of them were 40-49 old years. The level of education was mostly junior high school. They had already experienced diabetes mellitus for 2-4 months. The average blood glucose level was 145-179 mg/dl(Table 1)

Table 1. General Characteristics of Participants

No.	General Characteristics		n	%
1.	Age	40-49 years old	14	46
		50-59 years old	11	37
		60-69 years old	5	17
2	Sex	Male	15	50
		Female	15	50

3	Level of Education	Elementary School	5	16,7
		Junior High School	12	40,0
		Senior High School	9	30,0
		Bachelor Degree	4	13,3
4	Period of Diabetes Mellitus	2-4 months	16	53,4
		5-6 months	9	30
		>6 months	5	16,6
5	Blood Glucose	110-144 mg/dl	11	36,67
		145-179 mg/dl	16	53,33
		>180 Mg/dl	3	10

Family Supports

The type of family supports was displayed below. Most of patients received good supports from their family in all dimension of supports (Table 2).

Table 2. Types of Family Supports

No.	Family Supports		n	%
1	Total Family Supports	Worst	0	0
		Bad	0	0
		Enough	8	26,7
		Good	22	73,2
2.	Assessment Supports	Worst	0	0
		Bad	0	0
		Enough	8	26,7
		Good	22	73,3
3	Instrumental Supports	Worst	0	0
		Bad	0	0
		Enough	3	10
		Good	27	90
4	Information Supports	Worst	0	0
		Bad	1	33,3
		Enough	7	23,3
		Good	22	73,3
5	Emotional Supports	Worst	0	0
		Bad	0	0
		Enough	2	93,3
		Good	28	93,3

The relationship of Family Supports and Gangrenous Wound Healing Process

Most of the participants (90%) received good family supports and this influenced their wound healing process, thus they were already in wound regeneration phase (76.7%). There was a significant relationship of family supports and gangrenous wound healing process ($p<0,005$). This relationship was moderate enough ($R= 0,551$) (Table 3).

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Table 3. The relationship of Family Supports and Gangrenous Wound Healing Process

		Stage of Gangrenous Wound Healing Process			Total	*p*	*R*
		Normal Tissue	Wound Regeneration	Wound Degeneration			
Family Supports	Worst	0 (0,0%)	0 (0,0%)	0 (0,0%)	0 (0,0%)	0,002	0,551
	Bad	0 (0,0%)	0 (0,0%)	0 (0,0%)	0 (0,0%)		
	Enough	0 (0,0%)	3 (10,0%)	0 (0,0%)	3 (10,0%)		
	Good	4 (13,3%)	23 (76,7%)	0 (0,0%)	27 (90,0%)		
Total		**4 (13,3%)**	**26 (86,7%)**	**0 (0,0%)**	**30 (100%)**		

Discussion

The results of the study showed that 22 participants (73,2%) received good family supports of total family supports in all dimension of supports. Family supports has four dimensions include emotional supports, award supports, instrumental supports and informative supports[6].Most of the patients received good emotional supports (Table 2). This kind of emotional supports such as family always remind patients to take medicine and control the blood sugar regularly. The emotional support provides a feeling of comfort, a feeling of being loved, supports in giving spirit, empathy, confidence thus patients have higher feeling ofselfvaluable [6]. For the instrumental supports, 27 participants (90%) received good family support which the family provides finance supports for patients [8]. As many as 22 participants (73.3%) received good assessment and informational support. Patients get help to take care their daily matters from the family easily.

Most ofparticipants (86.7%) had already in phase of wound regeneration in wound healing process. It was observed from the size of wound, depth of wound, wound edge, exudate type, exudate number, skin color around wound, edematous tissue, granulated and ephitalized tissue. One factors that associated with gangrenous healing process is age. The older patient, the longer of wound healing process takes place. This is influenced by decreased skin elasticity and differences in collagen replacement that affect wound healing [9]. In this research, 46% respondents were in 40-49 years. Another factors that may affect wound healing process was DM status of patients. There were 53,4% respondents had suffered from DM for 2-4 months. This showed that diabetes mellitus could make the healing process goes slower. Patients need to have sufficient knowledge about diabetic nursing therefore the other factors that may affect gangrenous wound become worse could be avoided.

Statistical analysis using Spearman rank correlation test showed that there was significant correlation between the relationships of family supports and gangrenous wound healing process ($p< 0.05$). Good family supports is likely to accelerate the healing process of gangrenous wound such as controlling patients' medication administration on time, make sure to prepare healthy foods with less sugar and fat levels, and always regularly control patients' blood sugar.

The results of this study were supported byprevious study[6]. Family supports for wound care is strongly affecting gangrenous wound healing in patients with type 2 DM because family has an important role in determining the health status of individuals who experience pain or illness. Family

supportscould make the individuals feel comfortable both physically and psychologically. Good family supports will result in patients' peace of mind, give life spirits that improve the efficiency of the immune system and speed up the healing process of the wound.

Conclusions

This research concluded that there was a significant relationship between family supports with gangrenous healing process of diabetes mellitus (DM) type II patients in Community Health Center of Dinoyo, Malang.

List of abbreviations

DM: Diabetes Mellitus

Declarations

Authors' contributions

All authors in this paper had already work equally, started from research process until writing this submitted research article.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

The original data was authorized only by the authorsto keep this information still confidential.

Competing interests

There are no conflicts of interests in this research.

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EFFECT OF COMPLEMENTARY THERAPY: MASSAGE THERAPY ON PAIN AND ANXIETY IN CANCER PATIENTS: A LITERATURE REVIEW

Yhummei Veronia Frasia

Master of Nursing Student, Faculty of Medicine, Brawijaya University, Malang, Indonesia
Yhummei: meinurhayati16@gmail.com

Abstract

Background: Cancer is a disease becomes a serious health problem in the world. Physiological problems due to cancer can cause psychological disorder that can decrease the quality of life of cancer patients. Medical treatment accompanied with complementary therapy for cancer patients expected to improve the quality of life of patients. Massage therapy is a complementary therapy that safe used to help manage symptoms of cancer or side effects of conventional cancer therapy in cancer patients.A literature review was undertaken to provide a review of studies on the effectiveness of massage therapy to manage pain and anxiety of cancer patients.

Methods: A literature search of the international literature published from 2007 through 2017 was performed in electronic databases (ProQuest, PubMed and Google Scholar) using the keywords complementary therapy, massage therapy, pain, anxiety and cancer.Inclusion of studies was not limited to studies of adults patients with cancer but also in childrenand adolescent with cancer.

Results: There are many studies examined massage therapy as palliative therapy to enhance relaxation in cancer patients. Ten studies have been reviewed to examine the effectiveness of massage therapy in reducing pain and anxiety in cancer patients. Review of several studies have shown there is a significant difference between the perception rates of cancer pain before and after the massage therapy. Patients reported that pain was reduced and feel more relaxed after the massage therapy. The patient's average pain scale before the massage therapy is a severe pain scale and then the pain scale decrease to a mild pain scale after the massage therapy.

Conclusions: Massage therapy evidently effective and safe for reducing pain and anxiety in children,adolescentand adult patients with cancer. Based on the studies have been reviewed, massage therapy as a non-invasive therapy if it done carefully and appropriate can improve the health status of adult and children with cancer so that improve their quality of life. However, massage therapy can only provide short-term benefits to psychology well-being in reducing pain and anxiety in cancer patients. Massage therapy can be one of the necessary therapy in cancer management to improve the quality of life of cancer patients.

Keywords: Complementary therapy, massage therapy, pain, anxiety, cancer

Background

Cancer is a disease becomes a serious health problem in the world. Cancer can attack any individuals of various ages ranging in age from young to old age and gender of both men and women. World Health Organization (WHO) states that cancer is the second leading cause of death in the world. In 2015 was

reported that 8.8 million people died from cancer [14]. The number of cancer death give an overview to each individuals in particular health practitioners that cancer patients should get the right therapy and in accordance with the conditions of the patients.

Cancer patients not only experience physiological disorders such as pain but can also experience psychological disorders such as anxiety. Anxiety can caused by the cancer progresses, cancer treatments such as chemotherapy or declining health conditions so that can make the cancer patients think about the bad things that will happen to their health and caused less passion in live day to day[12]. The condition can lead to decrease the quality of life of cancer patients so that needed therapy that can improve the quality of life of cancer patients.

Pharmacotherapy using analgesics is a major therapy for managing pain in cancer patients [8]. Pharmacotherapy is a major therapy for managing cancer pain but to reduce anxiety and increase the comfort of the patients needed a complementary and alternative medicine (CAM) that can help improve the quality of life of cancer patients [11]. A complementary therapy is part of the nursing care so that the nurse can provide a complementary therapy as a complement to medical therapy to help manage symptoms of cancer or side effects of conventional cancer therapy such as pain and anxiety to improve the quality of life of patient. One of complementary therapy which can be used in nursing care to reduce pain and anxiety in cancer patients is massage therapy.

