



FACULTY OF NURSING  
UNIVERSITAS AIRLANGGA  
*Excellence With Morality*

# INTERNATIONAL NURSING CONFERENCE

"Education, Practice And Research Development In Nursing"

In Collaboration With:



The Proceeding of  
**The 8<sup>th</sup> International Nursing Conference**  
"Kahuripan Room, Management Building C Campus Universitas Airlangga"  
8<sup>th</sup> - 9<sup>th</sup> April 2017

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## **GREETING FROM STEERING COMMITTEE**

*Assalamualaikum Warahmatullahi Wabarakatuh*

Honorable Rector of Universitas Airlangga  
Honorable Dean of Faculty of Nursing, Universitas Airlangga  
Honorable Dirjen Sumber Daya Iptek Dikti  
Honorable Head of Co-Host Institutions  
Distinguished Speakers and all Participants

Praise the presence of God Almighty, for his mercy so that Faculty of Nursing Airlangga University can organized: The 8<sup>th</sup> International Nursing Conference on the theme of “Education, Practice And Research Development In Nursing”. Welcome in Surabaya, City of Heroes Indonesia.

This international nursing conference is conducted in cooperation with 6 nursing schools throughout the nation. These institutions including, Poltekkes Kementerian Kesehatan Surakarta, STIKES Ngudia Husada Bangkalan, STIKES Pemerintah Kabupaten Jombang, STIKES Maharani Malang, Poltekkes Kementerian Kesehatan Surabaya, and STIKES YARSI Mataram. The Faculty of Nursing Universitas Airlangga once more aims to elaborate with the aforementioned institutions and international universities through holding an international nursing conference. The international universities include: Flinders University\* (Australia), La trobe University (Australia), University of Colleague Cork (Irelandia), University of Malaya (Malaysia), and Kaohsiung Medical University (Taiwan). We also invited Prof. dr. Ali Gufron Mukti, M.Sc., Ph. D. Dirjen Sumber Daya Iptek Dikti, as a keynote speaker.

Proceeding of this International Nursing Conference will be publish at Atlantis Press. The selected papers will be submit at Journal Ners or index by Conference Proceeding Citation Index, Thomson Reuters.

Participants of this conference are lecturers, nurses, students both from clinical and educational setting, regional and overseas area.

Finally, I would like to thanks to all speakers, participants, and sponsors so that this conference can be held successfully.

Please enjoy the international conference, I hope we all have a wonderful time at the conference.

*Wassalamualaikum Warahmatullahi Wabarakatuh*

Steering Committee

## **OPENING REMARK FROM THE DEAN OF FACULTY NURSING**

*Assalamualaikum Warahmatullahi Wabarakatuh*

Honorable Rector of Universitas Airlangga  
Distinguished speakers and all Participants

First of all, I would like to praise and thank God for the blessing and giving us the grace to be here in a good health and can hold this conference together. Secondly, it is a great privilege and honor for us to welcome every one and thank you very much for your participation and support for the 8<sup>th</sup> International Nursing “Education, Practice and Research Development in Nursing”.

Research and education into practice is very important to enhance nursing competencies with nurse colleagues in the international sphere. Indonesia face problems such low frequency of nursing conference, number of researches, also international publications. This problem can hinder quality improvement of nursing services.

The demand of health care services including nursing care will increase continuously not only the quality but also the affordability and the service coverage. Facing this society's demands, particularly in the field of nursing, we should make a change in various aspects such as in nursing education, nursing practice and nursing research. The science of nursing has philosophy and nursing paradigm that underlying the various aspects to improve professional in education, practice, and nursing research. As a science, nursing can grow continuously through research and education.

The interaction among education, practice, and nursing research are interrelated and affect the development of science in nursing. Nursing practice has interactions with nursing education and research. Practice can be used as a source of nursing phenomena that occurs, so it can become a nursing model in accordance with the theory developed in education and has been proven through nursing research. In addition, nursing research become a substance of the development of nursing science, because of through nursing research may prove the theory which developed in education so it is useful and can be practiced in the health service. So, it can be concluded that education, nursing practice and research have interaction each other that cannot be separated.

Along with Universitas Airlangga vision to become a world class university and enter top World University Ranking, Faculty of Nursing, participates actively in reaching the vision. To achieve World Class University ranking, faculty needs to meet the standards of World's top Universities such as Academic reputation, employer reputation, publication, faculty standard ratio, international students and exchange. International Nursing Conference is one of the few strategies that have been implemented by the faculty to increase Publication standard.

Finally, I would like to thank to all speakers, participants, and sponsorships that helped the success of this event. **I hope** that this conference having good contribution in increasing the quality of nursing and nursing care.

Please enjoy the international conference. I hope, we all have a wonderful time at the conference.

*Wassalamualaikum Warahmatullahi Wabarakatuh*

Prof. Dr. Nursalam, M.Nurs (Hons)  
Dean, Faculty of Nursing  
Universitas Airlangga



## OPENING SPEECH FROM THE RECTOR OF UNIVERSITAS AIRLANGGA

*Assalamu'alaikum wa-rahmatullahi wa-barakatuh.*

*May the peace, mercy and blessings of Allah be upon you.*

Alhamdulillah! Praise be to Allah, The Almighty for giving us the opportunity to gather here in “THE 8<sup>TH</sup> INTERNATIONAL NURSING CONFERENCE & WORKSHOP“. Let us also send *shalawat* and *salam* to our Prophet Muhammad SAW (Praise Be Upon Him): *Allaahumma shalli 'alaa Muhammad wa 'alaa aali Muhammad*. May Allah give mercy and blessings upon Him.

**Ladies and gentlemen,**

Nursing is a dynamic science and profession. It can be seen from the relentless efforts made to optimize either the scientific or practical aspects of Nursing. These efforts towards excellence are absolutely needed.

Innovations in providing nursing care are possible to be introduced through education, practice and research. In this regard, we believe that those innovations are from “new concepts” formulated in the field of Nursing to provide the best service. If we can do this, there will be more benefits we can get such as gaining reputation for nursing profession and the education institution.

**Ladies and gentlemen,**

Higher education of Nursing has a strategic role towards excellent healthcare service. Therefore, the education format should be ready anticipating any developments. This readiness is needed to accelerate the realization of “Healthy Global Citizen”.

So, let us exploit these changes around us, and consider this improving healthcare service as our success towards welfare. Let us always be consistent to improve quality in the field of Nursing. This field of science is expected to respond and voice concern about all aspects of healthcare service development in any communities.

At this point, the organization of “THE 8<sup>TH</sup> INTERNATIONAL NURSING CONFERENCE & WORKSHOP“ and “The Education, Practice and Research Development in Nursing” as the theme is important. We cannot deny that through education, practice and research implemented seriously, we will get valuable findings for Nursing science development.

In education, students’ questions can start new discourses towards Nursing science development. In its practice, various problems and solutions found in the field will broaden the scientific scope of Nursing. In research, through this activity we are developing the science in a well-planned and scientific manner.

Therefore, let us use this wonderful occasion to present research findings, either from the education, practice and research. We believe that this event will take on the challenges in providing quality healthcare service in the society.

**Ladies and gentlemen,**

Finally, I would like to express my gratitude to the committee, all nursing education institutions, either domestic or overseas, for participating in this event, and other people contributing to make this event a success. May everything run well and every objective achieved. Have a great conference and workshop. Good luck!

*Wassalamu'alaikum wa-rahmatullahi wa-barakatuh.*

Rector of Universitas Airlangga,  
**Prof. Dr. Moh. Nasih, SE., MT., Ak., CMA.**  
NIP. 196508061992031002

## STEERING COMMITTEE

Patron	: Rector of Universitas Airlangga
Advisor	: 1. Prof. Dr. Nursalam, M.Nurs (Hons) Dean of Faculty of Nursing, Universitas Airlangga 2. Head of STIKES Ngudia Husada Bangkalan 3. Head of STIKES Pemerintah Kabupaten Jombang 4. Head of STIKES Maharani Malang 5. Head of Nursing Programme Poltekkes Kementerian Kesehatan Surabaya 6. Head of STIKES Surya Mitra Husada Kediri 7. Head of Nursing Programme Poltekkes Kementerian Kesehatan Surakarta 8. Head of STIKES YARSI Mataram
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**TIME SCHEDULE**  
**8<sup>TH</sup> INTERNATIONAL NURSING CONFERENCE**  
**“EDUCATION, PRACTICE AND RESEARCH DEVELOPMENT IN NURSING”**  
**Surabaya, 8-9 April 2017**

**DAY 1, SATURDAY 8<sup>th</sup> April 2017**

TIME	ACTIVITY		VENUE
07.00 - 07.45	Open Registration	<b>Committee</b>	Kahuripan 300 Management Building, Unair Kampus C
07.45 – 08.00	<b>Opening Remarks</b> - Indonesia Raya: National Anthem - Hymn Airlangga	<b>MC:</b> Nadia & Hakim <b>NEVO</b>	
08.00 – 09.00	<b>Keynote Speaker</b> <b>Prof. dr. Ali Ghuftron Mukti, M.Sc., Ph.D.</b> (Ministry of Research and Higher Education Republic Indonesia) <i>“The Policy on Nurses and Health Worker Research-Based Development”</i>	<b>MC</b>	
09.00 – 09.10	Certificate Conferment & Giving Souvenir	<b>Dean/Rector</b>	
09.10 – 09.50	- Welcoming Show (Traditional Dance): Tari Jejer - Speech from Steering Committee - Speech from Dean of The Faculty of Nursing, Universitas Airlangga - Speech from Rector Universitas Airlangga - Opening ceremony: Hit the Gong - Pray	<b>Dance Team</b>  <b>Prof Nur, Bu Elida, Rektor,</b>  <b>Pak Mahfud</b>	
09.50 – 10.00	<b>Coffee Break and Opening Poster Presentation</b>	<b>MC</b>	
<b>Plenary Session I</b>			
10.00 - 10.20	<b>Speaker 1</b> <b>Dr. Chong Mei Chan</b> University of Malaya <i>“Geriatric Nursing Care: Trends and Issues”</i>	<b>Moderator:</b> RR Dian T, S.Kep., Ns., M.Kep	Kahuripan 300 Management Building, Unair Kampus C
10.20–10.40	<b>Speaker 2</b> <b>Ya-Ping Yang, Ph.D</b> Kaohsiung Medical University <i>“Alternative therapies for People with Dementia”</i>	<b>Notulen:</b> Sylvia Dwi Wahyuni	
10.40 – 11.10	<b>Speaker 3</b> <b>Dr. Joni Haryanto, S.Kp., M.Si</b> Universitas Airlangga <i>“Spiritual Ceki Card Game to Increase Cognitive Function and Reduction of Frontotemporal Dementia Symptoms on Elderly”</i>	<b>Operator:</b> Candra Panji A	
11.10 – 11.30	Plenary Discussion		
	Certificate Conferment	Chairman/Vice Dean	
11.30 – 12.30	Poster Presentation 1	<b>Committee</b>	
	<b>Lunch Break</b>	<b>Committee</b>	
<b>Plenary Session II</b>			
12.30 – 12.50	<b>Speaker 4</b>	<b>Moderator:</b>	Kahuripan 300

TIME	ACTIVITY		VENUE
	<b>Pauline Hill, RN, Dipp.App.Sc(Nsg), BN(Ed), MEd(St), PhD</b> Flinders University <i>“Practice Development: Supporting Students at The Bed Side”</i>	Ika Nur Pratiwi, S.Kep., Ns., M.Kep  <b>Notulen:</b> Iqlima Dwi K  <b>Operator:</b> Deni Yasmara	Management Build, Unair Kampus C
12.50 – 13.10	<b>Speaker 5</b> <b>Sonia Reisenhofer, RN, BN, Postgrad Dip, (Emergency Nursing), MCN</b> La Trobe University <i>“Mental Health &amp; Gender Issues: Trends in Research and Practice”</i>		
13.10 – 13.30	<b>Speaker 6</b> <b>Dr. Esty Yunitasari, S.Kp., M.Kes</b> Universitas Airlangga <i>“Optimization of Family Support in Improving Resilience of Cervical Cancer Client Post Radical Hysterectomy+Bilateral Salpingo-oophorectomy which is Getting Chemotherapy”</i>		
13.30 – 13.50	<b>Speaker 7</b> <b>Dr. Sestu Retno DA, S.Kp., M.Kes.</b> Stikes Pemkab Jombang <i>“Role Provider in Increasing Early Initiation of Breastfeeding Coverage to Mother Post Sectio Cesarea in Indonesia”</i>		
13.50 – 14.30	Plenary Discussion Certificate Conferment	<b>Moderator</b>  <b>Vice Dean</b>	
14.30 – 15.00	<b>Coffee Break and Prayer</b>	<b>Committee</b>	
<b>Plenary Session III</b>			
15.00 – 15.20	<b>Speaker 8</b> <b>Proffesor Eileen Savage BNS., MSc, PhD.</b> University College Cork, Irlandia <i>“Enabling Primary Care Services toward Integrated Care for Chronic Disease Prevention and Management”</i>	<b>Moderator:</b> Setho Hadi S, S.Kep., Ns., M.NS (CommHlth&PC )	
15.20 – 15.35	<b>Speaker 9</b> <b>Ferry Effendi, S.Kep., Ns., M.Sc., PhD.</b> Universitas Airlangga <i>“Indonesian Nurses Migration under Bilateral Agreement: Policy Issues and Responses”</i>	<b>Notulen:</b> Lailatun Ni'mah  <b>Operator:</b> Candra Panji A	
15.35 – 15.50	<b>Speaker 10</b> <b>Dr. Siti Nur Kholifah, M.Kep., Sp.Kom.</b> Poltekkes Kemenkes Surabaya <i>“Interpersonal Interaction with Family-Nurse in Improving The Performance of Public Health Nurse”</i>		
15.50 – 16.05	<b>Speaker 11</b> <b>Eva Agustina Yalestyorini, S.Kep., Ns., M.Kep</b> STIKES Surya Mitra Husada		

TIME	ACTIVITY		VENUE
	<i>“Relationship between Dietary Habits and Menstrual Pattern with Anemia of Adolescent”</i>		
16.05 – 16.30	Plenary Discussion		
	Certificate Conferment	<b>Vice Dean</b>	
16.30 – 16.45	Closing Day 1	<b>MC</b>	

## DAY 2, SUNDAY 9<sup>th</sup> April 2017

TIME	ACTIVITY		VENUE
07.00 – 08.00	Open Registration	Committee	Kahuripan 300 Management Build, Unair Kampus C
08.00 – 08.30	Opening Ceremony : NEVO Choir Performance (Gebyar-Gebyar & Heal the Word)	MC Nadia & Hakim NEVO	
Plenary Session IV			Kahuripan 300 Management Building, Unair Kampus C
08.30 – 08.45	Speaker 12 Bill Mc.Guiness, RN, Dip T, B Ed, MNS, Ph.D, FAWMA La Trobe University “Pressure Ulcer Updates”	Moderator: Ira Suarilah, S.Kep., Ns., M.Sc	
08.45 – 09.00	Speaker 13 Prof. Dr. Nursalam, M.Nurs (Hons) Universitas Airlangga “Family Experience In Caring For HIV Positive-Indonesian Migrant Workers: A Phenomenological Study”	Notulen: Lingga Curnia Dewi  Operator: RR Dian T	
09.00 – 09.15	Speaker 14 Ninuk Dian Kurniawati, S.Kep., Ns., MANP Universitas Airlangga “Mind-Body-Spiritual Nursing Care in Intensive Care Unit”		
09.15 – 09.30	Speaker 15 Dr. Kusnanto, S.Kp., M.Kes Universitas Airlangga “The Effect of Implementation of Theory of Reasoned Action against Clients with Type 2 Diabetic Mellitus Diet Adherence and Physical Activity”		
09.30 – 10.00	Plenary Discussion		
	Certificate Conferment	Vice Dean	
10.00 – 10.15	Coffee Break	Committee	
Plenary Session V			
10.15 – 10.40	Speaker 16 Dr. Linda Sweet Flinders University “Enhancing Clinical Learning- Before, During, After”	Moderator: Tiyas Kusumaningrum, S.Kep., Ns., M.Kep	Kahuripan 300 Management Building, Unair Kampus C
10.40 – 11.00	Speaker 17 Dr. Kristen Graham	Notulen:	

TIME	ACTIVITY		VENUE
	Flinders University <i>“Using Simulation to Enhance Student Learning”</i>	Aria Aulia N	
11.00 – 11.30	Plenary Discussion	<b>Operator:</b> RR Dian T	
	Certificate Conferment	<b>Vice Dean</b>	
11.30 – 12.00	<b>Doorprize Session I</b>	<b>MC</b>	
12.00 – 13.00	<b>Lunch Break</b>	<b>Committee</b>	
13.00 – 14.00	Oral Presentation 1 (30 oral)	<b>Committee</b>	Kahuripan Room
14.00 – 15.00	Oral Presentation 2 (30 oral)	<b>Committee</b>	Kahuripan Room
15.00 – 16.00	Oral Presentation 3 (30 oral)	<b>Committee</b>	Kahuripan Room
16.00 – 16.30	<b>Doorprize Session 2 + announce best oral and poster presentator</b>	<b>MC</b>	Kahuripan Room
16.30 – 17.00	<b>Closing Remark</b>	<b>MC</b>	Kahuripan Room 300



# PAIN ASSESSMENT OF CRITICAL PAIN OBSERVATION TOOL FOR MECHANICALLY VENTILATED ADULTS IN ICU: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Critical care pain observation tool (CPOT) is one of the behavior pain scale frequently used to detect pain in a critical patients with non verbal method. **Objectives:** To assess validity, specificity, and sensitivity of CPOT in detecting pain to critical adult patients in ICU unable to communicate his pain. **Method:** Article searching from database; Google scholar, Ebsco, ScienceDirect, Elsevier, Medline, CINAHL, SpingerLink, and Proquest ranging from 2006 to 2016. **Results:** There are 16 reviewed international journals; 11 articles dealing with CPOT, 3 CPOT & BPS articles, 1 CPOT & NVPS-R article, and 1 CPOT & FLACC & PINR article. **Conclusions:** This systematic review is less strong to recommend the use of CPOT universally. However, in general CPOT can be used to measure pain scale in mechanically ventilated adult patients in ICU either conscious or unconscious. Further study is needed by using RCT and more accurate criteria for validity.

**Keywords:** critical-care pain observation tool, critically ill adults, intensive care unit

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## INTRODUCTION

Critically ill patients frequently complain of pain and being in an uncomfortable state during their care in ICU. Approximately 50% of patients complain of pain ranging from moderate to severe, either during rest or routine procedures (Rijkenberg, et.al., 2015). The pain is caused by a number of factors; pathological conditions, surgical procedures, medical procedures, and nursing interventions such as; repositioning and suctioning (Varquez, et.al., 2011). Pain is subjective. Self report is the main standard used to assess pain, but self report cannot be readily obtained (Bourbonnais, et.al., 2016). Many patients treated in ICU find it difficult to verbalize the pain because they are mechanically ventilated, are sedated/ under analgesia, or suffer from altered LOC (Stites, 2013). Inadequate pain management can result in impaired physiological and psychological condition such as unstable hemodynamic and delirium (Li, et.al., 2014).

Assessment is the first important stage in pain management (Bourbonnais,

et.al., 2016). Assessment of pain in critically ill patients on intubation and sedation who are unable to communicate their needs verbally is still a challenge. Unfortunately, measurement of acute pain is frequently inaccurate, so management to relieve pain is also inadequate. No pain assessment tools universally accepted are used in all intensive care units (Linde, et.al., 2013). Therefore more accurate pain assessment tools are needed and the validity and reliability must be tested. CPOT is observational rating scale designed by Gellinas, et.al. (2006) to measure pain in patients treated in ICU unable to communicate it verbally. CPOT has 4 indicators; facial expression, body movement, muscle tension, and compliance with ventilator (for intubated patients) or vocalization (for extubated patients).

CPOT is used due to limitation of tool behavioral pain assessment (BPS & the post anesthesia care unit behavioral pain rating scale) in which BPS consist of 3 components; facial expression, upper limb movement, and compliance with ventilation, while in CPOT muscle tension

category is added both BPS and CPOT are used to assess body movement, but additional muscle tension needs peer evaluation (Linde, et.al., 2013).

The Objectives of this paper is to review validity, specificity, and sensitivity of CPOT in measuring pain scale in critically ill adult patients in ICU on ventilator either conscious or unconscious, intubated or nonintubated.

## METHOD

### *Literature Search*

A systematic review was initiated with article search in electronic databases including Google Scholar, Ebsco, ScienceDirect, Elsevier, Medline, CINAHL, SpringerLink and ProQuest. The PICO framework was used including critically ill adult population, critical care pain observation tool intervention, compared with behavioral pain scale (BPS,

FLACC, PINR, NVPS-R, and sensitivity outcomes and specificity of using CPOT in measuring pain scale. The searching obtained 37 full text articles subsequently strickly selected. It then produced 16 ~~journals~~ articles which were critically reviewed.

### *Study Selection Criteria*

The articles are confined to the use of CPOT in critically ill adults treated in ICU published in English in the past 10 years (2006-2016). The article searching is not specified on certain designs due to the lack of available study. From 16 articles, 11 articles measured CPOT, 3 articles compared CPOT & BPS, 1 article compared CPOT & NVPS-R, and 1 article compared CPOT & FLACC & PINR. The selected sample was patients treated in ICU. Study on medical files and or nurses were excluded.

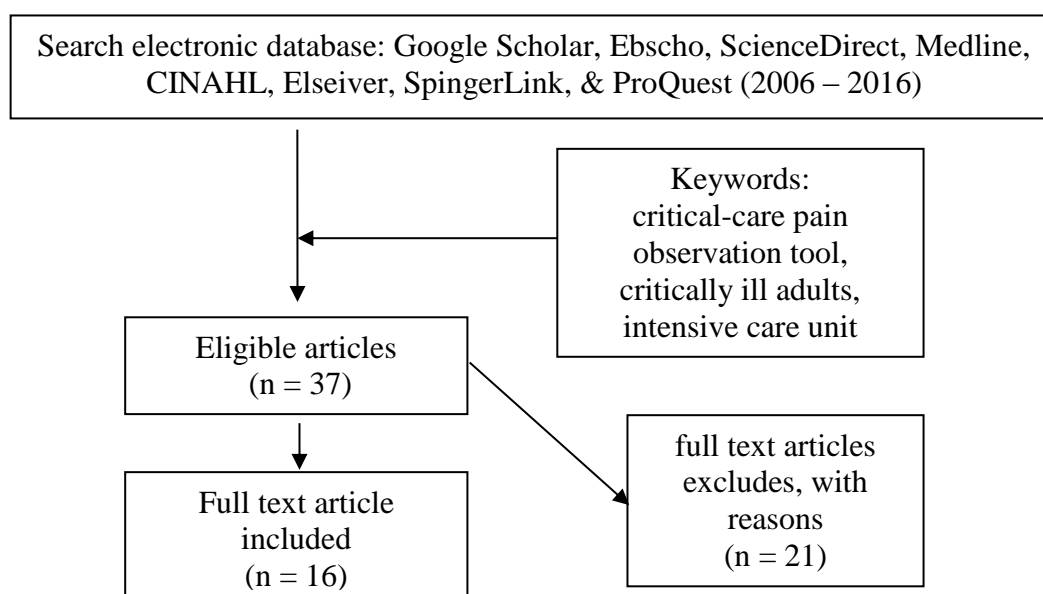


Figure 1. Search algorithm

### *Level Of Evidence*

The strength of the study is measured based on level of evidence Wood & Haber (2010) divided into 7 levels.



Figure 2. Level of Evidence based on Wood & Haber (2010)

## RESULTS

### *Study Design*

Articles reviewed include; 2 observational – prospective study, 1 prospective observational cohort, 2 descriptive-correlational design, 1 non randomized prospective study, 7 repeated measures design, and 3 descriptive design. According to the level of evidence, 16 articles are in 4-6 levels from 7 level of evidence, level 4 (12 articles) & level 6 (4 articles).

### *Characteristic of Participant*

Studies reviewed were derived from 7 countries; Canada (7 studies), Korea (1 study), China (2 studies), Spain (1 study), USA (3 studies), Netherland (1 study), and Italy (1 study). All studies were carried out in critically ill adults (age  $\geq 16$  years old and  $\geq 18$  years old) including; General ICU (all cases), Cardiac ICU (Cardiac surgery), Medical ICU, Neurosciences ICU (Brain injury, stroke, aneurysm, & TBI), and Neurosurgical ICU (traumatic or neurosurgery, vascular, brain surgery).

### *Sensitivity and Specificity*

Gelinas, et.al. (2009) used repeated – measure design to evaluate sensitivity & specificity CPOT on 105 intubated critically ill patients post cardiac surgery able to hear and see. Pain scale measurement was done during rest (pre

exposure), during turning (exposure), and 20 minutes after (post exposure). The patient's self – report of pain was taken while the patients were on intubation and extubation. The result reveal that pre exposure CPOT has 47.2% sensitivity and 82.9% specificity; exposure 86% sensitivity, 78 % specificity, and 84.5% accuracy; while post exposure sensitivity and specificity is 63% and 97.4% respectively.

Varquez, et.al. (2011) used prospective descriptive study to compare CPOT with patients' physiological responses before, during, and post repositioning on 96 critically ill patients which included medical cases (21) and surgical cases (75). The measurement revealed facial expression is an indicator which significantly increased compared with baseline condition (without stimuli), followed by body movement, compliance with ventilator, and muscle tension. Total mean in CPOT during turning on surgical patients = 2.02, medical patients = 1.80. CPOT cutoff score  $> 3$  with sensitivity = 66.7% and specificity = 83.3%

Li, et.al. (2014) used repeated – measures design on 63 conscious and ventilated critically ill patients able to hear and understand Chinese and who were stable. Pain scale measurement with CPOT was done during rest, pre and post turning and NIBP. The results revealed CPOT cut off score ( $> 2$ ) with 80.8 – 89.4% sensitivity and 73.3 – 81.8 % specificity.

Joffe, et.al. (2016) used repeated measures within subject prospective design to measure reliability and validity CPOT on 79 critically ill patients with brain injury (stroke, aneurysm, tumor, TBI, etc). Measurement was done pre & post 2 procedures (non painful/ gentle touch & painful procedure/ turning). Self report of pain was obtained by having the patients give verbal affirmation (Yes/No) or nod by using Faces Pain Thermometer scale 0-10. Measurement reveals CPOT cut off score = 2 with 90% sensitivity and 67% sensitivity.

Severgnini, et.al. (2016) used observational – prospective study on 101 critically ill patients conscious ventilated patients (41), unconscious ventilated patients (60). This study measured pain by using CPOT & BPS 1 minute before, during, and 20 minutes after procedures (turning, suctioning, medications, repositioning, & catheter management). The measurement revealed that BPS was more specific (91.7%) than CPOT (70.8%), but BPS was less sensitive (62.7%) compared with CPOT (76.5%). Combination of both tools produced better sensitivity value (80.4%).

It concluded that specificity of CPOT during the painful procedure was between 67 – 97.4% and sensitivity 66.7 – 90 %. While BPS revealed 91.7% specificity and 62.7% sensitivity. Sensitivity of CPOT was lower during the pre exposure (47.2%) and post exposure 63%, but it had higher specificity than pre exposure 82.9% & post exposure 97.4% (Gelinas, et.al., 2006).

## **Validity**

### *Discriminant validity*

Score of CPOT during nociceptive procedure (mean score=1.93, SD 1.41) is higher than non nociceptive procedure (mean score 0.27, SD 0.64) or ( $t = -9.01$  to  $-15.96$ ,  $p < 0.001$ ) (Gelinas, et.al., 2006; Varquez, et.al., 2011; & Benites, et.al., 2014). There was no significant difference of discriminant validation of CPOT before and after gentle touch (Wilcoxon =  $-1.00$ ,  $p = 0.32$ ), but the score is higher during turning than preturning (Wilcoxon =  $-7.06$ ,  $p < 0.01$ ) (Joffe, et.al., 2016).

This review shows that CPOT and BPS are both reliable and valid with good criterion and discriminant validity to measure pain on either intubated or non intubated patients supported by criterion validity score of BPS is  $rs = 0.56$ ,  $p < 0.0001$  and Spearman correlation of CPOT and BPS ( $r = 0.951$ ,  $p < 0.001$ ) (Liu & Herr, 2015 & Severgnini, et.al., 2016). However, discriminant validation of BPS is less strong

because it also increase during nonpainful procedure (Rijkenberg, et.al., 2014).

### *Criterion validity*

There is a significant relationship between patient's self-report of pain and CPOT score; in patient's self-report pain CPOT score is 1.62 – 3.65; in patient's denying pain CPOT score is 0.49-2.11. In addition, there is moderate positive correlation between self – report of pain and CPOT during turning (0.64,  $rs = 0.48$ ,  $p < 0.01$ ) (Gelinas, et.al., 2006; Gelinas, 2009; Benites, et.al., 2014; Severgnini, et.al., 2016; & Joffe, et.al., 2016).

Criterion validity between CPOT & FLACC is 0.87-0.92, but FLACC is less appropriately used on ill adults (Buttes, et.al., 2014). Criterion validity of CPOT & NVPS-R is significantly higher during turning than NIBP (CPOT  $p = 0.019$ , NVPS-R  $p = 0.025$ ), but NVPS-R has weaker inter-rater & concurrent validity than CPOT (Vranic, et.al., 2013). CPOT & PINR have lower correlation (0.50-0.69) than CPOT & BPS ( $r = 0.951$ ) (Liu & Herr, 2015).

## **DISCUSSION**

This review shows that CPOT score increased during painful procedure and immediately decreased within short time (about 10-20 minutes) (Rijkenberg, et.al., 2015). It became the basis that CPOT increases during painful procedure and it is assumed that the change of score results from manipulation turning or ETT/TT suctioning procedure increases pain while rest, oral care, gentle touch, NIBP measurement are less painful procedure (Severgnini, et.al., 2016).

CPOT is used on mechanically ventilated patients conscious or unconscious that are unable to communicate their pain without neuromuscular disorder. According to Severgnini, et.al. (2016) CPOT is more complete than BPS because muscular movement of arms and legs are not measured in BPS. Facial expression and ventilator compliance are measured in both



tools. CPOT is more sensitive than BPS, but is less specific than BPS. According to Liu & Herr (2015) both CPOT and BPS are valid and reliable to measure pain on intubated or non intubated patients because CPOT and BPS increased significantly during painful procedure, in which both have strong correlation (Spearman correlation analysis  $r=0.951$ ,  $p<0.001$ ). CPOT & BPS significantly increased as well (2 digits) between rest and turning (Rijkenberg, et.al., 2014). CPOT & BPS shows good criterion validity (BPS  $rs=0.56$ ,  $p<0.0001$ ; CPOT  $rs=0.48$ ,  $p<0.0001$ ). Severgnini, et.al. (2016) found that combination of CPOT & BPS procedures better sensitivity (80.4%) in measuring pain.

Although CPOT has lower specificity than BPS (Severgnini, et.al., 2016), CPOT is more reliable than other tools. Discriminant validation of BPS is less supportive because score also increased during nonpainful procedure (Rijkenberg, et.al., 2014). FLACC is less appropriately used in adults, this tool is more appropriately used in infants (Stites, 2013 & Buttes, et.al., 2014). CPOT & NVPS-R increased during turning instead of NIBP, but the inter-rater and concurrent validity is weaker than CPOT (Vranic, et.al., 2013). CPOT & PINR have lower correlation (0.50-0.69) than other tools (Buttes, et.al., 2014).

Regarding criterion validity, CPOT has moderate positive correlation with patient's self – report of pain during turning (0.64,  $p<0.01$ ) in which CPOT score during patient's reporting pain 1.62-3.65 and patient's denying pain 0.49-2.11 (Gelinas, 2006; Gellinas & Arbour, 2009; Benites, et.a., 2014; & Joffe, et.al., 2016). From nurses' point of view, >90% nurses support the use of CPOT due to its clarity, understand ability, and easiness to fill in. More than 70% nurses agree that CPOT is helpful in nursing clinical practice and is recommended to be routinely used (Gelinas, 2010). CPOT can be measured within short time and need minimum training (Linde, et.al., 2013). CPOT is still recommended to

be used in ICU viewed from sensitivity, validity, and nurses' recommendation as long as no more accurate tool is invented.

### **Limitations**

This systematic review is within level 5 to 7 level of evidence with most articles ( $n=16$ ) reviewed within level 4-6. it is therefore, less stronger to refer to. The study sample sizes of 23 – 257 critically ill adults (11 studies  $n<100$  & 5 studies  $n>100$ ) without randomising is considered not strong therefore cannot be generalized.

CPOT measurement is subjective to operator (nurses) and is not objective (Severgnini, et.al., 2016). The ability of nurses in understanding the measuring technique and how to determine the score affects CPOT score. Therefore, the need training about CPOT before being applied (Linde, et.al., 2013). Muscle tension cannot be measured on patients physically unable to respond such as quadriplegia, paraplegia, or neuromuscular disorder (Stites, 2013). Delirium condition can be a confounding factor resulting in bias of CPOT results (Rijkenberg, et.al., 2015). Specificity of CPOT during painful procedure is lower than during nonpainful procedure (Severgnini, et.al., 2016).

### **CONCLUSIONS**

In general, CPOT can be used to measure pain on mechanically ventilated ill adults (conscious or unconscious) in ICU for all cases. CPOT has positive correlation with self reported pain, is more sensitive than other tools, but less specific than BPS. This systematic review is not strong enough to recommend the universal use of CPOT. However, CPOT is still recommended to be used in ICU as long as no better tool is available. There is a need for further research with high quality RCT and a more objective and accurate validity standard.

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# DOMINANT FACTORS AFFECTING NURSE PERFORMANCE IN GENERAL WARDS: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** The main problem of nurse performance in nursing services is the lack of highly educated nurses, inadequate capacity, many nurses were rude (less friendly to the patient). The purpose of this study was to determine the dominant factors affecting nurse performance in general wards. **Methods:** This study was used a systematic review design. A literature search conducted through several major databases such as ProQuest, ScienceDirect, Eldoxea, Medline, and Google Scholar by entering keywords Nurse Performance, Job Satisfaction of Nurse, Factors Effecting Performance of Nurse. Researcher found only 15 articles with a sample of study were 2017 nurses in general wards of hospital. The inclusion criteria was 1) Case Control /Cross Sectional design 2) Sampling taken with random sampling technique 3) Non Experiment 4) The number of samples > 50 respondents. **Results:** The result showed from the 15 articles, there are three factors that are often used by researcher as a variable to determine the factors affecting nurse performance in general wards of hospital namely motivation as much as 7 researchs, salary as much as 6 research, leadership as much as 5 research. These factors become dominant factors in this study to determine the effect on the nurse performance in general wards of hospital.

**Keywords:** Nurse Performance, Job Satisfaction, Performance

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## INTRODUCTION

The main problem of nurse performance in nursing services is the lack of highly educated nurses, inadequate capacity, many nurses were rude and less friendly to the patient. The problems were not just about the attitude to the patient, but also the high rates of nursing workload, unclear rules and regulations of the nurse (Aditama, 2003). Consumers still feel a lot of deficiencies from nurse performance, such as competitiveness and competency that can not meet the demand for healthcare services (Department of Health RI, 2001 in Sasono, 2016).

The previous study showed the differences in the results of the factors affecting nurse performance. Mulyaningsih (2013) in her research showed the demographic and educational factors did not affect nurse performance, while Rahmatina, et al. (2015) and Nurbaya (2012) in their study mentioned that

educational factors affecting nurse performance.

According to Jeles (2009) nurse performance is an act done by a nurse within an organization according to their authority and responsibilities, not violate the laws, rules and norms and ethics, which is a good performance will give satisfaction to the service user. The activities of a nurse is to collect data about the health of the patient (assessment), make a diagnosis according to the science of nursing, set nursing goals, implement nursing actions and evaluation. Many researchers doing research about the factors affecting nurse performance with different variables and results. Their research has many differences from sample size and place of research is influenced by various factors.

Based on the background above, researcher conducted a systematic review research about " Dominant Factors

Affecting Nurse Performance in General Wards”.

## **METHODS**

Systematic review is one of the research methods that use a review, study, structured evaluation, classifying and categorizing of evidence based had done before. The steps and strategies for the systematic review were highly planned and structured so that this method is different from the methods which just used to show the literature study (Tutik, 2013).

A literature search conducted through several major databases such as ProQuest, ScienceDirect, Eldoxea, Medline, and Google Scholar by entering keywords Nurse Performance, Job Satisfaction of Nurse, Factors Effecting Performance of Nurse. Data were collected at Airlangga University in Surabaya and 1254 articles have been found. Then the number of the article is minimized by the year 2012 - 2016. This aims to maintain the currency of writing based on the latest research results, found 567 articles by researcher. Researcher found only 15 articles with a sample of study were 2017 nurses in general wards of hospital. The inclusion criteria was 1) Case Control /Cross Sectional design 2) Sampling taken with random sampling technique 3) Non Experiment 4) The number of samples > 50 respondents.

The result showed from the 15 articles, there are three factors that are often used by researcher as a variable to determine the factors affecting nurse performance. The purpose of this study was to determine and analyze the dominant factors affecting nurse performance in general wards of hospital.

## **RESULTS AND DISCUSSION**

Statistical analysis showed nurse performance were not good by 37.6%. Bivariate analysis showed a significant relationship between the reward factor ( $p = 0.000$ ), leadership ( $p = 0.000$ ), education and training ( $p = 0.037$ ) and the providing

incentives (0,037) to the improved nurse performance (Nurbaya, 2012). Sasono, et al. (2015) mentioned that one of demographic factors such as age has an influence on the nurse performance.

### **Identification of factors affecting nurse performance in general wards of hospital**

There was 15 articles has been chosen as a sample of research and 53 variable found as the factors affecting nurse performance. Researchers only used 27 variables as the factors affecting nurse performance in general wards of hospital namely 1) motivation, 2) supervision, 3) awards, 4) competency, 5) Adversity Quotient (AQ), 6) Quality Management (TQM) , 7) training, 8) education, 9) age, 10) gender, 11) working period, 12) job satisfaction, 13) leadership, 14) work culture, 15) career development, 16) compensation, 17) salary, 18) discipline, 19) workloads, 20) intensive, 21) facilities, 22) nurse status, 23) type of hospital, 24) experience, 25) time management, 26) sociodemographic, 27) environment.

### **Identification of dominant factors affecting nurse performance in general wards of hospital**

Researcher analyzed the dominant factors affecting nurse performance in general wards of hospital from 27 existing variables. Researcher identify, classify same variable, and analyze the factors which is more used from 15 samples in order to examining the factors affecting nurse performance in general wards of hospital (Table 3).

Table 3 shows from 15 studies, variables which is significant with the nurse performance in general wards of hospital were 40 variables. Researchers conducted the identification and clustering the same variables and 19 variables was found: 1) motivation, 2) supervision, 3) awards, 4) Adversity Quotient (AQ), 5) leadership, 6) training, 7) education, 8) job satisfaction, 9) work culture, 10) career development, 11) discipline, working period, 12) workloads,



13) facilities, 14) nurse status, 15) age, 16) time management 17) experience, 18) environment, 19) job satisfaction.

Analysis showed from 15 articles, there was three factors are often used by researchers as variable to determine the factors affecting nurse performance in general wards of hospital namely motivation as much as 7 researchs, salary as much as 6 researchs, leadership as much as 5 researchs. . These factors become dominant factors in this study to determine the effect on the nurse performance in general wards of hospital.

### **Motivation factor**

There was 7 of 15 articles that use motivation as a factor affecting nurse performance in general wards of hospital. Those articles include article from Fergie Mandagi M., et al (2015), Endah main Woro, et al (2013), Sri Sugiyanti (2013), Inriyani Matthew, et al (2014), Sasono Mardiono, et al (2015), Tesfaye (2015), Agezegn Asegid, et al (2015).

Motivation affects nurse performance in general wards of hospital, this is consistent with research by Indrawaty and Rattu (2012) which mentioned that there was a significant relationship between motivation and nurse performance in Irina general wards of Binangkang Datoe Kotamobagu City Hospital. Mahendra and Brahmasari (2015) in their research also mentined that there was a significant relationship between work motivation and nurse performance in the general wards of Menur Psychiatric Hospital Surabaya. Research by Muttaqillah, et al (2015) mentioned that the motivation from nurses to BLUD RSJA have a positive effect in improving nurse performance.

Motivation in the workplace can be defined as an individual's degree of willingness to exert and maintain effort towards organizational goals. Work motivation is an internal process and person receive certain stimuli from the environment (Bennetts, et al 1999).

Motivation could push a nurse to behave according to the goals that would be achieved. Motivation can also make a nurse to predict the behavior of what have to do in the future. In this case the behavior of the nurses will either come from that nurse with good motivation. So if a nurse has a good motivation to achieve its goals, their performance will increase. Thus, the more motivation of individual nurses increase, the more nurse performance of individuals, groups and the hospital improve.

### **Salary/incentive factor**

There was 6 of 15 articles that use salary as a factor affecting nurse performance in general wards of hospital. Those article include article from Surya Darma Putra, et al (2014), Nurbayak, et al (2012), Inriyani Mathius, et al (2014), Sasono Mardiono, et al ( 2015), Nebiat Negussie, et al (2013), Agezegn Asegid, et al (2015).

Salary is one of the factors which can affect the nurse performance in general wards of hospital. this is consistent with research by Lande (2006), which showed that the relationship between incentive and nurse performance when performing nursing care in general wards. There was so many nurses in general wards of Elim Rantepao Toraja Hospital are not satisfied with their incentive which related to their poor performance in performing nursing care.

Similarly with research by Sitohang (2006) which mentioned that the low performance of nurses to do works it is because of low incentives earned. It can be seen from the nurses who always think to get another job outside the hospital. Emerging paradigm is the incentive will automatically be always accompanied by the increase in productivity/ performance. Incentive or salary is one of the factors that affect the level of performance, and there are other factors may also affect performance such as conducive environment (attitude and behavior of supervisor) and the environmental



characteristics of nurse organization in the work can also solve the problem and management policies (Muhammad, 2003). A good salary is a system that is able to ensure the satisfaction of the organization members. An organization acquire, maintain and employ a number of people with a positive attitude and behavior, and also those people work productively for the benefit of the organization. If the organization members was not satisfied with their compensation, the impact on the organization will be very negative. This means that if these grievances are not resolved properly, it is natural that the organization member want more incentive. There was 5 of 15 articles that use leadership as a factor affecting nurse performance in general wards of hospital. Those article include article from Sri Sugiyanti (2013), Rahmatina Aulia, et al (2014), Nurbayak, et al (2012), Sasono Mardiono, et al (2015) , Agezegn Asegid, et al (2015).

Leadership is a factor affecting nurse performance in general wards of hospital. This is consistent with research by Ermina Rusilawati (2009) which concluded that the factors affecting the employee performance at zainab Women and Children's Hospital Pekanbaru, one of the variable is leadership, with coefficient value 0.390. It means leadership positively affects employee performance. The results of this study consistent with Andreas's opinion (2005: 15) which explains that in the literature of management and organization, organizational culture and leadership is seen as the two main variables that affecting both the poor and the good performance of employees. Strong and adaptive organizational culture and also transformational leadership are two key variables which related to determine the level of employee performance. Both of this evidence showed the influence of leadership on employee performance improvement. Organizational commitment is a situation where an employee in favor of an organization policies which aim to maintain

the work productivity of organization members although there are leader commitments that states are less good, but the fact remains significantly affect the performance of nurses. Thus, if the pattern of leadership in improving performance are less or no good, then the performance will decrease because leadership is a key in determining the employee performance, including the nurse performance in general wards of hospital.

## CONCLUSION

Factors that are often used by researchers to determine the effect of the nurse performance can be divided into internal and external factors. Internal factors including age, gender, education, experience, time management skills, and discipline. While external factors including motivation, leadership, salary, training, facilities, nurse status, workload, Adversity Quotient (AQ), and environment. The dominant factor affecting nurse performance nurses in general wards of hospital are external factors such as motivation, salary, and leadership.

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# ANALYSIS OF THE INFLUENCE OF MGSO<sub>4</sub> INJECTION ON PRE ECLAMPSIA DELIVERY IN PRE-REFERRAL JOMBANG HOSPITAL TOWARDS PREVALENCE ECLAMPSIA INCIDENT

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## ABSTRACT

**Introduction:** Eclampsia become one of the major causes of maternal mortality in Indonesia. Number of patients in hospitals Preeklampsia weight Jombang in 2015 as many as 78 people, while in January to May 2016 has reached 74 people. In order to prevent eclampsia, MgSO<sub>4</sub> must be given immediately after the diagnosis of severe preeclampsia. Nevertheless, based on the study still found pendahuluan pre-referral health facilities that do not provide MgSO<sub>4</sub> therapy on maternal pre eclampsia. **Method:** This research is an analytic study using a retrospective cohort design. Based on estimates of the samples, it takes 74 mothers of the total population 119 mothers. Sampling was done by simple random sampling. Test analysis to see the effect of MgSO<sub>4</sub> on maternity severe preeclampsia to eclampsia, used chi square test and Fisher's exact test. While the chances of exposure to risk factors was assessed using the Relative Risk (RR). **Result:** The results of the analysis proved that  $\chi^2 = 1.014$ ;  $p = 0.000$ , which means there is the effect of MgSO<sub>4</sub> in a reference to the prevalence of pre-eclampsia. Further analysis of the results obtained by the value of relative risk (RR) of 1.03 is the meaning contained 1.03 times greater risk of eclampsia occur in the group not given pre-referral MgSO<sub>4</sub> in place compared to mothers who were given MgSO<sub>4</sub>. **Conclusion:** The results of this study can be used as a reference to create the target program in place pre-referral health services associated with handling severe preeclampsia so as to reduce maternal mortality and infant.

**Keywords:** MgSO<sub>4</sub>, Weight Preeclampsia, Eclampsia

## INTRODUCTION

Maternal mortality is still a major problem in Indonesia, the number of cases continues to increase each year. Indonesia's maternal mortality remains dominated by three major causes of death are hemorrhage, hypertension in pregnancy, and infection. The proportions of the three causes of death have changed, as bleeding and infection tended to decrease while the proportion of hypertension in pregnancy is increasing. In 2011 the main causes of maternal mortality in East Java is perdarahan. But in 2012 and in 2013 shifted to preeclampsia / eclampsia. More than 25% of maternal deaths in Indonesia in 2013 caused by hypertension in pregnancy (MOH RI, 2014). If the maternal mortality disaggregated by age group, the maternal mortality age <20 years amounted to one person, aged 20-34 years

were 17 people aged  $\geq 35$  years and 8 (DHO Jombang, 2014). From the data obtained from previous studies which refers to the district hospital medical records. Jombang number of patients Preeklampsia weight during 2015 as many as 78 people, while in 2016 (January-May) as many as 74 people. In case preeklampsia that if not immediately get treatment will be eclampsia, or seizures that cause damage to organs such as heart failure, renal failure, impaired liver function, blood clotting disorders, HELLP syndrome, and even death in the mother and baby, or both (Rukiyah, 2010). Additionally, effect on babies born asphyxiated due to early delivery (Ballington, 2010).

Currently the administration of MgSO<sub>4</sub> in every hospital has become the standard of care for the management of patient weight Preeclampsia / Eclampsia especially in hospitals JOMBANG which

serves as a referral hospital in Jombang. In order to prevent eclampsia, then MgSO<sub>4</sub> must be given immediately after the diagnosis of severe preeclampsia, although still in the pre-referral health facility

## METHODS

This research is an analytic study using a retrospective cohort design, the effect of MgSO<sub>4</sub> in a pre reference to an incident in the incidence of eclampsia PONEK Jombang General Hospital in January-June 2016. In a retrospective cohort study, exposure and disease have occurred in the past before the start of the study, so that these variables were measured through historical records / medical records of patients.

Conducted a retrospective cohort study using the study group (a group of people who were exposed to the risk factor) and the control group (a group of people who are not exposed to a risk factor). In this study, MgSO<sub>4</sub> is a risk factor and eklmpsia as the effects of exposure that has happened in the lampau.Populasi in this study are all mothers who were referred to hospitals PONEK Jombang on indications pre eclampsia in January-June 2016 as many as 119 mothers. From the results obtained sample calculation formula the sample size is 29 respondents for each - each group, taking into account the drop out cases by 20%, then set the number of samples for each group of 37 mothers, so the overall sample in this study amounted to 74 mothers. Sampling was done by simple random sampling by taking into account criteria for inclusion and exclusion as follows:

### a. The inclusion criteria

Mother maternity referred by health care and diagnosed severe preeklampsi.

### b. Criteria for exclusion:

Mother maternity referred to PONEK and terdiagnnosis eclampsia due to the complications of pre eclampsia in place of reference.

Test data analysis to see the effect of risk factors on maternal MgSO<sub>4</sub> granting pre eclampsia in a reference to the incidence of pre eclampsia, using chi square test and Fisher's exact test. While the chances of exposure to risk factors assessed on the size of the association used are the Relative Risk (RR).

## RESULT

Overview Characteristics of Respondents Mother Maternity Hospital PONEK PEB in Jombang. Can be explained in Table 1 that the frequency of respondents by age of mother in hospital PONEK Jombang, the study group respondents mostly aged 20-35 years as many as 22 mothers (59.5%) and in the control group most of the respondents aged > 35 years of the 19 mothers (51.4%). Based on the history of the respondents parity, maternal study group is largely a primipara mothers that as many as 26 mothers (70.3%) and in the control group mothers PEB frequency with parity primiparas as many as 33 mothers (89.2%). Results of research characteristics respondents based on gestational age, maternal study group as a whole is as much as 37 mothers (100%) are women with gestational age > 30 weeks and the control group respondents mothers with gestational age > 30 weeks, of 35 mothers or 94.6 %. Based on the incidence of eclampsia incidence, the study group as a whole 100% or as much as 37 mothers did not experience eclampsia. While in control kelpok there is one mother who suffered eclampsia which amounted to 2.7% of the total number of respondents in the control group.



Table 1. Characteristics of Respondents Mother Maternity Hospital PONEK PEB in Jombang during the month of January-June 2016

variable	The study group		Control group	
	n	%	n	%
<b>age Mothers</b>				
<20 years	2	5,4%	1	2,7%
20-35 years	13	35,1%	19	51,4%
> 35 years	22	59,5%	17	45,9%
<b>parity</b>				
1 time	26	70,3%	33	89,2%
> 1 times	11	29,7%	4	10,8%
<b>Age Pregnancy</b>				
> 30 weeks	37	100%	35	94,6%
<30 weeks	0	0,0%	2	5,4%
<b>Eclampsia</b>				
yes	0	0,0%	1	2,7%
no	37	100%	36	97,3%

According to table 2 can be explained that as a whole (100%) of the respondents were aged <20 years and in the reproductive age range (20-35 years) do not suffer eclampsia. While respondents experienced eclampsia were age> 35 years that is a number one respondent (2.6%). Based on the characteristics of the history of parity, respondents who experienced eclampsia are mothers with parity primiparity that as many as one mother (1.7%) of 59 women primipara. The results of this study also mentions that the respondents had eclampsia is the mother PEB with a gestational age> 30 weeks, or by 1.4%.

Table 2 Characteristics of Respondents Based Genesis Eclampsia Pre Eclampsia in PONEK Hospital Jombang during the month of January-June 2016

Variable	Eclampsia		Not Eclampsia	
	n	%	n	%
<b>age Mothers</b>				
<20 years	0	0,0%	3	100,0%
20-35 years	0	0,0%	32	100%
> 35 years	1	2,6%	38	97,4%
<b>parity</b>				
> 1 times	0	0,0%	15	100%
1 time	1	1,7%	58	98,3%
<b>age pregnancy</b>				
> 30 weeks	1	1,4%	71	98,6%
<30 weeks	0	0,0%	2	100%

#### Eclampsia Based Health History and Management of Pre Eclampsia in PONEK Hospital Jombang

Table 3 explains that respondents with poor general condition suffered eclampsia by 25% or as much as one mother. The results of this study explaining also that mothers who suffered eclampsia are mothers with examination results in a referral hospital PONEK Jombang had systolic blood pressure> 160mmHg as much as 1.9%, and diastolic <110mmHg as much as 2.9%. Whereas in urine protein test results showed that mothers who suffered eclampsia merupakan mother with urine protein> +3 as much as 23.3% and there oedeme.

Table 3 Genesis Eclampsia Based Health History and Management of Pre Eclampsia in PONEK Hospital Jombang during the month of January-June 2016

Variable	Eclampsia		Not Eclampsia		p value (chi square)
	n	%	n	%	
<b>General Situation</b>					
Good	0	0,0%	70	100%	0,054*
Poor	1	25%	3	75%	
<b>Blood pressure</b>					



<b>(systolic)</b>					
≥160mmHg	1	1,9%	51	98,1%	1,000*
<160mmHg	0	0,0%	22	100%	
<b>Blood pressure (Diastolic)</b>					
≥110mmHg	0	0,0%	39	100%	0,473*
<110mmHg	1	2,9%	34	97,1%	
<b>Protein urine</b>					
≥ +3	1	23,3%	42	97,7%	1,000*
< +3	0	0,0%	31	100%	
<b>Oedeme</b>					
Negative	0	0,0%	28	100%	1,000*
positive	1	2,2%	45	97,8%	

\* Fisher exact test

#### Analysis of Effect of MgSO<sub>4</sub> On Mother Maternity PEB In The Prevalence Of Genesis Reference Pre Eclampsia

Based on the results of the analysis are shown in Table 4, the chi square test in get  $\chi^2$  value count = 1,014 >  $\chi^2$  table; p = 0.000 <  $\alpha$  (0.05) it can be concluded that there is a difference in the outcome effects of giving birth mothers with MgSO<sub>4</sub> the PEB. As for knowing Relative Risk (RR) in this study can be known through Table 5.

Table 4 Prevalence of Mother Maternity PEB Treated With Pre-Referral MgSO<sub>4</sub> In place during the month of January-June 2016

Variable	Eclampsia		Not Eclampsia	
	n	%	n	%
<b>Granted MgSO<sub>4</sub></b>				
Yes	0	0,0%	37	100%
No	1	2,7%	36	97,3%
$\chi^2 =$ 1,014 ; p = 0,000				

Table 5 Relative Risk (RR) Research Giving Mother Maternity MgSO<sub>4</sub> In Preeclampsia Weight In The Pre-Referral

#### Hospital Jombang PONEK Prevalence Of Genesis Eclampsia 2016

Exposure Risk Factors in a pre-referral Securities	Output		Total
	Not eclampsia	Eclampsia	
<b>Granted MgSO<sub>4</sub></b>	37	0	37
Not given MgSO <sub>4</sub>	36	1	37
Total	73	1	

Relative Risk (cumulative incidence ratio=CIR): 1,03

#### DISCUSSION

Characteristics of Respondents Mother Maternity PEB Experiencing Eclampsia In PONEK Hospital Jombang This study suggested that the proportion of respondents who experienced eclampsia were age > 35 years that is a number one respondent (2.6%) of the total number of respondents ie 74 mothers who referred to the PEB PONEK Hospital Jombang. It is possible mothers aged between 20-34 years is the lowest age contributor to maternal and infant mortality, while older mothers are at great risk. Meaning, mothers aged > 35 years have a tendency to experience complications of pre-eclampsia. This is consistent with previous studies which

stated that the mother's age is one factor that contributes to the occurrence of eclampsia. A woman of reproductive age is 20-35 years old, and is the safest period to deal with pregnancy and childbirth because at that age the risk of complications during pregnancy are lower. Age above 35 years of age is mentioned as the risk of complications during pregnancy. Because at the age above 35 years degenerative process occurs which results in structural and functional changes in peripheral blood vessels are responsible for changes in blood pressure. This condition resulted in pre-eclampsia susceptible even to occur in patients with pre-eclampsia eclampsia.

Based on the characteristics of the history of parity, the percentage of respondents who experienced a data eclampsia are mothers with maternal parity primi the risk is that as many as one mother (1.7%) of the 59 women primi. In primigravidas have a tendency to be complications of pre-eclampsia are two-fold greater (JNPK-KR, 2009). Preeclampsia is more common in first pregnancies compared with subsequent pregnancies. This is because the first pregnancy blocking the formation of antibodies against the antigen placenta was not perfect, more perfect in subsequent pregnancies. In theory, primigravidas more at risk of developing pre-eclampsia than multigravida for pre eclampsia usually occurs in women who first exposed chorionic villi. This happens because the woman immunologic mechanism of blocking antibody formation performed by HLA-G (human leucocyte antigen-G) against the antigen placenta has not been completely formed, so that the implantation process trophoblastic tissue to be disrupted maternal decidua. Primigravidas also vulnerable to stress in the face of labor that will stimulate the body to release cortisol. The effects of cortisol is to increase the sympathetic response, resulting in cardiac output and blood pressure will also increase (Yie et al, 2008).

The results of this study also mentions that the respondents had eclampsia is the mother PEB with a gestational age > 30 weeks, or by 1.4%. This is supported by the theory that eclampsia as a result of the shape vasospasme and endothelial activation when the pregnancy over 20 weeks.

### **Genesis Eclampsia Based Health History and Management of Pre Eclampsia in PONEK Hospital Jombang**

The results of this study revealed that the prevalence of eclampsia in women giving birth with a diagnosis of PEB referred to PONEK Hospital Jombang, experienced by the mother in a bad state that as many as 1 person or 25%. The test results of analysis obtained  $p \text{ value} > \alpha$ , it means that there are no differences in the general state of the group who suffered eclampsia and eclampsia group that did not experience. Poor general state of the complications of preeclampsia is a condition that has great potential to eclampsia.

In addition, the results of this study also explains that birth mothers who suffered eclampsia PEB is mother to  $\geq 160 \text{ mmHg}$  systole blood pressure and diastolic blood pressure  $< 110 \text{ mmHg}$ . The test results of analysis obtained  $p \text{ value} > \alpha$ , it means that there is no significant difference on blood pressure in those who suffered eclampsia and eclampsia group that did not experience. The incidence of eclampsia is not only caused by a single cause, but many factors. In terms of systolic and diastolic blood pressure, eclampsia events experienced by many mothers who have a systolic blood pressure  $\geq 160 \text{ mmHg}$  in the amount of 1.9% and diastolic blood pressure  $< 110 \text{ mmHg}$  of 2.9%. The results of this study are consistent with the theory that generally eclampsia preceded by an increase in systolic blood pressure (Wiknjosastro, 2006). Unlike the theories expressed by Cunningham (2006) stated that although hypertension as a prerequisite for diagnosing pre-eclampsia, blood

pressure can not always be used as an indicator to determine the degree of severity. Eclampsia is generally preceded by severe headache or visual disturbances. Based on the results of urine protein investigations, it was found that mothers who suffered eclampsia is the mother with the results of urine protein  $\geq 23.3\% + 3$  and accompanied oedeme as much as 2.2%. The test results of analysis obtained  $p\text{ value} > \alpha$ , it means that there is no significant difference in the results of urine protein and oedeme in the group experiencing eclampsia with the group that did not experience eclampsia.

Exploration results to proportion the difference measurement of blood pressure, urine protein and oedeme that takes place in a pre-referral by reference, as in the recording of blood pressure may occur bias that blood pressure readings recorded in a referral after being given anti-hypertensive therapy. So as there is possibility of respondents who earlier had come systole  $\geq 160\text{mmHg}$  blood pressure and diastolic  $> 110\text{ mmHg}$  but because it has been given anti-hypertensive therapy, in this study belong to the respondent with blood pressure  $< 160\text{mmHg}$ . Moreover, the fact that states that the difference in the proportion of the results of urine protein in a pre-referral and the referral is caused due to the instruments used to use an expired user so that the interpretation of data will be returned into unequal between examination in a pre-referral and in place reference.

### **Effect of MgSO<sub>4</sub> On Mother Maternity PEB In The Prevalence Of Genesis Reference Pre Eclampsia**

Based on the frequency distribution of the incidence of eclampsia, found that patients with pre-eclampsia are not getting MgSO<sub>4</sub> and experienced a 2.7% incidence of eclampsia. Conversely, patients with pre-eclampsia who got none MgSO<sub>4</sub>, who experienced eclampsia or equal to 0% of the total number of respondents. The results of the analysis proved that  $\chi^2 = 1.014$ ;  $p = 0.000$ , which means there is the effect of

MgSO<sub>4</sub> on maternal pre eclampsia in a pre-referral.

The results of further analysis can be determined the value of relative risk (RR) of 1.03 which meaning is there a risk 1.03 times more likely to occur eclampsia in mothers PEB group who were not given in the pre-referral MgSO<sub>4</sub> compared with groups of women who were given PEB MgSO<sub>4</sub>, the results are consistent with several other major research results that prove the superiority of MgSO<sub>4</sub> to prevent eclampsia in patients with severe pre-eclampsia. One of them is listed in reference books neonatal Basic Emergency obstetric care (2007) which states that magnesium MgSO<sub>4</sub> is the choice of drugs intended to prevent and cope with seizures in pre-eclampsia.

Another thing that terkaji on HSIL MgSO<sub>4</sub> exploration of the preparations used in hospitals PONEK Jombang and effect on the therapeutic effect of drugs is a storage area in accordance with prescribed standards. According Hutomo (2008), MgSO<sub>4</sub> good storage stored at room temperature which is 250-300C. Temperature conditions that do not fit the standard can result in damage to the drug, so the drug will lose efficacy when used.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusion**

The incidence of eclampsia experienced by mothers with eclampsia Pre MgSO<sub>4</sub> weight is not given in the pre-referral as much as one mother or by 2.7%. Based on that number, a mother who suffered eclampsia is in the range of age  $> 35$  years (2.6%), parity primiparous (1.7%), gestational age  $> 30$  weeks (1.4%), with a history of poor general state of health (25%), had a systolic blood pressure  $\geq 160\text{ mmHg}$  (1.9%) and diastolic blood pressure  $< 110\text{ mmHg}$  (2.9%), urine protein  $\geq + 3$  (23.3%) and accompanied oedeme (2.2%).

There is the effect of MgSO<sub>4</sub> on maternity Pre Eclampsia in a pre-referral

hospitals PONEK Jombang on the incidence of eclampsia. Evidenced through the analysis of research that proves that  $\chi^2 = 1.014$ ;  $p = 0.000$ , which means there is the effect of  $MgSO_4$  on maternal pre eclampsia in a pre-referral. The results of further analysis can be determined the value of relative risk (RR) of 1.03 which meaning is there a risk for eclampsia occurs 1.03 times greater in the group of Pre Eclampsia mothers who were not given in the pre-referral  $MgSO_4$  compared with groups of women Pre Eclampsia weight by  $MgSO_4$ .

### Recommendations

#### a. For research site

The results of this study are expected to provide evaluation in midwifery services, especially for pre eclampsia incidence in PONEK Hospital Jombang.

#### b. For Institutions

This study is expected to add a reference so that it can be used as reading material as well as an overview for further research. The results of this study can be used as reference data for the deepening of subjects related to the incidence of pre-eclampsia.

#### c. For Health Department

Expected to be used as input to create a program built on primary health care in the work area associated with the handling of pre eclampsia right.

#### d. For Further Research

This research is expected to become a reference further research by taking several other factors that contribute to science, especially in the field of obstetrics.

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## SYSTEMATIC REVIEW LIFESTYLE INTERVENTIONS IN PATIENTS WITH TYPE 2 DIABETES

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### ABSTRACT

**Introductions:** Diabetes mellitus (DM) is a group of diseases with the characteristics of blood glucose levels are high because of the destruction of the body's ability to produce or properly use insulin (American Diabetes Association (ADA), 2012). Preventive Diabetes Research Programme (DPP), said that a lifestyle intervention can reduce the incidence of type 2 diabetes by 58% where more than half of the DPP of participants had a family history of DM (Knowler et al, 2002). Research conducted by Brekke et al in 2005 showed that lifestyle interventions such as diet and exercise can lower cholesterol and fasting blood sugar in people with a family history of type 2 diabetes that are expected to reduce the risk of diabetes. **Methods:** The method used in this Systematic review began with the selection of topics, then determined keyword to search journal using English through Several databases, Among others, Google Scholar, Ebscho, ProQuest, Science Direct and Journal of Nursing Science. This search was restricted from 2006 until 2016. English keywords used were "Lifestyle Intervention, Diabetes type 2, Physical Activity, Health Education and Dietary." From all journals that match the theme and the criteria for inclusion were 15 journals. **Results:** This review resulted in the effectiveness of lifestyle interventions in reducing the incidence of Type 2 Diabetes. **Conclusion:** Lifestyle estimated proved effective against the incidence of type 2 diabetes through weight loss, physical activity programs as well as reducing the consumption of fatty foods.

**Keywords:** Lifestyle Intervention, Diabetes Type 2, Physical Activity, Health Education

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### INTRODUCTION

Diabetes mellitus (DM) is a group of diseases with the characteristics of blood glucose levels are high because of the destruction of the body's ability to produce or properly use insulin (American Diabetes Association (ADA), 2012).

Changes in lifestyle that lead to obesity and lack of activity makes the number of people with diabetes continue to increase. In the last decade the number of people with diabetes in the world has increased two-fold. In 2000 an estimated 171 million people worldwide suffer from Diabetes, and in 2011 rose to more than 346 million people (World Health Organization (WHO), 2012). For the year 2030 have also predicted the number of people with diabetes will continue to increase by two-fold to 552 million. This means for every ten seconds there are three people

diagnosed with DM (International Diabetes Federation (IDF), 2011).

Results of preventive studies in individuals with diabetes provide evidence that the risk of type 2 diabetes can be prevented or at least could be delayed by lifestyle changes (Heideman et al, 2011). Preventive Diabetes Research Programme (DPP), said that a lifestyle intervention can reduce the incidence of type 2 diabetes by 58% where more than half of the DPP participants had a family history of DM (Knowler et al, 2002). Research conducted Brekke et al in 2005 showed that lifestyle interventions such as diet and exercise can lower cholesterol and fasting blood sugar in people with a family history of type 2 diabetes that are expected to reduce the risk of diabetes. The high prevalence of diabetes is closely related to the behavior of people in a preventive action. DM prevention



efforts conducted through three stages of prevention, including primary, secondary, and tertiary prevention.

Primary prevention aimed at individuals who do not suffer from diabetes but are at risk for diabetes mellitus. DM primary prevention through lifestyle modifications includes appropriate diet, physical activity, weight loss, and stop smoking (PERKENI, 2011).

## METHODS

The method used in this Systematic review began with the selection of topics, then determined keyword to search journal using English through several databases, among others, Google Scholar, Ebsco, ProQuest, Science Direct and Journal of Nursing Science. This search was restricted from 2006 until 2016. English keywords used were "Lifestyle Intervention, Diabetes Type 2, Physical Activity, Health Education and Dietary."

Journal selected for review based on studies carried out in accordance with the inclusion criteria. A systematic inclusion criterion in this review was the Lifestyle Intervention in patients with type 2 diabetes. Search using keywords found 2267 English Journals. From all journals that match the theme and the criteria for inclusion were 15 journals and all of them were in English language journals. Fifteen of the journal were then observed and performed critical appraisal. Then, Systematic Review was done in accordance with the results of Critical Appraisal that have been conducted before.

In the 15 journals that met the inclusion criteria, Randomized Control Trial design was used as many as 12 journals, 2 journals used cross sectional design and one journal used queue design experiments.

## RESULTS

A randomized controlled trial in investigating the effect of an intensive lifestyle intervention standard of care in adults with type 2 diabetes immediately

after initiating insulin therapy (Rachel Barratt, et.al.2008). The purpose of this research was that lifestyle interventions performed by nutritionist for weight loss in patients who are new to insulin therapy. This study was a Randomized Control Trial with research subjects of 50 patients with type2 diabetes and a new 4 weeks one for using insulin therapy. In this study there were two groups: a control group had given standard treatment and intervention group who received lifestyle or lifestyle changes. The control group experienced a significant increase while the intervention group had a slight decrease: BMI ( $P, 0.001$ ), waist circumference ( $P, 0.001$ ) and percentage of body fat ( $P, 0.001$ ) both groups had a significant reduction in HbA1c, but only small changes in blood lipids. It showed that with lifestyle intervention in the intervention group showed significant results in terms of reducing the patient's body mass index. In the control group who received standard treatment increased blood pressure, which is one indicator of cardiovascular disorders.

Research of Jaana Lindstrom (2010) and Timo Saaristo, md.et, al. (2010) conducted a study on type 2 diabetes prevention program in Finland. Practical implementation of prevention of type 2 diabetes using three types of prevention programs as an example: the Finnish National Diabetes Prevention Program (FIN-D2D), which includes risk screening and consultation in primary health care. The risk factors related to lifestyle that is most important for this type2 diabetes is obesity, sedentary lifestyle and a diet of high saturated fat, carbohydrate energy and total energy and lower fiber content. Beneficial changes in the composition of food, mainly related to the intake of total and saturated fat has happened in Finland during the last decade. This research was conducted at 352 study subjects were selected randomly and then divided into two groups, a control group who received standard care and lifestyle intervention group was delivered mainly by nutritionist's studies through



counseling sessions and accompanied by physician investigators. Using the results of DPS (Diabetes Prevention Study) as a benchmark for the results of one year, the goal of achieving good nutrition, physical activity and weight loss results were more modest. Weight loss average of 20.8 (SD 4.5) kg at 1 year follow-up was statistically significant ( $P < 0.002$ ) and continued in 3 years (21.0 (SD 5.6) kg,  $P < 0.003$ ). By lifestyle intervention, the morbidity and mortality of cardiovascular co-morbidities incidence decreased.

Research of Misa Adachi et al (2010) aimed to conduct intensive education on lifestyle improvements associated with type2 diabetes and carried out by a registered dietitian at the clinic. This research was conducted at 10 research subjects in the intervention group and 10 subjects in the control group which were selected randomly, subjects were men and women from 20 to 79 years old who have HbA1c concentration of 6.1% or more and receive treatment by doctors.

The intervention group will receive intensive education on lifestyle changes associated with type2 diabetes by a registered dietitian at the clinic. The final goal was a change from baseline of HbA1c at 6 months. Data on health behavior and related issues would be collected continuously for a period of 6 months. There were some limitations in the study design. First, the success of this program is dependent on the skills of nutritionists. To overcome this problem, researchers have developed a training process that is registered nutritionist before embarking on a randomized study.

Therefore, education in implementing this program is important. In addition, the assessment sheet to help standardize the priority ranked according to the advice by nutritionists. Second, only patients were blinded by a group. To avoid bias selection, the researchers asked the doctor to recruit all patients in turn. Furthermore, this study used HbA1c as the primary outcome.

Subsequent research by Sanna m. Salmela, MS.et al. (2012) aimed to provide lifestyle counseling interventions for the prevention of type2 diabetes in 3620 subjects of research in Finland. The results in this study 36% of men and 52% of women felt the need for lifestyle counseling for prevention of type 2 diabetes with  $p < 0.001$ .

Research conducted by Jorien Veldwijk et al (2013) was Randomized Control Trial aimed in evaluating the level of participation of respondents with type 2 diabetes on lifestyle intervention program in the Netherlands as well as to calculate the participant's willingness to pay (WTP) lifestyle intervention program in the form of counseling. This study was conducted on 1,250 Dutch adults aged 35-65 years with type2 diabetes who are not suffering from serious complications related to diabetes (cardiovascular disease, nephropathy, retinopathy, and neuropathy) and registered care groups. Total of five treatment groups located in five different provinces of the Netherlands. The treatment group distributed a total of 1,250 questionnaires for all eligible patients in their treatment group, 391 (31.3%) of completed and included in the analysis. 391 questionnaires (31%) returned and included in the analysis. The relative importance of the program attributes (ie, eating, physical activity, schedule, structure consultation, an expected result and costs incurred program) was determined by using a program. According to estimates drawn attributes, willingly incurred costs and the level of patient participation. The same result also occurred in research Mireya Gamiochipia, et.al (2016) conducted on 199 respondents 95 were assigned to the control group and 104 to the intervention group using treatment group was proposed interventions of intensive lifestyle (IIEV), and the control was collaborative education intervention (COED). The results of this study showed significant weight loss achieved by both groups, with a greater loss in the intervention group.

Values lower baseline HbA1c on a program of intensive educational interventions from time to time. Weight loss: of the participants 26.1% on the basis IIEV group lost 5% and 13.6% of participants COED groups ( $x^2 = 5.443$ ,  $p = 0.0019$ ).

## DISCUSSION

The research reviewed in this Systematic Review used Control Trials Randomized study, cross sectional and queasy experiment. From the 15 studies that examined prove that lifestyle interventions can reduce the incidence of diabetes type 2. Based on the positive results obtained from this lifestyle intervention then it is recommended in practical treatment of patients with risk factors for diabetes can be prevented or not lead to type 2 diabetes. Nurses can make modifications for some interventions that can be done in order to prevent the incidence of type 2 diabetes, one of them by lifestyle interventions that can be provided through education or counseling. Lifestyle interventions in reducing new cases of diabetes mellitus type 2, in the group with a good lifestyle, the incidence of diabetes was fewer compared to the group who has a poor lifestyle.

## CONCLUSION AND SUGGESTION

In patients with type2 diabetes, they have their bad lifestyle, excess weight, lack of physical exercise, poor diet and the use of cigarettes and alcohol. Some of the factors that affect the sensitivity and insulin resistance on the diabetes type 2 are obesity, lifestyle, diet and genetics.

At 15 journals conducted systematic review shows that lifestyle changes can prevent the development of diabetes mellitus type 2. The physical activity is less risky to the incidence of pre-diabetes or diabetes type 2. This is in line with existing research, a normal condition and has an impaired glucose tolerance / DM shows the lifestyle-related physical activity is very clearly related to their insulin sensitivity. Various evidences have been found that type 2 diabetes can be prevented with

lifestyle modification. Not only that, it is also found that weight loss is also one predictor factor of reduced risk in diabetes mellitus type 2. The preventive program through increasing physical activity and physical exercise aim at weight loss, it has been applied in the US and is a proven program which much more makes effective cost. The routine activities may provide the following advantages: lower levels of blood glucose, lower basal insulin levels, improve insulin sensitivity, lowers HbA1c, increase energy consumption, improve the strength and flexibility of the body as well as lower the risk of cardiovascular disease. Lifestyle has shown to play a role on the incidence of type2 diabetes with obesity. This study also shows that there is a correlation between obesity and lifestyle and there is a relationship of obesity with the incidence of pre-diabetes.

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# EFFECTIVENESS OF HONEY IN TREATMENT OF DIABETIC FOOT ULCER: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Honey has been known for thousand years for its effects on wound healing process. Honey has antibacterial characteristics, stimulates the release of cytokines, and stimulates cellular growth, so that it can facilitate wound healing process. Diabetic Foot Ulcer (DFU) is one type of wounds which is its wound healing process still becomes problem. The purpose of this systematic review was to determine the effectiveness of honey in healing diabetic foot ulcers. **Method:** The process of searching articles conducted on 7 database to answer the purpose of this review. There was 7 of 10 articles discuss about wound care with honey using RCT design. 5 of 10 articles was high quality articles with medium level of recommendations, 2 articles were medium quality articles with medium level, and 3 articles used cohort design with a high quality medium level. **Result:** Several articles have been reviewed and it is known that honey is a good alternative choice in wound care of DFU. **Conclusion:** Meanwhile, to conclude that honey is one of the best alternatives in wound care requires a lot of randomized clinical study which compares honey with a variety of existing topical agents.

**Keywords:** Honey, diabetic foot ulcer, wound care

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## INTRODUCTION

Diabetic Foot Ulcer (DFU) is one of the long-term complications of diabetes mellitus with risk of death by 25%. Approximately 15% of individuals with diabetes mellitus will suffer from diabetic foot ulcers (Deribe, 2014). Centre for Disease Control and Prevention reported that in 2003 about 11.6% of people in United States suffer from DFU, and in the same year in UK found about 7.4% of patients suffering from the same disease. This amount will continue to increase along with unhealthy lifestyle of people (Zubair, 2015). Another study mentioned that about 38% of all amputations in United States was related to DM disease (Dinker R Pai, 2013). Data from WHO showed the rate of amputations in patient with diabetes usually 10 to 20 times that from non-diabetic patients. Over the last decade, rate of amputations increased by 1.5 to 3.5 events

per 1,000 patients with diabetic ulcers (World Health Organization, 2016).

Meanwhile, according to the report from RISKESDA (2013), the prevalence of diabetes which diagnosed by doctors was 2.1%. Those prevalence is higher than in RISKESDA (2007) which is about 1.1%. There are some provinces which have higher prevalence than the national average, that is Central Sulawesi (3.7%), North Sulawesi (3.6%), South Sulawesi (3.4%) and East Nusa Tenggara 3.3%. The prevalence of diabetes tends to be higher in women than in men and is more common in urban communities (DEPKES RI, 2013). Unlike in Western countries, in Indonesia there are only a few studies about the prevalence and factors associated with DFU. The main complications of DM in Indonesia is neuropathy (13% - 78%), micro vascular complications (16% - 53%) and DFU (7,3% - 24%) (Yusuf et al., 2016).

A patient with DFU tend to experience symptoms including pain, limited mobility, pruritus, sleep disturbances, leakage and malodor of exudate in the wound, and there are some psychological effects such as emotions, embarrassment, frustration and self-esteem becomes reduced. (Harding et al., 2016). Many studies have been done to prevent further complication of DFU, one of which is good wound care. One of the topical agent which is known over the centuries as topical medication for variety of wounds, including the methods of modern wound care is honey (Vandamme, Heyneman, Hoeksema, Verbelen, & Monstrey, 2013).

Honey has been known for thousands of years for its effect on wound healing process (Lindberg, Andersson, Palm, & Fagerström, 2015). Honey has multiple effects on the wound. In vitro and animal studies showed that honey has antibacterial characteristics, stimulates the release of cytokines, and stimulates cellular growth, so that it can facilitate wound healing process (Jull, Walker, Parag, Molan, & Rodgers, 2007). There are many studies that have studied about the effects of honey in treating DFU but not many of which using systematic review method. This systematic review aimed to evaluate objectively the effectiveness of honey in wound care (Diabetic Foot Ulcer) in patients with DFU using existing research evidence.

## **METHOD**

### ***Article search***

The first step in this scientific article search was to formulate PICOT Framework (P: patients who suffer from DFU, I: all wound care interventions which use honey

or raw materials of honey, C: Topical agents other than honey, O: effectiveness in DFU healing, T: duration of wound healing). So that, the formulation of this research questions was “How is the effectiveness of honey in treatment of diabetic foot wound (Diabetic Foot Ulcer) in patients with DFU?

Furthermore, the database used in this study was *CINAHL Ebsco, Sage Journal, Science Direct, Google Scholar, and Proquest* which is limited to articles in English published from 2000 to 2016. Searches were conducted in September until November 2016. Keywords to search literature included wound care, diabetic foot ulcers, honey, wound care with honey, diabetic wound, and honey in wound care. Inclusion and exclusion criteria as determined before literature search started. Inclusion criteria were: (a) primary research articles about wound care using honey in patients with DFU (b) full-text articles. Exclusion criteria were (a) articles which is not in English (b) articles which discuss about wound care besides DFU (c) articles which is contain no abstract and (d) articles which discuss about wound care in animal experiments. Articles were selected by the researcher in terms of keywords which is correspond to the search of electronic databases, and then researcher determine whether the inclusion criteria is reached, followed by a review of full-text version. A total of 1679 articles found, 510 articles of which discuss about wound care using honey. Articles which is appropriate with the inclusion criteria and were reviewed as many as 10 articles. Schematically, it can be shown in following PRISMA diagram (Preferred Reporting Items for Systematic Reviews and Meta-Analyses):



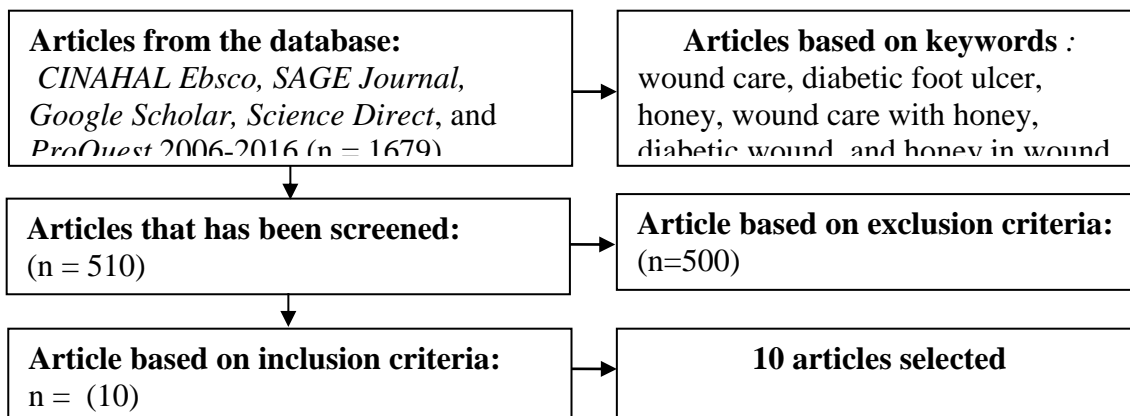


Figure 1. Article Meta-analysis

### **Quality and level assessment of articles**

Researcher conducted critical appraisal using tools from The Joanna Briggs Institute Critical Appraisal tools for use in JBI Systematic Reviews for all articles that have been selected. All articles were assessed with tools which is appropriate with its research design (The Joanna Briggs Institute, 2016). Then, researcher conducted an assessment of the quality of each article which depends on the

method used and existing designs. There was high quality (80-100)%, medium quality (70-79)% and the low quality articles <69%. Furthermore, researcher conducted the assessment of the quality and strength of recommendation using GRADE, the system which is used by the BMJ (Atkins et al., 2004) (see Table 1). With score of 4 (high), 3 (moderate), 2 (low) and 1 (very low).