Massage therapy is a complementary therapy that safe used to management pain and anxiety in cancer patients. Many studies examined massage therapy as palliative therapy to enhance relaxation in children, adolescent and adult cancer patients. The aim of this literature review was to undertaken to provide a review of studies on the effectiveness of massage therapy to manage pain and anxiety of cancer patients.

Methods

A literature search of the international literature published from 2007 through 2017 was performed in electronic databases (ProQuest, PubMed and Google Scholar) using the keywords complementary therapy, massage therapy, pain, anxiety and cancer. Inclusion of studies was not limited to studies of adults patients with cancer but also in children and adolescent patients with cancer.Selection has been made based on the suitability of the title of the article with the purpose of literature review found 1.977 articles then select the articles to be conducted literature review that was specific to the influence of massage therapy on pain and anxiety in cancer patients so that obtained 42 articles. Ultimately,ten articles were selected to be analyzed.

Results

Characteristic of the Participants

Ten selected studiescomprised a total ofn=2.185 children, adolescent and adult cancer patients who are not or currently undergoing treatment (chemotherapy, biotherapy infusions, antibiotics, corticoid steroid therapy and radiotherapy). The tenstudies were analyzed included both female and male patients

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with an age range of 16 to 83 years old. Diagnoses of cancer of these studies are breast cancer, upper gastrointestinal, colon, gynecologic, hematologic, chronic lymphatic leukemia, head and neck, urological, lung, brain, skin and also patients diagnosed with bone metastases.The selected studies were conducted in United Kingdom, Germany, Japan, Taiwan, Indonesia and five other studies were conducted in the USA.

Massage Therapy Intervention

The average time required in performing massage therapy ranges from 10-30 minutes. Children, adolescent and adultcancer patients who were participants in this different studies were full body or partial body massage (legs and lower legs, arms and forearms or both) and some studies performed aromatherapy massage. The types of massage therapy used in this study are classical massage therapy, Swedish massage therapy including efleurage (gliding stroke), petrissage (percutaneous), percussion (tap with fingertips, palms, fists, or hand side), compression (constant pressure with hand or boxing), and friction (circular or vertical movements with fingertips) (blood disease in children), Massages Swedish Western Traditions, Eastern Traditions and Shiatsu. Massage interventions include mild, soft, petrissage efleurage and myofascial point release. Aromatherapy used in the studies are career oil and essential oils such as jojoba oil, sweet orange oil, lavender oil and sandalwood oil.

Effect of Massage Therapy for Reducing Pain and Anxiety

These ten studies provide results that massage therapy is helpful in reducing the pain after each therapy. Findings from several studies conducted show the benefits of massage in enhancing physiological relaxation and reducing anxiety and pain. A study conducted to determine the effect of massage therapy on cancer pain in pediatric patients showed that the pain intensity experienced by children decreased after each massage session ($p<0.001$) in which pain intensity was measured by Visual Analogue Scale (VAS) (Batalha & Mota, 2013). Massage therapy can reduce the psychological and physical pressure so it can have a positive effect on the quality of life of children with cancer and blood disease[3].

Massage therapy also has a beneficial effect on pain in patients with advanced cancer. This study shows that massage therapy is more effective than simple touch in reducing pain soon after therapy[7]. Both adult and child patients reported that they did not feel the side effects of massage therapy. Cancer patients in Taiwanese studies with bone metastases reported no side effects from massage therapy[5]. Patients receiving massage therapy while chemotherapy and infusion of biotherapy also reported that there was no negative effect of massage therapy.

Cancer patients receiving hand or foot massage therapy for 20 minutes during chemotherapy or infusion of biotherapy reported high levels of satisfaction and pain, fatigue, nausea and anxiety were reduced[9]. Studies conducted on patients undergoing radiation therapy in which patients received a massage therapy 15 minutes before radiation therapy and after massage, the patient's anxiety score was significantly reduced (by 43%) compared with anxiety scores before the massage therapy was performed[10]. The patient

experienced an anxiety reduction of 20% between the first and last radiotherapy sessions in which anxiety was measured with The State-Trait Anxiety Inventory (STAI).

Massage therapy has been shown to be effective in reducing anxiety within 15-20 minutes after intervention. The average pain rate of cancer patients is in moderate to severe pain but after the therapy the pain massage is reduced to mild pain even some patients report not feeling pain. Studies conducted to determine the effect of hand massage on pain in breast cancer patients in Indonesia showed that the average pain before the intervention measured by Numeric Rating Scale (NRS) is 5.09 and the average pain after the intervention is 3.09[2].

Several studies have also used aromatherapy in addition to massage therapy. Cancer patients who received massage therapy with aromatherapy reported a sense of comfort and anxiety decreased immediately after receiving massage therapy. The results showed that anxiety was reduced within 30 minutes after the massage therapy with The State-Trait Anxiety Inventory (STAI). Aromatherapy massage was not useful in reducing anxiety and depression in cancer patients in the long term that was 10 weeks after the massage therapy. Anxiety and depression reduction showed significant results at 2 weeks after the massage therapy[4].

The other study was to assess of the effects of classical massage therapy on depression, mood, stress, and Th1/ Th2 immune balance in breast cancer patients showed that the concentration of cytokines and Th1/ Th2 ratio did not different significantly between the intervention group and the control group despite a slight shift Th1 in breast cancer patients who get classic massage therapy all the time [6]. Breast cancer patients who received classic massage therapy reported that depression and anxiety decreased soon after a massage therapy measured by the Perceived Stress Questionnaire (PSQ) and the Berlin Mood Questionnaire (BFS). Massage therapy remains an efficient treatment for reducing depression in breast cancer patients.

Discussions

Massage therapy is proven to reduce pain and anxiety in patients with cancer of children, adolescents and adults while not undergoing or undergoing conventional cancer therapy. Massage therapy is performed by a licensed therapist who has had approximately 6 months of experience in treating advanced cancer patients. The average sickness of cancer patients before the massage therapy is done in the severely ill after finished massage therapy was ill while the patient did not get sick immediately after the massage therapy. Gentle massage, calm atmosphere and easy therapist that feels more comfortable. Massage therapy accompanied by aromatherapy adds to patient comfort so that anxiety was reduced.

A study in Germany conducted by Krohn et al., (2011) to investigate the effects of classical massage therapy on depression, mood, stress, and Th1/ Th2 immune balance in breast cancer patients showed that after the patient's blood was taken, the results showed that the concentration of cytokines and Th1/ Th2 ratio did not show a significant change between cancer patients who received classical massage therapy with the control group. However, breast cancer

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patients who received the classic massage therapy reported that they feel very comfortable immediately after a classical therapeutic massage for 30 minutes. Although there is no significant change in cytokines and Th1/ Th2 ratio, regular massage therapy can provide positive benefits and help to overcome fatigue and anxiety in cancer patients.

Massage therapy did not provide benefits to the reduction of pain and anxiety for a long time. Research conducted by Imanishi, Kuriyama, Shigemori, Watanabe, Aihara, Kita & Kawase(2009) was to assess the effect of massage therapy with aromatherapy in cancer patients showed that aromatherapy massage therapy did not help in reducing anxiety and depression in cancer patients within 10 weeks after the massage therapy. Anxiety and decreased depression showed significant results at 2 weeks after the massage therapy. Although not showing a decline in anxiety for a long time, massage therapy still provides benefits to anxiety reduction in cancer patients immediately after a massage therapy is evidenced by a patient report stating that pain and anxiety are reduced.

Massage therapy techniques include effleurage (smooth gliding movements intended to evoke the relaxation response), petrissage (lifting, squeezing, wringing, or kneading of soft tissues to stimulate deep muscle and to increase circulation), friction (penetrating pressure with fingertips to reduce Muscle spasm), and tapotement (rapid striking to stimulate tissues) [10]. Massage therapy by giving a touch and a gentle pressure on the skin can provide stimulus to the brain and nerves in the body so can make patients feel comfort. Physical conditions affect the psychological condition of the individual where the massage therapy can help reduce pain and anxiety in cancer patients so that patients have good psychological conditions that can provide a positive effect on the physical condition is expected to improve the quality of life of cancer patients.

Conclusions

Many research has been done to assess the effectiveness of massage therapy on decreased pain and anxiety in cancer patients. The results shown that massage therapy is safe, effective and no negative effects for reducing pain and anxiety in cancer patients. However, massage can only provide short-term benefits to psychology well-being in reducing pain and anxiety in cancer patients. Massage therapy very benefical fornurse in providing comprehensive nursing care in patients with cancer and can be one of the necessary therapy in cancer management to improve the quality of life of cancer patients.

Declarations

Authors' contributions

Author is the only one person who reviewed and write this article based on scientific literature.

Authors' Information

Author is a nursing master student who has attention to health problems such as the quality of life of cancer patients so the author was interested to review of complementary therapeutic literature to improve the quality of life of cancer patients.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

There was no statistical data to be shared. Data was collected from journal articles. If the data would be cited please contact the author.

Competing interests

There is no conflicts of interests here

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THE EFFECT OF SOY MILK ON THE NUMBER OF FOAM CELLS IN THE AORTA OF RATS FED WITH A HIGH-FAT DIET

Yulia Candra Lestari[1], Titin Andri Wihastuti[2]
[1] Master of Nursing Student, Faculty of Medicine, Brawijaya University, Indonesia
[2] Faculty of Medicine, Brawijaya University, Indonesia

Yulia: yulia.candra91@gmail.com / 082132779122

Abstract

Background: Patients with Coronary Heart Disease are increasing every year. Potential of soy that containing flavonoid as antioxidants can inhibit the process of atherosclerosis. The purpose of this research was to determine the effect of soy milk to decrease the number of foam cells in the aorta of rats fed with a high-fat diet.

Methods: The design used was true experimental research conducted in vivo. The research sample used was norvegicus strain Wistar rats aged 12 weeks, weight 150 grams. The total sample of 25 rats was divided into 5 groups. Negative control group with normal diet, positive control group with a high-fat diet, the groups treated with a high fat diet and soy milk 3 dose variations of soy milk 0.81, 1.62 and 3.24 grams. All of the sample Treated for 90 days while 14 days of acclimatization. After the treatment, the rats were sacrificed to be taken its aorta. The method of staining is with Oil Red O and Hematoxilen Eusine (HE).

Results: Foam cell aorta subendothelial was calculated with 400x magnification microscope, and was analyzed with statistical test One-Way ANOVA. The result was soy milk affected to number of foam cells, positive control group had significant difference with a group of soy milk dose of 0.81 grams and 1.62 grams. While the dose group of 3.24 grams of soy milk was insignificant compared to the positive control group ($p = 0.160$). There were no significant differences between dose groups compared to negative controls 1.62 ($p = 0.339$) which means that it could reduce the number of fom cells close to foam cell number on negative control group.

Conclusion and Recommendation : The existence of natural flavonoid antioxidant in soy milk could inhibit the formation of foam cells. Suggestion for further research to use other kind of diet.

Keywords: Foam Cell, Soy milk, Flavonoids

Background

Degenerative disease which is the leading cause of death in the world is coronary heart disease (CHD) and blood vessels, known as Cardiovasculardiseas.The latest data from the WHO (World Health Organization) says 12.2% of all deaths are due to coronary heart disease[1.] WHO estimates that the number of coronary heart disease will increase to 23.6 million by 2030. National Prevalence of diagnosed coronary heart disease is based on interviews of doctors in Indonesia amounted to 0.5%, and based on physician

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diagnosis or symptoms of 1.5%. While the prevalence of coronary heart disease in East Java based interview doctors diagnosed at 0.5%, and based on physician diagnosis or symptoms of 1.3% [2].

The main cause of CHD is atherosclerosis, which is a form of hardening of the arteries by a plaque and cause lesions, of which in turn causes a buildup of fat, calcium and connective tissue. The etiology of atherosclerosis is multifactorial but there are various circumstances that atherosclerosis is closely related to genetic factors / family history, peripheral vascular disease, age, male sex, smoking, dyslipidemia, hypertension, obesity, diabetes, lack of physical activity and menopause [3]. The main atherosclerosis risk factors are dyslipidemia. One indication of this is the increase in blood cholesterol levels (hypercholesterolemia). Hypercholesterolemia is a metabolic disorder that is caused by fat blood cholesterol levels that exceed the normal limits, the normal range of cholesterol in humans 120-240 mg / dl[4].

Hypercholesterolemia can be caused by genetic factors, age, sex and food consumption patterns. Consumption of foods containing high cholesterol can lead to increased levels of total cholesterol and LDL (Low Density Lipoprotein) in the blood. Cholesterol in the blood is attached to the walls of blood vessels to penetrate further LDL through the blood vessel wall endothelial cell layer, into the vascular intima layer. The next stage will be oxidized LDL. Adhesion of monocytes to endothelial surfaces (both intact and existing injury) and then migrate to the intima of the artery or aorta. Monocytes are already included in the blood vessel and then activated into macrophages. Lipid especially LDL, which is stored in blood vessels and has been oxidized (oxiLDL) was then taken up by macrophages and this incident that started bentukannya cellfoam.The blood vessels will become very narrow and hardens by cholesterol plaques will eventually cause a total blockage known as atherosclerosis[5].

One of the processed soy products are much in demand is soy milk. Soy milk is a result of extraction by water, soy milk has a high nutritional content of one of them is the polyphenols. The content of polyphenol compounds include flavonoids and Isoflafon. Flavonoids and isoflafon very effective for use as an antioxidant. Flavonoid compounds can prevent cardiovascular disease by lowering the rate of fat oxidation. Flavonoids have the ability as an antioxidant that can neutralize free radicals. These compounds can provide hydrogen atom, the addition may block the oxidation reaction at the stage of initiation and propagation. The process to inhibit the oxidation of LDL becomes oxidized LDL which will then become foam cells after binding with the scavenger receptor-A found in macrophages, presence of antioxidants to prevent the oxidation of LDL becomes oxidized LDL so as to minimize the formation of foam cells[6].

The role of nurses in primaryprevention,nurses need to provide interventions in prevention efforts. Given the potential of the soybean large enough, it will be very beneficial to the community if it is done by microscopic experimental research related to the benefits and effects of soy in lowering cholesterol levels and inhibit the formation of foam cells in experimental animals were given a high fat diet. The content of the soybean such as isoflavones, antioxidants, unsaturated fats, and high in protein is predicted to influence the decline in Foam Cell.

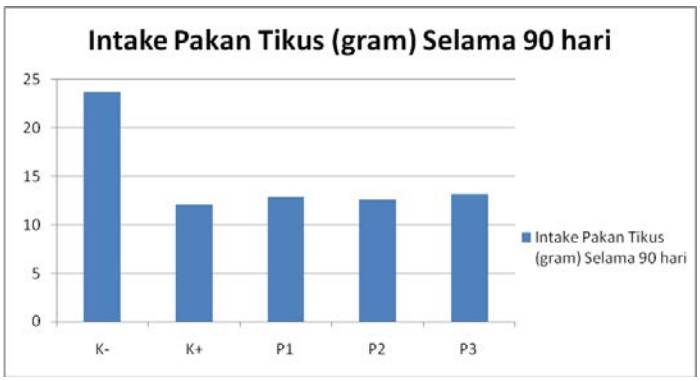
Methods

True experimental research design carried out in laboratories in vivo. Rat study sample hundred norvegicus Wistar strain aged 12 weeks with a weight of 150 grams. The total sample of 25 rats were divided into 5 groups. Negative control group with normal diet, the positive control group with a high-fat diet, the group treated with a diet high in fat and soy milk 3 variations doses of 0.81, 1.62 and 3.24 grams. Treatment for 90 days with 14 days of acclimatization. After the treatment, the rats were sacrificed for tissue taken aorta. Staining method with Oil Red O preparations and Hematoxilen Eusine (HE). Foam cell aortic subendothelial numbered with 400x magnification microscope, the data were analyzed bystatistical One-Way ANOVA

Results

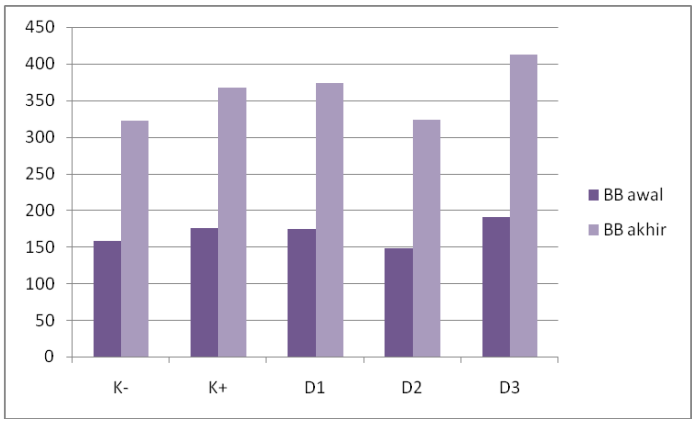
The results of this study are presented in the form of charts and tables covering data feed intake, weight gain and the average number of foam cells

Figure 1 - Intake feed Rats



From the graph above it can be seen that the average intake of feed for 90 days in the negative control group or the group with normal diet which is 23.76 grams / day. For the positive control group and the treatment group were given a high-fat diet on average feed intake per day for 90 days was similar in each group. The positive control group 12.04 grams / day, dose treatment group 1 (P1) of 12.8 g / day, dose treatment group 2 (P2) 12.62 gram / day and the dose treatment group 3 (P3) of 13.2 g / today, this group is a group with dietary intake of fat tiggi highest compared with other groups.