Table 1. Quality and level assessment of articles.

<b>Author/Country</b>	<b>Research Design</b>	<b>The Quality and Strength of Recommendation</b>
(Imran et al, 2015) Pakistan	RCT	87 % & 3
(Agarwal et al, 2015) India	RCT	78 % & 3
(Jan, Shah, et al, 2012) Pakistan	RCT	80 % & 3
(Kamaratos et al, 2014) Yunani	RCT	87 % & 3
(Siavash, et al, 2015) Iran	RCT	80 % & 3
(Manalelsayedez et al, 2012) Mesir	RCT	83 % & 3
(Shukrimi, et al, 2008) Malaysia	RCT	77 % & 3
(Abdelatif, et al, 2008) Mesir	Prospective pilot study	80 % & 3
(Moghazy et al., 2010) Mesir	Observational study	83 % & 3
(Henshaw et al., 2014) Australia	Prospective feasibility study	85 % & 3



## RESULT

There was 7 of 10 articles discuss about wound care with honey using RCT design. 5 of 10 articles was high quality articles with medium level of recommendations, 2 articles was medium quality articles with medium level, and 3 articles used cohort design with a high quality medium level.

Imran et al (2015) investigated about the effectiveness of honey in DFU patients which is divided in 179 respondents as honey group and 169 respondents as control group using normal saline in the surgical unit of a hospital from February 2006 to February 2010. It is known that wound completely cured by honey in 136 respondents (75.97%) and 97 (57.39%) with normal saline. Wounds which is not significant heals with honey versus normal saline was 32 (17.87%) versus 53 (31.36%), ( $p = 0.001$ ). Healing time: 18.00 (6-120) days with honey and 29.00 (7-120) days with normal saline. The conclusion of this study was honey is effective topical agent in treatment of DFU.

Agarwal et. Al (2015) compared the effects of honey with povidone iodine as an ingredient in the treatment of diabetic foot ulcers in 36 patients who suffer from type II Diabetes Mellitus with 2<sup>nd</sup> degree wounds. It is known that the average of healing time with honey: 14.2 days (6-26) days, while in povidone iodine group: 15.5 days (9-37) days. Edema, pain and exudate of wounds also became reduced in honey group. The results of T-test showed that there was no significant difference between those two groups  $P > 0.05$ . It can be concluded that honey is a alternative which more safe for the treatment of DFU compared with povidone iodine.

Jan et al, (2012) investigated about the effectiveness of honey compared with povidone iodine in Wagner's Grade I-IV patients with sample size of 50 patients as intervention group and 50 others as control group. The result showed that all patients in intervention group were completely healed by 36% and about 14% were amputated,

while in control group using povidone iodine about 33% of patients were healed and as about 17% be amputated. Furthermore, Kamarotos et al (2014) also investigated the effects of manuka honey-impregnated dressing (MHID) in healing of neuropathic diabetic foot ulcers (NDFU) with sample size of 32 as intervention group and the control group. The result is known that wound healing of the MHID group was  $31 \pm 4$  days and the control group was  $43 \pm 3$  days with  $p$  value  $<0.05$ . There was no significant difference in the percentage of wound healing in both groups (97% for MHID and 90% for the control group).

Research by Siavash Shokri et al (2015) about the effectiveness of honey (5% Royal Jelly) in healing of DFU compared with placebo (gel) in 25 patients who suffered from type II Diabetes Mellitus. The average length of wound healing was 23 days for placebo group and 33 days for groups using Royal Jelly ( $P = 0.7$ ). The number of healed wound was 29 of 32 wounds (90.6%) in placebo group and 30 from 32 wounds in group using Royal Jelly (93.8%) with  $p$  value = 0.6. This study mentioned that 5% topical Royal Jelly showed no advantages in using placebo for treatment of DFU.

Manalelsayedez et al (2012) investigated the effects of honey (Pedyphar® ointment) compared with alginate (Fibracol® gel) as a topical treatment for Type II Wagner DFU. The result showed that (Pedyphar® ointment) has  $12 \pm 3$  weeks of healing time while alginate (Fibracol® gel) has  $16 \pm 4$  weeks of healing time and there was significant difference statistically with  $p$  value = 0.001. The conclusion of this study was Honey (Pedyphar® ointment) more effective than alginate (Fibracol gel) for the treatment of type II Wagner DFU.

Shukrimi et al (2008) investigated the effect of honey compared with povidone iodine as dressings in the treatment of DFU. The study was conducted in 30 patients who suffered from type II Diabetes Mellitus with Wagner Grade II which is divided into 2

groups: intervention group using honey dressing and control group using povidone iodine. Wounds with povidone iodine dressing has an average of healing time by 15.4 days (9-36 days). In intervention group using honey, the average of healing time by 14.4 days (7-26 days). Researcher concluded that honey could be safe alternative in the treatment of Wagner Grade II in patients with DFU.

The next research was research using cohort design. Abdelatif et al (2008) investigated the efficacy and safety of PEDYPHAR (ointment from honey) in treating patients with DFU. 60 patients with Diabetes Mellitus were divided into 3 groups based on the stage wound: group 1 (stage I and II), group 2 (stage III) and group 3 (stage IV). The result showed that 96% of the patients in group 1 and 2 have good response using PEDYPHAR ointment, and wound healing occurs. All patients in group 3 healed after surgical excision, debridement of necrotic tissue, and conservative treatment using PEDYPHAR ointment. It can be concluded that PEDYPHAR ointment may be safe for the treatment of local DFU.

Moghazy et al (2010) investigated the effectiveness of honey as topical treatment for diabetic foot ulcers. The study was conducted on 30 patients who is randomly selected. Criteria of the patients was patient with DFU all degrees of wounds, all ages and exclude DFU patients who were amputated. The results showed that 43% (13 patients) wounds completely healed for 1-2 months, partially healed in 13 patients (43.3%), patients who experienced amputation as much as 2 patients (6.7%), and patients who experienced skin graft as much as 2 patients (6.7%). Researcher mentioned that honey was an effective and efficient topical alternative for DFU.

Henshaw et al (2014) investigated the effectiveness of propolis (honey bee) on patients with DFU. As many as 24 patients with Diabetes Mellitus type I and II, all the degrees of wounds were getting treatment compared with 84 control patients with

DFU. Wounds were followed up for up to 6 weeks. The results showed that the ulcer area was reduced with average of 41% in propolis group compared with 16% in control group during first week ( $p < 0.001$ ). By the third week, ulcer area became 63% vs 44% ( $p < 0.05$ ). By the fourth week, ulcer area became 10% vs 2% ( $p < 0.001$ ) and by the seventh week, ulcer area became 19% vs 12% ( $p < 0.05$ ). It can be concluded that propolis (honey bee) was a topical treatment which is effective in treating patients with DFU.

## DISCUSSION

Honey has the effect of antibiotics, antioxidants, anti-inflammatory, auto debridement, stimulation of growth factors and good osmolality in wound healing (Chapman, 2009). Furthermore, all of the 10 articles which has been reviewed by researcher contain the benefits of honey in the treatment of diabetic foot ulcers. According to (Kateel, Adhikari, Augustine, and Ullal, 2016) honey dressing is safer to used in the treatment of diabetic foot ulcers because honey accelerates wound healing, has the effect of anti-inflammatory and anti-bacterial, and reduce the number of amputations. It is also found in the article discussed by (Tian et al., 2014) which said that the total time of treatment, the average time of cleaning the ulcer, the number of bacteria, and healing the wound area using honey was better.

Total of 7 articles using RCT design concluded that wound care with honey was more effective in treating DFU although there was some articles that showed no significant effects. But honey showed its effect of healing faster than the others. The last three observational studies was very strong research with medium level recommendations. Those studies concluded that honey is more effective in wound care of DFU for all degrees of wounds, have anti-inflammatory and anti-bacterial characteristic, accelerate granulation, autolysis, and cost effective (Moghazy et al., 2010). This is consistent with research

by (Tsang et al., 2015) which mentioned that honey has many benefits such as anti-inflammatory, anti-cancer, anti-ulcer, anti-viral, anti-fungal, vasodilators, and many more. By looking at a variety of evidence that already exists and the benefits of honey, it can be said that honey was a highly effective topical to heal diabetic foot wounds (DFU).

## CONCLUSION AND SUGGESTION

Several articles have been reviewed and it is known that honey is a good alternative choice in wound care of DFU. Meanwhile, to conclude that honey is one of the best alternatives in wound care requires a lot of randomized clinical study which compares honey with a variety of existing topical agents.

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## CADRE SKILLS TOWARDS ROLLING MASSAGE

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### ABSTRACT

**Introduction:** Breast milk is a source of nutrients that are needed by the baby. Breast milk production can be increased by breast care, one of them with a rolling massage. Health cadres as the spearhead of health services have an important role in improving knowledge for postpartum mothers in the rolling massage. The aim of this study was to determine the effectiveness of rolling massage training towards cadre skill at Puskesmas Multi Wahana Palembang 2016. **Method:** The study used pre-experimental with pre-posttest only design and conduct at Puskesmas Multi Wahana Palembang on October 2016. Total population was all cadres and obtained 38 samples by using total sampling. Independent variable was rolling massage training and dependent variable was cadre skill. Instrument used observation sheet and analysis with Wilcoxon Signed Rank Test. **Result:** The result showed there was influence of rolling massage training towards cadre skill ( $p=0.000$ ). **Discussion:** Rolling massage training can have a positive impact on the smooth of breast milk, so for health cadres who are trained in the rolling massage can disseminate to postpartum mothers. Other researchers can be combining the rolling massage therapy with other therapies.

**Keywords:** Rolling Massage, Skills, Cadre

### INTRODUCTION

Early human development includes aspects of education, per capita income and health. This is shown by the results of the Human Development Index (HDI). Based on the results of these calculations, Indonesia have scored 67.0 which ranks 109 of 191 countries in the world (Perinasia 2010). Reality in Indonesia's development is the lack of funding. Therefore, the investment should be prioritized in low-risk activities and sustainable benefits. One of the innovative development efforts is with the health-nutrition investments (exclusive breastfeeding) and education.

One of the benefits of nutritional health investment (exclusive breastfeeding) is a developmental, emotional and intellectual growth of children. The failure of Exclusive breastfeeding due to a failure in the breastfeeding process may cause by the emergence of several problems, both the mother and the baby issue. In some mothers who do not understand this problem, the failure

of breastfeeding is often considered a problem on her children.

Based on (SDKI 2012), the number of exclusive breastfeeding in Indonesia is still low, about 32% of the total births. This condition was very contrary to what happened with formula feeding. It is known in the same year, the babies that was born in health facilities were less to get breast milk exclusively. Problems that were arising from the mother during breastfeeding can be started before delivery (antenatal period), in the early postpartum period and postpartum further. Breastfeeding problems can also be caused due to a special condition. In addition, mothers often complain that baby often cries or refuses breastfeeding. The condition often mean that breast milk was not enough or breast milk was not good, so it often leads to the decision to discontinue breastfeeding.

One of the factors that affect milk production is breast care. It was known that 86.7% of postpartum maternal breast milk through smoothly after being given an explanation and demonstration of the breast

care (Nontji & Andriyani 2006). Mother's knowledge about breast care was still low, because the mother has the knowledge of family or friends. Family and friends were not entirely gain a correct understanding of breast care, therefore, it is required to help health cadres provide health education about the correct treatment of breast (Saryono & Pramitasari 2009).

Spearheading of health personnel in the early detection and the first service to postpartum mothers is health cadres. Health service activities carried out by health cadres that perform routine activities in Posyandu. Health education regarding breast care is not optimal due to the training of cadres has not varied.

The realization of breast care with rolling massage method required the cooperation of family and health workers and health cadres. Health cadres as facilitators and motivators to mothers in the postpartum breast care need to have knowledge and skills about rolling massage. Therefore, it is necessary to make study about the effectiveness of rolling massage training towards health cadres at Pukesmas Multi Wahana Palembang 2016.

## METHOD

The study used pre-experimental with pre-posttest only design and conduct at Puskesmas Multi Wahana Palembang on October 2016. Total population was all cadres and obtained 38 samples by using total sampling.

Inclusion criteria in this study consists of:

- 1) Minimal education was Senior High School.
- 2) Had never got rolling massage training before.
- 3) Willing to follow the study process until finished.

Independent variable was rolling massage training and dependent variable was cadre skill. Instrument used observation sheet and analysis with Wilcoxon Signed Rank Test.

## RESULT

Table 1. Distribution of The Effectiveness of Rolling Massage Training Towards Cadre Skills.

Variable	Pretest		Posttest	
	N	%	N	%
<b>Skilled</b>	15	39.5	29	76.3
<b>Unskilled</b>	23	60.5	9	23.7
<b>Total</b>	38	100	38	100
<b>Wilcoxon</b>				
<b>Signed Rank Test</b>	p = 0.000			

Table 1 explained that by giving intervention to health cadre about rolling massage can be increasing cadre skill on apply rolling massage

It can be seen from total presentation that was increase between pretest (39,5%) and posttest (73,6%). Wilcoxon Signed Rank Test showed that there was significant influence between pretest and posttest on rolling massage training towards cadre skill (p = 0,000).

## DISCUSSION

The result that conducted by researcher showed there was influence about rolling massage training towards cadre skills. It could be due to the intervention that provided by researchers. So, in terms of respondents' knowledge and skills will increase. Interventions given by the researchers in the form of training and demonstrations. Notoatmodjo (2010) explained that in the process of health education occurs a reciprocal process between various factors, among others: the subject of learning, teaching, methods and techniques of learning, learning aids, and the material or materials being studied. The output is a result of the learning process, namely in the form abilities and behavior change of subject learning.

Demonstration method is a method of learning that presents a procedure or task, how to use the tools, and how to interact with the respondent. Demonstrations can be done directly or through media such as videos or movies. Respondents can hear and see the procedure, steps, and explanations of fundamental importance. In practical emphasis

on the purpose and subject as an important subject that is the focus of attention (Nursalam & Efendi 2011). So, the method of demonstration can be effective in improving the understanding and the ability of the respondent skills in performing rolling massage.

The media of learning is the one of the important factors that could influence the change of knowledge and skills after the treatment to community health education to individuals, families, groups and the community at large. The ability of someone to remember the important information that will rise higher when a person learns through writing method (read), because by reading some will remember as many as 72% (Windiana 2012).

This argument supported by Notoatmodjo (2010) that explained the method and tools that use based on the principle that knowledge that exist in every human being received or captured by the five senses, the more senses used to receive something, it will be more clear understanding is obtained.

Another factor that can influence was the level of education and knowledge about rolling massage. The majority of respondents' education was High School and the majority of respondents also educated as Diploma Degree. In general, the higher the education a person more easily receive information. Education is an attempt to develop the personality and ability inside and outside the school and lasts age life (Wawan & Dewi 2010).

Education affects the learning process, the higher the education a person of the easier person to receive the information. A person with higher education will tend to get the information, either from others or from the media. The more information you enter the more so that the knowledge gained will be easier to apply what they have gained through skills. Knowledge is closely associated with education where hopefully someone with tertiary education, then that person will be more knowledgeable knowledge (Sunaryo 2004).

The result that conducted by researcher has same result with study that conducted by (Handayani & Purwandari 2014) which showed that the average score of health cadres before given training and after in control groups was 12.55, whereas in treatment groups was 13.31 in the range of 10-40 score. Skilled score after given training has increased, control group was 14.52 and treatment group was 32.31 (p-value <0,001).

The study that conducted by (Shihipatul 2015) showed that the rolling massage can greatly affect positive in improving the smoothness of breastfeeding in mothers with post SC. This therapy can be applied to babies with weak indicators of lactation.

## **CONCLUSION AND SUGGESTION**

### **Conclusion**

The training about rolling massage was very effective given to health cadres at Puskesmas Mult Wahana to increase the skill of cadre on applying rolling massage.

### **Suggestion**

Rolling massage training can have a positive impact on the smooth of breast milk, so for health cadres who are trained in the rolling massage can disseminate to postpartum mothers. Other researchers can be combining the rolling massage therapy with other therapies.

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# EARLY DETECTION OF BREAST CANCER BY BREAST SELF-EXAMINATION (BSE) IN ADULT WOMEN (A SYSTEMATIC REVIEW)

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## ABSTRACT

**Introduction:** Breast cancer is a problem that occurs in adult women. The number of incidences in Indonesia is the second most common cancer of women after cervical cancer, in 2010 listed 45% of women suffered from abnormal breast lumps, both malignant and benign tumors Breast cancer can occur at any time and asymptomatic, thus it requires the appropriate detection methods to find out. **Methods:** The method used in this systematic review begins with PICO framework that is focused on breast self-examination for the detection of early breast cancer by searching journals through database Science direct, Ebsco, and Proquest. **Results:** 8 articles journals were selected and assessed, generally the journals review provide increased knowledge about BSE also Breast Self-Examination (BSE) provides benefits to detection early breast cancer. **Conclusion:** The article study reviews showed that almost all of which breast self examination (BSE) is able to give a positive effect in terms of both, knowledge and awareness of women about breast health. Breast cancer should be detected early to improve the prognosis for immediate action. One of the ways to detect breast cancer is by improving the knowledge and awareness of women to do breast self-examination as a tool for detecting breast cancer with a safe and easy method.

**Keywords:** Breast Self-Examination, Early Detection, Breast Cancer

## INTRODUCTION

Breast cancer is a serious health problem as the second leading cause of death in women. According to the American Cancer Society, (2016) approximately the chance that a woman will die from breast cancer is about 1 in 37 (about 2.7%). Breast cancer incidence is likely to increase consistently in the developing countries in line with the adoption of unhealthy lifestyles such as smoking, physical activity, consume foods that contain lots of high-energy, changes in childbirth and breastfeeding and exogenous hormone intake (Ayed et al., 2015).

Breast cancer in Indonesia is the second most common cancer of women after cervical cancer, in 2010 listed 45% of women suffering from abnormal breast lumps, both malignant and benign tumors (Santoso, 2009). Breast cancer can happen to any woman at any time and asymptomatic, and thus it requires proper detection method to find out. Many studies mention a few checks to detect early breast cancer, mammography, ultrasound,

biopsy without surgery, breast clinic examinations and Breast Self-Examination (American Cancer Society, 2016).

BSE is more widely used because it is simple, easy and can be done by herself or with a very low cost, non-invasive without the requirement of special tools and materials, an effective diagnostic method for breast cancer only takes five minutes to apply (Ayed et al., 2015). BSE is an act involving a woman using hand and eyesight systematically examine her breasts to detect unusual lumps shape, or changes on the skin, a visual examination is sitting or lying down (Corbex, Burton, & Sancho-Garnier, 2012).

Breast self-examination requires self-awareness and habits linked to cancer screening (Masso-Calderón et al., 2016). It is expected after obtaining knowledge about BSE (Breast Self-Examination) women can detect breast cancer early, so there is no further stage and get faster handling of the medical team at an early stage. The purpose of this systematic review is provide an overview of the



advantages of Breast Self-Examination (BSE) as an effective method to detect breast cancer early. The research question: How is the effectiveness of Breast Self-Examination (BSE) for the early detection breast cancer in adult women?

## **METHODS**

### **Article searching**

The method used in this systematic review begins with PICO framework. This type of research Randomized Controlled Trial (RCT), experimental design and descriptive study that examines the effectiveness of Breast Self-Examination (BSE) for the detection of early breast cancer incidence used as the study inclusion criteria in this research. Meanwhile the scientific articles which do not examine the effectiveness of Breast Self-Examination exclusion criteria included in the selection of topics, and then specify keywords to search the journal using English through several databases, among others Science direct, Ebscho, and Proquest. This search is limited to journals from January 2006 to October 2016. Keywords used were breast self-examination, early detection, breast cancer.

### **Data collection, quality assessment and biased articles**

Principal investigator read the titles and abstracts as well as issue unsuitable research articles. The research articles then be scored by other researchers to determine the quality of the methodology and bias using the Quality Assessment Tool For Quantitative Study EPHPP (Effective Public Health Practice Project). There are three criteria for ratings or rating overall (global rating) of the tool used is strong, moderate and weak. From the search results have found 24 journals and 8 journals that match the criteria.

## **RESULTS**

8 articles journals were selected and assessed. Selected journal articles involving a total of 3614 participants with the smallest sample size of 153 and the largest sample size was 1598. Most of the articles using good experimental design pre-post test and cross

sectional and one other articles using RCT design, first article using uncontrolled and one randomized trial article uses a descriptive study.

Four articles provide health education intervention program on knowledge of the breast, including BSE (Breast Self Examination) both knowledge and practice gained knowledge of respondents about breast cancer and BSE increased significantly. Breast health promotion program increases significantly the frequency of the practice of BSE in the intervention group compared to the control group by 26.8% and 9.7% the control group ( $p < 0.0001$ ) (Secginli & Nahcivan, 2011). While the research conducted by Masso-Calderón et al (2016) showed an increase in knowledge about BSE at intervals of 7 days evaluation of the respondents were able to practice BSE (Breast Self Examination) on a regular basis. Health education can also be done through home visits. Plan home visits improve the practice of BSE among respondents significantly by 51.6% from 4.3% prior to treatment (Kolutek, Avci, & Sevig, 2016).

Training BSE through methods of lecture and video viewing for  $\pm 50$  minutes can improve respondents' knowledge about breast cancer, including risk factors, treatment and screening for 13.2% and 68.1% on the session pre-test and 79.1% and 96.7% on the session post-test (Hacihasanoğlu & Gözümlü, 2008).

Promotion and health education not only improves knowledge and skills practice of BSE to the respondent, but this program also can detect breast abnormalities. As the research conducted (Loh & Chew, 2011) with experimental design pre-post test questionnaire pads breast cancer patients showed 80% of cancer patients previously detect the presence of lumps in the breast even though the respondents did not perform BSE technique correctly. Roth et al (2011) through the study of descriptive also conduct surveys using the NHIS (National Health Interview Survey) in patients with breast cancer reported that 43% of cancer survivors detect the presence of abnormal lumps in the breast

namely 25% with the technique of BSE and 18% were found by accident.

Through health education program also showed that respondents' knowledge increased by 90.7% from the previous 0% accompanied by increased awareness about cancer breast by 43% and 53% after the demonstration BSE, even from this study found 7 cases of breast abnormalities are detected after further investigation two of them are carcinomas and the other is fibroadenoma (Gupta et al, 2009). It is also supported by research of Dahlui, Ng, Al Sadat, Ismail, & Bulgiba (2011) by the method of questionnaire about the knowledge of breast cancer and BSE obtained 98.7% of respondents alert against breast cancer, 84% of them do BSE technique from 19% of respondents who do BSE found a lump in the breast, amounting to 87% continue with the examination of CBE after detected to ensure the condition further.

### **The quality of the articles and bias**

The quality of research articles selected using assessment tools EPHPP. Five articles categorized strong means through assessments EPHPP do not get of weak value in the variable tools. Meanwhile, three other articles categorized by reviewing EPHPP moderate means there is a maximum of one weak value of the variable tools.

There is no research article reported on a study blinding technique. Respondents who drop out and refused the intervention were also reported in several study articles. Five articles reported that respondents who drop out of his research while three other articles are not mention if there were respondents drop out or not. Once of the articles even assessing the bias in the study

### **DISCUSSION**

Generally all been reviewed journals provide results that Breast Self Examination (BSE) provide benefits to women as the detection of early breast cancer. From the results of these studies indicate that the BSE (Breast Self Examination) is still a little bit to do, the knowledge and the practice is relatively low. However, after the intervention of nearly

all respondents increased skills and knowledge. This encourages respondents to be more alert and aware of the importance of breast health. In addition to improve the knowledge and practice of the respondents are expected to be screened to detect any abnormalities in the breast because breast cancer in adult women often occurred asymptomatic. The Frequencies of Breast Self examination (BSE) is related to awareness and perceived seriousness of breast cancer, benefits and health motivation for adult woman (Registe & Porterfield, 2012).

That awareness and behavior changes may be detected abnormalities of breast during BSE or at some other time, so that through health promotion and education about breast health and technique BSE detect a lump in the breast indirectly. This occurs due to increase the awareness of women about breast cancer so that encourages women to practice BSE technique. A well-managed education can increase the positive perception of BSE because it is easily practiced, does not need the special equipments, nevertheless it have to be taught how to do it (Hacihasanoğlu & Gözümlü, 2008). Nevertheless, in some cases the self-examination (BSE) technique showed no significant effect in the screening. Several factors such as education level, marital status and the ethical issues become complicated factors (Loh & Chew, 2011). In a review conducted by Corbex, Burton, & Sancho-Garnier (2012) showed that the late detection of breast cancer still accrued in many cases, especially in the phase III and IV. This bias occurs because BSE technique needs the capability and the right techniques and influenced by several factors which breast cancer patients are afraid to know the real condition of their screening results (Simi, Yadollahie, & Habibzadeh, 2009).

Screening technique using mammography is believed to be more accurate and frequently used in healthcare facilities. However, the radiation risk, cost factor and it should be done in a health facility become special consideration for women to do breast self examination (BSE).

## CONCLUSION AND RECOMMENDATION

### Conclusion

At the conclusion of the article research review shows that almost all of breast self examination (BSE) is able to give a positive effect in terms of both knowledge and awareness for women about breast health. Breast cancer should be detected early to improve the prognosis for immediate action.

### Recommendation

One way to detect breast cancer is to improve the knowledge and awareness of women to perform breast self-examination (BSE) as a tool for detecting breast cancer for a safe and easy method. This systematic review is needed further review especially with RCT design and uses many more articles to show a more accurate result.

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# EFFECTIVENESS OF THE IMPROVEMENT OF CHINESE TRADITIONAL MEDICINE PULMONARY FUNCTION AND QUALITY OF LIFE OF PATIENTS COPD

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## ABSTRACT

**Introduction:** COPD (Chronic Obstructive Pulmonary Disease) with high prevalence, morbidity, mortality, and economic burden of the world is a global health problem. Recent research into the cause of death COPD will rank fourth in the world in 2030. The new therapy and appropriate strategies are needed to increase the effectiveness in treating this deadly disease. Several systematic reviews have been conducted, demonstrating the potential effectiveness of Chinese herbal medicine in COPD. However, the effectiveness is still not assured because of the low quality of research. **Methods:** The search strategy used in this study are as follows: Chronic Obstructive Pulmonary Disease, [AND] Complementary [OR] Alternative Medicine, [OR] Herbs, [OR] Alternative Treatment on search engines Proquest journals and Scopus. **Results:** 15 studies of Chinese herbal medicines. 13 studies conducted in humans with COPD and 2 studies in experimental animals with COPD. **Conclusion:** Traditional Chinese medicine pills may be involved in reducing the expression of interleukin (IL) -8, IL-6, IL-10, IL-1 $\beta$  and TNF- $\alpha$ , and set the levels of inflammatory cytokines. Traditional Chinese Medicine is able to increase the quality of life of patients with COPD. At present, quality of life becomes an indispensable indicator in the world

**Keywords:** Chronic obstructive pulmonary disease, traditional chinese medicine, complementary therapy.

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## INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is defined as a slowly progressive condition characterized by reversible airflow limitation and systemic inflammation (Li et al. 2015). Prevalence COPD with high morbidity, mortality, and economic burden is a global health problem world (Li et al. 2013). COPD in 1990 was the sixth leading cause of death in the world, a recent study says COPD will become the leading cause of death in the world ranking fourth in 2030 (Zheng et al. 2016). Therefore, designing strategies and treatments for COPD are important (S. Li et al. 2012). Drug therapy that include bronchodilators, steroids and phosphodiesterase inhibitors become the main method in treating. New therapies and appropriate strategies are needed to increase the effectiveness in treating this

deadly disease. In recent years, much attention has been paid to developing Chinese herbal medicine for the treatment of COPD (Li et al. 2015). Phosphodiesterase inhibitors become the main method in treating. New therapies and appropriate strategies are needed to increase the effectiveness in treating this deadly disease. In recent years, much attention has been paid to developing Chinese herbal medicine for the treatment of COPD (Li et al. 2015).

COPD is one of the major non-communicable diseases are rarely reported due to lack of information. In the United States the data in 2007 showed that the prevalence of COPD of 10.1% (SE 4.8) in males 11.8% (SE 7.9) and for women 8.5% (SE 5.8). While mortality ranked as the fourth most common cause is 18.6 per 100,000 population in 1991 and the death



rate increased by 32.9% from 1979 to 1991. While the prevalence of COPD in the countries of Southeast Asia is estimated to 6.3% with the highest prevalence found in Vietnam (6.7%) and China (6.5%) (Oemati 2013). Estimates of the prevalence of COPD in Indonesia in men aged > 30 years was 1.6% and 0.9% of women. Chronic obstructive pulmonary disease is a progressive disease, destructive and debilitation. Lung function will decline rapidly, if not properly controlled COPD and the first patients often experience exacerbations. Decline in lung function will cause a decrease in health status and quality of life of patients with COPD. COPD patients will find it difficult to carry out daily activities, not being able to do what you want, it can even become an invalid, who just lay helpless in bed (Wijaya et al. 2012).

Several systematic reviews have been conducted, demonstrating the potential effectiveness of Chinese herbal medicine in COPD. However, the effectiveness is still not assured because of the low quality of research. In this study, we systematically explain the effectiveness of herbal medicines in COPD using lung function, quality of life and clinical symptoms as a measuring tool (Chen et al. 2014). A systematic review would be beneficial to current practices and instructions to continue research with a new method of treatment. The purpose of this study was to assess the positive effects of Chinese herbal medicine (TCM) plus conventional treatment in stable COPD adults (Haifeng et al. 2015).

## **METHODS**

Giving TCM for the treatment of stable COPD accepted for inclusion, control group treated with conventional medicine, all studies published openly and research data was provided; The results have most influenced the process of COPD, such as exacerbations, lung function, six-minute walk test (6MWD), dyspnea, quality of life (QOL), St. George's Respiratory

Questionnaire (SGRQ), and symptoms. The search strategy used in this study are as follows: Chronic Obstructive Pulmonary Disease, [AND] Complementary [OR] Alternative Medicine, [OR] Herbs, [OR] Alternative Treatment on search engines Proquest journals and Scopus

## **RESULTS**

Review conducted at 15 research journals on Chinese herbal medicine. two studies (Lu et al. 2016) and (Chengyang et al. 2015) used a sample of COPD rats given Chinese herbal medicine. Based on these two studies, traditional Chinese medicine can lower inflammatory responses and improve the function paru.13 studies were conducted in patients with COPD.

Research (Wang et al. 2014), (Ng et al. 2012), and (S. Li et al. 2012) explains that the Chinese herbal drug therapy can improve lung function of COPD patients. Research (Dong et al. 2014), (Li et al. 2013), (J. Liu et al. 2014), (Ya-ling et al. 2012), (Li et al. 2016), (JS Li et al. 2012), (Miao et al. 2016), and (Jiansheng et al. 2016) describes the Chinese herbal medicine can improve the quality of life of patients with COPD. Research (M. Liu et al. 2014) and (Guo et al. 2014) describes the Chinese herbal medicine can improve lung function and quality of life of COPD patients in the intervention group

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

Chinese herbal medicine can improve lung function and quality of life of patients with COPD. Further research on a large scale, design appropriate studies, randomized trials of TCM for COPD would be required to justify the effect that is written in this study

### **Recommendation**

Future experiments should be conducted in Indonesia in order to determine the effects of traditional Chinese medicine in Indonesian society and able to

adopt the traditional Chinese medicine preparations.

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# NON-PHARMACOLOGICAL INTERVENTION TO INCREASE QUALITY OF SLEEP ON THE ELDERLY: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Sleep disorders are common health problems reported 39-75% of the elderly. The presence of sleep disorders in the elderly can lead to poor sleep quality in the elderly. Pharmacological action in treating sleep disorder continuously will produce unwanted side effects. Non-pharmacological action lately becomes a crucial issue in the nursing environment in overcoming sleep disorders. **Method:** The source of article used is obtained from a search through the database Proquest, EBSCO, Google Scholar, Scopus, SAGE, and Science Direct. Search restricted articles ranging from 2008 until 2016. After the articles obtained, then research articles were extended of making systematic review. **Result:** Systematic review resulted 11 of the 13 non-pharmacological intervention options that can be used to improve the quality of sleep on elderly, in example of acupressure, SSBM, ling tien kung therapy, baduanjin exercise, exercise training program, gymnastics for elderly, practice of progressive muscle relaxation, tai chi, sitterscise, aerobic exercise, and aquatic exercise. **Conclusion:** Non-pharmacological Intervention is part of secondary prevention that can be done to improve sleep quality on the elderly.

**Keywords:** non-pharmacological intervention, quality of sleep, elderly

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## INTRODUCTION

Sleep disorders are common health problems reported 39-75% of elderly (Blay, S.L., Baxter, U.S., Leite, G.F., 2008). This is in line with the statement of Roland (2011) who says that the aging process makes the elderly more susceptible to sleep disturbances, besides resulting in normal changes in sleep and rest patterns of the elderly. The presence of sleep disorders on the elderly can lead to poor sleep quality on the elderly (Su, T.P., Huang, S.R., Chou, P., 2004). Sagala (2011) stated that the quality of sleep is the satisfaction of a person to sleep, so that someone does not show feelings of fatigue, easily aroused and agitated, lethargic and apathetic, black around on the eyes, swollen eyelids, red conjunctiva, sore eyes, fragmented attention, headache and frequent yawning or drowsy. Sumedi, T., Wahyudi, Kuswati A. (2010) revealed that the quality of nighttime sleep on the elderly decreased to approximately 70-80% of the adult. Factors

that could cause poor sleep quality on the elderly are the response to disease, depression, anxiety, physical environment, and lifestyle (Silvanasari, 2013).

Guyton & Hall (2007) stated that individual sleep quality can be analyzed by electroencephalography (EEG). Buysse et.al. (1988) also suggests measuring instrument to the quality of sleep by Pittsburgh Sleep Quality Index (PSQI). PSQI provide a quantitative measure of the quality of sleep that fast in identifying sleep quality is good or bad, and better than the gold standard of clinical and laboratory diagnosis. PSQI score <5 indicates a sensitive and specific measure of sleep quality is good on the individual. The higher PSQI global score obtained the worse also the individual sleep quality (D.J. Buysse, Reynolds C.F., T.H. Monk, Berman S.R., and D.J. Kupfer, 1988).

Nurses, both in the clinical or community, have an important role in improving the quality of sleep on elderly.

Nurses can perform preventive measures in dealing with sleep disorders on the elderly, which includes primary prevention, secondary, and tertiary. Primary prevention is an attempt to avoid specific diseases or health conditions. Health education about good sleep hygiene can be done as primary prevention form of poor sleep quality. Secondary prevention is early detection and treatment of adverse health conditions, including non-pharmacological and pharmacological actions. Tertiary prevention is done if certain conditions or diseases may have caused damage to the individual (Anderson & McFarlane, 2006; Stanley & Beare, 2006).

Individuals with insomnia usually get treatment to improve the quality of sleep, but the action of pharmacology in overcoming sleep disorders are constantly certainly will produce side effects that are not desired (Bertisch, Herzig, Winkelman, Buettner, 2014; DeMartinis, Kamath, Winokur, 2009). Non-pharmacological action in treating sleep disorder lately becomes a crucial issue in the nursing environment (Su et al., 2013). Various studies of non-pharmacological intervention in an effort to improve sleep quality on the elderly have been published, such as acupressure, music therapy, exercise, and so on. The purpose of this study was to evaluate the effectiveness of non-pharmacological interventions in improving sleep quality in the elderly.

## **METHODS**

### **The Journal Search Strategy**

The approach used was the approach of systematic review that began with the selection of a topic, then the specified keywords to search journals (primary research) using English and Indonesian through several databases, among Proquest, EBSCO, Google Scholar, Scopus, SAGE, and Science Direct. This search was restricted from 2008 until 2016. Keywords in English used were "nursing intervention", "non-pharmacology", "sleep quality", and "elderly". Indonesian

Language used the keywords of "intervensi keperawatan", "intervensi nonfarmakologik", "kualitas tidur", "lansia", dan "lanjut usia".

### **Journal Selection**

Articles were selected for review based on studies carried out in accordance with the inclusion criterion. The criterion for inclusion in this systematic review is the application of non-pharmacological nursing intervention. The journal is a primary research, research design can be using Random Controlled Trial (RCT) or quasi-experiment, the participants were elderly people with sleep problems such as insomnia and poor sleep quality, as well as the measurement can be subjectively the form of the Pittsburgh Sleep Quality Index (PSQI) and the scale of insomnia and objective in such polysomnography or actigraph form.

Titles and abstracts of the search results then screened by investigators, could be included into the inclusion criteria or not. Researchers read the full text of paper that exists when researchers difficulty in deciding the journal suitable or not with the existing inclusion criteria. Search using keywords above found 61 articles. Of the entire articles, which met the inclusion criteria were 17 articles.

## **RESULTS**

### **Characteristics**

The results in reviewing 17 research articles that met the inclusion criteria, got 13 types of non-pharmacological interventions, namely practice of progressive muscle relaxation, gymnastics for elderly, tai chi, aerobic exercise and resistance exercise, aquatic exercise, baduanjin exercise, walking, exercise training program, ling tien kung therapy, slow stroke back massage, music therapy, sittercise, and acupressure. Four studies tested more than once, which were progressive muscle relaxation exercises, elderly gymnastics, tai chi, and music therapy.



Setting of the 17 articles of research was in the community (n = 13), laboratory (n = 2), and home care (n = 1). The number of samples was ranging from the smallest of 20 people to the largest number of 126 people. Most interventions more directed to an exercise activity given to the elderly with poor sleep quality or elderly people with sleep disorders. Most studies also did not explain in detail how the procedures related to the interventions, the researchers simply wrote down how long that given interventions.

Measuring instruments used on the rest of the articles in the form of an objective measurement tool (polysomnography, actygraph) as many as four researches and measurement tools that were subjective (PSQI, Korean sleep scale, and insomnia rating scale) of 13 studies. The parameters used appropriate criteria for inclusion that were to measure the quality of sleep, insomnia, and other sleep disorders in the elderly.

The results on 17 research articles were reviewed, there were seven research articles that used quasi-experiment, in which the intervention given that sittercise, gymnastics elderly (n = 2), practice of progressive muscle relaxation (n = 2), acupressure, and ling tien kung therapy. Ten RCT research approached with the rest of intervention options that music therapy (n = 2), aquatic exercise, aerobic exercise, baduanjin exercise, home-based walking, exercise training program, SSBM, and tai chi (n = 2). When viewed in terms of the selection method, in accordance with the level of evidence, of course, research method approached, RCT was more general than the study design of quasi-experiment.

### **Non-pharmacological intervention effect on the sleep quality of elderly**

Non-pharmacological interventions to improve sleep quality on the elderly were very various, which there were 13 kinds of intervention options from 17 articles were obtained. Type of non-pharmacological interventions were practice of progressive

muscle relaxation, gymnastics for elderly, tai chi, aerobic exercise and resistance exercise, aquatic exercise, baduanjin exercise, walking, exercise training program, ling tien kung therapy, slow stroke back massage, music therapy, sittercise, and acupressure. The time required of each intervention also different, ranging from 1-16 weeks. Frequency of intervention was also different which ranges from every day made up until only once in a week.

Non-pharmacological intervention form of acupressure is applied for 5 minutes on each point, once to twice daily (before the break of day and night) for 4 weeks can improve sleep quality in older adults with hypertension (LW Zheng, Chen Y., Chen F., P. Zhang, Wu LF, 2014). Slow-Stroke Back Massage (SSBM) for 3 minutes of bedtime can overcome sleep disorders and dementia in the care homes (Harris M., Richards K.C, V.T. Grando, 2012). In contrast to these two studies, two studies using music as an intervention would indicate no significant difference between the treatment group and the control group. Giving music may be effective as promoting sleep (M.F. Chan, Chan E.A., E. Mok, 2010; Lai H.L, et al, 2015).

Non-pharmacological intervention form of exercise is various in types. Kung tien ling therapy can improve the quality of sleep of elderly with treatment for 6 weeks. Chen M.C., H.E. Liu, Huang H.Y., Chiou A.F. (2012) explains that baduanjin exercise can improve sleep quality of the elderly after 12 weeks of intervention. Exercise training program can also improve the quality of sleep of elderly with heart failure (Suna, Jessica M., et. Al., 2015). Giving elderly gymnastics for 1 week may improve the quality of sleep of elderly (Yurintika F., F. Sabrian, Dewi Y.I, 2015; Cahyono H.K., 2012). Progressive muscle relaxation exercise can improve sleep quality and reduce the level of insomnia in the elderly (Sulidah, Yamin A., Susanti R.D., 2016). Tai chi is done and given a maximum of 40 minutes 3 times a week for

16 weeks can improve sleep quality in the elderly. Other studies have produced evidence if tai chi which is done every week for two months may improve sleep quality in older adults with cognitive impairment (Irwin M.R, R. Olmstead, Motivala S.J., 2008; Chan, et al., 2016). Sittercise performed 3 times a week for 8 weeks resulted in significant positive results on the quality of sleep (Lee M: S, Kim S.R., Min G.H., Cho B.J., 2015). Aerobic exercise is done alone or in combination with resistance exercise is effective in improving sleep quality in the elderly after 10 weeks (Bonardi, J.M.T., et.al., 2016). Unlike the case with the exercise study, research conducted by Chen L.J, Fox K.R., P.W. Ku, Chang Y.W. (2016) actually get results that aquatic exercise can only lead to significant differences in sleep latency and sleep efficiency, not on the overall parameters of measuring the quality of sleep and study of home-based walking intervention is not even significant in improving the quality of sleep of elderly (Wenzel, Jennifer A. et. al., 2013).

## **DISCUSSION**

This systematic review provides evidence-based picture of the effectiveness of non-pharmacological interventions related to the improving of sleep quality on the elderly. The results of the reviews explain that there are 11 of the 13 choices of interventions that can be used to improve the quality of sleep of elderly, such as acupressure, SSBM, therapy of ling tien kung, baduanjin exercise, exercise training program, gymnastics elderly, practice of progressive muscle relaxation, tai chi, sittercise, aerobic exercise, and aquatic exercise; although aquatic exercise itself does not show significant results in overall sleep quality measurement parameters. Music therapy and home-based walking intervention showed no significant results in improving the quality of sleep on elderly. From the terms of the duration for the intervention, intervention options of SSBM conducted for 3 minutes bedtime can

improve sleep quality of the elderly based on measurements of actigraph data in 48 hours.

The results of this review are certainly useful for nurses, both clinical and community nurses. Nurses can apply one of non-pharmacological intervention as a form of secondary prevention of poor quality sleep and sleep disorders on the elderly. Clinic nurses can do SSBM and acupressure in order to improve the quality of sleep of elderly, while the community nurse can choose exercise to improve sleep quality of the elderly. Application of non-pharmacological intervention can certainly prevent a worse condition in the elderly with poor sleep quality as well as elderly people with sleep disorders.

These studies could not be fully generalized. Bias might occur. It could be due to measurement parameter was not homogeneous and the condition of the study sample were also less homogeneous (there are a few samples with pathological conditions such as tumor, hypertension, and cognitive impairment).

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

Non-pharmacological intervention is part of secondary prevention that can be done to improve sleep quality on the elderly. Acupressure, SSBM, kung tien ling therapy, baduanjin exercise, exercise training program, gymnastics elderly, progressive muscle relaxation exercises, tai chi, sittercise, aerobic exercise, and aquatic exercise can be selected non-pharmacological interventions in improving sleep quality of the elderly. SSBM intervention is considered effective if the terms of the duration of the intervention.

### **Recommendation**

Clinic nurses can do SSBM and acupressure in order to improve the quality of sleep of elderly, while the community

nurse can choose exercise to improve sleep quality of the elderly.

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# SYSTEMATIC REVIEW OF FACTOR THAT AFFECT IMPLEMENTATION OF THE PATIENT SAFETY CULTURE IN THE HOSPITAL

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## ABSTRACT

**Introduction:** Patient safety is a global issue of health care in hospital. It requires special attention in the implementation. This study has purpose factors that affect implementation of patient safety. **Method:** the Journal had searched towards multiple database: DOAJ, Sage, Proquest, Medline, Google Scholar, Science Direct. It used limited time in January 2011 to August 2016. From 1797 articles, only 15 articles that suitable with the inclusion criteria. **Results** : from the 15 literature had acquired factors that affect the implementation of patient safety such as : economics aspect, leadership, culture, health care system, knowledge, attitudes, and actions of professionals, analysis of the situation and workplace conditions, the risk management system, the duration of nurse's working hours, mentoring program, nursing supervision, and evaluation of the patient safety implementation. The instrument used to measure the implementation of patient safety include questionnaires, checklists observation form, and interview form. The instruments are often by the environmental practice scale of the nursing work index (PES-NWI) and the hospital survey of patient safety culture. **Discussion:** these factors can provide positive support in the hospital to implement management system and excellent health services by optimizing the implementation of patient safety to reduce the risk malpractice or undesirable events. In the implementing patient safety expected to have good cooperation and collaboration of hospital's to be run optimally. It can provide a positive impact on improving the quality of health service.

**Keywords:** patient safety, health, health worker

## INTRODUCTION

Patient safety is a system to make patient care safer include risk assessment, identification and management of matters relating to the risk of the patient, reporting and analysing of incident, the ability to learn from the incident, and follow up implementation of solution to reduce risks and to prevent injuries caused by errors due to carry out an act that should be done (Ministry of Health 2011). The hospitals always tried to increase the level of patient safety. Patient safety incidents at the hospital will give negative impact on hospital, staff, and patient, because they are recipient of the service. The impact was decreased the level of public trust to the health service. Low quality of care provided for patient safety was part of quality service (Flynn, 2002 in Cahyono 2008).

Safety is a global issue, it summarized in five important issues related to hospital such as patient safety, hospital safety, environment safety, building safety and hospital business safety. It was important to be implemented, but it must be recognized hospital activities be operated there was patients. Patient safety is key priority for implementation issues related to the quality and image of hospitalization (MoH 2011). WHO (World Health Organization) (2014) collected hospital research in various countries such as Denmark and Australia. It was found 3.2% - 16.6%. That be triggered in different countries to conduct research and development of patient safety system (Moh 2011).

The hospital has an important role to realize optimal level of public health.

Therefore, the hospitals are required to be able to manage activities by emphasis responsibilities of health professionals, especially medical and nursing staff in official duty. Not always medical service not often provided health professionals workers to get results as expected by all people. Because of many accident of malpractice cases, so must be applied to patient safety programs.

The phenomenon of patient safety incidents in Indonesia still happen until 2015, it has been published in Kompas daily about patient safety incidents such as happened for patient. Martin (7th) died after received wound care post accident in Kefamenanu hospital. The other happened for swelling and open wound on the femur of that injected by nurse Citama Bogor hospital, Mrs. Sutiah (43th) has urticarial swelling in the leg blistered post operative hernia in Kasih Ibu hospital North Aceh and other patient safety incidents. It describes patient safety culture in hospitals that required special attention in the implementation. Though patient safety based on priority in hospital, but in the fact is not as comfortable as possible.

Nurse is the important health worker in the process of providing health services to patients. Nurses tried to maintain and to improve the health client toward providing health care information that is clear and easily understood by client and family, while they not cured at the hospital. In the nursing intervention that do not suitable with Standar Operasional Procedure get risk of decreasing implementation of patient safety goals. Based on this phenomenon, the authors are interested to analyze factors that affect the implementation of the patient safety in hospital.

## **METHODS**

A literature searching towards some major databases such as PROQUEST, SCIEDIRECT, DOAJ, SAGEPUB, MEDLINE, and GOOGLE SCHOLAR by with input keywords patient safety, health,

health worker. The limited time in January 2011 to August 2016. From 1797 article, only 15 article that suitable inclusion criteria. It contains were 1) the study design RCT, 2) variable factors that affect patient safety goals, 3) samples of health workers in hospitals, and 4) parameter that assessed the intensity of the implementation of patient safety goal.

## **RESULTS**

From the fifteen literature has acquired variety of factors that affect the implementation of patient safety goals, there are economics aspect, leadership, culture, health care systems, knowledge, attitudes and professionals interventions, analysis of the situation and workplace conditions, the risk management system, the duration of nurses working, mentoring programs, nursing supervision, and evaluation of the implementation patient safety. While the parameters used to measure the implementation of patient safety to get data from the instrument are questionnaires, observation sheets and sheets interview checklist. The instrument are often used by environmental practice scale of the Nursing Work Index (PES-NWI) and the hospital survey of patient safety culture.

## **DISCUSSION**

### **Economic aspects**

Research Jackson (2009) showed the influence of the economics aspects of the implementation of patient safety goals. In the fact patient of lower economic class got nosocomial infections because of bad implementation of patient safety in hospital. The economics aspects impacted care unit level includes the availability of facilities, supporting facilities, health care and patient comfort during hospitalized.

### **Leadership**

Research Kessler (2014) aims to evaluate theories, models, and empirical evidence on function, rules and independence leadership, safety culture and

the patient safety in hospital. Result of the research is the development framework based on Evidence Based Nursing which define the relationship between leadership, safety culture, and patient safety.

Research setowati (2013) aims to determine the relationship effective leadership from head room with the implementation of patient safety culture. The analysis showed negative relationship between effective leadership from head room with the implementation of patient safety culture. Effective leadership style from head nurse such as: effective leadership, knowledge, self-awareness, communication, energy, passion, and take action.

Leadership style had great influence on the implementation of patient safety goals. A good leader will be a role model for teamwork in implementation of patient safety, so it can improve the quality of health service.

### **Culture**

Research bouafia (2015) aims to determine obedience staff level towards implementation of patient safety culture in hospital education center Tunisia. The results showed that 68.8% health worker had made the application of patient safety culture was low. The cultural factors are very influence in the implementation of patient safety, because of providers and users of health service have a unique character management. Management and good cooperation are required by staff at the hospital. Effort to promote patient safety program to all people there in hospital

### **Risk Management Systems and Health Service**

World research 2015 showed that 90% of health workers in Kinshasa knowed about risk management infection control, while 89% health worker do not know about patient safety. Oyourou OA research and Adeoti 2013 showed the percentage of influence service management aspect such as : leadership development (64%), the

target document completeness of patient safety and risk management (60%), medical technology (63.6%), human resources (42%), medical information (40%). Evaluation nursing practice (20%), finance (16%) and health research (33%). Djibo study (2013) on the effect of risk management in the implementation of patient safety showed the results : 60 % experienced health professionals provided health service to patient during hospitalized, 65,7 % are exposed blood products, 45% do hand hygiene procedures, 25,7% frequently use medical equipment, 14.3% of health workers have not immunize hepatitis-B, and 37.1% had attended training hand hygiene and patient safety.

The results of three studies showed that the risk management system and health services that appropriate can give a positive influence of optimization in implementation of patient safety. Completeness of facilities and staff training will facilitate the implementation of patient safety in hospital.

### **Knowledge, attitudes, and actions**

Research gebru (2013) aims to identify knowledge, attitudes, and action in conducted injection by health worker professionals. The results showed 161 people (85%) have knowledge about of injection unsafe or risky, 135 people (71%) know the way of administration with a single dose. Other data showed 149 (79%) know the inaccuracies in delivery drug that infection, whereas 50 (26%) of health workers professionals do not apply aseptic technique, 80 (42%) did not receive training on injection. Produces safety 40% of health workers experienced needle stick injury incident.

Research of Bernadetta (2015) aims to determine the relationship knowledge of nurses about patient safety in the implementation Standart Operation Procedures of patient safety related operating procedures in panti waluya sawahan malang hospital.

The results showed a significant relationship between the knowledge of nurses at the Panti Waluya hospital with the implementation of patient safety in hospital. Based on Spearman correlation statistic value of it have 0.420 with a significance of 0.001 ( $P < 0.05$ ). 49 responden (81.7%) have sufficient knowledge, 68.3% are still lacking in implementation standar operation procedures of patient safety.

Knowledge, attitudes, and action are required by health workers who better to avoid mistakes or malpractice in the health services. The precision of action by staff will support the achievement of optimizing the implementation of patient safety, so it can improve the quality of health services.

#### Condition Work

Research of Kirwan (2012) aims to determine the relationship between the work environment of nurses towards the implementation of patient safety. The results showed that the workload of nurses in each care unit and the education level of nurses in a work environment significantly influence the implementation of patient safety. The percentage of influence of the workload (76%) and education (51%). Positive work environment and workload calculation according to human resources and staff education level can support optimal implementation of patient safety.

#### Duration working hours nurse

We yinghui research (2013) aims to determine the effect of the working hours of nurses towards patient safety. The results showed that working hours duration of nurses per week divided into three groups, that are <40 hours, 40-60 hours, and >60 hours. The longer duration of the working hours of nurses can improve for low implementation safety culture. The effectiveness of working hours can affect the quality of performance will support the implementation of patient safety maximally.

#### Mentoring program

Research Nurmalia (2013) aims to determine the effect of implementation of a mentoring program patient safety culture in unit at one private hospital in Semarang. The results show there is influence between the cultural implication of the control group after the intervention group mentoring program ( $p = 0.056$ ,  $\chi^2 = 4.5$ ,  $\alpha = 0.1$ ) and RR 2.5. The analysis showed group that did not get the mentoring program will be at risk of decline in the implication of patient safety culture at 2.5 times greater than the group receiving mentoring nursing program.

Research suggests new methods of optimizing the implication of patient safety is by mentoring. The discussion involves the principles and theory of four dimensions of openness, fairness, reporting, and learning implications for service and nursing education to develop methods directives in accordance with the needs of nurses in hospitals.

#### Nursing Supervision and Patient Safety Evaluation

Research Suparna (2015) aims to determine the evaluation of implication of patient safety: the risk falls the emergency room at the Panti Rini Kalasan Sleman Hospital. The results showed that the risk falls by standard operating procedures, aspects of which carried 100%, that is writing on documentation, while 50% falls risk assessment, aspects of the mounting pins fall risk, obtained only 51% of its appropriateness. Research Rasdini (2015) show the relationship between supervision of nursing services with the implication of patient safety in the Sanglah Denpasar, Government Hospital. The results show that significant correlation between the supervision of nursing services (normative, formative, and restoratif) with the application of patient safety by nurses ( $p = 0.000$ ).

Supervision of nursing and patient safety evaluation had given a positive impact on implementation of patient safety in hospitals. Supervision of nursing is a

form of supervision and assistance in the intervention of nurses. Periodic evaluation do to determine the achievement of implementation of patient safety. If there is not suitable aspect have done, better strategies that target the implementation of patient safety can be optimized for improving the quality of health care in hospitals.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

Systematic review has gotten from 15 medical journals showed variety factors that affect implication of patient safety in hospitals. There were economic aspects, leadership, culture, health care systems, knowledge, attitudes, and actions of professionals, analysis of the situation and workplace conditions, the risk management system, the duration of working hours of nurses, mentoring programs, supervision of nursing, and evaluation implementation of patient safety. While the parameters used to measure the implementation of patient safety to get data from the instrument questionnaires, observation sheets checklist, and interview. The type of instrument that was often used is The Environmental Practice Scale of the Nursing Work Index (PES-NWI) and The Hospital Survey of Patient Safety Culture.

The results from 15 journals indicated that patient safety in hospitals required particular attention in its implementation. Optimization of the factors that influence the effectiveness of implementation of patient safety can improve the quality of implementation patient safety as well as to improve the quality of health care in hospitals.

### **Recommendation**

From the 15 studies examined many factors that affect the implementation of patient safety. All these factors are expected to provide positive support in the hospital to implement a management system and excellent health services by maximizing the

application of patient safety to reduce the risk of malpractice or undesirable events. The development of further research to identify other factors that may affect the implementation of patient safety. In the process of implementation of patient safety is expected to have a good cooperation and collaboration of all elements of the hospital to be run optimally and provide a positive impact on improving the quality of health services.

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# A SYSTEMATIC REVIEW ON THE EFFECTIVENESS OF AURICULAR ACCUPRESSURE FOR PAIN

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## ABSTRACT

**Introduction:** Pain is defined as a subjective sensory and emotional unpleasant associated with actual or potential tissue damage, or can describe the condition of the damage. To control pain, can be done using auricular acupressure. **Methods:** The design used in this study is a systematic review, with a literature search or study using online reference databases and aggregators in Pubmed, Proquest, Medline and Science Direct. Articles that met the study criteria were 15 articles. **Results:** This study showed that there is a significant influence of auricular acupressure intervention to decreased pain. Pain derived include mild pain to severe pain. Pain can be derived include chronic pain, neuropathic pain, post-operative pain, menstrual pain, pain due to cancer. **Conclusion:** Auricular acupressure is very effective to decrease the level of pain. The results of the overall article showed consistent results. There are several limitations of the study, namely at the level of bias is still not too significant. Future studies are expected to use the method of randomized controlled trials with sham group and the risk of bias is very small so the results obtained from the auricular acupressure intervention has a high degree of validity.

**Keywords:** Systematic Review, Auricular acupressure, Pain

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## INTRODUCTION

Pain is an uncomfortable feeling and very individual that can't be felt or shared with others. Everyone will feel a reaction and a different perception. Pain related to two aspects of psychological and physiological and are both affected by certain factors such as: culture, age, environment and support systems, past experience, anxiety and stress, as well as the placebo effect (Hinkle & Cheever, 2013). According to the International Association for the Study of Pain (IASP) in 1979, the pain was defined as a subjective sensory and emotional unpleasant associated with actual or potential tissue damage, or can describe the condition of the damage (Tamsuri, 2007).

There are various theories that attempt to describe how nociceptor can generate pain stimuli, but the gate control theory considered most relevant today (Tamsuri, 2007). Gate control theory proposed by Melzack and Wall in 1965,

which explains that pain impulses regulated by the defense mechanisms along the central nervous system. Balance the activity of sensory neurons and fibers descending from the brain control the defense process. Neuron-delta A and C releasing substance C release substance P to transmit impulses through a defense mechanism. There are also mechanoreceptors, the neurons beta-A thicker, faster which release the neurotransmitter inhibitor. If the dominant input fibers derived from beta-A, it will shut down a defense mechanism. The resulting message will stimulate mechanoreceptors, if the predominant input derived from Delta A fibers and C fibers, it will open up the defense and the client perceives the sensation of pain. Even if the pain impulse is delivered to the brain, there is a higher cortical center in the brain that modifies pain. The descendent nerve pathways release of endogenous opioids, such as endorphins and dynorphin, a natural pain control that comes from the body. The

neuromodulators close defense mechanism by inhibiting the release of substance P. The technique of distraction, music, counseling and a placebo was an attempt to release endorphins (Potter et al., 2016).

The incidence of pain in Indonesia is not yet clear, but in Europe almost 20% of adults experience moderate to chronic pain which could impact on performance, social life, and emotional function (Breivik, 2006). To control pain, WHO (2007) recommends to use of an opioid analgesic and nonopioid. The efficacy and safety of opioids is still unclear, and most patients who use opioid drugs experience side effects that are not desirable, including nausea, vomiting, sexual dysfunction, even the use in the long term will lead to hypogonadism, osteoporosis, suppression of the immune system, cognitive disorders and hyperalgesia (Gregorian et al., 2010; Raghavan et al., 2011; Ajo et al., 2016). In addition, the use of drugs nonopioid, such as NSAIDs can cause gastrointestinal and cardiovascular disorders (Conaghan, 2012). To avoid the side effects of the drug, can be done using non-pharmacological, such as auricular acupressure.

Auricular acupressure or often called Auricular Acupressure Point (APA) is one form of auricular therapy which uses botanical seeds (or pellets) attached to the acupoint on the ear to produce effects like acupuncture. Auricular acupressure originated in China over 2000 years ago and then rebuilt by French Neurosurgeon, Dr. Paul Nogier in 1957 (Oleson, 2013). A system with a standard nomenclature ear zone has been set by the WHO. This system combines the auricular anatomy and effects, and has been accepted internationally. Stimulation of specific points on the ear by applying pressure with the thumb and forefinger affect different anatomical regions of the body, which can cause effects of treatment (WHO, 1990). The theory underlying auricular therapy nerves found in the outer ear correspond to particular areas of the brain, and these areas have specific reflex relationship with other body

parts (Oleson, 2013). This relationship has been validated by a device called Functional Magnetic Resonance Imaging (fMRI) (Alimi et al., 2002). Treatment through acupoint on the ear can stimulate and cause a reflex reaction in the body to relieve the body in a state of pathology (Oleson, 2013). Using a variety of literature databases, this study aimed to evaluate the effectiveness of auricular acupressure for pain.

## **METHODS**

The design used in this study is a systematic review. Search literature or studies done as much as possible from a variety of sources, both print and online. In this study, author use an online reference databases and aggregators in Pubmed, Proquest, Medline and Science Direct. The key words are auricular acupressure and pain. The inclusion criteria were the authors set is: 1) Quantitative study, both observation or experimental; 2) Maximum span of the study 10 years ago (2007); 3) The subject of men and women (aged  $\geq 13$  years) who are experiencing pain, both acute or chronic; 4) The intervention provided in the form auricular acupressure; 5) Parameter study results is the degree of pain.

## **RESULTS**

This study looking for an online reference databases and aggregators in Pubmed, Proquest, Medline and Science Direct by keywords such as auricular acupressure and pain, and showed as many as 940 articles (113 of Pubmed, 473 of Proquest, 40 from Medline, 314 from Science Direct). A total of 886 articles duplicates are found, so that 54 articles were screened. After screening with the review of abstracts, generated 21 articles. Furthermore, conducted review of full text articles and that qualify is 15 articles.

Fifteen articles were reviewed, generally has a low risk of bias amounted to 56.7% based on Cochrane's Risk of Bias assessment tool. Low risk of bias present in all parts and dominate in the random

sequence generation, allocation concealment, the data is incomplete, and selective reporting. Bias unclear was found to be 37.8% and dominate on the allocation concealment, blinding of participants and investigators, assessment of results, and other potential threats to validity. High risk of bias is found only at 5.5% and only in part a random sequence generation, blinding of participants and investigators, and assessment of results, as well as other potential threats to validity, as well as other potential threats to validity. This indicates that the quality of these studies is good enough.

Total of six studies using Randomized Control Trial design and other uses observational and experimental design. Total overall respondents were 808 people. The research was carried out in various countries including Taiwan, USA, China, Italy, and South Korea. Auricular acupressure given to respondents with a range of one day to one month. Overall from the study showed that significantly decreased pain with auricular acupressure intervention. Pain derived include mild pain to severe pain. Pain can be derived include chronic pain, neuropathic pain, post-operative pain, menstrual pain, pain due to cancer.

Auricular acupressure can reduce chronic pain in the range 41% to 66% (Yeh et al., 2012; Yeh et al., 2014; Yeh et al., 2014; Yeh et al., 2015). In reducing neuropathic pain, auricular acupressure capable of achieving 43.3% (Liu et al., 2010). In post-surgery pain, auricular acupressure effectively used in the span of one hour to seven days postoperatively with assessment through the Visual Analog Scale for pain (VAS) of  $27.58 \pm 13.96$  (Yeh et al., 2010; Chang et al., 2012; He et al., 2013). Auricular acupressure also can reduce menstrual pain but not significantly (Wang et al., 2013). However, in another study showed a significant result with a value of VAS amounted to 5.66 until 2:38 with a value of  $p = 0.02$  in the Short-Form McGill Pain Questionnaire (SF-MPQ),  $p =$

0.002 on the Visual Analog Scale for pain (VAS), and the value  $p = 0.001$  in the Menstrual Distress Questionnaire (MDQ) (Yeh et al., 2013; Kim et al., 2015). In addition, pain that occurs in cancer patients was also lowered by 50% to 55% in severe pain and in the range of 42% to 57% for moderate pain (Yeh et al., 2015; Yeh et al., 2015; Yeh et al., 2016). Auricular acupressure shown to modulate pain in the body (Santoro et al., 2015).

## DISCUSSION

From the overall of these studies indicate auricular acupressure can be implemented in clinical practice, and have a positive effect on pain reduction. It also provides the option of alternative interventions to manage pain in clinical practice and the results also showed a significant degree.

In the management of pain, auricular acupressure also has benefits in terms of lower costs, fewer complications, simple, effective, and has a security level that is high enough because it is not an invasive procedure (He et al., 2013; Yeh et al., 2014).

Application of auricular acupressure can be integrated into nursing services. This is consistent with the philosophy of caring in nursing that emphasizes the health of the client. Moreover, in Indonesia the implementation of auricular acupressure as a complementary and alternative has been supported by the law as the basis of legality in providing auricular acupressure intervention.

## CONCLUSION AND RECOMMENDATION

Based on a review of the entire article showed that auricular acupressure is very effective to lowering the level of pain, such as chronic pain, neuropathic pain, post-operative pain, menstrual pain, pain due to cancer. The results of the overall articles showed consistent results.

## Recommendation

There are several limitations of the study is the level of bias is still not too significant. Future studies are expected to use the method of randomized controlled trials with sham group and the risk of bias is very small so the results obtained from the auricular acupressure intervention has a high degree of validity.

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# IMPROVE FAMILY READINESS TO TREAT POST DEPRIVED MENTAL DISORDERS BY FAMILY PSYCHOEDUCATION

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## ABSTRACT

**Introduction:** Mental disorders are disturbances in thinking, volition, emotion, action. The set of circumstances that are not normal, either related to the physical, and the mental. From the results of the preliminary study found the low families readiness in caring for post ODGJ healthy deprived in Pondok X Bangkalan. This study was to analyze the readiness of families in caring for people with mental disorders after deprived before and after the family psychoeducation in healthy Pondok X Bangkalan. **Methods:** The method used is Pre-experimental approach to one-group pre-post test design, family psychoeducation therapy independent variables and the dependent variable is family preparedness in caring for people with mental disorders post-deprived. The population of as many as 32 families with mental disorders in healthy Pondok X Bangkalan instrument in gathering data using questionnaires. **Result:** The results of the data analysis are presented in a frequency distribution table. Statistical test in the study using the Wilcoxon Sign Rank Test  $\alpha = 0.05$ . Based on the results, before being given a family readiness family psychoeducation with the results after a mean 21.6 and family psychoeducation with the results given mean of 29.1 using the Wilcoxon test showed  $p\text{value} = 0.001 < \alpha = 0.05$  that concluded there is a difference in the care of family readiness people with mental disorders before and after the family psychoeducation. **Conclusion:** Solutions that can be given to the family of this study are expected to be input for the family members of patients who experience a mental disorder on the importance of knowledge and information about mental illness on family preparedness in treating patients with mental disorders.

**Keywords:** Mental Disorders, psychoeducation, Family Readiness, Knowledge

## INTRODUCTION

Family behavior in the handling of post-deprived ODGJ in reality there were referred to the Mental Hospital or to stay with family. The family has some reason to care ODGJ at home, the main factor is that people do not know that ODGJ treatable, family feel ashamed for having a family member with ODGJ and family do not have to check ODGJ costs to health services (Keliat, 2003). ODGJ often stigmatized neighborhood. ODGJ public trust that is caused by mystical or supernatural occurrences, dangerous, can not work and will never be cured, so that the stigma on ODGJ include neglect, prejudice and

discrimination (Thornicroft et al, 2008 at Lestari & Ward, 2014).

Reactions of anxiety in caregivers ODGJ deprived will post a negative impact on family preparedness in caring for patients. Friedman (2010), mentions that the Meru-feed the family support system that can be empowered because of family Meru-an important part of individuals who can not dipisahkan. Sebagai family support system must be stable and can survive in any condition with the hope to resolve the problem, since the family is the first service provider and is of particular importance in patients ODGJ.

WHO (World Health Organization) said at least one in four people experiencing mental problems in the world, an estimated 450 million people worldwide who experience mental health disorders. Mention the prevalence of mental disorders in the population of Indonesia as much as 0.17%, and the prevalence of mental disorders in East Java in severe mental disorders (psychosis / schizophrenia) as much as 0.22% and emotional mental disorder at 6.5%. The Ministry of Health estimates that the number of ODGJ deprived throughout Indonesia reached over 18,000 lives. The proportion of families who have ODGJ psychosis and had been deprived of 14.3%, or about 237 families of 1,655 families who have a post ODGJ deprived and most of the families in rural areas (18.2%) (Risksdas, 2013).

The percentage of families who have ODGJ after deprived in East Java as much as 16.3% (Risksdas, 2013). Jember District Health Office in 2014 found that the amount of post ODGJ most deprived are in Sub Ambulu as many as six people were identified. Deprivation carried out by the public due to several reasons, namely the fear ODGJ community and family will commit suicide and wounding others, the inability of families caring for ODGJ, and also because the government does not provide basic mental health services in the community that are ODGJ (Halida 2015).

According to the Ministry of Social Affairs survey in 2008, from about 650 thousand people with severe mental disorders in Indonesia, at least 30 thousand deprived. The reason that the patient is deprived generally do not harm others and inflict a disgrace to the family. Though memasung was unlawful. It is set in the Mental Health Act No. 18 of 2014. The Ministry of Health also ordered all heads of regions to ban memasung residents with mental disorders. Now the government was not kidding, by launching a "Major free deprived Indonesia 2016".

Based on the results of preliminary studies in healthy Pondok X Bangkalan on

20 April 2016, the result of the 10 families who have patients of people with mental disorders post-deprived, 8 respondents readiness lacking in caring for families experiencing mental illness with a value of <50%. While two respondents preparedness sufficient in caring for families experiencing mental illness with a value of 56-75%.

The cause of deprivation can be divided into two factors, namely internal family includes limited information and knowledge about mental disorders cause families and communities deprived, and external factors families include difficulty accessing health care facilities by the family and the support of the social environment (Halida, 2015). Social impact is very serious form of rejection, exclusion and discrimination. Similarly, the economic impacts such as the loss of productive days to make a living for patients and families to care for, as well as high maintenance costs to be borne by the family and society (Yulia, 2009).

Efforts to improve the readiness of families in caring for people with mental disorders is the provision of family psychoeducation therapy, readiness can be done through health education. Psychoeducation was able to reduce the workload significantly and improve the readiness of families in caring for people with mental disorders. Family psychoeducation is one form of mental health treatment therapies families by providing information and education through therapeutic communication. Psychoeducation is a tool that is increasingly popular family therapy as a strategy to reduce the risk factors associated with the development of behavioral symptoms. Psychoeducation provided to the family influence on the improvement of knowledge, attitude, readiness and independence of the family.

Family psychoeducation is part of the education or the provision of information to the patient or family about the disease in order to reduce the tendency

of clients to relapse and reduce the influence of his illness in other family members. In his application psychoeducation is given to patients with psychiatric disorders including family members and other interested persons to care for these patients (Stuart & Laraia, 2005).

Thus the researchers will conduct research with the title "The Effect Against Family psychoeducation Family Readiness In Caring for People with Mental Disorders (ODGJ) post healthy deprived in Pondok X Bangkalan".

## METHODS

In this study, using pre-experimental model of one-group pre-post test design that reveals a causal relationship by engaging a group of subjects. The group of subjects was observed before the intervention, and then observed again after the intervention. (Nursalam, 2013).

The independent variable in this study is a family psychoeducation. The dependent variable is the family readiness ODGJ care for post-deprived.

In this study population used is the family of the patient post-deprived ODGJ treated at Pondok healthy X Bangkalan. Samples very helping researchers to reduce bias research results, especially if the variables (control or confounder) that turned out to have an influence on the variables studied.

## RESULTS

**Table 1. Data Frequency Distribution Based on Age of Respondents**

Age (year)	f	%
26 - 35	23	76,7
36 - 45	7	23,3
Total	30	100

According to the table 1 in mind that nearly half the age of the respondents was the beginning of adult age 26-35 years as many as 23 people (76.7%).

**Table 2. Data Frequency Distribution of Respondents Based Work**

Work	f	%
Private	7	23,3
Entrepreneur	9	30
Farmer	14	46,7
Total	30	100

Based on Table 2 shows that almost half of the respondents worked as a farmer as many as 14 people (46.7%).

**Table 3. Data Frequency Distribution of Respondents by Sex**

Sex	f	%
Male	26	87
Female	4	13
Total	30	100

Based on Table 3 shows that nearly all respondents gender is male as many as 26 people (87%).

**Table 4. Data Distribution Frequency Before applying psychoeducation**

Readiness	%
Less Readiness	19(63,3%)
Moderate Readiness	9 (30%)
Good Readiness	2 (6,6%)

Based on Table 4 shows that the majority of respondents before given psychoeducation the level of readiness were 19 people (63.3%).

**Table 5. Data Distribution Frequency When given psychoeducation**

Readiness	%
Less Readiness	3 (10%)
Moderate Readiness	16 (53,33%)
Good Readiness	11 (36,66%)

Based on Table 5 shows that the majority of respondents Readiness after given psychoeducation is to have sufficient readiness as many as 16 people (53.3%).

**Table 6. Data distribution In Caring Family Readiness ODGJ post**

<b>deprived before and after given psychoeducation</b>		
<b><i>Uji Wilcoxon</i></b>	<b><i>p value 0,001</i></b>	<b><i>α 0,05</i></b>
Negative Ranks	0	
Positive Ranks	28	
Ties	2	
Total	30	

According to the table 4.6 in mind that based on the output test of normality, obtained significance value of 0,036, it can be concluded that the data Readiness family before and after psychoeducation distribution is not normal. thus, the Wilcoxon statistical tests performed, the result of 30 respondents experienced an increase in family preparedness in treating patients ODGJ post deprived before and after psychoeducation.  $p \text{ value } 0,001 < \alpha 0.05$  Ho is rejected, H1 is accepted, it can be concluded that there are differences in the level of readiness of families in caring for the post of deprived after ODGJ given in Pondok healthy family psychoeducation X Bangkalan.

## DISCUSSION

### **Overview In Caring Family Readiness deprived ODGJ Post Before awarded Family psychoeducation**

Based on Table 4 shows that the majority of respondents readiness before given psychoeducation is having Readiness less as many as 19 people (63.3%) with a mean of 21.6. From the results of the questionnaire, it is known that the lack of readiness of families in caring for post-deprived ODGJ them on how to recognize a family medical issue. The data obtained from questionnaires lowest total score is 48. While the two of them have a good readiness in caring for people with mental disorders.

From interviews conducted found that nearly all patients' family of people with mental illness say never obtain information about mental illness, be it counseling from health professionals, information through print media (newspapers and magazines), electronic

media (radio, television and access Internet).

Lack of preparedness and knowledge of the family in recognizing health problems in the family led to the weakening of the patient's recovery process. Patients with psychiatric disorders need extra attention from family. But the outcome, the family paid little attention to the changes that occur in patients ODGJ. The family did not know about the day / month / year change in behavior in patients with mental disorders. By knowing the changes in the patient, at least the family can determine the severity of a penyait suffered by the patient. The level of concern are affecting families cure rate of patients, especially patients ODGJ. ODGJ patients do not know that he was sick, so the knowledge of the family in recognizing the family health problems is very important. If the family does not know the early symptoms of patients ODGJ, it can be concluded that the family did not know the information about how to care for those patients with psychiatric disorders.

According to the theory (Notoatmodjo, 2007) knowledge is to know the results and this occurred after people perform sensing on a specific object. Sensing occurs through the human senses, the senses of sight, hearing, smell, taste and touch. Most human knowledge is obtained through the eyes and ears.

Knowledge families identify an initial mental health effort in providing a climate conducive to family members. Families in addition to improving and maintaining mental health of family members, it can also be a source of problems for family members who experienced psychiatric problems his family (Latipun, 2015)

This is according to research from the body of the American Medical Association, in 2006 found that a lot of misunderstanding or misconceptions about the family of mental disorders, family menganggap that someone experiencing mental disorders will never recover again.



But in fact, the American Medical Association, 2006 suggested that people who experience mental illness can recover and be able to resume their activities.

Another factor influencing the lack of readiness of families in caring for people with mental disorders is the age factor. Based on the results of the age distribution of the families of patients with mental disorders after deprived note that the age of the respondent mostly early adult age category 26-35 years as many as 23 respondents, or 76.7%. The more mature age, the higher a person's experience.

According to Mubarak (2007) with a person's age will be a change in the psychological aspect (mental). Physical growth in general there are four categories of change, that change in size, proportions change, loss of old traits and the emergence of new traits. This occurs due to the maturation of organ function. On the psychological and mental aspects of a person's level of thinking is more mature and adult. This is consistent with the theory Cit Henry (2010) is getting enough age, level of maturity and strength a person will be more mature in thinking and working.

Another factor influencing the lack of readiness of families in caring for people with mental disorders is the work factor. Results distribution by job family of patients with mental disorders deprived showed that nearly half of the respondents worked as a farmer as many as 14 respondents, or 46.7%. Nearly half of the respondents worked as a farmer.

According to Mubarak et al (2007) there are seven factors that affect a person's knowledge, including the job. Work environment can make someone gain experience and knowledge, both directly and indirectly. This is according to Henry (2010) which states that the work is generally a time-consuming activity.

**In Caring Family Readiness overview  
Post ODGJ deprived After given  
psychoeducation Family**

Based on Table 4.5 shows that the majority of respondents Readiness after given psychoeducation is to have sufficient readiness as many as 16 people (53.3%) with a mean of 29.1 is obtained. While three of them have less readiness in caring for people with mental disorders. Based on the analysis of questionnaires obtained the highest score 110 for questions about how to get to know a family medical issue, and the question of health facilities in the vicinity.

Improved Readiness family after being given a family psychoeducation influenced by the provision of therapeutic information. Provide information about mental disorders. Cognitive readiness to increase the family is able to know the causes, signs and symptoms of mental disorders, health facilities in the vicinity such as utilizing health insurance.

According Keliat (2006) Changes that occur after the given family psychoeducation influenced by the source of the information obtained. With increasing resources it also increased the knowledge in the family, so the family can better care for patients ODGJ again. ODGJ healing process is inseparable from the role of the family. The family is an important part in the treatment process ODGJ, family support is needed by ODGJ motivating for care and treatment, because the family is considered the most know the condition of the patient.

Based on the theory Marsh (2000), quoted by Stuart & Laraia (2005) to increase readiness didaktif there are elements that provide information about mental illness and mental health system in this study is more focused on clients with mental disorders.

This study is in line with research wiyati (2010), with the result that as many as 57.7% of respondents have a high level of knowledge in treating patients with mental disorders. This shows the importance of knowledge of the family's healing process of patients.

### **Analyzing the Effect Against Family psycho education In Caring Family Readiness deprived ODGJ Post**

Based on the statistical test using Wilcoxon test showed  $p$  value  $0,000 < \alpha 0.05$ , so it can be concluded that there are significant differences about the readiness of the family in caring for people with mental disorders after deprived before and after the family psychoeducation in Pondok Sehat Foundation Ya Bani Amrini Tanah Merah districts. From the results of the average value between before and after the family psychoeducation has risen from 21.6 to 29.1.

Improved Readiness families affected by the provision of education and information that is therapeutic by providing information about the task of the health of the family, namely by knowing the family health problems, determine appropriate action for the family, caring for families experiencing health problems, modify the family environment to ensure a healthy family, and health facilities nearby for families. Improved family readiness is related to learning theories that explain that a person learns not only from direct experience, but from peniruan. Usia also affect a person's readiness, because the higher the age the more the experience gained by the person. If earlier the family had treated patients ODGJ, then it is very easy for a family to care for patients ODGJ others.

Family psychoeducation therapy can improve cognitive readiness for therapy contains elements for improving family knowledge about the disease, teaches techniques that can help families to know the symptoms of deviant behavior, as well as increased support for the family members themselves. The purpose of this educational program is to improve the achievement of family knowledge about the disease, teaches families how teaching techniques to help their families in an effort to protect his family by knowing the symptoms of behavioral and supportive family strength (Stuart & Laraia, 2005).

Lawrence & Veronika (2002) reveals an increase of 33% on the families of mental patients after therapy is given psychoeducation family, because in psychoeducation family provides for an increased positive relationship between family members, increasing the stability of the family, stress management family, Readiness cognitive family malalui information.