Figure 2- Improved Weight



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Can be seen an increase in the average weight in all groups. Weight changes of mice receiving end of a normal diet 165.25 grams, positive control mice were given a high-fat diet had an average increase in weight is higher than normal diet which is 191.50 grams. Mice dosage of 1 (P1) have an average weight gain is higher than mice positive control group of 200 grams, the rats group dosage of 2 (P2) have an average weight gain lowest among the other groups were given a diet 175.75 grams of fat are high. Rats 3 dose treatment group had an average weight gain higher than most other groups, namely 289.5 grams.

Table 1. Average Number of Foam Cell

P3	P2 Dose 2	P1 Dose 1	K + control positive	K- negative control	group
26	9.75	23.25	30.5	6.75	Mean
104	39	93	122	27	Sum
± 5.47	± 3.86	± 4.85	± 4.43	± 2.06	St. Defiasi
34	15	28	35	9	Max
22	6	17	25	4	Min

Test results Test of normality obtainedvalue of significancy p = 0.154, then the distribution of the data of all groups normal.

Tests homogenity of variances seen that p = 0.458. Means that there is no difference between group variance of data were compared. In other words, the data is the same so that the variance ANOVA test requirements are met.

H0 This study is not a significant difference between the groups in the study. With p <0.05 in the ANOVA test H0 this study was rejected.analysis followed by a Post hoctest that aims to determine which groups differ significantly from the results of tests One-Way ANOVA using test Least Significant Difference(LSD)

Table 2. The results of LSD testthe number of foam cells

P3	P2	P1	K +	K-	p-value of
0,000	0,339	0,000	0,000	-	K
0.160	0.000	0.031	0.000	to	K +
0.380	to 0.000	0.031		0.000	P1
0,000	-	0.000	0.000	0.339	P2
-	0.000	0.380	0.160	0.000	P3

From these points can be concluded that the provision of a high-fat diet for 90 days led to an increase in the number of significant cell foam. However, with coadministration of soy milk in various doses in rats given a high-fat diet, showed a decrease in the number of foam cellsin the aorta significantly in the

treatment group P1 and P2 (p = 0.031, p = 0.000). And there is a difference that was not significant (p> 0.05) between the treatment groups P2 with the negative control group (K), meaning that there is a decrease in the number of foam cells of the group given a dose of soy milk a dose of 2 to nearly the number of foam cells in the negative control group.

Discussions

Total Foam Cell with normal diet

results of counting the number of foam cells from the negative control group of cells is P0 = 6.75, which is thenumber of foam cells fewestbetween the number of foam cells of five treatment groups. In the group of mice with a normal dietthe lowest amount of foam cell is4 foam cellin one slice of the aorta, while thenumber of foam highestcells in this group is the 9 foam cellin 1 slice aorta. From the statistical analysis it is known that there is a significant difference (p <0.05) between kelompk negative control (P0) with the positive control group (P1) and the treatment group (D1 and D3). But there are no significant differences in dose treatment group 2 (D2). The number of foam cellsin the treatment group only slightly negative due to the P0 group was not given a high-fat diet, but only given a normal diet alone. Because the intake of foods that do not contain a lot of fat, do not occur hypercholesterolemia and atherosclerosis, so the number of foam cells formed is not as much as in the group given a high-fat diet. Under normal circumstances free radicals still produced physiologically but can be neutralized by endogenous antioxidants (super oxidant dismutase, catalase with glutathione peroxidase) so that the formation of free radicals that can only be prevented and free radicals amended, so as to reduce the negative effects of radical against LDL oxidation will cause the formation of foamcells.Results of research conducted by Wijaya in 2011 showed the results of the number of foam cells in the normal diet group was the group withnumber of foam cells the lowest[7].

In the group with normal diet they form foam cells,this is because the etiology offormation foam cell or part of the complex process of atherosclerotic lesions, among which hyperlipidemia, high cholesterol, habits, lifestyle, and age factors. In this study, factors suspected to causeformation process foam cell is age. Babior has been researching on the blood vessel age factor to the formation of atherosclerotic lesions, reported that atherosclerotic lesions begin to occur at a young age. Age affects the reactivation ofincrease endothelium-dependentnitrovaskuler which led to reduced power muscle relaxation. In addition, from the emergence of free radicals on the endothelial cells that aging leads to increased lipid oxidation. If the concentration of fat in the blood, will happen lipid deposition in the blood vessels and can increase the risk offormation. foam cellAging endothelial cells also cause disruption of endothelial cell function as a vasodilator, anti-inflammatory and a number of other roles. If prolonged, may result in endothelial dysfunction tahapa the beginning of atherosclerotic lesions (lesions initial) [8].

Total Foam Cell In Rats Aorta High Fat DietWith

Resultsthe counting of the number of foam cells in the treatment group positive (P1) has the highest score is the average of 30.5 cells. In the group of

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mice with high-fat dietthe lowest amount of foam is25 foam cell-cellin 1 slice of the aorta, while thenumber of foam highestcells in this group was 35 foam cells in 1 slice aorta. From the statistical analysis it is known that there is a significant difference ($p < 0.05$) between the positive control group with a negative control group and the treatment group D1, D2. The number of foam cellsmuch in the positive control group caused by the provision of a high-fat diet every day for 90 days. Results of research conducted by Wijaya 2011menunjukkan result the number of foam cells in the group with atherogenic diet is the group withnumber of foam the highestcells.Lipid profile ascension process, lipid as material foam-forming cell, in the sample (positive control) known to be initiated throughprocess the intake diet atherogeniccontinuously. intake Cholesterolwill be circulated in circulation and diuptake by LDL then play a role in the process formation foam cell in pathogenicity atherosclerosis[8].

High-fat diet containing a lot of fat intake comes from the addition of cholesterol, lard and cholic acid in foods and may induce the occurrence of hypercholesterolemia-emia. Hypercholesterolemia later resulted in the oxidation of LDL, LDL conformational changes that are more susceptible to oxidation and increased production of vascular O2, oxidized LDL (oxLDL) can promote the formation of inflammatory processes through the activation of cytokines and inflammatory mediators which in turn can enable the production of free radicals (ROS). Oxidized LDL (ox-LDL) which are in sub-endothelial then difagosit by macrophages and develop into foam cells (foam cells). Foam cells are formed could lead to inflammation further, oxidative stress, production of cytokines, chemokines, and growth factors that can lead to dysfunction of the blood vessels to lesions of atherosclerosis worse

Total Foam Cell In Aorta Rat Group By Giving Diet High Fat and Soybean Milk

In this research can be seen there is no significant difference between the positive control kelompk dose treatment group 3 (D3). This is possible because other than soy contains flavonoid antioxidants. In soy milk are calories, protein, carbohydrates and fats (Made, 2008). At this dose can be deduced that the dose given to the D3 less effective in inhibiting the formation of foam cells. In each addition of food containing fat, carbohydrates and protein will also increase the value of the calories in asup mice in one day out of the calories that were made by mice of feed given. Excess calories are absorbed by the body will be stored as fat. This condition will also trigger hiperkolesterolemi (Faith, 2004). Non-fermented soy products contain omega-6 and more than omega-3. The imbalance of the ratio between omega-3 to omega-6 will make the body vulnerable to disease jkardiovaskuler. Omega-6 fatty acid is a type of unsaturated fat that is found in vegetable oils, nuts and seeds. When consumed in moderation, omega-6 to bring substantial benefits, especially health begi keep the heart organ. But if omega-6 consumed excessive amounts of omega-6 are metabolized in the body to turn into fat that causes damage and inflammation in blood vessels. Inflammation that will cause the narrowing of the arteries or atherosclerosis [9]

Provision of flavonoids in soy milk at a dose of 0.18 and 1.62 g in 3 ml of distilled water / rat / day along with the provision of a high-fat diet for 90 days menyabkan number of foam cells decreased significantly ($p < 0.05$; D1 = 23.25 23.8% the percentage reduction and D2: 9.75 with a percentage of 68.03% of the cells decrease, compared with the number of foam cells positi control group (P1 = 30.5) that given the high-fat diet alone. this indicates that administration of soy milk can reducethe number of foam significantlycells,there is a significant difference ($p < 0.05$) the number of foam cells between the group given two doses of soy milk (D2) to the control group negative (P0). this suggests that treatment with several doses of soy milk can reduce the amount of foam cell until approaching the number of foam cells in the negative control group.

The ability of flavonoids as antioxidant depending on its molecular structure. Position chain flavonoid hydroxyl important for her role as an antioxidant and free radical activity to overcome.

Mechanism of action of antioxidants has two functions. The first function is the main function of the antioxidant as the giver of a hydrogen atom. The second function is a secondary function of antioxidants, which slow the rate of autooksidasi with various mechanisms outside the chain termination mechanism autooksidasi the conversion of lipid radicals to form more stable.

The antioxidant content of 0.18 gram dose 1 can reduce the number of possible yet cell optimalfoam,natural antioxidants at this dose has been unable to inhibit LDL oxidation process becomes oxidized LDL, thereby still allowing the process offormation. foam cell Meanwhile, at a dose of 1.62 grams of 2 that are in the most optimal dose dosing among others. This is possible because the antioxidant content of these doses are optimal remedy inhibit LDL oxidation processes, so the number of foam cells obtained at a dose of 2 treatment groups can approach the number of foam cells in mice with a normal diet.

This study showed that administration of a high-fat diet for 90 days were able to increase the number of foam cells Wistar rat aortic subendothelial significantly and administration of various doses of soy milk can lower the number of foam cells Wistar rat aortic subendothelial significantly. Then it can be concluded that soy milk has a significant effect in reducing the number of foam cells that form the aortic subendothelial Wistar rats given a high-fat diet.

Conclusions

Based on the results of research on the effect of soy milk to the decline in the number of fOAM Cell in the aorta of mice(Hundrednovergicus strain Wistar) were given a high-fat diet, it can be concluded that administration of soy milk affect the decline in the number of foam cells in the aorta rats(Ratusnorvegicus strain Wistar) with a high-fat diet. Providing a high-fat diet for 90 days could increase significantly ($p < 0.05$) the number of foam cells formed in the aortic subendothelial wistar rats ($p = 0.000$) compared with the normal diet of soy milk Giving a dose of 0.81 and 1.62 grams able to reduce significantly ($p < 0.05$) the number of foam cells formed in the aortic subendothelial wistar rats were given a high fat diet.

Giving soy milk at a dose of 3.24 grams not been able to decrease the number of foam cells formed in the aortic subendothelial Wistar rats were given a high-fat diet significantly compared with the positive control group ($p = 0.160$).

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There were no significant differences between treatment groups soymilk dose 2 (D2) in comparison with the negative control group (P0) (p = 0.339) means that it can decrease the number of foam cells to approximately the number of foam cells in the subendothelial aorta wistar rats given a normal diet or negative controls.

List of abbreviations (optional section)

HE - Hematoxilen Eusine
CHD - Coronary Heart Disease
WHO- World Health Organization
LDL - Low Density Lipoprotein
oxiLDL - Oxidized Low Density Lipoprotein
LSD - Least Significant Difference

Declarations

Authors' contributions

In this study the author as the main researcher. Authors are directly involved in the management of mice as samples ranging from sample selection, administration of diit, sample control, to anesthesia. Surgery, tissue removal and staining with HE and oil red O are performed by laboratory personnel. The reading of the results is done by the researchers themselves. Writing is done entirely by the principal investigator. The second researcher in this study serves as a mentor in the research process..

Ethics approval and consent to participate

This research is passed the test of proposal by supervisor, followed by process submission to ethics commission. This research has been passed the ethical test by ethical commission of Faculty of Medicine. Research that has received permission from ethical commissions is eligible to be performed in mice as experimental animals.

Consent for publication

The study was approved for publication in national and international journals

Availability of data and materials

Findings in this study can be published and can be used as supporting data in subsequent research. Researchers hope the publication results of this study may contribute to nursing practice, especially complementary therapies, especially for patients with hypercholesterolemia

Competing interests

There was no conflict of interest in the study. This study was administered purely on the grounds of wanting to develop complmentary therapy in nursing.

Funding

This research is not done individually permanently with the team. The funding of this research is entirely in the responsibility of the team

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THE EFFECT OF ELECTRICAL STIMULATION ON PROMOTING WOUND HEALING OF DIABETIC ULCER

Yunita Sari[1§], Eman Sutrisna[2], Hartono[3]

[1]Department of Nursing, Jenderal Soedirman University, Purwokerto, Indonesia
[2]Department of Medical Science, Jenderal Soedirman University, Purwokerto, Indonesia
[3]Department of Physics Science, Jenderal Soedirman University, Purwokerto, Indonesia
§Corresponding author
Email addresses:
YS : yunita-tky@umin.ac.jp/yunita.unsoed@gmail.com
ES : rahma24sutrisna@gmail.com
HT : harlaras@gmail.com

Abstract

Background: Diabetic ulcer has a significant impact on patient's quality of life, since it causes heavy cost burden and other complications. Many researchers and nurses are trying to find the complementary treatment that can promote the healing of diabetic ulcer. One of omplementary therapies which gains many attention is electrical stimulation (ES). Electrical stimulation is a treatment by using low energy electrical pulses to the body. However the effect of ES on inflammation and reepithelialization was still unclear. The aim of this study was to investigate the effect of ES on inflammation and reepithelialization of diabetic ulcer.

Methods: This study was an experimental study involving diabetic rats. Ten diabetic rats were divided into two groups. They are ES-treated group (*20* Hz*;50 ìA;* 320 μs of duration) and control group (without treatment of ES). Wound size, necrotic tissue, inflammation, intensity of fibroblast, and re-epithelialization were compared between two groups. One full-thickness wound (1 cm diameter) was created at the flank region of rat. The rats were sacrificed on day 7. Histological analysis was assessed with H and E staining. The intensity of inflammation and fibroblast were compared by Wilcoxon's signed rank test.

Results: The result of the study showed that inflammation was less in ES treated group (P=0.008) and the intensity of fibroblast (P=0.03) was higher in the ES-treated group compared with control. On day 7, wound base in the ES-treated group was covered with granulation tissue, while in the control group was covered by necrotic tissue. Reepithelialization was more advanced in the ES-treated group compared with control group.

Conclusions and Recommendations: The study showed that ES can reduce inflammation and improve reepithelialization of diabetic rats. Further study with prolonged duration of observation is needed to observe the effect of ES on different phase of wound healing in diabetic rats.

Keywords: electrical stimulation, diabetic, healing, wound

Background

Diabetic ulcer is one of the most common complications of diabetes mellitus. If the diabetic ulcer is not treated properly, it can lead to amputation and even mortality (1). Considering the impact of diabetic foot ulcer on patients, it is needed to accelerate the healing of diabetic foot ulcer. However diabetic ulcer frequently fails to heal in an orderly set of stages (2). The impaired of the healing of diabetic ulcer are partly due to prolonged inflammation, impaired angiogenesis, decreased collagen production, and diminish blood flow production (3).

Recently the use of electrical stimulation gains many interests from researcher and clinician. Electrical stimulation is an application of electrical current through electrodes which are placed on the skin (4,5). Intact skin maintains a negative charge with respect to deeper epidermal layers (6). Electrical fields generated by ES can promote signaling pathways which are essential for wound healing (6). Previous studies revealed that ES can promote migration of keratinocytes, improve cellular immunity and wound perfusion (5). In addition to the beneficial effect of ES, the application of the device is also not invasive, safe, easy and cost effective compared with other therapies.

Several studies have investigated the effect of ES on chronic wounds. Previous study showed that ES can reduce the healing time in pressure ulcer to 42.7% after 4 weeks treatment (7). Study by Houghton et al involved 42 patients with chronic leg ulcers, revealing that the application of ES significantly reduced the wound size compared with standard care (8). Similar result was obtained in ischemic wounds. The application of ES in ischemic wounds could improve the microcirculation and decrease size of wound (9).

Previous studies also tried to use ES in human subject with diabetic foot ulcer. However, studies on the effect of ES on diabetic ulcer are still lacking. Kim et al (2014) stated that previous studies about the effect of ES on diabetic ulcer failed to reveal a significant benefit of ES, and the analytical methods used in those studies have been limited (6). Recent study by Kim et al (2014) investigated the effect of ES on the expression levels of TGF-â1, collagen-I, and á-SMA in diabetic rats (6). His study revealed that ES improved the level of expression of TGF-â1, collagen-I, and á-SMA. However, his study only focused on the proliferation phase on wound healing. Therefore the effect of ES on the inflammation and reepithelialization of diabetic ulcer is still unclear. Therefore the purpose of this study was to investigate the effect of electrical stimulation on inflammation and reepithelialization of diabetic ulcer.

Methods

Figure 1. Electrical stimulation device

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Electrical stimulation device could be seen in figure 1. The device consists of two parts, namely electrical pulse generator and DC voltage generator. Electrical pulse generator is an electronic circuit that can generate electrical signals of square wave. Electric pulses are generated using a stable multivibrator circuit. The multivibrator circuit can produce adjustable frequency pulses and pulse widths. The variable DC voltage generator is an electronic circuit made to produce DC voltages that can vary in amplitude values from 0 volts to 60 volts. A variable DC voltage generator is created using a voltage divider circuit. The output of the electrical signal from this device is connected to the patient through a pair of electrodes. A pair of electrodes attaches to the desired part of the skin, allowing an electric current to flow into the tissues of the body.