Family psychoeducation lowered angkakembuhan or re-hospitalization of 9 months to 18 months. According to Dyck, et al (in Kembaren, 2011) found that a family group psychoeducation program getting more effective care for negative symptoms than the standard group. Health education programs have succeeded in reducing the negative reactions and the saturation of the caregiver. Family health education can increase a family's readiness for therapy contains elements improve family knowledge about the disease, teaches techniques that can help families to know the symptoms of deviant behavior as well as increased support for the family members themselves. The purpose of this educational program is to improve the achievement of family knowledge about the disease, teaches families how teaching techniques to help their families in an effort to protect his family by knowing the symptoms of behavioral and supportive family strength (Stuart & Laraia, 2005).

Family therapy, family psychoeducation significant increase readiness. corresponding opinion from Goldenberg (2014) that psychoeducation is the treatment given to provide education to families to improve their skills, to be able to understand and improve coping due to a mental disorder that can cause problems with family

Based on well known that family preparedness in caring for people with mental disorders after deprived as much as 2 respondents (6.6%). This is because the role of families and family motivation in caring for people with mental disorders post-deprived.

The family is the unit that is closest to the client and the client's primary care for mental disorders. The family plays a role in determining how or care is needed at home. Families are expected to understand, which in turn can play an active role as a leading advocate for patients. Improving Readiness adjustment themselves and more vulnerable to the effects of psychosocial stressors (Hartati, 2012).

Based on the known extant 5.2 Readiness poor families in caring for people with mental disorders be given the post of deprived after the family psychoeducation. This is because the lack of roles and motivations of the family in caring for people with mental disorders.

Low role of the family is also fueled by the low motivation of the family as the driving force. Motivation is an important factor affecting human behavior due to their motivation then man will try his best to achieve the goal (Setiadi, 2008).

Families should be able to give more attention and motivate family members who are mentally handicapped patients in the healing process. Family expected more patient in dealing with family members with mental disorders, and better play its role as a family, both formal and non-formal (masithoh, 2015).

## CONCLUSION AND RECOMMENDATION

### Conclusion

1. Before applying psychoeducation, family has Readiness lacking in treating patients after deprived ODGJ
2. When given psychoeducation, family has sufficient readiness in treating patients after deprived ODGJ

There is a significant relationship between before and after the Readiness family psychoeducation in treating patients post ODGJ deprived.

### Recommendation

1. For Institutions

This research is expected to be input for the institution to provide counseling to the families of patients with mental disorders.

### 2. For Students

This research is expected to be input for the students in dealing with mental patients, as well as to develop Readiness cognitive, affective, and psychomotor families in caring for people with mental disorders post-deprived.

### 3. For the Family

This study is expected to be input for the family members of patients who experience a mental disorder on the importance of knowledge and information about mental illness on family preparedness in treating patients with mental disorders.

### 4. For researchers

This study is expected to be a source of reference about handling mental patients post-deprived using a family approach.

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## RISKS FACTORS OF CLIENT OUTCOME WITH HEAD INJURY

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### ABSTRACT

**Introduction:** head injury is one of the causes of mortality and morbidity. Several studies mention predictors over outcome. The objective of this systematic review is to explore and synthesis factors which contribute to client outcome with head injury. **Method:** source of articles used was obtained from the search through data base which includes Pro Quest, PubMed, and EbscoHost. This search is confined from 2006 to 2016. Subsequently, the journals were reviewed for systematic review. **Result:** there were 10 articles reviewed. Significant risk factors of head injury include socio demographic factors such as old age, male sex, low education level, clinical factor (GCS), injury due to road traffic accident, hypotension, hypoxia, increased intracranial pressure, absence of pupillary reaction, hypo and hyperglycemia, coagulopathy, hypo and hyperthermia, abnormal electrolyte level, episode of coma, result of intracranial lesion CT scan. **Conclusion:** outcome predictor in a patient with head injury will be useful in Triage criteria, prognosis of injury, care and discharge planning, the use resources and patient and family counseling

**Keyword:** risk factor, outcome, head injury

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### INTRODUCTION

Head injury is the most cases in the world. Data center for disease control and prevention (CDC) based on the emergency visit, hospitalization, and mortality resulting from 2001 to 2010 shows annual increase. There were 823,7 per 100.000 cases of head injury. Head injury is one of the most causes of mortality and morbidity. Several studies explain significant factors contributing to outcomes after head injury. Demographic parameter such as sex or clinical condition such as severity of injury, pupillary reflex, CT scan and laboratory results are taken into account as strong predictors of patient with head injury. These factors can be used to evaluate chances for client survival and can be the management guidelines (Xu et al, 2007 in Kim, 2011)

This can be basis for correct and immediate neurological criteria in emergency room. Moreover, prognosis can be used as counseling for clients and families in critical condition (Perel et al, 2006). By recognizing the factors affecting

client outcome with head injury, it can be used to develop management system and Triage for clients with head injury so that it can be reduce mortality and morbidity resulting from head injury. Therefore, the objective of this systematic review is to evaluate articles for subsequently drawing conclusion of factors that can be used to predict client outcome based on evidence based practice.

### METHODS

Methodology used in this systematic review as preceded by topic selection, then keyword was determined to search journals in English though some data base which includes PubMed and Pro Quest, EbscoHost, Scopus. This search was confined from 2006 to 2016. the key words were traumatic brain injury, OR head trauma OR head injury and predictor OR factor OR prognosis. Articles selected for review ware based on studies conforming inclusion criteria. Inclusion criteria in this systematic review were primary research articles in English. The subjects were



humans without age limitation, sex, and ethnicity with severe head injury. Outcome prediction was good during hospitalization or one year after head injury. Outcome prediction at least consisted of two variables. Exclusion criteria were case report, article review, and multiple injury. Glasgow coma scale (GCS) consists of three components: 1) eye response, 2) verbal response, and 3) motoric response. Total GCS is one of the considerations for predictor in this review.

The search by using the keyword above found ten articles that meet the inclusion criteria. Then the sixteen articles were reviewed, synthesized, and presented in a table.

## RESULTS

Upon screening, 10 journals meeting inclusion and exclusion criteria were obtained. Most of the studies were conducted in Europe and USA. Glasgow Outcome Scale (GOS) measured within six months or one year after head injury was found the most. Some variables are discussed in the research articles. Significant predictor of the multivariate analysis result is explained in synthesis articles. Table 1.1 shows summary predictor upon outcome of head injury after discharge. The elderly, severe injury, absence of pupillary reaction, hypotension or hypertension, increased intracranial pressure, hypoxia, hyperglycemia or hypoglycemia, hypothermia or hyperthermia, low hemoglobin, coagulopathy, high lactate level, CT scan of subarachnoid, epidural, or subdural bleeding were identified as factors affecting bad outcome (GOS) in the three studies.

## DISCUSSION

This systematic review discussed some studies examining factors contributing to client outcome with head injury. Factors affecting bad outcome (Glasgow coma scale) which includes the elderly, severe injury, absence of pupillary reflex, blood pressure, hypothermia or

hyperthermia, low hemoglobin, coagulopathy, high lactate level, electrolyte imbalance, subarachnoid, epidural, or subdural bleeding.

Few number of clients aging 65 years old manage to survive after head injury (Calvin, 2012). Therefore, it can be synthesized that all elderly clients with mild injury should undergo Triage in emergency room for rapid and serial assessment.

In general, severity of injury is one of the important factor of client outcome post injury. GCS is a tool commonly used in many studies. Some studies examine components of GCS such as motoric or verbal response particularly with lesion. For initial assessment, GCS may be slightly neglected and sedative medication can affect results of GCS measurement particularly for patient with narrow gap between moderate and mild head injury. Therefore, GCS must be done in serial fashion although the client has been stable and is evaluated with CT scan.

Although GCS has limitation associated with a number of symptoms (Udekwa et al.2004, Davis et al.2005), it is still recommended to be used as a method in evaluating level of consciousness in a client with head injury (Luk et al 1999, Udekwa et al.2004). insufficient oxygen supply to the brain can directly contribute to unexpected incident; for example, decreased blood flow to the brain causes a number of pathophysiologic event post head injury, including increased intracranial pressure, brain vasospasm or systematic hypotension. Several studies found significant association between systematic secondary symptoms (hypoxia, hypotension, and hypothermia) post head injury and bad client outcome (Van Beek et al. 2007, Fabbri et al. 2008). Therefore, it is important to stay alert in initial assessment although outcome has been monitored (McHugh et al. 2007).

Mechanism of head injury is one factor associated with client outcome (Tien et al, 2006). Mechanism of injury affects consciousness before and after surgery.

Passengers who suffer from head injury due to road traffic accident with high speed vehicle do not develop lucid interval and is in prolonged comatose after surgery than traumatic clients with low speed vehicle. This injury indicated as diffused head injury.

Abnormal parameter of laboratory study during admission is an important outcome predictor post head injury. Laboratory parameter is considered objective, regularly measured, and very important. Abnormal value can be corrected with treatment to cover non-modifiable parameter such as age, and radiology results (Van Beek et al. 2007). Although hyperglycemia or hypoglycemia, coagulopathy, anemia, acidosis, or hyperthermia are important markers of severity, it is important to focus on incidence and abnormal correction parameter. Studies evaluate further benefit, and initial parameter correction is suggested in randomizes clinical trial.

Classification of CT Marshal is a strong prognosis tool to determine client outcome with head injury. Classification of CT Marshal uses CT scan finding at mesencephalic level, middle line movement, and the presence or absence of localized lesion to categorize patients into six different groups (Matoha. 2016). Most studies show that clients with type I diffused head injury have better outcome while group IV or V clients with lesion found in CT have worse outcome. There is strong association between classification of CT Marshal with outcome. Later, studies focus on combination of CT characteristic and other predictors to increase prognosis value.

Intracranial lesion is associated with prognosis of intracranial bleeding. Subarachnoid hemorrhage (SAH) having five fold risks to increase shows worse outcome (Fabbi et al. 2008) and is a clear characteristic in outcome prediction (Maas at al. 2007). This study explains additional SAH prognosis value through CT scan results as a predictor for brain damage.

Knowing abnormality through surgical procedure in SAH or SDH cases is important for management of acute brain injury. In addition, study of clinical history and CT scan scoring is recommended for evaluation and improving prognosis for head injury.

The scope of this study covers studies with two predictors. Therefore, it is likely that there will be some misses in the articles related to the use of multivariate to analyze individual predictor, and estimation is not reported in the abstract. In some articles reviewing GOS over outcome. Some articles predict GOS for six months and the other seven articles predict GOS for twelve months. This review does not divide predictors into two groups of articles because it may cause bias leading to study of outcome that is only based on the six months.

GOS take stable condition into account in six months post injury (Hukkelhoven et al. 2006), so this limitation is considered insignificant. This review does not analyze bias even though bias can affect accuracy of prediction of a study. Also, this review does not compare predictor based on countries that may be important in exploring accuracy of prediction model in different location for further studies.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

This systematic review discusses factors contributing to outcome of patients with head injury. Significant factors associated with outcome include socio demography such as age, male sex, level of education; clinical factors such as GCS score, injury due to road traffic accident, hypotension, hypoxia, increased intracranial pressure, absence of pupillary reaction, hypo or hyperglycemia, anemia, coagulopathy, hypo or hyperthermia, abnormal electrolyte level, episode of comatose; high classification of CT

marshal, intra cerebral lesion such as hemorrhage or subdural hematoma.

## Recommendation

This systematic review implicates nursing practice. Based on the reviewed studies. It shows that outcome predictor in a patient with head injury will be useful in Triage criteria, prognosis of injury, care and discharge planning, the use resources and patient and family counseling. This study will be useful as objective guidelines for health care professionals to evaluate criteria and traumatic patients to fulfill criteria of physiologic standard.

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# A SYSTEMATIC REVIEW: FACTORS AFFECTING TURNOVER INTENTION OF NURSE IN HOSPITAL

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## ABSTRACT

**Introduction:** Nurse are the largest health care providers in hospitals, which amounts to 40% - 60% of all available health workers. Nurses' turnover intention rate is among the high rates.

**Methods:** This study was used systematic review method of 15 scientific articles from national and international journals with limitations of publication time in 2010-2016. Total research subjects were 27.674 (range 20-23076) which aims to see the factors affecting turnover intention of nurses. Data was analyzed by using univariate analysis. Most research uses literature from thesis, books, and articles from national and international journals. Instruments used in this 13 of the 15 studies have tested the validity and reliability. **Results:** Factors affecting turnover intention mentioned in this study wereworkrelated stress factors, satisfaction, and other factors. Factors work related stress factor were organizational policy, work, interpersonal relations, and environmental factors. Factors according to the satisfaction factor werework satisfaction and flexibility of work schedules satisfaction. Other factors were personal, spirituality, and burnout factors. **Conclusion:** It can be concluded that factors affecting turnover intention of nurse most commonly researched were work related stress on the organizational policy factors.

**Keywords:** turnover intention, nurse, hospital

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## INTRODUCTION

Hospital is one of the health services industry (Kusumaningrum, 2015). Society's demands for health services in global era will continue changing as society continues to evolving and changing (Nursalam, 2011). The development of human resources management becomes faster with their demands for more attention to the policies that are applied to their work. Problems in human resources of organization is the employee turn-over that occurs within the organization (Kusumaningrum, 2015). Turn-over intention is a process consists of a cognitive component which involved in taking decision to leave the current job or behavior-oriented to the future (Takase, 2010). Nurse are the largest health care providers in hospitals, which amounts to 40% - 60% of all available health workers

(Aziz, 2009). High turnover intention in nurses will affects the sustainability of nursing care.

The largest nurses' turnover at the Wava Husada Hospital in 2010 amounted to 32% (Rachman&Dewanto, 2016). Based on data from Santa Familia Medical Center, nurses' turnover rate in 2010 is 33.3% which increased to 55.0% in 2012. This rate is higher than the standard turnover by Leap (1993) which only 10-11% a year (Lusiati, Supriyanto, and Stephen, 2013).

Turnover intention can be identified by looking at the negative response of nurses to work and organization. Negative response can be seen from the nurse job dissatisfaction and low organizational commitment (Takase, 2010). Nursing manager would prevent the turnover as it gives a bad impact on nursing services. The impact will occur due to the high turnover



intention is the economic impact, impact in nursing care and patient outcomes (Hayes et al, 2013). High nurses' turnover intention will reduce productivity, and increase high-cost of hospital because the process of recruitment of new nursing staff, and also cause a reduction in patient services which has an impact on patient dissatisfaction.

One way that can be used is prevent turnover intention through the reduction of risk factors. Takase (2011) mentions that turnover intention is caused by the organization (organizational characteristics, organizational culture, interpersonal relations in organization), work (role related stress, workload, financial reward, characteristics of work environment, employee access to authority), employee (demographics, employee attitude) and external factors (work-life balance, job opportunities outside). These factors need to be revisited related with significance of the research results in order to obtain reliable results. The purpose of this systematic review was to identify factors affecting turnover intention of nurse based on 15 scientific articles from national or international journals.

## METHODS

This study was used systematic review method. Source of research data is derived from the literature from internet especially scientific articles published in national and international journals. Determination of keywords is based on PICOT framework (P: nurse at the hospital, I: -, C: -, O: turnover intention, T: 2011-2016). The database used in this study was Scopus, *ScienceDirect*, *Google Scholar*, and *Google Scholar*. Keywords to search literature included "nurse", "turnover intention", "hospital" and found in the database of *Google Scholar* (3850 articles), *ScienceDirect* (436 articles), and *Scopus* (205 articles). While search using keywords "nurse", "turnover intention", "hospital" was found in *Google Scholar* database (1110 articles). Then, scope of the article

searches narrowed based on inclusion criteria, that is research about turnover intention of nurse in hospitals, factors related to turnover intention of nurse, and research that using primary data, so that researcher got 15 articles that will be used as a reference. These 15 articles are included within *Journal of Management Application* (2 articles), *Journal of Health Administration Indonesia* (1 articles), *Proceedings PESAT* (Psychology, Economics, Literature, Architecture & Civil Engineering) (1 article), *Management of IKM* (1 articles), *International Journal of Bio-Science and Bio-Technology* (1 articles), *Indian Journal of Science and Technology* (2 articles), *International Journal of Nursing Studies* (2 articles), *Asian Social Science* (1 articles), *Health Policy* (2 articles), *International Journal of Health Policy and Management* (1 articles), and *Nurse Education Today* (1 article).

The purpose of this study was to determine turnover intention of nurse in hospital. Data were collected through the study of scientific articles literature from national and international journals. Data were analyzed by using content analysis with sorting the results of study into thematic categories based on common characteristics. Then, each thematic category will be analyzed to determine the relationship patterns of dominant factors affecting turnover intention of nurse.

## RESULTS

There was 7 of 15 scientific articles written by students of management, both from the master management, hospital management, health management, and business management. This showed that factors affecting turnover intention is often examined from management viewpoint, namely human resources management. The number of samples used for the study was 20-23076 people. All of those research were used cross-sectional design. Research using cross-sectional approach provides significant findings about the factors that led to turnover intention of nurses.

The instruments which used by researcher to identify factors related to turnover intention has been tested the validity and reliability before use, its value about 73%. Instrument used to measure the turnover intention that according to Lee, Curral, Lawer, and Yeun Kim. The validity and reliability of this instrument are measured, so that research results can be credible.

According to the table 1, it is known that factors affecting turnover intention are work related stress factors, satisfaction, and other factors. The work-related stress factors discussed in the study is work, organizational policy, interpersonal relationship, and environmental factor (holiday). Work satisfaction and flexibility of work schedules satisfaction include in satisfaction factor. And other factors that influence the turnover intention are (spirituality, and personal factors).

## DISCUSSION

Several studies about turnover intention showed significant results in organizational policy, work, interpersonal relations, and environment factor. One of the organizational policy is organizational commitment, the higher a person's commitment to the organization, the lower

possibility to resign from the workplace (Budiono, 2014; Yeun 2016; Rubel, 2015; Lee, 2016). Organizational commitment that can be seen is the involvement of nurse in activities at the hospital, a nurse who has a high loyalty to the hospital, have a good assessment on hospitals, and others.

Occupational factors also have a relationship in turnover intention. Occupational factors include affiliates of work, work-life imbalanced, and too much work (Rachman, 2016; De Gieter, 2011). 4 of 15 studies showed significance in interpersonal factors (Rachman, 2016; Lusiati, 2013; Yeun, 2015; Rubel, 2015).

Environmental factors were only supported by one study with significant results (Yeun, 2015). Based on table 2, organizational policy factor is the most widely discussed in the research, and has most significant value. Table 3 explains that factor that are most widely discussed from organizational policy factors are organizational commitment factor.

Results of those study consistent with Hayes et al (2012) which mentioned that if there was a lot of work but lack of support, it will cause emotional problems that cause stress and the stress will trigger turnover intention (Takase, 2010).

Table 1. Factors affecting turnover intention.

Researcher, Year	Factors Affecting Turnover Intention					
	Work Related Stress Factors					Other Factors
	Occupational Factor	Organizational Policy Factor	Interpersonal Relation Factor	Environmental Factor	Satisfaction Factor	
Dini Kusumaningrum, 2015					√	
Mardiana, 2014					√	
Tsu-Yin Wu, 2011	√					
Alies, 2013	√					√
Sara de Gieter, 2011		√			√	
Lutfi Rahman, 2016		√			√	
Sugeng Budiono, 2014		√				√

Ali Mohammad Mosadeghrad, 2013	√	√	√	
Young-Ran Yeun, 2016	√	√	√	
Eun Ja Yeun, 2015		√	√	√
Mohammad Rabiul Basher Rubel, 2015		√		
KyuEun Lee, 2016		√		
Claudia Leone, 2015		√		
ConstanzeLeinewe ber, 2016		√		√
Yu-Mei Chiang, 2012	√			

Table 2. Factors affecting turnover intention of nurse according to work related stress factors.

Work Related Stress Factor	Result of Research				Total
	Sig	Sample	Not Sig.	Sample	
Organizational policy	10	287;102;89;296;243;270;150; 278;2235;23.076	2	154;20	10
Occupational	5	154;20;296;314;243	0		5
Interpersonal relation	4	243;270;296;23.076	1	154	5
Environmental	1	270	0		1

Table 3. Factors affecting turnover intention of nurse according to organizational policy

Organizational Policy	Result of Research				Total
	Sig.	Sample	Not Sig.	Sample	
Organizational commitment	9	287;102;89;296;270; 150;278;2235;23.07 6	2	154;20	11
Organizational culture	1	243	0		1
Organizational justice	1	278	0		1

Table 4. Factors affecting turnover intention of nurse according to satisfaction factor.

Satisfaction	Result of Research				Total
	Sig.	Sample	Not Sig.	Sample	
Work satisfaction	4	100;60;287; 102	1	20	5
Flexibility of work schedules satisfaction	1	314	0		1

Table 5. Other factors affecting turnover intention of nurse.

Other Factors	Result of Research				Total
	Sig.	Sample	Not Sig.	Sample	
Spirituality	1	89	0		1
Personal	1	20	2	154;270	3

Therefore, support is very important for employee to in improving work motivation, especially the support from supervisor/manager.

Table 4 shows satisfaction factors affecting turnover intention of nurse. There were four studies which examined about work satisfaction with significant results (Kusumaningrum, 2015; Budiono, 2014; Mosadeghrad, 2013). Flexibility of work schedules satisfaction found in one study and have significant results (Leineweber, 2016). The higher nurse satisfaction, the lower nurse willingness to leave their workplace (Mosadeghrad, 2013). Assessment of nurse in their work is known from the psychological response, if the result were bad, then it will cause stress. This is usually called as a shock to the system. This can be followed by dissatisfaction and lack of organizational commitment (Takase, 2010).

Several other factors affecting turnover intention of nurse were spirituality, and personal factors (Lusiati, 2013; Yin Wu et al, 2011; De Grieter 2011; Yeun, 2015). Spirituality had a positive relationship with turnover intention (Boediono, 2014). Personal factors which have significant value were age, years of service, and self commitment (De Grieter, 2011). Takase (2010) mentioned about personal factors that influence turnover intention such as demographic factors, value systems or external factors such as a family and availability of another jobs. Demographic factor was an important factor in personal aspects. These demographic factors will determine characteristics of individual who hashigh turnover intention.

Based on several explanations above, it is known that factors affecting turnover intention consist of work related stress factors (organizational policy, occupation, interpersonal relation, and environment), satisfaction, and other factors (spirituality and personal). This is consistent with Takase (2011) that turnover

intention is caused by the organization (organizational characteristics, organizational culture, interpersonal relations in the organization), occupation (role related stress, workload, financial reward, characteristics of the work environment, employee access to authority), employee (demographics, attitudes of employee), external factors (work-life balance, work opportunities outside).

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

Based on several explanations, it is known that factors affecting turnover intention consist of work related stress factors (organizational policy, occupation, interpersonal relation, and environment), satisfaction, and other factors (spirituality, and personal). The most dominant factor affecting turnover intention of nurse with significant results is organizational commitment related on organizational policy factors.

### **Recommendation**

Turnover intention is one of the factors affecting process of continuous nursing care. High turnover intention of nurse will affect the work teams system in certain unit. Therefore, manager of nursing should increase efforts to reduce nurses' turnover intention. The way to do is to identify the signs and symptoms of the employee turnover intention. Turnover intention can be identified by looking at the negative response such as work dissatisfaction of nurse and low organizational commitment. Another way that can be used to prevent turnover intention through the reduction of risk factors. Several factors affecting turnover intention is organization, occupation, interpersonal relation, and environment.

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# FACTORS AFFECTING MEDICATION ERRORS BY NURSE IN HOSPITAL

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## ABSTRACT

**Introduction:** Medication error is one important indicator of patient safety and commonly occurs in health care. Many things can cause medication error happens. The purpose of this study was to determine the factors affecting medication errors made by nurses in hospital care.

**Methods:** The database used in this study was *Google Scholar, ProQuest, Scopus, Science Direct, PubMed, Medline, Springerlink* and *Elsevier* with limitation of publication time in 2011-2016.

**Results:** Based on journals which has been reviewed, there was two dominant factors affecting medication error made by nurses. Those factors were individual factor such as knowledge and environmental factor such as workload factor. **Conclusion:** Factors affecting medication errors made by nurses are divided into internal factors and external factors.

**Keywords:** medication error, nurse, factor.

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## INTRODUCTION

Patient safety is an important aspect of a health care. One indicator of patient safety is drug administration safety which is expected no errors in it or commonly known as medication errors. Medication error has fatal effects for the patient. Therefore, medication errors become very considered in health care.

Minister of Health Decree No. 1027/Menkes/SK/IX/2004, mentioned that medication errors are an adverse event, due to the use of drugs during the treatment by health workers, which previously could have been prevented. Medication error is an event that can cause improper drug administration or harm to the patient while the medication under supervision of health workers or patients (NCC MERP, 2012).

The occurrence of medication errors need to be analyzed more deeply because it involves some health workers include doctors as determinant of pharmaceutical therapy of patient, pharmacist as provider of drugs, and nurse who involved in drug administration to the patient. In addition, there is also several steps in the process of drugs distribution to patient which is

starting from prescribing, dispensing (preparation), and drug administration. An error in one step in can cause errors in the next steps. The incidence of medication errors is related to practitioners, drug products, environmental procedures, or systems that involve those steps.

William within Muladi (2012) mentioned that the incidence of medication errors is quite varied. Institute of Medicine (IOM) reported about 44000-98000 people died and about 7,000 people a year in the United States die due to medication errors. The incidence of medication errors between 2-14% of patients with 1-2% which led to the loss of patients, most commonly due to wrong prescription. While the incidence rate of medication errors in Indonesia was reported about 3-6.9% in hospitalized patients. An error in prescription process varies between 0.03 to 16.9%. One of the researchers mentioned about 11% of medication errors in hospital associated with the error when administer a drug to the patient, either because of wrong dosage or wrong drugs. There is no accurate and systematic data in Indonesia. Medication

errors are common but rarely end up with patient injury (Dwiprahasto, 2006).

Leape, et al (1995) has identified the causes of medication errors include: lack of knowledge, especially doctors who are the cause of that incident (22%); inadequate information, 14% of the errors about the patient such as laboratory test; not following the SOP drug administration which is errors in determining dose (10%); forget (9%); errors in reading prescription such as unreadable writing, prescription interpretation, and abbreviation in prescription; understanding verbal commands incorrectly; labeling and packaging; poor stock and storage of drugs; problems with standards and distribution; poor assessment of tools using in administer drugs; work related stress; and ignorance of the patient.

Collaboration between practitioners of medication error prevention program is required by a multidisciplinary team to prevent medication errors because this frequently occurs, but not revealed and almost no effort to prevent it (Carlos, et al, 2013).

## METHODS

This study was used systematic review method. Source of research data is derived from the literature from internet especially scientific articles published in national and international journals. Topic selection and determination of keyword performed before researcher search online scientific articles. Determination of keywords is based on PICOT framework (P: nurse, I: -, C: -, O: medication errors, T: 2010-2016). The database used in this study was *Google Scholar*, *ProQuest*, *Scopus*, *Science Direct*, *PubMed*, *Medline*, *Springerlink* and *Elsevier*. Keywords to search literature included "factor", "nurse" and "medication error". Then, scope of the article searches narrowed based on inclusion criteria, that is research about factors affecting medication errors by nurse in hospital and research that using primary data, so that researcher got 15 articles that

will be used as a reference. These 15 articles are included within journal of application.

The purpose of this study was to determine factors affecting medication error by nurse in hospital. Data were collected through the study of scientific articles literature from national and international journals. Data were analyzed by using content analysis with sorting the results of study into thematic categories based on common characteristics. Then, each thematic category will be analyzed to determine the relationship patterns of dominant factors affecting medication errors by nurse.

## RESULTS

Based on the univariate analysis results in article literature, it is known that the research about factors affecting medication errors by nurse is commonly investigated by researchers outside of Indonesia. There was 4 of 15 scientific articles which examine individual factors, 4 articles examine environmental factors, and 7 articles examine both of those factors.

The number of samples used for the study was 70-1300 people. Researcher used qualitative, descriptive, and cross-sectional design. This is due to the lack of research about factors affecting medication errors by nurse.

The literature used in several scientific articles about 18-213 literature, either from books, health bulletins, health and non-health journals, thesis, or dissertation. There are no literature using Indonesian due to the lack of literature about these topic in Indonesia. This is related to the lack of accurate data about medication errors in Indonesia. So the percentage of using international journal literature is 100%. Most of English literature use references from international journals. Factors affecting the lack of references from international journals in Indonesian reference are limited number of researchers in accessing international journals.

The instruments which used by researcher to identify factors related to medication errors has been tested the validity and reliability before use, its value about 70%. One of the instruments which used to measure medication errors is questionnaire of the Medication Administration Errors Reporting (MAERs) according to Beharu et al. This instrument is measurable, another study using a modified questionnaire with validity and reliability test so that results of research can be credible. As many as 30% did not mention details of the questionnaire used.

Based on the distribution of the references, it is known that the literature

used partly derived from scientific articles from various international journals. Only one study which use dissertation as a research base. Use of literature can be used in measuring the quality of a study. One of good research criteria is the use of current journals in large quantities as a basic for research. Based on attachment table, most research uses many scientific articles from journals. This showed that scientific articles have a good quality viewed from the literature utilization aspect. This study was development of previous studies without creating new findings within management field, especially the topic of medication errors.

Table 1. Distribution of factors affecting medication errors by nurse.

Researcher	Factors Affecting Medication Error	
	Internal	External
Abdelbaset M. Saleh, 2014	1. Depression 2. Fatigue 3. Sleep circadian rhythm disturbance	
Ya-Hui Lan, et al. 2014	Knowledge	
Hung, 2011	Nursing skill	Size of work unit
Tamayo Kazaoka, et al. 2011		1. The way to deliver information 2. Drugs demand by nurse leader approved by clinical 3. Interpersonal communication
Akram Shahrokhi, et al. 2013)	1. Nurse less cautious 2. Errors in documentation of prescription	Heavy workload of nurse
Seyyede Roghayeh Ehsani, et al. 2013		The use of patients nickname
Foad Rahimi, et al. 2015		Workload
Al-Shara, 2011		1. Wrong patient 2. Knowledge about patient 3. Nurse workload
Jones, 2010	Nurse did not perform the 5 Right principles	1. Doctor's handwriting in prescription chart 2. Verbal command is not clear 3. RN : Patient ratio 4. Lack of nurse staff
Zahra Esmali Abdar, et al, 2014	Fatigue	1. Staff : Patient ratio 2. Difficulty in read doctor's prescription 3. Workload too heavy 4. Night shift
Berhanu Boru Biftu, et al, 2016	Education status	Over time
Senafikish Amsalu Feleke, et al, 2015	Work experience	Night shift
Bjoerg O Simonsen, et al, 2011	Knowledge: 1. Pharmacology 2. Drugs calculation	
Kim Sears, et al, 2016	1. Nurse experience 2. Education	
A. Drach-Zahavy, et al 2014	Integration and knowledge	1. Technology and storage 2. Workload

Several factors affecting medication error by nurse in hospital include fatigue, knowledge, depression and other factors.

## **DISCUSSION**

Based on Table 1, researcher divided the factors affecting medication errors into two parts, that is individual factors and environmental factors.

Based on Table 1, it is known that the environmental factors become factor that most commonly researched and most affecting medication errors than individual factors. Individual factors affecting medication errors is knowledge factor either related to the science of pharmacology or drug dose calculations especially in pediatric and infant patient as which is consistent with Bjorg, et al. Other individual factors are experience, experience also have an influence on the incidence of medication errors.

According to Kim, et al. nurse who have so much experience would be less make mistakes because they already have much more knowledge about drugs. In addition, fatigue and depression factors can cause a lack of concentration at work so that medication errors will occurs more easily. Less attention to the patient and less discipline also becomes cause of medication errors. This frequently occurs because nurse feels that administer drugs is a routine activity so that nurse considers it is easy job. In addition to those factors, difficulties in reading prescription are also commonly experienced by nurse.

Writing of the drugs name, dosage amount, and abbreviations which is not appropriate with standard commonly make the nurse becomes confused and can cause errors. There was a difference of opinion about educational background factors. According to Kim, the educational background has effect on medication errors because it is related to the nurse knowledge. The higher educational background will make nurse get more knowledge. Meanwhile, according to Chang-Hung Chiao, the background has no effect

because what is needed is knowledge related to drug or pharmacological better. While, according to Chang-Hung Chiao, the educayional background has no effect because things that really needed is better knowledge about drug or pharmacology.

Based on environmental or external factors, factor that most commonly researched is the workload factor. In addition, other external factor is communication, errors in identifying patients, wrong drug storage, and night shift. Communication factor which is defined in this article is interpersonal communication. According to Kazaoka, et al. good communication within the team can reduce the workload of nurse so that influenced the medication errors.

An error in identifying patients which is defined here is that there is nurse who did not performed patient identification before drug administration. Nurse thinks that they already know the patient because they ever taking care of those patients before. However, this may cause an error if there is a change in drugs. Night shift also become an influential environmental factor, according to Senafikish, during night shift focus of nurses within work tends to decrease so this shift at high risk of medication error events.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

Based on discussion above, it can be concluded that factors affecting medication errors by nurse were individual factor included knowledge, experience, fatigue, depression, lack of attention and discipline, and difficulty in read doctor's prescription. While environmental factors consist of nurses' workload, communication, errors in patient identification, wrong drug storage, and night shift.

### **Recommendation**

Public expectations about excellent health services in global era will continue to change as people continues to growing and



changing. In addition, the demands of accreditation which makes patient safety as spearheading of quality within nursing services are also requires health services to maintain reputation of the institution. Similarly, in nursing service, people want qualified nursing care. Medication errors is one indicator that frequently occurs, but The occurrence of medication errors need to be analyzed more deeply because it involves some health workers include doctors as determinant of pharmaceutical therapy of patient, pharmacist as provider of drugs, and nurse who involved in drug administration to the patient. In addition, there is also several steps in the process of drugs distribution to patient which is starting from prescribing, dispensing (preparation), and drug administration. An errors in one step in can cause errors in the next steps. The incidence of medication errors is related to practitioners, drug products, environmental procedures, or systems that involve those steps.

commonly unnoticed, especially nursing in Indonesia. Considering the importance of this case, it is expected that there is a change in nursing field within health care to provide relevant knowledge of pharmacology through in-house training activities either from service providers or pharmaceutical companies. In addition, it is also necessary for the manager of nursing to improve efforts in reducing medication errors made by nurse. Nurses can creating discipline culture and identifying workload so that medication errors can be reduced significantly. Data collection accurately related to medication errors are also expected to be implemented by health care providers as a benchmark for further research services and utilities.

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# ORAL HYGIENE OF CEREBROVASCULAR ACCIDENT PATIENTS: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Stroke or Cerebral Vascular Accident (CVA) occurs because of the sudden death of the brain cells from the inadequate bloodstream. CVA occupies the third place in the world after cardiovascular diseases and cancer. CVA leads to the weakness or paralysis, consciousness decrease, speech impairment and swallowing and reducing oral hygiene quality. The decrease of oral cleanliness affects the microorganisms heaping, dental problems and pneumonia. The inability of patients independently such as oral hygiene can also affect the psychological condition that decreases the quality of life. Purpose to describe the conditions of patients with clinical stroke and self-care of an oral hygiene that deals with quality of life. **Method:** searching international scientific articles using PICO frameworks on some databases such as *Proquest*, *Ebscohost*, *Pubmed*, *ScienceDirect* bounded from 2006 until 2016. The used Keyword is “oral hygiene related quality of life”. The searching with the keyword above founded 1.154 articles. Those articles are identified in accordance to the inclusion criteria, which got 11 articles. Search results identified further to have critical appraisal to the stage of making systematic review. **Result:** this review explains the oral hygiene activities on patients with stroke. **Conclusions:** a good oral hygiene care give significant influence to the patients with stroke. It happened to the decrease of microorganisms in the mouth, good health of teeth, and the increase of satisfaction level of patients in nurses. These conditions are better when patients located within the community who keep practicing the oral hygiene.

**Keywords:** *oral hygiene, oral health, stroke, CVA, OHRQoL, microorganism*

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## INTRODUCTION

Stroke or cerebrovascular accident (CVA) is neurological problem caused by cessation of artery blood flow in the brain (Price & Wilson, 2006). CVA is caused by thrombosis, embolic, ischemia and hemorrhagic (Smeltzer, 2002). The effects of CVA are paralysis, debility, no sensation on the face, difficult to speaking, difficult to swallow and disturbance of consciousness and oral hygiene (Lam, 2007).

CVA is the third highest of the world's causes of death after cardiovascular disease and cancer (Corsalini, 2009). Indonesia is one of the highest prevalence of CVA in Asia (Yohida, 2009). In Indonesia, based on the data in 2013, 12,1 in 1.000 got CVA, and this number was higher than in 2007 at 8.2%. Moreover,

East Java is fourth rank for greatest prevalence of CVA (Risksedas, 2013).

Some of the CVA patient get well and will be healthy if their accepted good treatment but some of them also got disability and can't meet their daily need, this making their quality life at the low level (Corsalini, 2009).

Based on Henderson nursing theory, oral hygiene is one of basic human needs (Brady, 2011). Self-care deficit of oral hygiene among CVA patients can result in *Candida Albicans*, carries and pneumonia. Pneumonia aspiration is one of infection disease and also one of complication after the patient got CVA. The correlation between pneumonia aspiration and oral hygiene condition: carries, periodontal disease and less oral hygiene condition.

Inability of the patients to oral hygiene, it makes a psychological effect like decreased in Quality of Life (Brady, 2011). The aim of this study was to review CVA patients condition and correlation between oral hygiene and quality of life among CVA patients.

## METHODS

The methodology of this research was literature review. First, the researcher found the resource focus on health condition of CVA patients, especially on oral hygiene. The effect of oral hygiene intervention, and the correlation between quality live and oral hygiene among CVA patients. Then, the researcher searched resources from journals and database such as Ebsco, Pubmed, Pro Quest, Google Scholar, Science Direct, and Journal Of Nursing Science. The articles or resources were published from January 2006 until October 2016. The keyword used were *oral hygiene AND stroke*, *oral hygiene and CVA*, *oral health and stroke*, and *oral hygiene related quality of life*.

The total of articles were 1.154, including 345 journals from Ebsco, 257 from Pro Quest, 304 from Science Direct and 248 from Pubmed. The researcher only used literatures with criteria inclusion: the literature related with oral hygiene among CVA patients and related with quality life, the condition of CVA patients and nursing intervention to CVA patients.

The exclusion criteria of literature are the literature that didn't mentioned the correlation between oral hygiene and quality life among CVA patients, the literature not relevant with the topic, and the literature floccus on experiment study. Fifteen articles were used in this research. Fifteen literatures had critical appraisal and scoring, than used *systematic review by used scoring and critical appraisal*.

## RESULTS

Based on Anne, et al (2013), she found that any significant different effect among two groups who received

klorheksidin and oral hygiene intervention among CVA patients ( $P < 0.001$ ), this mean that the group who received oral hygiene intervention twice time got reduction of dental caries and dental plague than group given klorheksidin

Klorheksidin is a mouthwash, it can be used to keep oral health of CVA patients. Kim et al (2014) mentioned that dental caries and dental plague can prevent with used Klorheksidin.

Yoshida et al (2011) mentioned that age was significantly correlated with oral hygiene status ( $P < 0.05$ ). The oral hygiene condition of CVA patients was lower than cardiovascular patients. This research also found no significant difference between CVA ischemia and hemorrhagic.

Moreover, Corsalini et al (2009) said that there is correlation between denture condition and CVA patients who aged  $> 60$  years old. About 42.4% the CVA patients need to repair their denture, 27.3% need rebase and 30.3% got good condition. Denture condition of CVA patients should regularly be monitored after 1 month and between 3 to 4 months.

Previous research from Jang et al (2015) mentioned that there is correlation between oral hygiene and quality life among CVA patients. Schimmel, et al (2009) found that there is correlation between oral hygiene and quality of life ( $p < 0.01$ ). OHRQoL of intervention group in hospital was decreased caused by physical limitations and pain.

Based on Groth et al (2013) study, OHRQoL will be increased after the patient get back from hospital and some of them they live in community ( $P < 0.05$ ).

McMillan et al (2005) found that CVA patients have low fungtion of physical activity, emotional role and menthal health domain. Median score of GOHAI was 52 and 54 in comparison group of CVA patients. OHRQoL was significant different.

Based on Brady's reseach in 2011, he reported that there is correlation between oral hygiene practices and knowlege, care

services and professionalism of the nurses in hospital. Quality of oral hygiene will more likely significant with the highest of knowledge among the nurses and health care professionals. Horne et al (2014) also had same argumentation.

Brady et al (2011) compared oral hygiene practices among dentist and nurses, he found that there is no significant differences of microbiological test between those groups, but there is differences of satisfaction among those groups. The nurses get challenges of good communication and good knowledge, so that they will give benefits for their patients, decreased complication and improving health care services.

## **DISCUSSION**

Systematic review in this research aimed to identify oral hygiene condition among CVA patients. At first, the researcher got many literatures related with the topic, but only some of them met criteria inclusion of this study. This means that not many literatures or research which focus in this topic. Moreover, only small review or research focus on oral hygiene or oral health with focus group among nursing, health care provider and also CVA patients. Oral hygiene and oral health is one of kind needed to CVA patients, if it not proper it will make impact to CVA patients. The impact of inappropriate of oral hygiene to CVA patients, such as many microorganism, carries, poor dental plaque and decreased quality life and life satisfaction.

Four articles were described about microorganism among CVA patients. They mentioned that CVA patients got an increase of microorganisms. An increase of microorganisms caused by poor of frequencies of oral hygiene. The nurses should give oral hygiene care to CVA patients as one of basic human needs.

Other research had found that any correlation between oral hygiene and quality life and level of satisfaction among CVA patients.

CVA is one of degenerative disease which need long-term of caring and it make effect of basic human needs. Inability to perform oral hygiene also gives impact to psychological problem, such as hopeless, helpless and low quality of life. Psychological problem. Based on three literatures were mentioned that there is correlation between oral hygiene and quality of life among CVA patients.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

Oral hygiene care was one of standard intervention to CVA patients in ICU room. Based on literature reviewed in this study it can be concluded that there is a significant effect of oral hygiene care among CVA patients. The effects will be better than when they live at home or their community and keep to do their oral hygiene.

Oral hygiene is one of important intervention to CVA patient, it will give good quality of life. Nurses, health care providers and hospital management should give attention of their intervention so it will be prevented the complication and improved quality care. Moreover, further research about standard operational procedure (SOP) in the hospital so doing research on oral hygiene was needed.

### **Recommendation**

Nurses and health care provider should be give oral hygiene to CVA patients with good standard, so it will prevent pneumonia.

Nurses and health care provider were expected to train their patients to do oral hygiene at home, so they will gain good quality of life.

Further research on oral hygiene among CVA patients is needed, especially in Standard operational procedure with proper and based on evidence based.



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# THERAPEUTIC EFFECT OF AUDIO MUROTTAL FOR RECOVERY TIME OF POST GENERAL ANESTHETIC PATIENT

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## ABSTRACT

**Introduction:** The first hour post general anesthetic is the important time for patient because in this time respiratory distress can occur although patient seems wake up. Accelerate the recovery time is important to minimize the several complications. Post general anesthetic recovery on adult monitored by Aldrete scores. It provides information when the patient can be moved from the recovery room. This study was to determine an overview of the therapeutic effect of murottal for recovery time of post general anesthetic patient. **Method:** A quasy-experimental study with post only with control group design. Used consecutive sampling and obtained 36 respondents (18 for exsperiment group, 18 for control group). Data collected by observation and analyzed using independent t-test with level of significance 0.05. **Result:** Recovery time of experimental group were between 15 – 40 minutes with average time 22.5 minutes. The recovery time of control group were between 25 – 60 minutes with average time 37.5 minutes, p-value=0.000. Patients in exsperiment group had shorter recovery time than patients in control group. Murottal therapy can accelerate recovery time of post general anesthetic patients. **Conclusion:** Further research is needed to prove the usage of murottal as complementary therapy for post general anesthetic patient.

**Keywords:** audio Murottal, Comlementary therapy, Quran, General anesthetic, Recovery time

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## INTRODUCTION

Prolonged post anesthetic recovery time is the one of frequent post surgery complication (Senapati, 2009). In the post anesthetic recovery periode, patient is not fully concious, so obstruction in airway may occur. This condition may lead aspiration because of anesthetic agents. Accelerate recovery time become important for post surgical patient to minimize several complications. (Latief et al. (2002).

The concept of death due to prolonged of post anesthetic recovery time is very difficult to evaluate, confusing and is not clearly known, though death is clearly defined. So the number is not known yet. Even though complications due to prolongation of the recovery time is still common (Lobato et al., 2008).

In terms, role of nurse to monitor the patients conditions any time is necessary, but the spiritual aspect as part of holistic nursing care is often ignored. Today the

spiritual therapies are used and often help the healing process together with drugs or other medical interventions (Hamid, 2009). One of treatment through spiritual aspect is listening or reading Quran, called murottal (Qadri, 2003; Ad-Dihami, 2005; Ma'mun, 2012).

Based on the preliminary studied on 10<sup>th</sup> and 11<sup>th</sup> November 2014 showed that in Rumah Sakit dr. H. Soewondo Kendal, the fastest recovery time after general anesthesia was 32 minutes and the longest was 69 minutes (mean of 52 minutes), obtained from 24 adult patients with general anesthesia. Intervention provided was O<sub>2</sub> therapy to accelerate the evaporation of the anesthetic agent. Although almost all patients are Muslims, but handling through a spiritual approach to accelerate recovery time after general anesthesia was never done.

## METHODS

The design of this study was quasi experimental with post only with control group. Used consecutive sampling, and recruited 36 patients (18 patients as experiment group, and 18 as control group) in rumah sakit dr. H. Soewondo, Kendal. Patient who received almost same dosage of ketamine as intravenous agent, isofluran, and sevofluran as inhalation agents, muslim, non alcoholic, ages between 26 to 45 years old, normal body mass index, classified as ASA 1 physical status, and had less than 2 hours surgery are included in this study. Patients with other complications, and had hearing disorder are taken out of this study.

The independent variable in this study was audio murottal, and the dependent variable was recovery time after general anesthesia.

All of candidates received hearing test to make sure samples had no hearing disorder, the candidates' weight, height,

and body mass index were measured the day before surgery.

In the recovery room, experimental group received intervention according to standard operational procedures, and received murottal surah Ar-Rahman for 12 minutes via earphones. Control group only received intervention according to standard operational procedures. The time of each group reached score 9 on Aldrete score were observed.

The scores which had collected had been analyzed with independent t-test ( $p=0.05$ ).

## RESULT

55.6% samples from experiment group received 45 mg ketamine, 88.9% samples were young adult, and 44.4% samples had body mass index between 20 to 20.9. In the other hand, 61.1% samples from control group received 45 mg ketamine, 77.8% samples were young adult, and 33.3% samples had body mass index between 20 to 20.9.

Table 1: The Correlation Between Dose Of Ketamine and Recovery Time Post General Anesthesia on Experimental Group and Control Group in Rumah Sakit Dr. H. Soewondo Kendal 8<sup>th</sup> To 22<sup>nd</sup> December, 2014

Dose of Ketamine (mg)	n <sub>1</sub>	Experiment group			p-value	n <sub>2</sub>	Control group			$\alpha$
		Mean Recovery time (min)	r				Mean recovery time (min)	r	p-value	
40	5	17.00	0.751	0.000		3	25.00	0.948	0.000	0.05
45	10	21.50				11	35.90			
50	3	35.00				2	45.00			
55	0	-				2	57.50			

From table 1, mean recovery time post general anesthesia were directly proportional with dose of general anesthesia agent received by both experiment and control group. Experiment group had faster recovery time compared with control group, though samples received the same doses. Result of Pearson correlation between dose and recovery time in experiment group

obtained  $r=0.751$  ( $r>0.400$ ) and  $p\text{-value}=0.000$  ( $p<0.05$ ). Result of Pearson correlation between dose and recovery time in control group obtained  $r=0.948$  ( $r>0.400$ ) and  $p\text{-value}=0.000$  ( $p<0.05$ ). There's a significant correlation between dose and recovery time post general anesthetic on both experiment and control group.

Tabel 2: The Different of Recovery Time Post General Anesthetic Between Young Adult and Late Adult on Experiment And Control Group in Rumah Sakit Dr. H. Soewondo Kendal 8<sup>th</sup> to 22<sup>nd</sup> December 2014

Group of ages	Experiment group				Control group				$\alpha$
	n <sub>1</sub>	Mean Recovery time (min)	SD	p-value	n <sub>2</sub>	Mean Recovery time (min)	SD	p-value	
Young adult	16	20.63	5.43	0.001	14	35.57	5.69	0.000	0.05
Late adult	2	37.50	3.54		4	51.25	7.50		

From table 2, mean post general anesthetic recovery time from experiment group was faster than control group both young and late adult. Young adult from experiment group recovered at 20.63 minutes, and control group were 35.57 minutes. That was slower on Late adult. Late adult from experimental group recovered 37.50 minutes, and from control were 51.25

minutes. The comparative test between recovery time on young adult and late adult obtained p-value = 0.001 ( $p < 0.05$ ) from experiment group, and p-value=0.000 ( $p < 0.05$ ) from control group. That's mean there was a significant difference between young and late adult in terms of post general anesthetic recovery time.

Table 3: The Corelation Between Body Mass Index dnd Post General Anesthetic Recovery Time from Experiment And Control Group in Dr. H.Soewondo Hospital Kendal 8<sup>th</sup> To 22<sup>nd</sup> December 2014

Body mass index	Experimet group				Control group				$\alpha$
	n <sub>1</sub>	Mean Recovery time (min)	r	p-value	n <sub>2</sub>	Mean Recovery time (min)	r	p-value	
18 – 18.9	1	15.00	0.291	0.241	1	25.00	0.626	0.005	0.05
19 – 19.9	4	18.00			5	34.00			
20 – 20.9	8	21.25			6	34.17			
21 – 21.9	5	26.00			5	41.00			
22 – 22.9	0	-			1	60.00			

From table 3, in the same range of body mass indexes, mean recovery times for experiment group were faster than control group. In the experment group, with pearson correlation obtained  $r=0.291$  ( $r < 0.400$ ) and p-value=0.241 ( $p > 0.05$ ). So, there was no significant correlations between body mass index and post anesthetic recovery time. From control group, obtained  $r=0.626$  ( $r > 0.400$ ) and p-value=0.005 ( $p < 0.05$ ), that's mean there is significant correlations between body mass index and post general anesthetic recovery time.

## DISCUSSION

Mean recovery time for experiment group was 22.5 minutes with fastest time were 15 minutes, and the slowest was 40 minutes. for the control group, mean recovery time was 37.5 minutes with 25 minutes for the fastest and 60 minutes for the slowest.

This study used ketamin as anesthesia agent with dose of ketamin between 40 to 55 mg. Post anesthetic recovery times were directly proportional with dose of anesthetic agent recieved by both experiment and control group.



Samples who received less doses of ketamin recovered faster than who received more. According to Fandsen & Pennington (2013) that pharmacodynamic influenced by drug factors and patient factors, one of drug factor is dose, dose of drug is directly proportional with effect of drug.

Samples from experiment and control group separated into two groups by age, that were young and late adult. Young adult samples from experiment group had mean recovery time 20.63 minutes, this result was faster than late adult who had mean recovery time 37.5 minutes. Young adult from control group had mean recovery time 35.57 minutes, and late adult from control group had mean recovery time 51.25 minutes. that was mean post anesthetic recovery times for young adult were faster than late adult. This result was accordance with Olson (2004) that one of factor affecting post anesthetic recovery time is age. Olson said that the older patient had undergone changes in their body functions which affecting drug's half-life. Brown et al. (2010) said that recover from the effects of anesthesia is gradually along with the elimination of anesthetic agent from the body, either through the lungs, kidneys or through the skin as sweat.

Body functions have changed in older person, this is affecting the drug's half-life, and distribution of anesthesia agent. Elimination organs that changed will affecting the elimination of anesthesia agent, so recovery.

Samples from experiment and control, group had normal body mass indexes. Mean recovery time in experiment group was faster than control group. Post anesthetic recovery times were directly proportional with body mass index, although the results of correlation test between BMI and post-anesthesia recovery time for the experimental group did not show any significant relationship.

Dose of drug is based on weight and body surface area (Olson, 2004). Body mass index obtained from the ratio of weight in kilograms and square of height in meters.

Person who have higher body mass index scores are not always heavier, and vice versa. So, body mass index is not affecting the dose of anesthesia agent, except for ones who categorized as underweight and obese, that may change the distribution of drugs.

The result of this study showed that there were significant differences between experiment and control group's recovery time, it was mean mortal affected patients recovery time post general anesthesia. In the same doses, and same age group, experiment group's mean recovery time was faster than control group. In both group, body mass index belong to normal category, and experiment group recovered faster too.

According to research by Upoyo, Ropi and Sitorus (2011) that stimulation by playing murattal Quran has significant influence in raising consciousness. Murattal sound will form impulses received by neurosensory subsequently forwarded to the Reticular Activating System through ascending reticular formation, then impulses delivered to stimulate the reactivation of the cerebral cortex function.

General anesthesia is work functionally to depress brain function. This condition is more akin to a coma than sleep (Brown et al., 2010). Brain activity is influenced by the noise. The brain waves will follow the rhythm of the sound heard by the individual. Moreover, brain activity can be easily changed because of noise than its own control (Scott, 2000).

According to Wijaya in Indrajati & Sulistiani (2013) murattal is music with intensity of 50 decibels (normal conversation is 60 decibels). The music has a rhythm for reviewing stimulate and regulate muscle response and can be beneficial to adjust the patients with neuromuscular disorders. (Selimen & Andsoy, 2011).

Murattal audio stimulation of the Qur'an can be used as an alternative therapy that is even better than the other audio therapy (Abdurrahman et al., 2008).

Physiologically, murottal will stimulate the return of neurotransmitters in the cortex, thalamus and brain stem which were hampered because of the increased sensitivity of GABA<sub>A</sub> receptors and inhibition of LGICs, and NMDA through stimulation of the amygdala to the cerebral cortex and thalamus, which stimulates the return of sensory, motor and autonomic functions. (Pleuvry, 2007; Brown et al., 2010).

Research by Hardiyanto and Soenarjo (2006) showed that there were differences of blood pressure and heart rate before, during, and after anesthesia. According to research by Ghauri and Asman (2008), the murrotal Quran had an effect on the improvement of pulse for the listener. This indicates that murrotal which is given post-anesthesia will improve the function of pulse, then affect changes in blood pressure, peripheral vascularity, respiratory rate, peripheral oxygen saturation, consciousness, and activity.

The recovery time differences between experimental group and the control group showed that murottal as complementary therapy could be accelerate the recovery time after general anesthesia, that could reduce the complications because of lengthening recovery time. This is according to research by Hart (2009), that complementary therapies can help patients post surgery as part of a therapy to reduce postoperative complications.

## **CONCLUSION AND RECOMENDATION**

### **Conclusoin**

Mean recovery time post anesthetic patients who recieved intervention as standard operational procedures plus murrotal recovered faster than who recieved only intervention as hospital standard operational procedures. There was therapeutic effect of murottal to the recovery time after general anesthesia.

### **Recomendation**

Further research is needed with more samples and various type of surgery,

so murottal can be used as additional therapy for patients after standard procedure under general anesthesia.

Further research also can be investigated the murrotal and its effect for anesthesia dissociation after ketamin administration, or compare the effectiveness of murrotal and other voice therapy for post anesthetic recovery time.

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# EFFECTIVENESS OF MUSIC AS INTERVENTION FOR PERIOPERATIVE ANXIETY: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Anxiety is a general problem experienced by patients who had surgery and invasive procedures. The attempt to reduce anxiety level easily, safely and cheaply is through music intervention. There are differences in results from different studies related to music intervention to reduce patients' anxiety of perioperative; thus deeper analysis needs to be performed. **Method:** The search for literature from online databases and review or evaluation to 17 research journals fulfilling inclusion and exclusion criteria have been carried out. **Results:** Thirteen studies (76%) have shown that there is a significant effect of giving music as intervention on anxiety level. Four research reports (24%) have indicated that there is no statistically significant difference in anxiety level between experimental and control groups with music as intervention. **Conclusions:** In general, music used as the intervention is regarded effective to reduce patients' anxiety in perioperative and invasive procedures.

**Keywords:** Music, Anxiety, Preoperative, Surgery, Adult

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## INTRODUCTION

Patients who have been hospitalized and have undergone surgery and other invasive procedures generally will experience increasing anxiety. Anxiety is emotional state which is a manifestation of behavior accompanying patients who had surgery and this happens to 11%-80% adult patients with surgery (Stark Weather et al, 2006 cited in Labraguedan McEnroe-Petitte, 2014).

The factors contributing to increasing anxiety of patients with surgery are: Separation from the family, worry of complication, surgery results, pain post surgery, physical impairment, financial problems, waiting for surgery, personal life difference, worry of malpractice, and change of environment (Jawaid et al, 2007).

The therapy for the anxiety can be pharmacologic and non- pharmacologic. Pharmacologically, patients can be given anxiolytic medication such as Benzodiazepines, but this may have other side effects such as hemodynamic instability, long-term amnesia, agitation and

hyper-activity (Bringman et al, 2009 cited in Pittman & Kridli, 2011).

The challenge for preoperative nurses is developing non- pharmacologic therapy as a safe, easy, cheap, and free from effect side intervention. The relaxing effects of music observed not only reduces stress and anxiety as psychological parameter but also as physiologic parameters in the forms of decreasing heart rate, breath or respiration rate, basal metabolism rate, oxygen intake, muscle tense, epinephrine level, sweat gland activity and blood pressure (Arslan et al, 2008).

Out of 17 reviewed research reports, there is a contradiction; therefore, this systematic review seeks to evaluate the effectiveness of giving music as therapy for adult patients who will have invasive and surgery procedures.

The objective of this systematic review is to describe several variations in approaches used to examine the effectiveness of music as intervention to decrease anxiety of adult patients with invasive and surgery procedures. Furthermore, the reviewer also examines

duration and the type of music used and description of pain level, heart rate, BP, and respiration rate of patients.

## METHODS

Music in this context is the recorded music played through tape recorder or compact disk (CD) player. Music as intervention is defined as the music played for patients during scheduled treatment and for intended outcomes. Specifically, music

is given to patients who have invasive and surgery procedures.

After searching for related literatures, finally 17 research articles fulfilling inclusion have been found for this systematic review.

## Inclusion Criteria

In this systematic review, for article relevance, some inclusion criteria are set as follows

**Tabel 1. Judgment of Risk of Bias in the 17 Studies Included in A Effectiveness Of Music As Intervention For Perioperative Anxiety, Based on the Cochran Quality Criteria**

Study	Random Generation of Allocation <sup>a</sup>	Concealment of Allocation <sup>b</sup>	Blinding of Participant and Personnel <sup>c</sup>	Blinding of Outcome Assessors <sup>d</sup>	Incomplete Outcome Data <sup>e</sup>	Selective Outcome Reporting <sup>f</sup>	Other Sources of Bias <sup>g</sup>
Mohammadi et al, (2014)	Unclear	No	No	Yes	Yes	No	Yes
Weeks & Nilsson,(2010)	Yes	Unclear	Yes	Yes	Yes	Unclear	No
Ni, et al, (2010)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Twiss, et al, (2006)	Yes	Yes	Yes	Unclear	No	Unclear	Yes
Ignacio, et al, (2012)	Yes	Yes	Yes	Unclear	Yes	Unclear	No
Demarco, et al, (2012)	Yes	Unclear	No	Unclear	No	Unclear	Unclear
Kushni et al, (2012)	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes
Lee, et al, (2011)	Yes	Yes	Yes	Unclear	No	Unclear	Unclear
Lee, et al (2011)	Yes	Yes	Yes	Yes	Yes	Yes	No
Hook, et al, (2008)	Unclear	Unclear	Unclear	Yes	Yes	Yes	No
Moradipanah, et al, (2009)	No	No	No	No	Unclear	Yes	No
Reza, et al, (2007)	Yes	Yes	Yes	Yes	Yes	Unclear	No
McLeod (2011)	No	Unclear	No	No	Yes	Unclear	Yes
Arslan (2008)	No	No	No	No	Yes	Yes	No
Cutshall et al, (2011)	Yes	Yes	Yes	No	Yes	Unclear	No
Nilsson, (2009)	Yes	Yes	No	Yes	Yes	Yes	No
Li, et al (2011)	Yes	Unclear	No	Yes	No	Yes	Yes

<sup>a</sup>Yesrated as: If sequence generated by referring to a good random technique; no: If sequence generated by poorrandom technique; unclear: Insufficient information to permit judgment.

<sup>b</sup>Yes refers to participants and investigators enrolling participants could not foresee assignments before assigning subjects to groups;no: If participants or investigators enrolling participants could possibly foresee assignments;unclear: Insufficient information to permit judgment.



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<sup>c</sup>Yes indicates blinding of participants and key study personnel ensured; no: blinding of key study participants and personnel attempted; unclear: Insufficient information to permit judgment.

<sup>d</sup>Yes implies blinding of outcome assessment ensured; no: Blinding of outcome assessment attempted, but likely that the blinding could have been broken; unclear: Insufficient information to permit judgment.

<sup>e</sup>Yes implies no missing outcome data or loss to follow-up <10%; no: loss to follow-up >10%; unclear: Insufficient reporting of exclusions to permit judgment.

<sup>f</sup>Yes implies the study protocol is available; no: not all of the study's pre-specified primary outcomes have been reported; unclear: Insufficient information to permit judgment

<sup>g</sup>Yes implies the study appears to be free of other sources of bias; no: there is at least one important risk of bias; unclear: Insufficient reporting of attrition/exclusions to permit judgment

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1. The population of the study are hospitalized adult patients.
2. The intervention given is recorded music.
3. The control group is not given music or without any treatment.
4. The results of the research which are observed include: anxiety which can be accompanied with: pain, vital symptoms (blood pressure, heart beat, breath), hemodynamic status and cortisol or catecholamine serum levels.
5. Method of research studies using Randomized Controlled Trial (RCT).
6. The studies are conducted in the last 10 years (2006-2016).
7. Research reports are written in English.

### Strategies of Journal searching

Most research articles are obtained from online searching, making use of the following databases: CINAHL, Medline, PsycINFO, Pubmed, Ebscohost, Proquest, SAGE and Google Scholar.

The key words are written using analysis of PICOT (Population, Intervention, Comparison, Outcome, Time). The PICOT format is used to answer research questions (Riva et al, 2012).

From this method, several key words are found as follows: P= Preoperative or Surgery, Adult; I= Music or Music Intervention; C= No Music Intervention; O= Anxiety; T=2006-2016.

### Research Design

All studies reviewed employ experimental research design using RCT (Randomized Controlled Trial).

### Instruments

Out of 17 research, nine of them use STAI (State Trait test Anxiety Inventory) to measure the anxiety level either pre and post intervention. STAI is a twenty item questionnaire which is widely used because of good reliability and validity (Spielberger et al., 1970 cited in Twiss et al. 2006).

Meanwhile, VAS (Visual Analogue Scale) or VASA (Visual Analogue Scale for Anxiety) is used in 4 studies. A study by Hook et al. (2008) uses both STAI and VAS.

Numeric Rating Scale (NRS) is a scale of measurement using numbers to measure anxiety and pain. Two studies employ NRS. They are those of Weeks & Nilsson, 2010 and Nilsson, 2009.

In addition to all of those instruments, Depression Anxiety Stress Scale (DASS) is another instrument used to measure depression state, anxiety and stress levels as used in a study of Moradipannah et al, 2009.

### RESULTS

Based on Table 1.1, it is concluded that 13 out of 17 (76%) of the reviewed studies demonstrate that the patients who received music as intervention have experienced decreasing anxiety shown by statistically significant decreasing in the scores of STAI. Mohammadi et al. (2014), Ni et al, (2010), Lee et al, (2011) found that the patients who have pre surgery procedures experience decreasing scores in STAI after listening to music.

Four out of 17 studies (24%) reported that there is no significant difference in anxiety level between patients given music as intervention and those who did not receive music as intervention.

Only 1 out of 17 studies evaluates the level of cortisol serum level and patients' catecholamine. Nilsson (2009) found that after the first 30 minute bed-rest, there is significant difference in cortisol level but it was not found any significant difference in cortisol level in the second 30 minute bed-rest.

### Pain

Five out of 17 (29%) studies examine the pain level. Two out of 5 (40%) studies reveal that pain level decreases because of intervention and three out of 5 (60%) studies demonstrate that there is no significant difference in pain level between those with intervention and those without intervention.

### Blood Pressure

There are 3 studies examining the effect of listening to music on blood pressure. All those studies conclude that listening to music before invasive

procedures and surgery decrease systolic and diastolic blood pressures (Mohammadi et al, 2014; Ni et al, 2010; and Kushnir et al, 2012).

### Heart rate

There are six out of 17 studies (35%) which examine the relationship between music and heart rate. Five out of 6 studies (83%) reveal tendency of decreasing heart rate of patients listening to music before surgery. Mohammadi et al (2014) found that individuals listening to music for about 20 minutes will experience decreasing heart rate from 73 to 70 times per minute. Similarly, Kushnir et al, (2012) found that there is decreasing heart rate of patients from 82 to 80 who listen to music for about 40 minutes. Lee et al. (2011) also reveals that by listening for about 10 minutes, the patients' heart rate decreases from 73 to 72 times per minute.

Table 2. Evaluation of Music Intervention

Author	Anxiety	Pain	BP	H R	RR	Music	Duration	Sample
Arslan (2008) Turkey	SD	NM	N M	N M	N M	Selection : Classic turkey, folk, Pop	30' Waiting OR	M (32) NM (32) =64
Cutshall et al, (2011) US	SD	NM	SD N	SD N	N M	Selection: Summer, Autumn, Bird and night song	2 x 20 ' Day 2 until day 4 20'	M(49) NM(51) =100 M (14) NM (12) =26
Demarco, et al, (2012) Israel			M	M	N M	Determined: composer by dr. Joseph Nagler		
Hook, et al, (2008) Malaysia	SD	SD	N M	N M	N M	Selection: Western, Melayu, China Music	2 x before & 3days postop	M(51) NM (51) =102
Ignacio, et al, (2012) Singapura	NS	NS	N M	N M	N M	Music selection various types	30' per day	M (12) NM (9)
Kushni et al, (2012) Israel	SD	NM	SD	SD	SD	Selection: pop,classical, Music israel	40'	M (28) NM (32) =60

Lee, et al, (2011) Taiwan	SD	NM	N M	SD N	N M	RelaxationMusic c Folk, pop	10'	M (64) NM (76) =140
Lee, et al (2011) Taiwan	SD	NM	N M	NS M	N M	Relaxation music folk songs, pop music	10'	Hp (48) Bc (66) NM (53)
Li, et al (2011) China	SD	NM	NS	NS	N M	Selection: China classic, Music world, china relaxation music	2 x 30'	M (60) NM (60)
McLeod (2011) UK	NS	NM	N M	N M	N M	Selection: Light, classical, relaxation,conte mporary	During surgery	M (40) NM (40)
Mohammedi et al, (2014)Iran	SD	NM	SD	SD	SD	Selection: non classicalvocal, Natural sounds	20'	M (30) NM(30) = 60
Moradipana, et al, (2009) Iran	SD	NM	N M	N M	N M	Selection: relaxation music	20'	-M (37) -NM (37) =74
Ni, et al, (2010) Taiwan	SD	NM	SD	SD	N M	Music option Pop china, Pop Taiwan	20'	M (87) NM (87) =174
Nilsson, (2009) Sweden	NS	NS	N M	NS	NS	Determined: Soft relaxation music	30'	M (28) NM(30) =58
Reza, et al, (2007) Iran	NS	NS	N M	N M	N M	Music Guitar Player Spanyol	Intraop in OR	M(50) NM (50)
Twiss, et al, (2006)USA	SD	NM	N M	N M	N M	Selection: 'Prescriptive music'	During and after surgery	M (42) NM(44)
Weeks & Nilsson, (2010) US	SD	NM	N M	N M	N M	Determined -classical music -sound environment	During the procedur	-NM(34) -FM (34) -LS (30)
BP=Blood Pressure HR=Heart Rate RR=Respiration Rate SD=Significantly Descending NS=No Significant NM=Not Measure OR=Operating Room M=Music NM=Non Music FM=Focused Music LS=Loudspeaker Hp=Headphone Bc=Broadcast								

Nilsson (2009) demonstrates that by listening music for about 30 minutes, the heart rate decreases from 79 to 78 times per minute. However, statistically, this does not give significant effect on groups who listen

to music compared to the groups who did not listen to music.

### Breath or Respiration Rate

There are three out of 17(18%) of the reviewed studies which examine the effect of music on breath. Two out of 3 (67%) of the studies reveal that the breath rate of patients listening to music decreases (Mohammadi et al, 2014; Kushnir et al. 2012). Nilsson (2009) found that breath rate of patients who listen to music decreases from 18 to 15 times per minute; however, this is not significant compared to the control group.

### **Types of music**

Types of music include variety of genres. Twelve out of 17 (71%) research articles report that patients chose their own music and listened to music during intervention.

Five out of 17 studies (29%) report that the researchers chose the music for the patients. And 2 studies did not report the type of music but they use “prescriptive music series” by Twiss et al. (2006) and “therapy music composed by dr. Joseph Nagler”. The study is that of DeMarco et al. (2012). One study by Nilsson (2009) did not identify the method of selecting music or type of music used.

Most studies use classical music (6 studies or 35%) and relaxation music (5 studies or 29%) as the intervention.

Four out 17 (24%) studies use different types of pop music such as Chinese pop, Taiwanese pop and western pop for their intervention

Five out of 17 (29%) of the studies offer culture based music as Turkish, Jewish, Chinese pop, Taiwanese pop, western music and Malay music. One study did not report the genre of music but mentioned the musical instrument namely Spanish guitar (Reza et al, 2007).

### **DISCUSSION**

Patients who have surgery or invasive medical procedures in hospital experience increasing anxiety. This leads to examination on the effectiveness of music intervention during preoperative treatment.

There are 13 out of 17 (76%) studies which reveal that listening to music can reduce the patients’ anxiety in surgery and invasive procedures.

Three out of 17 studies examine the effect of listening music on blood pressure. All of them lend support that listening to music has significant effect on blood pressure.

Six out of 17 studies examine the effect of music therapy on heart rate and 5 out of 6 studies demonstrate that patients with music therapy have lower heart rate than that of patients who did not listen to music.

The last, two out of three studies investigating the breath pattern of anxious patients also show that the patients’ breath rate decreases after listening to music.

The contradictory findings on the effects of music on anxiety and vital signs can be related to medication taken by patients. The medication such as anti-hypertension, anti-arrhythmic and beta blockers taken by patients may change patients physiologic response to anxiety and music (Nilsson et al, 2009).

Ignacio et al. (2012) who did research to 21 respondents recommend further studies with larger sample size for more significant research findings.

McLeod et al. (2011) and Reza et al. (2007) state that giving music to patients is not effective during being anesthetized up to wound handling in surgery room since patients lost their control when they are given anaesthesia.

Duration and type of music which is unfamiliar to patients during given anaesthesia might be the cause of inconsistency of effects of music on anxiety and vital signs (Reza et al, 2007). To complement music, the play Spanish guitar seems unfavorable to Iranian respondents; thus, the intervention did not give effect on reducing anxiety.

There are large variations in terms of participants and sample. Sample size ranges from 21-174 participants. Ignacio et al. (2012) recruited 21 patients of post

orthopedic surgery. Mean while DeMarco (2012) did study to 26 patients of intra cosmetic surgery. Both studies have low generalizing power which might be caused by small sample size.

Another issue concerning variability of effects of listening music is duration of intervention. There are some differences in duration of music therapy, ranging from 10 to 40 minutes, although majority of study set 20 minutes of listening to music as intervention. Generally, the researchers present the music to patients once a day, but the studies of Li et al. (2011), Cutshall et al. (2011), and Hook et al. (2008) presented music twice a day to patients.

With regard to the choice of music, 12 out of 17 studies report that the patients chose their own music; 5 studies do not mention type of music and the method of music selection. Reza et.al (2007) in their study mention that the absence of music alternatives and unfamiliarity to music limit their findings. Culture based music can be the reference as the alternatives because of differences in ages, ethnic groups, belief and cultures.

### Conclusion

Most studies lend support that music intervention is effective to reduce the anxiety of preoperative patients and patients with other invasive procedures. The effectiveness is indicated by statistically significant decreasing STAI scores, blood pressure, heart beat, and breath of preoperative patients. In general, music intervention is safe, cheap and easy to perform to manage the anxiety level of preoperative patients.

### Recommendation

Music intervention can be used as routine treatment particularly to preoperative patients with high anxiety.

Because of limitations and differences in research findings, further studies need to be done by considering sample size, therapy dosage and types of

music relevant to patients' culture and belief, i.e. the music which has spiritual and religious values such as holy Koran recitation, gospel, prayer or God glorifying for their recovery. The spiritual values are expected to reduce their anxiety more effectively.

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## OPTIMALIZATION OF FAMILY ROLE AS SELF MANAGEMENT PROGRAM SUPPORT AT TYPE 2 DIABETES

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### ABSTRACT

**Introduction:** Diabetes Mellitus (DM) is a disease that currently affects many people in Developing Countries. Indonesia was ranked 4th in the world in the prevalence of patients with DM. One of the efforts of the Government to lower the prevalence of DM in Indonesia is to strengthen the 5 Pillars of Management DM namely education, physical exercise, diet, drug therapy and monitoring oriented to the management of a standalone (Self-Management) (Kent et al. 2013). In doing this self-management, patients with DM (diabetes) need a good support system of family as a companion namely diabetes in everyday life. **Methods:** The purpose of this research to analyze the use of the Family DiabEducation (FDE) method to optimize the role of the family as a supporting program of self management in patients with type 2 diabetes. The method which used was pre experimental one group pretest posttest design, by identifying the role of the family before and after ion the FDE intervention given. Conducted on 30 respondents with quota sampling. Data were analyzed using the Wilcoxon signed rank  $\alpha$  of 0.05. **Results:** Results  $p = 0.00$  which means there is a significant relationship between pre and post intervention with FDE. **Conclusion:** This research is expected to help the Government in approach and optimize the role of the family as a companion with diabetes. In addition, the results of this study are expected to provide sustainable ideas to explore and make the role of the family as the sixth pillar in the treatment of diabetes.

**Keywords:** Family, DM, Self Management, Family DiabEducation (FDE)

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### INTRODUCTION

Diabetes Mellitus (DM) is a disease that currently affects many people in Developing Countries. Indonesia was ranked 4th in the world in the prevalence of patients with DM. The prevalence of DM in Indonesia based on interviews in 2013 was 2.1%. This figure is higher than in 2007 (1.1%). A total of 31 provinces (93.9%) showing a rise in the prevalence of diabetes is significant. The highest prevalence of diabetes at age  $\geq 15$  years according to the doctor's diagnosis / symptoms Basic Health Research in 2013 were in Central Sulawesi (3.7%). Then followed North Sulawesi (3.6%) and South Sulawesi (3.4%). While the lowest is in Lampung (0.8%), then Bengkulu and West Kalimantan (1.0%). Provinces with the largest increase in prevalence is a province of South Sulawesi,

namely 0.8% in 2007 to 3.4% in 2013. The provinces with the highest prevalence declines in the provinces of West Papua, namely 1.4% in 2007 to 1.2% in 2013 (Ministry of Health 2014). One of the efforts of the Government to lower the prevalence of DM in Indonesia is to strengthen the handling of DM 5 Pillar namely education, physical exercise, diet, drug therapy and monitoring with Self-Management (Kent et al. 2013).

Self-management is the process whereby a person developed the ability to manage their condition. The success of Self-management includes knowledge of the conditions, how to seek treatment and what to do. This may include changes in behavior and learning problem-solving skills and how to find a way out when things get tough. A very important element as Self-

management approach that will condition information, education and training (Diabetes UK 2009)

Diabetes UK (2009) have identified important elements that people with diabetes need access and whatever is necessary to get at least the minimum service to ensure that they are supported in organizing itself. Such elements include: High Quality of information is established, access to education, Structured Plan Personal Care, Access to Health Care Professional Employer When Necessary. In doing this self-management, patients with diabetes mellitus (diabetes) need a good support system of family as a companion of Diabetes patient in everyday life.

Based on literature reviews that have been conducted by researchers, the role of the family so far has not appeared in a self-management. That may be one cause of the increasingly rising prevalence of DM and DM complication rate was also high enough. Based on a preliminary study conducted by researchers, the role of family as the nearest person with diabetes is still not running optimally. Problems found in research is very important to look for a solution that is how to optimize the role of the family as Supporting Self-Management Program in Patients with Type 2 Diabetes (C. R. Kneisl, TWilson, & Rigoboff, 2004; Diabetes UK, 2009).

Family DiabEducation (FDE) is a modification Family psychoeducation intervention model that is focused on families with members suffering from diabetes. Family psychoeducation itself is one element of a family health care programs by providing information and education through therapeutic communication. Psychoeducation program is an approach that is education and the pragmatic (Stuart 2009)

In FDE, intervention in the family intended to strengthen the family system in behavior coddle, disease control, prevent diabetes complications and retain clients to optimize their role. The FDE method treats the family as a resource, not as a stressor, by

focusing on solving concrete problems, and specific behaviors that help to adapt to the existing disease. By providing information to families about the disease and suggest effective coping mechanisms, the psycho-education program can reduce the client tendency for relapse and was able to maintain the client's role in society (Stuart 2009; Townsend 2009).

Methods Family DiabEducation addressed to families to be able to understand the problems experienced by a family member with diabetes, solve the problems of the family that appear because of caring for a family member with diabetes, as well as take advantage of community facilities to help the family. So this method is expected to provide benefits in the family to have the ability to care for clients and resolve problems that arise in the care of the clients and client's self-management which is optimal from the family (C. R. Kneisl, TWilson, & Rigoboff, 2004; Diabetes UK, 2009).

Implementation of Family DiabEducation (FDE) consists of four sessions with each session consisting of the orientation phase, working phase and termination phase. The sequence of this method is as follows modified from Psychiatric Nursing Therapy Module (Anonymous 2014).

#### 1. Session 1: Assessment of Family Issues (Identification of Problems)

At this first session of nurses and family together to identify the problems arising from the family of the member with diabetes. This session will involve all family members are affected and involved in the care of clients, especially the caregiver. Assessment separately between the problems perceived by the caregiver and other family members. The assessment focuses on the problems in caring for sick clients and problems that arise in themselves because caring for clients (Stuart 2009).

## 2. Session II: Client Care with Diabetes

In this session focuses on education about the problems experienced by the client. Education given to the family associated with medical diagnosis and diagnosis of nursing and family care in clients with diabetes. Intervention by educating the families can help families facing illness stressor for clients with a positive effect on the condition of the client. The positive impact psychoeducation program indirectly to the client that provides information about the client's disease on the family and give advice on proper care, will reduce the rate of complications and recurrence of the disease (Towsend 2009).

## 3. Session III: Troubleshooting: Relationships and how to care

Stress is an imbalance condition that occurs when there is a gap desire of individuals in the internal or external environment with the ability to deal with those desires (Towsend 2009). The aim in this session is a family able to explain the constraints experienced in caring for clients, how to overcome existing barriers, support of the family and how to care family member suffering from diabetes.

## 4. Session IV: Empowering Communities to Help Families

Community has a major influence in the care of clients with diabetes. Health care providers, including nurses, have to undergo a leadership role in reviewing the adequacy and effectiveness of resources in the community and in recommending changes to improve access to and quality of health services. The aim in this session focuses on getting families are able to reveal obstacles in dealing with health professionals and know how to overcome barriers to collaborate and to discuss with health workers from the clinic about the referral system, advocating and seeking support in client care.

## METHODS

This research uses pre-experimental design with one group Pre-Post Test Design approached Cohort (prospective). With this method, researchers will look at the effectiveness of the method of Family DiabEducation (FDE) to increase the role of the family as a support in the self-management of type 2 diabetic. Patient population in this research that people with diabetes are friendly check in Batu Baptist Hospital in April - September 2016 which use Quota sampling.

**Table 1. Demographic Characteristic of Participants**

Name	Varriable	Responden	%
Sex	Female	19	64
Age	41-50 years	11	37
Education	Senior high school	19	63
Occupation	Business	14	46
Relation	Husband/wife	16	53

The criteria for the study include: (1) Willing to be a respondent, (2) Staying at home with diabetes patient, (3) One of the respondents with diabetes family (closest to diabetes patient)

Instruments in this study using questionnaires identification of the role of family developed by researcher.

Researchers applying the method of Family DiabEducation (FDE), by encouraging families to speak up about the pain of patients and encourage families to express the positive and negative of a diseased condition of the family. Having explore well, the researchers gave the intervention to teach a variety of skills to prevent complications which include leg exercises, healthy foot care, nail cutting, foot wound care, setting nutrition for people with diabetes, exercise and medication use.