Animals

Male Wistar rats were used in this study. The body weight of the animal was 12-14 old weeks. The rats were purchased from Department of Pharmacy, Muhammadiyah Purwokerto University. Animals were given a standard diet ad libitum. All animals were treated according to the guide of Laboratory Animals of the National Institute of Health. Experimental protocol was approved by the Animal Research Committee, Faculty of Medicine, Jenderal Soedirman University.

Induction of diabetes

Rats were acclimatized for one week before induction of diabetes. Alloxan hydrochloride (90 mg/Kg body weight) was used for induction of diabetes. The blood for checking the glucose level was drawn from tail vein of rats.

Wounding procedure and application of ES

A full thickness wound with one Centimeter of diameter was made at the flank region of rats. There are two groups in this study; ES-treated groups and control group. ES treated group received standard wound care and application of ES of *20* Hz; *50 ìA*; 320 μs of duration, while control group only received standard wound care. After wounding, the wound was covered with transparent film dressing. Rat in the treatment group received ES application starting on day 1 after wounding. Electrodes were placed on the left and right side of the wound as shown in figure 2. Electrical stimulation was applied for 10 minutes once a day for 7 days.

Figure 2. Electrical stimulation

Histological Procedure

The rats were sacrificed on day 7. After sacrifice, the wound and surrounding tissue samples were taken, and then fixated in 10% formaldehyde. The sections were stained with hematoxylin-eosin (HE) staining.

Statistical analysis

Difference in the histological score was analyzed by Wilcoxon's signed rank test. Statistical analyses were done by using SPSS software (SPSS version 13 for Windows, SPSS Inc., Chicago, IL). A value of $p < 0.05$ was considered significant.

RESULT

Macroscopical findings

Figure 3. Macroscopial Findings

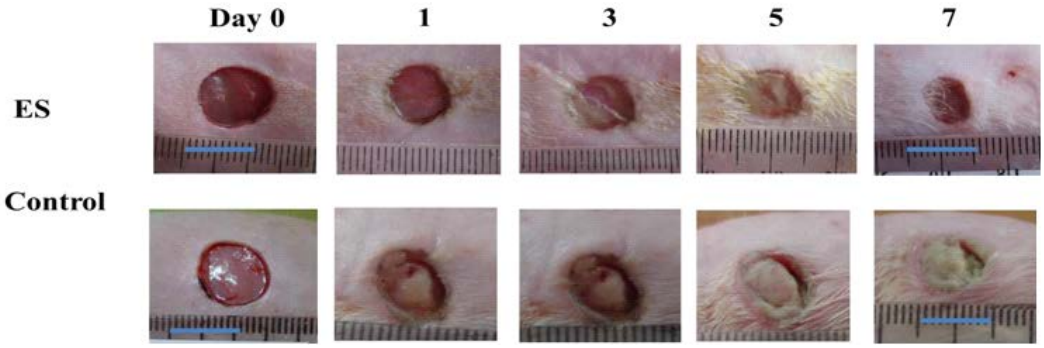

Figure 3 showed macroscopical findings of wound treated with ES and control group. The result showed that on day 0, the appearance of the wound between ES group and control group is similar. On day 1, the wound base in the ES group was still reddish while in the control group was slightly yellowish since it was covered by slough. On day 3 to day 5, the wound in the ES group was slightly covered by slough however the wound size tends to be smaller compared with control group. On day 7, the wound in the ES group was covered with granulation tissue while wound in the control group was covered with necrotic tissue.

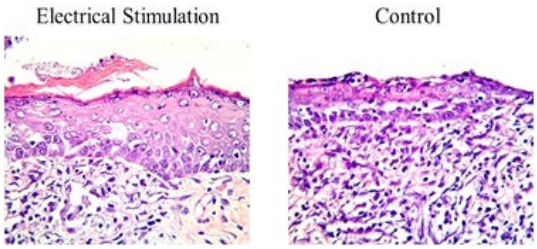

Figure 4. Hematoxylin and Eosyn staining on day 7 in epidermis layer

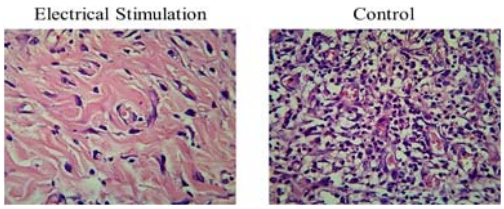

Figure 5. Hematoxylin and Eosyn staining on day 7 in dermis layer

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Hematoxylin and Eosyn findings

Figure 6. Reepithelialization in ES and control group

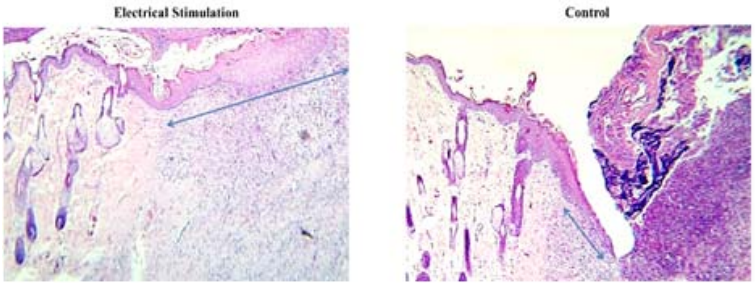

Figure 4 and Figure 5 showed the histological findings of the ES and control groups. The result showed that the inflammation in the epidermis and dermis was less in the ES group compared with control group, and the fibroblast was more pronounce in the ES group compared with control group. Table 1 showed that intensity of the inflammation was significantly less in the ES group compared with control group (P=0.008) and the intensity of fibroblast was higher in ES group compared with control group (P=0.03). Figure 6 showed that reepithelialization was more advanced in ES group compared with control group.

Discussion

This study investigated the effect of ES on inflammation and reepithelialization on diabetic ulcer. Our study showed that ES can reduce inflammation and improve reepithelialization in diabetic rats. This study gives new knowledge on the effect of ES wound on wound healing of diabetic ulcer. Previous studies by Kim et al (2014) showed that ES could improve TGF-â1, collagen-I, and á-SMA (6). However in their study, the effect of ES on inflammation and reepithelialization is still unknown.

Impaired wound healing is common to occur in diabetic ulcer. Prolonged inflammation phase is one of reasons why wound healing in diabetic ulcer is impaired (2). Previous study showed the ES could enhance phagocytosis by means of the electrotaxis of macrophages and neutrophils (10, 11). In vitro study by Cho et al (2000) showed that ES 1?Hz and 2?V/cm to macrophages would induce migration velocity of around 5.2 × 10?2?ìm/min (10). Another study by Kindzelskii and Petty showed that the application of ES will cause exaggerated neutrophil extension (11). Based on the previous study, we suggested that the reduction of the inflammation in our study might due to the ability of ES on enhanching of phagocytosis.

In this study we found that re-epithelialization in the ES group was more advanced compared with control group. Previous study showed that ES accelerates epithelialization by directing the migration of keratinocytes and epidermal cells near the wounded area (12,13). Therefore it could be suggested that reepithelialization which was more advanced in the ES group in our study might due to the ability of ES to direct the migration of keratinocytes and epidermal cells.

In this study, we also found that on day 7 wound in the ES group was covered with granulation tissue while in the control group was covered with necrotic tissue. This result might due to the effect of ES which can enhance the formation and release of vascular endothelial growth factor (VEGF) (14). Up to present, the researchers are still indentifying the vasodilators that might account for the increases in blood flow after application of ES.

The result of our study adds a knowledge about the effect of ES on wound healing in diabetic ulcer. Previous study revealed that ES can improve wound contraction and proliferation (6). In our study, ES can also reduce inflammation and improve reepithelialization in diabetic rats Next study in the human subject is needed to elucidate this research.

Conclusions

The result of the study showed that the application of ES can reduce inflammation, necrotic tissue and improve reepithelialization of diabetic rats.

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THE EFFECT OF COUNSELING (DEMONSTRATION METHOD) TO ENHANCE CITIZEN'S FIRST AID SKILL IN DOG'S BITE

Yustina Ni Putu Yusniawati[1], CiciliaWahju Dijajanti[2], Veronica Silalahi[3]
[1]Student of Magister of Nursing, UniversitasBrawijaya, Malang, Indonesia
[2]Lecture of STIKES Vincentius A Paulo Surabaya, Indonesia
[3]Lecture ofSTIKES Vincentius A Paulo Surabaya, Indonesia

Email addresses :
Yustina: yustinaindrayana@gmail.com
Cicilia: yanti_stikesrkz@yahoo.co.id
Veronica: verosilalahi@yahoo.co.id

Abstract

Background: Dogs are pets that accompany humans and maintained by citizens to keep the home when the homeowner goes for traveling. In a certain time, the dog is going to be ferocious when there are new people who come to its territory or when the dog feels threatened while feeding her children. This will cause dog's attack to the unfamiliar person and make the person gets injured.The first aid treatment which is not appropriate at dog bites should lead serious impacts such as bleeding, rabies infection, and even death as the risk.The aim of this research is to analyze the effect of the counseling (demonstration method) toward citizen's reaction at the first aid that they have to do after they got bitten by the dog.

Methods: This research was a pre-experimental one group pre-post study using Paired t statistical tests with a significance level á 0.05 The sample had been selected in the number of 32 participants out of 100 populationin Br.Tangkeban. The technique used in taking the sample was simple random sample and the data was collected by applying checklist method.

Results: The data was analyzed by using Wilcoxon statistic test. After implementing *Wilcoxon Signed Rank Test* with the significant value α =0.05, it was resulted p = 0,000 and the H0 is rejected, so there is the influence of counseling (demonstration methods) to enhance citizen's first aid skill in dog's bite.

Conclusions: The researcher agreed that there is a correlation between the impact of the counseling (demonstration methods) with participants' first treatment at the dog bites. Based on the result of the research, the researcher suggested to the leader of the Banjar civilization to be cooperative with the medical officer at the region to spread out the counseling (demonstration method) in some other areas which is still innocent about the counseling regularly.

Keywords: Counseling (Demonstration), First Aid, Dog Bites

Background

Dog included as pet which is perceived docile, yet it could bite and be dangerous to human (3). Dog has very strong bite which can lead bleeding if it pass through the skin and break the artery. It could give *hypovolemia shock,*

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or even causing death if the patient release a lot of blood (21). It transmits *capnocytophagacanimorsus*bacteria causing syndrome sepsis, DIC, kidney disease, especially to the patient having treated splenectomy (7), and spread out rabies through the body by *Rhabdovirus*which is contained at dog's saliva (26). Until today, citizen have been evaluated about rabies in every health center per region and about giving vaccine to their pet (8). However, the instruction toward the first aid treatment to the injury caused by dog bites is not done yet at all the region which has huge possibilities in disseminating rabies. There was happening in Br. Tangkeban, Kec. Mengwi, Kab. Badung where member of a family got bitten by a dog and there was no any first aid treatment occurred since they were innocent all over it. They didn't even know that this accident could be risky to death.

Related to WHO's statistical data in 2007, ASIA brings 60.000 death by rabies in every year (22). In Indonesia, noted by the ministry of health, there are 87.084 animal'sbites cases which transmit rabies and those are 421 victims infected by rabies in 2007 to 2009. The researcher got more data collected from PuskesmasMengwi 1. Dog bites case has claimed for 10.300. The amount is divided into 24 numbers of death and 8 numbers has been infected by rabies in 2008 to 2011. From the first survey having been held on November 29th, 2013 in Br. Tangkeban, Kec. Mengwi, Kab. Badung, there were questions directed to 15 interviewee according to their reaction when they are facing dog bites accident and finding the way how to deal with the victims, 9 of them said that they have nothing to do until the patient get some indications such as swollen and deep pain on the area that is bitten. While 4 of the interviewee mentioned that they would immediately dab the patient's wound with betadine after being bitten and the rest said that they need to cover the bitten area with cloth to be dust resistant.

According to Lawrence Green's theory which is dictated (15), Behavior tended by a person or a society is determined by knowledge, attitude, faith, tradition, and etc. coming from the person or society itself and the some factors which influence personality knowledge such as education, job, age, tendency, experience, culture, environment and information (13). Distribution of information could influence person's knowledge and it will bear his consciousness to act as the knowledge that he receives (15). Counseling by implemented demonstration method will raise a person's skill so that it will boldly make his action as he is widened a chance to try a trial (9).

Demonstration method has been assumed as the best way in giving the civilization more understanding all over the treatment overcoming the dog bites that they should do in time when an accident could possibly happen (4). The demonstration allowed some methods such as interactive speech, discussion, and the procedure itself. The leader of the civilization in Br. Tangkeban, Kec. Mengwi, Kab. Badung was really helping the researcher in cooperation.

The purpose of this study is to analyze the effect of first aid treatment for dog bites through demonstration method in the civilization of Br. Tangkeban, Kec. Mengwi, Kab. Badung.

Methods

Reseach Design

The study was conducted by generating the result from the procedure of pre-experimental one group pre-test post-test design (6,18). The independent variable was first aid treatment for dog bites through demontratioin method while the dependent variable was citizen's basic understanding. The observation date was on May 20th, 2014 and conducted in Balai Banjar Tangkeban, Kec. Mengwi, Kab.Badung, Bali.

Population and Sampling

Br.Tangkeban, Kec.Mengwi, Kab.Badung, Bali is where the researcher took the sample from the population. There was 100 participants who are included to the criteria and agreed to be the sample. They were in the average years between 20 to 50 years old, being able to read, and experiencing to study in elementary school as the minimum stage. The sample was shorted by randomly sampling technique and pointed 32 respondents.

Research Instruments

The researcher was doing checklist to measure respondent's basic knowledge before and after the counseling (22,23). On a checklist containing the stages of the first aid action on dog bites which consist of the preparation, execution, and attitude. Respondents will take independent action to get deal with the first aid for the dog bites that will be observed by the researcher (6).

Data Collection and Analysis Procedures

Data collection is a way of collecting data in research. In this study, after researchers get a license from the Research Chair of health science high school of STIKES St. Vincentius a Paulo, researchers asked for research recommendations to the Research Directorate General of the unity of the nation and politics in Central Jakarta, followed by the recommendations of the research from Jakarta, the research recommendations was submitted to the nation's Unity and political Agency of the province of Bali. Researchers got research recommendations from the unity of the nation and the Politics of Bali and then research recommendations was submitted to the nation's Unity and political Bodies in the Badung Regency, then researchers got permission research. After getting permission from the agency research Unity of the nation and the politics of the Badung Regency, on May 13th, 2014 researchers approached and spread Division of invitations to citizens of Br. Tangkeban, Kec. Mengwi, Kab. Badung who were willing to be respondent assisted with Head Banjar and head of youth. On May 20, 2014 at 9:00 am wita, respondents came to Balai Banjar filling the list of present and got a number of respondents, then respondent briefed to populate the data demographics and pre-test procedure. The respondents were allowed to do pre-test first aid respectively for 10-15 minutes, and then returned to the seat after having been provided for the demonstration, after the extension of the respondents allowed to ask and do a re-demonstration for 10-15 minutes, and continued with the first aid post and test each for 10-15 minutes. The activities of the Outreach Division closed with consumption, leaflets, souvenirs, charging and the impression evaluation sheet

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as well as the respondent's messages about public awareness that has been taking place.

Researchers divided 32 respondents into five groups where 1 group consists of 7 respondents. Each group was given the opportunity to check the list both pre and post for each 10-15 seconds. The research assistant was cooperated for 7 people will act as a patient and 7 other research assistants will be the observer. Checklist results before and after demonstration will be collected and used as research data. After the research was completed, the researchers reported to the Prebekel village of Cemagi and request letters have been carrying out research. Theanalysis data utilized SPSS program 16 and Wilcoxon Signed rank test by pointing the critical value in á = 0,05

Results

Table 1. Demography Characteristic Respondent

Criteria	n	%
IF THE RESPONDENTS HAVE GOT BITTEN BY DOG	32	100
Experiencing	0	0
Never experiencing		
The intensity in getting bitten		
1x	25	78
2x	3	9
3x	3	9
>3x	1	4
The Area That Got Bitten		
Face	4	12
Hands	5	16
Thigh	5	16
Legs	18	56
The Treatment After Getting Bites		
Washing	8	25
Putting betadine on	11	34
Nothing	13	41
Based on The Information That Demonstrate Over First Aid Treatment		
Experiencing	8	16
Never	24	84
Based on The Resources About First Aid Treatment		
Society	2	25
Printed Media	3	38
Health officer	3	37

In Column 1 is describing about the characteristics of Respondents based on their experience being bitten dogs in Br. Tangkeban, Kec. Mengwi, Kab. Badung, Bali on May 20, 2014, from 32 respondents, noted that 32 (100%) of the respondents has never been bitten by dog.

Column 2, 32 respondents has ever experienced bitten dogs, as much as 1 (4%) of the respondents experienced the intensity of dog bites > 3 x, as much as 3 (9%) of the respondents experienced the intensity of dog bites 2X, as much as 3 (9%) of the respondents experienced the intensity of dog bites 3 x, and as many as 25 (78%) of respondents experiencing the intensity of dog bites in 1X.

Column 3 explains the 32 respondents who got dog bites, 4 (12%) respondent on the face, 5 (16%) respondents were on the hand , 5 (16%) of the respondents in the thigh, and 18 (56%) respondents were on feet.