## RESULTS

The process of data collection in this study began in June 2016 with a sampling of the 30 people taking the family with

diabetes at Batu Baptist Hospital, 3rd floor room. Batu.

**Table 2. Family Role Before Intervention**

Role	Responden Number	%
Good	0	0
Average	24	80
Less	6	20
Total	30	100

**Table 3. Family Role After Intervention**

Role	Responden Number	%
Good	20	67
Average	10	33
Less	0	0
Total	30	100



**Figure 1. Foot Exercise**

In the data analysis using the Wilcoxon signed ranks it was concluded that there is a significant relationship between family roles Pre-intervention Post intervention with  $p$  value of 0.00 count less than 0.05. Thus,  $H_0$  is rejected and  $H_a$  accepted.

## DISCUSSION

Family support is a very important factor in improving the health status of patients ranging from strategies to rehabilitation (Akohoue et al. 2015). Family support is the attitude, actions and acceptance of family to sick patients. Support can come from others (parents, children, husband, wife or brother) that is

close to the subject in which the support is information, a certain behavior or a material that can make people feel loved, cared for and loved. In this study, researchers used some general data as participant demographic characteristics which include age, gender, level of education, work, relationships with patients with diabetes mellitus.

Of the general data, researchers conducted a bivariate analysis using Pearson between the variables of age, sex, education level, occupation, kinship with pre-intervention and post-intervention. From the test was no significant relationship between work with the family role post-intervention and level of education and the role of family pre intervention. The level of education will determine whether or not a person is easy to absorb and understand the knowledge they gained, the higher one's education is generally getting better the knowledge (Notoatmodjo 2007).

According to Tamara, E., Bayhakki., Nauli, F.A. (2014), Someone who has a good level of education will be more mature in the process of change itself so it would be more receptive to outside influences are positive, objective and open to a variety of health-related information.

Intervention FDE (Family DiabEducation) is a systematic step in empowering families. FDE family roles before intervention after intervention compared with FDE found a significant relationship. This indicates that the FDE quite effective in increasing the role of the family. FDE method was modified and is derived from the method FPE (Family psychoeducation) which is usually applied to families of patients with mental disorders. This therapy is a therapy appropriate specialist to be given to families with a family member who suffered from health problems both physical and mental illness (Anonymous 2014).

FDE method which is a modification of this FPE be more effective when applied in the right way, gradually and continuously. So with this principle, the



researchers recommend for families of patients with diabetes can get their own therapy sessions in order to be able to support the health of people with diabetes. Family club with diabetes need to be formed so that they are not suffering from diabetes and can prevent complications in his family.

## CONCLUSION AND RECOMMENDATION

### Conclusion

The role of the family before the intervention almost entirely in enough categories, namely 80% (24 respondents). The role of the family after the intervention of the majority in both categories is 67% (20 respondents). There is a significant relationship between the role of the family before and after the intervention.

In line with the Program JKS (Universal Health Insurance) where public funding of mutual cooperation, the necessary prevention strategies) complications well as preventive measures and Promotive using FDE so as not to be found complications of Type II diabetes who spent the state budget for healing. If the role of the family is important, then it is conceivable in the future that the family was a pillar of the sixth in the handling of DM in Indonesia.

### Recommendation

Some suggestions that could result from this research that could be investigated further adoption of FDE (Family DiabEducation) in clients with diabetes who have microvascular and macro vascular complications, as well as the effectiveness of FDE in preventing complications of diabetes Type II. FDE is a step that is easy to apply in enhancing the role of the family so that it can be tested to be SOP (Standard Operating Procedure) to increase family involvement in the treatment process. Besides the family should be more involved in patient care, not only as a driver to the health care facilities. Families need to be given a forum to increase awareness of the importance of

solidarity and prevent complications and living a healthy life in order to avoid DM.

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# ANALYSIS ON THE EFFICACY OF AROMA THERAPY TO RELIEVE POST OPERATIVE NAUSEA AND VOMITING: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Feeling of post-operative nausea and vomiting is one of the uncomfortable reaction of an operation and all types of anesthetics despite administration of antiemetic. 20%-30% patients feel nauseous and vomiting with moderate to severe scale accompanying general anesthetics. Aroma therapy is known and used as an independent nursing intervention. Aromatherapy is accepted as management for post-operative nausea and vomiting. There have been a number of evidence based practices supporting the use of aroma therapy. The objective of this study is to analyze the efficacy of aroma therapy to relieve post-operative nausea and vomiting. **Method:** Search of journals was done electronically by using some database, i.e., SAGE, PROQUEST, MEDLINE, GOOGLE SCHOLAR, SCIENCE DIRECT, SCOPUS, and PICOS framework. Range of year is 14 years (2002-2016). From literature search, 15 articles were selected from 1750 articles found, all of which have controlled group. There are fourteen from fifteen articles comparing aroma therapy and other therapies. Therefore, it used two or more groups to compare with. The rest sees the efficacy of peppermint, IPA, and placebo. **Results:** Almost all journals found support the use of aroma therapy to relieve post-operative nausea and vomiting. **Conclusion:** aromatherapy is the correct method to relieve post-operative nausea and vomiting. To improve the next systematic review, the number and homogeneity of aromatherapy needs to take into account and determining one the most efficacious aromatherapy to reduce PONV.

**Key words:** aromatherapy, post-operative nausea and vomiting

## INTRODUCTION

Frequently found complication accompanying an operation is nausea and vomiting (Eberhart L Frank; Lange H; Kranke P; Wulf H, 2006) with prevalence attaining 20% - 30 % (Arjumand Mccracken G; Houston P, 2008). Most patients undergoing risky operation complained nausea and vomiting. According to Arjumand Mccracken G & Houston P, 2008, 70 %-80 % post operative patients complained nausea and vomiting. Then they felt uncomfortable sensation and stress. Inappropriate intervention may lead to fluid and electrolyte imbalance, increased blood pressure, surgical wound stenosis, risk for aspiration, airway track obstruction, bleeding, and lengthy care.

Nausea and vomiting is usually treated pharmacologically such as

meteclopramide and droperidol; nevertheless, those medicines result in adverse effects such as anxiety, fatigue, disorientation, extrapyramidal signs, cardiac problems, decreased blood pressure & drowsiness, so it requires close monitoring (Masters SB & Terevor AJ, 2009). Although those medicines have good efficacy, the adverse effects must be taken into account, so non pharmacological remedies can be the correct choice due to its affordability, fewer risks, and acceptability. Non pharmacological remedies commonly used to relieve nausea and vomiting include hypnosis, acupressure & acupuncture. Thus aromatherapy can be given to patients with post operative nausea and vomiting (Montazer S et al, 2004).

Aromatherapy has been an effective remedy to relieve nausea (Chiravalle P,

2005; Mamaril M, 2006; Merrit B.A, 2002). Aroma therapy is made of oil or other substances used by inhaling steam or applying oil on the skin to help relieve physical and emotional symptoms (Price S.A & L.M. Wilson, 2006).

Specifically, peppermint, IPA, or placebo, ginger essence are efficacious to reduce post operative nausea vomiting (Anderson L, 2004; Mohsen AH, 2015; Hunt R, 2012). Aromatherapy contains analgesics and antiemetic (such as peppermint oil and ginger). There are a number of studies conducted by using QueaseEase (Hodge N, (2014); Mcilvoy L, (2015). Isopropyl alcohol is traditional antiemetic proven in the studies conducted by Cronin S, (2015); Hunt R, (2012); Cotton J, (2007); Pellegrini J, 2009; Winston A, (2003); Merrit B, (2002). Bret A. Merit (2002). Isopropyl alcohol is usually used to clean injection site. It is rarely used to relieve post operative nausea vomiting.

This review was carried out to analyse aromatherapy effect on nausea and vomiting commonly occurs in post operative patients.

## METHODS

Research design reviewed was not confined on certain design due to limited articles with RCT design. Journal search was done in several online database such as SAGE, PROQUEST, MEDLINE, GOOGLE, SCHOOLAR, SCIENCE DIRECT, and SCOPUS by using keyword aromatherapy, POV, nausea and vomiting in the range of 14 years (2002 – 2016).

From 1750 articles obtained, there were only 15 full text articles meeting the inclusion criteria. Inclusion criteria: 1) intervention given was aromatherapy; 2) samples were adults and children complaining PONV. Inclusion criteria of respondents studied in the reviewed journals: adults (14 journals) and children (1 journal), surgical procedure with general anesthetics, regional or sedation

anesthetics, inpatients, or outpatients, and those on aromatherapy treatments.

Non surgical patients (medical, oncological) were excluded. Aromatherapy is used by inhaling it to relieve post operative nausea and vomiting. Instruments used as PONV parameter include: 4 articles using VNRS (visual nausea rating scale), 2 articles using VAS (visual analogy scale), 2 articles using VDS (verbal description scale), 2 articles using DOS (description ordinal scale), 1 article using BARF, and 1 article using Likert scale.

## RESULTS

Design reviewed is 11 randomised control trial (RCT), 3 Quasy Experiment and 1 prospective exploratory study. All journals reviewed explain efficacy of aromatherapy to post operative nausea and vomiting (PONV), 2 journals review efficacy of each type of aroma therapy (peppermint, IPA, or placebo). The other 13 journals compare one type of aromatherapy with one type of antiemetic.

Aromatherapy is given by inhalation. Studies were conducted in several countries which include USA (10 journals), Iran (1 journal), Australia (1 journal), Canada (1 journal), Carolina (1 journal), and Korea (1 journal). All studies were done on patients undergoing surgery aging 4 as of 16 years old (1 journal), and more than 18 years old (14 journals).

A study conducted by Lynn A et al (2004) on 33 surgical patients complaining nausea and vomiting in PACU room (Parianesthesia Care Unit) after measuring nausea and vomiting with VAS (visual analogue scale), patients used aromatherapy with isopropyl alcohol, peppermint or saline. Overall, scale of nausea decreased and patients were satisfied (86,9%).

Cronin S (2015) studied 121 patients with post operative nausea randomized into controlled group and intervention group in which the controlled group was given placebo and the intervention group was given aromatherapy. The result shows that

aromatherapy is more efficacious than placebo ( $P < 0.001$ )

McIlvoy L et al, (2015) studied 70 patients undergoing abdominal surgery. The patients were taught how to assess nausea scale and were given QE (QuaeseEase) aromatherapy. 25 patients (36%) reported to have PDN (post discharge nausea). Cronin S, (2015) compared affectivity of CB (controlled breathing) with or without aromatherapy (isopropyl alcohol) on patients with laparoscopy surgery. Results of the study shows that, from 82 patients (41 controlled group with CB and 41 intervention group with aromatherapy, both therapies are efficacious to relieve post operative nausea and vomiting.

A study conducted by Lee J, (2016); Winston A, 2003; Farooque D on patients complaining nausea and vomiting performed measurement by using NRS. It obtained that nausea and vomiting scale in the intervention group (aromatherapy) was significantly lower than controlled group. A study conducted by Hunt R, (2012) on patients complaining nausea and vomiting in PACU with 73 respondents using normal saline, 78 respondents using IPA 70%, 76 patients using ginger oil, 44 respondents using mixture of ginger oil, mint, and capulaga. The result revealed that there was significant change in the level of nausea for mixed aromatherapy ( $P < 0.001$ ) and ginger ( $P < 0.76$ ). Thus aromatherapy is efficacious as remedy for PON (Kimberd M, 2016; Merrit B, 2002; Pellegrini J, 2009).

Sites D et al, (2014) conducted a study by using CB group + aromatherapy (papermint AR) with CB only. The result revealed that CB is more efficacious to relieve post operative nausea and vomiting (62%), but it will be more efficacious if it is combined with AR. A study conducted by Mohsen A, (2015); Hosseini FS, 2015 found that inhaling ginger aroma can relieve post operative nausea and vomiting. Study conducted by Cotton J et al, (2007) compared the efficacy of aromatherapy

(isopropyl alcohol) and ondancetron on female patients with laparoscopy surgery. Nausea and vomiting scale was measured with VNRS (verbal Numeric Rating Scale) in which controlled group was given ondancetron while intervention group was given aromatherapy (IPA). The study found that there was significant difference between the two groups. 91% nausea and vomiting of intervention group decreased. 5 respondents of controlled group was given promethazine for additional medication and only 1 respondent from intervention group ( $P = 0.064$ ).

## DISCUSSION

using EPHP (effective public health practice project). The components include: design, sample, blinding technique, data collection, drop out respondent, bias factor, method of quality intervention given and an opinion analysed in the journals.

According to the analysis, 13 journals were categorised strong quality, 2 journals were categorised moderate quality. The number of sample in this research was approximately 33 – 301 respondents aging at least 18 years old, and 1 research aged between 4 – 16 years old complaining post operative nausea and vomiting.

In general, most journals reviewed found that aromatherapy is efficacious to relieve post operative nausea and vomiting. This review can cover research ranging from isopropyl alcohol, ginger oil, QE, peppermint, to other aromatherapy compared with placebo saline, ondansetron, promethazine, or others “antiemetic standard”. All aromatherapies were given through direct inhalation. Studies were conducted on inpatients and outpatients. Variables measured covered efficacy of aromatherapy which include duration of relief, severity of nausea, frequency of nausea and vomiting, the use of antiemetic, and patient satisfaction.

In several studies, aromatherapy (IPA) is efficacious to substitute or reduce the use of antiemetic medication (Kamalipour, 2002), and to briefly relieve

post operative nausea and vomiting for pediatric patients. In two studies (Cotton J, (2007); (Winston A, 2003), IPA briefly relieve 50% symptoms of ondansetron and promethazine (Pellegrini J, 2009). Some literatures recommend the use of peppermint aroma therapy to relieve post operative nausea and vomiting (Chiravalle P, 2005; Price S, 2006; Price, 2007). Anderson L, (2004) Anderson found that peppermint aroma therapy is as efficacious as IPA or saline. Those aroma therapies do not have adverse effects. Patients were satisfied with the use of aroma therapy to relieve nausea and vomiting (Anderson L, 2004; Cotton J, 2007; Pellegrini J, 2009; Winston A, 2003).

## CONCLUSION AND RECOMMENDATION

In general, aromatherapy can be used to relieve post operative nausea and vomiting. Nonetheless, further studies need to be carried out by specifying the similar aroma therapies.

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# FACTORS THAT AFFECT MOTHER'S BEHAVIOR IN THE TREATMENT OF DIARRHEA IN 0 – 5 YEARS OLD CHILDREN

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## ABSTRACT

**Introduction:** Dehydration and mortality caused by diarrhea in less than five years old children can be prevented if nanny or mother gives rapid and accurate treatment. So, analyzing factors that affect mother's behavior in the treatment of less than five years old children diarrhea is important. This study was to explore factors and analyze the dominant factor that affect mother's behavior in the treatment of less than five years old children diarrhea. **Method:** Descriptive analytic study with crosssectional approach with purposive sampling and 49 respondents. The independent variables were mother's knowledge, environment and health resources availability, and family support, and dependent variable was mother's behavior in the treatment of diarrhea. Data obtained by questionnaire and analyzed using Spearman Rank test with  $\alpha=0.05$ . **Result:** There was a correlation between mother's knowledge and mother's behavior in the treatment of less than five years old children diarrhea with  $r=0.891$  ( $>0.238$ ). There was no correlation between environment and mother's behavior in the treatment of less than five years old children diarrhea with  $r=0.209$  ( $<0.238$ ). There was a correlation between family support and mother's behavior in the treatment of less than five years old children diarrhea with  $r=0.564$  ( $>0.238$ ). **Discussion:** The dominant factor that affects mother's behavior in the treatment of less than five years old children diarrhea is mother's knowledge. So, increase mother's knowledge about treatment of children diarrhea is important thing in Posyandu Ceria I Surabaya.

**Keywords:** Knowledge, environment, health resources availability, family support, mother's behavior, children diarrhea, diarrhea treatment

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## INTRODUCTION

Diarrhea is the second leading cause of death in children under 5 years old. Globally each year there are approximately 2 billion cases of diarrhea with a mortality rate of 1.5 million per year. Each episode of diarrhea will cause loss of nutrients children need to grow, so diarrhea is a major cause of malnutrition in children (WHO, 2009).

Based on the characteristics of the population, the toddler age group is the highest group suffering from diarrhea. The incidence of diarrhea was highest among infants aged 12 to 23 months (Risksdas, 2013). Diarrhea in infants is more dangerous than in adults because toddlers are more susceptible to dehydration and

other complications that can refer to malnutrition or death (Apriningsih, 2009).

The occurrence of diarrhea in infants is influenced by the attitude of the mother or caregiver. Lawrence Green found the factors that shape the behavior of mothers in dealing with children with diarrhea there are three factors. Predisposing factors: knowledge, attitudes, beliefs, beliefs, values, etc; supporting factor (enabling factor) which is manifested in the physical environment, facilities or health facilities and factors (reinforcing factor) which is manifested in the behavior of health workers, community, family and others (Notoadmojo, 2010).

Surabaya was ranked number three in East Java with 66.841 cases of diarrhea

(Profil Kesehatan Jawa Timur, 2008). Puskesmas Tambak Rejo is a health center located in the city of Surabaya, where cases of diarrhea in children under five were found to be quite high, in 2012 amounting to 1,125 cases (Buletin Penelitian Sistem Kesehatan, 2011).

Prior to the level of treatment, to reduce the number of deaths from malnutrition and diarrhea, it is important to analyze the factors that influence maternal behavior in the treatment of diarrhea in children under five Posyandu Ceria I Tambak Rejo Surabaya.

## METHOD

This research is a descriptive analytic study with cross-sectional wide approach. The sampling technique used purposive sampling with inclusion criteria: Mothers with children who have a history of previous diarrhea.

The independent variables in this study is the mother's knowledge, the environment and the availability of health resources, and family support, and the dependent variable was the mother's behavior in the treatment of diarrhea.

The research was done during routine IHC meeting December 9, 2014. The researcher explained the purpose of the study to respondents. Then the researchers gave the consent form as a form of consent to be the subject of research. Then the researchers distributed questionnaires, then respondents filled out a questionnaire with the directives of researchers.

Data were analyzed using Spearman Rank with a significance level of 0.05.

## RESULT

Mothers brought their children come to Posyandu Ceria I Surabaya majority (51%) aged 30-40 years, the latest education the majority (53.1%) education past high school, and most (75.5%) did not work.

Mothers who bring their children to Posyandu Ceria I Surabaya nearly half (44.8%) have less knowledge, the vast majority (73.4%) have environmental and resource availability of good health, the majority (57.1%) with good family support. However, almost half (49.1%) had less diarrhea-handling practices.

Tabel 1. Cross-tabulation between mother knowledge with children in the treatment of diarrhea Posyandu Ceria I Surabaya, December 2014

No	Knowledge	Treatment			Amount
		Good	Average	Less	
1	Good	9	1	0	10
2	Average	4	10	3	17
3	Less	0	1	21	22
	Amount	13	12	24	49
r-count = 0.885 (> 0.238)					
p-value = 0.000 (< 0.05)					

According to the table 1 shows that nearly half of mothers have less knowledge and handling, and a small portion has a level of knowledge and good handling. Spearman rank test results show that the r-

count = 0.885 (> 0.238), p-value = 0.000 (<0.05). This means that there is a significant relationship between maternal knowledge of diarrhea with the treatment of diarrhea in children.

Tabel 2. Cross-tabulation between environment and the availability of health resources with children in the treatment of diarrhea Posyandu Ceria I Surabaya, December 2014

No	Environment and the availability of health resources	Treatment			Amount
		Good	Average	Less	
1	Good	12	8	16	36
2	Average	1	4	7	12
3	Less	0	0	1	1
	Average	13	12	24	49
r-count = 0.259 (< 0.238)					
p-value = 0,072 (> 0.05)					

Based on Table 2 shows most moms have a good home environment and can obtain good healthcare resources, but the mother is still lacking in any treatment of diarrhea in children. The results of the Spearman rank test-count obtained  $r =$

0.259 (<0.238),  $p\text{-value} = 0.072 (> 0.05)$ . This means that there is no significant relationship between the environment and the availability of health resources and treatment of diarrhea in children.

Table 3. Cross-tabulation between the support of families with children in the treatment of diarrhea Posyandu Ceria I Surabaya, December 2014

No	Families support	Treatment			Amount
		Good	Average	Less	
1	Good	13	6	9	28
2	Average	0	6	12	18
3	Less	0	0	3	3
	Amount	13	12	24	49
r-count = 0.559 (> 0.238)					
p-value = 0.000 (< 0,05)					

Based on Table 3 shows that most mothers have good family support, but almost half are still lacking in dealing with diarrhea in children. Spearman rank test results obtained  $r\text{-count} = 0.559 (> 0.238)$ ,

$p\text{-value} = 0.000 (< 0.05)$ . This means that there is a significant relationship between family support with the treatment of diarrhea in children.

Table 4. Spearman test independent-dependent variabel

Cross-sectional	r-count	p-value
Knowledge factor – treatment	0.885	0.000
Environment and the availability of health resources – treatment	0.259	0.072
Families support – treatment	0.559	0.000

Based on Table 4 show that the  $r\text{-count}$  on the knowledge test with the handling of cross between a mother has the largest value of the cross test the other in the amount of 0.885. This means that knowledge variable has a very strong

relationship with the handling of mother to child when diarrhea. So, the most dominant factor affecting treatment of diarrhea in children is mother knowledge factor.

## DISCUSSION

The results showed that there is a strong relationship between knowledge of mothers with treatment of diarrhea in children. It can be interpreted that the lower a person's knowledge, the lower the person handling. There are 22 mothers have the knowledge and the handling is still lacking in treating diarrhea. If you look at the results of the questionnaire, most mothers incorrectly answered questions on Question 3, 8 and 9 that discusses the causes and treatment of diarrhea. It can be associated with the mother's knowledge about the process of diarrhea and diarrhea during treatment for his child's mother when her child with diarrhea.

Many factors affect the mother's lack of knowledge about diarrhea one of which is the mother's education level, age, occupation, interests, experience and culture (Mubarak, 2007). Knowledge is the result of human senses, or results to know a person against an object through its senses (eyes, nose, ears, and so on). By itself, the sensing time to generate such knowledge greatly influenced the intensity of attention and perception of the object. Most people's knowledge gained through the senses of hearing (ears), and the sense of sight (eyes) (Notoatmodjo, 2010).

Education can be defined as the guidance given one person to another of a thing so they can understand. It is inevitable that the higher one's education more easily the information they receive, and ultimately the more knowledge he has. Conversely, if one level of education is low, it will hinder the development of one's attitude to receiving information and new values introduced. In this study, most of the mother's last education is high school, which means mothers get only 12 years of compulsory education, and a small proportion (13.5%) of mothers with primary education last. In fact, 12-year compulsory education has not been able to establish the level of health of a person correctly according to established procedures. In this research, educational factors have a major

influence in identifying whether a mother can make the decision to care for a child who has diarrhea correctly or not. But also got two mothers who have the latest education scholars also have less knowledge. In this case the mother's knowledge that less can also be caused by other factors such as the experience factor mother in caring for the child when his diarrhea. According to Henry (2010) experience is one of the active components and left a strong impression in the form of a mother's behavior.

The age factor also can influence the behavior of the mother, in this study, the majority of mothers ages ranged between 20-30 years. With increasing age a person will be a change in the psychological aspect and the psychological (mental). Age can be attributed to the experience factor and the factor of one's education. The more mature age of a person the more the experience that has been obtained including the experience of caring for children when diarrhea.

A person's experience gained from an event that never experienced someone in interacting with the environment. But the mother's experience in caring for children with diarrhea may also be affected by the number of children held by the mother. The result showed almost half of the respondents were mothers with first child, which means that the mother does not have enough experience in caring for her son when diarrhea. Thus, the lack of knowledge of the mother in caring for her son when the diarrhea can be influenced by his experience is lacking. Mother's education level has a major influence on the experience possessed by the mother. According to Redman (1993) in Potter & Perry (2006) that higher education will provide greater knowledge, resulting in the habit of maintaining better health. When aware of health problems, those who are knowledgeable are likely to seek help as soon as possible to resolve the problem.

Based on the results of the study showed that most mothers residing in a good environment and is able to utilize



available resources with good health, but the handling of a mother in caring for diarrhea in children is still much less. So, the better the environment and the availability of health resources are not many affected the treatment of diarrhea in children.

In accordance with the Decree of the Minister of Health No. 829 / Menkes / SK / VII / 1999 one parameter healthy environment is to have a clean water supply, sewerage, waste water disposal and landfill facilities. In this study, most mothers have had the requirements of a healthy home, which has a clean water supply, at all home mom has been using water from the taps, latrines shaped goose neck with saptic tanks as reservoirs, waste disposal facilities in the house flowed in gutters closed, means garbage disposal at home watertight and the distance between home and dumping more than 1 km. However, some of the mothers answered a questionnaire wrong with the item number 2, which discusses the types of latrines. Almost half of the mothers answered yet have latrines shaped goose neck and saptic tanks when they had been used to shelter feces. This can be caused by mothers do not understand the concept of a swan-neck-shaped pit and they consider a squat toilet is not a swan's neck.

In this study, environmental factors and availability of health resources are not related to the handling of mothers in dealing with diarrhea in children. Environment and the availability of health resources is an enabling factor, these factors essentially support or enable the realization of health behavior or not, these factors also called contributing factors. As stated by Lawrence Green, there are three factors that shape a person's behavior, namely: 1) the predisposing factors (predisposing factor) which is embodied in the knowledge, attitudes, beliefs, beliefs, values and so on. 2) factor support (enabling factor) which is manifested in the physical environment, facilities or health care facilities. 3) factors (reinforcing factor) which is manifested in the behavior of health workers, community,

family and others. Knowledge factor predisposing factors and therefore, this factor has greater effect in shaping maternal behavior. So that environmental factors and availability of health care resources did not affect the handling of a mother in childhood diarrhea.

Based on the data obtained distribution of most mothers get the support of a well. So, we can conclude the better family support gained by the mother the better the child's mother at the treatment of diarrhea.

The family is the smallest unit of society, including heads of families and some people who get together and stay somewhere under one roof in a state of mutual dependence and mutual influence. Indirectly very big influence of family factors in determining treatment will be made by the mother in caring for children with diarrhea. Because the family has an important treatment in recognizing the health problems of each member of the family, took the decision to do the right thing for families, providing care for family members who are ill or unable to help herself because of disability or age too young, maintain a home atmosphere that benefit the health and development of the personality of the family members, holds interrelationships between families and health institutions which are embodied in existing health facilities (Setiadi, 2008).

Based on the results, eight mothers who have good family support, but the handling of the child diarrhea is still lacking. It can be caused by several factors, according to Purnawan (2008) factors that affect family support is internal factors such as stage of development, education or level of knowledge, emotional and spiritual. Poor handling while a good family support can be caused by the mother's age affects the receipt of support from his family, in every age range have an understanding of and response to support different. For example, a young mother who was aged minimal experience in treating children tend to be more receptive to the opinions of how to

treat children with diarrhea who according to the family well and not necessarily in accordance with the procedure of the mothers who have more mature age. Educational factors may also affect the mother receives support from his family where cognitive abilities will shape the thinking person, including the ability to understand the factors associated with a disease.

Furthermore, other factors that can affect family support are external factors that include family practice, socioeconomic and family backgrounds. Thus, family support enough to affect the handling of children with diarrhea, the family always provide support to mothers in the form of emotional support, information, and support instrumental assessment that the mother can take the decision to provide treatment to children in accordance with their needs.

In this study, the dominant factor affecting mothers in dealing with diarrhea in children is mother knowledge factor. There is a strong relationship between the factors of knowledge with the treatment of diarrhea in children.

Factors knowledge more influential in shaping the behavior of the mother in caring for her son when diarrhea. It is supported by a statement from Notoatmodjo (2010) that knowledge or cognitive domain is very important for the formation of a person's actions (overt behavior).

## **CONCLUSION AND RECOMENDATION**

### **Conclusion**

The lower the mother's knowledge, the lower the handling of the mother in caring for her son when diarrhea. The better the environment and the availability of health resources are not many berengaruh the mother's behavior in dealing with children with diarrhea. The better the family support gained by the mother, the better the handling of mother in caring for children with diarrhea. The dominant factor affecting the mother's behavior in dealing with diarrhea in children is the knowledge

factor. While family factors have a relationship but the relationship is weak.

Based on the results of mother's knowledge about diarrhea in IHC Ceria I Tambak Rejo Surabaya is still lacking, so it should be necessary to hold health education programs on diarrhea and treatment to mothers in the region.

### **Recommendation**

For a community nurse should do about diarrhea counseling and treatment to parents who have a toddler.

For further research to develop a research model by using different theories, or can develop more varied variables.

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# EXERCISE IMPROVED SLEEP QUALITY IN THE ELDERLY

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## ABSTRACT

**Introduction:** The aging process makes the elderly more easily in a sleep disorder, characterized by poor sleep quality. Exercise is one of the secondary prevention that can be applied to improve sleep quality in the elderly. Exercise that is mentioned in the literature is also an assortment of numbers, ranging from baduanjin exercise, exercise with music, aquatic exercise, progressive muscle relaxation exercises, aerobic exercise, resistance exercise, elderly gymnastics, yoga, exercise training programs, and tai chi. To evaluate the effectiveness of the exercise described in the literature and concluded that the most effective exercise to improve sleep quality in the elderly. **Methods:** The source article is used obtained from a search through the database include Google Scholar, Scopus, SAGE, and Science Direct. This search is restricted to starting from 2008 until 2016. After the articles obtained, then do research articles to the extent of making literature review. **Results:** Exercise with music (brisk walking) is more effective than aquatic exercise, aerobic exercise, resistance exercise, baduanjin exercise, and tai chi. **Conclusions:** Exercise with music (brisk walking) most effective in improving sleep quality of the elderly. Exercise with music (brisk walking) can be applied to the elderly who have poor sleep quality, sleep disorders, and insomnia.

**Keywords:** exercise, sleep quality, elderly, older adults

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## INTRODUCTION

The increase in the elderly population is a result of the increase in life expectancy of the population (Prayitno, 2002). The prevalence of sleep disorders in the elderly is high at around 67%. Elderly often report having difficulty to fall asleep while in bed so do not rule out getting poor sleep quality (Roland, 2011).

Nighttime sleep quality in the elderly decreased to approximately 70-80% of the adult (Sumedi, T., Wahyudi, Kuswati A. 2010). Quality of sleep is the subjective characteristics and are often determined by feeling energetic or not after waking (Kozier 2008).

Decreased quality of life will make the elderly become dependent on others (Sulidah, Yamin, Susanti, 2016). Poor sleep quality in the elderly can be avoided and dealt with through the three stages of prevention that includes primary

prevention, secondary, and tertiary. Primary prevention is an attempt to avoid specific diseases or health conditions. Primary prevention can be done with the elderly sleep disorder is to do a good sleep hygiene. Secondary prevention is early detection and treatment of adverse health conditions, including nonfarmakologik and pharmacologic action. Tertiary prevention is done if certain conditions or diseases may have caused damage to the individual (Anderson & McFarlane, 2006; Stanley and Beare, 2006). The third refers to the prevention, secondary prevention is an important step for the early detection and treatment should be done so that the client does not fall in a worse condition.

Community nurses in improving the quality of sleep of elderly is very important. This is in accordance with the statement of the National Institutes of Health Consensus Development Conference in 1990 which

states that a sleep disorder characterized by poor quality of sleep strike 50% of people aged 65 years living at home. Elderly living at home is certainly an area of nursing care coverage (Maas, 2011).

Various nursing research related to secondary prevention in improving sleep quality in the elderly has been published, ranging from aromatherapy, acupressure, light therapy, music therapy, exercise, and so on. Exercise to improve the quality of sleep is of various kinds, ranging from aquatic exercise, progressive muscle relaxation exercises, aerobic exercise, tai chi, brisk walking, elderly gymnastics, gymnastics, yoga, and so on. Exercise interventions that are diverse in improving the quality of sleep of elderly researcher to obtain information and concluded that the most effective exercise is based on evidence based practice to improve the quality of sleep in the elderly.

## **METHOD**

Based on searches that have been done by keyword, found some articles accordingly. From some articles were then selected to be included in the systematic study of this review. Screening process of the final article obtained 15 articles in accordance with the purpose of writing a systematic review.

The inclusion criteria used in this systematic review are: the article is restricted from years 2008-2017, the research article, thesis or dissertation published, articles in English and Indonesian, English used is "exercise" and "sleep quality" and "elderly", "older adults". Indonesian to use the keyword "exercise" and "sleep quality" and "elderly".

## **RESULT**

The results of a review of 15 research articles that get data from 15 articles which have been discovered and studied, 13 research articles using the treatment group and the control group, while as many as three articles the study had

no control group. 6 articles research using randomized controlled trials (RCTs) and as much as 9 article quasy experiment research approach. Only 10 research articles that use random sample selection, while six other studies did not use a random sample selection.

The parameters used in the study that we reviewed various, among other PSQI global score, insomnia rating scale, objective sleep parameters that sleep latency, sleep efficiency, TST, Waso, activity counts, awaking awaking number and length. The parameters used matches the criteria for inclusion is to measure the quality of sleep of elderly. This is consistent with the statement (Guyton & Hall, 2007) which states that the individual sleep quality can be analyzed through an examination of electroencephalography (EEG), which is a recording of brain electrical current (objective sleep parameters). Buysse et al (1988) also suggests measuring instrument to the quality of sleep, in addition to using EEG recording, the Pittsburgh Sleep Quality Index (PSQI). PSQI is an effective instrument in measuring the quality and sleep patterns. PSQI provide a quantitative measure of sleep quality were quick to identify the sleep quality is good and bad, and better than the gold standard of clinical and laboratory diagnosis

## **DISSCUSION**

The results of a review of 12 research articles that use parameters PSQI scores for sleep quality in the elderly, there are 10 research articles that get results PSQI score to less than 5 after exercise. PSQI score <5 indicates a sensitive and specific measure of the quality of a good sleep in individuals, whereas a score of PSQI > 5 indicates a sensitive and specific measure of poor sleep quality in individuals. The higher the PSQI global score obtained the worse anyway that individual sleep quality (Buysse et al, 1988). The results of the reviews 10 research articles with a score of PSQI <5 indicates that the quality of sleep



in older adults become better after the exercise intervention. There is one article of research to the contrary, where after a comparison between the intervention and control groups showed the elderly have poor sleep quality in the intervention group than the control group, but those results do not differ significantly in both groups.

The results of a review of 15 studies that examined the article, there are 6 articles studies using quasy experiment, in which the intervention is given gymnastic exercise elderly, progressive muscle relaxation exercises, therapeutic Ling Tien Kung, yoga and gymnastics. All of the studies showed that exercise interventions provided can improve sleep quality of the elderly. The research method using the experimental quasy certainly makes the limitations of the research results when compared to the selection method of using a randomized controlled trial.

The results of a review of 15 research articles were reviewed, there are 7 article studies using the approach randomized controlled trial with the option of intervention that aquatic exercise, aerobic exercise, resistance exercise, baduanjin exercise, exercise with music (brisk walking), exercise training program, and tai chi, Sample selection is done randomly expected to be generalized to the population and suppress the occurrence of bias in the study. 7 article research using the RCT method gives results that a given intervention exercise can improve sleep quality of the elderly. One study remainder provide results that after a comparison between the intervention and control groups, the elderly had poor sleep quality in the intervention group than in the control group, but those results do not differ significantly in both groups.

The choice of method, in accordance with the level of evidence that began with a top that is systematic review or meta-analysis, evidence Obtained from well-designed RCTs, Evidence Obtained from well-designed controlled trials without randomization, evidence from

well-designed case-control and cohort studies, evidence from systematic reviews of descriptive and qualitative studies, evidence from a single descriptive or qualitative studies, and the latest evidence from the opinion of authorities and / or reports of expert committees, of course, the research method approach, RCT more generalizable than the research quasy design with experiment. There are six options exercise interventions were examined using RCT approach can improve the quality of sleep of elderly, namely aquatic exercise, aerobic exercise, resistance exercise, baduanjin exercise, exercise with music, and tai chi. Aquatic exercise can only lead to a significant difference in sleep latency and sleep efficiency, not on the overall sleep quality measurement parameters. Baduanjin exercise can significantly increase total sleep quality, Subjective sleep quality, sleep latency, sleep duration, sleep efficiency, and daytime dysfunction but can only be effective after a minimum 12-week intervention. Aerobic exercise is done alone or in combination with resistance exercise is effective in improving sleep quality in the elderly after 10 weeks. Provision of exercise (exercise) in this case in the form of brisk walking combined with effective music for 2 weeks of treatment can improve the sleep quality of insomnia. Tai Chi training consists of two sessions of 60 minutes each week for 8 weeks can significantly affect the quality of sleep in the elderly. If the comparison of the effectiveness of the intervention period, exercise with music (brisk walking) most effective in improving sleep quality of the elderly.

## **CONCLUSION AND RECOMENDATION**

Studies with these results cannot be fully generalizable. Do not cover the possibility of bias in some studies. It can be caused due to less homogeneous sample given the many factors that can affect sleep quality in the elderly, for example, the

sample used is already experiencing a variety of pathological conditions such as impaired cardiovascular and malignancies, in addition to the diversity of samples of different ages may also influence so that these interventions not only be done in the elderly, but can be done at a younger age. Another limitation is the different types of insomnia and other sleep disorders in the patient's natural. In this study, it is unknown how much influence these factors the significance of the analysis results. Shortages in some studies is the inability of researchers to control the results, timing of intervention, characteristics and screening samples.

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# THE RELATIONSHIPS BETWEEN NURSE'S CARING WITH CLINICAL COMFORT ISLAMIC PERSPECTIVE

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## ABSTRACT

Planning a global spiritual is set in quality and quantity the presence of a nurse, spiritual director, as well as the closest; supports the healing relationship with increasing patient expectations; presents a support system such as family, friends, social; provide an opportunity to pray; appropriate dietary therapy religion; and support the religious ritual. The next nursing process is the implementation of planning and systematically evaluate the nursing process of spiritual. The application of the nursing process from the perspective of the spiritual needs of patients is not straightforward because of success in providing spiritual care is gaining understanding of the spiritual dimension of patients. Spirituality in its many clients perceived the same as religious or religion. Islamic religious dimension to be explored from the patient as the recipient asked. Assess the patient's religious practices is not enough to provide information to nurses to understand the patient confidence to overcome the disease. Spiritual nursing process can be carried out optimally when nurses have caring. Caring is the behavior holistically provide assistance to individuals. Caring is the essence of nursing is known as "human science and human care". This paper focuses on caring developed by caroline and Watson were assessed from an Islamic perspective. Caring assessed from an Islamic perspective will be tested to assess the psychological comfort of the patient. Psychological comfort of patients in a comfortable assessed value from the Islamic perspective.

**Keywords:** caring, comfortable, Islamic, Quran, spiritual

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## Introduction

Indonesia's population is among the most populous Muslim. Indonesia's population of mostly embraced Islam, menjadikan some institutions trying to attract customers by providing the warranty will get services that Islamic. Hospitals that offer Islamic services will establish a religious-based hospitals. Hospitals that offer Islamic services Dapa seen from the vision and mission of the hospital. Haji hospital Surabaya Islamic Hospital Surabaya, Surabaya Muhammadiyah Hospital, or Hospital Al-Irsyad Surabaya is an example of a faith-based hospital in East Java, especially in Surabaya. The hospital is competing to provide services to Islam, especially in nursing services.

Islamic nursing is nursing service comes in the form of worship that is based on the Qur'an and the Hadith to achieve the

blessing of Allah to the characteristics of professional, friendly, trustworthy, constancy, patience, and Ikhlas (Sudalhar, 2011). Islamic nursing care is to provide nursing care to the Islamic principle that charity in performing nursing care, caring behavior but are required to be professional, and always provide guidance toward goodness (Fadilah, 2009). This situation shows that the Islamic nursing should also be supported by nurses caring behavior.

Caring is the behavior holistically provide assistance to individuals. Caring theory expressed Watson (2008) is at the core of nursing science known as "human science and human care". Nurse caring behavior aims to meet the client's welfare (Tonges & Ray, 2011). Welfare clients can generally be interpreted with berbagai things, such as patient satisfaction (Rafii,

Hajinezhad, and Haghani, 2007). Prosperous comfortable in theory is a condition that can be physically uncomfortable, psychospiritual, sociocultural and environmental. This indicates that the client was in hospital-based Islamic should also feel comfortable.

Nursing care in hospital-based services carrying the Islamic religion. The application of the nursing process from the perspective of the spiritual needs of patients is not straightforward because of success in providing spiritual care is gaining understanding of the spiritual dimension of patients (Perry & Potter, 2010). Islamic religious dimension to be explored from the patient as the recipient asked. Assess the patient's religious practices is not enough to provide information to nurses to understand the patient confidence to overcome the disease (Perry & Potter, 2010). make some inquiries. This situation raises questions, such as caring nurse who was in the hospital bebasis Islam is also should use the value of the religion of Islam ?. Caring nurse today

is still not Islamic ?. Caring supplied whether also should make clients feel comfortable Islamic religion in Islamic?

### Caring Theory of Caroline.

Caring is the behavior holistically provide assistance to individuals. The theory of caring is the essence of nursing is known as "human science and human care" (Nursalam, 2014). Caring of Caroline is a development that is based on five main concepts process of caring from Watson namely Maintaining Belief (to maintain the trust), Knowing (knowing), Being with (being with), Doing for (doing), and Enabling (enable) (Watson, 2008 ). Watson describes the keywords of caring is to provide nursing care to clients with a full-value sense of commitment and responsibility. Keywords described watson used as a basis for developing a caring from Caroline. The main concepts and definitions caring of Caroline as follows (Tonges & Ray, 2011):

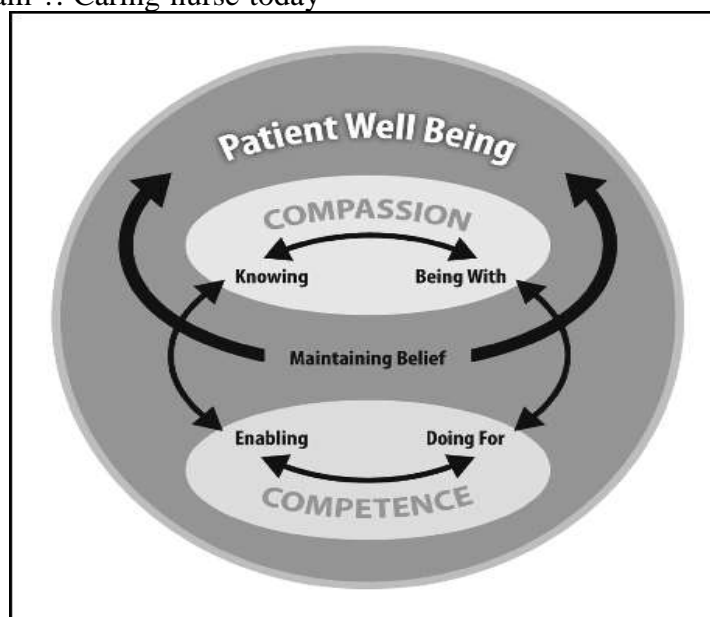


Figure 2.2 Caring theoretical framework Caroline (Tonges & Ray, 2011)

#### 1. Maintaining Belief / maintaining trust.

Maintaining trust is based by the capacity of a person's faith can be a period of transition and have a meaningful life. Basic trust someone and capacity to be able to go through the process of transition and

the problem in front of him with the meaning / maintain and sustain the confidence value of a person's life.



## 2. Compassion / nursing affection.

- a) Knowing / know is trying to understand the events that they naturally have the meaning in their lives. Nurses are expected to understand the experience of the patient's life to the exclusion of the assumption of a nurse, but dig / information of patients studied in detail, focusing on one goal and a common perception of nursing between nurses and patients.
- b) Being with / being with a present near the patient as a whole with his emotions. Nurses are on the patient physically and emotionally including sincere feelings.

## 3. Competence / competency

- a) Doing for / do to is to commit an act in such patients take this action if to himself. Doing it also means taking action bersam for estimating what is needed, comfort, maintaining the privacy and dignity of patients.
- b) Enabling / enable an ease in meeting patient and family care. Nurses empower and facilitate patients for over a transition period or capable of performing unusual acts done by focusing on the action, inform, explain, give support, validate feelings and give feedback.

## 4. Patient well being / welfare of the patient is the ultimate goal of giving caring intervention models.

### **Comfort Theory of Kolcaba.**

Kolcaba theoretical model, of comfort (comfortable) drawn on a concept that has a strong relationship with nursing. Nurses provide comfort to patients and their families through interventions with comfort measurements orientation (Tomey & Alligood, 2014). Comfortable theory of Kolcaba have some main concepts (Kolcaba, 2010c):

- 1. Health Care Needs / health care needs: Health care needs are defined as the need for health care, as a need for comfort, resulting from the situation of health care

resulting in stressful, which can not be met by traditional support systems. These needs include the need for a physical, psychospiritual, sociocultural or environmental. This need is monitored on an ongoing basis, through a statement expressed or not, refers to a disease process, education and support, and counseling costs and action plans (Tomey & Alligood, 2014).

## 5. Comfort interventions / Interventions comfort

Intervention comfort is the nurse actions and methods that are specific to meet the comfort needs of patients, including physiological, social, cultural, financial, psychological, spiritual, environmental, and physical action plans (Tomey & Alligood, 2014).

## 6. Intervening variables / variable barrier

Variable barrier are important factors that affect the total comfort of the patient. These factors include past experience, age, attitude, emotional status, support system, prognosis, finance, education, cultural background, and all the elements in the barrier pasien.variabel experience greatly influence the planning and success of patient care intervention (Tomey & Alligood, 2014).

## 7. Enhanced Comfort / increased comfort.

Convenience is a situation that dialamipasier of interventions comfortable experience. Comfortable can be defined as an experience sudden, thorough experience (holistic) which strengthens when one reveals the need for three types of comfort (relief / relief, peace / ease, and resignation / transcendence) in four states (physical, psychospiritual, sosialkultural, and environment) (Tomey & Alligood, 2014).

## 8. Health Seeking Behavior (HSBC) / health-seeking behavior.

HSBC It is a broad category of the output of the next-related health search defined by the patient in consultation with a

nurse. HSBC may come from outside the patient's behavior, behavior in the patient, or the desire to die peacefully (Kolcaba, 2010c).

#### 9. Institutional Integrity / integrated institution.

Defined as service providers such as companies, communities, schools, hospitals, regions, sections, and the city has a complete quality, thorough, well-known, honest, ethical, and truly memeliki quality. Agencies that have the quality of a good will to implement actions based on evidence and good yangt policy (Tomey & Alligood, 2014).

#### 10. Best practice / good action.

The use of research results in health care interventions into the best possible for the patient and family to get the final result of the good service (Tomey & Alligood, 2014).

#### 11. Best policies / good policy.

Institutional policy or regional policies of protocols for procedures and medical conditions can make it easier to access and transfer of care is known as a good policy (Tomey & Alligood, 2014).

Explanation of the main concepts of the theory Comfort of Kolcaba, briefly described as follows below:

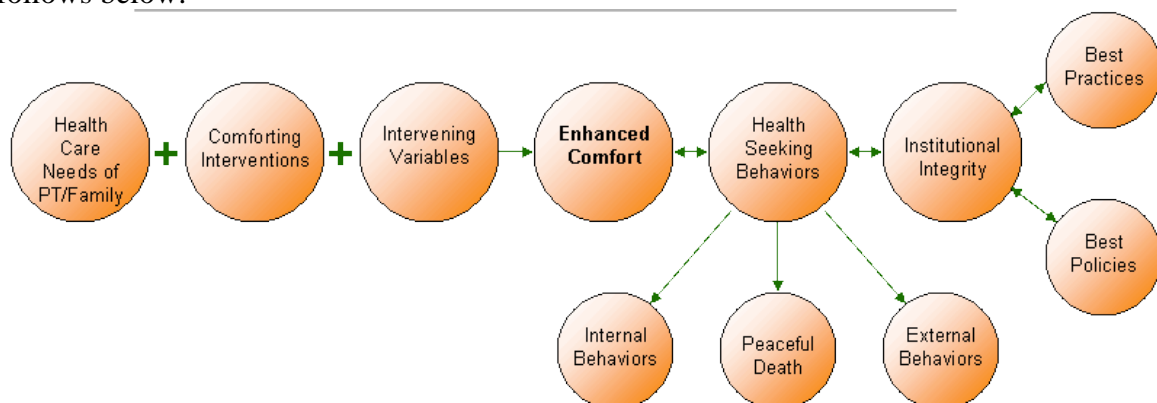


Figure 2.3 Comfort Katherine Kolcaba theoretical framework (Kolcaba, 2010b)

#### Caring Islami

Caring Caroline almost the same concept of research conducted by Hajinezhad and Azodi (2014) concerning Nurses Caring Behavior. Caring Behavior Nurses also developed from caring Watson containing: Respectful deference (courteous and respectful), Human presence (presence of a nurse), Positive connectness (positive relationship), Knowledge and skills (knowledge and skills), Other's experience (behavior of caring others). The concept of Watson also became the basis for constructing Caring caring Six C. Component six C from Roach, namely Compassion (Compassion), Competence (Ability), Confidence (Confidence), Conscience (Conscience /

Conscience), Commitment (commitment), and Comportment (authority) (Caranto, 2015).

Model Caroline caring, Behavior Nurses Caring and Caring Six C when viewed from the Muslim culture still exist that have not signed and represent the Muslim culture. Memasukka necessity of Muslim culture in the caring because according to Rafii, Hajinezhad, & Haghani (2007) mentions the nurse caring highly associated with patient satisfaction and patient religious culture. Caring Model focuses on caring interventions that take into account the culture of the patients (Halligan, 2006). Most patients in Surabaya culture is Islamic.

Caring dimension according to Rafii, Hajinezhad, & Haghani (2007), namely respect / honor, certainty / assurance, positive relationships, professional, wholeheartedly. Caring islami according Abdurrouf, Nursalam, & Purwaningsih (2013) includes the character is professional, friendly, trustworthy, constancy, sincerity, and patience. Fadillah (2009) mentions the character of Islamic Nurses should ihsan in worship, professional, and provide guidance toward goodness. Provide guidance to the good characteristics not found in Islamic caring character by Abdurrouf, Nursalam, & Purwaningsih, (2013). So the use of Islamic caring characters still need to do the assessment.

Caroline concept in accordance with Islamic nurse character by Fadilah. Maintaining the suitability of this concept namely Belief (to maintain the trust) which is a person's capacity to deal with issues of faith. Maintaining confidence in Islam can mean ikhsan in worship. In accordance with the Qur'an Surah Al Ahzab 29 (2004) which states: "If you desire Allah and His messenger and the country Hereafter, Allah provide a great reward for those who do good (Ikhsan) among you". Ikhsan impact on nurses are keeping the sincere intention in working order. So maintain confidence in the capacity of a person's faith means Ikhlas. In accordance with the Holy Koran

surah Al Bayyinah 5 (2004) "And they only ordered to worship Allah with Ikhlas obey him solely because of (running) religion, and also in order to perform prayer and give alms; and that is the right religion (true) ".

Ikhsan impact in the next worship is to make nurses behave affection. Compassion in Islam known as Mahabbah. In accordance with the Qur'an Surah Al Imran, 159 (2004) which states "And the grace of God you apply gentle towards them, in case you insist and be rude, they would distance themselves from all around". Affection is in accordance with the concept of Caroline Compassion (affection). Behavior nurse affection is highly recommended in Islam.

Competence (competence) to the concept of Caroline, where the concept was also the same as Islam requires the nurse to be professional. Competence in Islam known as an expert. In accordance with the Qur'an Surat an-Nahl 43 (2004), which mentions "Then ask the person who has the knowledge (the expert) if you do not know". Surah in the Qur'an is also confirmed by the hadith narrated by Bukhari, ie If a business handed to who are not experts, so watch the destruction. Competent nurse or professional behavior is highly recommended in Islam. Simple explanation contained in the following table.

Table 2.1 Caroline Caring concept in accordance with Islamic values.

No	Caring Concepts Caroline	Islamic values	Information
1	Maintaining Belief	<i>Al Ikhlas</i>	Ikhlas as belief in serving
2	Compassion	<i>Mahabbah</i>	nursing affection
3	Competence	<i>Mahir</i>	experts

Caroline concept that has the goal of welfare patient (Patient well being). Welfare dimaksudkan patients who still have a very broad sense so it needs to be interpreted in the Islamic. Giving meaning to the concept of Islamic means adding theories and concepts that are described in the theory section comfort (comfort).

Maintaining confidence in the concept is not explained in detail Caroline keeping techniques. The concept of love in Caroline explained that there are two techniques that determine (Knowing), and being with (Being with). The concept of competent on Caroline explained that there are two techniques that do for (Doing for) and enable (Enabling). Mechanical achievement concept at Caroline still less powerful and less detail when passed back to the basic concept of Watson.

Watson concept known as 10 Carative factors, namely: 1) Establishment of humanistik- altruistic value system; 2) To provide confidence and hope by facilitating and improving nursing care; 3) Growing sensitivity to self and to others; 4) Build a trusting relationship; 5) Improve and accept the expression of positive feelings and negativ client; 6) Using the creative problem solving process and systematic; 7) Improvement of trans personalized learning; 8) Provide support, protection and improvement of the environment or physical, mental, social, and spiritual; 9) To assist the fulfillment of basic human needs; 10) Support for spiritual power to pave the phenomenal-existential-spiritual dimension of mystery and existential life and death of a person (Watson, 2008).

Concept 10 Carative factors from Watson as the core of nursing guidelines need to be seen from the side of the Muslim culture. Caroline concept and the concept of 10 Carative factors from Watson in accordance with the Islamic concept, as follows. The concept of keeping the sincere trust required patience, gratitude, and consistent. In accordance with the disclosed Sentanu (2014) assurance capabilities are

grateful success, enjoying the process (patient), and surrender all to God. Gymnastiar (2006) which states that assurance is a strong character and tireless (consistent).

The concept of mercy is needed Wise, prioritize others, Helpful, and Clement. In accordance with the disclosed Gymnastiar (2006) that the communication and get along that well (affection) takes the attitude I'm no threat to you, I had fun, and I'm useful to you. I'm not a threat is an act of wise and like putting someone else. Fun means of trustees, helpful and useful means to you. Izzan, (2010) nurse commendable attitude among trustees, gentle, quiet, clean, and keep it secret.

The concept of competence required trustful behavior, Critical Thinking, According to time, and Mandiri. In accordance with the mentioned Herman (2009) that the professional is working with the scientific principle, carry out work with an honest, responsible, succor, and collaboration. Widarti (2010) mention professional when working with intelligent and appropriate knowledge. In accordance with the Holy Koran surah Al An'Mujadilah 11 (2004), "God will lift (degrees) those who believe among you and those who were given some degree of knowledge".

### **Comfort Islami**

Convenient theory when viewed from the Muslim culture still exist that have not signed and to represent the Muslim culture so that other theories need to supplement. These factors will be very significant for the development of coronary heart patient's health indications to adjust the dimensions of the Islamic comfortable. Islamically healthy comfortable or is in a state of well-being, full of gratitude for the favor of God in the aspect of physical, spiritual, and social. Prosperous gratefully means when recovering from illness as usual, it is required to give thanks and always do good. recovering from an illness, but there is still residual symptoms or disabilities, it is obliged to be patient and

put their trust (handed over all affairs to Allah). Seriously ill or there is no hope for a cure, it is required to sincere and trusts (Izzan, 2010). Prosperous gratitude also means keeping the faith of a patient so that the required kind thought to God, be patient, grateful, air-seek forgiveness, and put their trust (suryadi & Nasrullah, 2008).

Patience in accordance with the Holy Koran 155- Al Baqarah verse 156 which means "we ask and it will test you with something of fear, hunger, loss of wealth, lives and fruits. And give glad tidings to those who patiently, that those who when afflicted with calamity, say Innaa manufacture wa calamity ". Gratitude in the holy book the Koran sura Ibrahim 7 "And (remember) when your Lord proclaimed, 'If you are grateful, surely I will add more (favours) unto you; but if you deny (my favour), then surely My punishment is severe ". According to the book Ikhlas Al Koran Al Nasr 5 "And they were commanded to worship Allah with sincere obey him solely because of (running) religion, and also to perform prayer and give alms; and that is the right religion (true) ". This situation shows that Muslims needed a comfortable psychospiritual patience, gratitude, and sincere.

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# A SYSTEMATIC REVIEW OF COGNITIVE BEHAVIOR THERAPY (CBT) AND INSOMNIA

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## ABSTRACT

**Introduction:** Insomnia is difficulty in maintaining sleep can be transient or persistent. One of the non-pharmacological therapy that can be applied to reduce insomnia is CBT. CBT is a collection of behavioral and cognitive techniques that are considered effective for treating insomnia. To evaluate the effectiveness of CBT in reducing insomnia. **Methods:** The source article is used obtained from a search through the database include Google Scholar, Science Direct, PubMed, and ProQuest. This search is restricted to start from year 2003 to 2017. The article Inclusion criteria were: 1) the study design RCT, 2) the treatment given is cognitive behavior therapy, 3) samples were from people who had insomnia, and 4) the parameters considered is the level of insomnia. Once obtained, then do research articles to the extent of making systematic review. **Results:** CBT proven effectively reduce insomnia. **Conclusion:** CBT is one of the non-pharmacological therapies that can help reduce insomnia.

**Keywords:** CBT, insomnia, intervention insomnia

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## INTRODUCTION

Treatment without medication for insomnia can be done using a variety of techniques. McCurry, Logsdon, Teri, and Vitiello (2007) conducted a literature review on studies that use without drug treatment for insomnia. Their search results show that only two techniques that have enough evidence to be considered effective, namely sleep-sleep restriction and CBT multi-component compression. In addition to these two techniques, other techniques have dubious effectiveness. Stand-alone psychological techniques (such as relaxation, cognitive techniques, or psychoeducation sleep hygiene alone) does not have a strong evidence for the effectiveness. Furthermore, there are also alternative techniques that do not have any scientific evidence, such as light therapy, walking, exercise, massage, and weight training. However, alternative techniques generally have a complex explanation of the mechanism of action and

its effects on symptoms of insomnia are also difficult to explain.

Cognitive-behavioral therapy (CBT) therapy which considers that the basis of psychological disorders is problematic client cognition (Guevremont and Spiegler, 2010). CBT interventions to be effective as present-oriented, improve coping skills, focus on the problem, practical, and effective. It is associated with two things that need to be considered in dealing with psychological problems, the psychological problems that often has been around a long time and the possibility of chronic disease. CBT intervention to avoid both with the orientation on the present and focus on the problem (Spiegler & Guevremont, 2010). Psychological problem that has existed since long can trap therapists to continually look for root causes and spent many session. Although these searches can identify the root of the problem and satisfy the therapist, but often the root of the problem is not related to

the problem at this time. Furthermore, the therapist must be sensitive enough to modify some aspects of therapy.

Therefore, the aim of the systematic review is to evaluate the articles for later concluded the best therapy is based on evidence-based practice for insomnia and discuss considerations practice in the application of nursing practice life through therapy in accordance with the nursing problems that exist in society and documenting research for improve insomnia interventions and improve the outcome of patients, especially patients with insomnia.

## METHOD

The method used in this systematic 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, Science Direct, PubMed, and ProQuest. The time limits are used is 2003 to 2017. keywords English used were "insomnia", "CBT", "insomnia and CBT", "intervention insomnia". Indonesian to use the keyword "insomnia treatment", "CBT", "insomnia and CBT". Articles Inclusion criteria were: 1) the study design RCT, 2) the treatment given is cognitive behavior therapy, 3) samples were from people who had insomnia, and 4) the parameters considered is the level of insomnia.

Parameter insomnia assessed using instruments that vary widely. In general, studies using the insomnia severity index, Sleep diary, Stress, Sleep medication, quality of life and others.

From the 15 articles that have been discovered and studied, all articles of research using approach randomized control trial. The parameters used in the study that we reviewed is various such as insomnia severity index, Sleep diary, Stress, Sleep medication, quality of life and others. When the study is

applied to research in general is three months to twelve months. That is, the intervention given continuously and consistently every day. The duration of the intervention varies in the study, ranging from 15-30 minutes or until the patient had had enough in therapy. There are 11 studies using the comparison therapy. Meanwhile, another study using control group.

In a study entitled Internet-vs. group-delivered cognitive behavioral therapy for insomnia: a randomized controlled non-inferiority trial showed an improvement in the severity of insomnia appears on both treatments. Measuring tools (sleep diary data, the responders, remitters, sleep medicine use, depressive symptoms) also showed positive results. In the study, entitled A randomized-controlled trial of an early minimal cognitive-behavioral therapy for insomnia comorbid with cancer showed that the average of all parameters showed significant gains from pre- post treatment, but not for the control group. mCBT-also can significantly reduce symptoms of anxiety and depression, sleep disorders are maladaptive, and belief about sleep, and also gives a positive result for cognitive function. In the journal, entitled Comparing and contrasting the therapeutic effects of cognitive-behavioral therapy for older adults suffering from insomnia with objective short and long sleep duration showed that CBT can improve sleep quality, degrade easily awakened during sleep onset and give sleep efficiency. Participants reported a decrease score, Insomnia Severity Index Flinders Fatigue Scale, Epworth Sleepiness Scale, Feeling and Daytime Functioning Scale, Anxiety anticipatory Sleep Questionnaire, the Dysfunctional Beliefs and Attitudes about Sleep Scale, and gains on the Sleep Self-Efficacy Scale. In the journal, entitled A randomized controlled trial of cognitive-behavior therapy for behavioral insomnia of childhood in school-aged children show that multi-component

CBT effective to improve sleep disorders, insomnia, and anxiety symptoms in school-age children. In the journal, entitled Group cognitive behavioral therapy for insomnia: Effects on sleep and depressive symptomatology in a sample with comorbidity showed that CBT-I is more efficient than the RT to lose weight insomnia and effective to reduce the symptoms of depression.

From the research results CBT therapy and MBCR in the journal entitled The Comparative Impact Of Mindfulness-Based Cancer Recovery (MBCR) And Cognitive Behavior Therapy For Insomnia (CBT-I) On Sleep And Mindfulness In Cancer Patients showed improvement in the severity of insomnia appears on both treatment, decreased confidence in patients with insomnia sleep disturbances seen in the overall group of CBT-I and the MBCR and there are no significant differences in the CBT-I and MBCR in decreasing the severity of insomnia in post program and follow-up. In comparison ICBT and CBT-cntrl on journal, entitled the Guided internet cognitive behavioral therapy for insomnia Compared to a control treatment A randomized trial showed that the results obtained by the decline seen in both treatment and control is ICBT but ICBT more active in reducing sleeping disorders. Yet it can not be concluded which is the most effective of the two. These results can be attributed to the ability of therapy techniques who worked on the problem of insomnia and the severity of insomnia. But basically a lot of research that says CBT effective role in improving the quality of sleep. Comparison of non-pharmacological therapy and CBT CBT pharmacology showed an increase in the quality and improve insomnia. The results of this study indicate that non-pharmacological therapy is more effective in tackling insomnia.

In a journal called Randomized Controlled Clinical Effectiveness Trial of Cognitive Behavior Therapy Compared With Treatment As Usual for Persistent Insomnia in Patients With Cancer showed that the assessment of sleep and symptoms of depression and anxiety is done at the beginning of the meeting, after the intervention and after 20 weeks. CBT group to get the good night's sleep post intervention of the intervention group receiving TAU standard (sleep efficiency of 0.63, interval; 95% (CI) from 0.34 to 0.92). There is no further difference in each group at the time of follow-up on the symptoms of anxiety and depression. In the journal Auricular Acupuncture and Cognitive Behavioral Therapy for Insomnia: A Randomized Controlled Study to compare Auricular Acupuncture and Cognitive Behavioral Therapy, AA groups obtain intervention by the NADA protocol) 2 times a week for 4 weeks. All interventions carried out in health facilities and performed by two therapists AA experienced in mental health. CBT therapy group basis, focus on cognitive restructuring twice a week for 6 minggu. This section contains information about the physiology of sleep, the difference in coping overcome sleep problems, sleep deprivation, factors, stimulus control and relaxation techniques. Each session is conducted for 90 minutes, led by three experienced psychologist associated CBT. There is an increase in sleep in patients in the intervention groups. CBT-I group in the ISI after the intervention and during follow-up of 6 months and DBAs-16 after the intervention. Both groups showed significant differences between groups post-intervention increase in ISI.

In the journal, entitled Effects of armodafinil and cognitive behavior therapy for insomnia on sleep continuity and daytime sleepiness in cancer survivors with treatment CBTI and placebo (CBTI + P); CBT-I and armodafinil (CBT-I + A); armodafinil

(ARM); by using a measuring instrument sleep latency (SL), wake after sleep onset (Waso) and total sleep time (TST) showed CBT-I shows a significant and durable improvement in SL and Waso and additions armodafinil do not improve daytime sleepiness. This intervention was carried out for seven weeks. It can be a measure of the success of CBT. In the journal Cognitive-behavior therapy singly and combined with medication for persistent insomnia: Impact on psychological and daytime functioning using clinical evaluation of sleep / insomnia, medical history and physical examination, and polysomnography (PSG), Sleep medication, levels of anxiety, depression level, level the severity of insomnia in the measurement of insomnia it obtained significant results are fatigue, quality of life (mental component), anxiety, and depression obtained in CBT without the use of drugs. Unlike the CBT with medical treatment. In the journal Evaluation of a Brief Treatment Program of Cognitive Behavior Therapy for Insomnia in Older Adults showed that the treatment group receiving CBT-I reported an improvement in time and quality of sleep. Participants also reported a decrease of Insomnia Severity Index, Flinders Fatigue Scale, Epworth Sleepiness Scale, Feeling and Daytime Functioning Scale, Anxiety anticipatory Sleep Questionnaire, the Dysfunctional Beliefs and Attitudes Scale and increased Sleep Self-Efficacy Scale.

In the journal, entitled Physical fitness exercise versus cognitive behavior therapy on reducing the depressive symptoms among community-dwelling elderly adults: A randomized controlled trial shows the results of such an increase in physical fitness and quality of life improvement of social support resulting in decreased symptoms of depression. In the journal, entitled Group cognitive behavioral treatment for insomnia in primary care: a randomized controlled trial showed that CBT group to get the good

night's sleep post intervention of the intervention group receiving TAU (standardsleep efficiency of 0.63, interval; 95% (CI) 0.34 to 0.92). There is no further difference in each group at the time of follow-up on the symptoms of anxiety and depression. In a journal entitled Cognitive Behavior Therapy and Pharmacotherapy for Insomnia showed improved levels of insomnia seen in the CBT group than in the group of pharmacotherapy and CBT recommended as an early intervention are taken in cases of chronic insomnia. The main outcome measures were sleep onset latency as measured by sleep diaries; secondary measures included sleep diary measures of sleep efficiency and total sleep time, objective measures of sleep variables (Nightcap sleep monitor recorder), and measures of daytime functioning

Studies with the above results can not be fully generalizable. Do not cover the possibility of bias in some studies. It can be caused due to less homogeneous sample given the many factors that can influence the occurrence of insomnia.

## CONCLUSION AND RECOMENDATION

This systematic review has implications for nursing practice. Based on research that has examined showed that CBT is effective in lowering insomnia. With the results of this review, the nurse may apply CBT as a non-pharmacological therapy to reduce insomnia.

CBT is a therapy that helps clients how to think and act so that clients feel better. CBT focuses on the problems that exist at the moment, and help the client to understand the issues involved are so large and are broken down into small parts making it easier for clients to see how they relate to one another and how the problem is affecting clients (Royal College of Psychiatriis 2005). Of the 15 studies that examined prove that CBT can



reduce the incidence of insomnia, another benefit that is found which can be involved in the repair time and quality of sleep as well as

improving physical fitness, quality of life and increased social support.

**Table 1. Manual therapies in the treatment of insomnia Intervention**

Intervention	Author	Measure Insomnia	Result
ICBT & GCBT	Blom, <i>et al.</i> , 2015	Insomnia Severity Index (ISI),	Both treatment groups improved significantly, with Insomnia severity.
Mcbt-I	Ivers, <i>et al.</i> , 2015	Insomnia Interview Schedule, Insomnia Severity Index, Sleep diary	Significantly greater reduction of anxiety and depression symptoms, maladaptive sleep habits,
Cbti	Lovato, <i>et al.</i> , 2016	One- week sleep diaries, actigraphy, and a comprehensive battery of questionnaire were used to evaluate the efficacy of cbti	Cbti produced robust and durable improvements in quality of sleep, including reduced wake after sleep onset and improved sleep efficienc
CBT and combined behavioural sleep medicine techniques with anxiety Treatment techniques	Paine and Gradisar, 2011	Sleep latency, wake after sleep onset, and sleep efficienc	Multi-component CBT can be effective for the sleep, insomnia, and anxiety symptoms of Behavioural Insomnia of Childhood in school-aged children.
CBT for insomnia (CBT-I) and an active control (relaxation training: RT)	Tillfors <i>et al.</i> , 2015	Beck Depression Inventory-Second Edition (BDI-II), Insomnia Severity Index (ISI), Work and Social Adjustment Scale (WSAS), Sick leave and healthcare consumption, Sleep diary, Credibility and expectancy (CEQ).	-CBT-I was more efficient than RT in reducing insomnia severity and equally effective in reducing depressive symptoms. -CBT-I was associated with less functional impairment, shorter sleep onset latency and wake after sleep onset but both treatments had equal improvements of sleep quality, early morning awakenings and total sleep time.
-cognitive behavior therapy (CBT) -treatment as usual (TAU)	Espie <i>et al.</i> , 2008	Primary outcomes were sleep diary measures. Actigraphic sleep, health-related quality of life (QOL), psychopathology, and fatigue were second- ary measures.	CBT was associated with mean reductions in wakefulness of 55 minutes per night compared with no change in TAU. CBT for insomnia may be both clinically effective and feasible to deliver in real world practice.
-CBT -Pharmacotherapy -Combination therapy	Jacobs, <i>et al.</i> , 2004	The main outcome measures were sleep-onset latency as measured by sleep diaries; secondary mea- sures included sleep diary measures of sleep efficiency and total sleep time, objective measures of sleep vari- ables (Nightcap sleep monitor recorder), and measures of daytime functioning.	Young and middle-age patients with sleep-onset insomnia can derive significantly greater benefit from CBT than pharma- cotherapy and that CBT should be considered a first- line intervention for chronic insomnia.
Comparing mindfulness-based cancer recovery (MBCR) to cognitive behavior therapy for insomnia (CBT-I)	Garland, <i>et. Al.</i> , 2015	Mindfulness, dysfunctional sleep beliefs, and insomnia severity clinical cutoffs.	There were no significant differences between the MBCR and CBT-I groups in the percent age of patients exceeding insomnia severity clinical cutoffs at post-program or follow-up.
To evaluate if internet-delivered Cognitive Behavioral Therapy for insomnia (ICBT-i)	Viktor, <i>et. Al.</i> , 2015	ISI, sleep medication, sleep efficiency, sleep latency, and sleep quality	ICBT-i was significantly more effective than the control treatment in reducing ISI (Cohen's d ¼ 0.85), sleep medication, sleep efficiency, sleep latency, and sleep quality at post-treatment.
Cbti	Nicole Lovato et al (2014)	Sleep diaries, actigraphy, and a comprehensive battery of questionnaires	Cbti produced robust and durable improvements in quality of sleep, including reduced wake after sleep onset and improved sleep efficiency.
-Physical fitness exercise approach (PFE) -Interventions: cognitive behavioral therapy (CBT) Approach	Tzu-Ting Huang et all, 2015	6-min walk distance, quality of life, and social support	Of such an increase in physical fitness and quality of life improvement of social support resulting in decreased symptoms of depression.
CBT & CBT plus medication	Charles M. Morin et al., (2016)	Medical history and physical examination, and polysomnography (PSG)	Significantly improve of fatiguequality of life, axiety, and depression
CBT & TAU	Cape, 2016	Assessment of sleep, anxiety, and depression	CBT more improve the sleep efficiency
-Auricular Acupuncture -Cognitive Behavioural Therapy	Bergdahl, et al., 2016	Insomnia Severity Index (ISI), Dysfunctional Beliefs and attitudes about Sleep scale (DBAS-16), Epworth Sleepiness Scale (ESS), and Hospital Anxiety and depression scale (HAD)	CBT-I and Auricular Acupuncture both significantly reduce insomnia severity and equally effective in reducing depressive symptoms
-CBT-I dan plasebo (CBTI + P); -CBT-I dan armodafinil (CBT-I + A); -armodafinil (ARM);	Sheila N. Garland et all, 2015	Sleep latency (SL), wake after sleep onset (WASO), total sleep time (TST).	CBT-I show the significantly increase of latency SL dan WASO. Adjusting of armodafinil doesn't increase sleepy in the noon.

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# RELATIONSHIP BETWEEN THE SUPERVISION OF THE HEAD ROOM WITH NURSE'S PERFORMANCE: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** A good quality nursing care is strongly influenced by performance of nurses at work. Professional performance of nurse is a job performance based on PPNI standard. The purpose of this study is to explain and describe the relationship between clinical supervision and nurses' performance. **Method:** The literature search conducted in some database major such as DOAJ, Sage, Proquest, Medline, Google Scholar, Science Direct, PubMed, PIP. The inclusion criteria are: 1) independent variable is nursing supervision, 2) the respondent is a nurse, and 3) dependent variable is the performance of nurses. Literature contains of fifteen journal articles selected from 54 journal articles. Fifteen studies in this study describe about research on nurses' performance. **Result:** All research aims to determine the relationship of clinical supervision with nurses' performance. Six articles examine the performance in providing nursing care, four articles explain the performance of nurses in documentation of nursing care, an article observes the performance of high vigilance drug safety, an article about the implementation of the wound surgery care procedure, an article about the quality of drugs intravenous provision, an article focuses on Prevention nosocomial infection, and an article concerns on patient safety implementation. Thirteen studies showed there was relationship between supervision and nurses performance and two studies showed there was no relationship. **Conclusion:** The conclusion of this study indicate that clinical supervision activities are effective in improving the performance of nurses. For further research, it needs to observe the assessment of other components of performance. In addition, it needs to consider the number and homogenous subjects (age, gender, education, length of employment) so it does not result in bias.

**Keywords:** supervision, nurses' performance

## INTRODUCTION

Supervision is a convenient process in completion of nursing tasks (Swansburg & Swansburg, 1999). Supervision is to plan, direct, guide, teach, observe, encourage, improve, trust, evaluate continuously in every nurse patiently, fair and wisely (Kron, 1987).

Based on these definitions, it can be concluded that supervision is an effective way to achieve organizational goals. The purpose of supervision is providing assistance to subordinates directly, so they will be able to carry out tasks or jobs with good results (Suarli, 2009).

Assessment can be done at some performances of nursing such as: documentation, wound care, decision-making, the provision of high alert drugs, injection, infection prevention, and patient safety. One of controls carried out in nursing management is supervision.

Data were collected from some previous studies observing some hospitals such as Regional General Hospital (RSUD) and other type of hospitals. The results of previous studies at RSUD Prof. Dr. Soekandar Mojokusuma stated that supervision for surgery wound care by the head room has not good enough, implementation of postsurgery wound care in accordance with

Standard Operating Procedures (SOPs) is influenced by several factors working climate, supervision. From the data obtained explains that there is a significant association between supervision with the performance of nurses at RSUD Soprong, West Papua (Margareth, 2016). Shinta (2012) concluded there is relationship between the supervision of head room with nursing care documentation in inpatient RSUD Ungaran.

Research conducted in inpatient of Zainal Abidin Hospital in 2013 by Riana concluded that clinical supervision training effected on job satisfaction and nurses' performance. At journal Qalbia, 2013 also mentions that there is a significant relationship between motivation and nurses' performance in implementing patient safety at Universitas Hasanuddin Hospital. Regarding to that statement, journal research conducted by Maylinda 2013 also shows there is a significant relationship between a role of supervision of the head room as a planner, a director, a coach, an observer, an assessor and nurses' performance in providing nursing care for inpatient at RSI Ibn Sina Yarsi, Padang.

Some studies abroad like journals in Iran and Sweden find out the relationship of clinical supervision and nurses' performance nurses (Hemant, 2005). Davis and Burke (2011) concluded that supervision is effective way to improve patient care. The positive side of supervision is done well, true and obedient. Recommendation of several studies is to maintain the application of clinical supervision of head room by sustainability coaching, monitoring, and evaluation.

## **METHODS**

Literature were obtained from major databases such as DOAJ, Sage, Proquest, Medline, Google Scholar, Science Direct, PubMed, PIP. by entering keywords: supervision, nurse performance. The year limitation was no more than 10 years (2006 -2016). 15 out of 54 articles have fulfilled the criteria. The inclusion

criteria of the article were: 1) independent variable is nursing supervision, 2) the respondent is a nurse, and 3) dependent variable is nurses' performance.

The performance of nurses was classified in some respects, which was the performance in terms of high vigilance (High Alert) to provision of drugs, mental disorder treatment, post-surgery wound patient according to SPO, providing intravena drug, nursing documentation, prevention of nosocomial infections, giving nursing care, implementing patient safety.

Several designs used in this journal were one journal used Quasi study experimental, four journals used cross-sectional, Pre-experiment with pre-post test group design, Pre experimental design with pre-post approach, only one group, and nine correlational analytical research with cross sectional approach. This study aims to prove the relationship between supervision of head room and nurses' performance.

The population in this study were all nurses in inpatient at several hospitals. The performance parameters used questionnaire, 24 items of observation sheet nurses' performance using Gutmann scale, observational survey, questionnaire and check-list of assessment for nursing documentation from Department of Health, documentation evaluation instrument by development team MPKP FIK UI - RSUPN Dr. Cipto Mangunkusumo.

## **RESULTS**

All researches aimed to determine the relationship of clinical supervision with nurses' performance by identifying the kinds of performance of nurses. Six articles examined the performance in provision of nursing care, four articles assessed the performance of nurses in implementation of nursing care documentation, an article assessed the performance of high vigilance drug safety, an article about the implementation of procedur for surgery wound care, an article about the quality of intravenous drug administration, an article



on the Prevention Inos, and an article about the implementation of patient safety.

It can be concluded, thirteen researches showed there is relation with the

performance of supervision and two studies showed no there is no relation with the performance of nurse supervision.

Table 1. identification article supervision relationship with the performance of nurses

No articles	Performance						
	Awareness of drug safety	Nursing care	SOP implementation in surgery wound care	quality of intravenous drug	Documentation of nursing care	prevention Inos	Patient safety
1	√						
2		√					
3					√		
4			√				
5					√		
6		√					
7				√			
8					√		
9						√	
10		√					
11							√
12		√					
13					√		
14		√					
15		√					
amount	1	6	1	1	4	1	1

## DISCUSSION

Supervision is an important part of nursing management. Management of nursing care needs the ability in supervision. Head room is a person in charge so he/she should be able to be good supervisor to his/her nurse. Thus, it can increase the quality nursing care given and performance of nurses. Supervision is really needed to improve the working of nursing care documentation. Interest of the leader can be done by guidance and direction in performing the task, the availability of supervisor to listen and give suggestion for consideration, a broad-minded in receiving staff complaints to resolve problems. Monitoring which is implemented by direct supervisor regularly may also encourage nurse to work better (Retyaningsih, et al. 2013). A good supervision supports the environment to improve the quality of nursing work so that the quality of documentation could be better. The ability

of nursing managers is expected to perform the function of guiding through good supervision to guarantee the quality of nursing care documentation.

Shinta (2013) conducted on research, good nursing supervision is able to improve the completeness of the nursing care documentation up to three times better quality. So, the better supervision of the head room, the better completeness of the nursing care documentation.

Personal research (2009) showed that the factor of perception nurses regarding supervision conducted by the head room affects the performance of nurses in documenting nursing care. Nurses who have a good perception of supervision tend to perform better in nursing care documentation so it needs to provide facility to develop the knowledge of nurses about supervision of head room and also to enhance the ability of head room in supervising nurse. Sugiharto (2012) stated

the supervision of nursing is a formal process and professional which is done by a supervisor or leader to support, guide, direct, evaluate, and develop the knowledge and competence of nurses to complete the task with full responsibility in order to achieve goals of hospitals and patient safety.

Windhu, et al in 2011, showed there was a significant relationship between supervision of head room and nurses in the implementation of standard operating procedures for postsurgery wound care. A proper supervision significantly influences powerful, positive pattern, where the better supervision carried out by the head room the more improving quality of wound care by nurses.

Pitman (2011) explains that the supervision is beneficial to improve quality and allegiance in implementing nursing actions such as post-surgery wound care in accordance with the SPO, to gain knowledge, which is techniques of post-surgery wound care for consideration in making post-surgery wound care SPO. It improves the quality of service that aims to maintain the safety of the patient, that is to prevent infection and other complications. The statement is also supported by a statement Royal College of Nursing (2003) in Clinical Supervision In The Workplace. It mentions that supervision is an importance and benefit to support quality improvement, an opportunity to learn new things, increasing the efficiency and effectiveness of the supervised person.

## CONCLUSION AND RECOMMENDATION

### Conclusion

Fifteen research in this study focus on nurses' performance. All research aims to determine the relationship of clinical supervision with nurses' performance. Six articles examine the performance in providing nursing care, four articles assess the performance of nurses in the implementation of nursing care documentation, an article assesses the

performance of high vigilance drug safety, an article about the implementation of the surgery wound care procedure, an article about the quality of intravenous drug administration, an article on the Prevention Inos, and an article about the implementation of *patient safety*. Thirteen studies showed there is relationship between supervision and performance of nurses and two studies showed there is no relationship between an effective clinical supervision activities and improving the performance of nurses in order to achieve the maximum quality of nursing care.

Monitoring by direct supervisor regularly may also encourage nurses to work better. Supervision of nursing should be done at least once a month.

### Recommendation

1. Carried out further studies on the relationship between supervision and specific criteria e.g. age, education, length of employment etc.
2. It needs to do research concerned about performance of nurses who focus on one desired performance
3. It is advisable for every hospital generally and the room, especially to implement good clinical supervision on nurses or head room, either planned supervision or unplanned supervision.

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# FACTORS ASSOCIATED WITH HALLUCINATIONS: A SYSTEMATIC REVIEW OF MENTAL HEALTH RESEARCH

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## ABSTRACT

**Introduction :** The world, approximately 450 millions people suffer from mental disorders. Mental disorders have become serious problem in the world. There are at least one of four people in this world experience mental disorder. Hallucinations are a symptom of mental disorder. Impacts that can be caused by patients who have hallucinations are losing control of themselves. In this situation patient may commit suicide, kills another person (homicide), even damaging the environment. Avoiding such impacts requires knowledge of any factors associated with hallucinations. The aim of this study is to see the extent of hallucinations in the world especially factors associated with hallucinations. **Methods:** Searching journal articles using multiple databases electronically with: Proquest, ScienceDirect, DOAJ, Sagepub, Medline and Google Scholar. Time limit that used is a journal published from 2013 until 2017. **Result:** The result of this Systematic Review is inequality technique (heterogenesis), but the different is not overly influence (significant), because all factors included hallucinations obviously, so the results are more varied. **Conclusion:** The findings of the study that examined found that factors associated with hallucinations can be obtained from the individual itself and environment.

**Keywords:** factor, Hallucination, Mental health

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## INTRODUCTION

According to the World Health Organization (WHO), mental health is a situation where a person is free from mental disorders and have a positive attitude to describe the maturity and personality.

Data from WHO in 2012 indicated the number of people concerned about mental disorders globally, approximately 450 millions people suffer from mental disorders. People who experience mental illness most are live in developing countries, as many as 8 out of 10 people with mental disorders were not getting treatment (Kemenkes RI, 2012).

Soul is the human element that is immaterial, but functions and manifestations are related to the material. Students who first learn the mental science and mental health nursing often have trouble with things to learn, because the soul is abstract and intangible things. Every human being has a soul, but when asked,

"Where is your soul?" Only a small part that can show where his/her soul. This is because the soul is not the form of the object, but a system of behavior, results of thought, feeling, perception, and social environmental influence. All of them are manifestation of a person's psychological. Therefore, to study mental health and nursing, study of the manifestations of soul related to material that can be observed in the form of human behavior (Yusuf, dkk., 2015).

Hallucinations are sensory perception disturbance of an object in the absence of external stimuli, sensory perception disorder covers all the senses. Hallucinations are a symptom of mental disorder that patients experience in sensory perception changes, and sensation of a false form of sound, sight, taste touch, or smell. Patients feel the stimulus that did not exist (Yusuf, dkk., 2015).



Patients with mental disorders experience have a change in the orientation of reality. One of manifestations that appear is hallucination make patient unable to perform activity in daily life. To avoid such impacts requires knowledge of any factors associated with hallucinations. The aim of this study is to see how far hallucination developing in the world especially factors associated with hallucination.

## METHOD

This study is a systematic review. Source of this research data is derived from the literature obtained via internet in the form of the results of studies conducted around the world. Literature research conducted in some major databases such as ProQuest, ScienceDirect, DOAJ, SAGEPUB, MEDLINE, and GOOGLE SCHOLAR by entering keywords factor, hallucination. The time limit which used is a journal published from 2013 through 2017. Of the 26.980 articles were obtained, 15 articles that met the inclusion criteria. The inclusion criteria of this study are 1)

factor hallucination, 2) sample of at least 10 people, 3) parameters assessed are hallucination.

Hallucination parameters assessed using instrument are vary widely. One study using LaunaySlade hallucinations Scale (LSHS-E), five studies using the Positive and Negative Syndrome Scale (PANSS), Hallucination Scale (RHS), one study using the hallucinations and psychosis items of the Movement Disorder Society, one study uses Revised psychosis screening questionnaire (PSQ), and there are several studies that use multiple instruments in a single study, as Psychotic Symptom Rating Scales (PSYRATS), Hamilton Program for schizophrenia Voices questionnaire, Delusions Severity subscale of the PSYRATS, and Chicago Hallucination Assessment Tool (CHAT).

The number of samples studied are quite diverse ranging from 37-8580 people. Most of the study design are using cross sectional design followed by four cohort studies, two surveys, and two randomized controlled trials.

Tabel 1. Selected characteristic of studies identified by review

Authors	Number of sample	Hallucination Measurement	Design
Gaweda, 2013	Sample: 135	Revised Hallucination Scale (RHS)	Cross Sectional Cohort
Sheffield, 2013	Sample : 87 Control : 27	Positive and Negative Syndrome Scale (PANSS)	
Cohen, 2014	Sample : 198	The Structured Clinical Interview-PANSS	Cross Sectional
Kern, 2014	Sample : 44	1. Positive and Negative Syndrome Scale (PANSS)	Cross Sectional
		2. Scale for the Assessment of Positive Symptoms (SAPS)	
		3. Psychotic Symptom Rating Scales (PSYRATS)	
		4. Chicago Hallucination Assessment Tool (CHAT)	
Tol, 2014	Sample : 51 Control : 51	1. Positive and Negative Syndrome Scale (PANSS)	RCT
		2. Psychotic Symptom Rating Scale	
Berg, 2015	Sample : 454	3. Hamilton Program for Schizophrenia Voices	Cross Sectional Survey
Kompus, 2015	Sample : 9,646	Positive and Negative Syndrome Scale (PANSS)	
Geddes, 2016	Sample : 106	Extended LaunaySlade Hallucinations Scale (LSHS-E)	Cohort
		1. Selfreport Cardiff Anomalous Perceptions Scale (CAPS)	
		2. Positive and Negative Symptoms Scale (PANSS)	
Ikeda, 2016	Sample : 78 Sample after 3 years : 63	Interview	Cohort
Misiak, 2016	Sample : 37	Positive and Negative Syndrome Scale (PANSS)	RCT

	Control : 57		
Sheaves., 2016	Sample in 2000 : 8580 Sample in 2007 : 7403	Psychosis screening questionnaire (PSQ)	Survey
Solesvik, 2016	Sample : 204 Sample : 694	Positive and Negative Syndrome Scale (PANSS) Auditory Vocal Hallucination Rating Scale	Cross Sectional Cohort
Steenhuis, 2016	Sample after 5 years : 337		
Roncero, 2017	Sample : 767	Interview	Cross Sectional
Zhu., 2017	Sample : 371	Hallucinations and Psychosis item of the (MDS-UPDRS)	Cross Sectional

## RESULTS

Sheffield, et al. (2013) found that patients with psychotic disorders who experience auditory hallucinations reported experiencing sexual harassment, physical and emotional heavier than patients who never experienced auditory hallucinations. Sample in this study is 87 patients with psychotic disorders assessed with the Structured Clinical Interview for the DSM-IV-TR (SCID) and interviewed by psychiatry. The number of control group are 27 healthy people (without a history of mental disorder or mental intervention before). The patient group and the control group did not distinguish gender, ethnic or parents's education. Patients are classified into individuals groups who have or have not experienced certain symptoms in their lifetime, based on data from the SCID interview to explore the relationship between trauma in childhood and certain positive symptoms,. Participants were assessed for five types of hallucinations (auditory, visual, tactile, gustatory, olfactory) and 8 kinds of delusions (reference, persecutory, grandiose, somatic, companies, control, thought broadcasting, and bizarre).

Kompus, et al. (2015) conducted a survey research with a sample of 9.646 young adults who were born between the years 1993-1995. The study included self-report young adult with two items assessing Auditory Verbal Hallucination (AVH). AVH assessed with two items of the extended LaunaySlade hallucinations Scale (LSHS-E). Women in this group reported higher levels of depression, it shows that they have experience higher stress levels that can explain they have more stress in the

AVH. Also, depression's mood has also been shown to increase the risk of transition to psychosis in individuals with hallucinations.

Research by Misiak, et al. (2016) with a sample of 37 patients diagnosed with schizophrenia based on DSM-IV and ICD-10. The Operational Criteria for Psychotic Illness (OPCRIT) checklist is used to validation diagnosis made, and the number of control group is 57. Early Trauma Inventory Self-Report-Short Form (ETISR-SF) is used for the assessment of the four types of childhood trauma: general trauma, physical punishment, emotional and sexual abuse that may occur under the age of 18 years old. The correlation between frequency of AVH and significant sexual event, DUI and depression PANSS factor scores ( $B = 0.234$ ,  $t = 2.302$ ,  $p = 0.024$ ). This correlation is significant in women ( $r = 0.411$ ,  $p = 0.008$ ), but not in men ( $r = 0.122$ ,  $p = 0.380$ ). Linear regression analysis revealed that the number of categories AVH predicted by scores of sexual abuse in women ( $B = 0.394$ ,  $t = 2.501$ ,  $p = 0.017$ ) but not in men ( $B = 0.123$ ,  $t = 0.880$ ,  $p = 0.383$ ). Result showed that a history of childhood trauma, especially sexual abuse, is associated with a higher number of AVH in women but not in men.

The study by Zhu, et al. (2017) discuss the high prevalence of VHS (Visual Hallucination) in patients with Parkinson Disease, with cross sectional study design with 371 samples. Research shows high prevalence visual hallucinations in patients with Parkinson Disease.

Tol, et al. (2014) conducted a study with a view of predisposing hallucination's factors through the anatomical structure of

the brain with sample 51 patients (meets DSM criteria for a diagnosis of schizophrenia -iv) with the control group: 51 people (recruited through flyers and advertisements do not merit a diagnosis of Axis-I lifetime. MRI data measured by Philips intera 3-tesla magnetic resonance system. The results showed that the abnormally low volume of the left inferior frontal gyrus (IFG) and parahippocampal gyrus associated with the presence of hallucinations (left parahippocampal gyrus in this comparison ( $k = 836$ ,  $Z = 3.93$ , MNI coordinates: [ $z = -21$   $y = 3$   $z = -29$ ],  $pFWE\_ROI = 0.085$ ).

The study by Kern (2014) with cross-sectional design. 44 participants (19 men, 25 women) were studied. Only participants who met the diagnostic criteria for schizophrenia (as evidenced by the diagnosis of SCID) or schizoaffective disorder and had reported a history of auditory hallucinations included in the data section. Participants were also given questionnaires Positive and Negative Syndrome Scale (PANSS), Scale for the Assessment of Positive Symptoms (SAPS), and Chicago Hallucination Assessment Tool (CHAT). A series of t-tests were used to identify the possibility of a significant difference in the scores of participants male and female. Dimensions CHAT subscale and total scores of CHAT were significantly different with women report greater severity. Post hoc analysis showed a significant difference in the item Loudness of PSYRATS and CHAT and the number of items Negative Content CHAT, women report greater severity. Significant difference was found between the average scores of women ( $M = 2.6$ ,  $SD = 1.16$ ) and the average value of male ( $M = 1.74$ ,  $SD = 0.93$ ) on an item Loudness of CHAT;  $t(42) = -2.66$ ,  $p = 0.011$ .

The study by Steenhuis, et al., (2016) with the initial sample amounted to 694 children from a population-based case-control with and without AVH Sample after 5 years amounted to 337 people (aged 12-13 years). Cohort study design with the

result of religious adolescents are more likely to report AVH than adolescents without religiosity (O.R. 1/2.6). Participants reported their voices in this sample (16.3%), more than half reported positive noises.

Cohen, et al., (2014) conducted a study with a sample: 198 people aged 55 years old and older living in the community and was diagnosed with schizophrenia before age 45. Elder with schizophrenia auditory verbal hallucinations were lower than had been reported earlier for younger people with schizophrenia. This study using a cross sectional design with the result is presence of auditory verbal hallucinations followed by the appearance of depression symptoms.

Roncero, et al. (2017) by the number of participants were 767 patients were evaluated on CIP (cocaine-induced psychosis) and included in the study, using cross sectional design. Of the entire sample, 6.6% reported CITSH at some point of their lives, 48.4% had experienced some CIP apart CITSH, and 45% had no psychotic symptoms. The risk of overdose increases 12.1 (OR) times the probability of having CITSH than patients with CIP-without-CITSH. The result is that patients with CITSH (cocaine-induced tactile/ somatic hallucinations) have a bad addiction and more psychiatric comorbidities.

Sheaves, et al. (2016) in his research with survey design, sample was 8580 (2000), and 7403 samples (2007). Participants filled in a questionnaire (Revised Clinical Interview Schedule), and questionnaires emergence of hallucinations during the last 12 months was assessed using two items from The psychosis screening questionnaire (PSQ). The results of this study were participants who have difficulty sleep during the last month (I1) increases with prevalence experience hallucinations (H1) of 2.9 to 6.6% (2000 dataset) to 3.1 to 6.3% (2007 dataset), Experience chronic insomnia (I3) increase the prevalence of experience hallucinations (H1) from 3.8% to 11.5% (2000) and from

3.8% to 10.8% (2007). Prevalence of chronic insomnia increase support H2 from 0.7% to 3.1% (2000) and from 0.7% to 3.3% (2007).

Research by Gaweda & Kokoszka (2013) with a cross sectional and sample 135 students (98 female and 37 male). Two-dimensional character and self-transcendence selfdirectedness vulnerabilities associated with the emergence of hallucinations. The result of this study is a connection between the conduct meta-cognitive beliefs mediate the relationship between the dimensions of Cloninger's temperament with the vulnerability of hallucinations in healthy subjects.

Research by Solesvik, et al. (2016) with a sample size: 204 patients with first-episode psychosis. Using a cross sectional design. It met a result that visual hallucination psychotic reported by 26.5% patients. Experience childhood trauma increases the likelihood of having psychotic visual hallucinations.

Ikedda, et al. (2016) conducted a study with a cohort design. Amount of samples are 78 and samples after 3 years are 63. Subitems at BFI indicates that the score for general fatigue ( $p = 0.02$ ), mood ( $p = 0.042$ ), and relationships with others ( $p = 0.021$ ) were significantly lower in patients with non hallucinations than those with first onset of hallucinations.

Study by Geddes, et al. (2016) with total sample 106 participants received

initial assessment between 4 and 6 weeks after the violence occurred and followed up for six months thereafter. Types of violence experienced was a confrontation ( $N = 33$ ), a random attack ( $n = 24$ ), robbery ( $n = 22$ ), violence from family members or friends ( $n = 19$ ) and attacks in the context of work ( $n = 8$ ). All participants reported injured after getting violent. The results support the hypothesis that peri-traumatic problems (data-driven processing, lack of self-referential processing and dissociation), a negative assessment of the consequences trauma (permanent changes, vulnerable self, blame themselves) and maladaptive cognitive control strategies (depressive thoughts, reflections and numbness) can have an impact on the likelihood of subsequent occurrence of hallucinations.

Research by Berg, et al., (2015) with a total sample of 454 patients with SCID-I DSM-IV diagnosis of non-affective psychotic or affective disorder. Using a cross sectional design. Patients from ethnic minority groups ( $n = 69$ ) reported significant trauma, especially trauma of physical abuse/neglect, and sexual abuse. They had significantly more behavioral symptoms of past hallucinations and hallucinations of a lifetime to hear two or more voices conversing. Regression analysis revealed that the presence of childhood trauma as an intermediary for the relationship between ethnic minorities and hallucinations.

Table 2. Factors associated with hallucinations based on review

Author	Factors associated with hallucinations										
	Trauma	Gender	Parkinson	Brain Anatomy	Religiosity	Age	Cocain	Sleep Disorder	Self Character	Fatigue	Depression
Gaweda, 2013									v		
Sheffield, 2013	v										
Cohen, 2014		v				v					v
Kern, 2014		v									
Tol, 2014				v							
Berg, 2015	v										
Kompus, 2015		v									v
Geddes, 2016	v										
Ikeda, 2016			v					v		v	
Misiak, 2016	v										
Sheaves., 2016								v			
Solesvik, 2016	v	v				v					
Steenhuis, 2016					v						
Roncero, 2017							v				
Zhu., 2017			v								

## DISCUSSION

A summary of the study review, showed that factors associated with hallucinations consist of many factors and interrelated, such as violence and trauma in childhood (physical abuse, sexual abuse, emotional abuse, emotional neglect, and neglect of the physical), harassment or sexual trauma are more prone to get hallucinations as the next process, gender (women are more vulnerable to hallucinations and more disturbed when experience hallucinations, leading to the subsequent effect which is depression), the anatomy of the brain (the low volume of abnormal frontal gyrus of the left inferior (IFG) and parahippocampal gyrus associated with the presence of hallucinations), confidence in the minds of talks in the head-related hallucinations will also create hallucinations settled, insomnia or sleep disturbance, fatigue, and the greater the level of anxiety, age, self focus, and extreme response is followed by hallucinations.

Although there are studies that find results no significant association between self-image of the hallucinations, but most of the research found that the predisposing factors of hallucinations can be obtained from the individual itself (system anatomy and cognitive perception), and the environment.

## CONCLUSION

### RECOMMENDATIONS

#### Conclusion

Approximately 70% of data hallucinations experienced by patients with mental disorders are auditory hallucinations, visual hallucinations 20%, and 10% are hallucinations of smell, taste and touch. Hallucinations are perceptions in the conscious state without apparent stimulation of the senses. The quality of the perception felt by patients with very clear, substantial and in fact came from outside the real. Impact that can be caused by patients who have hallucinations are losing control of themselves, so then patients impaired sensory perception and behavior are controlled by hallucinations. In this situation the patient may commit suicide, kills another person (homicide), even damaging the environment. Results found that factors associated with hallucinations can be obtained from the individual itself (system anatomy and cognitive perception), and the environment.

#### Recommendation

Subsequent research in the future with larger samples and with the same ratio of men to women participants could give more accurate results so that research results can be generalized about the relationship between gender and severity of hallucinations (Kern, 2014). In addition to the effect of trauma history of violence or physical abuse, emotional, sexual, and neglect increase the severity of hallucinations characteristic can be more



explain about the psychological and biological mechanisms involved in the development of hallucinations and psychosis due to persistent hallucinations.

The results of this study can be a reference for nurses working in the Mental Hospital, General Hospital, and the community to provide nursing interventions as early as possible. Hallucinations precaution is essential to prevent hallucinations become chronic and persist, causing patients unable to return to their neighborhood, depression, or attempted suicide. The relationship between violence in the cause of trauma or injury to the hallucinations have clinical implications. Nurses should be able to get the history of patients who reported experiencing violence or abuse (physical, emotional, sexual), as this would influence the actions of nursing and medical treatment to be given to them. Nurses should also be aware of the high correlation between sexual violence, physical and emotional abuse, and consider all types of violence and harassment as a potential risk factor for experiencing hallucinations. Childhood trauma is a risk factor for the emergence of hallucinations in some psychotic disorders. Prevention, early intervention and treatment models should be considered for individuals who are at greater risk into a serious psychiatric disorder (Sheffield, 2013).

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# SYSTEMATIC REVIEW EFFECTIVITY OF BANANA (MUSA) AS ANTI-DIABETIC AGENT ON MICE

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## ABSTRACT

**Introduction:** Diabetes Mellitus (DM) is one of degenerative diseases which the number keeps increasing and can be found around the world. In Indonesia, Riskesdas data shows that there were an increase of Diabetes prevalence in Indonesia from 5,7% in 2007 to 6,9% or around 9.1 million in 2013. The management of diabetes can be done pharmacologically or non-pharmacologically. Banana (*Musa*) is one of abundant plants that can be easily found, especially in Asia. Banana is believed to have antidiabetic property. The aim of this research was to understand the effect of banana in treating hyperglycemia. **Methods:** The research journals reviewed in this systematic review were research from 2013 to 2016. Most of the research is performed on animals. Journal search using search engine, such as ProQuest, GOOGLE SCHOLAR, SCIENCE DIRECT. **Results:** All research journals found that banana can be used as antidiabetic. **Conclusion:** Generally, banana (*Musa*) is effective to be antidiabetic agent on diabetic test animals. Yet, further research is needed for the effectivity of banana's antidiabetic agent on human, and homogeneity of the research types and research materials.

**Keywords:** Musa, Diabetes Mellitus, Antidiabetic, Mice

## INTRODUCTION

Diabetes Mellitus (DM) is one of the degenerative diseases, which its number develops continually, and it can be found in the entire world. Genetic factor, lifestyle, exercise, and diet pattern are complex etiology of DM (Brito et al., 2009).

Diabetes is disease caused by high level of blood glucose as the result of pancreas and insulin disturbance. Symptoms occurring in DM sufferer are polydipsia, polyuria, polyphagia, body weight reduction, as well as pins and needles (Hakim, 2010).

In Indonesia, The Riskesdas data show Diabetes prevalence increased from 5,7% in 2007 to 6,9% (around 9,1 million) in 2013. The data of International Diabetes Federation in 2015 explained the estimation number of Diabetes sufferer in Indonesia was predicted in the number of 10 million. Like the world condition, Diabetes, nowadays, becomes one of the biggest dead cause in Indonesia. The data of Sample

Registration Survey in 2014 show that in Indonesia Diabetes was the third number of the biggest dead cause with percentage of 6,7%, after Stroke (21,1%) and Coronary Heart Disease (12,9%). Even if it is not handled, this condition will be able to lead the derivation of productivity, disability, and early dying.

Diabetes management can be done with pharmacological or non-pharmacological method (Indrawati et al., 2015). The experts of The World Health Organization (WHO) explained that plant can be antihyperglycemic source (WHO, 1980).

Banana is the plant that grows in many numbers and can be found easily, particularly in Asia. Banana has many kinds, which one of its kinds is ambon banana (*Musa paradisiaca* L.) which has savor for antidiabetic (Iman & Akter, 2011).

## METHODS

In this systematic review the research which was reviewed was counted since 2013-2016. The majority of the researches were conducted in animal.

This study sample used animal. The chosen animal was the house mouse (*Mus musculus*) or Mencit in Indonesian term with the age of 2-3 months (Indrawati et al., 2015), white male rat (*Rattus norvegicus*) Sprague-Dawley which was from seven-to-eight-month-old (Redya et al., 2016). The research which used experimental animals gained approval from ethic committee previously.

The experimental animals being used were chosen randomly, and they were taken care in the animal laboratory with room temperature less than 240, lighting (12 h day/night cycle) adapted for 7 days (Redya et al., 2016); moreover, they were given normal pellet diet (NPD). They were divided into some groups—experiment group and control group. The experimental animals were induced by serum caused diabetic animal, as induction of streptozotocin (STZ) and saline glucose, in one night, before the animals were fasted.

Banana was extracted with many methods, and it was treated to be oral medicine for experimental animals. Banana which was used in this study was ambon banana (*Musa paradisiaca* L) (Kappel et al., 2013), Amala banana and crude Booli banana (Shodehinde et al., 2015).

## RESULT

All of gained journals described antidiabetic effectivity of banana to reduce blood glucose level in experimental animals, which were two journals from Indonesia, one journal from Nigeria, and two journals from India. The aim of this research is to know the effect of using banana for treating hyperglycemia.

The number of experimental animals in this research started from 20 to 45 samples, with age from two-to-three-month-old. The giving of banana extract

was done after experimental animals were fasted, and they got serum for impeding the pancreas in producing insulin.

Research by Kapel, et al (2013) found that there is a decrease on serum glucose level, insulin secretion stimulation and obstructing the enzyme activity related to the glucose absorption and the formation of AGE on groups of mice that are given banana extract. Shodehinde, et al (2015) found that fasting blood glucose of the mice group that only given NPD is higher than other groups, the mice groups that received diabetic medicine Acarbose and mice groups receiving Booli banana diet and raw amala diet has significant decrease on blood glucose level. Research by Redya, et al (2016) shows after 4 weeks treatment using banana extract, significantly the serum glucose level from diabetes (T2DM) decreased. Kaempe, et al (2013) shows that mice induced with alloxan, receiving fenolic extract from goroho banana did not show significant increase on blood sugar level, mice blood sugar level decrease mostly on the administration of fresh banana extract for 67,6 mg/dl (61, 19%). All research journals found that banana can be used as antidiabetic agent.

## DISCUSSION

Generally, these research journals found that bananas are effective for antidiabetic agent. These research include Ambon, goroho, booli and amala bananas. All treatments given orally, both directly and extracted. The experiments were performed in laboratories on test animals induced with diabetes. The results measured from the journals including the effectivity of antidiabetic agent in bananas on test animals, the comparison of blood sugar level decrease with the administration of glibenclamide, bananas extract and acarbose, length of time used for the decrease of blood sugar level.

Ambon bananas have been used in several research, through direct as well as extracted administration, raw bananas, as well as processed banana peels, this

research is still limited to test animals (Iman & Akter, 2011). Bananas have the effect on blood sugar level decrease.

## CONCLUSION AND RECOMMENDATION

Generally, banana (Musa) is effective for antidiabetic agent on test animal with diabetes. Yet, further research is required for the effectivity of banana's antidiabetic properties on human, and homogeneity of research type and materials.

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# CHARACTERISTICS OF PARENTS' CARING IN THE DEVELOPMENT OF CHILDREN UNDER FIVE YEARS

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## ABSTRACT

**Introduction:** The development of children under five years need the stimulus of his parents, if early childhood does not give any attention his development, so it cannot be repaired in the next period, so it will affect the quality of life of children. The objective of this study is to determine the factors that can affect parenting in stimulating the development of children under five years. **Methods:** This study used analytical correlation research design. The population was mothers with young children in the village of Losari, Ploso Jombang in September 2016 with a number of 220 people. The samples of 150 were used by simple random sampling technique. The independent variable in this study were the factors which affect the parenting of elderly people that are maternal age, maternal education, the involvement of fathers, experience of parenting mothers and the mother's response to stress. The dependent variable in this research was the development of children under five years. Data analysis techniques used by chi-square test. **Result:** All the factors that affected parenting would affect the development of children under five years also. **Conclusion:** Children's development was a continuous process which required the role of fathers and mothers, fathers and mothers were expected to stimulate the development together for on reaching the optimal development.

**Keywords:** Characteristics, Parenting, Development, Children under five years

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## INTRODUCTION

One of the parents' tasks of young children is to care in providing the stimulation of growth and development starting from before birth phases until the phase of golden age (Soetjiningsih, 2007). Children under five years period is called the golden period of a person, it means that if in this period a child does not get a good and adequate stimulation from the environment around it so that a child's development is hampered and even can be disrupted (Agrina, 2008).

In Indonesia, more caring is played by the wife/mother even though parenting is a responsibility shared by the husband/father. Several factors which affect the mother in providing care to children are age of the parents, parental education, father involvement, and experience in parenting, parents' stress and

the relationship of parents (Supartini 2004 in Marlani 2014).

A child's ability to get each stage of the development will affect the health of a holistic manner. The success/failure experienced in one phase affects the ability to complete the next phases. If a child has a recurring failure of development, the development will lack of ability. Otherwise, if successes through its development, the child will have the ability to maintain and improve health (Potter & Perry, 2005).

Developmental disorders occurred if the genetic and environmental factors are not able to meet basic needs for growth and development of a child. The basic requirement is the biopsychosocial needed which is include biomedical needs (foster) and psychosocial needs (love and polish). Environment is an important factor to meet the basic needs of the child. This

environment consists of microenvironment (mother/surrogate mother), mini's environmental (father, brother, sister, socioeconomic status), meso's neighborhood (things outside the home), and the macro environmental (Soesilowati 2004 in Marlani, 2014).

One of effort to detect irregularities early childhood development is the early detection of developmental disorders of children. Through early detection and recognizing the problems in child development, the recovery can be done early so the child's growth can take place optimally (Depkes RI, 2010).

## METHOD

The design of this study used analytic correlation of cross sectional was aimed to determine the determination the

factors that can affect parenting in the development of children under five years stimulation. This study examined the factors that affect parenting consists of maternal age, maternal education, the involvement of fathers, mothers' parenting and maternal stress on the development of children under five years.

The population in this study were mothers with young children in the village of Losari, Ploso Jombang in September 2016 with the number of 220 mothers. The samples were 150 by simple random sampling technique. The instrument used in this study was a questionnaire and observation sheet with a guide Pre-Screening questionnaire Developments (KPSP). Analysis of the data used the chi-square test

## RESULT

Table 1. Parenting's factor in stimulating the development of children under five

No	Characteristic	Category	Frequency	
			Σ	%
1	Maternal age	< 20 year	35	23,3
		20-35 year	90	60
		>35 year	25	16,7
2	Maternal education	Elementary-Junior high	56	37,3
		Senior High	71	47,3
		Diploma 1/Diploma 3/ Bachelor	23	15,3
3	Father's involvement	Good	101	67,3
		Not good	49	32,7
4	The experience of mother's parenting	Good	105	70
		Not good	45	30
5	Mother's respond to stress	Good	106	70,7
		Not good	44	29,3
6	Children development	Appropriate	103	68,7
		Suspect	41	27,3
		Deviation	6	4

Table 2. Statistic result test

Variable		p-value
Maternal age	Children development	0,048
Maternal education	Children development	0,000
Father's involvement	Children development	0,020
The experience of mother's parenting	Children development	0,003
Mother's respond to stress	Children development	0,019

Table 1 showed the results that the majority (60%) of respondents have the

characteristics in aged 20-35 years, the characteristics of the education level almost

half (47.3%) of respondents had high school. Most (67.3%) showed the involvement of a good father in parenting. Mother parenting experience showed the majority (70%) of respondents have a good experience in parenting. In most (70.7%) of respondents have a good response to manage stress. The results of observation with a guide Pre-Screening questionnaires Developments (KPSP) showed that the majority (68.7%) of respondents have children with developmental appropriate.

Table 2 showed all the factors that affect the care of children was the mother's age, mother's education level, the involvement of fathers in parenting, mother's experience in caring for children and the mother's response to the stress associated with the development of the child.

## DISCUSSION

Maternal age factor analysis results obtained p-value 0.048, which means that there was a relationship between the mother's ages with the development of young children. Maternal age in this study, mostly aged between 20-35 years with appropriate child development. According Notoatmodjo (2007) aged of 20-35 years were included in the age of middle adult hood group, which was at the age level of development of thought patterns was growing. Increasingly underage person's level of maturity and strength to be more mature in thinking and working, it was also associated with the belief that older people would be more credible than the higher level of maturity yet.

According to Hurlock (2007) age is one aspect that is involved in the formation of maturity, the age increases the maturity level will increase, this will affect the pattern of thinking and insight is increasingly wide spread. Mother aged 20-35 years already have a maturity psychologically and physically so that it can carry out the exploration and development in the child stimulation well.

The results of factor analysis of the mother's education with level of child development obtained p-value of 0.000, which means that there was no relationship between maternal education levels with the development of children under five years. Almost all of mothers with secondary education had children with appropriate developmental. According to Azwar (2011) cognition formed by factors such as personal experiences, the influence of others which is considered important, culture, mass media, education, emotional and information. Person Education would affect the mindset of someone. According Notoatmodjo (2007) the higher education level, the easier to accept and develop knowledge and technology, thereby increasing the productivity which it would improve the welfare of family.

The education level of parents influenced on children development, low education levels of parents was a risk of retard in the child's development. This is due to the knowledge and ability to provide less stimulation than women with higher levels of education. The education level of parents, especially mothers greatly affect parenting to their children, healthy behavior, and education and so on. This was consistent with previous studies in Thailand. Children raised by parents with low education have three times risk of developmental retardation than parents who were highly educated (Isaranurug S, et al., 2005 in Ariani & Mardhani, 2012).

Results of factor analysis of fathers' involvement obtained by p-value of 0.020, which means there was a relationship between a father's involvements with the development of children under five years. The involvement of fathers in parenting was positively correlated with competence, initiative and social maturity (Stolz, et al, 2005). Father had the role of breadwinner, as a caring husband and gives a sense of security, participate in children's education, as the protector of the firm, thoughtful and loving. The involvement of fathers in caring also be interpreted as how much

work did a father in thinking, planning, feel, notice, monitor, evaluate, worrying and praying for his son (Hidayati, 2011).

Based on the results of the study mostly fathers' involvement both in the care of child development. Beside the mother, the father also had a very important role in the development of young children. Both contribute equally large in child development, although the roles were done differently and proximity children who tend to closer with the mother because have existed since the child in the womb and breastfeeding. While, the father was able to form a close relationship with the child after period of laboring.

The results of factor analysis gained experience caring mother p-value of 0.003, which means that there was a relationship between parenting experience with the development of young children. Most parents learned parenting practices from their own parents. Most of the practice they received, but some were left behind. Unfortunately, when the method of the parents passed on from one generation to the next, a practice that was both good and bad would be forwarded as well (Santrock, 2007).

Previous experienced of parents since they had previous experience in caring for children would be ready to perform the role of parenting and more relaxed (Supartini, 2007). The number of children in a family would affect parenting applied by parents. The more number of children in the family, then there was a tendency that the parents did not apply the maximum caring in children because of the attention and time was divided between the children one with another child (Wong, 2008).

Based on the results of research experience both in the care of mothers provide care development in children under five years, it was because as mothers already had more than one child so that the experience of parenting that had previously been learning to provide care in the child. Mother's experience in previous parenting

had a real experience giving rise to the perception of the mother based on the experience that would influence the next parenting.

Results of factor analysis of mother's response to the stress factor obtained p-value 0.019, which means there was a relationship between maternal stress responses in children's development. Stress experienced by a father or mother or both will affect the ability of parents to perform the role of parenting, especially in relation to coping strategies had in dealing with problems of children. Nevertheless, the child's condition can also cause the stress in the elderly (Agrina, 2008). In daily life, parents would be faced with a disturbing atmosphere cognitive and affective in childcare. The emergence of tensions in life resulting in problem-solving behavior (coping mechanisms) aimed at easing the tension.

The stress response in this case was an important component that affects a child's development. In this study, most of the results obtained stress response was good. It showed that the coping mechanisms of the child's mother in the care of either. Coping mechanism to stress of caring children was important because in general all parents would experience stress in parenting. Stress could occur because of the characteristics of children, characteristics of parents and neighborhood characteristics. Stress experienced by the elderly would affect the pattern of care that will have an impact on children's development

## **CONCLUSION AND SUGGESTION**

### **Conclusion**

Factors that affected the care of children under five years were factors of maternal age, maternal education level factors, factors of fathers' involvement, parenting experience factor and response to stress factors associated with the development of children under five years.

## Suggestion

For health care providers could apply the knowledge gained by doing outreach to parents that always pay attention to the development of children by actively stimulating the development of the appropriate stage of the children's age. Educational institutions were expected to develop courses of nursing children so that students had a greater insight related to the development of children.

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# EFFECTIVENESS HYPNOSIS RELAXATION TECHNIQUES FOR PATIENTS WITH HYPERTENSION

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## ABSTRACT

**Background:** Hypertension is a public health problem that is often known as a silent killer. Persistent systolic blood pressure above 140 mmHg and diastolic above 90 mmHg (Smeltzer and Bare, 2002). The number of hypertensive patients estimates 15 million people, 90% are essential hypertension, amount of 4% as controlled hypertension, 50% of them are not aware of a patient, so it tends to be severe hypertension because it does not avoid the risk factors. The condition occurs because many patients are unable to control hypertension in non-pharmacological approaches that hypnosis relaxation techniques. The objective of this study is to analyze effectiveness of hypnosis relaxation techniques for reduce high blood pressure. **Methods:** This study used quasy experiment, one group pretest – posttest design. There were 15 participants. used purposive sampling technique which Wilcoxon analyze,  $p = <0.05$ . **Results:** The statistical result p value  $p(0,002) < \alpha(0,05)$ , there was significant difference of pretest and posttest. there was significant difference of intervention to reduce high blood pressure. **Conclusion:** the conclusion of this study there was significant influence of relaxation with hypnosis for reduce high blood pressure.

**Keywords:** relaxation, hypnosis, high blood pressure, and blood pressure.

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## INTRODUCTION

Hypertension is a public health problem that is often known as a silent killer. Persistent systolic blood pressure above 140 mmHg and diastolic above 90 mmHg (Smeltzer and Bare, 2002). The number of hypertensive patients estimates 15 million people, 90% are essential hypertension, amount of 4% as controlled hypertension, 50% of them are not aware of a patient, so it tends to be severe hypertension because it does not avoid the risk factors. The condition occurs because many patients are unable to control hypertension in non-pharmacological approaches that hypnosis relaxation techniques.

Based the results of Riskesdas (2013) it known that the prevalence of hypertension in Indonesia amounted to 25.8% in the group of age >18 years old. This shows that there is a decrease from 2007 that the prevalence was 31.7%.

The Internal factors that can be affect a hypertension were age, gender, health status, and lifestyle. In addition to the wrong dietary factor and the disease that had suffered, the factor of psychological problems was possible caused hipertension. These conditions triggers uncontrolled of blood pressure in people with hypertension. As for external factors that were known to affect the incidence of hypertension were the family system, social, cultural, environmental, health care systems, and resources influence the incidence of hypertension (Black, 2009).

People with hypertension generally would be encouraged to seek health care it self, it purposed to make a blood pressure was stable depending the drug. The Reality, the increased of blood pressure were caused the psychological factor not always can be intervention by drugs, so to control the blood pressure that caused psychological factor, it necessary get the Alternative

treatment. So as to control the blood pressure caused by psychological needed alternative ways to control it. As it is known that relaxation techniques can make calm the mind and the physical body, stability of blood pressure. Now, Relaxation is not new treatment for the community, most of the people interpret the relaxation is the relax condition, and another understand that relaxation is an effort to condition our physical better by condition our psychic more calm, always think positive, and all the problems are face calmly. Relaxation by regulating of breathing will give respond to against the mass discharge (discharge the impulse by mass). Relaxation is also a condition of decreasing peripheral resistance overall, it caused by decreased tone vasoconstriction arterioles that influence to deceleration of blood flow through arterioles and capillaries vessel, and giving enough time to deliver oxygen and nutrients to the cells, especially for the brain tissue or the heart and causes the cell metabolism became more either because the ATP energy production increased (Udjiati, 2002). As according Jurf and Nirschl (1993) explains the benefits of relaxation is able to heal both physically and mentally.

Increasing people's understanding of good relaxation technique and is especially for patients with hypertension, in physiology can help control blood pressure and in mental can decreased the emotional tension and improve the quality of health for patients with hypertension. The Application of relaxation techniques with a hypnotic approach by patients with hypertension by self, help to control of blood pressure remained stable effectively.

## METHOD

This study using of quantitative research, Quasy Experiment, one group pre-post test design. The population of this study are elderly with hypertension a mount of 30 people, the sampling tehniqe used purposive sampling, with 15 respondents, and held at Elderly Posyandu

in bawangan village Ploso Jombang on February 15, 2017. The blood pressure of respondents had measured first, and then was given relaxation techniques with hypnosis approach, for over 30 minutes until 1 hour, and in the last the blood pressure of respondent measured again. The collected data was tested with comparative analysis Wilcoxon test,  $p \Rightarrow 0.05$ .

## RESULT

The Implementation of the study held on February 15, 2017 at elderly Posyandu in Bawangan village, Ploso Jombang.

Tables 2.1 The distribution characteristics of the respondents

Gender	Total	%
Male	5	33,4
Female	10	66,6
Age	Total	%
51-60 year	7	46,6
61-70 year	8	53,4

According to the table above that explained most of the respondents were female (66.6%). the distribution by age, the majority of age were 61-70 years (53.4%)

Tables .2.2 Cross tabulation between age and systolic blood pressure

Age	Systolic pressure						%	
	120	130	140	150	160	170		180
Pre								
51-60	1			1	4	1		46,6
61-70					3	3	2	53,4
%	6,6	0	0	6,6	46,6	26,6	13,3	100
Post								
51-60	1	1	3	1	1	0	0	46,6
61-70	0	0	0	3	2	2	1	53,4
%	6,6	6,6	20	26,6	20	13,3	6,6	100

Based on table 2.2 can be explained that indicates there was a difference in systolic pressure between pre and post relaxation, such as the pre systolic pressure of 140 mmHg (0%) in post becomes (20%), the systolic pressure of 150 mmHg pre (6.6 %) in post (26.6%), then the pre systolic pressure of 160 mmHg (46.6%) subsequent post (20%), then pre systolic pressure of 170 mmHg (26.6%) post (13.3 %) and at 180 mmHg systolic pre (13.3%) in the post turned into a (6.6%)

Table 2.3. Cross tabulation between gender and systolic pressure

Gender	Systolic pressure							%
	120	130	140	150	160	170	180	
Pre								
Male	0	0	0	0	2	2	1	33,3
Female	0	0	1	1	5	2	1	66,7
%	0	0	6,6	6,6	46,6	26,6	13,3	100
Post								
Male	0	1	0	0	3	1	0	33,3
Female	1	0	3	4	0	1	1	66,7
%	6,6	6,6	20	26,6	20	13,3	6,6	100

Based on table 2.3 can be explained that there were differenced significant statistically between gender and systolic pressure in pre and post relaxation, for example in systolic pressure 140 mmHg in pre (6.6%) and the post (20%), then a systolic pressure 160 mmHg in pre (46.6%), and the post turned into (20%).

Table 2.4 the Change of systolic pressure between pre and post relaxation

Respondents	Pra	Post	Sat. Wixon
1	160	150	Z = -3.140 $\alpha = 0,002$
2	160	140	
3	150	140	
4	140	120	
5	170	150	
6	170	160	
7	160	150	
8	160	150	
9	180	180	
10	180	170	
11	170	160	
12	170	170	
13	160	140	
14	160	130	
15	160	160	

Based on Table 2.4 can be showed that score of  $Z = -3.14$  an  $\alpha = 0.002$ , it can be explained there were significant effectiveness of relaxation with hypnosis method to decrease blood pressure for hypertension patients.

## DISCUSSION

According the result of this study, showed the relaxation technique with a hypnotic approach was effective to decrease blood pressure for patients with

hypertension in the elderly with p-value (0.002)  $< \alpha$  (0.05). Relaxation is also a condition of decreasing peripheral resistance overall, it caused by decreased tone vasoconstriction arterioles that influence to deceleration of blood flow through arterioles and capillaries vessel, and giving enough time to deliver oxygen and nutrients to the cells, especially for the brain tissue or the heart and causes the cell metabolism became more either because the ATP energy production increased (Udjati, 2002). Smeltzer & Bare (2002) describes the relaxation with deep breathing can improve the ventilation of alveoli and facilitate the exchange of gases and decrease physically and emotional stress. Dianita, (2010) has explained that the relaxation had impacted directly to the body functions, especially can decrease vital signs. This condition has occurred because parasympathetic nervous system as the result of decrease heart rate, blood pressure and response of relaxation condition calmer (IBH, 2002).

The blood pressure reduction can be affected by a lot of factors. Especially the elderly has high-risk hypertension. This is consistent with the data in Table 2.2 that age range from 50 to 70 years has a tendency to an increase in blood pressure. This condition is also consistent with the results of research by Andria, (2013) based on data in the field that respondents mostly elderly people who have hypertension at the age of 60 years, 54.2% of 58 respondents. This condition is due to some physiological changes, in elderly increased peripheral resistance and sympathetic activity, baroreceptor reflex sensitivity is reduced, while the role of the kidneys is reduced where renal blood flow and glomerular filtration rate decreases (Gunawan, 2007).

In addition to these conditions, an increase in blood pressure can also be caused by gender. In Table 2.3 are generally the female gender dominate the incidence of hypertension. It is possible to occur due to aging. According to Gunawan (2007) in premenopausal women slowly

begin to lose estrogen during this time protect blood vessels from damage and generally begin to occur at the age of 45-55 years. Response drop in blood pressure before and after the intervention relaxation with hypnotic methods are most of the female gender. This condition is likely due to motivation, and concentration of a person. According to IBH, (2002) describes *"the process of relaxation with hypnosis method approach is done by changing the concentration of the external focus to an internal focus to do their own (Self Hypnosis) or with the help of others. For those who have psychiatric conditions are relatively calm or used to concentrate on the internal (meditation, prayer, etc.) tend to more easily enter Hypnotic State "*.

Based on the data and description of the concepts related to the influence of relaxation with the approach of hypnosis on patients with hypertension in the elderly, the relaxation with the approach of hypnosis provides direct effects on our body, tone arterial vasodilation then causes the blood flow smoothly through arterioles and capillaries further distribution oxygen and nutrients to the cells, especially the brain and heart tissue cells. Then the parasympathetic response resulted in slowing heart rate, blood pressure drops and the response of a person's relaxation effect becomes more calm and comfortable. Age and sex is a condition that can't be changed greatly affect the degree of blood pressure reduction after relaxation with hypnosis approached, it is possible for age-related physical conditions and concentration as well as the motivation of a person.

## CONCLUSION

Based on the overall results of this study is the effectiveness of relaxation with a hypnotic approach to the reduction of blood pressure in elderly hypertensive patients significantly.

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# RELATIONSHIP BETWEEN WAIST-HIP RATIO (WHR) AND TOTAL CHOLESTEROL LEVELS OF EMPLOYEES IN STIKES BINA SEHAT PPNI MOJOKERTO

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## ABSTRACT

**Introduction:** Waist-Hip Ratio (WHR) is an anthropometric indicator which accurate enough to describe the composition of body fat associated with central obesity. Waist circumference illustrates the high deposits of dangerous fat in the body, while the hip circumference is a protective factor in cardiovascular disease events. **Method:** This research was used correlation analysis with cross sectional approach. There were two research variables, WHR as independent variable and total cholesterol levels as dependent variable. Population this study were all employees of STIKES Bina Sehat PPNI Mojokerto, 79 respondents. Sampling technique used in this study was purposive sampling. The sample of this study were all employees of STIKES Bina Sehat PPNI Mojokerto who are accordance with the inclusion criteria as many as 35 people. Data were collected using meter line to measure waist-hip circumference and use cholesterol test kit to measure total cholesterol levels. **Result:** The results of Spearman Rho Test showed there was no correlation between WHR and total cholesterol levels,  $p = 0,688$  ( $p > 0,05$ ) and  $r = 0.06$ . **Conclusion:** This result research showed there was no significant correlation between WHR and total cholesterol levels of employees in STIKES Bina Sehat PPNI Mojokerto. So that, not all people who have excessive WHR will have excessive total cholesterol levels too.

**Keywords:** Antropometri, Waist Hip Ratio, Total Cholesterol

## INTRODUCTION

Waist-Hip Ratio (WHR) is an anthropometric indicator which accurate enough to describe the composition of body fat associated with central obesity. Waist circumference illustrates the high deposits of dangerous fat in the body, while the hip circumference is a protective factor in cardiovascular disease events (National Heart, Lung, and Blood Institute, 2011). Cardiovascular risk factors will arise if the WHR have a value greater than or equal to 0.85 in women and 0.90 in men - men (Kaulina 2009; in Antika 2014). An increase in abdominal fat will cause abnormalities of lipid metabolism. The main abnormalities of lipid fractions is the increase in total cholesterol levels, increase in Low Density Lipoprotein (LDL) levels,

increase in triglyceride levels, and decrease in High Density Lipoprotein (HDL) levels. Fat in the abdominal cavity is one triggers of cardiovascular disease. One of those cardiovascular disease is hypercholesterolemia which can be known from the results of the waist and hip circumference measurements. Thus, Waist-Hip Ratio (WHR) may indicate hypercholesterolemia and cardiovascular disease (Riska, 2008 and Watts G.F., Barrett P.H.R., V. Burke, 2003).

Based on data from Riskesdas 2013, the proportion of population aged  $> 15$  years with total cholesterol levels above the normal value refers to the value determined on the NCEP-ATP III was 35.9%, which is the combined population of borderline category (total cholesterol levels = 200-239



mg/dl) and high (total cholesterol levels > 240 mg/dl) (Riskesdas, 2013). The prevalence of adult male population with obesity in 2013 was 19.7% and in 2013 the prevalence of adult women (> 18 year) was 32.9% which increase 18.1% from 2007 (13.9%), and 17.5% from 2010 (15.5%) (Riskesdas, 2013). The results of existing research in 2014 showed that 35 of 51 respondents has excessive cholesterol levels with waist-hip circumference in men  $\geq 0.90$  cm and  $\geq 0.85$  cm in women (Antika, 2014). In STIKES Bina Sehat PPNI Mojokerto obtained approximately 40% of employees are overweight and have a great body, so researcher interested in conducting research in STIKES Bina Sehat PPNI Mojokerto.

The large waist circumference is associated with increased of risk factors in cardiovascular diseases because waist circumference can describe the accumulation of intra-abdominal or visceral fat. If waist circumference > 90 cm for men and > 80 cm for women, then they are at risk of metabolic disorder which affects blood pressure, total cholesterol levels, triglyceride levels, and insulin resistance. Total cholesterol level is an indicator of early examination or screening which is mild if compared with triglyceride, LDL, and HDL. If someone has total cholesterol levels in high borderline or even higher, then the risk of experiencing cardiovascular disease (hypertension, atherosclerosis, coronary heart disease, and stroke) will also increase (Budiarti, 2015).

Lifestyle changes can help decrease cholesterol levels and reduce the risk of cardiovascular disease. Another way which can be done is by reducing saturated fat intake, increasing on eat fruits and vegetables, reducing salt intake, losing weight if overweight, increasing physical activity, smoking cessation, and do not consume alcohol (Dr. Eleanor Bull, Dr. Jonathan Morrell, 2008). Measurement of WHR is more sensitive in assessing fat distribution in the body, especially fat in the abdominal wall. Because the measurement

of WHR is simple and effective in detecting central obesity, it is necessary to conducted further study about the implementation of this measurement in CHD (Coronary Heart Disease). CHD as one of the deadly cardiovascular disease is expected to be detected earlier and prevented by measuring WHR (Antika, 2014). WHR as an indicator of anthropometry which accurate enough to describe the composition of body fat to determine hypercholesterolemia based on total cholesterol levels. This prompted the researchers to conduct research about relationship between Waist-Hip Ratio (WHR) and total cholesterol levels of employees in STIKES Bina Sehat PPNI Mojokerto.

The purpose of this study was to determine the relationship between Waist-Hip Ratio (WHR) and total cholesterol levels of employees in STIKES Bina Sehat PPNI Mojokerto.

## METHODS

Based on the purpose of research, design used in this study was correlation analysis with cross sectional approach. Sampling technique used in this study was purposive sampling. The sample of this study were all employees of STIKES Bina Sehat PPNI Mojokerto who are accordance with the inclusion criteria as many as 35 people.

The variables in this study were divided into two that is WHR as independent variable and total cholesterol levels as dependent variable. In this study, researcher used a meter line for waist-hip circumference measurement and use cholesterol test kit "Easy Touch" to measure total cholesterol levels. Then the data were analyzed using SPSS for Windows with cross tabulating and statistical test using Spearman Rho Test.

## RESULTS

Here are the results of research about the relationship between Waist-Hip Ratio (WHR) and total cholesterol levels in

STIKES Bina Sehat PPNI Mojokerto employees.

Table 1. Waist-Hip Ratio of Employees in STIKES Bina Sehat PPNI Mojokerto.

No	Waist-Hip Ratio	Frequency	Percentage (%)
1.	Normal	21	40
2.	Excessive	14	60
Total		35	100

Source: Primary data in 2016

Table 2. Total Cholesterol Levels of Employees in STIKES Bina Sehat PPNI Mojokerto.

No	Total Cholesterol Levels	Frequency	Percentage (%)
1.	High	19	54,3
2.	Low	16	45,7
Total		35	100

Source: Primary data in 2016

Table 3. Relationship between Waist-Hip Ratio (WHR) and Total Cholesterol Levels in STIKES Bina Sehat PPNI Mojokerto Employees.

Waist-Hip Ratio	Total Cholesterol Levels				Total	
	High		Low			
	F	%	F	%	F	%
	Normal	12	34,3	9	25,7	11
Excessive	7	20	7	20	16	100
Total	19	54,3	16	45,7	27	100

Source: Primary data in 2016

## DISCUSSION

### 1. Waist-Hip Ratio of Employees in STIKES Bina Sehat PPNI Mojokerto.

According to the Table 1 above, it is known that most of the respondents have normal WHR as much as 21 respondents (60%). WHR is an anthropometric indicators which accurate enough to describe the composition of body fat associated with central obesity. Waist circumference, illustrates the deposits of

high dangerous fat in the body, while the hip circumference is a protective factor in cardiovascular disease events. have a value greater than or equal to 0.85 in women and 0.90 in men - men (Kaulina 2009; in Antika 2014).

An increase in abdominal fat will cause abnormalities of lipid metabolism. The main abnormalities of lipid fractions is the increase in total cholesterol levels, increase in Low Density Lipoprotein (LDL) levels, increase in triglyceride levels, and decrease in High Density Lipoprotein (HDL) levels. Fat in the abdominal cavity is one triggers of cardiovascular disease. One of those cardiovascular disease is hypercholesterolemia which can be known from the results of the waist and hip circumference measurements. Thus, Waist-Hip Ratio (WHR) may indicate hypercholesterolemia and cardiovascular disease (Riska, 2008)

### 2. Total Cholesterol Levels of Employees in STIKES Bina Sehat PPNI Mojokerto

According to the Table 2 above, it is known that almost all respondents have normal total cholesterol levels as much as 19 respondents (54.3%).

Cholesterol is an essential component of all structural cell membranes and is major component of brain and nerve cells. Cholesterol present in high concentrations of the tissues glands and in the liver where cholesterol is synthesized and stored. Cholesterol is a steroid formation of several important materials, such as bile acid, folic acid, adrenal cortex hormones, estrogen, androgen and progesterone. But cholesterol when presents too much amounts in the blood can form deposits on blood vessel walls, causing narrowing of blood vessel walls which called atherosclerosis. When narrowing occurs in coronary arteries, it can lead to coronary heart disease and when it occurs in the brain's blood vessels, it can lead to cerebrovascular disease (Almatsier, 2009).

Although respondents generally had normal value of total cholesterol levels, but

if it examined per domain, most respondents have excessive total cholesterol levels. The higher cholesterol levels in the blood, then it would be likely to cause cardiovascular disease which can cause death.

### 3. Relationship between Waist-Hip Ratio (WHR) and Total Cholesterol Levels in STIKES Bina Sehat PPNI Mojokerto Employees.

According to the Table 3 above, it is known that respondents who have normal WHR, most of their total cholesterol levels were normal as much as 12 respondents (34.3%).

The WHR is a simple method to describe the distribution of fat in the body especially in sub-cutaneous and abdominal fat tissue. In contrast with a body mass index which describes the distribution of fat throughout the body, anthropometry value of waist circumference and WHR describes the distribution of fat in the abdominal area (Iman A. Hakim, Amina H. Awad., Nagwa H., Mohamed, & Salwa El-Husseiny, 1997). Increased WHR is one indicator of abdominal obesity which is commonly associated with increased risk of chronic disease because of its association with metabolic syndrome. Diet factor and energy expenditure through physical activity has a strong influence on the energy balance which triggers an increase in WHR (Hartanti 2008; in Antika 2014).

This study showed there was no correlation between WHR and total cholesterol levels,  $p = 0.688$  ( $p > 0.05$ ) and  $r = 0.06$ . This can be interpreted that there was no significant correlation between WHR and total cholesterol levels.

Incompatibility in this research results with the hypothesis due to the existence of measurement bias in the study, that is the sample of study was not fasted before. Preferably before cholesterol levels checked, it is required to fasting 8-12 hours (overnight) for examination of total cholesterol and HDL levels, 12-14 hours for examination of triglyceride levels, and 9-12 hours for examination of LDL levels.

The aim is to avoid measurement errors due to the influence of fat which had just consumed (Antika, 2014).

Measurement bias was also presented in the WHR measurement that is respondents did not undress overall. It can affect the results of WHR measurement. The WHR measurement was a simple way to determine fat distribution either under the skin or in the intra-abdominal tissue (Arisman, 2010).

Although these studies showed no significant relationship because cholesterol levels was not the same as the waist and hip circumference, it is important for us to keep paying attention and keeping our waist and hip circumference in normal state, and also paying attention to the food intake and exercise regularly in order to prevent the risk of diseases.

## CONCLUSION AND RECOMMENDATION

### Conclusion

Most respondents in STIKES Bina Sehat PPNI Mojokerto has normal WHR, most of them have high total cholesterol levels. Spearman Rho Test results using SPSS got value of  $p = 0.668$  and  $r = 0.06$  where  $H_0$  and  $H_1$  accepted. It means that there was no relationship between Waist-Hip Ratio (WHR) and total cholesterol levels in STIKES Bina Sehat PPNI Mojokerto employees. So that, not all people who have excessive WHR will have excessive total cholesterol levels too.

### Recommendation

#### 1. For people who have excessive WHR

It is expected to do exercise and reduce excessive food intake in order to make WHR in normal range.

#### 2. For people who have normal WHR

It is expected to keep WHR from becoming excessive, so the health condition becomes good and avoid the risk of disease.

#### 3. For further researchers

It is expected that further researchers can continue research which aims to provide information about the

importance of keeping the WHR, so that cholesterol levels can be controlled and the research conducted with respondents fasting before the study. Research should be conducted in a private place by using a minimum of clothes in order to obtain accurate measurement results.

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# RELATIONS WITH NUTRITIONAL STATUS IN THE EVENT EARLY MENARCHE GRADER V AND VI IN SDN 1 KEMAYORAN SURABAYA

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## ABSTRACT

**Introduction:** Menarche happens in young women who have entered the stage of maturity, especially organ reproductive system is an important period in the life cycle of women. This period can also be a variety of changes that occur in a child's life cycle. In general, the experienced menarche at age 10-16 years, but this time a girl's first menstruation at the age of 8-9 years were classified as early menarche. Various factors that cause such differences include nutritional status. The aim of research to analyze the relationship between nutritional status and the incidence of early menarche. **Methods:** This type of research is an analytic method with cross sectional approach. The population in this study were taken from all students of class V and VI at SDN 1 Kemayoran Surabaya as many as 25 students. The sample of 20 female students by using simple random sampling technique. Retrieving data using questionnaires and observation instruments nutritional status and age. **Results:** The results showed that the majority of students have a fat nutritional status is as much as 10 students (50%), while experiencing early menarche as many as 14 students (70%). Cross-tabulation be obtained from girls who have fat nutritional status more likely to have early menarche i.e. 8 female students (80.0%). Fisher's statistical test result Exact Test p value = 0.033. **Conclusion:** It can be concluded that the nutritional status related to the incidence of early menarche. It can be concluded that the nutritional status related to the incidence of early menarche. Therefore expected student's parents pay more attention to growth and sexual development of children and the factors related to the acceleration of sexual maturity (menarche) mainly related to nutritional status.

**Keywords:** Nutritional Status, Early menarche

## INTRODUCTION

Adolescence is a time of change from childhood to adulthood when the shape of the body, how to think, act, and the act of an individual, no longer children but also adults who have not matured. Usually a period of change towards puberty is located at the age of 10-16 years. One of the signs of puberty in girls is menarche, which usually occurs at age 10-16 years.

Menarche happens in young women who have entered the stage of maturity, especially organ reproductive system is an important period in the life cycle of women. This period can also be a variety of changes that occur in a child's life sikuls. The presence of menstruation in women who were first on everyone's different. Various

factors that cause such differences include staus is nutrition. In general, the experienced menarche at age 12, but this time a girl's first menstruation at the age of 8-9 years were classified as early menarche. Soetjiningsih, 2010).

Based on a national survey of the average age of menarche girls in Indonesia was 12.96 years with a prevalence of 10.3% early menarche and late menarche by 8.8% (Coal, 2010). While the results of RISKESDAS Indonesia in 2012 showed that the average age of menarche in Indonesia is 13 years, with early events in less than 9 years of age or later the age of 17 years. In East Java, Surabaya city, especially around 0.1% of young women experiencing early menarche at age 6-8



years, and about 26.3% more received menarche at age more than 14 years. (MOH in 2012).

As well as the factors that influence early menarche namely nutritional status, media information, socio-economic, psychological stimulation, hormonal, age of menarche mother, birth outcomes, and physical activity and these studies involving 5358 young women (10-16 years old) throughout the territory of Indonesia as the population. (Risksdas, 2010). The improvement in living standards today also affect the improvement of nutrition and the decline in age of menarche, may reflect better nutrition and improved public health (Noor, 2011). Nutritious foods and high fat and animal products, will lead to weight gain in adolescent girls. Estrogen levels will rise due to high cholesterol. Not just any fat from the body composition but otherwise influenced by the intake of food and the absence of factors debilitating disease. One thing that can affect the formation of hormones one of which is nutrition, with good nutrition can accelerate the formation of hormones that affect the arrival of menarche. So, with improved nutrition or a good nutritional intake can lead to age of first menstruation became earlier (Waryana, 2010). The impact of early menarche may affect some malignant disease risk factors including metabolic cardiovascular disease (heart) and cancer, especially breast cancer when she was an adult and early menarche age is a risk factor for ovarian cancer (Lakshman, 2009). Menarche usually depends on several factors, including women's health, namely, nutritional status, descent and the media factor. Nutrients that affect sexual maturity at the girl who gets her first period early, they tend to be heavier and higher during the first period than those who have not menstruating at the same age. Inhibition of reproductive hormones that induce menstruation and lack of knowledge about menstruation in young women can have an impact on readiness to face menarche. Readiness or unpreparedness to face

menarche impact on the individual reaction of young women at the time of first menstruation to in the stimulus of various factors only in puberty changes are not just happening in the physical aspect but also can occur in a change in the status of the social, psychological, economic, education, anxiety, tension, nervousness, irritability, weight gain, depression, quick to cry. Handling effective in treating anxiety in students by providing counseling to students about ways to deal with anxiety at menarche by medical personnel such as the role of doctors and other health personnel in order to reduce anxiety in adolescents at menarche in addition to reducing anxiety need to set a pattern that meets nutrient balanced.

The solution according to the above problems that we as health workers should provide information to parents of students in order to always pay attention to the consumption of their children because the future is now very necessary once-makananya consumption of nutritious eating, and to improve the nutritional intake of female students in elementary school.

## METHODS

This research is an analytic research with cross sectional approach observation. The sample size was determined by using a formula of the population of 25 students, Sampling as many as 20 students by using Simple Random Sampling.

The experiment was conducted in February - March 2016 at SDN 1 Kemayoran Surabaya. The independent variable of research is nutritional status. The dependent variable is the Early menarche. Instruments used in the form of questionnaires and direct observation by measuring height and weight.

Data were analyzed using Fisher's Exact Test test, with significance level  $\alpha \leq 0.05$ .

## RESULTS

Table 1 shows the data on the age distribution of children most in the age group 10 years as many as eight

respondents (40%), aged 11 years and 7 students (35%), aged 12 years five respondents (25%).

Table 2 shows the distribution of the nutritional status of most of the nutritional status of obese group of 10 respondents (50%), while the thin nutritional status by 7 respondents (35%), and normal nutritional status as many as three respondents (15%).

Table 1. Distribution of respondents based on the nutritional status of girls in SDN 1 Kemayoran Surabaya in February 2016.

Nutritional Status	Frequency	Percentage (%)
Thin	3	15
Normal	7	35
Fat	10	50
Jumlah	20	100

Table 2. Distribution of respondents who experienced early menarche in girls at SDN 1 Kemayoran Surabaya in February 2016

Menarche	Frequency	Percentage (%)
Tidak Menarche Dini	6	30

Table 3. Cross tabulation of nutritional status relationship with the incidence of early menarche with respondents who had experienced early menarche at SDN 1 Kemayoran Surabaya, in February 2016.

Status Gizi	Menarche Dini		Tidak Menarche		Total	
	f	%	f	%	f	%
Kurus	0	0%	3	100	3	100
Normal	6	85,7%	1	14,3	7	100
Gemuk	8	80	2	20	10	100
Total	14	70%	6	30	20	100

#### Chi – Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2sided)	Exact Sig. (1sided)	Point Probability
Pearson Chi-Square	8.299		2	.016	.033	
Likelihood ratio	8.68		2	.013	.033	
Fisher's Exact Test	6.719				.033	
Linier by Linier Association	4.121	1	.042	.051	.046	.037
N of valid cases	20					

a. 5 cells (83,3%) have expected count less than minimum expected count is, 90

b. The standardized statistic is 2,030.

## DISCUSSION

The result showed most students experience the nutritional status and the criteria obese by 10 students (50%). Child nutrition problems affect weight judged by

Menarche Dini	14	70
Jumlah	20	100

In Table 3 shows that of the cross table showed that the nutritional status of skinny does not undergo early menarche number of 3 respondents (100%), while the nutritional status of obese showed the number of respondents who had experienced early menarche as much as 8 respondents (80.0%), and normal nutritional status who have early menarche only 6 respondents (85.7%) and 1 (14.3%) of respondents did not undergo early menarche.

From the calculation results with test Fisher's Exact Test with a significance level ( $\alpha$ ): 0,05 obtained  $P = 0.033$ . Fisher's Exact results calculated above is smaller than  $\alpha$ , means that  $H_1$  is accepted.

This has the relationship between nutritional status and early menarche in female students in class V and VI SDN 1 Kemayoran Surabaya.

the advantages and disadvantages of weight. School-age children quickly affected by the environment. Penchant for unusual, such as eating too much fast food. Nutrition affects sexual maturity at the girl

who gets her first period early, they tend to be heavier and higher during the first period than those who have not menstruating at the same age. We recommend that the girl menstruating late, weighs lighter than it already menstruating at the same age, although the height (TB) they are equal. (Santy, et al, 2006).

The results of the 20 students that most of the students who had early menarche 14 students (70%). It can be seen that 70% of students who have already experienced a lot of early menarche at an earlier age. From the above data the factors that influence early menarche namely nutritional status. Menarche is the first period that occur due to the complex hormonal system. Most of the young women who are obese are met will be nutritionally than skinny. that the level of quality of better nutrition in today's society trigger early menarche. (Proverawati and Misaro, 2009).

The analysis shows that for the value of Fisher's Exact Test, Sig. (2-sided) obtained by 0.00003. Because the value of Sig. (2-sided) 0.00003 < 0.05 it can be seen that H1 is accepted which means no significant relationship between nutritional status relationship with the incidence of early menarche. According Andira, Dita (2010), Girls who are obese often experience menarche earlier than adolescent girls underweight. Nutrition affects sexual maturity at the girl who gets her first period early, they tend to be heavier and higher during the first period than those who have not menstruating at the same age.

## **CONCLUSION AND RECOMENDATION**

### **Conclusion**

1. Based on the results obtained, namely the majority of students have a fat nutritional status
2. Based on the results in getting the majority of students at SDN 1 Kemayoran Surabaya have experienced early menarche

3. Based on the results of statistical tests showed that  $P = 0.033$ , from the results obtained relationship between nutritional status and the incidence of early menarche grader V and VI SDN 1 Kemayoran Surabaya.

### **Recommendation**

1. For the School  
Party schools should provide education to reproductive issues menstruate earlier mainly due to the acceleration of the age of menarche in young women
2. For Parents  
Parents should pay more attention to the growth and sexual development of children and the factors related to the acceleration of sexual maturity (menarche) mainly related to nutritional status.
3. For Researchers  
Further studies regarding the factors associated with menarche.

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# TREADMILL EXERCISE FOR INCREASING WALKING FUNCTION AFTER STROKE

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## ABSTRACT

**Introduction:** Stroke is the leading cause of physical disability, weakness in the fulfillment of daily living activity, difficulty walking, and mental decline in reproductive age and the elderly who have an impact on socio-economic. From a number of clients post stroke, 10% of clients can return to work without drawbacks, the disabled 40% lighter and 50% with severe disabilities. The purpose of this study was to evaluate the effectiveness of treadmill exercise as motor rehabilitation interventions in improving walking ability in client post stroke. **Methods:** The key words, namely: "post stroke, rehabilitation, exercise treadmill, post stroke rehabilitation". Search journal articles done electronically using multiple databases, namely: E-Resources, Sage Journal, Pro Quest, Google Scholar, Science Direct. Limitations in the use of 10 years (2006 -2016). **Results:** In general, all been reviewed journals provide results that provide benefits as treadmill exercise interventions to improve walking ability in post stroke client. **Conclusion:** Some exercise treadmill described as a useful intervention for improving walking ability post stroke clients. So, expect the stroke patients and their families can be motivated to do physical activities in order to improve the independence of post-stroke patients.

**Keywords:** post stroke, rehabilitation, exercise treadmill, post stroke rehabilitation

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## INTRODUCTION

Stroke is a condition that occurs when the blood supply to the brain is cut off by a blockage or rupture of blood vessels, resulting in the death of cells in some areas of the brain. Stroke is a serious health condition that requires immediate attention. Based on data from Health Research Association in 2013, there were approximately 12 patients with stroke per 1000 population Indonesia. Number of patients with stroke in Indonesia is increasing every year. At the end of 2012, an institute noted there had been about 500,000 cases of stroke survivors with the number 12,500 people die from the disease. While the rest of disability, whether mild or severe.

The high rate of death and disability caused by stroke associated with pathophysiological processes that occur in the brain tissue. Stroke occurs because of functional impairment and global focal brain suddenly and acutely that lasted more than

24 hours due to interruption of cerebral blood flow that causes central nervous system disorders and cranial nerves. The disorder can cause permanent disability in the form of locomotor disability. physical changes as is often experienced by the client is experiencing weakness on one side of the body and difficulty in speaking because of the decline of cognitive abilities or. This will impact on the client's ability to perform daily activities, so that the necessary efforts to rehabilitate physically restore the ability of the client to the original state before the illness in the shortest time possible.

Rehabilitation is an important part of the recovery process of stroke patients. The goal of rehabilitation is to help patients relearn body functions are disturbed. There are some skills that should be taught back on the stroke clients, including client Stroke needs and capabilities, among others: self-care skills, such as eating, bathing, dressing, and others; movement skills, such as



walking and others; Speech and language skills to improve communication to interact with others

## **METHOD**

This method begins with the quest journal by using PICO framework, post-stroke patient population is adult, intervention in this study general physical therapy, treadmill training, with results expected to improve the ability to walk / motor on the client post stroke. And the outcome is the effectiveness of treadmill training and improvement of walking ability in clients with post stroke. Then specify keywords to search the journal in English through several databases, among others E-Resources, Sage Journal, Pro Quest, Google Scholar, Science Direct. Limitations in the use of 10 years (2006 -2016).

Search results found 26 journals, which have been criticized 15 journals. The key words are "post stroke, rehabilitation, exercise treadmill, post stroke rehabilitation". Journal selected for review based on studies carried out in accordance with the inclusion criteria. Criteria for inclusion in this literature review is the respondent who can still practice runs. From all journals obtained in accordance with the theme and then examined and did scientific studies.

## **RESULT**

### **Treadmill walking with body weight support**

Research conducted by Pamela W. Duncan, P.T., Ph.D., et al (2011) study involved 408 participants who had experienced stroke during 2 months. It was classified according to walking ability improvement obtained ability reduction in moderate level (able to walk 0.4 to <0.8 m per second) and severe (able to walk <0.4 m per second). Participants were divided randomly into three groups of exercises. First group was given treadmill exercise by relying on the weight of participants who experienced stroke for 2 months, the second group gain same exercise with participants

who experience stroke for 6 months, and the third group was given an exercise program at home under physical therapist control a with participants who experience stroke for 2 months. Each intervention consisted of 36 sessions, each session conducted during 12 to 16 weeks in 90 minutes per session. The main objective was all participants in each group at had increased the walking ability for 1 year post stroke.

During a year 52% of all participants showed an improvement walking ability properly. There were not significant differences in improvement between early exercise or delay in both of training treadmill and exercise program at home under physical therapist control for stroke with the results early exercise obtained: the odds ratio average for the primary outcome, 0.83; 95%, confidence interval between 0.5 to 1.39 and delayed outcome obtained the odds ratio of 1.19; 95%, confidence interval between 0.72-1.99. Each group had the same improvements in walking speed, the recovery in body movement, balance, general condition and quality of life. There was no delay in the initiation of the initial severity of motion exercises or initial reduction effect is influencing the results in the first year. Reportedly there were ten serious effects associated with exercises that happen to all participants who received early training as much as 2.2%; delays in the training as much as 3.5%; and at home exercises with as much as 1.6%. As compared with home exercise group, each group had a higher of dizziness or faintness during treatment  $P = 0.008$ . Among patients who experienced weakness walk, some risk of falling or even often fall occurred in the group who receiving early training versus to the other two groups  $P = 0.02$ .

According to the study Sara J. Mulroy, Tara Klassen et al (2010) on gait parameters (walking speed parameter, time, distance) associated with exercise treadmill which is based on body weight support treadmill training (BWSTT) in post-stroke argues that the special training interspersed with strength training results in kinematic,

kinetic adaptation, and muscle activation are strongly associated with an increase in walking speed. In the study Sara J. Mulroy, Tara Klassen et al involved 15 participants who had experienced stroke 9 months to 5 years of completing one of three parts of different training for 6 weeks. One part consists of 12 sessions of BWSST which changed 12 parts: gave the barriers on lap lower extremities; forward motion, the defense of the load; arm ergometry or false condition. Gait analysis performed before and after 6-week intervention programs. Activities kinematics, kinetics and electromyography (EMG) was recorded from lower limb weakness experiencing, while the participants walked on a self-selected training. Changes in gait parameters between groups were favorable response than participants in lower response groups that showed an increase in self-selected walking speed is greater than 0.08 m/s on a good response groups.

Compared with participants in the low response group, they were in a group of high response indicated a greater increase in the angle of motion of hip extension terminal and hip flexion strength after the intervention. The intensity of the soleus muscle EMG activity during the walk was also significantly higher in participants in a high-response groups after intervention. This study has limitations that only the movement parameters are assessed and had a small sample size. Special training interspersed with strength training exercises lead to kinematic, kinetic adaptation, and muscle activation were strongly associated with an increase in walking speed. Changes in both the hip and ankle biomechanics during a final gesture associated with a greater increase in the velocity of gait.

### **Aerobic Treadmill Benefit**

Research of Christoph Globas, MD, et al (2012) involving 38 participants aged over 60 years with stroke hemiparesis indication 6 months. Participants were randomly assessed the level of progress over the past 3 months (3×/week), high-intensity

aerobic treadmill exercise (TAEX) or conventional care physiotherapy. Primary outcome measures were peak exercise capacity (maximal O<sub>2</sub> fulfillment (V<sub>O<sub>2</sub>peak</sub>)) and sustained walking capacity in 6-minute walks (6 MW). measures were gait velocity in 10-m walks, Berg Balance Scale, functional leg strength, self-rated mobility, and quality of life (SF-12).

The results showed that Thirty-six participants completed the study (18 TAEX, 18 controls). TAEX but not conventional care improved V<sub>O<sub>2</sub>peak</sub> (difference 6.4 mL/kg/min,  $P \leq .001$ ) and 6MW (53 m,  $P \leq .001$ ). Likewise, maximum walking speed (0.13 m/s,  $P \leq .01$ ), balance ( $P \leq .05$ ), and the mental subscore of the SF-12 ( $P \leq .01$ ) improved more after TAEX. So, this study stated that TAEX method is effective in improving cardiovascular health and movement to the subject with a long stroke post.

Judith M. Lam, Christoph Globas, MD, et al (2010) suggested in his research. Despite proving overall effectiveness, the response to T-EX varies markedly between individuals. Whereas intensity of aerobic training seems to be an important predictor of gains in cardiovascular fitness, lesion size and location as well as interval between stroke onset and therapy delivery likely affect therapy response. These findings may be used to guide the timing of training and identify subgroups of patients for whom training modalities could be optimized.

In all, 52 participants received T-EX for 3 (Germany) or 6 (United States) months. Improvements in overground walking velocity (10 m/6-min walk) and fitness (peak V<sub>O<sub>2</sub></sub>) were indicators of therapy response. Lesion location and volume were measured on T1-weighted magnetic resonance scans. The results obtained, T-EX significantly improved gait and fitness, with gains in 10-m walk tests ranging between +113% and -25% and peak V<sub>O<sub>2</sub></sub> between -12% and 88%. Baseline walking impairments or fitness deficits were not predictive of therapy response; 10-m walk velocity improved more in those with subcortical

rather than cortical lesions and in patients with smaller lesions. Improvements in 6-minute walk velocity were greater in those with more recent strokes and left-sided lesions. No variable other than training intensity, which was different between trials, predicted fitness gains.

### **Comparison of treadmill exercise and walking on the ground**

Research conducted by Birgitta Langhammer (2010) involving 39 patients with stroke in the research samples, and five resigned. Interventions conducted by researchers was the Treadmill training and exercise walking outdoors. Which aims to compare the effectiveness of treadmill exercise and walking exercise outdoors in stroke. Parameter measurements with carried out 10 minutes of overground walking practice followed by 10 minutes of treadmill walking practice at matched heart rate on separate days. The results obtained from the interventions, There were significant differences in the treadmill group 6th with distance test ( $P=0.04$ ), speed test ( $P=0.03$ ), the running speed in 10 m ( $P=0.03$ ), the ability of both legs in their stride: the right leg;  $P=0.009$ , left foot;  $P=0.003$  and width of step ( $P=0.01$ ), demonstrated use of a more symmetrical legs in the treadmill group than the group walked outside the room with the comparative value 1.02-1.10m: 0.97-0.92m. All participants follow the 100% with the respective program. Training schedule did not differ between the two groups, but significantly there was little difference in the time spent on exercise treadmill walking exercise outdoors compared with the number of comparisons 107 m: 316 minutes ( $P=0.002$ ).

Research conducted by Suzanne S Kuys, et al (2008) showed that Ten minutes of treadmill walking practice resulted in a similar overground walking pattern compared with overground walking practice in newly ambulatory stroke patients undergoing rehabilitation, regardless of walking ability. This study used an

experimental design study involving 20 participants who carried out post-stroke rehabilitation. With Assessment walking on the ground (outdoors) measured by the linear and angular kinematics GAITRite and a two-dimensional webcam application respectively. Results obtained while Following treadmill walking practice, there was 6 degrees (95% confidence interval (CI) 2 to 10) more knee extension at heel strike during overground walking than following overground walking practice. Poorer walkers increased non-paretic limb step length following treadmill walking practice more than those with better walking ability (mean difference 2.2 cm, 95% CI 0 to 5).

### **Increased intensity treadmill exercise does not have a negative impact on new client ambulation**

Research conducted Kuys Suzanne S, et al (2008) involving individuals with a first stroke who were undergoing inpatient rehabilitation. Intervention is given to participants, Walking on a treadmill at intensities of 30%, 40%, 50% and 60% heart rate reserve in the one session. Then the parameter that is used is During treadmill walking practice, walking pattern was measured as linear and angular kinematics while walking quality was measured using the Rivermead Gait Analysis scale and a visual analogue scale

The results obtained, Walking on the treadmill at 60% heart rate reserve, step length of the paretic limb was 0.05 m (95% CI 0.01 to 0.10) longer, step length of the non-paretic limb was 0.09 m (95% CI 0.05 to 0.12) longer, and hip flexion at mid swing was 4 degrees (95% CI 1 to 6) greater than at 30% heart rate reserve. At 60% heart rate reserve, hip and knee extension at mid stance were respectively 3 and 4 degrees more flexed than at 30% heart rate reserve. Walking ability did not affect changes in walking pattern. Walking quality did not change with increasing treadmill intensity.

In a study conducted by Christine M. Tyrell et al (2011) involving Twenty patients with stroke walked on a treadmill at

their self-selected walking speed, their fastest speed, and 2 speeds in between. The parameters used was a motion capture system, spatiotemporal gait parameters and kinematic gait compensations were measured. Results of the research showed Significant improvements in paretic- and nonparetic-limb step length and in single- and double-limb support. Free walk on a treadmill facilitates a more normal gait in stroke, without any increase in compensation movement in general, as circumduction. Improvements in motion irregularities were observed in the presence of a small increase in walking speed.

## CONCLUSION AND RECOMMENDATION

Stroke is a disease that causes various disabilities with varying degrees of severity. Loss of balance, asymmetry, and impaired postural stabilization will be easily found on the client post stroke. Various physical exercise needed to improve and train the client's post-stroke motor skills, especially the ability to walk.