Column 4 describes from 32 respondents who got dog bites, 8 (25%) of respondents do washing the bite, 11 (34%) of respondents gave of betadine on the wound, and 13 (41%) respondents let the bite.

In Column 5, the 32 respondents obtained, 8 (16%) of the respondents get information about first aid action on dog bites, 24 (84%) of the respondents never get information about first aid action on dog bites and 8 respondents who get information 2 (25%) of the respondents get the information from the public 3 (37%) of respondents get the information from health workers, 3 (38%) of respondents from printed media.

Table 2. The Special Ability Of The Data Before And After The Respondent Conducted Outreach (Method Demonstration)

Residents ability After Counseling	The ability of citizens before extension										Total	
	Very good		good		moderate		bad		Very bad			
	∑	%	∑	%	∑	%	∑	%	∑	%	∑	%
Very good	0	0	0	0	2	7,4	19	70,4	6	2,22	27	100
good	0	0	0	0	0	0	5	100	0	0	5	100
moderate	0	0	0	0	0	0	0	0	0	0	0	0
bad	0	0	0	0	0	0	0	0	0	0	0	0
Very bad	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	6,25	24	75	6	18,75	32	100

Special data Ability of respondents prior to Extension (method Demonstration) shows from 32 respondents, 2 (6%) of people are capable in doing first aid action on dog bites, 6 (19%) of respondents very bad-capable in performing first aid action on dog bites, and 24 (75%) of respondents are capable of doing bad first aid action on dog bites.

Special data Ability of respondents Having Done Outreach (method Demonstration) shows from 32 respondents in total of 5 (16%) of the respondents-capable in first aid action for dog bites, 27 (84%) of respondents are very well capable in doing first aid action for dog bites.

It can be concluded that the ability of the respondent before and after Done Outreach (method demonstration) is there is an improvement in the ability of the respondent before and after done outreach (method demonstration). Before the extension, 2 (6%) of respondents are in middle capable, 6 (19%) of respondents very bad-capable, and 24 (75%) of the respondents have bad ability while 5 (16%) of the respondents-capable, and 27 (84%) of the respondents are very capable.

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Discussions

The dog is a pet which is a companion to humans, according to the (2) explains that the dog is an animal that is kept by the home guard as housekeeper when home owner are traveling, but at any given moment the dog is going to be ferocious when there are new people who come to its territory or when the dog feels threatened while feeding her children. At this moment, there will be able to harm the citizens since dog bite can make a high risk of rabies (8). Rabies is an infectious disease of acute levels on the order of the central nervous caused by rabies virus (25). This unusual zoonotic diseases that can be transmitted from animals to humans. So that, in order to hold the spreading virus when a person gets dog bites, it needs training to perform at first aid on bite dogs. According to (1) having the same opinion that to inhibit the spread of rabies, it is required a good knowledge of the citizens in handling the right first aid for the dog bites. With a good knowledge of the existence of rabies and dog bites treatment, then the prevalence of rabies can reduce (26). The need to outreach on citizens who haven't learned the handling of dogs will bite at first can help add to the knowledge of the citizens (17).

The proper method is done by using the demonstration because the demonstration would reduce the difference in perceptions of bite treatment for dog bites (16). So, the researchers give the information by using demonstration in which this method teaches citizens how to deal appropriately in accordance with the stages of first aid in dog bites (12,10). Before giving the extension there would be done pretest regarding to the citizens knowledge and after demonstrations there would be conducted posttest. Cinnamon, at al, (2012)

Reflecting to the result of respondent's understanding before and after the counseling through demonstration method, the respondents clarified that the two of them, having the understanding from the beginning, indicated the intermediate skill in treatment. The next 6 respondents that also claimed the same background as the two previous respondents, indicated bad skill in treatment, followed by the 18 respondents that were innocent with the procedure in treatment. The last number of remaining 6 respondents that were also innocent had the worst skill.(13) noted that factors leading the action is the possible factor which is the medical information. This is in which the information through demonstration method could help the respondent to the procedure of a process. This is not only the theory but also the practice so that could train their skill (19). There was conformity between the fact and the theory, the basic information had never been taught to the respondents was really clearly written by their dilapidated skill in treatment. This fact opened the discussion that the counseling is necessary. Innocent understanding caused the sample had lack of background procedure to do the treatment dealing with dog bites. It could be mistaken treatment if the respondent does something incorrectly or possibly make other risk. Evidence confirmed that their skill was really bad at all, when they were asked to determine their procedure in taking care to the patient got bitten by dog, some of them were ignoring a number of the procedure written in the list such as controlling the condition calmly so that the patient wouldn't get panic, not to wash their hands before and after the first aid, not to compress the injury area with ice or tight bandage, and not to clean up the injury area with alcohol.

After joining with the counseling through demonstration method, the participants grew so fast with the satisfying result. Based on the data mentioned about experiencing or never in recognizing all the procedure information over the first aid treatment for dog bites, there were 5 respondents were improving in good result while the other 27 respondents occupied right above the previous in very good result (13), noted that factors leading the action is the possible factor which is the medical information. This is in which the information through demonstration method could help the respondent to the procedure of a process. This is not only the theory but also the practice so that could train their skill (19). There was a big line explaining the correlation between the fact and theory. The theory which I well given to the respondents during the counseling through demonstration method increased their understanding so that they had recognize all the step in the procedure clearly and could apply the directions independently for dog bites.

Before having the counseling, two respondents taken was in the intermediate. While the 24 respondents had the worse understanding and the 6 respondents were the lowest. After the time had been estimated to give them the counseling, the result raised well and the respondents were actively making the graphic. Statistical measurement deliver two criteria of score which are good with 6 respondents included, and very good with 27 respondents are included. The result using the *Wilcoxon test*with the degree of significant α=0,05 give the value on p=0,000. Besides, the Z value showed the Z table = ± 1,645 and the Z calculation = -5,075, it drew the conclusion toward the concrete score of both the post test and pre test. Posttest score occupied higher than the pre test. In short, by delving the $p < \alpha$ and Z table<Z calculation so the H0 is rejected. This is clear that there was a significant differences between the respondents understanding before and after the counseling through demonstration method to citizen's handling for dog bites in Br. Tangkeban, Kec. Mengwi, Kab. Badung, Bali. (13, 14) said that the medical information which approaches by tending at demonstration method will raise the participant's understanding. Furthermore, the result will guide their awareness and as the end, the awareness will change an action. Supported by the result and the review of some literatures, demonstration method proofed that it is the most effective way to deliver information all over medical understanding to citizen. The method train the participant as how the first aid treatment should be when they are handling dog bites and teach them the theory so that they really are familiar in every steps they are heading on.

Conclusions

Resuming the result of the research which had been done by collecting data from 32 respondents related to First Aid Treatment for Dog Bites through Demonstration Method in Br. Tangkeban, Kec. Mengwi, Kab. Badung, Bali, the researcher hold the conclusion that respondent in the percentage of 75% had bad understanding in handling the first aid treatment for dog bites before joining with the counseling, yet the respondent showed a good progress in the percentage of 84% and basically know over how to do the procedure in the first aid treatment for dog bites after the counseling through demonstration method. The demonstration method is truly give the effect to the citizen living in Br. Tangkeban, Kec. Mengwi, Kab. Badung, Bali in handling the dog bites.

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The researcher explained the positive effect of the findings in the study and suggested the leader in Banjar society to be linked with the medical officer in their region so that the rabies could be far avoided when they got dog bites. The demonstration of the first aid treatment also could be their consideration to get a very clear procedure.

List of abbreviations

Br: Banjar, Kab: Kabupaten, Kec: Kecamatan, DIC: *Disseminated Intravascular Coagulation,* Dinkes : DinasKesehatan, and STIKES : Sekolah Tinggi Ilmu KesehatanKatolik.

Declarations

Authors' contributions

All Authors participated in the design of the research. WS and Im performed the data analysis. All authors were part of conclusions and final result. IM drafted the manuscript and all authors read and approved the final manuscript.

Authors' information

[1]Student of Magister of Nursing, Universitas Brawijaya, Malang, Indonesia. [2]Lecturer of Community Nursing in Nursing School of STIKES Vincentius A Paulo Surabaya, Surabaya, Indonesia. [3]Lecturer of Community Nursing in Nursing School of STIKES Vincentius A Paulo Surabaya, Surabaya, Indonesia

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Ethics approval and consent to participate

Researchers have been taking care of permits service research on the Research Directorate General of the unity of the nation and politics in Central Jakarta and nation's Unity and political Agency of the province of Bali. After that research has also passed an ethical clearance. Before doing exercise, the respondent elected, has approved and signed the inform consent willingness following the research.

Consent for publication

Not applicable.

Availability of data and materials

Data may be shared with the contact email address on the first author.

Competing interests

The authors declare that they have no competing interests.

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