A summary of the research conducted review, demonstrated positive effects of treadmill exercise on the improvement of walking ability in stroke patients. Nine of the fifteen studies conducted showed that exercise treadmill effect on motor function, especially the ability to walk on the client stroke. One of the fifteen studies show that exercise treadmill with body weight support has no effect in improving the ability of the lower extremities. Moreover, the results also showed that by increasing the intensity treadmill exercise is not harmful and does not affect gait or reduce the quality of walking in stroke patients newly-ambulating. This study adds some support for the inclusion of walking on a treadmill at a higher intensity in rehabilitation for stroke patients newly-ambulating. Ten minutes of treadmill exercise turned out to have the same pattern when walking on the ground compared to just practice walking on the ground on a new stroke patient undergoing

outpatient rehabilitation, regardless of the client's ability to walk.

Of all the studies that have been in the study of treadmill exercise on the client post stroke could be one alternative interventions on the client post stroke rehabilitation. Where is the final destination of client care with the stroke itself is to restore the physical and psychological abilities. So that the client is able to adapt to the new conditions, is able to adjust to the post and increasing the quality of life in post stroke clients.

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# THE EFFECTIVENESS OF MUSIC TO REDUCE STRESS AND ANXIETY: A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Stress and anxiety are state of physical and psychological stress due to demands of the self and the environment. Nurses need to provide alternative relaxation therapies, such as using music. **Methods:** Database searches are conducted through ScienceDirect, Google Scholar, Wiley Online Library, Springerlink, Ebsco, PubMed and Scopus with relevant keywords. Type and year of study, the study design, sample size, sample characteristics, interventions and results are presented. **Results:** Articles that met the study criteria were 13 articles. The results showed that listening to music in the context of health care is feasible, easy to implement and cost-effective interventions for all ages. **Conclusion:** Listening to music can be used for stress reduction purposes, with the greatest success when it happens with others or when overheard by reason of relaxation. Because many of the studies are at high risk of bias, the findings need to be further investigated. To the feature researchers were recommended to perform research using randomized controlled trials of type study by the same group. In order to obtain a smaller risk of bias and results of music therapy interventions have a higher level of validity.

**Keywords:** Music, Stress, Anxiety

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## INTRODUCTION

Stress is a major threat to health because it can trigger the development of diseases in the body (McEwen, 1998). Stress is a common phenomenon in everyday life, so the interventions is necessary to reduce the incidence of stress in daily life. It is assumed that listening to music has an effect on the health benefits (Thoma & Nater, 2011). However, empirical evidence on the effect of listening to music to reduce stress is still far from consistent mechanism and underlying psychobiological stress reduction effect of this potential - especially in everyday life - is still unknown.

Music affects various aspects of the listener (psychological, physical, spiritual, cognitive and social), the application of listening to music in a clinical setting can be quite multifaceted depending on the needs, characteristics and preferences of individuals with whom the music used (Grocke & Wigram, 2007). The method

focuses on the experience of listening to music therapy is defined as receptive music therapy (Bruscia, 1998).

The use of music in psychological therapies have been recorded throughout history. Music therapy is a noninvasive therapy to treat the symptoms of psychological disorders. treatment by means of a treatment with minimal risk. Music has been a part of the way human life since prehistoric times and is believed to be used for therapeutic treatment. Music can be used to support the emotional and spiritual needs by creating a more relaxed mood so that it can be used to control stress. as submitted by murrock and higgins, music can respond to the psychological and physiological health of recipients so that it can change for the better. Chanda and Levitin described the evidence that music facilitates health outcomes through the involvement of neurochemical systems, embodied by some key neurochemicals mediating the stress response. Additionally,

Solanki et al. articulated that music affects the parasympathetic system applicable to the sympathetic system and consequently facilitate the relaxation response (Chang et.al, 2014).

## METHODS

A literature search conducted several major databases such as Science Direct, Google Scholar, Willey Online Library, Springerlink, Ebsco, PubMed and Scopus by keywords such as music, stress, and anxiety. Type and year of study, the study design, sample size, sample characteristics, interventions and results are presented.

## RESULTS

The author searched online references on databases and aggregators in Science Direct, Google Scholar, Willey Online Library, Springerlink, Ebsco, PubMed and Scopus by keywords and showed as many as 957 articles (142 from Science Direct, 241 from Google Scholar, 127 from Willey Online Library, 136 from Springerlink, 86 from Ebsco, 171 from PubMed and 54 from Scopus). Total of 59 articles duplicates are found, so that 39 articles were screened. After screening with the review of abstracts, generated 21 articles. Then do a review back to the overall content of the article and the entrance criteria are as many as 13 journals.

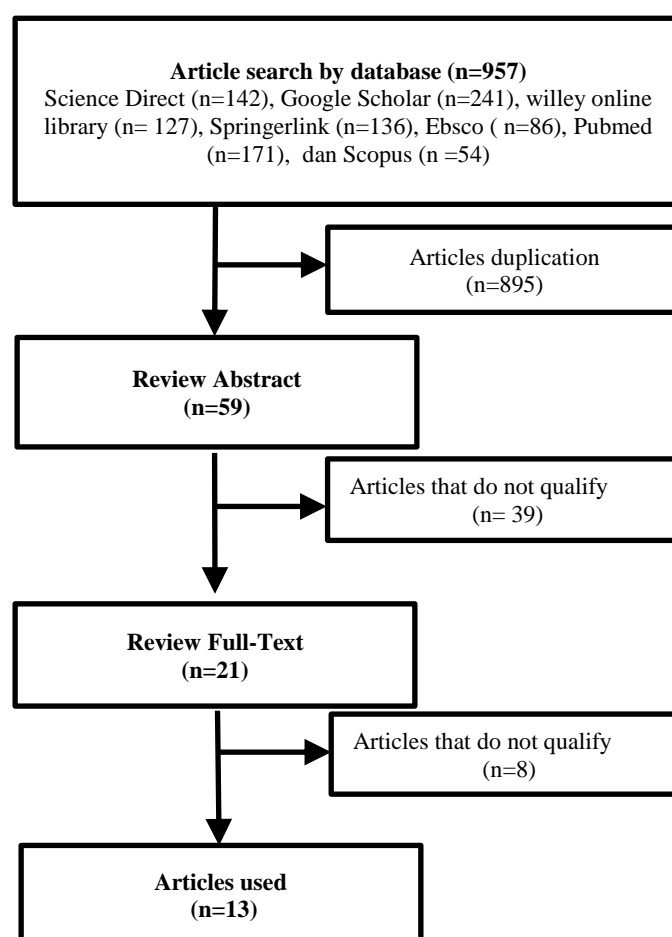


Figure 1. Flow Chart of Study Selection

## DISCUSSION

From six research that used randomized control trial, four studies using quasy and experimental design, and other

using ambulatory assessment study. The total respondents were 1136. This research was conducted in various countries including Taiwan, USA, China,

Switzerland, India, Indonesia, Germany and Turkey. Music therapy can be administered to patients with an interval one day until one month. From previous studies, show the majority of music therapy can reduce stress and anxiety significantly. Stress and anxiety are lowered, including mild to severe. Stress and anxiety can be derived include stress and anxiety in acute and chronic diseases, adolescents, pregnant women, the students, at the time of examination and treatment.

Music therapy can reduce stress are found in research (Labbe et.al, 2007, Linnemann et.al, 2015, Chang et.al, 2015, Jiang et.al, 2015, Miller dan Spence, 2013,). In the lower levels are anxious music therapy research (Prihananda et.al, 2016 Yudha et.al, 2015 Toker and Komurcu, 2016, Hsu et.al, 2016).

In the combined stress and anxiety decrease when music therapy intervention (posttest) (Gautam et.al, 2015, Thoma et.al, 2015). The difference between anxiety scores were not statistically significant ( $p > 0.05$ ). On the other hand, Newcastle nursing satisfaction scale with a score of the experimental group was higher than the control group ( $p < 0.01$ ). Finally, when considering the number of fetal movement, determined a significant increase in the experimental group, while the music therapy has the effect of minimizing the fetal heart rate and blood pressure lowering effect ( $p < 0.05$ ) (Toker and Komurcu, 2016).

The results showed that only listening music can effectively reduce the subjective stress levels ( $p = 0.010$ ). The most profound effect was found when the 'relaxation' is stated as a reason for listening to music, with a subsequent decrease in the subjective level of stress ( $p \leq 0.001$ ) and low cortisol concentrations ( $p \leq 0.001$ ). Alpha-amylase varies as a function of the effects of selected music, the music can boost energy and relaxation music reduces activity of alpha-amylase ( $p = 0.025$ ) (Linnemann et.al, 2015).

Intervention is indicated to reduce the stress level of the median to the two to three points on a 10-point scale, reaching statistical significance at the 97% confidence level with a medium to large effect sizes. This project shows that it is possible to develop music and respiratory interventions so that they can be used in the hospital system, thus providing support for increasing the convenience to clients and visitors during the crisis (Miller and Spence, 2013).

Examination of the patient without music show increased cortisol levels in plasma, indicating a high stress level. While in patients with music therapy at the time of the examination showed stable results characterized by systolic blood pressure is relatively low. Patients with high levels of fear can listen to music to minimize the effects (Sneichder, 2007).

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

The effect of listening to music to reduce the stress in everyday life varies depending on the presence of others. Listen to music with others enhances the effect of reducing stress than listening to music alone. Thus, in everyday life, listening to music can be used for stress reduction purposes, with the greatest success when it happens with others or when overheard by reason of relaxation.

Listening to music may have beneficial effects on anxiety reduction in people with coronary heart disease, especially those who had a myocardial infarction. Reduce anxiety becomes important for people with coronary heart disease. Furthermore, listening to music can have an effect on the benefits of systolic blood pressure, heart rate, respiration levels, quality of sleep and pain in people with coronary heart disease. However, the clinical significance of this discovery is still less accurate, so they need to be interpreted carefully.

## Recommendation

Future studies are expected to use randomized controlled trials with shame group and the risk of bias is small so that the results obtained from music therapy interventions have a high degree of validity.

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# EFFECTIVENESS COGNITIVE BEHAVIOR THERAPY OF CHANGES IN BEHAVIOR IN ADULTS WITH CLIENTS ATTENTION DEFICIT HYPERACTIVITY DISORDER: SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** Attention Deficit Hyperactivity Disorder (ADHD) is a serious mental disorder that is characterized by three core symptoms: inattention, impulsivity and hyperactivity. Worldwide prevalence of ADHD in children is estimated at 5% of diagnosis through the DSM-IV criteria. In adults interference will be settled in two-thirds of the cases with a prevalence of approximately 2.5 to 4.3%. In Indonesia, the prevalence of ADHD in school age 8-10%, 40-50% and settled ADHD in adolescence and even into adulthood. **Methods:** Keywords with cognitive behavior therapy, non-pharmacology therapy, Attention Deficit Hyperactivity Disorder, ADHD Adult. Search article publication in the database of PubMed, Science Direct, Highware, Google scholar and Sage journal. Study inclusion criteria in adult ADHD patients  $\geq 18$  years of age over the individual therapeutic interventions behaviour-based cognitive therapy, studies that provide behavior change outcomes in adults with ADHD and literature searches restricted to the issue of 2009- 2016 can be accessed full text in pdf format. **Results:** Treatment of individual CBT a significant impact on adult behavior change clients with Attention Deficit Hyperactivity Disorder (ADHD). **Conclusion:** Treatment of individual CBT (cognitive behaviour therapy) had a significant influence on changes in client behavior with ADHD so that can always be applied as part of efforts to improve the quality of life and independence of clients ADHD in adulthood.

**Keywords:** Cognitive Behavior Therapy, a non-pharmacological therapy, Attention Deficit Hyperactivity Disorder, ADHD Adult

## INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a serious mental disorder that is characterized by three core symptoms: inattention, impulsivity and hyperactivity (Bachmann et al, 2016). Worldwide prevalence of ADHD in children is estimated at around 5%. In adults interference will be settled in two-thirds of the cases with a prevalence of approximately 2.5 to 4.3% (Asherson, 2016). In Indonesia, the prevalence of ADHD in school age 8-10%, 40-50% of ADHD persist in adolescence and even into adulthood (Selecta, 2013). Attention Deficit Hyperactivity Disorder (ADHD) is a neuro developmental disorder characterized by developmental level is decreased so that clients with ADHD become hyperactive,

impulsive and inattentive behavior. Symptoms usually begin in childhood or adolescence and can persist into adulthood, causing clinically significant disruption (Asherson, 2016). Symptoms, subtypes, and the diagnosis of ADHD is being established according to criteria of DSM-IV lists 18 symptoms such as inattention, hyperactivity / impulsivity and inattentive behavior (Gomes, 2014).

Clinical features of ADHD condition was quite varied in relation to the expression, severity of symptoms, as well as the pathogenesis. It is assumed that these disorders are very dependent on a neurobiological disorder. Individuals with ADHD showed abnormal neuronal activity in nerve, adults with ADHD often suffer from comorbid disorders such as depression



and anxiety. Therefore, multimodal approach can be applied to reduce the symptoms of adult ADHD comorbid client (Bachmann et al, 2016).

Pharmacological treatment is often recommended for clients with ADHD, with the assumption that the drug can improve the function of brain regions are affected. However, side effects, contraindications, or non-response can limit the activity of pharmacological treatment for ADHD clients. It is therefore necessary to develop non-pharmacological interventions that can be applied to client ADHD which can help reduce the signs and symptoms of ADHD clients as well as improve the quality of life and independence of clients in everyday life (Bachmann et al, 2016). A number of studies on the effectiveness of non-pharmacological therapies have been carried out in several countries. Individual therapy CBT (Cognitive Behavior Therapy) is a non-pharmacological therapy that has been developed at this time. Cognitive Behavior Therapy (CBT) is a psychological intervention that involves the interaction between thinking, feeling, and behaving in a person (Somers and Queree, 2007).

## **METHOD**

Synthesis method using a modified PICO performed on adult clients with Attention Deficit Hyperactivity Disorder / ADHD, who received the intervention Cognitive behavioral Therapy / CBT, with the result of behavioral changes in adults with ADHD clients. The keywords used are cognitive behavior therapy, non-farmakological therapy, Attention Deficit Hyperactivity Disorder, ADHD Adult. The article Search publication in the data base of PubMed, Science Direct, Highware, Google shcolar and Sage journal. Study inclusion criteria in adult ADHD patients  $\geq 18$  years of age over the individual therapeutic interventions bahaviour-based cognitive therapy, studies that provide behavior change outcomes in adults with ADHD and literature searches are restricted to the issue of 2009- 2016 can be accessed full text in

pdf format.

## **RESULT**

### **CBT to decrease the level of ADHD symptoms**

The results of Emilson, et al, 2011, there were statistically significant differences in the ratings to decrease the severity of symptoms of ADHD among the intervention group who received CBT / MED with a control group getting TAU / MED. This study uses the RCT design, study was conducted on 54 respondents. 27 respondents in the intervention group was given 15 sessions of CBT therapy for 2 times a week and last for 90 minutes per session, while 27 respondents control group receive treatment as usual. The evaluation was done in before treatment and after treatment with 3 months of follow-up. Results of interviews with K-SADS measurement scale used to measure symptoms of ADHD found the intervention group CBT / MED has lower rating than the control group ( $P < 0.01$ ) even after 3 months of follow-up there was no significant difference in value ( $P < 0.05$ ). As for the interview with CGI measurement scale measuring the severity of ADHD follow-up after 3 months have significant values ( $P < 0.05$ ). On the scale of the lack of concern for the intervention group obtain significant results with  $P < 0.01$ .

The results of the above was also supported by the research of Young, et al, 2015 conducted a study of 95 respondents with adult ADHD who have already been treated with the drug-obtain gain (MED) randomly compared with a control group who received therapy TAU / MED. The intervention group received therapy (CBT / MED) with 15 sessions for 90 minutes each session of intervention R & R2ADHD, has five treatment module, among others; a) neurocognitive eg knowledge strategy to improve attention, memory, impulse control and planning, b) solving problems such as: developing thinking skills, problem identification, conflict management, and make choices c) emotional control, for

example: to manage feelings, anger and anxiety, d) prosocial skills, for example: the recognition of other people's thoughts and juice, empathy, negotiation skills and conflict resolution, e) critical reasoning example: election evaluating behavioral skills. The first step to assess the symptoms of ADHD, and severity of disease. Follow-up is done within 3 months of treatment. The results showed significant gains decreased in ADHD clinical symptoms and severity of disease in them intervention compared to the control group. To scale K-SAD was obtained  $p < 0.001$ ; 95% CI, -7.43 to -3.38. CGI scale with  $p < 0.001$ ; 95% CI, -1.12 to -0.46.

Safren, et al, 2010 in study of 86 respondents with RCT designs. Research in the intervention group was given 12 sessions of CBT therapy and a control group received relaxation therapy intervention and health education. The first step is performed to assess ADHD symptoms with the assessment scale CGI (Clinical Global Impression) assessment performed at baseline, post-treatment and at 6 months and 12 months for follow-up. Furthermore, the second is a self-report assessment of ADHD symptoms. The results showed post-treatment CBT therapy significant clients get better value on the CGI scale score (-0.0531; 95% CI -1.01 to -0.05;  $P = 0.03$ ), and the value scale of ADHD (-4.631; 95% CI, -8.30 to 0.963;  $P = 0.02$ ) compared with the control group.

### **CBT to decrease symptoms of hyperactivity / impulsivity**

According to the results of Emilson, et al, 2011 took a significant decline in the level of symptoms of hyperactivity / compulsive disorder in adults with ADHD clients. Studies using measurement instruments with scale Barkley Current ADHD Symptoms Scale (BCS) obtained good results at the end of treatment in the intervention group ( $F(1,32) = 7.27$ ,  $p < 0.05$ ) and at three months follow-up ( $F(1, 29) = 20.30$ ,  $p < 0.001$ ).

BCS scale is used to assess the symptoms of

ADHD. Assessment is based on DSM-IV diagnostic criteria for ADHD. Each item is rated with a score of 4 points to the frequency of the symptoms experienced during the six months. Scores range between 0 and 27 for each of the two subscales (inattention and hyperactive / impulsive) and 0-54 for the total scale. The results of the research supported by Young, et al, 2015 also showed significant gains in scale BCS with  $p < 0.001$ ; 95% CI: -4.50 to -1.63

Wymbs Research. Brian T, & Brooke SG Molina (2015) with the title "Integrative Couples Group Treatment for Emerging Adults with ADHD Symptoms", the study aims to test the feasibility and acceptance of the CBT program for adults with ADHD with couples therapy to treat symptoms in ADHD in the context romantic relationship with a partner. 15 pairs of participants were given 6 sessions in integrated intervention, given for 11.5 hours each session. The evaluation was done after the session ends, namely in 6 weeks. Then the data is analyzed and the result is a medium effect on symptoms of impulsivity / hyperactivity ( $d = 0.50$ ; 95% CI; 0.29 to 0.70). As for reporting by partner obtained the same results in improvement with treatment. In conclusion participants with adherence to good integrated protocol satisfying results and significantly higher value. Results of the study showed improvement in inattention and hyperactivity / impulsivity after treatment.

### **CBT to the reduction of comorbid ADHD symptoms (anxiety and depression)**

The results of Emilson, et al, 2011 at BAI scale for the anxiety scale scores which significant with  $P < 0.05$  compared with the control group. BDI scale to feelings of depression with a value of  $P < 0.05$ . Scale Beck Anxiety Inventory (BAI) is a scale designed to assess the severity of symptoms of anxiety. While the Beck Depression Inventory (BDI) is a scale used to assess depressive symptoms consisting of 21 points, with the highest value indicates the

severity of depression. Scores were classified as minimal (0-13 BDI, BAI 0-7), mild (14-19 BDI, BAI 8-15), moderate (20-28 BDI, BAI 16-25), or severe (29+ BDI, BAI 26+).

Eddy, Laura D et al, 2015 in Case Series Report study conducted in four college students with ADHD, respondents were given brief therapy CBT 8 sessions, one hour each week in one semester, done pre-treatment and post treatment. The results of a brief study on the four respondents, shows an improvement of the level of anxiety, and depression depression. These results are supported by research from Young, et al, (2015), Bramham et al, (2009), Cherkasova. Mariya V, et al, (2016), which show improvement in symptoms of anxiety and depression respondents.

## CONCLUSION AND RECOMENDATION

Treatment of individual cognitive behavior therapy (CBT), whether done individually or in groups have a significant influence on changes in client behavior of adults with ADHD which include changes in knowledge about ADHD symptoms, a decrease in hyperactivity / compulsive disorder, improved quality of life and independence of the client, as well as reduction of comorbid ADHD symptoms such as anxiety and depression levels. This further proves that non-pharmacologic therapy CBT has a very important role in the management of adult clients with attention deficit hyperactivity disorder because, this CBT therapy can help clients change behavior in everyday life independently so that clients can improve their quality of life.

Intervention CBT therapy given to respondents of the review 12 journals using various sessions, the duration of the time and duration of the implementation of therapy, ranging from 6 to 15 sessions, with a duration varying from 2 times a week, every week, and every month with duration 60 minutes until 1.5 hours each session. Most therapy CBT has been modified by the

researcher. But the results of a review of 12 journal also get that adults with ADHD still need treatment from a doctor to pharmacological therapy, with additional therapy such as CBT non pharmacologic is a significant result of the pharmacological therapy alone.

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# THE IMPLEMENTATION OF PREGNANCY MOTHER CLASS AND MOTHER KNOWLEDGE ABOUT DANGEROUS SIGN OF PREGNANT AND LABOUR IN WILAYAH KERJA PUSKESMAS PALANG KABUPATEN TUBAN

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## ABSTRACT

**Introduction:** One of the government's efforts to implement a class of pregnant women at the village level that proclaimed since 2009, so that pregnant women can increase their knowledge and skills of mothers about pregnancy, prenatal care, childbirth, postnatal care, newborn care, myth, infectious diseases and birth certificate (Kemenkes RI, 2011). The purpose of this study to determine the effectiveness of a class of pregnant women to increased maternal knowledge about danger signs in pregnancy and childbirth. **Method:** The study design used is descriptive analytic cross-sectional approach used. The population was all pregnant women in Puskesmas Palang of the 100 pregnant women who attend classes pregnant women and 100 pregnant women who did not attend a pregnant woman. **Result:** The results of the study of 200 people the majority of pregnant women aged 26-31 years were 71 mothers, parity (child less than or equal to two) of 184 mothers, mother's education level high school 83, knowledge of mother by age with 26-31 year old category enough as many as 34 people (17%), parity (less than or equal to 2) with enough category 83 (41.5%), the majority of senior secondary education level 18% (36 people). **Conclusion:** Analysis of the relationship, there are differences in the effectiveness of a class of pregnant women to the knowledge of the danger signs in pregnancy and labour, with the value  $p = 0.000$ .

**Keywords:** class of pregnant women, knowledge

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## INTRODUCTION

A level of health in a country is made of some indicator, one of them is value of mother dies (AKI). The survey of WHO (world health organization) in 2011, rate of mother dies in developing countries is still high. ratio of AKI in developing countries reach 450 mother by 100.000 the birth of life. If it compare in ASEAN (association of Southeast Asian Nations), rate of mother dies in Indonesia is still high. The high level of AKI is effect of some factor, there are direct effect and undirect effect. In which of the effect are, bleeding, eclampsia, sepsis and infection. It can be prevented by early detection of pregnancy. From undirect effect, it's cause of mother disease when she is pregnant. It also because of poverty, the lowest of education and culture.

One of the indicator of MDGS is the reduce of rate of mother dies (AKI) from 1990-2015 as far as 75% and the globals

become 45% such as 380 become 210/100.000 rate of birth. The survey of SDKI in 2012, the AKI show 359/100.000 rate of live. the rate are increase from 2007 SDKI survey. It's show 238 and it's still not from the target that is 102/100.000 the rate of birth live. The official leader of healthy organization in Tuban, Saiful Hadi, says that rate of mother dies in pregnancy in Tuban are increase from 2014. There are 10 case which the mother dies when she is born her child. In 2015 until April there are 5 case (kota Tuban.com, Head line, kesehatan).

Many kinds of effort that the government do to decrease AKI, such as the placement midwife in village, books of KIA, P4K, PONEK in village clinic and PONEK in the hospital. Another of the government give them a consultation in POSYANDU. But the consultation are still illumination of case to another case. It can happen when the mother come and she can



get the consultation. The material of consultation are uncoordinator an unschedule.

The cause of mother dies can be prevented with early detection the programme of government in village or town are proclaimed in 2009 which is support to increase the knowledge of the mother about pregnancy, labour, puerperium, myth, disease and birth of certificate (Kemenkes RI,2011).

One of education media for pregnancy mother are KIA books, KIA books are launching since 1994 and Japan Cooperation (JICA=*Japan International Cooperation Agency*), in SK MenKes RI No.284/MENKES/SK/III/2004 says that KIA books are the manual book which give to mother and the children. The books give us the information and notes about health and chid. And it is the one and only notes about the mother and the children health from pregnancy until the babies born. In puerperium time until the baby five month, including KB, imunisation, the grow up of babies.

The implementation og class for pregnancy mother is held one aweek which age of mother pregnancy 4-36 weeks. Especially, mother which 20 weeks pregnancy, they held calisthenics for mother. It's held because the pregnancy are study and don't be miscarriage and it's effectifly for the mother. In a class there are 10 mother pregnancy which is the maximum member in the class. The class is addition class and mother can do it in the home. The time of calishenics class can be

morning or afternoon which each class 120 minute per section, it is including pregnancy calisthenics 15-20 minute (Kemenkes RI,2011).

Data from the Tuban Healthy Organization, the schedule of pregnancy class is held in 2012 from 1 village 1 groups which is consist of 20 mothers which age of pregnancy more than 20 week until 36 weeks. The interview of midwife in Palang, data of mother dies whwn pregnancy in 2015 there are 3 cases of nifas infection to42 heartache and Diabetes Mellitus. And the evaluation of mother class pregnancy which evaluation and knowledge 90% of pregnancy mother are come to the class,which is show 3 times a weeks and for knowledge (pre and post) , 80% mother knows about materials.

Based on the data below, we know that pregnancy mother less knowledge about pregnancy such as the dangerous things in pregnancy times. The research from Puskesmas palang can increase of quality of service KIA in Indonesia.

## METHOD

The research programme that used are descriptive analitic and approachment *cross sectional*. Populations are all of pregnancy mothers in Puskesmas Palang which is 776 mothers. The big sample of this research is 150 pregnancy mother that consist in the pregnancy mother class and the control groups are 150 pregnancy mother that an consist in the class

## ANALYSIS AND STUDY

### Characteristic of Pregnancy Mother

Tabel 1: Characteristic of pregnancy mother based on age.

No	Age	Participate in class	%	Un participate in class	%
1	20-25	27	27	16	16
2	26-31	35	35	36	36
3	32-37	20	20	28	28
4	38-43	14	14	16	16
5	44-49	4	4	4	4
total		100	100	100	100

Characteristic of pregnancy mother which participate and unparticipate in pregnancy class based on age in Kecamatan Palang Kabupaten Tuban most of the class are 26-31 years old.

Tabel 2 : characteristic of pregnancy mother based on paritas.

No	Paritas	Participate class	%	Unparticipate class	%
1	Less than 2	92	92	92	92
2	More than 2	8	8	8	8
total		100	100	100	100

Characteristic of pregnancy mother which participate and unparticipate in the class based on paritas in Kecamatan Palang Kabupaten Tuban, the majority are the mother less than having 2 children.

Tabel 3 : characteristic of pregnancy mother based on education level

No	Level of education	Participate In class	%	Unparticipate In class	%
1	SD	20	20	20	20
2	SLTP	31	31	25	25
3	SLTA	41	41	42	42
4	PT	8	8	13	13
total		100	100	100	100

Characteristic of pregnancy mother which participate and unparticipate in the class based on education level most of them are SLTA (senior high school) level.

### The knowledge of pregnancy mother

Tabel 4 : The knowledge of pregnancy mother based on age which participate

Age	Knowledge						total
	less		rather		good		
	Σ	%	Σ	%	Σ	%	
20-25	13	13	5	5	9	9	27
26-31	13	13	16	16	6	6	35
32-37	6	6	12	12	2	2	20
38-43	2	2	8	8	4	4	14
44-49	0		4	4	0		4
Total	34	34	45	45	21	21	100

Tabel 5 : knowledge of pregnancy mother based on age which unparticipate

knowledge of pregnancy mother based on age when unparticipate							
age	knowledge						Total
	less		rather		good		
	Σ	%	Σ	%	Σ	%	
20-25	6	6	7	7	3	3	16
26-31	10	10	18	18	8	8	36
32-37	10	10	15	15	3	3	28
38-43	6	6	4	4	6	6	16
44-49	2	2	1	1	1	1	4

Total	34	34	45	45	21	21	100
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From the both of tabel below show that more than 100 pregnancy mother which participate in the class 16% are 26-31 years old (16 person), than pregnancy mother who unparticipate in the class 18% are 26-31 years old (18 person) that have rather knowledge. This condition are the biggest presentation from all age that researched. Meanwhile age more than 37 years old. They have rather knowledge but it still little.it happen because capability in intelectual are decrease.

### Knowledge of pregnancy mother based on paritas

Tabel 6 : knowledge of pregnancy mother based on paritas who participate in class

Paritas	knowledge						Total
	less		rather		good		
	Σ	%	Σ	%	Σ	%	Σ
≤ 2	31	31	41	41	20	20	92
>2	3	3	4	4	1	1	8
Total	34	34	45	45	21	21	100

Tabel 7 : knowledge of pregnancy mother based on paritas who unparticipate in class

Paritas	knowledge						Total
	less		rather		good		
	Σ	%	Σ	%	Σ	%	
≤ 2	31	31	42	42	19	19	92
>2	3	3	3	3	2	2	8
Total	34	34	45	45	21	21	100

From the both tabel below, it show that paritas of pregnancy mother have two differences. They are mother who have less than 2 children and more than 2 children. Mother who unparticipate the class which paritas less than 2 have less and rather knowledge. And mother who participate which paritas more than 2 also have less and rather knowledge. From the research, there no connection between paritas and knowledge which participate or unparticipate to pregnancy mother.

### Knowledge of pregnancy mother based on education level

Tabel 8 : knowledge of pregnancy mother based on education level who participate

education	knowledge						Total
	less		rather		good		
	Σ	%	Σ	%	Σ	%	
SD	3	3	12	12	5	5	20
SLTP	7	7	18	18	6	6	31
SLTA	24	24	13	13	4	4	41
PT	0		2	2	6	6	8
Total	34	34	45	45	21	21	100

Tabel 9 : knowledge of pregnancy other based on education level who unparticipate in the class

education	Pengetahuan			Total
	less	rather	good	

	Σ	%	Σ	%	Σ	%	
SD	7	7	7	7	6	6	20
SLTP	12	12	9	9	4	4	25
SLTA	10	10	23	23	9	9	42
PT	5	5	6	6	2	2	13
Total	34	34	45	45	21	21	100

From the both tabel below, it show that education level from SD (elementary school) until SLTA (senior high school) have same presentase in less of education it diffence in PT (university) level, the have small presentase in education. The data show that education level have many effect for the knowledge of pregnancy moyhers.

### Analysis of implementation of pregnancy class with mother knowledge about dangerous sign of pregnancy and labour

Tabel 10 : Analysis of implementation of pregnancy class with mother knowledge about dangerous sign of pregnancy and labour

Pregnancy class	knoweledge						total
	less		rather		good		
	Σ	%	Σ	%	Σ	%	
Ikut kelas	34	17	45	22.5	21	10.5	100
Tidak ikut kelas	12	6	69	34.5	19	9.5	100
Total	46	23	114	57	40	20	200
Uji Chi-Square Asymp. Sig. (2-sided) = 0,000							

From tabel 4.10 below show that mother who have good knowledge and participate in the class as much as 21 person. And mother who have good knowledge but unparticipate in the class asa much as 19 person. The result of chi-square test used SPSS 16 it get pvalue 0,000 until  $\text{sig:p} \leq 0,05$ , it make more effective in differences of implementation of pregnancy class and education level of dangerous sign of pregnancy and labour.

### **Characteristic of pregnancy mother who participate and unparticipate in the pregnancy class**

From 200 pregnancy mother become a research subject in work ship area in Palang from 26-31 years old become 35,5% (71 person). The age of pregnancy mother when she pregnant it hope not to young and not to old. Ages less than 20 years and more than 35 years have high risk in labour. A woman when pregnant must ready in physical, emotion, psychology, social and economic (Ruswana,2006). Age is one of variabel model of demografi which mean it become of psychology indicators in differences, the mother age make an influence to make a decision of taking care of health, if the age are enough, rate of maturity and powerity of someone which mature in physical and work (Notoatmodjo,2003).

A knowledge in 26-31 years become the safety age to women who want pregnant and labour. In this age, the physical and emotion of women are ready to pregnant and take care of her children. In productif age, women more energetic and interested become a mother

Paritas of pregnancy mother who participate and unparticipate in pregnancy class, is distinguished from primi and multi and it's show a balancing, which participate and unparticipate of women who have less than 2 children become 98% (98 person) and more than 2 children become 8% (8 person). This is hapen because the time of research are different. From the theory (Depkes RI,2012), paritas is one of the factor who become predisposition of antenatal. If the paritas high in experience it make the scare and worried low.

Mother which high paritas they consideration to unparticipate in pregnancy class because they have done it. More than that, mother in high paritas or have alot of children does have enought time to take care her pregnancy even though to come to the class. Education level of pregnancy mother in wilayah kerja kecamatan palang kabupaten Tuban is dominate of SLTA

(Senior high school) become 41,5 % (83 person). SLTP (Junior high School) have enough knowledge and experience in pregnancy, meanwhile PT (University) have a good knowledge and maturity of thinking. They also can get more information about health (Depkes RI,2006).

Education can influence of thinking, attitude and decision of someone make in his life (Notoatmojo,2003). A mother who have high level education usually work outside of her house and does not have time to examined her pregnancy (Depkes RI,2012). Most of the subject of this research, mother who have education level in SLTA (senior high school) have a good skill to take care her pregnancy than women who have low education skill. It because of her activities.

### **Relationship of knowledge based on characteristic of pregnant mother**

From 100 mothers who participate the class of pregnancy in 26-31 years old, 6% (6 person) among have a good knowledge and mother unparticipate the class in 26-31 years old become 8% (8 person) hav the high prosentase of all ages which research have lowering of intelektual knowledge of more 35 years old. According to (Notoatmodjo,2003) which quated by Hendra (2008) when the person more mature the process of their mentality is more good in some ages. The maturity process cannot as fast as when they are teenager brainstorming of someone is depend of his ages. It can says`that if someone more mature so he has more knowlwdgw to thinking become lower. Thisis same which theory taht person in older age have more knowledge and experience that he have, it make an effect in his attitude, and thinking. Beside of maturity that someone have it cause of his experience life. Depend of that, someone which younger age does not have more knowledge and experience in pregnancy and labour.



### **Knowledge of pregnancy mother who participate and unparticipate in pregnant class based on paritas**

A mother who have paritas more than 2 have agood knowledge as much as 1% (1 person) meanwhile who unparticipate the class have a good knowledge as much as 2% (2 person). Paritas is a condition which is women who have total children that she born. More of paritas make of more knowledge and experience to mother it give a good reason for pregnancy and learning (salmah,2006). Paritas have connection of information about dangerous sign in pregnancy and labour, it cause our experience and another experience (Bobak,2005).

A mother who have more paritas have a good knowledge of it depend of amother who hare less paritas. It's because his own experience and another experience that mother have (Notoatmodjo,2003)

A mother who have more knowledge and experience in pregnant, pregnancy and labour, it make an effect of her knowledge for the next pregnancy the experience include what she do and perception of the environment.

### **Knowledge pregnancy mother who participate and unparticipate in pregnant class based on education level**

The data below show that the dominan is SLTA (senior high school) level which presentase of participate mother as 4% (4 person) meanwhile unparticipate mother 9% (9 person). Education include spesial skill method as giving knowledge, opinion and policy. A women who have good education can make a good decision for her children and their health (Meliono,2007).

A education level and a standard of education level of someone are connected. A low knowledge of a person it make a low information that they used. A high knowledge of a person it also make a high information that they used so they must know the dangerous sign that happen in her pregnancy (Prawirohardjo, 2002).

Acknowledge is the result of object that a person have (eyes, nose,ears,etc). The knowledge of the object is influence of perspection of the object it self. Half of knowledge influence from they heard, saw, etc (Notoatmodjo,2010). From the description below we know that mother who have high education level is more open minded and more active to get more information from internet or another media even though she unparticipate in pregnancy class

### **Knowledge analysis of pregnancy mother who participate and unparticipate in pregnant class**

The data show that mother who participate inthe class asa much as 10,5% (21 person) meanwhile mother who unparticipate in the class asa much as 9,5% (19 person)

The result of *Chi-Square test* with used SPSS 16 with p value 0,000. until Sig:  $p \leq 0,05$ . So it can be conclusion that the differences of knowledge efectivitas between mother who participate and unparticipate know about the dangerous sign of pregnant and pregnancy according to Notoatmodjo (2003), knowledge are influence of some factor such as experience, education level and facilities to expand our knowledge we can learn form our experience and another experience.

Knowledge is important domain to over behavior of someone, in experience. Experience base on knowledge better than an attitude (Notoatmodjo,2003)

Education is a process of learning to increase our ability of something or knowledge, education is a relationship that some one give to another in one way to the aim (Nursalam and Pariani,2001).

Education influential of way of thinking, attitude and making decision of someone life (Notoatmodjo,2003). The research result of unparticipate mother in class more than 13% from university (PT) compared mother who participate in the class (8%). This way make a participate and unparticipate mother has a same level to

have information and increase their knowledge. Pregnancy class is a tool of learning or educated about their health and their pregnancy in a group has time to face to face in one section. Its purpose to increase the knowledge and the skill of the mother about their puerperium, baby care, labour, myth, disease and birth of certificate (Depkes RI, 2009).

From the description below, the conclusion of the information source makes the effect of knowledge. Mother who gives the illumination has 6,21 times more knowledge, compared with mother who does not have the illumination (Depkes RI, 2008). It is the same with the (Depkes RI, 2012) theory, mother activities can increase knowledge about dangerous signs of pregnant and labour.

## CONCLUSION AND RECOMMENDATION

There are differences between implementation of pregnancy class and mother knowledge about dangerous signs of pregnant and pregnancy with results of *chi-square* test with *p* value 0,000. The implementation of pregnancy class in kecamatan Palang kabupaten Tuban is proved can increase the knowledge for mother in dangerous signs of pregnant and labour. It is hoped that every Puskesmas has routine activities such as Posyandu and another activities.

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# ANALYZING OF MOTIVATION IN LEARNING FOREIGN LANGUAGE FACED BY NURSING STUDENTS

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## ABSTRACT

**Introduction:** Health Education of nursing has a remarkable growth in the number of graduates produced. This is also supported Indonesia has a lot of nursing power resources to supply the world's demand. Foreign languages courses are elective courses which are provided each of Higher Education that aims to compete abroad. Motivation students have a strong influence in the decision of the elective courses. **Method:** This study used qualitative design by three respondents with in-dept interview with structured questions. To validate the data, the researcher used data triangulation by lecturers and friends. **Result and discussion:** The respondents motivated in learning foreign language to improve the ability of speaking other language, they motivated to able speaking with people in other countries in order to avoid miss understanding. They believed that it can increase the quality of students to continue their study or to work abroad in order to get high levels of life. **Recommendation:** The foreign language should be recommended include into the nursing curriculum, so that the students were high motivated in learning foreign language not only English but also Japanese and Arabic should be more meeting in the curriculum.

**Keywords:** foreign language, motivation, nursing education and learning

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## INTRODUCTION

Health Education especially nursing has a remarkable growth in the number of graduates produced. One indicator of Good Higher Education is the availability of educational curriculum that supports the quality of graduates. This is also supported Indonesia has a lot of nursing power resources to supply the world's demand. Foreign languages courses are elective courses which are provided each of Higher Education that aims to compete abroad. Motivation students have a strong influence in the decision of the elective courses.

There is a gap between the nursing staff and his distribution in the country. Indonesia experienced a crisis that access to health care should be adequate for its own population. In Indonesia the number of diploma and Bachelor of Nursing in 2008 was 25.517 and increased to 27.909 nurses in 2009. Amount only 36.5%. Recent data from East Java province showed that there were 55 Nursing Diploma Program and 53

Degree Nursing Program which produced about 12,000 nurses' personnel per year. This amount would be great potential for Indonesia to send a nurse in the country in order to compete in the international (Efendi et al, 2013). Jombang about 845 of the 1,115 people working as nurses (public health Office of Jombang, 2014). Indonesia nursing crisis known power distribution from the Health Department in 2014 reported that 10 370 nurses were in public hospitals and 4,213 health centers located in communities throughout Indonesia. The number of nurses production in 2014, estimated at 60% were utilized in the country, 5% abroad and the remaining work outside the competence (Efendi et al, 2013). From the preliminary study, Stikes Pemkab Jombang offered foreign language courses in 8th grades, namely Arabic and Japanese language.

Learning foreign language for nurses are alternative policies in order to optimize the utilization of nurses who

uphold the principles of mutual benefit, both between Indonesia and other countries who are partners, and among nurses in Indonesia. Facing from the number of existing resources, Indonesia should be able to send nurses overseas. One important reason is the ability to speak a foreign language. With the motivation to learn a foreign language well, it is easy to realize opportunities to work in the nursing profession outside the State.

Thus, there is still work is needed to increase the utilization of nurses abroad with regard to the needs of our country. Working abroad can be a personal desire or motivate culture as an expression of freedom and Human Rights (HAM) or perhaps as a result of financial needs, needs work, and the challenge to face the competition of nurses from other countries (Santric et al, 2015) this study is intended to determine the ability of Japanese language and how much interest students of bachelor nursing to work on Japan. from the above phenomena the researchers are interested in doing research on " Analyzing of motivation in learning foreign language faced by nursing students".

## **METHOD**

The design of this study is descriptive design in qualitative form about motivation of nursing students in learning foreign languages, especially English and Japanese. The researcher conducted a research in Stikes pemkab jombang, in 4 grade students on 6<sup>th</sup> March 2016 – 8<sup>th</sup> April 2016. The descriptive study designed to obtain the current status of phenomena and is directed toward determining the nature of situation that exists at the time of study. This study aimed at describing about 1) the motivation of learning foreign languages in nursing students, 2) the students' perception about foreign language.

The samples of the study were three students of 4<sup>th</sup> grade students. They were interviewed using in-dept interview, it was appropriate for the situation in which the researcher wanted to ask open-ended

question that elicit depth of information. For structure interview, the researcher had interviewed three students from Stikes Pemkab Jombang to their opinion on their understanding of foreign language used in this institution. The interview should be conversational with question flowing, seek understanding and interpretation, while the interviewer should try to interpret what being said and clarity and understanding throughout the interview, recording response, the responses were typically audio-recorder and complemented with written notes. The research instrument used questionnaire also to validate the data. To furnish the data, researcher also investigated the three students perceive about learning foreign language. The final data were in the form of numbers and some opinions from the students. The numeric data was analyzed using descriptive statistic in the form of percentages to measure the differences of the performance and perception of the respondents.

The ability of learning foreign language can be seen by reading, writing, and speaking in the last examination of Japanese language which have been done. The respondents were interviewed by researcher about the motivation of learning foreign language, and the ability to achieve these skills. the teachers have some information to improve the methodology and style of teaching and find alternatives for improvements in teaching foreign language (Anita, 2009).

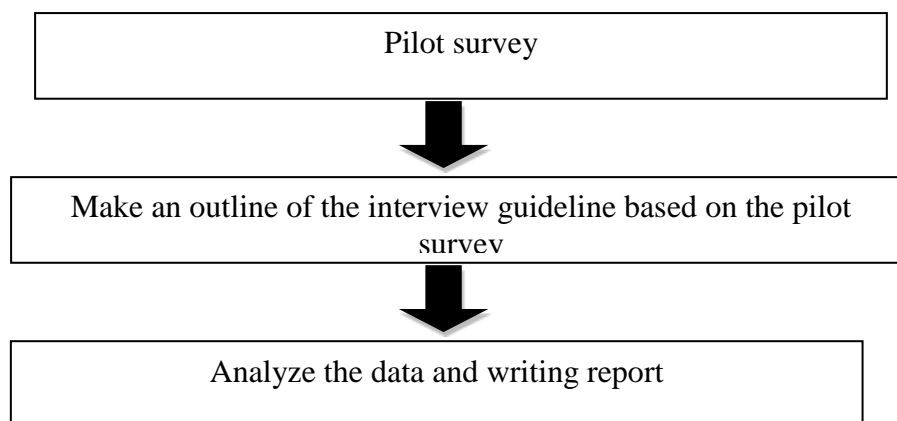


Figure 1. Data collection flowchart

## RESULT AND DISCUSSION

To gain the data, the researcher used interview to know the motivation of students in learning foreign language. The first respondent (miss A) is agreed that learning foreign language, especially Japanese language, motivate hers to study abroad or working in Japan someday, let see the interview result of her:

"I have been learning two foreign languages, English and Japanese, I prefer Japanese than English. I want to go to other country someday, maybe for continue my study or just holiday or I can work there. So I am very enjoyed and motivated in learning the foreign language" (EKP).

This is showed that learning foreign language is fun and she studied Japanese since 2010 when she was in senior high school. She understood the writing and speaking of this Language, the function of this ability were able to interact with other people when she continued her study in other country. She had high motivation to study Japanese language. We can see the result of her last examination.

The second respondent, give different respond to answer the question to researcher. She explained that she studied Japanese language since two months ago, she new comer in learning Japanese language, she preferred learning Japanese than English, but she liked to study foreign language. She tried to enjoy and focus on learning Japanese language due to she wanted to have holiday or getting a job in

japan. To make sure, let's see the interview result below:

"I just learned Japanese language for about two months, I felt it was easier than English because Japanese is same in writing and speaking, not as same as English. So, I liked learning Japanese language and I hope I can go to japan for holiday or getting a job there, because japan is a great country and I want to be there someday (SINH)"

On the other hand, the researcher also asked the difficulties of learning foreign language for respondents, they said that difficulties are on writing and speaking process, foreign language is different in writing and speaking process. To make sure, let see the interview result below:

"in my experience in learning foreign language, I found many difficulties in the writing and spelling of the word of foreign language" (EKP).

"the difficulty of learning foreign language for me is the conversation practice, sometimes I faced miss understanding with the meaning of it. So, I will try to explore my speaking practice to avoid mistake (SINH)".

Otherwise, From all the three respondents agreed that learning foreign language is important for nursing development and nursing career. This is supported by the third respondent, let see the interview below:

"Learning foreign language is very important to nursing career, to face globalization era, so that we can compete in



national or international. When there are many employees here, we can interact with them easily. Otherwise if we work abroad, it makes us easier to communicate with other and minimize the misunderstanding especially we are as a nurse that regard to human being”.

The last beneficial things from learning foreign language is increased the bargaining nurses' competition not only for

skill but also the ability of speaking foreign language. So the bargaining power of nurse is high also regard to their salary.

“I have been learning foreign language (in this case I learn Japanese language) for 7 months. I feel that learning the foreign language can increase the quality of graduation, so that the value of competitiveness is high, its effects on the salary and the quality of life (REL)”

Table 1. Perception towards motivation in learning the foreign language

No	Item Description	(1)	(2)	(3)
1	Have you ever learned the foreign language?			
2	How long have you learned Foreign language, how is your experienced before?			
3	Learning foreign language help me to improve my knowledge?			
4	Why and what for you learned Foreign language?			
5	Among the other foreign language, why do you motivate to learn Japanese language?			
6	What kind of difficulties that you find in learning foreign language?			
7	Who is the one who motivate you in learning foreign language?			
8	Why do you interest to continue your study/ work in foreign country?			
9	What is the importance of learning foreign language regard to the development of nursing education?			
10	What is the beneficial of learning foreign language to the improvement of nursing career?			

Table 2. Profile of Respondents

No	Description	EKP	SINH	REL
1	Age	20	20	19
2	Sex	Female	Female	Female
3	Status	4 <sup>th</sup> grade student	4 <sup>th</sup> grade student	4 <sup>th</sup> grade student
4	Time learning	5 years	2 months	7 years
5	The reason of learning foreign language	<ul style="list-style-type: none"> <li>- For holiday</li> <li>- Just to know how to use the language</li> </ul>	<ul style="list-style-type: none"> <li>- To continue the study abroad</li> <li>- To work in Japan</li> </ul>	<ul style="list-style-type: none"> <li>- To work in Japan</li> <li>- Able to communicate with others fluently.</li> </ul>



## CONSLUSION AND RECOMENDATION

### Conclusion

All the respondents were motivated in learning foreign language in order to improve their quality of life in getting a job outside the country, one of the beneficial from this motivation would be increased their career in nursing. Although, there were many difficulties in this learning process. They still motivated to continue and complete this learning process.

### Recomendation

The foreign language should be recommended include into the nursing curriculum, so that the students were high motivated in learning foreign language not only English but also Japanese and Arabic should be more meeting in the curriculum. On other hand, the college held a foreign language's day in a day in order to be able speaking other language in their daily activity.

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# THE EFFECT OF KANGAROO METHOD ON THE ADEQUACY OF ENOUGH MONTH AGED BABY AT BLEGA OLOH POLINDES AT BLEGA DISTRICT BLEGA OLOH KECAMATAN BLEGA

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## ABSTRACT

**Introduction:** The reducing of ASI becomes the problem for a new mother, and there are several factors that affect the ASI production. Stimulation touch on the breast when the baby sucking the nipple causes oxytocin to secrete ASI. The Results of the preliminary study was conducted on 30 to 31 January 2016. It was found 23 mothers who breastfeed their babies aged 1-3 months. 10 mothers ( 44 % ) of babies got enough ASI . 13 mothers ( 56 % ) of the babies did not get enough ASI . The aim of research to determine the effect kangaroo method of the adequacy of breastfeeding in term of babies aged 1-3 months. **Method:** The design of the research used was one group Pre -test Post - test in which independent variables was Kangaroo and Dependent variable was Adequacy of ASI. Respondents in the capture as much as 22 Breastfeeding mothers of infants aged 1- 3 enough months. Mean of data collection using questionnaires. The sampling technique used was Random Simple Sampling with data analysis of Wilcoxon Test. **Result:** The result of preliminary research showed that before being given the kangaroo method, the adequacy of breast milk was in the poor category as many as 19 respondents (86.3 %). And after kangaroo method was used, the adequacy of breast milk was in a category quite as many as 13 respondents ( 72.7 % ) . After the Wilcoxon statistical test resulted p value : 0,001 which means  $p \text{ value} < \alpha = 0,05$  so that  $H_0$  is rejected . The result showed that there was effect of kangaroo method of the adequacy of breastfeeding in term babies aged 1-3 months. **Conclusion:** Finally, it is expected to the midwives or health workers to continue to provide education and demonstrations by using kangaroo care method, so it can help with milk production in postpartum mothers. The well experience of breastfeeding mothers, it can help the mothers in successful breastfeed, if they are more in contact with their babies.

**Keywords:** Kangaroo Method-Adequacy of Breast Feeding Enough month aged babies

## INTRODUCTION

Breast is breastfeeding without food and drink another addition to the baby. World Health Organization (WHO) states that exclusive breastfeeding during the first 6 months of a baby is the best because breast milk is the perfect food for babies. Breastfeeding means providing high-value nutritional substances necessary for the growth and development of nerve and brain, as well as providing substances immunity against several diseases and realize the emotional bond between mother and baby. (Wulandari, 2009).

Adequate breastfeeding related to the adequacy of the volume of milk during breastfeeding. The volume of milk during

breastfeeding is influenced time of onset of feeding, frequency of feeding, emptying the breast during breastfeeding, the baby's position while feeding, and the baby's ability to suck the milk "a sign that the baby is getting enough milk are: Number urinate in a day at least 6 times, color of urine usually colorless to pale yellow, Babies often defecate yellowish seeds, Baby seemed satisfied, at any time feel hungry waking and sleeping enough, Babies least suckle 10 times in 24 hours, Breast mother feels soft whenever finished breastfeeding, she can feel tingling because the flow of milk each time the baby starts to breastfeed, she can hear the sound of swallowing softly

as the baby swallow the milk, baby gain weight (Wulandari, 2009).

Results of a preliminary study conducted on 30 to 31 January 2016 Polindes Oloh Blega District of Blega. Obtained 23 mothers who breastfeed their babies aged 1-3 months. 10 mothers (44%) were breastfeeding her baby, the baby is getting enough milk. 13 mothers (56%) who breastfeed, the baby is not getting enough milk marked with a baby is not satisfied after each feeding, frequent crying baby or the baby refuses the breast, baby's faces hard and green.

Factors are affecting the adequacy of breastfeeding, including the food, the frequency of breastfeeding, birth weight, gestational age at delivery, age of mother, maternal psychological state, the use of the contraceptive pill. Suckle 2-3 hours will keep milk production remains high. For most women, breastfeeding or expressing milk eight times in 24 hours will maintain milk production remained high in the early days of breastfeeding, especially the first 4 months (Laksono, 2010).

The implications for infants not enough breast feeding that would interfere with the development and body resistance against diseases is weak compared to infants who received breast milk in full for two years, of course, exclusive breastfeeding during the first 6 months is better then, the gift is continued until the age of infants up to 2 years.

The physical contact between mothers and their infants through breastfeeding reduces stress when a newborn baby is separated with his mother, the stress hormones will cause a decline in the immune system or immune system baby. Meanwhile, if done skin contact of mother and baby, the stress hormones will go back down, so that the baby become calmer, no stress, as well as respiratory and heart rates more stable (Prasetyono, 2008). Formulation of the problem: How was the adequacy of breastfeeding before given a kangaroo method in infants aged 1-3 months? How was the adequacy of breast

feeding after a given method of kangaroos in term infants aged 1-3 months? Was there any influence of the adequacy of the kangaroo method breastfeeding in infants aged 1-3 months?

This research aims were to understand about certain condition, which was analyze the effect kangaroo method to provision adequacy of breastfeeding in term infants in polides of Blega Oloh. The special purposes were to identify the adequacy of breastfeeding before given a kangaroo method in infants aged 1-3 months in the village Blega oloh District of Blega. Identify the adequacy of breast milk is given after the kangaroo method in infants aged 1-3 months in the village Blega oloh District of Blega. And also, to analyze the effect kangaroo method of the adequacy of breastfeeding in term infants aged 1-3 months.

## METHODS

The research design used in this study is one group pretest-posttest design. In this design before treatment is given prior samples were given a pretest (initial test) and at the end of the study sample was given a post-test (final test). This design is used on purpose to be achieved is to know the adequacy of the breast feeding before it is given the method of kangaroos and kangaroo methods already given to infants aged 1-3 months. In this study, the independent variable is the Kangaroo and the dependent variable is the adequacy of breastfeeding in infants aged 1-3 months.

Operational definition:

Kangaroo care method is to put the baby in inside the pocket so as avoid direct contact between the skin of the mother and the baby's skin so as to provide comfort very essential to the growth of the baby, the baby easily breastfeeding. Steps to make a kangaroo method were: a. After washing hands mother wear kangaroo's mother. b. Babies placed upright between the two breasts. c. The baby's head turned away to the left or to the right. d. Wear a shirt button. e. In order to the baby's position has not



changed use the long cloth wrapped around the body of the mother.

Adequacy of ASI are:

Adequate breastfeeding related with the adequacy of the volume of milk during breastfeeding. Influenced the volume of milk during feeding time of onset of feeding, feeding frequency, emptying the breast during breastfeeding, the baby's position while feeding, and the baby's ability to suck the milk. The parameters were: production increased, baby suckle frequently (8-12X day), baby looks satisfied, baby looks healthy, baby's weight increase.

In this study, researchers determined based on the estimated population of the entire breastfeeding women are at 23 mothers partisipant of term infants aged 1-3 months in Polindes Blega oloh Blega District of Bangkalan. And a sample size of 22 people.

Criteria for inclusion in this study are:

- 1) Mothers with have baby in the age of 1-3 months.
- 2) Breastfeeding mothers of baby without extra food.

Exclusion criteria in this study were nursing mothers with childbirth SC. The sampling technique used in this study using simple random sampling technique. The place of researe at Polindes of Blega oloh Blega District of Bangkalan. The time needed for this research was started in July 2016.

To determine the effect kangaroo method of the adequacy of breastfeeding in term infants aged 1-3 months. The test using statistical test of Wilcoxon Signed Rank Test is a non-parametric test were used to analyze the data in pairs because of the two different treatments. Wilcoxon Signed Rank Test was used when the data are not normally distributed.

## RESULT

Table 1. Distribusi frequency based on the adequacy of breastfeeding before given a kangaroo method to the respondents in polindes of blega oloh district blega 2016

Adequacy Of Breast feeding (Pre)	f	Persentase(%)
Veryless	0	0
Less	19	86,4
Enoght	3	13,6
Total	22	100

According to the table 1 above showed that nearly all infants aged 1-3 months before being given a kangaroo method adequacy of breast milk in the poor category as many as 19 respondents (86.4%).

Table 2. Frequency distribution based on the adequacy of asi after cast kangaroo at respondents in polindes blega oloh.blega 2016

Adequacy Of Breast feeding (Post)	f	Persentase(%)
Veryless	0	0
Less	6	27,3
Enoght	16	72,7
Total	22	100

Based on Table 2 above showed that the majority of infants aged 1-3 months after the kangaroo method sufficiency given breast milk in a category quite as many as 13 respondents (72.7%).

Table 3. Cross tabulation effect of kangaroo against self sufficiency breastfeeding baby age 1-3 months months in polindes blega oloh kec.blega.

Pre/ Post		Adequacy Of Breast feeding						Total	
		Vervyless		less		Enoght			
		N	%	N	%	N	%	N	%
Pre		0	0	19	86,4	3	13,6	22	100
Post		0	0	6	27,3	16	72,7	22	100
Total		0	0	25	56,8	19	43,2	44	100

Sumber :: Perolehan data primer

Based on the above table is described that the infants before treatment is given none had sufficient milk in the category quite different from the results is given treatment after a kangaroo method as many as 16 respondents (72.7%) in the category of Self in the adequacy of breast milk. After the Wilcoxon statistical test result value p value: 0.001 significant p value  $<\alpha = 0.05$  so that  $H_0$  is rejected. The result is the effect kangaroo method of the adequacy of breastfeeding in term infants aged 1-3 months.

## DISCUSSION

### 1. Overview Adequacy ASI Prior to Give Kangaroo On term infant Baby 1-3 Months.

The research concludes that nearly all infants aged 1-3 months adequacy of breast milk in the poor category, as many as 19 respondents (86.3%). Before being given treatment kangaroo method. As the baby does not seem satisfied and at times often feel hungry, often in breast-fed infant by his mother, the baby's weight was no improvement. From the questionnaire results in babies who do not get enough milk because milk production slightly, causing the baby rarely BAB. Milk production will be much if babies feed often and there is direct skin contact between mother and baby can increase the hormone prolactin, which can augment milk production. Less production due breastfed baby cannot suck effectively, among other things due to the structure of the mouth and jaw were not good, the wrong attachment techniques. Mothers who are malnourished, and the mother's food intake is very influential on milk production.

Breast milk production and secretion occur after the baby is born that in one after another later with events decreased levels of estrogen boosted the levels of prolactin for milk production. So with the increase prolactin levels, start milk production activity took place. Stimulation touch on the breast when the baby sucking the nipple causes oxytocin to secrete milk.

Psychic condition and also the food consumed by the mother can also affect milk production. But creating breastfeeding from the first day is not always easy because many women are facing problems in doing so. Circumstances which often occur on the first day of breastfeeding is difficult ASI out. Terrsebut cause trouble breastfeeding mothers feel anxious and worried. Mother became psimis with the amount of milk obtained and inhibit milk production. Moreover, when the lack of maternal nutrition can cause the quality of breast milk to decrease. With less milk production, the mother be looking at other options to provide infant formula milk that caused the baby's sucking intensity to be reduced due to alternate with the formula that makes the milk became less and less that comes out (Roesli, 2006).

### 2. The description of adequacy of Breast Feeding After giving after giving Kangaroos Method to the term infant Baby aged 1-3 mont

Based on the above study showed that the majority of infants aged 1-3 months adequacy of breast milk in the category enough, as many as 16 respondents (72.7%). After the treatment given kangaroo method. baby enough milk as the baby's weight increases, the baby seems satisfied after feeding, the baby looks healthy, the baby often bowel and yellow-green. From the above results after being given treatment there kangaroo method good results are largely breastfed babies have undergone sufficient. This proves that the kangaroo method can help augment milk production and easier to breastfeed the baby on demand. In addition to increase milk production kangaroo method also helps to increase the weight of low birth weight babies, and can keep the baby warm. Age is a factor that determines breastfeeding. In terms of milk production of mothers aged 19-23 years in general can produce enough breast milk than women who were older, and able to breastfeed her baby by a considerable amount.

From the results of the questionnaire infants who have enough milk to breastfeed is because mothers often every 2-3 hours or 8-12 times a day, so that the baby gain weight. Food is also an important thing week to augment milk production increases. When the milk on the first day has not come out quite disusukan for 4-5 minutes to stimulate milk production. After the production of enough milk, the baby can disusukan for 10-15 minutes.

Adequate breastfeeding related to the adequacy of the volume of milk during breastfeeding. Influenced the volume of milk during feeding time of onset of feeding, feeding frequency, emptying the breast during breastfeeding, the baby's position while feeding, and the baby's ability to suck the milk. Kangaroo care method is an effective way to meet the most basic needs of the baby, that warmth, just breastfed, protection from infection, stimulation, safety and love kangaroo care method can protect the babies warm. Can start immediately after birth or after the baby is stable. KMC can be done in a hospital or at home after the baby home. Babies can still be treated with KMC although not able to suckle, give milk wring it by using one of the alternative provision of drinking (Wahyuni, 2013).

### 3. Effect of Kangaroo Against Self Sufficiency ASI In Infants Age 1-3 Months Months.

Based on the above study found that infants before given none had sufficient milk in the category quite different from the results given after the kangaroo method as many as 16 respondents (72.7%) in the category of Self in the adequacy of breast milk. It shows that the kangaroo care method is very efektifdalam increase milk production.

The above shows that the method is very effective kangaroo dala breastfeeding, can be a sign that mengalmi baby enough milk as Total urinate in a day at least 6 times. Art colors usually colorless to pale

yellow. Babies often CHAPTER yellowish seeds, baby gain weight. Kangaroo method can not only be done by the father or mother only other family can also do perwatan kangaroo method. Because the kangaroo care method not only can help in breastfeeding, but also biga can increase the baby's weight.

Kangoro Mother Care (KMC) or kangaroo care method is to do direct skin contact with the baby or the mother's skin Skin to Skin Contact. Where the mother uses her body temperature to warm the baby. This treatment method is also shown to facilitate breastfeeding leads to increase milk production and milk can be fulfilled due to frequent contact with the baby's mother and easy breastfeeding. Breastfeeding mothers experience well managed, then the mother can breastfeed more successful if they are more contact with their baby. Breastfeeding stimulates the production of prolactin, thereby increasing the volume and stimulating effect ASI output. Contact the closest occurs when the mother using kangaroo (skin to skin). Research conducted by Shiau (1996) which is based on the philosophy of kangaroos and protect their children. As we know, kangaroo pouch put their children in direct contact with the body of the mother, after the study is able to suppress ternyataa way infant mortality. Separation of mother, baby and technology used in the neonatal unit makes bonding difficult and create barriers to breast-feeding. Care given by way kangaroo mothers who start in a few hours after birth menstimulasi milk production and of course increase the bond between mother and baby. Several studies on the effect of FMD on breastfeeding indicate that breastfeeding becomes longer, more stable milk production, the number of breastfeeding per day increased a lot and most premature babies went home with exclusive breastfeeding (Wulandari, 2009).

The above results indicate that the first respondent decreased, ie, before being given the kangaroo method adequacy of breastfeeding infants aged 1-3 months

category fairly and after given the kangaroo method babies aged 1-3 months of the adequacy of breast milk in the poor category. It is a contributing factor that the baby's mother did the kangaroo method and rarely give milk to her baby as if the baby slept still not woken up so the baby does not have kecukupa milk.

## CONCLUSION AND RECOMENDATION

Postpartum Mothers with babies just months before being given a kangaroo method almost entirely adequacy ASI in the unfavorable category. Mothers who have infants postpartum months after the kangaroo method largely given sufficient milk in the category enough milk. There is an effect kangaroo method of the adequacy of breastfeeding in term infants usia 1-3 months in Polindes Blega oleh Keca.Blega.

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# THE EFFECT OF ANTICIPATORY GUIDANCE TO MOTHERS' BEHAVIOR IN CARING OF LOW BIRTH WEIGHT BABIES

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## ABSTRACT

**Introduction:** Low birth weight babies are those born with weight less than 2,500 grams. The preliminary finding of the research showed that, of 20 mothers, 5 mothers (50%) were not able to maintain temperature and warmth, 5 mothers (50%) were not able to provide babies with blankets, 6 mothers (60%) were not able to breastfeed on their babies, and 4 mothers (40%) were able to prevent infection. This study was aimed to analyze the differences in mothers' behaviors in LBNB (BBLR) care before and after anticipatory guidance. **Method:** This research employed One Group Pre-Test Post-Test Design. Population consisted of 21 mothers who had LBNB and sample which used simple random sampling technique consisted of 19 mothers. Questionnaire was used to measure pre and post test. Data analysis technique used Wilcoxon Signed Rank Test. **Result:** The result showed before anticipatory guidance of 48,6% with less category and after anticipatory guidance 87,7% with both categories. **Conclusion:** Paired T Test showed that  $p = 0.000 < \alpha = 0.05$ , there was a difference before and after anticipatory guidance. midwives should provide anticipatory guidance to mothers with low birth weight babies at home, so that mothers will acquire knowledge and able to prevent hypothermia and infection.

**Keywords:** Care of low birth weight babies, mothers' behaviors and anticipatory guidance.

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## INTRODUCTION

Infant Mortality Rate (IMR) in Indonesia is still very high, at 32 per 1,000 infants aged 0-12 months, while 13 per 1,000 live births, neonatal infants 0-28 days 19 per 1000. The cause of death of newborns is Low Birth Weight Babies (LBW) was accounted for 36% (n=225), followed by congenital malformations (33%, n=210), 198 infants (31%) lack of oxygen (asphyxia), while other newborn deaths were caused by sepsis (systemic infection), congenital abnormalities and Taruma deliveries (IDHS 2012). Based on the above data the leading cause of infant mortality was Low Birth Weight babies.

Babies consider low birth weight when their birth weight are less than 2500 grams (Saifuddin, 2009). LBW may put the baby at risk of infection, difficulty breathing, hypothermia and suckling reflexes are less or nutritional deficiencies can occur (Elizabeth, et.al, 2013).

Parents should be able to master how to care for the baby, including attention to the movement, activity, baby's communications to provide what is necessary and give the appropriate stimulus to babies. Babies will respond to stimulants and care given by mothers in the form of crying, increase or decrease in weight, warmth and cleanliness (Lowdermilk, Perry & Bobak, 2006).

A preliminary study was conducted in July 4, 2016 via interviews of 20 mothers data obtained five mothers (50%) who have not been able to maintain the temperature and warm as they care for their babies just like a normal baby is starting to be bathed and less attention to the warmth of the baby so experiencing hypothermia, 5 mothers (50%) have not been able way swaddle the baby, six mothers (60%) have not been able to provide breast milk for breastfeeding mothers do not come out so that the given



formula, but the baby becomes less likely to drink to lose weight, and four mothers (40%) able to prevent infection. Based on the results of a preliminary study on the data get the low behavior LBW mothers in care home.

Lawrence Green (1980), analyzing human behavior is affected by of three factors, namely: a). Predisposing factors (predisposing factors), realized in knowledge, attitudes, actions, beliefs, values, traditions. b). Enabling factors (enabling factors), which is manifested in the physical environment, provision or unavailability of health facilities such as health centers, medicines, contraceptives, toilets and so on. c). Factors driving or amplifier (renforcing faktors) that embodied in the attitudes and behavior of health workers or other personnel. (Notoatmodjo, 2010).

Bang, et al (2005) suggest that maternal care in LBW infants greatly impact on the quality of life and survival of the baby. the incidence of infection of malnutrition and mortality in LBW babies if the mothers do not provide a proper care to their The results were supported by Surasmi (2005) that the mother's response to the problem of low birth weight baby greatly influence a mother's decision to to care for the baby that will impact on growth and development of low birth weight. Many mothers are found to be inadequate in caring of their baby properly and expose their baby to risk of morbidity and mortality.

Nurses should provide mothers with proper guidance in caring of LBW babies to ensure the baby has good quality of life. to the most important health education for mothers with LBW babies are ; maintain the temperature and body warmth LBW babies at, breastfeeding practices and prevention of infection for LBW babies at home (Girsang, 2009). nurse and midwife has an important role in to provide proper guidance to parents (anticipatory guidance). The research objective was to determine the differences in maternal behavior in caring of LBW before and after providing and

teaching them on anticipatory guidance at the sub-district Puskesmas Kamal Kamal Bangkalan

## METHODS

The study design used was quasi experimental with One Group Pre-Test Post-Test Design. The study design is described as follows:

Subject	Pra-test	Treatment	Post-test
K	01	X	02

Population In this study were all mothers who had a low birth weight infant and attending health centers in the region of the District Kamal Kamal Bangkalan. Based on the average number of LBW in Puskesmas Kamal many as 20 people. Inclusion criteria include:

- LBW infants in a stable condition
- LBW infants consciousness komposmentis
- LBW infants  $\leq 2500$  grams

Exclusion criteria include:

- LBW infants with complications
- The infant's mother who refused to be the respondent

The sampling technique in this research is using Simple Random Sampling technique

Data was collected using questionnaire with structure close ended questions and by observing the maternal behaviour using the observation data sheet. collection procedure:

- Administrative procedures
- The data was collected by giving questionnaires and observations of the mother in caring of low birth weight measures using observation sheet (Pre Test).
- Provided mothers with anticipatory guidance about the care of LBW at home using flip charts and booklets within 7 days
- Providing guidance in anticipation of the following ways:
  - explained about LBW
  - Demonstrate the care LBW

- c. allowed mother to re demonstrate what has been thought
- d. assisted mothers
- e. Performed post test by giving a questionnaire

Data collected were managed according to the following stages : EDITIN, Scoring, coding and tabulating. Univariate analysis was performed to generate a frequency distribution and percentage of each variable normality of the data was tested by the Kolmogorov-Smirnov test. the data was normally distributed hence Pairs T Test was used.

## RESULT

Characteristics of Mother with LBW Baby By Age. Based on the table below, it is known that out of 19 mothers almost half (47.4%, n=9)of the respondents were at the age of 15-20 years .

Table 1. Distribution of Mothers Having LBW Babies By Age

Age Group	Frequency (f)	Percentage (%)
15-20 Year	9	47,4
21-30 Year	6	31,6
31-36 Year	4	21
Total	19	100

Characteristics of LBW babies Mothers who have home based jobs. Based on the table below it is known that from 19 Mother nearly half of the respondents are in the work of farmers as many as 8 Capital (42.1%).

Table 2. Frequency Distribution of Mothers Having Babies At home LBW Based Jobs

Work	Frequency	Percentage
Housewife	5	26,3
Teacher	2	10,6
Private	4	21
farmer	8	42,1
Total	19	100

Characteristics of Mother Carries with LBW Baby by education. Based on the table below, 3 of the 19 mothers in mind

that nearly half (47.4%, n=9).the respondents in elementary education.

Table 3. Distribution of Mother Carries with LBW Baby by Education

Education	Frequency	Percentage (%)
Primary school	9	47,4
Junior high school	4	21
Senior High School	4	21
Bachelor	2	10,6
Total	19	100

Characteristics of of Mother with LBW Baby by number of children at home. Based on table 4 it can be seen that almost one third (36.9%, n=7) of the mothers have only a child.

Table 4. Distribution of the number of children at home

Number of Children	Frequency	Percentage (%)
1 child	7	36,9
2 children	5	26,3
3 children	4	21
4-7 children	3	15,8
Total	19	100

Characteristics of Mothers who have babies at home by weight LBW infants. Based on Table 5 it can be seen that almost all (84.2%, n=16). mothers have low birth weight babies.

Table 5. Mothers Having Babies At home LBW By Weight Infants

Weight	Frequency	Percentage (%)
1,000-1,500	3	15,8
1,600-2,500	16	84,2
Total	19	100

Respondents code	Pre-Test	Persentase (%)
1	92	63
2	107	73,3
3	89	60,9
4	72	49,3
5	81	55,5
6	71	48,6
7	77	52,7
8	75	51,4
9	77	52,7
10	77	52,7
11	76	52
12	79	54,1
13	88	60,3
14	83	56,8
15	80	54,8
16	77	52,7
17	80	54,8
18	79	54,1
19	80	54,8

Based on table 6 above showed that the behavior of the mother in caring of LBW before anticipatory guidance (anticipatory guidance) in the sub-district Puskesmas Kamal Kamal Bangkalan that less than half 48.6% of the mothers was in the category of less.

Table 7 Distribution Frequency Behavior of Mothers in LBW baby After Anticipation Guidance Forum (anticipatory Guidance)

Respondents Code	Post-Test	Persentase (%)
1	122	83,6
2	117	80,1
3	126	86,3
4	111	76
5	116	79,5
6	111	76
7	110	75,3
8	113	77,4
9	109	74,7
10	105	71,9
11	117	80,1
12	128	87,7
13	117	80,1
14	111	76
15	119	81,5
16	111	76
17	111	76
18	119	81,5
19	112	76,7

Based on table 7 above showed that the behavior of the mother in the care of LBW after doing anticipatory guidance (anticipatory guidance) in the sub-district Puskesmas Kamal Kamal Bangkalan was 87.7% in the category of good.

Differences in level of mother's behavior before and after anticipatory guidance (anticipatory guidance) in the sub-district Puskesmas Kamal Kamal Bangkalan.

Table 8 Distribution Frequency Behavior LBW Between Mother Before And After Anticipation Guidance Forum (anticipatory Guidance)

No responden	Pre-Test	Post-Test
1	92	122
2	107	117
3	89	126
4	72	111
5	81	116
6	71	111
7	77	110
8	75	113
9	77	109
10	77	105
11	76	117
12	79	128
13	88	117
14	83	111

14	80	119
15	77	111
16	80	111
17	79	119
18	80	112
19		

Having performed statistical tests using different test Paired T Test result value p value: 0,001 which means  $\alpha < 0.05$  so that  $H_a$  is accepted  $H_0$  is rejected. The result was a difference in the mother's behavior before and after anticipatory guidance (anticipatory guidance) in the sub-district Puskesmas Kamal Kamal Bangkalan.

## DISCUSSION

Mother's behavior in caring of LBW before anticipatory guidance (anticipatory guidance) in the sub-district Puskesmas Kamal Kamal Bangkalan. Based on the results that the behavior of mothers in the care of LBW before anticipatory guidance (anticipatory guidance) in the sub-district Puskesmas Kamal Kamal Bangkalan by 48.6% less category.

Based on the analysis of questionnaires filling knowledge with low scores are part of what should go into the mouth of LBW infants, at what time LBW babies should be dried in the sun, and how mothers swaddle correct LBW babies. At the lowest score is the attitude of the umbilical cord in LBW infants should not be given or dibumbuhi potions to prevent infection, should have from 7-8 hours in the morning can hang LBW infants mother that the baby's skin is not damaged, and LBW infants should be done so as not cold skin contact with mother and baby (KMC). At the lowest score that measures how she folded and swaddle the baby, how she took care of the umbilical cord with dry gauze and memebungkusnya, and drying the baby the right way.

This is because the behavior of the mother in the care of the baby is still lacking and very foreign to the people, especially mothers with LBW babies at home so they

do not know what it is care LBW including the purpose and benefits of treatment LBW itself as well as how to perform maintenance of low birth weight is good and right.

The level of knowledge is lacking, negative attitudes, and actions or lack of skills that will affect their behavior negatively. This is reinforced by the opinion Notoatmodjo (2010), the higher the person's level of knowledge the better the acceptance of LBW care home and vice versa.

## CONCLUSION AND RECOMMENDATION

Factors that may affect the behavior is the age of the mother. The results showed that almost half of respondents (47.4%) aged 15-20 years. Such a young age causes the mother has not had enough experience about the care of low birth weight. Less understanding will influence the knowledge, attitudes and actions in the care of LBW. This has led to poor behavior in the care of LBW. Southwestern someone who tends to repeat a good experience and tend to avoid the experience was not good (Notoatmodjo, 2007). younger mothers have lack of knowledge about the care of LBW infants due to lack of experience and information obtained from other people and the mass media. Therefore, the younger a person will will have low level of behavior in the home care of LBW infants. Another factor influencing the behavior of the mother is the education factor.

The results showed nearly half (47.4%) of respondents had elementary education leading to lack of maternal behavior in the care of LBW infants. This is consistent with the theory of Walgito (2005), the higher the person's level of education, the easier to understand the information given to them and will have better behaviour in caring of baby The results also showed that nearly half (42.1%) of respondents are farmers. Most women working as farmers they do not get the opportunity to obtain more information about the care of LBW LBW and implement

home care routine and regular. This is supported by Supartini (2005) that the demands of time-consuming work that often hamper the fulfillment of the need for unity in the family.

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# EFFECTIVENESS OF INTERPROFESIONAL EDUCATION (IPE) PROGRAM ON STUDENTS PERCEPTION OF TEAMWORK

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## ABSTRACT

**Introduction:** Health problems more complex and require teamwork professions. Teamwork requiring the same perception among members of the profession. This study aimed to evaluate the effectiveness of IPE program on students' perceptions of team work. **Methods:** It is a combination of research (mixed research) to measure the effectiveness of IPE program to change students' perceptions of teamwork. Subjects were 8 department of Surakarta Health Polytechnic students who carry out programme IPE in Ngemplak, Boyolali, with a number of 652 respondents. The sample is 50% of students from each department. Student perceptions were measured using a questionnaire Interdisciplinary Education Perception Scale (IEPs) according Luecht, Madsen, and Taugher (1990) combined with FGD students perseption. Data were analyzed using Two Way ANOVA using SPSS 18 series. **Results:** (1) The value of the average of student perceptions before implementing IPE program is 54.32, the highest in orthotic prosthetic (2) The value of the average perception after implementing IPE program is 67.48, the highest in Jamu (3) Program IPE can add friends and new knowledge from other professions (4) IPE program effectively to improve student perceptions. **Conclusions:** IPE programs can effectively improve students' perceptions of teamwork across professions ( $t = -13.229$ ;  $p=0.000$ ).

**Keywords:** Interprofesional Education (IPE), Teamwork, Student Perception

## INTRODUCTION

One of the program *Nawa Cita Indonesian* government is to improve the quality of Indonesian human life with agenda called Program Indonesia Sehat. Based on this agenda then all of Indonesian society are required to actively participate in efforts to improve the health and welfare of community. Indonesia Sehat program would then become a major program of health development by the Department of Health then applied in the form Year Strategic Plan 2015-2019 Ministry of Health (MOH, 2016). On the other hand the health problems faced by an increasingly complex society. Apart from the number is increasing, the factors causing health problems are also more complicated anyway. That requires a multidisciplinary cooperation of health professions (Zwarenstein M et.al, 2009). Multidisciplinary collaboration of

healthcare professionals can work well, if from the beginning of health workers have the same perception on cooperation interprofesional (Thistlethwaite, 2012). One effort to do is do the introduction of multidisciplinary cooperation early on medical students in teamwork interprofesi known as Interprprofesional Education (IPE). Collaboration among health professions is an effort to improve the quality of health services. As well as the opinion Hind (2003) which states that the collaboration is an attempt to improve the quality of health services.

WHO (2010) has made a grand design for the character formation of collaboration in a form of formal education in the form of interprofessional education. Interprofessional education (IPE) is an implementation of learning followed by two or more different professions to improve collaboration and the quality of service and

its implementation can be done in all learning, both undergraduate stage or stages of clinical education to create professional health workers.

Understanding and maturity of each member of the profession to interact and work together across professions will determine the successful completion of the health problems that are found. Improved knowledge, attitude, and cooperation of medical students during the activities IPE IPE program is the main objective. Related to this it is essential to do a study on the evaluation of a change of attitude and cooperation skills (teamwork) medical students during the IPE program.

This study aimed to identify the effectiveness of IPE program to increase students' perceptions of health Polytechnic Surakarta on cooperation across professions

## METHODS

This research is combined (mixed research) to measure the effectiveness of IPE programs in the community to change students' perceptions of cooperation across professions. Subjects were all students of Surakarta Health Polytechnic implementing IPE program in District Ngemplak of Boyolali, a number of 326 respondents, consisting of the departments of nursing, physiotherapy, speech therapy, occupational therapy, midwifery, acupuncture, orthotics prosthetics, and Jamu. IPE students' perceptions of the program was measured using a questionnaire Interdisciplinary Education Perception Scale (IEPs) developed by Luecht, Madsen, and Taugher (1990) combined with FGD persespi students. Research start on July to August 2016 Data were analyzed using Two Way ANOVA using SPSS 18 series.

The subjects of this study were all students of Surakarta Health Polytechnic implementing IPE program Ngemplak District of Boyolali, a number of 326 respondents, consisting of the departments of nursing, physiotherapy, speech therapy, occupational therapy, midwifery,

acupuncture, orthotics prosthetics, and Jamu. Samples were taken by cluster random sampling, where each department is taken at random as much as 50% of each department. The number of samples as in the first table.

Table 1. Distribution Frequency Number of Respondents

Department	f	%
Nursing	65	19,94
Midwifery	55	16,87
Physiotherapy	64	19,63
Acupuncture	30	09,20
Occupational Therapy	25	07,67
Orthotic Prosthetic	28	08,59
Speech therapy	23	07,06
Jamu	36	11,04
Total	326	100

## RESULT

All respondents totaling 326 students can follow the research process until completed, and the results are as follows:

### 1. Perception of Students Before Program IPE

Table 2. Perception of Students Before Program IPE

Program	Mean	Max
Midwife	53,04	67,00
Physiotherapy	51,58	65,00
Acupuncture	51,18	67,00
Occupational Therapy	58,22	71,00
Orthotic Prosthetic	64,38	83,00
Nurses	52,23	67,00
Speech therapy	52,60	67,00
Jamu	52,52	67,00
Mean	54,32	83,00

The second table provide information value - average student perception of the whole departement was 54.32 with a maximum value or highest is 83.00 OP (Orthotic Prosthetic)

Table 3. Results of ANOVA analysis (Post Hoc) Value Perception Before IPE Program

Program	Mean	Max
Midwife	11,33*	,002
Physiotherapy	12,79*	,000
Acupuncture	13,19*	,000
Occupational Therapy	6,15	,379
Nurses	12,15*	,000
Speech therapy	11,77*	,001
Jamu	11,85*	,001

Results of ANOVA analysis (Post Hoc) Value Perception Before IPE Program Based on Table 2 and 3. It is seen that the highest average value is majoring in OT(Occupational Therapy) and these values are different from other majors midwives ( $p = 0.002$ ), Physiotherapy ( $p = 0.000$ ), Acupunktur ( $p = 0.000$ ), Nurses ( $p = 0.000$ ), Speech therapy ( $p = 0.001$ ), and Jamu ( $p = 0.001$ ). As for the majors OT no difference where the value of  $p = 0.379$ .

## 2. Perception of Students After IPE Program

Table 4. Value Perception of Students After IPE Program

Program	Mean	Max
Midwife	67,69	85,00
Physiotherapy	67,12	83,00
Acupuncture	58,31	74,00
Orthotic Prosthetic	65,04	72,00
Occupational Therapy	70,47	84,00
Nurses	69,53	86,00
Speech therapy	70,13	88,00
Jamu	71,38	89,00
Mean	67,48	89,00

Table 4. Provide information value - average student perception of the entire department after IPE program increased to 67.48 with a maximum value or highest also increase to 89.00 are majoring in Jamu. With the results of ANOVA  $F = 5.920$  and  $p = 0.000$  showed there were differences between each department.

Table5. Results of ANOVA analysis (Post Hoc) Value Perception After IPE program

Program	Mean	Max
Midwife	-9,37*	,008
Physiotherapy	-8,80*	,016

Occupational Therapy	-6,72	,169
Orthotic Prosthetic	-12,15*	,000
Nurses	-11,22*	,000
Speech therapy	-11,81*	,000
Jamu	-13,06*	,000

Based on Table 4 and 5. It is seen that the increase in value - average low is majoring in acupuncture, while the lowest maximum value is majoring in OP (Orthotic Prosthetic) is 72. The result of ANOVA  $F = 5.290$  and  $p = 0.000$  shows there is a difference between the majors, except with the department of acupuncture with the OT there is no difference ( $p = 0.169$ )

## 3. Effectiveness IPE against Student Perception

Table 6. t-test Results Student Perception Before and After Program IPE

Pre	Post	t	p
54,32	67,48	-13,22	,000

Table 6 shows the average value of students 'perceptions after IPE program is higher than before implementing IPE program, as well as the value of the t-test  $p = 0.000$  (significant differences) so that it can be concluded that the IPE program is effective to improve students' perceptions of the IPE.

## DISCUSSION

The results showed the program Interprofesional Education (IPE) can significantly improve the perception of the students ( $p = 0.000$ ). IPE activities in 2016 by the Health Polytechnic Surakarta conducted by practicing eight department with a total number of students each department between 42 up to 52 students. With the number of departmeent that are very much needed coordination across the profession quite intensively. The principle of such activities in accordance with the understanding IPE According to the Centre for the Advancement of interprofessional Education (CAIPE), which IPE is two or more professions learn with, from and about each other to improve collaboration and quality of service. IPE is an approach to education process two or more different

disciplines collaborate in the teaching-learning process with the aim of fostering interdisciplinary or interprofesional interactions that increase practices of each discipline (ACCP, 2009). IPE occurs when two or more students of different health professions implement interactive learning with the aim of enhancing collaboration interprofesional and improve the health or well-being of patients. Interest interprofessional education according Freeth and Reeves (2004) is to prepare students for healthcare professionals with the knowledge, skills, attitudes and professional behaviors that are essential to the practice of collaboration interprofesional.

The corresponding concept of IPE, the main purpose is to train students in health professions resolve health problems through collaboration team and collaboration among health professions. Implementation in Health Polytechnic Surakarta 8 department practiced together in one team tasked to investigate and resolve the health problems found in the family or community. During the IPE program implementation through supervision and guidance of the lecturer.

Changes in student perception of the IPE highly variable but generally increasing toward the better. According to table 6, it is clear that the value of perception after the IPE program better than before with the value of the test results of t-test 0.000 (<0.005).

### Quantitative Analysis

Student perceptions about IPE as quantitatively measuring the Interdisciplinary Education Perception Scale (IEPs) that researchers meaning into Indonesian. In the quantitative value of all the factors of the 18 components of perception has increased, which indicated the average value before implementing IPE program amounted to 54.32 increased to 67.48. Analysis of changes in each departement of study show departement that have increased the value of the highest

perception is a departement as jamu (18.86 points) and the lowest is Orthotic Prosthetic department with rising 6.10 points. As a group basis questionnaire also showed an increase as shown in Table 7

Faktor	Pre	Post	Range
<b>Factor 1:</b> Professional Competence and Autonomy	67,8	71,6	3,84
<b>Factor 2:</b> Perceived Need for Professional Cooperation	58,7	72,4	13,6
<b>Factor 3:</b> Perception of Actual Cooperation Resource Sharing Within and Across Professions	65,8	70,5	4,68
<b>Factor 4:</b> Understanding the Value and Contributions of Other Professional/Profession	52,5	69,7	17,1

Table 7. Shows IPE program provides contribution in improving student perception about interprofesional teamwork or cooperation across professions. On the first factor is about the professional competence and autonomy, the average student's ability to realize the importance and autonomy of each profession so that they feel able to solve a health problem. However, students are also beginning to realize that there are other professions that also has the competence and autonomy to overcome health problems. On the second factor also experienced an increase in value - average high enough. This data shows the IPE program can improve the perception or students understandings about the importance of professional cooperation teamwork. On this factor, there are two questions, namely whether the profession I need to work with other professions, and whether the profession I have to depend on other professions. With the increase in value - average showed the students begin

to realize the need for cooperation between the profession and even in menyelesaikan health problems sometimes other professionals are needed or depending on other professions. This result is also the same as the factor 3 is the perception of resource sharing across the profession, which means the program IPE can also improve students' perceptions about the need to share the ability or competence of each profession, and every member of the profession should be willing to help each other, cooperate with each other each according to its competence. Factors that change is highest at four factors that understand the value and contribution of professional / Other professions. This is certainly very good, because the IPE program can improve the perception of the need to understand the roles and functions of each profession in teamwork, and most importantly, there is no understanding of the most important professions in the program interprofesional (Ponzer, 2004). These results are consistent with Thistlethwaite (2012) were the outcome of IPE is to increase awareness among healthcare professionals about the importance of teamwork and mutual respect among members of the health team. These results are also consistent with the concept of et.all LeWitt (2015) which describes the IPE program can improve cooperation across the profession so memudahkan solving health problems that are found.

### Qualitative Analysis

In this study, the researchers also gave an open question about how the students perception of the IPE program. From the analysis of the results of each group FGD generally obtained as follows:  
*"Like to meet people and get new knowledge from a variety of professions."*  
*"Here we learn to work together, although only 4 weeks seemed four years that foster brotherhood"*  
*"A lot of people meet new and familiar fast like family, very pleasant, no problems, every day is always laughing, a lot of added*

*knowledge from various other professions"*  
*" Initially hesitant and somewhat lazy to leave the practice, because imagine not familiar with the other students, was less enthusiastic, but after gathering turned out to other student was cool, fun, to chatting and joking "*  
*"Met a lot of amazing friends, learn to serve in the community, learning to be a housewife"*

Based on the open perception of each of these groups as general gives an overview although initially the students feel uncomfortable about having to work or practice with other professions, but in the end the student feels comfortable as it gets a new friend incredible, can learn from other professions, and work together in teams across the profession turned out to be the happy like their own family.

## CONCLUSION AND RECOMENDATON

### Conclusion

IPE programs effective to improve students' perceptions of teamwork across professions.

### Recomendation

IPE activities should be continued to improve the quality of implementation.

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# EFFECTIVENESS OF EDUCATION PROGRAM INTERPROFESIONAL (IPE) HEALTH STATUS OF FAMILY

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## ABSTRACT

**Introduction:** The family is an important part in the success of health development. Index of healthy family as a health status indicators and the strategy appears logical to gain of healthy direction based on the family. Interprofesional Education (IPE) is the strategy of health education institutions in contributing to improving the health status of the family. Assess the effectiveness of the program Interprofesional Education (IPE) to the improvement of health status of the family. **Method:** This is a Quasi-Experimental research with pre post design. Subjects were 120 families with healthy family index value  $<0.800$ . Treat the form of counseling families through programs Interprofesional Education (IPE). The research was conducted from July to December 2016. **Results:** (1) The value of the average index of a healthy family before being implemented program IPE 0,400 unhealthy category (2) Index healthy families after the implementation of the program of IPE is pre healthy with the average value of 0.690 (3) IPE effective in improving the health status of the family ,  $p = 0.000$  (4) there is a family medical issue that can not be solve because there is no appropriate departement of the institution handle this issue. **Conclusions:** IPE effective in improving family health status ( $p = 0.000$ )

**Keywords:** Interprofesional Education (IPE), Status of Family Health, Healthy Family Index

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## INTRODUCTION

Healthy Indonesian program with a family approach to public health strategy in Indonesia today. Health development goals is to increase awareness, willingness and ability of healthy life for everyone in order to materialize the health of society as high. The success of health development is largely determined by the synergy and continuity between the various efforts and programs in the community and the government. Efforts to achieve the health priorities in the year 2015-2019 in Healthy Indonesian Program implemented by utilizing all the potentials that exist, whether from the central, provincial, district / city, and society. According the policy, health development starting from the smallest unit of society, the family (Department of Health, 2016).

One function of the family according to Friedman (1998) is a care or health maintenance function (The Health

Care Function), which functions to maintain the state of health of family members to keep a high productivity. This functionality was developed into the family duties in the health field that is familiar with development disorders the health of every member of the family, took the decision to act appropriate health, providing care to ill family members, maintains a home atmosphere that is beneficial to the health and development of the personality of his family members, and maintaining relationships reciprocity between families and health facilities.

On the other hand there are health problems in the family more numerous and complex, thus requiring treatment from a health holistically and comprehensively. Multiprofesion or cross-profession cooperation is needed to be able to touch all aspects in the family. Efforts and programs to improve understanding of the role and functions of the family in health

development also should be improved, so as to realize a family that is able to play an active part in the program Healthy Indonesia. The effort is a shared responsibility of health workers in health centers and surrounding communities, including health education institutions. One of the things that is a challenge for health institutions is how to be able to utilize the existing health workforce optimally to meet the health needs of patients, families, and communities with cost effective (IPEC, 2011). According to Stevenson (2012), the key to a comprehensive range of cost-efficient is to increase the effective collaboration between health professionals. This is in line with WHO statement on the Framework of Action on Education and Collaborative Practice interprofessional that to solve health problems related to many aspects of life can not be done only with uniprofessional system.

Interprofesional education (IPE) is one of the educational system that triggered the WHO as an integrated education system to prepare for collaboration practice. IPE occurs when two or more professions learn and be able to collaborate in improving health (CAIPE, 2011). IPE effective implementation can produce effective collaboration practices as well (WHO, 2010). IPE is an important step in preparing the readiness of health workers collaboration practice better. Many developed countries that enter into the educational curriculum IPE (Wilhelmsson et al., 2011). CIHC (2007) states that the application of the IPE on academic education can improve the quality of practice in the profession, so that it can provide a positive impact on health services. At the time of taking professional education, students will encounter technical problems that vary from profession so in solving the problem required inter-professional collaboration. Surakarta Health Polytechnic is one of the Institutes of Health under the Ministry of Health of the Republic of Indonesia, which

has eight courses namely nursing, midwifery, physiotherapy, orthotic Prosthetics, Occupational Therapy, Speech Therapy, Acupuncture and Herbal Medicine. In an effort to participate and to prepare health workers who are reliable, then the Health Ministry of Health Polytechnic Surakarta since 2015, implementing programs Interprofesional Education (IPE). IPE conducted with each student menggabungkan Department into one group of students, so that any one group of students from the Department 8. Each group was given responsibility for managing a group of people made up of several families. During the practice the students are guided by a 2-4 vote lecturer in one area / village to investigate and resolve the health problems in the family, including the conduct of health education in the family so that the health status of families is expected to increase. Has not conducted research on.

This study aims to determine the effectiveness of IPE program on family health status.

## **METHODS**

This research is quasy Experiment with pre post design to determine the effectiveness of IPE program on family health status. Family health status was measured by Healthy Families Index 2016 issued by the Ministry of Health of the Republic of Indonesia. Test the statistics used are Dependent Paired t-test with SPSS 18. The research was conducted from July to December 2016.

## **POPULATION SAMPLE AND SAMPLING TECHNIQUES**

Respondents are whole families in 12 village in Puskesmas Ngemplak Boyolali which have criteria in Healthy Family Index (IKS) <0,800. The number of samples taken in 120 households using cluster random sampling, which each group was given the task of guiding 10 families were drawn at random after all the families

studied by IKS. The study was conducted from July to December 2016.

## RESULT

### 1. Family Health Status Before Program IPE

Table 1. Frequency Distribution of Family Health Status Before Program IPE

Category	f	%
Healthy (> 0.8)	0	0,00
Pre Healthy (0.5-0.8)	18	15,00
UnHealthy (<0.5)	102	85,00
Total	120	100

Table 1 shows that before the family made guidance through the IPE program, the number of families the most is the unhealthy status is 102 or 85.00% and families with pre-healthy status, namely 18 or 15.00%. Descriptive analysis results showed the average value is 0,400 including the category of unhealthy family

### 2. Family Health Status After IPE Program

Table 2. Frequency Distribution of Family Health Status After IPE program

Category	f	%
Healthy (> 0.8)	24	20,00
Pre Healthy (0.5-0.8)	78	65,00
UnHealthy (<0.5)	18	15,00
Total	120	100

Table 2 shows the health status of the family after guidance through the IPE program is at most the number of family groups with pre-healthy status of a number of 78 or 65.00%, and the least is unhealthy familial status as much as 18 respondents or 15.00%. Statistical analysis of descriptive value - average is .690, including pre healthy family category.

### 3. IPE Program Effectiveness Against Family Health Status

Table 3. Test Results Dependent Paired t-test

Mean Value	p
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Pre	Post	Std	
0,400	0,690	0,15	0,000

Statistical test result with Dependent Paired t-test as shown in Table 3, demonstrate the value of  $p = 0.000$  ( $<0.005$ ), the average value after the program IPE (0.690) is greater than the value before the program IPE (0,400), so it can be concluded that effective IPE program to improve the health status of the family.

## DISCUSSION

The treatments were a family coaching by student groups. In the implementation of IPE program that was conducted, each group consists of 10-15 students from eight majors. Accompanied by 2- 4 lecturers, the group was given the responsibility to conduct guidance in 10 families with unhealthy category or pre healthy (score IKS, 0,800). During guidance or IPE program, each family was given health education and health counseling suit each family problems, and in the implementation of this research, there are also families who were given treatment or therapeutic measures such as physiotherapy, speech therapy, acupuncture or acupuncture, as well as other nursing actions according to the needs. Dependent test based on the research results Paired t-test showed value - average IKS increased from 0,400 (unhealthy family category) increased to 0.690 (pre healthy family category), with the Sig-2 tailed or  $p = 0.000$ . These results suggest that effective IPE program to improve the health status of the family.

Interprofesional Education (IPE) is an educational program in which a group of students from several departments to practice together to solve a family health problem. According to WHO (2010) has been proven that the handling of the fragmented health problems that every health professional separately working to address the problem, in fact ineffective. In countries in the world that still rely on this

in the end was unable to resolve the health problems in the country itself. It is then, an awareness of health issues is actually about many aspects of life, and to be able to solve these problems one by one, or to improve the quality of health itself, can not be done simply by uniprofessional system. Contributions to share the discipline it gives a positive impact on the settlement of various health problems. It is also evident in this study, where 120 families managed by Surakarta Health Polytechnic students, the majority of problems that arise very complicated because many factors are involved in it. Factors - these factors are not just purely related to the health sector, it is not uncommon other factors outside the health such as low economic level, low level of education, culture, social, and even religious factors. For example, there are families who value a healthy family index is very low, because it inhibits the factor of religion and belief of the family to participate in family planning programs, hampering the baby to obtain immunization, and even just to come to the clinic or posyandu also difficult. The concept in accordance with the understanding of IPE by CAIPE (2002), which describes the IPE are two or more professions jointly implementing learning in a particular period in overcoming a problem. In these activities are studied together, from and about each other to improve collaboration and quality of health services. IPE is an approach to the educational process two or more different disciplines, collaborating in the teaching-learning process with the aim of fostering interdisciplinary / interaction interprofesional appropriate practices that improve the quality of discipline or profession respectively (ACCP, 2009). IPE occurs when two or more students of different health professions implement interactive learning with the aim to improve collaboration interprofesional and improve the health or welfare of the patient / community, in this case the family.

Through the IPE program problem - the problem can be terkaji and handled properly. It is the purpose of the IPE Generally, IPE aims to train students to better understand the role of other health professionals, so it is expected students will be able to collaborate well when the patient care process. Interprofessional patient care processes will improve the quality of health care and increase patient satisfaction (CFHC-IPE, 2013). According to Cooper (2004) IPE implementation goals include improving interdisciplinary understanding and promote cooperation, competent to foster cooperation, making effective use of resources and efficient, improve the quality of comprehensive patient care. Based on this concept, the IPE program conducted by the Health Polytechnic Surakarta, according to the results of this study provide empirical evidence can train students with different scientific backgrounds - different in doing teamwork professions to improve the health status of the family.

Family by Hanson (2005), as cited by Kaakinen et.al (2010) defines a family as two or more individual relationships are interdependent and support each other in terms of emotional, physical, economic.

The concept according to explain that in my family there will be cooperation and mutual support among its members in all aspects. The health status of the family is a dynamic status of the family, not just the absence of disease, but also including the condition of biological, psychological, spiritual culture of family members (Hanson, 2005). The concept is evident in this study, where there are health problems in the family influenced the health status of families in general, such as income decreases, psychological problems in family, cultural and even family also changed.

IPE program empirically proven to help families to cope with health issues and impacts that occur in the family. During the data collection there are 6 families in which one of my family members diagnosed with pulmonary tuberculosis, in which 3 families



(50%) which is the capital of childbearing age have not done according to the standard TB treatment. In the family also found a problem head of the family or the husband had hypertension, and no one toddler that his body weight does not rise in the second consecutive month - a row. Through the guidance and intervention of a group of students then it can be treated properly, so anggota family Tuberculosis obtain drugs and to take his medicine regularly, husband hypertension treated with acupuncture and drugs from the clinic, and taught to use herbal remedies of students majoring in herbs , At the time of the evaluation of the value of IKS increased. These results are consistent with research Gocan S., Laplante, M.A., and Woodend A. Kirsten (2014) who studied the literature and evaluation studies Interprofesional Collaboration of Family Health Teams in Ontario. The results of the study came to the conclusion Interprofesional Collaboration in general can improve the access of cooperation and achievement of the goals of the team of health workers. The conclusion of the review of the literature provides information that can be a medium of collaboration interprofesional health workers to work together in teams so that the goal is more easily achieved.

IPE effectively can be a media or family health problem-solving methods. Barr, H. and Waterton, S. (2013) describes some of the competencies that can be achieved through the IPE is to understand the role, responsibility and competence of other professions clearly, working with other professions to solve the conflict in deciding the care and treatment of patients, to work with the profession others to assess, plan, and monitor patient care, tolerate or accept their differences, misunderstandings and the lack of any other profession, facilitate meetings interprofesional, and train an interdependent relationship with other health professionals. Competence - The real competence is very helpful in the process of solving the health problems of the family. Proven in this study that the

health problems are handled jointly families professions provide a better impact, so that the components contained in the indicators of healthy families can be met so that the family's health status can be improved.

Problems encountered in the implementation of the IPE is there are several families with problems akut yang disease requiring medication and medical assistance as well as there are some problems or severe psychological disorders that can not be handled properly. This happens because there are no students who are competent in accordance with the field and profession. Solving a problem that's done is by cooperating with the health center and partly addressed with their mentors.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

1. The value of the average - average index of a healthy family before IPE program implemented 0,400 unhealthy category
2. Index healthy families after the implementation of the IPE program is pre healthy with the average value of 0.690
3. IPE\* effective in improving family health status ( $p = 0.000$ )
4. There is still a family medical issue that can not be done because there is no appropriate department of the institution

### **Recomendation**

1. IPE can be implemented in a longer period of time, if need be held throughout the year
2. It should be pursued in cooperation with other courses where the institution has not been there, such as psychology, medicine, as the issue is in the family

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# PERSPECTIVE DEPRESSION IN SOME GROUPS IN SOCIETY: SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction** Depression is a mental health problem that often occurs mainly in the setting of primary care services, which is still a challenge for the health of the world to continue to do research. Depression is also a considerable contribution can be considered as the Global Burden of Disease, and according to WHO, depression will be the most important disease in 2030.

**Methods:** search articles in the database online including Science Direct, Gale, DOAJ and HOAJ with entering keyword depression, community groups, drug abuse, adolescen and pregnancy. Of the 28 journals of the depression 15 journals we select and use to do systematic review. **Results:** Research have founded factors that influence signifikan against depression such as pre- and post-natal women, social and economic status, self-efficacy, and assertiveness.

**Conclusion** Although much research about depression but had not answer the problem of depression is increasing in society.

**Keywords:** depression, community groups, pregnancy, adolescent and drug abuse.

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## INTRODUCTION

Depression is a mental health problem that often occurs mainly in the setting of primary care services, which is still a challenge for the health of the world to continue to do research. Depression is also a considerable contribution can be considered as the Global Burden of Disease, and according to WHO, depression will be the most important disease in 2030. Prevalensi depression depends on the methods and diagnostic criteria used at the time the research is done. In the United States in 2012 as much as 6.9% of the age 18 years or older (16 million people) suffer at least one episode of depression within one year. (SAMHSA, 2013 in Townsend, 2015). During their lives, about 21% of women and 13% of men will experience depression in the clinic. This makes some researchers refer to depression as "the common cold of psychiatric disorders" and the current generation as the "age of Melancholia." (Townsend, 2015). In Indonesia is based on results of Health Research (Riskesdas) in 2013 that the prevalence of mental disorders such as

depression and anxiety emotional at 6% (about 14 million) for ages 15 and over. (Center for Public Communication Secretariat General of the Ministry of Health, 2014).

Much research has been done related to the problems of depression, both about the causes, the association of depression with other health problems, depression with genetics, depression in some groups in society and therapies to reduce the occurrence of depression. Therefore, to see details about the problem of depression including risk factors, depression in various communities, as well as any therapy that has been done, so we try to approach with a systematic review. The purpose of this systematic review approach are: 1) to identify risk factors and the causes of depression in various groups in the community, 2) to examine the relationship of depression with other health problems, and 3) to examine the therapies that have been done.

## METHODS

Online from 2011 to 2015 including the science of direct, database gale, DOAJ and HOAJ. Of the 28 journals of the depression 15 journals we select and use to do systematic review.

## RESULTS

### *The risk factors and causes of depression in some groups in the community.*

Of 4 journal depressed about the relationship of depression with genotype, in which his hypothesis of no relationship between the incidence of depression in a person's genotype. From the research results Sharpley et al, 2014 about the comparison of the effect of stress in childhood and current stress, as well as their interaction with the three forms of the 5-HTTLPR. To determine the relations between genotype, stress and depression may be supported by a positive psychological factor. That cannot be found a significant association between genotype, stress and depression scores, but the efficacy or durability person will prevent the occurrence of depression. Depression measurement scale used is the Zung Self-Rating Depression Scale (ZSDS), with sample number 126. While the research results Giraldo et al, 2015 with the purpose of examining the possible relationship 5 candidate genes with the incidence of depression, the number of 188 samples from healthy samples and scale depression used HADS (the Spanish adaptation of the Hospital Anxiety and depression Scale) and to check the blood taken genotype perifer. It turned out that this study found no significant association between the 5 candidate genes with the incidence of depression.

Research from Hajebrahimi et al, 2014 of the mRNA levels of Trif and MyD88 in PBMCs of patients with depression, with a sample size of 400 students of which 38 students are seen depressed and non-depressed 43 students as control. The result is that the mRNA expression level of Trif 5.45-fold and 3.98-fold increase MyD88 at 38 students

compared to 43 students who are not depressed. Scale measuring depression used were Beck depression scale. Research to 4 in order to investigate cross-sectional and longitudinal relationship between blood pressure, mood scores and the gene Monoamine oxidase A (Maoa) in pregnancy cohort of Western Australia, with a total sample of pregnant women in 2900 and carried out a survey on 5,8,10 and 14 years Anxiety-Depression Score Obtained from the Childhood Behavior Checklist on all surveys and depressive symptom scores from the Beck Depression Inventory for Youth in 14 years. The results are found in 14 years, boys began risk allele of SNP rs5905859 and rs3027396 had higher systolic and lower scores his mood. Longitudinally boy with risk alleles of SNPs rs5905859 had higher mean systolic trajectory than boys without the risk allele rs5905859 SNPs. That means on a sample with a low mood have a high systolic blood pressure.

While the group of patients of schizophrenia, depression experienced by the patient may increase the risk of suicide, such as research results Rajkhumar et al, 2015 on reviewing the clinical relationship of depressive symptoms in a sample of patients in hospital acute schizophrenia which is a cross-sectional study design. Total sample 72 patients with acute schizophrenia, scale measured by the Positive and Negative Syndrome Scale for Schizophrenia (PANSS), to determine the level of interference with the functions of the Global Assessment of Functioning Scale and for depressive symptoms with the Calgary Depression Scale for Schizophrenia (CDSS). The results showed 11 patients (15.3%) had depressive symptoms were clinically significant, patients with a score of PANSS psychopathology generally positive have a higher risk tinggu to suicide and poor function, mild degree of severity of depression is associated positively with the scale of the PANSS positive and negative correlation with negative PANSS scale.

Two studies on depression were also performed on pregnant women and postpartum group, which in these conditions women at risk of depression as related to physiological changes and adaptation. Research Park et al, 2015 about the prevalence of depression in pregnant women and its relationship with postpartum depression in Korea total sample of 200 pregnant women. Depression measurement scale used is the Edinburgh Postpartum Depression Scale (EDPs Korean version) and socio demographic factors. The results showed the prevalence of depression ranged from 40.5% to 61.4%, depression in the second and third trimester had a significant relationship with depression in the postpartum period, with risk factors for depression is not working and the household economy. Subsequent research on depression in pregnant women is post partum depression in Argentina by Mathinsen et al, 2013. Number of sample of 86 women 4-12 weeks post partum check-ups in health care, depression scale used is EDPs with cross-sectional design, the result 32 women have EPDS score <10, 16 women had a score of 10 to 12.16 woman has a score > 13. Skor EPDS > 10 significantly associated with multiparity, complications of pregnancy, childbirth complications, cesarean section, and incomplete lactation.

Depression research is also done on student nurses by Rezayat et al, 2014, with the aim of investigating the correlation between depression and assertiveness on student nurses with sample number 248, a cross-sectional design and scale of the measuring Gambrell and Richey assertion inventory and Beck's depression inventory. The results of the study 55.6% of students have an average assertiveness low and 38.7% had mild to severe depression. Significant relationship between depression and assertiveness showed an inverse relationship, assertiveness increase will decrease depression, and vice versa. And research by A.Kim et al, 2015 to examine the effects of health status and health

behavior to depression in women immigrants married in South Korea, the number of 316 samples from China, the Philippines, Vietnam and other countries. Cross-sectional study design and scale measuring depression is the Center for Epidemiologic Studies Depression Scale, the research results there are significant differences in the experience of stillbirth, abortion, morbidity, health status, diet, and physical activity between depressed and non-depressed.

Similarly, in patients with physical illnesses such as kidney failure who underwent transplantation, research conducted by Ling et al, 2016 which is a cross-sectional study design with a sample of 287 transplant recipients. The purpose of this study to explore the symptoms of depression and the factors related to the kidney transplant recipients in China, the scale measuring depression used the Self-Rating Depression Scale and the results, more than half of kidney transplant recipients experiencing depression, and are grouped into four periods of the transplant is 5 years, 5-10 years, 10-15 years and over 15 years and there is no difference of depressive symptoms that appear in the fourth period of the transplant, while factors related to depression are employment status, economic burden, shelter, and support social

### ***Therapies that have been done on depression.***

Lots of therapy that can be done for the treatment of depression, and would require research approaches relevant to the effectiveness and efficiency. Adapun dilakukan therapy for depression can include the results of research by Hui-Ying Can et al, 2016 with the aim to investigate the effect of Time Slips the Cornell Scale for Depression in elderly patients with dementia of mild and moderate, the amount of sample 43 patients and received the intervention Time Slips, a scale of measurement was Observed Emotion Rating scale (OERS), the result showed a



significant difference OERS scores before and after Time Slips. The next study was also conducted by Katsuki et al, 2011 with the aim to determine the effectiveness of psycho education briefly on the family in alleviating psychosocial burden, the amount of sample 32 patients with major depressive disorder and psycho education brief given to the family in 4 sessions over 6 weeks, the result is scaled Care burden and Expressed emotion (EE) the results of this intervention that emotional disorders, the burden of care and emotional expression family all showed a significant increase, symptoms of depression or anxiety disorders, decreased from sixteen families (50.0%) first into 3 families (9.3 %) after the intervention.

While music therapy is also done to lower depression scores, the study was conducted by Attiwannapat et al, 2016. The purpose of this study compared the effects of music therapy in the active group and the group receiving music therapy group counseling in the treatment of major depressive disorder (MDD), with sample number 14 patients were divided into 3 groups randomly. The scale of measurement used is the Montgomery Åsberg Depression Rating Scale (MADRS) Thai version, the final results both with self-rated depression scores and quality of life, from this study was found at 1 month, 3 months, and 6 months, both treatment groups showed a decline and not significant in MADRS scores compared with the control group counseling group. This decrease was slightly greater in the active group compared to the group receiving. Although there was a trend showing better results in self-reports of depression and quality of life, the differences were not statistically significant

Next intervention for depression is the research conducted by Zimmerman et al, 2016, with the aim of evaluating the effectiveness of a primary care-based Smads, nurse-led, complex interventions to promote self-management in patients with anxiety, depression or somatic symptoms. Changes in self-efficacy for 12 months after

the intervention are the main results. The sample was 326 (134: IG, 191: CG) is done randomly and a scale measuring the Patient Health Questionnaire (PHQ-D), the German version. The research found that self-efficacy produces an average difference of 3.13 between groups. And depression intervention by the research Shalcross et al, 2015 with the aim to evaluate the comparative effectiveness of Mindfulness-based cognitive therapy (MBCT) versus active control condition (ACC) to prevent recurrence of depression recurrence, reducing the symptoms of depression, and improvement in life satisfaction. Total sample of 92 patients with Major Depressive Disorder with sequelae and randomly conducted MBCT or ACC for 8 weeks. The results of the study there was no difference between the MBCT and ACC in the rate of recurrence of depression. Both groups had a significant reduction in depressive symptoms and improving life satisfaction. An interaction show that the pattern of decline in depressive symptoms differ between the groups, the ACC group experienced a reduction in symptoms immediately post-intervention and then increased gradually over 60 weeks of follow-up. MBCT group experienced a reduction in symptoms gradually in a linear and pattern of life satisfaction same for both groups, but only slightly significant.

## DISCUSSION

According to Townsend, 2015 that depression risk factors include age and gender, genetic factors, social status, race and culture, marriage status, change of seasons and many more risk factors the results of the research. While the risk factors found in this review is a systematic approach to economic and social status, self-efficacy, and assertiveness. And depression in women prenatal and postnatal existing risk factors associated with multiparity, complications of pregnancy, childbirth, and not the full board the Kalabia sectio breastfeeding. Depression in patients

with schizophrenia obtained if the scale of the PANSS positive, high suicide risk and vice versa. Measure of depression that is used in all 15 studies above are varied, it is certainly a consideration of researchers in adjusting the methodology used.

Treatment of depression in this approach include music therapy, Time Slips, intervention complex, psycho education short and MBCT versus ACC also shows the results of a significant improvement to reduce depression scores, although there are some therapies that comparison but the results are expected to reduce the score of depression have an effect that same.

## CONCLUSION AND RECOMENDATION

Although much research about depression but had not answer the problem of depression is increasing in society. The results of this systematic review is very varied although there are some that have similarities such as socio-economic factors (not working and economic revenue), racial and cultural factors are also found in the above study, but the factor genotype was found and there was also not found.

As for the treatment of depression is still about cognitive therapy, family psycho-education, music therapy, and therapy time slips The results of all these therapies found to be effective to lower depression scores. Therefore, research is still needed on treatment of depression with the methodological approach can be to generalize across all groups of depression.

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# THE EFFECT OF SPIRITUAL EMOTIONAL FREEDOM TECHNIQUE TO INCREASE SELF ESTEEM OF SCHIZOPHRENIA IN MENTAL HOSPITAL SURAKARTA

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## ABSTRACT

**Introduction:** Schizophrenia is a chronic psychotic with the prevalence of schizophrenia in Indonesia is 70%. The schizophrenia often accompanied by negative feelings self-perception, and self-efficacy, helplessness, anxiety, behavioral changes. The number of schizophrenia in Mental Hospital in Surakarta was 93% in 2008. Physical treatment of schizophrenia patients were included drug delivery and Convulsion Electro Therapy (ECT). These treatments were considered insufficient so that psychological approach such as psychotherapy can be taken into account. One provision of psychotherapy patients with schizophrenia is *Spiritual Emotional Freedom Technique* (SEFT) which can help individuals to develop skills in improving the coping mechanisms, reducing anxiety and increasing self-esteem. This study is aimed to determine the effect of SEFT to change coping mechanisms, anxiety, self-esteem in patients schizophrenia in Mental Hospital, Surakarta. **Method:** The research method was *quasi experimental with pre-post test with control group*. The data was gathered before and after giving the SEFT interventions in intervention and control group of schizophrenia patients. The amount of samples were 64 respondents which were 32 respondents of intervention group and 32 respondents of control group. The research instrument was adapted from Coopersmith Self Esteem Inventory (CSEI) that consist of 58 items regarding self esteem. Data were analyzed using paired t-tests., Independent t-test multiple linear regression. **Result:** The results of *this study* showed that there was a significant difference of *self esteem* before and after SEFT (p value <0.05). **Conclusion:** This proves that the existence of a significant change in the patients in the intervention group SEFT *than the control group*. The conclusion is that the level of self esteem could be increased by SEFT with the probability score is 31.3% and could increase point 4.312 point for self esteem degree.

**Keyword:** Schizophrenia, Self Esteem, Spiritual Emotional Freedom Technique (SEFT)

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## INTRODUCTION

Schizophrenia is a group of psychotic reactions that affect many areas of individual functions, including functions of thinking communicating, receiving and interpreting reality, feeling and showing emotions and behaving in an acceptable rational. Schizophrenia is a severe mental disorder exhibiting behaviors such as: inability to care for themselves, unwilling to socialize, feelings of worthlessness, and / or showing the affected of unnatural habits, causing them unable to have social function in their daily life. Conflict happens to schizophrenia may be due to a negative assessment in themselves. A negative self

assessment or low self esteem is a chronic low self-esteem (Stuart & Laraia, 2006).

Various models of treatment of schizophrenic patients have been performed by practitioners in order to help patients to solve the problems. The models applied vary among healthcare professionals such as nurses, psychiatrists, psychologists, social workers who often work to help patients with mental disorders. Some applied models include: psychoanalytic models, interpersonal, social, existential, supportive and the medical model (Stuart & Laraia, 2006). Other model are cognitive therapy (CT), behavioral therapy (BT), logotherapy, therapeutic reality and

psychoeducation family (Videbeck, 2008). Cognitive behavioral therapy (CBT), educational therapy, thought stopping, bibliotherapy and music therapy were also utilized in order to help mental ill patient as well as (Boyd & Nihart 1998), therapy assertive, time outs, and token economy (Stuart & Laraia, 2006), and therapy Milieu (Townsend 2005).

Therapeutic nursing progresses with the presence of a therapeutic technique is complementary therapy, which is part of the complementary modalities. In the western, complementary modalities are already widely used by professional nursing personnels. Complementary therapies refer to the fulfillment of human needs as a holistic being. SEFT is one form of complementary therapy.

SEFT helps patients with various current difficulties experienced by a person in different phase of life. SEFT that is developed from EFT was introduced in 1995 by Gary Craig. EFT is a simple method that emphasizes focus on problems within the individual accompanied by gentle tapping on acupuncture points (tapping) on the face, upper body and arms. EFT can help a variety of emotional and physical problems. SEFT method is to unite ourselves with divine power that allows people to become happier, more certainty in life, the results are not easily stressed so that it can improve mental health (Zainuddin, 2009).

SEFT is a method that manages the potential for systematic consciousness, so it can be used for multiple purposes in improving the welfare of the soul. SEFT is behavioristic method based on psychotherapy or behavior, it is applied by the model or technique performed in behavioristik psychotherapy, relaxation, meditation, visualization, logotherapy, and cognitive behavioral therapy (CBT). The technique used in conducting SEFT is with behavioristik stages (Zainuddin, 2009). Mental Hospital of Surakarta is a reference to cases of mental illnesses with the coverage of service in Surakarta and the

surrounding areas, Yogyakarta, East Java and West Java. The bed capacity in Mental Hospital of Surakarta. According to the report of the Hospital, in 2008 the average Bed Occupancy Rate (BOR) was 61.56% and the average value Average Length of Stay (AvLOS) in 2008 was 29 days (Surakarta RSJD Medical Records, 2009).

Based on the recapitulation of ten cases for medical diagnosis in the year 2013 on patient cases, the highest number of cases of schizophrenia was about 93%. The results of the interview with the head of the room and the nurse room, standard procedure in patients with schizophrenia is psikofarmaka, ECT and psychotherapy therapy / education, no SEFT applied. Based on the data above, researchers who applied SEFT and researches with the title of spiritual influence of emotional freedom technique (SEFT) increases self esteem in patients with schizophrenia in the Mental Hospital of Surakarta

## METHOD

This study uses a "quasi experimental pre-post test with control group" (Sugiyono, 2010). Grouping members of the sample in the experimental group and the control group was not done at random or random so that the draft is often called the Non-Randomized Control Group Pretest Posttest Design (Notoatmojo, 2010). The research was conducted at the Mental Hospital of Surakarta from April to June 2014.

The samples in this study were patients with schizophrenia. The number of patient sample was 32 respondents for each intervention group and the control group. The Independent variable was Spiritual Emotional Freedom Technique (SEFT), while the dependent variable was patients' Self Esteem. The instruments used in measuring the Coopersmith Self Esteem Inventory (CSEI), consists of 58 items, thus obtained scores range between 0-58 (Bolton, 2003).

The bivariat analysis two mean test namely comparing the means of the two



group (Hastono, 2007) with t test independent, while the t analist bivariat was used to proof the hypothesis that the patient with schizophreria who get Spiritual Emotional Freedom Technique (SEFT) have higher self-esteem compare with patient who did not get Spiritual Emotional

## RESULT

Tabel.1 Independent t test of Self Esteem of Patients Before And After Intervention For Intervention And Control Group

Kelp	N	Man	SD	SE	T	P
Kontrol	32	1.75	5.37	0.949	-	
Intervensi	32	6.06	5.11	0.902	3.292	0.002

Using t test, the results reveals that there is a statistically significant difference ( $p = 0.002$ ), on the self-esteem of patients between the intervention and control

Freedom Technique (SEFT). Multivariate analysis was also used to proof that there are patient characteristics as factors that contribute to the patient's self-esteem using double linear regression.

groups. Average patients self-esteem in the intervention group (mean = 6.06) is higher than in the control group (mean = 1.75), with  $p < 0.05$ .

Table 2. multiple linier regression analisis for SEFT Intervention without controlling respondent characteristics.

Variabel	Model I				Model II			
	Koef Regresi B	CI 95 %		P	Koef Regresi	CI 95 %		p
		Batas bawah	Batas atas			Batas Bawah	Batas atas	
Konstanta	1.75	-0.101	3.601	0.064	10.53	2.406	18.658	0.012
IntervSEFT	4.312	1.694	6.931	0.002	4.14	2.501	6.247	0.000
Kelamin					-1.923	-4.368	0.522	0.121
Umur					0.018	-0.013	0.162	0.807
Status kawin					1.911	-0.436	4.258	0.108
Pendidikan					0.628	-0.583	2.839	0.303
Pekerjaan					0.971	-1.240	3.183	0.382
Frek dirawat					0.03	-0.541	0.082	0.146
Lama sakit					-0.229	-0.254	0.314	0.833
Self esteem respon sblm intervensi					-0.374	-0.501	-0.247	0.000
n responden	32				32			
Adjusted R <sup>2</sup>	13.5%				49%			
P	0.002				0.000			

The analysis results of multiple linear regressions on the model I concludes that SEFT interventions effectively improves the patients' self esteem. Patients who got SEFT interventions, provide patients self esteem 4,312 points higher than in patients who did not get SEFT interventions. The difference is statistically significant ( $b = 4,312$ ; 95% CI 1.694- 6931;  $p$  value = 0.002). The analysis shows that there are no differences in the regression coefficient  $b$  for SEFT interventions between models I and II models in the amount  $(4312 - 4.14) / 4312 = 4\% < (10\% - 20\%)$ . The confounding variables were entered into the model II did not confuse the estimated effect of SEFT interventions, so that the estimated effect of SEFT intervention used the result of the calculation model of I Adjusted  $R^2$  13.5% in model I. This shows that SEFT intervention can improve self-esteem of respondents up to 13.5%. A variety of confounding variables that do not cause confusion, because no body has the effect of increasing or decreasing the patients' self-esteem, which number closes to 0, so it almost does not change the results of the estimated regression coefficients  $b$  SEFT intervention.

## DISCUSSION

Traumatic events for patients with mental disorders especially schiziphrenic patient cause patients to experience low self-esteem problems. This will have an impact in the energy balance of the body so that the thoughts, emotions and behaviors will tend toward negative. While self-esteem is a positive or negative attitude of individuals towards a particular object called themselves (Rosenberg in Mruk, 2006). Self-esteem refers to the premise that an individual evaluation against him (either positive or negative) associated with a sense of preciousness, an individual's belief in the ability itself.

Emotional condition such as anger, sadness, disappointment stress, panic and fear runs on the same system with the

energy. When the energy flow is disturbed or blocked, it can result in interruption of the tranquility of the center of thought and emotion. This leads to negative thoughts and emotions to emerge (Zainuddin, 2009). SEFT is one of spiritual therapy and energy psychology offers a more secure manner (without the use of needles), using only beat lightly with a fingertip (tapping) on certain body areas of mind, emotions and negative behaviors will be resolved. When someone is in a state of calm and relaxed, the flow of energy in the body's meridians flows smoothly.

Psychological Reserval is want to be appreciated, in appropriate security, motivation and desire to release the problem. PR can be cured with SEFT by rubbing the palms on the 'afternoon point' or a knock on the point at hand (karate choppoint) (Zainuddin, 2009). With 12 energy pathways called meridians energy. If the energy flow is blocked or garbled, this arises emotional disorders or physical illness (Zainuddin, 2009). Likewise EFT provides evidence that we are overwhelmed by the energy flowing in our body, and we can feel it. By tapping some parts of the meridian points of the body, we can feel the emotional and physical changes in us. That change will not happen if there is no energy in our body system. This is consistent with the nursing actions that had been done to create a sense of security and comfort to the client that the massage technique and touch (touch). Massage is stimulating the skin and tissues in the body to facilitate the circulation and provide a relaxing effect (Frisch & Frisch, 2006).

The influence of Spiritual Emotional Freedom Technique (SEFT) in patients with schizophrenia on self esteem of patients showed a statistically significant ( $p < 0.05$ ), that there is a difference on the self-esteem patiens between in the intervention and control groups. The results of this study are supported by Bradshaw (1998) that SEFT significant effect on the reduction on the symptomatology, rehospitalisations and

improved psychosocial functioning and achievement of treatment goals SEFT therapy combines the energy system of the body and spiritual therapies are used as a therapeutic technique to cope with emotional and physical problems, by performing a light knock (tapping) on nerve points (meridians of the body). Influence on the spiritual aspects of healing, disease management, anxiety, and acceptance of death has been a concern of nurses. Spiritual characteristics in nursing indicates recognition that natural factors are not visible and intangible affects the mind and behavior. These include the introduction of religious and supernatural beliefs. When people feel the power and influence of the outside of the physical existence and time, they are said to have suffered a metaphysical aspect of spiritual character. Supports and allow patients to talk about their confidence in bringing them closer to the source of spiritual encouragement. This helps giving strength and healing (Hudak & Gallo, 2012). SEFT intervention Award for 3 consecutive meetings of the respondents to change negative thoughts and feelings into the positive thoughts and rationale feelings to change their negative behavior into positive behavior. Smetzer (2004) states that the relaxation response can lower the yield stress. Hypothalamic activity will be inhibited and will decrease the activity of the sympathetic and parasympathetic. The sequence of physiological effects and symptoms and sign will be disconnected and psychological stress will be reduced. Respondents feel valueable when the current award can behave accordingly. It is able to increase the self-esteem of respondents. Real experience gained can be directly felt by respondents, so as to trigger the ability of respondents to develop their ability to enhance self-esteem.

## CONCLUSION AND RECOMENDATION

It comes to the conclusion that Spiritual Emotional Freedom Technique (SEFT) is effective for patiens intervention

group especially for their self-esteem. Development of SEFT for schizophrenia patients. Delopment of SEFT for schizophrenia patients applied to the curriculum of nursing education on the psychiatric nursing could be applied in various areas with different spiritual. Hospital as the health care services was a good place to establish SEFT care as one of program nursing education in improving patient self-esteem.

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# KNOWLEDGE AND ATTITUDES IN CARDIOPULMONARY RESUSCITATION (CPR) OF FAMILY MEMBERS OF SUDDEN CARDIAC ARREST (SCA) IN THE ICVCU OF THE RSUD DR. MOEWARDI SURAKARTA 2016

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## ABSTRACT

**Introduction:** Cardiovascular disease constitutes the first cause of all deaths in the world. Generally, patients with cardiovascular disease will experience cardiac arrest. Family members have an important role as the first responder helping their member in providing care before referring them to appropriate health care facilities. Consequently they must have sufficient knowledge and attitudes of CPR before giving the appropriate help. The aims of the study are to identify the family member knowledge and attitudes and their association toward CPR.

**Methods:** This study used descriptive correlation design with cross-sectional approach.

**Result:** The study shows significant correlation between knowledge and attitude about CPR as proven by the  $r$  value = 0.333 that  $> 0.306$  from  $r$  table. **Discussions:** Poor knowledge contributes to poor attitudes. This important finding warns the need of quick solution. Suggestion. Firstly, future study needs to be deeper including variables and respondents. Secondly, especially the government needs to provide CPR training to community. The availability of people who are able to perform CPR will increase the chance of the patient to get quick and appropriate help, and increase chance to survive

**Keywords:** Knowledge, Attitude, Cardiac Pulmonary Resuscitation

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## INTRODUCTION

Cardiac diseases still become the first cause of death in many countries over the world. In Europe by the year 2014, it was reported that cardiovascular diseases contributed to 46% of death in all ages and gender (Nicholes et al., 2014). Hollenberg, Svensson dan Rosenqvist (2013) reported that 5.000-10.000 patients suffer cardiac diseases out of hospital every year in Sweden. Sudden Cardiac Arrest (SCA) may happen anytime. Even though there was an increase in time from the cardiac arrest to get CPR and defibrillation, there had been no significant result in survival rate. In the United Sated, the incident of SCA was nearly 400.000 annually and constituted as the first cause of death in athletes (National Athletic Trainers' Association (NATA) and Inter-Association Task Force Consensus Statement, 2007). Vaillancourt (2008) mentioned that 85% heart attack in Canada happened in family and 50% of them

witnessed by their family member. Heart attack often leads to SCA. Therefore it indicates that families as the first responders need to be ready to give appropriate help.

SCA can be caused by cardiac and non cardiac factors (Hollenberg, Svensson dan Rosenqvist, 2013). Commonly, arrhythmias may lead to the heart stop beating as a result from inadequate blood supply to the myocardium. As a consequence blood supply to all of part of the body also inadequate. By looking at the number of the incidents and the effect of the attack it is very urgent to identify the capacity of help at home before the patients get appropriate help at hospitals of other health care providers.

Patients with cardiac arrest need help very soon due to the critical time of epecially the brain from irreversible damage (Olateju and Amoran, 2014). Early chest compression during CPR will allow



the heart to pump blood to the brain and heart. High quality of CPR may increase the chance of the survival. Otherwise, failure of being late in circulating blood to the brain three to four minutes may result in irreversible brain damage (Ratha, Panda and Pradhan, 2014). Drezner (2009) stated that there are three important steps to handle SCA that includes the availability of trained personnel in performing CPR, early CPR and defibrillation. Many countries have trained CPR especially chest compression only to community as the first responders to help SCA people (Ratha, Panda and Pradhan, 2014). Rahman (2013) had proven that CPR training increased knowledge and attitude significantly among senior high school students. Similar training has also been conducted in Indonesia to some people in the community area but it is very limited training activities to family group.

More over knowledge about CPR is very basic to people to be able to accept the CPR skill. No evidence shows knowledge even skill of CPR among families in Indonesia. As a consequence, it needs harder work to train family in order to be prepared in case of having their member of SCA.

## METHODS

This study was conducted in dr. Moewardi Hospital of Surakarta, Central Java between January and April 2016. Descriptive correlational was chosen using cross-sectional approach. After ethical clearance was obtained from the hospital ethical committee, purposive sampling technique was applied by choosing families having member hospitalized of experiencing SCA according to the inclusive criteria developed. Thirty respondents met the criteria and were asked to write informed consent before fulfilling the questionnaire. Each respondent was also explained the goals of the study, how to fulfill the questionnaire and how to return, and their rights to be involved in the study voluntarily.

Two variables were measured and tested to see the association between knowledge and attitude toward CPR. A questionnaire consisted of four open questions regarding demographic data, 14 closed questions related to knowledge, 15 questions regarding to attitude and 2 open ended questions related to experience of CPR and educational mainstream had been developed by the author. After piloted to other families the result of the returned questionnaire was tested for validity and reliability. After the questionnaire met the validity and reliability, there were packed in close envelop to be distributed to respondents.

Bivariate analysis was used to determine the relationship between two variables. This analysis uses correlation test of Kendall tau- b considering to test the correlation 2 ordinal types of data. SPSS for Windows version 17.0 was used to help analyzing data. To interpret the significance value, it was compared with the values of r table. If the value of Kendall  $\tau_b > r$  count then the hypothesis is accepted.

## RESULTS

All of 30 questionnaire distributed to the respondents were completely returned (100%). The following tables describe result of the study based on different groups.

Table 1. Distribution of frequency of respondent age

Age	f	(%)
12-16	1	3.3
17-25	9	30.0
26-35	7	23.3
36-45	6	20.0
46-55	7	23.3
Total	30	100

Table 1 reveals that almost all respondents distributes to all age groups equally except only one respondent that was less than 16 years old.

Tables 2. Distribution of frequency according to gender

Gender	f	(%)
Female	17	56.7
Male	13	43.3
Total	30	100

As can be seen in table 2, the number of female respondents slightly dominates rather than male (56.7% and 43.3%).

Table 3. Distribution of frequency according to education

Education	f	(%)
Junior high school	6	20.0
Senior high school	9	30.0
Three years degree	5	16.7
Four years / bachelor degree	10	33.0
Total	30	100

Tables 3 indicates that the highest number of respondents have four years or bachelor degree (n=10) followed by senior high school.

Table 4. Distribution of frequency according to knowledge level

Knowledge level	F	(%)
Good	6	20.0
Average	10	33.3
Poor	14	46.7
Total	30	100

As can be seen in table 4, the majority of respondents have low in knowledge of CPR (n=14, 46.7%). Only 20% respondents (n=6) have good knowledge about CPR.

Table 5. Distribution of frequency according to attitude

Attitude	F	(%)
Good	6	20.0
Average	11	36.7
Poor	13	43.3
Total	30	100

Table 5 shows that the majority of respondents have poor attitude about CPR (n=13, 43.3%). It is far different from the number of respondents with good attitude that only 20% (n=6).

Table 6. Correlation between knowledge and attitude.

variable	r value	r table
knowledge	0.330	0.306
* attitude		

Table 6 reveals that there is a significant correlation between knowledge and attitude about CPR as it is proven by the  $r$  value =  $0.333 > 0.306$  from  $r$  table.

## DISCUSSION

Age is one of important factor contributing to the success in mastering knowledge, attitude even skills. However there is no association between age and knowledge (Maryam, 2010). As can be seen from the statistical test, the majority of respondents are categorized as young group. This productive age can be forced maximally to learn and master any skill related to CPR.

Seventeen respondents (56.7%) of this study are female. Only a few of male commonly stay at home to witness the incident attack at home as it becomes the family pattern in Indonesia generally that male have responsibility to go out site for the job. One study conducted by Wang et al. (2015) indicate one of them that male students had stability during performing chest compression for 8 minutes with good quality. Meanwhile female students did inadequate CPR after 2 minutes. This indicates that female who commonly stay longer with family should be well prepared with CPR.

As shown on table 3, the majority of respondent educations are four years degree or bachelor (33.3%). It is beneficial to be

effectively trained with that basic of education. Even though chest compression is mainly stressed however it still needs capacity to understand every step of the CPR even the rational. Cultural background and value may influence the rescuer to make decision to start CPR. Widyastuti (2009) states that high level of education, may contribute to the increase of knowledge and support the capacity of decision making independently.

In a study conducted by Olateju and Amoran (2014) that focus on health worker it was stated that the need of knowledge and skill in performing CPR is an absolute at primary health care level. By this, knowledge play basic role to move to the next step. This study shows that most of respondent knowledge is poor and average (46.7% and 33.3% respectively). It is supported by previous study conducted by Chair et al. (2014) the poor Hongkong public knowledge of CPR. Similar finding was also found by Olateju and Amoran (2014) among nurses in Remo Area of Ogun State of Nigeria that the majority of respondent did not know to do CPR well. Moreover they did not renew their competence on CPR. However it is in opposite finding with the study conducted by Narayan et al. (2015) in which 62.7% have average knowledge and 19.6% have good knowledge.

Inadequate knowledge may lead to the low bystander awareness to voluntarily give quick response. Furthermore lack of knowledge and inability to perform CPR can end with death (Olateju and Amoran, 2014). It is therefore cardiac arrest need very quick appropriate treatment. The poor knowledge of the study is in accordance with the statement of the respondents during depth interview that only one respondent said to have CPR training. In addition, all respondents stated that no one of the respondents have health educational background. Notoatmodjo (2012) argues that education is one of factors that can influence knowledge.

This study shows that the majority of respondents (43.3%) have poor attitude on CPR. Trimukaim (2009) states that knowledge, is very influence to attitude. Another study conducted by Chair et al. (2014) show similar trend that people especially who had not been trained were unwilling to conduct CPR. It is different from the study conducted by Narayan et al. (2015) to postgraduate students that respondents who has positive attitude toward CPR was slightly higher (52%) compared to the opposite attitude. Most people who are trained and capable of performing BLS correctly, indicating a desire to help with skills and have lower anxiety (Bray et al., 2016).

Eventhough there is insuficient evidence of the benefit CPR, however providing a quick and adequate CPR is mandatory (Bray et al., 2016), even reducing the gap to get cardiopulmonary resuscitation and increasing the success of hospital discharge (Roshana et al., 2012). The survival rate of patients who alredy received CPR out of hospital increase before getting help further from emergency services.

This study has several limitations that include the number of respondents is very small. It relates to the time of the study that was conducted only three months. In addition to the limitation is the variable two variables. It needs more variables in order to get more comprehensive finding. However the complete returned questionnaire may strengthen the findings.

## **CONCLUSION AND RECOMENDATION**

This study shows the positive correlation between knowledge and attitude toward CPR among family with member experiencing SCA. This poor knowledge warns to any part of people to learn CPR. By understanding the importance of CPR it will increase people awareness to voluntarily provide appropriate help in case of the presence of SCA. The government may need to evaluate the urgency of CPR competence in high school as it already

implement to many high school especially in developed countries.

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# EMERGENCY CONDITION AND VULNERABILITY AND MITIGATION EFFORTS TO FORM SAFE COMMUNITY IN THE TERRITORY OF PUSKESMAS CEPER KLATEN

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## ABSTRACT

**Introduction:** Indonesia is situated in the ring of fire where more than 90 volcanoes are distributed. The rain volume is also very high and more than thousand rivers across this nation. This characteristic may result in natural disaster. Economy, politic, culture, public safe and stability may also lead to potential man made disasters. One of the regions that often experience disaster is Klaten district. The aims of study to evaluate public preparedness toward disaster in four districts in Klaten. **Methods:** The method of the study is experimental research design. Questionnaire was used for Pretest-Posttest in order to evaluate the effectiveness of delivering education of disaster management. Sampling technique uses total sampling with 135 respondents. **Result:** The study shows that there is significant change of the public knowledge about their preparedness to face disaster. As it can be seen from the Wilcoxon Signed Rank Test of Z value -8.549 with p value (Asymp. Sig 2 tailed) is 0.000 that less than critical limit of 0.05. **Conclusion:** Education of disaster management is very essential to public preparedness in order to reduce the impact of disaster.

**Keywords:** knowledge, public preparedness, disaster management.

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## INTRODUCTION

Natural disaster may occur anytime and everywhere that most commonly difficult to predict. This often impacts to various damage of infrastructure, environment even death to the people. Tavakoli, Armohammadian, Safdari and Keyvanara (2016) report that more than 7823 people were death 140.7 million injured and 99.2 billion US dolar loss from infrastuctural damage due to 324 natural resources in the world during 2014. The first continent that most affected was Asia with 44%. Previous diasaster, also occured where 80% of global disaster in Asia and Pasific region effectd to the economic loss (ADB and ADBI Institute, 2013). Indonesia was one of the countries that included in thos disaster. It cannot be avoided due to the location of Indonesia in the ring of fire. More that 90 volcanous distributed

around this country completed by the high rain volume and more than 5.950 rivers across the country (Intarti, Fitrinita, Widyanto and Simarmata, 2013).

Some disasters can be predicted in order to decrease the damage. In addition, by preparing human resources, creating regulation, providing appropriate facilities may reduce the damage or loss from the disaster. Several regulations have been made by the Indonesia government including the act of disaster management (UU No 24 year 2007).

Previous interview and observation preceded the study in Ceper District, Klaten in order to support the reasons for conducting the study. The characteristic of disaster in Klaten District are relatively similar. The examples are earthquake, flood, windstorm and sometime fire. In Tegalrejo sub district,

another potensial disaster may result from the impact the change from agricultur field to industrial field. Early warning sistem has not been well established. In fact it is very important in order to prepare the people before disaster comes and it is hope to reduce the damage or loss.

On the other hand, local wisdom may become potential power that need to be well managed. Commonly people have experience of identifying some natural disasters for example by the change of climate may indicate fores fire, mobilization of wild animals from the pic of mountain to around the city may indicate eruption or forest fire. These experience usually comming from their parent that had been shared generation by generation.

## **METHODS**

This study use experimental study design. Pretest was conducted to investigate the begining knowledge of the respondents regarding emergency condition and vulnerability and mitigation efforts to form safe community in Ceper district. After receiving education related to emergency condition and vulnerability and mitigation efforts to form safe community, the respondents was tested again to evaluate the change of knowledge. The scope of the study focused on the area of empowering community in order to be well prepared in facing disaster. Respondents of the study consist of community leaders and board in four villages: Tegalrejo, Kujon, Kajen and Jambu Kidul, under the workplace of Community Health Center of Ceper, Klaten.

This study uses total sample that consists of 135 respondents. Community knowledge about their preparedness and mitigation in order to create safe community become variable of the study that was meassured before and after receiving education. Instrument used in this study was developed by authors based on recomendation from Health Cricis Center

Management from the ministry of Health of Indonesia that consists of 15 points. Validity of instrument was gained after the instrument was reviewed by four experts that consist of two lecturers and two community nurses having background on emergency disciplin and revised by the authors and reviewed again antil the instrument met the validity.

Wilcoxon Signed Rank Test was utilized because of the data gathered did not meet normality of distribution. Computer with SPSS 17 was used to help analizing data.

The study was started by asking permission by delivering research proposal to the head of the district and the head of Community Health Center in Ceper. After the permission was gained, the next steps was by meeting the respondents in four differents location that were situated in each village hall based on the area where the respondents came from in different time. In each places with in different time, the authors explained the goal of the study, the benefit of the study, how to be involved in the study voluntarily, the rights of the respondents and informed consent. After informed consents were gained the respondents in each region were asked to fulfill the questionnaire together under superfision of the authors.

## **RESULTS**

The response rate of the study is 100% with complete returned the questionnaires. Results of each place were presented seperatedly.

Table 1. Distribution of frequency according to knowledge in Tegalrejo Village.

Before treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	14	43.8	43.8	43.8
Average	16	50.0	50.0	93.8
Good	2	6.3	6.3	100.0
Total	32	100.0	100.0	
After treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	2	6.3	6.3	6.3
Average	11	34.4	34.4	40.6
Good	19	59.4	59.4	100.0
Total	32	100.0	100.0	

As can be seen from table 1, only 2 respondents have good knowledge and the rest between average and poor. After receiving education on disaster management the proportion of knowledge among respondents change. Most of respondents have good knowledge (59.4%) and only 2% respondents have poor knowledge.

Table 2. Distribution of frequency according to knowledge in Kujon Village.

Before treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	16	48.5	48.5	48.5
Average	12	36.4	36.4	84.8
Good	5	15.2	15.2	100.0
Total	33	100.0	100.0	
After treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	4	12.1	12.1	12.1

Before treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	16	48.5	48.5	48.5
Average	12	36.4	36.4	84.8
Good	5	15.2	15.2	100.0
Average	11	33.3	33.3	45.5
Good	18	54.5	54.5	100.0
Total	33	100.0	100.0	

Table 2 indicates the similar found in Tegalrejo Village. There are only 5 respondents from Kujon Village having good knowledge before treatment. More than half respondents (54.5%) have improved their knowledge to be good.

Table 3. Distribution of frequency according to knowledge in Kajen Village.

Before treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	25	69.4	69.4	69.4
Average	6	16.7	16.7	86.1
Good	5	13.9	13.9	100.0
Total	36	100.0	100.0	
After treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	8	22.2	22.2	22.2
Average	16	44.4	44.4	66.7
Good	12	33.3	33.3	100.0
Total	36	100.0	100.0	

Table 3 reveals that most of respondent knowledge from Kajen Village before treatment is poor and only 5 respondents reach good knowledge. The

change of knowledge proportion among these respondents after treatment is not much different where only 12 respondents have good knowledge and 8 respondents still have poor knowledge.

Table 4. Distribution of frequency according to knowledge in Jambu Kidul Village.

Before treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	19	55.9	55.9	55.9
Average	13	38.2	38.2	94.1
Good	2	5.9	5.9	100.0
Total	34	100.0	100.0	
After treatment				
Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	7	20.6	20.6	20.6
Average	13	38.2	38.2	58.8
Good	14	41.2	41.2	100.0
Total	34	100.0	100.0	

As can be seen from table 4, it is clear that only 2 respondents have good knowledge before treatment more than half of the respondent knowledge (55.9%) is poor. However after the education about disaster management delivered there was very big increase in the number of respondents having good knowledge to be 41.2%.

Beivariate test was applied to test the significance change in each villages. Wilcoxon Signed Rank Test was used because the type of normality data was not normally distributed and categorized as nonparametric statistic.

Based on Wilcoxon Signed Rank test in Tegalrejo Village, it is found that the Z value is -4.564 with the p value (Asymp. Sig 2 tailed) 0.000. Therefore it is clear that the

value is lower from the critical limit of 0.05. This means that there is significantly different knowledge before and after treatment.

In Kujon village, the Wilcoxon Signed Rank Test shows that Z value is -4.291 with p value (Asymp. Sig 2 tailed) 0.000. This result is lower from the critical value limit of 0.05. Therefore, there is significantly different of the knowledge of the respondents between before and after treatment.

The Wilcoxon Signed Rank in Kajen village reveals that Z value is -3.967 with the p value (Asymp. Sig 2 tailed) is 0.000. This result is less than the critical value limit of 0.05. This result means that there is significantly different of the knowledge of the respondents between before and after treatment.

In Jambu Kidul village, the Wilcoxon Signed Rank Test reveals that the Z value is -4.347 with the p value (Asymp. Sig 2 tailed) is 0.000. It is lower than the critical value limit of 0.05. Therefore it proves that there is significantly different knowledge before and after treatment.

The final statistic test is conducted to compare all respondents from four villages between before and after delivering disaster management. The Wilcoxon Signed Rank Test shows that Z value is -8.549 with the p value (Asymp. Sig 2 tailed) is 0.000. This result is less than the critical value limit of 0.05. Based on that finding it means that there is significantly different of respondent knowledge between before and after disaster management administration.

## DISCUSSION

In recent years, disaster management becomes an issue that is very popular and received much attention from the various elements of society. Some disaster events have given tremendous lesson in its efforts to minimize the impact caused by the disaster. However, disaster management is actually not a new thing. The ancestors have

implemented disaster management appropriate levels of capabilities and technological development that existed at that time (Kusumasari, 2014). This is indicated by the presence of caves as shelters, or the planting of large trees around the area where live shows community efforts to reduce the impact caused by the disaster.

In the 20s century disaster management efforts have gained a more comprehensive concentration where disaster management have been managed in an organized and standardized globally so that management already covers ranging from preparedness, mitigation, and response to disasters (Kusumasari, 2014). The disaster management in Indonesia is officially managed by the National Agency for Disaster Management or Badan Nasional Penanggulangan Bencana (BNPB). However, the participation and involvement of various parties, including the various organizations, both inside and outside the country, including the community need to be increased. Togetherness, teamwork and spirit in order to manage prepare for a disaster to deal with the impact of the disaster is also important. Culture of mutual cooperation or gotong royong and patriotism are enough to prove and become one of the driving forces of the togetherness and mutual care.

According to Smith, 2007 (cited in Kusumasari, 2014), in the social science perspective, there are two concepts known paradigm used. There are the paradigm of behavioral and structural paradigm. Four villages in this study geographically have similar characteristics. This area is dominated by plains that are mostly functioned as agricultural land, plantations and industry. Frequent disasters are very similar, namely hurricanes, earthquakes and floods. However, the presence of Mount Merapi about 50 km also often impacts quite serious. The function of some areas in Tegalrejo village especially have shifted to the industrial center which was quite spacious. Disaster due to the

presence of the industrial business has not been seriously reported.

Smith (2007) as cited by Kusumasari (2014) describes the structural paradigm focusing more on the social structure in which a person or group of people exist. As described, this structure emphasizes that with the variety of social structures, have put their existence at risk of disaster. For example community which are concentrated around the river banks are at risk affected more from flooding, people living in areas that are roomy relatively less protected in the event of catastrophic wind, people in the industry is at risk of exposure to the impact of disasters as a result of technological disaster such as explosions, contamination of chemical, and fire. In other segment of population density, urbanization and the legality of the population may also affect the vulnerability of people to flood (Rufat et al., 2015).

The majority of respondents in this study have not been exposed on disaster management, especially at the stage of the prediction despite exposure to the disaster itself has often encountered. This is evidenced by the low level of public knowledge on various questions related to mitigation and preparedness. Seneviratne et al., (2011) states that knowledge management holds a very vital role in ensuring the availability and accessibility of disaster risk information when needed. Lack of effective information and knowledge sharing and dissemination of disaster mitigation measures is one of the main reasons to unsuccessful practices or implementation of disaster management. According Seneviratne, Pathirage, Amaratunga, and Haigh (2011) there are eight categories of factors that must be taken into consideration in the management of knowledge, namely technological, social, environmental, legal, ekonomis, managerial / operational, political. These factors commonly identified in all types of disasters that include three phases as mentioned previously.



The role of the various parties, especially the community itself is needed in order to equip the communities to the conditions of understanding and ready to anticipate the possibility of disaster. If local resources are inadequate then this is the beginning of a national paralysis that aid will depend on international aid. Activities such as counseling, training, study and so can increase the capacity of communities in disaster management. Birkmann et al., (2013) argue the association between low awareness of the flood with limited protection against flooding and preparedness measures.

Building awareness of the potential for disaster is one key to the success of preparedness and the provision of complete-complete protection in the event of a disaster. In addition to awareness of the potential of a disaster, the perception of the disaster is also an important element to be straightened. Rufat et al., (2015) prove that the perception of the risk of disaster is often identified as a factor of social vulnerability during the mitigation phase and the response to the flooding disasters and on the other the broader setting. Perception can be awakened from the experience of previous events. Rufat et al., (2015) mentions that increased preparedness is very important for civil society, perceptions of risk and the dimensions of psychosocial health, which often become problematic because of the preparedness is situationally highly dependent and require further identification in contrast to other indicators.

## CONCLUSSION AND RECOMENDATION

There are significant differences on respondent knowledge after socialization emergency preparedness and mitigation efforts toward a safe community against respondents in all villages in this study.

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# THE STRATEGY OF COMMUNITY NURSING INTERVENTION THROUGH HEALTH CADRE CONTRIBUTION, HEALTHY LIFE STYLE PERCEPTION, AND ANAK KANDANG\*) EMPOWERMENT IN AN EFFORT TO BREAK THE H<sub>5</sub>N<sub>1</sub> VIRUS TRANSMITTAL CHAIN

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## ABSTRACT

**Introduction:** *Avian Influenza* is a kind of disease which has potentially threat towards human health and is deadly in nature so that it is necessary to pay a continuous attention to be research in order to break the *Avian Influenza* transmittal chain. One of the efforts is the change of community behavior through community nursing in terms of the *Avian Influenza* risk factor. **Methods:** The research design is *explanatory research* using a *cross sectional* approach conducted to 34 *anak kandang* as the samples. Regression test is applied as the statistical test component. **Results:** Simultaneous health cadre role, healthy life style perception, and *anak kandang* empowerment affect and give contribution towards the effort of breaking the chain of H<sub>5</sub>N<sub>1</sub> transmittal ( $F_{\text{count}} = 21.399 > F_{\text{table}} = 4.45$ ) as much as 68.2% and respectively each health cadre gives 11.4% of the contribution, healthy life style perception gives 0.1%, and *anak kandang* empowerment gives 56.7%. **Discussion:** The success of *Avian Influenza* control so that it will not be a *new emerging disease* and *emerging disease* is determined by the role and support of the community, mainly the role of health cadre, healthy life style perception, and *anak kandang* empowerment in the effort of breaking the chain of H<sub>5</sub>N<sub>1</sub> transmittal.

**Keywords:** perception, empowerment, health cadre role

## INTRODUCTION

The global concord in the *Millenium Development Goals* (MDGs) cannot be separated from the direction of national health development, where every sector of health service has to work more effectively and efficiently to improve the optimum level of community health. To meet the target of MDGs, it is launched a development movement related to the community health which is urgent and deals with broad community. One of the wide spreading health problems in the community which is a kind of *new emerging disease* and *emerging disease* and also a deadly one is *Avian Influenza* (AI).

The Department of Agriculture of Republic Indonesia (2009) reported that in the development of AI in Indonesia in 2007 there were confirmed of 98 cases; 78 death

CFR= 79.58%). In Central Java during November 2005 until May 27, 2007 there were 9 cases, with 8 cases of death (CFR= 88.89%).

The detail of cases is from Magelang Regency there were 2 cases, and in Boyolali, Semarang, <sup>1</sup> Banjarnegara, Sukoharjo, Wonogiri, dan Grobogan Regency was respectively 1 case.

The Ministry of Health of Republic Indonesia (2017) reports that the cases of *Avian Influenza* in Indonesia are 199 with 167 death cases, and in the last 10 years there has been a decrease of AI cases.

Nonetheless, the problem of AI either on poultry or human is still a serious one demanding a serious attention from all sides; community, private and public sector. The data analysis result of Boyolali Regency in 2014 reported that there were

\* *Anak kandang* are the workers having a direct contact with the poultry farming or husbandry

2273 chickens in Ngargorejo, Sobokerto had 6500 broilers and 8217 village chickens, Ngesrep had 11500 broilers and 4372 village chickens, Gagaksipat had 10500 broilers and 3879 village chickens, and Sindon had 6000 broilers and 3742 village chickens (Health Bureau of Boyolali, 2014). The condition provided a potential threat and risk of H<sub>5</sub>N<sub>1</sub> Virus development.

The primary success key to break the chain of H<sub>5</sub>N<sub>1</sub> Virus transmittal is determined by the role and support of all levels of community, mainly by the change of community behavior. Selfi, Zakianis, dan Wibowo (2010) explains that the survey results inform that out of 320 respondents 62.2% still has poor information about AI, 57.1% performs poor personal hygiene, 61% does poor sanitation of food resourcing from poultry and 57.1% acts poor sanitation of poultry coops. So far efforts carried out to cope with the health problem was still oriented to the disease cure, which means that what the community has done in the health area is just to deal with the one taking place that is considered less effective due to the costly expenses on the cure action. Syafrudin and Hamidah (2009) postulate the community behavior can be affected by many factors. The one factor can derive themselves, another person who can encourage good or bad behavior, or the surrounding environment supporting their behavioral change. Efforts acted by the community to help themselves are making basic hygiene and sanitation of clean and healthy life as a habit, and avoiding direct contact with sick or suddenly dead poultry. It is expected that those efforts can create the change of healthy behavior in the community to prevent any disease because of H<sub>5</sub>N<sub>1</sub> Virus.

## METHODS

The research aims at explaining the correlation between the effect and contributions of predictor of healthy life pattern perception (X<sub>1</sub>), *anak kandang* empowerment (X<sub>2</sub>), health cadre role (X<sub>3</sub>),

towards the efforts of breaking the chain of H<sub>5</sub>N<sub>1</sub> (Y) Virus transmittal in the certain period of time. The research design is *explanatory research* using a cross sectional approach. The research population is all the *anak kandang* making a direct contact with the chicken coops in the chicken husbandry in Ngemplak, Boyolali Regency; 52 respondents. The sample taking technique is *Purposive sampling* and the quantity of the samples applies the *Slovin* formula:

$$n = \frac{52}{1 + 52(0.1^2)} = 34.sampel$$

The research instrument to take the data variable of healthy life style perception, *anak kandang* empowerment, and health cadre role is *questionnaire*.

## RESULTS

Table 1 Characteristic of Respondents

Age (years)	Σ
<30	8
31-50	14
>51	12
Education	Σ
Elementary school	16
Secondary school	12
University	6
Cadre Experience (years)	Σ
< 5	8
5 – 10	22
>10	4

### Respondent Age

Out of 34 respondents under the research in Ngemplak, Boyolali Regency, most of them are 31-50 years old ; namely 14 persons (41.2%), 8 are less than 30(23.5%), and 12 are more than 51(35.3%). The frequency distribution of respondent age in Ngemplak, Boyolali Regency is illustrated in Table 1.

### Respondent Education

Out of 34 respondents, most of them are in the level of elementary school, or 16 persons (47.1), 12 are in secondary school (35.3%), and 6 are in university level

(17.6%). The frequency distribution of respondent education in Ngemplak, Boyolali Regency is illustrated in table 1.

### Cadre Experience

Out of 34 respondents, most of them have an experience as cadres from 5 to 10 year, i.e. 22 persons (64.7%), 4 have more than 10 years of experience (11.8%), and 8 own less than 5 years of it (23.5%). The respondent experience distribution in Ngemplak, Boyolali Regency is illustrated in Table 1.

**Table 2 Result**

Variable	
<b>Health role cadre</b>	<b><math>\Sigma</math></b>
Low	11
Medium	19
High	4
<b>Healthy life pattern perception</b>	<b><math>\Sigma</math></b>
Low	24
Medium	6
High	4
<b>Anak kandang empowerment</b>	<b><math>\Sigma</math></b>
Low	6
Medium	19
High	9
<b>The Breaking of H<sub>5</sub>N<sub>1</sub> Virus Transmittal Chain</b>	<b><math>\Sigma</math></b>
Low	8
Medium	16
High	10

### Health Cadre Role

Out of 34 samples, most of health cadre role is categorized as medium, i.e. 19 persons (55.9%), low cadre role category belongs to 11 (32.4%), and the high one is owned by 4 persons (11.8%). The frequency distribution of health cadre role is illustrated in Table 2.

### Anak Kandang Empowerment

Out of 34 respondents, most of the *anak kandang* empowerment level belongs to the medium category, i.e. 19 (55.9%), low category 6 (17.6%), and high category 9 (23.2%). The distribution of *anak*

*kandang* empowerment is illustrated in Table 2.

### Healthy Life Pattern Perception

Out of 34 respondents, most of them is categorized in the low healthy life pattern perception level, i.e. 24 persons (70.6%), medium level is i.e. 6 (17.6%), and high level is i.e. 4 (11.8%). The frequency distribution of healthy life pattern perception is illustrated in Table 2.

### The Breaking of H<sub>5</sub>N<sub>1</sub> Virus Transmittal Chain

Out of 34 respondents, the effort to beak the chain of H<sub>5</sub>N<sub>1</sub> Virus transmittal is categorized as medium, i.e.16 persons (47.1%), the high category, i.e. 10 persons (29.4%), and the low category i.e. 8 persons ((23.5%). The frequency distribution of breaking the chain of H<sub>5</sub>N<sub>1</sub> Virus transmittal is illustrated in Table 2.

### Double Regression Analysis

Double regression analysis is applied to investigate the simultaneous effect of variables of healthy life pattern perception(x1), *anak kandang* empowerment (x2), and health cadre role towards the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain. The equation is as follows

**Table 3. Summary of Double Regression Result**

Variable	Regre ssion coeffi cient	t coun t	Sig
Coeff. of cadre role regression	0.537	2.7 71	0.0 09
Coeff. of perception regression	0.001 3	1.1 69	0.0 47
Coeff. of empowerment regression	0.239	3.2 47	0.0 03
Constanta	16.41 7	4.2 89	0.0 00
R	0.826		
R <sup>2</sup>	0.682		



F 21.39  
9

Source : Primary Data (Analyzed by SPSS for Windows version 10.0, 2017).

Table 1 presents there is a positive effect of 0.537 on the health role cadre variable towards the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain. Moreover, healthy life pattern perception impacts positively towards the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain, i.e. 0.0013, and *anak kandang* empowerment effect is 0.239.

### F-test Statistics

F test analysis results in the value of  $F_{\text{count}} = 21.399$  and  $F_{\text{table}} = 4.45$ . Because the value of  $F_{\text{count}} = 21.399$  or higher than the value of  $F_{\text{table}} = 4.45$ ,  $F_{\text{count}} = 21.399$  is located in the area of rejection  $H_0$  or acceptance  $H_a$ , which means that simultaneously healthy life pattern perception, *anak kandang* empowerment, and health cadre role can explain the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in Ngemplak, Boyolali Regency.

### T-Test-Statistics

Test analysis result leads to the comparison of the value of  $t_{\text{health cadre role count}} = 2.771 > t_{\text{table}} = 1.690$  with the degree of thrust of 95% so that  $H_0$  is rejected and  $H_a$  is accepted, meaning that partially health cadre role has a significant effect towards the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain,  $t_{\text{healthy life pattern perception count}} = 1.169 > t_{\text{table}} = 1.690$  with the degree of thrust of 95% so that  $H_0$  is accepted and  $H_a$  is rejected, meaning that partially healthy life pattern partially results in a significant effect in breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain and  $t_{\text{anak kandang empowerment count}} = 3.247 > t_{\text{table}} = 1.690$  with the degree of thrust of 95%, so that  $H_0$  is rejected and  $H_a$  is accepted or partially *anak kandang* empowerment provides a significant effect towards the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in Ngemplak, Boyolali Regency.

### R<sup>2</sup> Test (Coefficient Determination)

Regression statistic test result gains the value of  $R^2 = 0.682$  meaning that 68.2% health cadre role, health life pattern perception, and *anak kandang* empowerment can explain the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain, and 31.8% is affected or explained by other variables outside the models applied. To investigate the variation of the respective independent variable in explaining the efforts of the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain,  $R^2$  analysis is conducted to the respective independent variable (health cadre role, health life pattern perception, and *anak kandang* empowerment) towards the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain.

$R^2$  statistical analysis result presents aggregate of the predictors of health cadre role ( $X_1$ ), healthy life pattern perception ( $X_2$ ), and *anak kandang* empowerment ( $X_3$ ) = 68.2%.  $R^2$  of the predictor of *anak kandang* empowerment variable ( $X_3$ ) = 56.7% and  $R^2$  of the predictors of health cadre role and *anak kandang* empowerment variable ( $X_1$  and  $X_3$ ) = 68.1%, as a result  $R^2$  of the respective variable towards the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain is  $X_3 * Y = 56.7\%$ ,  $R^2 X_1 * Y = 68.1\% - 56.7\% = 11.4\%$  and  $R^2 X_2 * Y = 68.2\% - 68.1\% = 0.1\%$ . The result of the  $R^2$  Stepwise value analysis with the assistance of SPSS for Windows version 10.0 application programs is illustrated in Table 3.

Table 4. Summary of Effective Contribution Result

Variable	$R^2$ (coefficient Determination)
Health role cadre ( $X_1$ )	11,4%
Healthy life pattern perception ( $X_2$ )	0.1%
Anak kandang empowerment ( $X_3$ )	56.7%
$X_1, X_2, X_3$ simultaneous	25,4 %

Source: Primary Data (Analyzed by SPSS for Windows version 10.0, 2017)

## DISCUSSION

Health cadre role, healthy life pattern perception, and *anak kandang* empowerment all together lead to a positive effect towards the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain. Simultaneously those variables can explain the varying efforts in breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in Ngemplak, Boyolali Regency. The *anak kandang* empowerment variable provides a greater effect on this action compared to either health cadre role or healthy life pattern perception. It explains that the action of breaking or preventing of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in the community is predominantly affected by *anak kandang* empowerment. The success of the community on this action cannot be separated from the participation of *anak kandang* as the member of the community.

The empowerment is expected to be able to obtain an internal control of *anak kandang* who leads the community to always conduct the preventing or breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in their neighborhood. The behavioral control, if supported by a good perception about healthy life pattern perception and the health cadre role, can be more effective to reach the goal.

Based on the research results, to improve the community contribution in the preventing or breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain, it is necessary to develop the human resources, the members of the community, themselves. All the community actions to reach their goals depend very much on their own resources. Syafrudin and Hamidah (2009) clarify that the action of community empowerment in the health service may need some cooperation of related parties, among others: local government, public figures, health cadres, youths, NGO, and the community member in general. This action can be implemented by the support of perception pattern and health cadre role.

Health cadre role is one of the resources to execute the implementation of

the community-based total sanitation development program either inter or intra village. The effort is a good support to the cooperation and also a media to develop the community awareness of the importance of the prevention of H<sub>5</sub>N<sub>1</sub> Virus transmittal and the experience sharing about overcoming the problem they face together, including the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain by them. Therefore, the health cadre role has a great effect in this action in Ngemplak, Boyolali Regency.

According to the statistical test result, health cadre role variable towards the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain obtains the regression coefficient value of 0.537, meaning that in each 5% improvement of health cadre role in terms of the healthy life pattern perception and controlled *anak kandang* empowerment variables the efforts of breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain follows as much as 0.537%. Furthermore t test result to examine and analyze the effect of health cadre role variable presents that the value of  $t_{\text{health cadre role count}} = 2.771 > t_{\text{table}} = 1.690$ , which clarifies that health cadre role in some partial parts significantly affects the breaking of H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in the community. This factor is partially proven to be a significant contribution to the action, i.e. 11.4%. it implies that health cadre role aspects, dealing with their readiness to activate their role, belief to be skilled in their duties, participation in the action, and discipline can build positive behavior and can contribute positively in breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain.

The research results in the theory formulated by Syafrudin and Hamidah (2009) asserting that health cadre role is one of the success keys in the development implementation UKBM (upaya kesehatan berbasis masyarakat) or community-based health efforts. The health cadres have the opportunity to develop their creativity and conduct the observation and evaluation of the program. The research results is also supported by the research conducted by Wijaya, Murti, and Suriyasa (2013)

elucidating that in the control of tuberculosis cases the well-informed health cadres provide higher potential to be 18 times more active than the others, the well-behaved cadres are 8 times more active than the others, and the highly-motivated cadres are 15 times more active than the lowly-motivated ones. As a result, the more active health cadre role in breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in the community are, the higher the success in breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain will be.

Perception is the occurrence of responses which is preceded by sensing the stimulus, organizing, interpreting, evaluating, and responding it with some action. Hence, healthy life pattern perception factor has a contribution in improving the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in the community. Based on the statistical result, this variable obtains the value of regression coefficient of 0.0013 meaning that in every 5% increase of it under the assumption that the other two variables are controlled, the improvement of the efforts of breaking the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain of 0.0013%.

On the other hand, the result of t test to examine and analyze the partial effect of each variable shows that  $t_{\text{perception count}} = 1.169 < t_{\text{table}} = 1.690$ , which means that the healthy life pattern perception individually gives a significant effect on the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in Ngemplak, Boyolali Regency. The factor partially brings an insignificant contribution for the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain of 0.1 %.

The research results share the same stance on Zulfiqar's opinion (2013) explaining that one's positive perception leads to a positive effect on the adoption of healthy life pattern. Therefore, the individual and community's perception affects the problem-solving process, and the decision will encourage someone to take an action to pursue their goal. An action based on perception causes a real behavior leading to an optimum effort to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain.

The contribution of *anak kandang* empowerment towards the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain

Community empowerment cannot be separated from an effort to develop a community-based sanitary program. It is expected that *anak kandang* empowerment can develop several methods to burrow and make use of resources in the community to improve the community health based on the local wisdom.

*Anak kandang* empowerment in health area, more specifically in terms of preventing the H<sub>5</sub>N<sub>1</sub> Virus transmittal will increase their skill to identify any health problem in the community and its solution. It is expected that *anak kandang* empowerment can give a contribution for the efforts to break or to prevent the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain in order to increase the level of community health. Based on the result of statistic test on *anak kandang* empowerment variable towards the action, the value of regression coefficient is 0.239 which leads to the 5% increase in every *anak kandang* empowerment under the assumption that the other two variables are controlled, so that the increase of the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain follows i.e. 0.239%. In the meantime based on the t test result to determine the partial effect on each variable, it results in  $t_{\text{anak kandang empowerment count}} = 3.247 > t_{\text{table}} = 1.690$ , which means that *anak kandang* empowerment individually obtains a significant effect on the efforts to break the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain.

This factor is proven to be able to give a positive contribution for 56.7% effect on the efforts. It also means that these aspects of *sense of self determination* (free to choose the problem solving method), *sense of meaning* (care about what action is taken due to its impact on himself), *sense of competence* (assure with their ability to solve problems), and *sense of impact* (believe that what has been done will impact the surrounding to make the others accept their ideas) has built a good *anak kandang* empowerment.

Empowerment is an idea to develop human resources through *anak kandang's* active participation so that they are able to conduct their function as *anak kandang*, including the health function.

The research result directs to a research conducted by Susi, (2009) asserting that empowerment is the most encouraging factor in the implementation of clean and healthy life behavior. Another research conducted by Muljono (2010) supporting this research explains family empowerment can improve their family health function. Hence, *anak kandang* empowerment builds individual and community independent behavior to the extent of the effort to break or to prevent the H<sub>5</sub>N<sub>1</sub> Virus transmittal chain.

## CONCLUSION AND RECOMENDATION

Simultaneous health cadre role, healthy life style perception, and *anak kandang* empowerment affect and give contribution towards the effort of breaking the chain of H<sub>5</sub>N<sub>1</sub> transmittal as much as 68.2% and respectively each health cadre gives 11.4% of the contribution, healthy life style perception gives 0.1%, and *anak kandang* empowerment gives 56.7%. The recommendations of the ventilating concord village communities as container is representative to sit together in the context of the discussion to know, Identifying and troubleshooting the behavior of health especially in the prevention of H<sub>5</sub>N<sub>1</sub>.

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# THE ASSESMENT OF COGNITIVE IMPAIRMENT FOR STROKE PATIENT

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## ABSTRACT

**Introduction:** Stroke is a leading cause of long-term disability. Deficit neurological of stroke have impact in physical, emotional, social, and cognitive aspects. The impact of deficit neurological may affects long-term quality of life. The purpose of this study was to evaluate the effectiveness of cognitive impairment assessment for stroke. **Method:** Using an electronic database including Pubmed, Sciencedirect, Medline Ebsco Host, Proquest and Springerlink Library only for English language articles. Combining cognitive impairment, screening cognitive, screening MoCA, MoCA tools, screening MMSE, MMSE tools, and stroke as the search keywords. The 603 articles retrieved. Using matching keywords, 40 articles were selected. Finally, 4 articles were selected which are study of test accuracy among consecutive patients. **Result:** Using MoCA test more effective to evaluate cognitive impairment for stroke patients. **Discussion:** The MoCA test for patient post stroke can detect cognitive impairment compared using the MMSE. The MMSE subtest domain score can't distinguished, while the MoCA subtest domain score (visuospatial/executive function, attention and recall) can be distinguished. Assessing executive function can help determine a patient's capacity to execute health care and discharge planning decisions.

**Keywords:** MoCA, MMSE, stroke

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## INTRODUCTION

Cognitive impairment is one of the morbidities after stroke which was reported incidence 10 %. Cognitive impairment occurs in 45% of patients in the acute phase. Cognitive impairment is common in stroke such as impaired attention, memory, orientation, language, executive functions, apraxia and agnosia (National Stroke Foundation, 2010). Patients with cognitive impairment will greatly affect in activity daily living. The perceived difficulties in cognitive abilities daily living, such as memory, attention, decision-making, cognitive function and executive (the perceived difficulties in the application of mental functions related to planning, organizing, calculating, work with memory and learning). Communication difficulties are perceived related with verbal expression, the production of language, articulation, understanding and organization. Information about the patient's condition related to cognitive

function of the patients should be conveyed to the family because it can cause stress on the family (Gershon et al., 2012).

Cognitive impairment can be determined by assessing the time of treatment in the acute phase, so patients and families can understand about disability that occurs. Assessment that most often used to determine cognitive function is MMSE (Mini-Mental State Examination). MMSE is composed of six domains to assess the orientation, registration, attention, recall, language, and imitate the picture. Another assessment that can be used is the MoCA (Montreal Cognitive Assessment). MoCA test consists of 9 domains which determine the function of visuospatial/executive, CDT (clock drawing test), naming, memory, attention, language, abstraction, delayed recall, and orientation. ROC (*Receiver Operating Characteristic*) for MoCA with AUC (*Area Under the Curve*) is 0,882 and the corresponding results for the 2 MMSE showed similar AUC 0.839. In this study



also mentioned that both MoCA and MMSE have a reliable vote for the diagnosis of cognitive impairment after a stroke (Shen, et al., 2016).

MMSE failed to detect any decline in cognitive domain (Schweizer et al., 2012). MMSE is widely applied in the clinic, but it is inadequate for evaluating mild cognitive impairment due to sensitivity on visuospatial and executive function deficits. Otherwise, MoCA can detect mild cognitive impairment and more sensitive for detecting cognitive impairment compared to MMSE (Oh, Kim, Shim & Seo, 2015). Nursing research about the importance of cognitive status assessment in stroke patients is very rare. 55% of nurses did not identify patients' cognitive impairment in the general ward. Researchers identified 36% out of 182 patients who were treated in the medical/surgical had cognitive impairment. Nurses can only detect cognitive impairment by 28%. It can be concluded that the nurses unable to identify impaired cognitive function of the patients due to the lack of knowledge about the assessment of cognitive function (Souder & Osullivan, 2000). The challenges to obtain an accurate assessment of cognitive function for nurses in all adult patients are to assess disability and then looking for reliability, validity, and convenient use (Pangman, Sloan, & Guse, 2000). So, the assessment to find problems in a more specific cognitive function in stroke patients is necessary.

## METHOD

Search strategy that use in this article was an electronic database including

Pubmed, Sciencedirect, Medline Ebsco Host, Proquest and Springerlink Library only for English language articles. Combining cognitive impairment, screening cognitive, screening MoCA, MoCA tools, screening MMSE, MMSE tools, and stroke as the search keywords shown at table 1. The 603 articles retrieved. Using matching keywords, 40 articles were selected. Finally, 4 articles were selected which are study of test accuracy among consecutive patients. Table 1. PICO Strategy

## Keyword

P Cognitive impairment or screening cognitive

I Screening MoCA or MoCA tools

C Screening MMSE or MMSE tools

O Stroke

## RESULT

The articles had 1.b level evidence for diagnosis test – study of test accuracy among consecutive patients is the second highest level (Joanna Briggs Institute Levels of Evidence and Grades of Recommendation Working Party, 2013). The articles were using consecutive sampling, have gold standard and index test. AUC has classified based on tools prediction: 0.9 – 1 : perfect ; 0.8 – 0.9 : good ; 0.7 – 0.8 : enough; 0.6 – 0.7 : less ; 0.5 – 0.6. The AUC of MoCA were 0.92; 0.85; 0.91; 0.902; it was means that screening can predict risk of cognitive impairment respondents were perfectly approaches 100%.

Table 2. Synthetizing the evidence

Outcomes	(Yanhong Dong et al., 2010)	(Y. Dong et al., 2012)	(Larner, 2012)	(Salvadori et al., 2013)
Cut of point	MMSE : - - 23/24 - - 78.7 % correctly classified - MoCA : - - 19/20 - - 85.1 % correctly classified	MMSE : - 25/26 - 72 % correctly classified MoCA : - 21/22 - 70 % correctly classified	MMSE : - ≥26/30 MoCA : - ≥26/30	MoCA cut-off 21

Sensitivity	MMSE : - 0.72 MoCA : - 0.83	MMSE : - 0.88 MoCA : - 0.88	MMSE : - 0.65 MoCA : - 0.97	MoCA 91,4%
Specificity	MMSE : - 0.83 MoCA : - 0.86	MMSE : - 0.67 MoCA : - 0.64	MMSE : - 0.89 MoCA : - 0.60	MoCA 75,8%
Positive Predictive Value	MMSE : - 0.72 MoCA : - 0.79	MMSE : - 0.47 MoCA : - 0.45	MMSE : - 0.82 MoCA : - 0.65	MoCA 80%
Negative Predictive Value	MMSE : - 0.83 MoCA : - 0.89	MMSE : - 0.94 MoCA : - 0.94	MMSE : - 0.78 MoCA : - 0.96	MoCA 89,3%
ROC AUC	MMSE : - 0.84 (95 % CI 0.75-0.92) MoCA : - 0.92 (95 % CI 0.86-0.98) <i>p</i> = 0.02	MMSE : - 0.83 (95 % CI 0.77-0.89) MoCA : - 0.85 (95 % CI 0.79-0.90)	MMSE : - 0.83 (95 % CI 0.77-0.90) MoCA : - 0.91 (95 % CI 0.86-0.95) <i>Area under ROC:</i> - MMSE 0.83 (0.77-0.90) - MoCA 0.91 (0.86-0.95)	MoCA AUC 0.902 <i>p</i> = 0.001

Out of four studies, two of them, setting for the application and inclusion criteria can be combined as a reference in the application screening of MoCA. However, all studies agree that cognitive function screening MoCA is more specific to assess impaired cognitive function in stroke patients.

## DISCUSSION

Based on this study, it can be seen that MoCA is more specific and sensitive to detect cognitive impairment. The MoCA test for patient post stroke can detect cognitive impairment compared using the MMSE. The MMSE subtest domain score can't be 4 distinguished, while the MoCA subtest domain score (visuospatial/executive function, attention and recall) can be distinguished. Few practitioners are familiar with testing for executive function, there were brief valid and reliable instruments yet. The instruments listed below have good internal consistency, interrater reliability and were strongly correlated with the Folstein Mini-

Mental Status Exam (MMSE) and with lengthier neuropsychological assessments of executive function: Royall's CLOX (clock drawing), Controlled Oral Word Association Test, and Trail Making Test, oral version (Kennedy & Einstein, 2012).

The evaluation of cognitive screening at the bedside can be performed between fifth and ninth day after stroke (Salvadori et al., 2013). Assessing executive function can help determine a patient's capacity to execute health care decisions and discharge planning decisions (Kennedy & Einstein, 2012).

Nurses have a role in recognizing impaired cognitive function of stroke patients using a sensitive and specific instrument. MoCA through the application of evidence-based nursing to screening cognitive function have complete domain. Nurses have the longer interacting with patients and their families, so they can recognize changes and cognitive impairment earlier. Through the enforcement of nursing diagnosis related to cognitive function domain, the nurse can

provide appropriate interventions for patients and their families.

Age, gender, education level affects the person's cognitive function. The prevalence of cognitive impairment was statistically 34% associated with gender (female). Some studies suggest that the higher life expectancy for women result the higher number of cognitive impairment. In 2010, life expectancy for men is 69.7 years old, while the female age was 77.3 years (Winter Holz, Nunes, Thume, Lange, & Facchini, 2013).

Clinical factors and cognitive disorders are closely related. Medical conditions, severity of stroke, neuroimaging characteristics, the history of vascular disease factors such as heart disease, hypertension, diabetes, and atrial fibrillation can affect cognitive function. Neurological deficits that occur will affect Barthel index score. Barthel index is a significant predictor to cognitive impairment 3 months after stroke (Faizal et al., 2016).

## CONCLUSION AND RECOMENDATION

This study also has several limitations, nurse articles which discuss about assessment of cognitive function is very rare. Not all articles can be applied because of setting the application and inclusion criteria in the application screening MoCA. Journals are selected not a systematic review, so had possibility of limitations in the synthesis of the results. Indonesia still develop nursing practice about necessary of the assessment in each hospital. Policy differences of cognitive impairment assessment.

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# ETIOLOGY FACTORS ANALYSIS THAT INFLUENCE TO CONGESTIVE HEART FAILURE INCIDENT IN ICVCU DR. MOEWARDI HOSPITAL SURAKARTA

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## ABSTRACT

**Introduction:** Congestive heart failure is a patophysiological state when the heart is unable to pump blood adequately to meet the needs of oxygen and nutrients of tissues. Etiologic factors that found in ICVCU dr. Moewardi Hospital Surakarta are hypertension, myocardial infarction, and pneumonia. **Methods:** This research is descriptive analytic with cross sectional approach. Data analysis using logistic regression is used with a sample of 37 respondents. **Results:** The results showed the significant influence of congestive heart failure and hypertension ( $p = 0.05$ ), myocardial infarction ( $p = 0.15$ ), pneumonia ( $p = 0.18$ ). Hypertension is an etiologic factor dominant effect on the incidence of congestive heart failure with  $OR = 3,383$ . **Conclusions:** Based on the result, it can be concluded that the three variables (hypertension, myocardial infarction, and pneumonia) affect on congestive heart failure significantly. Recommendations in this research is to do further research with a sample of more and longer study time, as well as increasing the number of variable factors etiology.

**Keywords:** hypertension, myocardial infarction, pneumonia, congestive heart failure

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## INTRODUCTION

Heart failure, is often called congestive heart failure, is a patophysiological state when the heart is unable to pump blood adequately to meet the needs of oxygen and nutrients of tissues (Brunner and Sudarth and Price, 2006). Heart failure is caused by structural and functional disturbances of the heart (Sudoyo, 2009). Factors that can trigger the development of heart failure through the sudden pressure circulation include arrhythmias, systemic infections, lung infections, and pulmonary embolism (Price, 2006). In Indonesia there is no exact data about the causes of heart failure, while data from the hospital in Palembang hypertension as the most common cause, followed by coronary heart disease and valve (Sudoyo, 2009). Research in the dr. Kariadi Hospital in January-December 2006, the data showed that the etiology of elderly congestive heart failure based on the frequency showed ischemic heart disease becomes the most etiology, followed by hypertensive heart disease,

cardiomyopathy, valvular heart disease, rheumatic heart disease and heart disease pulmonic.

The etiologies of congestive heart failure based on the frequency adulthood are ischemic heart disease as the most, valvular heart disease, and cardiomyopathy and rheumatic heart disease. Statistically, there was no difference between the etiology of congestive heart failure in the elderly with adult (Ardini, 2006). Results of a preliminary study conducted by the author at the ICVCU dr. Moewardi Hospital Surakarta in patients with congestive heart failure, showed the number of patients admitted during the year 2011 as many as 113 patients, and frequent etiological factors are hypertension, myocardial infarction, and pneumonia. The purpose of this study was to determine the major etiologic factor that influenced the incidence of congestive heart failure at ICVCU dr. Moewardi Hospital, Surakarta.



## METHODS

This study used analytic description method with cross sectional approach. The populations in this study were all patients hospitalized in the ICVCU dr. Moewardi Hospital, Surakarta. The number of samples in this study were 37 patients selected using accidental sampling technique, in which patients were included in the inclusion criteria, willing to become respondents and has a history of disease are hypertension, pneumonia, myocardial infarction. The research instrument used observation sheet. Research carried out for 2 months at ICVCU dr. Moewardi Hospital.

## RESULTS

### Univariate Analysis

Univariate analysis in this research is divided on the characteristics of respondents include age, gender, and respondents who experienced a myocardial infarction, hypertension, and pneumonia. The following are the data obtained:

Table 1 Characteristics Frequency Distribution of respondents by age group

Charact eristics	Patient with CHF		Patient without CHF	
	Frequ ency	Perce ntage	Frequ ency	Perce ntage
<40	7	25,9 %	2	20%
>40	20	74,1 %	8	80%
Jumlah	27	100%	10	100%

In Table 1 it can be seen that patients with congestive heart failure aged < 40 years were 7 respondents (25.9%), age >40 years were 20 respondents (74.1%), patients who did not suffer from congestive heart failure aged <40 years were 2 respondents (20%), and age >40 years were 8 respondents (80%).

Table 2 Characteristics Frequency Distribution of respondents by gender

Sex	CHF Cases		Not CHF casus	
	Freq uenc y	Percenta ge	Frequen cy	percen tage
Male	19	70,4 %	7	70%
Femal e	8	29,6 %	3	30%
Total	27	100%	10	100%

In Table 2 it can be seen that male patients with congestive heart failure were 19 respondents (70.4%) and female were 8 respondents (29.6%). Male patients who did not suffer from congestive heart failure were 7 respondents ( 70%) and female were 3 respondents (30%).

Table 3 Characteristics Frequency Distribution of respondents in hypertensive patients by age group and gender

Variabel	Hypertension	
	Frequency	Percentage
Age		
<40	3	12,5%
>40	21	87,5%
Total	24	100%
Sex		
Male	20	83,3%
Female	4	16,7%
Total	24	100%

In table 3 it can can be seen that patients with hypertension aged < 40 years were 3 respondents (12.5%), age >40 years were 21 respondents (87.5%), male patients were 20 respondents (83.3%) and female patients were 4 respondents (16.7%).

Table 4 Characteristics Frequency Distribution of respondents' myocardial infarction patients by age group and gender

Variabel	Miocard Infarction	
	Frequency	Percentage
Age		
<40	4	14,8%

>40	23	85,2%
Total	27	100%
Sex		
Male	22	81,5%
Female	5	18,5%
Total	27	100%

In table 4 it can be seen that patients with myocardial infarction aged < 40 years were 4 respondents (14.8%), age > 40 years were 23 respondents (85.2%), male were 22 respondents (81.5%), and female were 5 respondents (18.5%).

Table 5 Characteristics Frequency Distribution of respondents Pneumonia patients by age group and gender

Variabel	Pneumonia	
	Frequency	Percentage
Age		
<40	1	20%
>40	4	80%
Total	5	100%
Sex		
Male	3	60%
Female	2	40%
Total	5	100%

In table 5 it can be seen that patients with Pneumonia aged < 40 years was one respondent (20%), age > 40 years were 4 respondents (80%), male were 3 respondents (60%), and female were 2 respondents (40 %).

### **Bivariate Analysis**

Bivariate analysis were used to see the relationship between these two variables, was each etiological factors on the incidence of congestive heart failure.

### **Hypertension**

Table 6 Distribution of frequency based on etiology factors of hypertension in patients with congestive heart failure.

Etiology	Patient with CHF	Patient without CHF
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	Frequency	Percentage	Frequency	Percentage
Hypertension	20	74,1 %	4	40%
Not Hypertension	7	25,9 %	6	60%
Total	27	100%	10	100%

Table 6 shows the frequency distribution of respondents with congestive heart failure who have hypertension as many as 20 respondents (74.1%) and there are seven respondents (25.9%) who did not have hypertension. The number of respondents who do not suffer from congestive heart failure with hypertension were 4 respondents (40%) and there were 6 respondents (60%) who did not have hypertension hypertension. Result of bivariate analysis showed that hypertension effect was 4.2 times greater on the incidence of congestive heart failure with value 0.05, so that these variables are followed in the multivariate analysis.

### **Myocardial Infarction**

Table 7 Frequency Distribution of myocardial infarction based on etiologic factors in patients with congestive heart failure

Etiology	Patient with CHF		Patient without CHF	
	Frequency	Percentage	Frequency	Percentage
MI	21	77,1%	6	60%
Not MI	6	22,9 %	4	40%
Total	27	100%	10	100%

Table 7 shows the frequency distribution of respondents congestive heart failure myocardial infarction were 21 respondents (77.1%) and there were 6 respondents (22.9%) who suffered myocardial infarction. The number of respondents who do not suffer from congestive heart failure

myocardial infarction were 6 respondents (60%) and there were 4 respondents (40%) who did not experience a myocardial infarction myocardial. Result of bivariate analysis showed that myocardial infarction effect was 2.3 times greater on the incidence of congestive heart failure, with p value 0.015, so that this variable is continued in the multivariate analysis.

### ***Pneumonia***

Table 8 Distribution of frequency based on etiology factors of pneumonia in patients with congestive heart failure

Etiology	Patient with CHF		Patient without CHF	
	Frequency	Percentage	Frequency	Percentage
Pneumonia	3	11,11 %	2	20%

Not Pneu monia	24	88,89 %	8	80%
Total	27	100%	10	100%

In Table 8 shows the frequency distribution of respondents with congestive heart failure who had developed pneumonia were three respondents (11.11%) and there were 24 respondents (88.89%) who did not have pneumonia. The number of respondents who do not suffer from congestive heart failure with pneumonia were two respondents (20%) and there were 8 respondents (80%) who did not experience a myocardial infarction pneumonia. Result of bivariate analysis showed pneumonia effect was 0.2 times greater on the incidence of congestive heart failure, with p value of 0.18, so that this variable is continued in the multivariate analysis.

### ***Multivariate analysis***

Table 9 Summary of Multivariate Analysis

No	Variabel	B	Wald	OR	95% CI
1.	Hypertension	1,219	2,198	3,383	0,675 - 16,944
2.	Miocard Infarction	0,520	0,304	1,681	0,311 - 9,097
3.	Pneumonia	-1,389	2,233	0,249	0,040 – 1,542
	Constanta	0,264	0,98	1,303	

In Table 9 it can be seen multivariate analysis variables that most influence on the variable incidence of congestive heart failure is hypertension which its effect is 3,383 times greater on the incidence of congestive heart failure.

## **DISCUSSION**

Hypertension Process of getting older is marked by decreased organ function causing disorder but not pathological process. Reduction of elasticity and aorta compliance and large blood vessels will lead to elevation of systolic blood pressure and left ventricular ejection. This will lead to left ventricular hypertrophy and interstitial fibrosis (Chen et al, in Anggraini, 2007). The addition of left ventricular wall thickness cause relaxation / diastole, the atria contract more

forcefully because of the addition of LVEDP. This is the basic of diastolic dysfunction and congestive heart failure (draperies et al, in Anggraini, 2007).

The study from Anggarini (2009) and Sudoyo (2009) stated that high blood pressure causes high pressure gradient which must be passed by the left ventricle to pump blood. Constantly high pressure cause increased cardiac oxygen supply needs. Then initial pain occurs in connection with coronary artery disease. The increasing of systemic blood pressure increase resistance to pumping blood from the left ventricle, it causes consequently cardiac workload increased, and hipertrophy ventricle occurs to increase the force of contraction, left ventricular hypertrophy as compensation for the increase in systemic blood pressure, which

in turn actually increase the work of the heart and will ultimately lead to failure heart.

Data from previous studies, the data from Framingham showed that hypertension with or without ischemic disease is the largest cause of heart failure in Europe, while the study in UK hypertension become the cause of 6% clients with congestive heart failure. Research in 2006 in Kariadi Hospital, Semarang, obtained the data that the etiology of heart failure caused by hypertensive heart disease as much as 15.63%.

Left heart failure is a mechanical complication most often occurs after myocardial infarction. Interrupt myocardial infarction myocardial function due to causes decreased force of contraction, causing wall motion abnormalities, and change the develop power of the heart chamber. With the reduced ability of the left ventricle to be empty, then the stroke volume is reduced so that the rest of the ventricular volume increases. This causes increased the left heart pressure. The increase in pressure is distributed to the rear to pulmonali vein.

When the hydrostatic pressure in the pulmonary capillary vascular oncotic pressure exceeded then a process of transudation occurs into the interstitial space. When the pressure is still increased again, occurred pulmonary edema fluid permeation due to alveoli. A decrease in stroke volume will cause a compensatory sympathetic response. Heart rate and force of contraction increase to maintain cardiac output. Peripheral vasoconstriction occurs to stabilize arterial pressure and blood flow redistribution of organs that are not vital like kidney and skin in order to maintain perfusion of vital organs (Price, 2006).

Data from previous studies, the Framingham study data showed that acute myocardial infarction often triggers heart failure. The data showed that 9% of clients who survived three years after the donation will have heart failure. From all clients who

survived 10 years after the infarction, almost 25% attack by heart failure. But this data is obtained prior to the use of thrombolytic, cause of the successful of thrombolytic therapy in maintaining the function of the left ventricle, clients who are likely to experience heart failure after infarction is fewer.

Factors that can trigger the development of heart failure through the circulation sudden emphasis can be arrhythmias, systemic infection, lung infection (pneumonia), and pulmonary embolism. The body's response to infection will force the heart to meet the body's needs increased, so the heart must work harder to pump blood to meet the body's oxygenation, thus providing an additional burden on the heart. In addition, the body's response to infection such as fever will force the heart to meet the body's metabolic needs increase, this will lead to a decrease in myocardial contractility so will result in heart failure (Price, 2006)

Epidemiologically pneumonia tends to occur in the elderly, but it remains a morbidity and mortality in young adults. The results of Research by Dewi in 2007 showed that 12.5% of patients with pneumonia attack adult age and 25% elderly patients. In a previous study in 2003 patients with heart failure were 38.9% relapse comes with bronchopneumonia.

## **CONCLUSION AND RECOMENDATION**

Based on the results of research and discussion, it can be concluded as follows: congestive heart failure disease is influenced by a history of hypertension, myocardial infarction, and pneumonia. The results showed the significant influence of congestive heart failure and hypertension ( $p = 0.05$ ), myocardial infarction ( $p = 0.15$ ), pneumonia ( $p = 0.18$ ). Hypertension is an etiologic factor dominant effect on the incidence of congestive heart failure with  $OR = 3,383$  The major etiologic factor affecting congestive heart failure is hypertension.

Recommendation For patients with hypertension, myocardial infarction, and pneumonia, they are expected to always maintain their health is by adopting a healthy lifestyle and frequent control to the doctor so that complications of congestive heart failure can be avoided. For the hospital is expected to have an instrument to determine a disease that leads to congestive heart failure early so as to anticipate the onset of congestive heart failure. Recommendations in this research is to do further research with a sample of more and longer study time, as well as increasing the number of variable factors etiology.

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# APPLICATION PROBLEM BASED LEARNING IN LABOR CARE ON THE IMPROVEMENT OF MOTIVATION AND ACHIEVEMENT MIDWIFERY STUDENTS

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## ABSTRACT

**Introduction:** The low quality of education due to a learning process that is not yet effective. This can be changed with the methods and appropriate learning strategies. Midwifery care delivery requires real picture so that necessary appropriate learning methods. The purpose of this study to analyze the effect of PBL on motivation and learning achievement subjects midwifery care delivery.

**Methods:** This study design korelatif with "One Group Pre Test Post Test". 3rd semester student population of the whole number of 47 respondents. Data were analyzed using paired t-test, the alternative hypothesis is accepted if  $p < 0.05$ . **Results:** The results showed that there are significant differences between the pre and post study, with a value of  $p = .000$ . Motivation before and after implementation of BPL also showed a significant difference with  $p = .000$ .

**Conclusion:** The target to be achieved in this research is to improve the ability of the individual student in solving problems on a case. Problem Based Learning learning model illustrates real cases to students that will allow students on work directly in the clinic and work as a professional midwife.

**Keywords:** Problem Based Learning, Academic achievement, Motivation

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## INTRODUCTION

DIII Midwifery is an educational institution that is oriented in the health field, especially obstetrics, where the graduates will serve the community and should be able to improve quality in order to be trusted and be competitive in the workforce. Knowledge and skills relevant to the world of obstetrics, should be instilled in students in DIII Midwifery. Quality development undertaken various measures such as increasing the quality DIII Midwifery. The quality is determined by various factors, among others: the factors of learners consists of two factors: the factors of the student and the student outside factors or environmental factors (Nana Sudjana, 2010: 39).

The low quality of education is due to the learning process is not yet effective. To achieve effective learning, one way to use the methods and learning strategies

appropriate to the learning objectives can be achieved in accordance with the target. The use of the learning model is an attempt by the lecturers so that a student can be maximized in understanding the subject matter, so that after learning mahasiswa will have competence as the demands of the lessons learned. A wide variety of learning models that are implemented have certain characteristics with all the strengths and weaknesses of each. A model may be good for a particular purpose, subject or certain circumstances, but may not be appropriate for other situations. Delivery care required courses giving the real picture of the labor and management, so we need a proper learning methods so that students are motivated to learn care delivery.

Developments in the teaching and learning process students are expected to undergo changes in cognitive ability, affective and psychomotor. One of the main

factors that affect the student in the learning process is the method used lecturer in conveying information. When the method used is not appropriate, it may be desired objectives will not be achieved.

So in this study the authors will provide innovative methods in an effort to improve the quality of learning that will lead to improved performance as teachers so motivation can increase student learning outcomes. The method can use the method that is centered on students, one of them with the methods of PBL (Problem Based Learning) Chan Chang Tik, (2014).

Problem Based Learning is a learning strategy that uses real-world problems as a context for students to learn about critical thinking and problem solving skills, as well as to acquire knowledge and essential concept of the subject matter. Under these conditions, in the learning process care delivery need to use the PBL method that is expected to increase motivation, initiative, creativity, thereby increasing the value of the achievement of students.

## METHODS

This study design korelatif with "One Group Pre Test Post Test". 3rd semester student population of the whole number of 47 respondents.

The independent variable in this research is the application of the intervention model Problem Based Learning (PBL). PBL method is the application of the provision of case or issue that has been arranged in the learning module Midwifery Care Delivery. The dependent variable in this study was the achievement of learning motivation and learning achievements of students diploma in Midwifery. Instruments in this study is the evaluation of the implementation of the application sheet PBL methods, assessment using questionnaires while the motivation for the achievement of students using the UTS and UAS. The research was conducted during the first half of that is the 3rd semester 2016/2017 academic year in

Jombang regency STIKES midwifery diploma. Data were analyzed using paired t-test, the alternative hypothesis is accepted if  $p < 0.05$ .

## RESULTS

Application of PBL teaching model in the subject began in the middle of the 3rd semester, before starting the model PBL measurement of student motivation in learning to follow the conventional model, so the motivation value obtained before the implementation of PBL.

Table 1 Frequency Distribution of motivation before the application of PBL

Motivation	Frequency	%
High	9	19.2
Medium	23	48.9
Low	15	31.9
Total	47	100

Source: Primary Data 2017

Table 1 shows that nearly half (48.9%) of respondents have low motivation in learning midwifery care delivery.

Learning achievement before the application of PBL method derived of middle Examination score.

Table 2 Frequency Distribution middle Examination score

Middle Examination		
Score (MEC)	Frequency	%
Very good	19	40.4
Good	19	40.4
Enough	9	19.2
Less	0	0
Total	47	100

Source: Primary Data 2017

Table 2 shows that nearly half of the respondents (40.4%) get midterm grades with a good and very good.

PBL learning model application starts to matter after the midterms, conducted over 10 face then assessed student motivation during the lesson.

Table 3 Frequency Distribution of motivation after the application of PBL

Motivation	Frequency	%
High	15	31.9
Medium	25	53.2
Low	7	14.9
Total	47	100

Source: Primary Data 2017

Table 3 shows that most of the respondents (53.2%) have medium motivation in learning midwifery care delivery.

Learning achievement after application of PBL method derived from the value of final exams.

Table 4 Frequency Distribution Final Examination score

Final Examination Score (FEC)	Frequency	%
Very good	29	61.7
Good	17	36.2
Enough	1	2.1
Less	0	0
Total	47	100

Source: Primary Data 2017

Table 4 shows that most of the respondents (61.7 %) get midterm grades with a good and very good.

The next step is to analyze the differences in motivation before and after application of PBL teaching model in the course of midwifery care delivery. Analyze differences in learning achievement before and after application of PBL teaching model in the course of midwifery care delivery, preceded test normality test differences in all the variables.

Statistical test results that there are significant differences in learning motivation before and after implementation of the PBL method, demonstrated significant value 0.000. and 95% CI values are between -4.79383 to -2.65298.

This suggests that the learning motivation of students increased after application of PBL learning method.

Statistical test results shows that there is a significant difference in learning

achievement before and after implementation of the PBL method, demonstrated significant value 0.000. 95% CI values are between -8.18584 to -3.04821.

This indicates that the application of PBL method in the subject of Obstetrics Maternity care is very effective in improving student achievement.

## DISCUSSION

The measurement results average score motivation to learn before being given treatment obtained an average score of motivation to learn is 64 to 15 respondents (31.9%) had low motivation and 23 respondents (48.9%) had moderate motivation and 9 respondents (19, 1%) have a high motivation. After the application of learning methods PBL obtained average value of 67, comprising seven respondents (14.9%) had low motivation and 25 respondents (53.2%) had moderate motivation and 15 respondents (31.9%) have a high motivation. it indicates there is an increased motivation to learn in students with the application of PBL learning model.

Value midterms obtained before the implementation of PBL students Prodi DIII overall midwifery have Range 29; the average value (mean) of 72.19, the median is 74, the standard deviation of 7.23 variance of 52.33 minimum value of 56 and a maximum value of 85.

Final exam grades obtained after the application of PBL students Prodi DIII overall midwifery have Range 37; the average value (mean) of 77.80 at 78 median, standard deviation of 8.55 variance of 73.11 minimum value of 58 and a maximum value of 95.

The results of statistical calculation above, showed an increase learning achievement after application of PBL teaching model in the subject of Midwifery Care Delivery. Test results also showed statistically that the application of PBL method in the subject of Obstetrics Maternity care is very effective in improving student achievement.

The design of PBL problem is a critical step because PBL is constructed around problems. Research suggests that learning transfer will be more successful and students will be more cognitively and affectively engaged in problem solving if problems are authentic and meaningful within their profession (Wirkala and Kuhn, 2011). Should an expert, a teacher becomes a tutor who will facilitate the learning process, and allows students to take a lot of advantages when they learn.

Application of PBL which begins with the presentation of cases of labor provide stimulation to the students to try to solve the problem. Case or problem presented is the description of the stages of work at the time of the clinic or hospital where the students work. PBL learning method starts with a presentation in a sequence based on the steps that correspond to the learning module, students will get a real picture as the world of work so that students will acquire cognitive skills and knowledge they need in the workplace.

Savery & Duffy in Kuo Shu Huang (2012) states "problem-based learning as a curriculum design that identified students not as passive recipients of knowledge but as a problem solvers who could develop disciplinary knowledge ". Application of PBL students are responsible for their own learning because of the skills they will need later in professional life in the working world. They apply the theories they have earned, find a solution to the problem or the given case, and trying how to obtain the required information through a variety of sources including the online resources, libraries, professionals and experts.

This is supported by Fatimah (2012), which stated that the problem based learning learning model always begins and centered on the problem.

Learning theories besides giving enough, also need to provide examples of solving real problems or issues in practice by utilizing the existing theories. Thus, the development of a natural learning process is simulated by the problems in real situations

where PBL stimulate the learning process using these problems in real situations. Application of PBL method, students are given the physiological childbirth cases where students act as professionals who will determine the diagnosis midwife obstetrics. Students can begin working on the case by reading the theories that have been given in advance, so that students have the provision before solving the problem. The next step gives students exposure steps of solving the case is based on literature or results of group discussions. The discussion was followed by lecturing case.

According to the Suci (2008), the learning model of problem based learning has characteristics that distinguishes it from other learning models, namely that is student centered learning or student-centered.

Stay with lecturers as facilitators in the learning process, the application of PBL models lecturers provide support and appreciation to the students. Social and contextual support, dealing with how issues are the focus of learning can make students motivated to solve it. Competitive atmosphere between groups can also support the group's performance. Social and contextual support should be accommodated by the lecturers to the successful implementation of learning.

A.M. Sardiman (2011: 73) that motivation is the driving force that has become active. Motivation becomes active at certain moments, especially when the need to achieve the goal is perceived or urgent. Meanwhile, Mc. Donald (A.M. Sardiman 2011: 71-72) says that motivation is the energy change in a person characterized by the emergence of "feeling" and preceded with the response to their destination. This is according to the PBL learning model where students in the mentioned case of the new labor cases heard by students to make students become actively solve the problem. Students will be encouraged to solve the case presented in various ways and various activities it is the intrinsic motivation of the students

themselves. According to A.M. Sardiman (2007: 89-90) intrinsic motivation are the motives that become active or function they do not need to be stimulated from the outside because in every individual had no urge to do something. The drive to resolve cases encourage better student learning that will improve the achievement of students. Hamzah B. Uno (2010: 23) study is the change in behavior is relatively permanent and potentially occur as a result of the practice or reinforcement (reinforced practice) that is based on the aim to achieve certain goals. This is consistent with the application of PBL method students motivated to learn.

Students try to solve the problem would be motivated to continue to achieve the learning objectives, so it will affect the achievement of students. This is in accordance with A.M. Sardiman (2011: 86) achievement is the real capacity that results from interactions between the various factors that affect both from within and from outside the individual in the study.

One factor that affects learning achievement is the motivation, where someone will succeed in learning, in her desire to learn. Other factors that affect the learning achievement according to Sudirman A.M that factor of the self that includes physical state and psychological factors including the motivation to learn and factors that come from outside.

Students are given a case study will be compelled to try to resolve so comes the learning process. The urge to solve the problem is intrinsic motivation in students, a strong motivation will improve learning achievement.

Lecturer as facilitator also will affect student motivation in learning, motivate students to do at the time of learning prose or outside of the learning process. Application of PBL teaching model in which lecturers as resources in the excavation of the problem can provide motivation to the students through the provision of a model (role model) that is good for students. Giving praise and

appreciation to students who ask also one way to motivate students to be more interested in the subjects that are running.

This is consistent with the results which saw an increase learning achievement after application of PBL learning method. Motivation of students also increased after a given PBL learning method.

It is also supported by the results of research conducted by Agustina (2012), entitled "Effects of Problem Based Learning Model Against Critical and Creative Thinking Skills Students Kanjuruhan University of Malang On Course Hydrology ". The study proves that critical and creative thinking of students in the course of hydrology higher than students who received conventional learning.

Application of PBL method will help students learn to solve problems, so motivated to learn by learning framework drawn up. Application of PBL learning model that will result in the student learning achievement. It is also supported by the results of research conducted by Diana Stentoft, 2014 The study demonstrates that introducing project-PBL may contribute significantly in problembased medical education.

## **CONCLUSION AND RECOMMENDATION**

Application of Problem-based learning model of learning can increase learning motivation of students in the subject of Midwifery Care Delivery. Application of Problem Based Learning model of learning increases students' achievement in the subject of midwifery care delivery. This study applied to subjects Midwifery Care Delivery which in the course of learning a lot of practice that can not be applied directly to the patient, so that could be an alternative to be applied to other subjects that can not directly practice on patients and could be replaced by administration of the case. Problem Based Learning learning model illustrates real



cases to students that will allow students on work directly in the clinic and work as a professional midwife. application of PBL method also provides a learning experience that fits midwifery competency exam in which all the questions are tested in the form of vignett.

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# GASTROENTERITIS ACUTE HANDLING AND ACUTE DIARRHEA IN CHILDREN: SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** The main causes of death in patients of acute diarrhea is the severity of the dehydration caused by excess fluid in the body expenditures. For most cases, hydration is the most important aspect in the treatment of diarrhea, but rehydration fluid does not impact on the duration of diarrhea as well as volume. **Methods and analysis:** We will perform a systematic review of the literature taken from the site database of medical journals EBSCOhost MEDICAL Resources: CINAHL, Dentistry and MEDLINE with the inclusion criteria 1) journal published is the full text, 2) speak English, 3) there reverensi complete, 3) and contains the results of diarrhe acute or acute gastroenteritis and teraphy and for children without time restrictions. The collection obtained from 13 journals that discuss the treatment of acute diarrhea and acute gastroenteritis. **Discussion:** Of some journals have been conducted systematic review, found a way of dehydration status assessments pediatric patients, handling both the nutritional and therapeutic measures as well as drugs that can be used.

**Keyword:** Acute diarrhea, acute gastroenteritis, children.

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## INTRODUCTION

Diarrhea is defined medically in terms of changes in the defecation frequency, consistency and either weight or volume within 24 hours more than 3 times and weighing more than 200 g. According to the World Health Organization (WHO) Acute diarrhea as part of three or more loose stools or liquid per day, for three days or more and less than 14 days.

Acute gastroenteritis is becoming a common disease of infants and children worldwide. In the United States, acute diarrhea are > 1.5 million outpatient visits, 200,000 hospitalizations and about 300 deaths / year. In developing countries, diarrhea is a common cause of death among children aged <5 years, with an estimated 2 million deaths annually (5).

The main causes of death in patients of acute diarrhea is the severity of the dehydration caused by excess fluid in the body expenditures.

For most cases, hydration is the most important aspect in the treatment of diarrhea, but rehydration fluid does not

impact on the duration of diarrhea as well as volume.

## METHOD

In this paper, the author intends to explain the causes of diarrhea, and treatment should be done in a child with diarrhea. To achieve this goal, the authors began searching for materials to do systematic review journals. Searches done by going to situr database of medical journals EBSCOhost MEDICAL Resources: CINAHL, Dentistry and MEDLINE with the inclusion criteria 1) journal published is the full text, 2) speak English, 3) there reverensi complete, 3) and contains the results of acute diarrhe or acute gastroenteritis and teraphy and for children without time restrictions.

After the search, it turns out there are only 8 journals that meet. Finally, turning to google scolar for an additional order to achieve the 15 journals. However, the review process, there are only 13 journals that can be used for two other journals exist kecatatan on the contents of the journal.

In the dehydration treatment in patients with acute diarrhea there are three groupings scale for assessment. The scale is

1) a light with a score of 1-4 and a light/heavy is 5-8. To measure the score is with the following table (10)

## RESULTS

### *Scale dehydration*

Table. 1 Dehydration scale

CHARACTERISTIC	SCORE 0	SCORE 1	SCORE 2
<b>General Appearance</b>	Normal	Thirsty, restless and lethargic but irritable when touched	Drowsiness, fatigue, felt cold and clammy; can occur coma
<b>Eye</b>	Normal	slightly Concave	very concave
<b>Mucosal membrane (Tongue)</b>	Moist	Sticky	Dry
<b>Tears</b>	There is	a little	There is no

### *Handling dehydration*

#### Oral rehydration therapy

The purpose of oral rehydration therapy (ORT) is to replace fluids and electrolytes lost through diarrhea. ORT is achieved by providing a solution containing sodium, potassium and glucose, or another carbohydrate such as rice flour. Intestinal absorption of sodium and water to increase with glucose and other carbohydrates.

The nature of oral rehydration solutions

1. Increase the absorption of water and electrolytes

2. Replace the deficient electrolyte
3. Contains alkalizing agents to prevent acidosis
4. slightly hyperosmolar (approximately 250 mmol / l) to prevent the possibility of osmotic diarrhea induction
5. Easy to use
6. Tasty and preferred, especially for children
7. Easy to get

### *Treatment is based on the level of dehydration*

Table 2. Handling is based on the level of dehydration

TREATMENT DEHYDRATION	REPLACEMENT FLUID DEFICIT	FOOD
<b>Minimal or no dehydration</b>	Not applicable	Continue to breastfeed, or continue the age-appropriate normal diet after the initial hydration, including an adequate caloric intake for maintenance *
	<10 kg body weight: 60-120 mL oral rehydration solution (ORS) for every diarrheal stool or vomiting episode	
	> 10 kg body weight: 120-240 mL ORS for each stool diarrhea or vomiting episodes	

<b>Mild to moderate dehydration</b>	ORS, 50-100 mL / kg body weight of more than 3-4 hours	Same	same
<b>severe dehydration</b>	Fluid Ringer's lactate or normal saline intravenously in the amount of 20 mL / kg body weight to improve perfusion and mental status; then ORS 100 mL / kg body weight over 4 hours or 5% dextrose ½ normal saline intravenously twice maintenance fluid	Same; if you can not drink, managing through a nasogastric tube or 5% dextrose ¼ normal saline with 20 mEq / L of potassium chloride intravenously	same

\* Limit the diet should be avoided during episodes of acute diarrhea. Breastfed infants should continue to support nurses even during acute rehydration. The baby is too weak to eat can be given breast milk or formula through a nasogastric tube. formula containing lactose usually well tolerated. If lactose malabsorption appears clinically substantial, lactose-free formula can be used. Complex carbohydrates, fresh fruits, lean meat, yogurt, and vegetables all allowed. Carbonated drinks or commercial juices with high concentrations of simple carbohydrates should be avoided.

### ***Treatment of patients with acute diarrhea***

Table 3. Treatment when the patient is in hospital for hospitalization or treatment performed later.

<b>Antidiarrheal Drugs</b>	<b>Dose</b>	<b>The Effect On The Duration Of Hospitalization</b>	<b>Other Outcome Measures</b>	<b>Proof Best Restrictions</b>
<b>Lactobacillus rhamnosus GG (LGG)</b>	10 10 CFU per day	LOS reduction of diarrhea by rotavirus; LOS fo the trend toward a reduction, but not for other etiologies	Duration of diarrhea; The risk of prolonged diarrhea; Length of hospitalization	Meta-analysis
<b>S. boulardii</b>	200-500mg per day (about 04-10 x 10 <sup>9</sup> CFU)	LOS reduction of approximately 1 day	Duration of diarrhea; The risk of prolonged diarrhea; Length of hospitalization	Meta-analysis (Some studies mempertimbangkan LOS)
<b>Racecadotril</b>	1.1,5mg / kg TID	not rated	Exodus stool; duration of diarrhea	systematic reviews; Meta-analysis
<b>Zinc</b>	10mg for aged <6 months; 20mg> to the age of 6 months.	not rated	Duration of diarrhea; fecal output; The risk of	Meta-analysis

			hospitalization; Dead Duration of diarrhea; The risk of prolonged diarrhea; Total feces. Oral fluid intake;	
<b>Smektit</b>	3g for age <1 year; 6g for ages 1-2 years; 6-12g for age> 2 years	not rated		Meta-analysis
<b>oral immunoglobulin</b>	200-300 / kg per day	LOS reduction for rotavirus diarrhea in children at risk or in severe conditions	The duration of intravenous rehydration; Resolution of symptoms of diarrhea	controlled studies

## DISCUSSION

In children with acute diarrhea, treatment can be done at home for diarrhea without dehydration or mild dehydration, if there are materials for rehydration. Treatment for moderate to severe dehydration should be performed in hospital and require intensive care.

Handling is not just limited to dehydration, but also on reducing the length of stay of patients in hospitals.

In practice, this review will be useful for us to do the treatment of patients with diarrhea.

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# ANALYSIS OF INFANT CHARACTERISTICS POSTPARTUM MOTHER ROLE IN IMPROVING THE ADAPTATION OF MOTHER

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## ABSTRACT

**Introduction:** Becoming a mother means to obtain a new identity that requires thinking and a complete breakdown of yourself. In fact there are women who have not been able to adapt to the role of mothers by 20%. The purpose of this study was to determine the effect of temperament, appearance and health of the infant to the mother's role in the implementation of adaptation Village West Waru Pamekasan. **Method:** Survey design of this study is cross sectional analytic approach. Independent variables include the characteristics of the baby's temperament, appearance and health, while the dependent variable is the adaptation of new mothers in the implementation of the role of mother. Total population using estimates of  $\pm 25$  respondents, sampling using Nonprobability Incidental Sampling Sampling, data collection by giving questionnaires and statistical data analysis with Spearman Rank test with a significance value of  $\alpha \leq 0.05$ . **Result:** The results of statistical data analysis with Spearman Rank test for temperament P\_value values obtained (0.01), appearances with P\_value value (0.01), and health with P\_value value (0.00) with a significance level  $\alpha 0.05$ , respectively, P\_value mean value  $< \alpha$  so that H1 is accepted, it means there is the influence of temperament, appearance and health of the infant to the mother's role in the implementation of adaptation Village West Waru Pamekasan. **Conclusion:** Parents should pay more attention to the characteristics of the baby include temperament, appearance and health that will facilitate parents in adapting to the implementation of the maternal role.

**Keyword:** Infant Characteristics, Maternal Role Adaptation Implementation

## INTRODUCTION

Being a mother means acquiring a new identity requires thought and complete decomposition of ourselves. Besides being a mother is not only private women who be a mother, but there are difficulties encountered in carry out the role of mother (Rury, N.S., 2012). Achievement of the role of the mother (maternal Attainment role) is a process that is interactive and evolving happens all the time, as long as the mother is attached to her baby, acquiring proficiency in performing the tasks required in that role, and expressed happy and content in that role. Acceptance role includes active interaction receiver role and partner roles, each response to cue from others and change according to the response behavior of others (Rosamund, M.B., 2008).

To achieve the role of a mother, a mother ideally capable carry out the process followed in 4 (four) stages of the mastery of the role, namely the anticipatory stage where the mother is able to adjust social and psychology to her new role later to learn anything needed to become a mother, as mothers learn about breastfeeding, learn about child care, cooking exercise, and so on. Stage Formal mother is able to portray the true role as a mother to obtain a formal role and guidance in accordance with what which is expected by the system of women of women as a parent (mother) teaches how to care of the baby to her child (young mothers). informal stage is the stage where women have been able to find a unique way in carrying out his new role, and personal stage is a stage achievement of the mother's role. By being able to carry out those steps,

a mother would reach her role as a mother with a good (Asrinah, et al., 2010).

From the preliminary study has been done in Waru West Pamekasan, in December 2015 obtained 10 days post partum mothers with postpartum 3-30. Of the 10 mothers postpartum, 8 (80%) were able to do adaptation to the role of mother with baby influence on the achievement its role as able to soothe the baby during crying, the baby always located next to the mother, was very happy when he first saw her baby, always took the baby talk and baby responds with eyes mother, and was able to make calm baby when the mother carry baby care Newborn well. The remaining 2 (20%) have yet to adapt to the role of mother. Based on that data, they obtained postpartum mothers has not been able to adapt to the achievement of her mother's role as a factor baby. According to Ramona T. Mercer active role of a woman in achievement of the mother's role is usually started after the baby is born is 3-7 months Postpartum with several factors that contribute to accomplishing the role of mother (Atik., 2008).

Success or failure is caused maternal role attainment by internal and external factors, internal factors include maternal factors himself as the mother's age at first birth, the perception of childbirth experience, separating mother and child as soon as possible, stress social, social support, personality, self-concept, attitude in raising child and maternal health. External factors are factors infants and other factors, factors such as temperament baby, baby appearance, responsiveness, status infant health, characteristics (temperament, appearance, health), and the ability to give cues (Nursing Theorists and Their Work, 2006). Meanwhile, another factor is the cultural background, marital status, and socioeconomic status (Asrinah, et al, 2010). If the mother's role is not reached it will affect growth and development of infants, such as infant mental development, behavior baby, infant health status, social skills to interact with

others (Nursing Theorists and Their Work, 2006). also increasing the number of abuse and neglect of children (Rosamund, M.B.,2008).

A woman in her role as a mother's achievement requires reactions and interactions with people in environment, for example: spouse, baby, family and others (Rosamund, M.B., 2008). Therefore, the role or participation husband, baby, family and others is essential to ensure and provide. This new appreciation of the role (Rury, N.S., 2012). assumptions Mercer relating to the development of the maternal role models for this Attainment Among these are newborn babies believed to be an active partner in the achievement of the mother's role, influence and be influenced by the role of mother and the role of the couple and the baby will reflect on the competence of the mother in its role so that it can grow and flourish. One of baby influence on the achievement of the mother's role is characteristic babies (infant characteristics) include infant temperament, baby appearance, and status infant health (Andaners, 2011). The midwife's role is also very necessary to help mothers through labor required to conform the maternal role, identifying, and intervene if there is factors that influence maternal role attainment or cause stress antenatal (Rosamund, M.B., 2008).

The purpose of this study was to determine the effect of temperament, appearance and health of the infant to the mother's role in the implementation of adaptation Village West Waru Pamekasan.

## METHODS

This study the types of research methods used are Analytical survey. The approach used is Cross Sectional. In This study population is 3-32 days postpartum mothers in the village West Waru Pamekasan estimated in June 2015 that is  $\pm 25$  for women. In this research there are criteria namely sample inclusion criteria, wherein the criteria can determine whether

or not the sample to be used. Criteria for inclusion in this study include:

1. 3-32 days postpartum mothers postpartum.
2. 3-32 days-old baby who was living with biological parents.
3. Babies who do not have congenital defects (congenital malformations).

This research using this type of sampling techniques nonprobability incidental Sampling. The independent variables are the characteristics of a baby

which include temperament, appearance and health of the baby inside improve maternal role adaptation implementation. The dependent variable is the adaptation of puerperal women in the implementation of the role of mother. Instruments research instrument list form of Multiple Choice questions. Research time held in June, 2015. The research was conducted in Village West Waru Pamekasan.

## RESULTS

### *Infant Temperament Effect of Implementation Role Mothers Against*

Table 1. Crosstabulation between infant temperament with adaptation the implementation of the role of mother in the village of West Waru Pamekasan

Temperament	Adaptation						Total	
	less		enough		good		Σ	%
	Σ	%	Σ	%	Σ	%		
Difficult	3	50,0	2	33,3	1	16,7	6	100
Slow	3	25,0	6	50,0	3	25,0	12	100
Easy	0	0	0	0	7	100	7	100
Total	6		8		11		25	100
Spearman rank test result α 0.05, P value : 0.01, r : 0.628								

Based on the results of Spearman Rank test result of  $0.01 < \alpha 0.05$  so that  $H_0$  rejected and  $H_1$  accepted and the value of r: 0.628, it can be concluded that there is influence of infant temperament to adaptation implementation of new motherhood.

### *Influence Appearance Baby Role Mothers Against Execution Adaptation*

Table 2. Crosstabulation between the appearance of a baby with adaptation the implementation of the role of mother in the village of West Waru Pamekasan.

Influence appearance	Adaptation						Total	
	less		enough		good			
	$\Sigma$	%	$\Sigma$	%	$\Sigma$	%	$\Sigma$	%
Interesting	5	50,0	4	40,0	1	10,0	10	100
Not interest	1	6,7	4	26,7	10	66,7	15	100
Total	6		8		11		25	100
Spearman rank test result $\alpha$ 0.05, P value : 0.01, r : 0.613								

Based on the results of Spearman Rank test result of  $0.01 < \alpha 0.05$  so that  $H_0$  rejected and  $H_1$  accepted and the value of r: 0.613, it can be concluded that there is influence the appearance of the infant to adaptation implementation of new motherhood.

### ***Baby Health Effects of Mothers Against Adaptation Implementation Role***

Table 3. Crosstabulation between the health of babies by adaptation the implementation of the role of mother in the village of West Waru Pamekasan

Health Effects	Adaptation						Total	
	less		enough		good			
	Σ	%	Σ	%	Σ	%	Σ	%
Unwell	6	60,0	4	40,0	0	0	10	100
Healthy	0	0	4	26,7	11	73,3	15	100
Total	6		8		11		25	100
Spearman rank test result $\alpha$ 0.05. P value : 0.00. r : 0.814								

Based on the test results obtained by the results of Spearman Rank  $0.00 < \alpha 0.05$  so that  $H_0$  rejected and  $H_1$  accepted and the value of r: 0.814, it can be concluded that there is influence the health of babies to adaptation implementation of new motherhood.

## **DISCUSSION**

### ***Infant temperament Role Mothers Against Execution Adaptation***

Based on the results of the cross tabulation shows that infant temperament easy, entirely produce the adaptation implementation mothering both at 100%, infant temperament are slow to heat up, half produce adaptations execution-enough mother role by 50%, which is difficult infant temperament half resulted in adaptation the conduct of the mother's role is less by 50%. Based on the analysis data using Spearman Rank can be seen that there is the effect of infant temperament to adapt the implementation of the role of mothers in the village West Waru Pamekasan with P value (0.01) and  $\alpha$  Significance level (0.05). Previous research shows that babies who are sensitive to excitatory and can not adapt can lead mothers to doubt the their competence as a mother. And research on the relationship between temperament and ability to do a good job (motivation mastery) found that infants with high mastery tend to be more cooperative and easier so that adaptability mother in performing a task or role of a mother to run well Similarly (Donna L.W., 2008).

One concept is the mother's role pencapaian where the infant temperament temperament easy versus difficult temperament, this related to whether babies send a signal that is difficult to read so causes impotence and frustration in the mother (Nursing Theorists and Their Work, 2006). From birth infants exhibit a real individual differences in the way they respond to the environment and the way of others, especially people old, respond to them and their needs. Babies who have temperament simple criteria had a moderate activity level,ritmisitas higher, closer, high adaptability, low intensity, natural positive feelings, the threshold is high, very long attention settled and will lead to the ability of high distraksibilitas adapting a good mother in carrying out its role as a mother,while the hard-tempered baby would make a mother less can adapt to the execution of her mother's role as taste inability and frustration in the mother. In fact, 1 infant (16.7%) has a difficult temperament to adapt the implementation of the role of a good mother. This is because the mother's perception of the birth experience easy and maternal parity.



### ***Appearance Baby Mothers Against Adaptation Implementation Role***

Based on the results of the cross tabulation shows that the appearance of the baby which attracts mostly produce adaptation implementation mother role good 66.7%, and the appearance of the less attractive baby half resulted in adaptation implementation mothering less by 50%. Based on the results of data analysis using statistical tests Spearman Rank can be seen that there is the influence of baby appearance to the adaptation of the implementation of the role of the mother in the village of West Waru Pamekasan with a value of P value(0.01) and  $\alpha$  significance level (0.05). Appearance is subjective impressions and the cumulative impression includes physical appearance, nutritional status, behavior, personality, interaction with parents and caregivers (also siblings if any), posture, development and speech. Physical appearance such as shape of the face normal and in accordance with what is expected by the family will make the family feel happy in doing new baby care born. Abnormal posture such as unbalanced posture will cause disillusionment with the family themselves. Personal hygiene baby will give excellent instructions about the possibility of a waiver, the source Inadequate financial, housing difficulties or lack of knowledge about newborn care (Donna, L.W., 2008).

In general, every parent has fantasies and dreams about Ideally the child figure. Baby attractive appearance make adaptations implementation of the role of a good mother. This is because the shape of a baby's face appropriate as expected, the baby good posture without experiencing disability or abnormalities and infant personal hygiene maintained. so the mother happy in the care of newborns. While infants less attractive appearance led to adaptation implementation mothering less because the mother feels the baby's face is not the appropriate form as expected, and the baby has not been able to do flexion perfectly so she still needs time to be accept

the situation. At first babies (10%) have the appearance less adaptation includes the role of a good mother, this is due because the attitude of parenting that is the tendency to act on individual be closed in response to a stimulus or a particular object.

### ***Babies Healthy Mothers Against Adaptation Implementation Role***

Based on the results of the cross tabulation shows that infant health Healthy mostly produce adaptations implementation of mothering good 73.3%, and the baby's health unhealthy most of produce the adaptation implementation mother's role is less by 60%. Based on the results of data analysis using Spearman Rank it can be seen that there is a baby on the health effects of adaptation the implementation of the role of mother in the village of West Waru Pamekasan with a value of P value(0.00) and the significance level  $\alpha$  (0.05). The health status of the baby is a disease caused by mother-baby separation that interfere with the process of affection. Infants were considered as an active partner in the process of taking the role of the mother, would influence and are influenced by the role and development of the baby's response interacting with mothers in developing the identity of the mother is such as eye contact, grasping reflex, reflex smile, poise in care, behavior that is consistent with maternal interaction (Nursing theorist and Their Work, 2006).

If the baby is suffering from disorders or abnormality attitude of parents to be colored by disappointment and Normal anxiety about whether or not the baby in the future as well the ability to care for her baby (Sitti Saleha, 2009). Conditions affecting the implementation of the adaptation role of the mother of one which is the health of the baby. Health healthy baby criteria babies are able meyusu well (baby relax after feeding, feeding 10-12 times a day, weight increase, 2 times / day more colorful yellowish "seeded", micturition least 6 times in 24 hours colored clear / yellow), the baby slept

constantly and get up if wanted feeding, immunizations (Hb), and both the baby's reflexes include reflex tonic neck, grasping, Babinski, rooting, sucking, and papillary cause mother is not worried and anxious about the health condition of the baby so the mother is able to adapt in carrying out her role well. Whereas less healthy infant health caused adaptation implementation mothering less because the baby can not suckle well that lost weight, and the ability of the baby's reflexes are less well like the baby is not able to hold on to something and do not get stronger hold if something is taken so that mom was worried and restless and cause the mother does not feel confident in doing newborn care as a result of adaptation implementation mother role less.

## CONCLUSION AND RECOMENDATION

1. Infant temperament had an influence on the conduct of the adaptation the role of mother. Babies with easy temperaments have mastery high and tend to be more cooperative and easier to adaptability mothers in performing a task or role of a mother can run well.
2. Appearance babies have an influence on the conduct of the role adaptation mother. Baby attractive appearance as appropriate facial shape desire, normal posture and personal hygiene baby awake well will make the mother happy in doing baby care newborn so that adaptation implementation mother's role goes well.
3. Healthy babies have an influence on the conduct of the role adaptation mother. Babies who have good health there is no abnormality or abnormality, the attitude of the parents will not be marred by disappointment and anxiety and parents will feel able to care for her baby so that adaptation implementation mother's role goes well.

The midwife's role is indispensable to help mothers do interaction with the baby that can be started from pregnancy with

involving the mother to be able to hold the body from the outside at the time janinya palpation, listening to the fetal heart rate and the time after childbirth Bounding Attachment can perform.

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# THE EFFECT OF DEMONSTRATION METHOD ON THE ABILITY TO CARE FOR NON-ULCER DIABETIC FOOT OF PATIENTS WITH TYPE 2 DIABETES MELLITUS (DM)

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## Abstract

**Introduction:** Along with the increase of the number of persons with Diabetes in the world, by 2032 a surge of diabetic foot problems will also occur (PERKENI, 2011). Through preventive measures on how to care for diabetic foot training using demonstration method, those diabetic foot problems upsurge can be minimized. The objective of this research is to study the impact of demonstration method on the ability to care for non-ulcer diabetic foot of patients with type 2 Diabetes Mellitus. **Method:** This research used the quasi-experimental method with one group pretest-posttest design. The data were analyzed using paired t-test. Thirty respondents were taken as samples; all are members of Persadia (Indonesia Diabetes Association) of the Local General Hospital of Gemolong unit. The majority of the samples were females (86.7%), aged 46-65 (66.6%), and their highest educational level was secondary high-school (40.0%). **Result:** The result of the research shows a significant value  $p=0.000$ , which indicates that there is an effect of the demonstration method on the ability to care for non-ulcer diabetic foot of patients with type 2 Diabetes Mellitus. **Conclusion:** The research recommended diabetic persons to apply early detection for abnormalities in their feet prior to the wounds by performing preventive foot maintenance to reduce the incidences of diabetic foot ulcer complications.

**Keywords:** Demonstration method, the ability to care for diabetic foot, persons with type 2 diabetes mellitus non-ulcer

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## INTRODUCTION

There is a very high occurrence rate of diabetic ulcer in both developing and developed countries such as happens in Indonesia (Perkeni, 2011). Diabetic foot is the most dreaded chronic complication of diabetes mellitus since it entails a quite high risk of amputation as well as life threatening infections. It is estimated that around a third of DM patients will suffer foot problems (Yunir, 2011 in Persi, 2011). That complication can happen due to the occurrence of hyperglycemia and neuropathy, which cause various changes in skin and muscle, which in turn, result in uneven pressure distribution on the sole of the foot, and thus leads to the occurrence of ulcer (Waspadji, 2007).

There are four main pillars in type 2 Diabetes Mellitus (DM) disease management effort, namely meal planning (diet), physical exercise (sports), drug

therapy (insulin), and education (Perkeni 2011). One of the educational materials is the importance of foot care and maintenance. The ability to do it is a preventive measure for persons with chronic DM, in order to decrease the possibility of diabetic foot ulcer complication (Vatankhah et al 2009). Diabetic persons should be taught the way to do early detection on foot abnormalities prior to the wound by examining the foot and doing regular foot maintenance every day, detecting any sore or something that may not be normal, which in turns giving chance to prevent larger sores. Those attempts are proven to significantly decrease the risk of amputation up to 85% (Yunir, 2011 in Persi, 2011, and Basuki, 2009).

Giving a good and proper health education can increase the DM sufferers' awareness to change their behavior in

undergoing the given treatment. DM sufferers who do not receive health promotion have four times higher risk for complication than those who get health education. Patient educations are smoking cessation, optimize glucose control, appropriate footwear to manage foot structure and biomechanics and never go barefoot (ADA, 2012).

Health education method employed in this research is demonstration method. This method is chosen to make the participants understand the given material better since it employs realia and uses visualization media which can help the participants to comprehend the skills better and which, in psychomotoric way, is more effective in examining and caring for type 2 DM sufferers' feet. There is high involvement level between the educator and the learners, and the learners are able to demonstrate or practice the skills given by the educator (Syaiful and Aswan, 2010). According to Hurrahman (2008), the psychological and paedological benefits of the demonstration method are the followings: the learners' attention is more centered; the learner's education process is more focussed on the given materials; and the impression and experience as the learning results are more embedded in the participants.

Several results emerged based on the interview of ten members of Indonesia Diabetes Association (*Persadia*). They stated that they never received health education on foot care; three persons cared for their feet by washing, drying, and cutting their toenails and seven only washed and let their feet dry naturally. The researcher's observation found the following data: five persons had dirty and long toenails and ten persons did not have perfusion nor sensation disturbance and did not show any infection. Thus, it is concluded that they already carried out diabetic foot care, but it was not yet optimal. Additional data given by the head of *Persadia* (Indonesia Diabetes Association) of the Local General Hospital of Gemolong

stated that they never executed health education using demonstration method on the foot care of the type 2 DM sufferer.

Based on those reasons, the researchers were interested to conduct the research entitled "The Effect of Demonstration Method on the Ability to Care for Non-Ulcer Diabetic Foot of Patients with Type 2 Diabetes Mellitus".

## METHODS

This research used the quasi-experimental method with one group pretest-posttest design. The research population was all persons with type 2 diabetes mellitus non ulcer in *Persadia* of the Local General Hospital of Gemolong, Sragen, Central Java. It was executed from March to May 2015. The samples were thirty respondents with the inclusion criterion of type 2 DM non ulcer sufferers who were able to do their activities independently and the exclusion criteria of DM sufferers who did not join the entire research activities as well as those who resigned from their position as respondent. The research independent variable is the demonstration method on how to care for diabetic foot. The dependent variable is the the ability to care for the feet of type 2 diabetes mellitus non ulcer sufferers. The instrument used in the research was an observation sheets/check list of the detailed Standard Operation Procedure on Diabetic Foot Care. It was the research instruments that had been employed by Istiqomah (2008) in her research, which resulted in the validity test result of 0.632 and the realibility test result of 0.9519.

Pre-test was conducted prior to the research. After the health education intervention using demonstration method was executed, post-test on diabetic foot care using observation sheet/check list was applied. Paired t-test was used to analyze the data.

## RESULTS

The objective of this research is to study the impact of demonstration method

on the ability to care for non-ulcer diabetic foot of patients with type 2 Diabetes Mellitus. The respondents' characteristics are mainly females (86.7%), aged 46 -65 (66.6%), and their highest educational level was secondary high-school (40.0%). On

average, the scores for the respondents' ability to care for diabetic foot prior to and after the health education intervention using demonstration method differ. Detailed result can be perceived in table 1.

Table 1. The average distribution of the respondents' scores on the ability to care for the diabetic foot based on the results prior to and after the (N=30)

Variable	Mean	SD	SE	P value	N
Diabetic foot care ability					
Before	7.33	1.295	0.237	0.000	30
After	14.73	2.728	0.498		

On average, the ability to care for diabetic foot prior to intervention is 7.33 with the standard deviation 1.295. After the intervention, the average ability rises to 14.73 with the standard deviation 2.728. It is perceived that the measurement mean difference prior to and after is 7.40 with the deviation standard 1.754. The statistical test result score is 0.000. Thus, it is concluded that there is a significant difference between the ability to care for diabetic foot prior to and after the health education intervention using demonstration method to care for diabetic foot.

## DISCUSSION

The research result shows that female respondents get the highest rank of 86.7%. It is in accordance with the research result gained by Trisnawati (2013) that stated that type 2 DM is more prevalent in females, which is brought by the decrease of estrogen hormone levels at menopause. It is in line with Lincoln's statement (2010 in Heriani, 2013) that estrogen and progesterone hormones affect the way the cells respond to insulin. After the menopause, the hormone levels changes trigger blood sugar level fluctuations. It is also triggered by the higher fat percentage of females compared to that of males, which in turns, can decrease the insulin sensitivity in muscle and liver.

On average, the respondents' age characteristic data is between 46– 65 age.

Type 2 DM prevalences often occur after the age of 40. It is because, as people grow older, the body tissue ability to take the blood glucose steadily decreases (Suirakka, 2012). The research findings are also prevalent with the research of Kekenusa (2013) which states that persons who are more than 45 year old have eight times the risk of getting the complication if compared to those under 45 year old.

There were two obese respondents while other were normal. They already managed their diet and routinely did DM exercises every Tuesday and Friday, so obesity can be avoided. According to ADA (2011), there are four components in DM management, two of which are diet arrangement and physical exercises. According to Center for Diseases Control and Prevention (2008), a combination between physical activity and the decrease on the number of the calory being eaten induces calorie deficit which in turn, brings about body weight.

The education characteristic of the respondents with secondary high school is owned by 12 of them (40.0%). Knowledge is closely related to education. It is hoped that the higher the people's educations, the wider the knowledge they gained. The education level affects the knowledge they owned. The higher the education people gained, the easier for them to absorb new information (Notoadmodjo, 2010).



The research result showed that the respondents' level of ability improves when compared to prior to the intervention. The p-value is 0.000. Because the significance is ( $0.000 < 0.05$ ), and thus,  $H_0$  is rejected while  $H_a$  is accepted. It proves the presence of the effect of demonstration method on the improvement of the ability to care for non-ulcer diabetic foot of DM patients with type 2. In other words, it shows that demonstration method significantly improve the ability to care for nch result is supported by Waspadji (2007), who stated that health education is education and training on knowledge and skills for the DM sufferers with the aim to support the changes of behavior and mindset, in order to reach for better quality of life. Continuous changes of behave individual and mindest executed by the patients can affect the ability of the individual in caring for her/his own health.

Through better knowledge, it is hoped that better end result on health management advice, especially on blood sugar control, will be gained. It is also hoped that the management of DM and caring for diabetic foot gained maximum result, and as such, prevent the occurrence of chronic diabetes complications with diabeic ulcer (Basuki, 2009). The research results executed by Istiqomah (2008) explains that health education intervention techniques using demonstration method shows significant result with the increased comprehension of 90%. Sagala (2011) and (Santyasa, 2007) state that demonstration method in delivering the information is clearer, more concrete, more interesting, and the participants were more active. It is suitable to teach material involving movements, including diabetic foot care. Through demonstration method the participants' attention is more focussed, they got clearer perception based on the results of their observation, and questioned problems can be answered by examining the demonstration processes (Hasibuan and Moedjiono, 2012). Wibawa's research results (2007) reveals that demonstration

method is more effective to improve respondents' knowledge on dengue hemorrhagic fever. Learning to care for diabetic foot will be more effective if it employs realia. Demonstration method to care for diabetic foot needs more than one sense. It corresponds to Dale's statement (1969 in Wibawa, 2007), in which it is stated that the more senses being used to receive something, the more and the clearer are the knowledge/understanding gained.

## **CONCLUSION AND RECOMENDATION**

Health education using demonstration method can be employed to improve the ability to care for diabetic foot of tyoe 2 DM suffererrers. The result of this research will be employed as additional information in identifying diabetic ulcer and in caring for diabetic foot in order to prevent the diabetic ulcer on type 2 DM sufferers. Association of diabetic persons is hoped to be the place to share knowledge in improving the ability on DM management, in order to prevent chronic DM complication especially on the problem of diabetic ulcers. Diabetic sufferer can do diabetic ulcer early prevention by regularly and individually executing foot care everyday. Subsequent researches may add other variables which may affect the foot care ability of non ulcer DM sufferers. The variables may cover knowledge, attitude, and compliance levels in doing foot care exercise to prevent diabetic ulcers.

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## DETERMINANTS OF ANEMIA IN ADOLESCENT GIRL

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### ABSTRACT

**Introduction:** Anemia is a health problem that often experienced by teens. The prevalence of anemia in Aik Mual village according to Central Lombok Health Service. From 129 patients with anemia, who suffered of anemia in men around 13%, while patients with anemia in adolescent girls around 87%. This aims of this research to determine the dominant factors of anemia in adolescent girls in SMPN 3 Praya 2016. **Method:** Type of the research used is observational analytic. The design of the research is *cross-sectional*, researchers conducted observations or measurements of variables at once. Samples used as many as 40 of 67 from third grade students of SMPN 3 Praya 2016. **Result:** From statistic test results carried out by researchers, researcher got the result of family income ( $p = 0.0984$ ), knowledge of anemia ( $p = 0.025$ ), eating habits ( $p = 0.141$ ), eating habits inhibitor ( $p = 0.141$ ) nutrition consumption ( $p = 0.499$ ), infectious diseases ( $p = 0.312$ ), pattern of menstruation ( $p = 0.036$ ). **Conclusion:** It can be concluded that knowledge of anemia and menstrual patterns have a relationship with the incidence of anemia, while inhibiting food intake, boosters, nutritional intake, and infectious diseases were not related to the incidence of anemia in adolescent girls in SMPN 3 Praya 2016. The determinant or dominant factor of anemia is knowledge of anemia.

**Keywords:** Determinants, Anemia, adolescent girl

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### INTRODUCTION

Anemia is one of the health problems that often experienced by teens. The prevalence of anemia in the Aik Mual village according to Central Lombok Health Service declared on 129 patients with anemia, anemia in men by 13%, while patients with anemia in adolescent girls as much as 87%. This study aims to determine the dominant factors of anemia in adolescent girls SMPN 3 Praya, 2016.

Anemia is a medical condition in which the number of red blood cells or the hemoglobin less than normal. Hemoglobin level less than 13.5 g / 100 ml in men and in women less than 12.0 grams / 100 (Proverawati, 21 011).

Adolescences is defined as the process of gradual transition from childhood into adulthood (George and John, 2008).

### METHOD

Type of this research is observational analytic. The design used *cross-sectional*. This research will be conducted on July 2016, in SMPN 3 Praya, Aik Mula village, Central Lombok. Population used in this research all girls in 3rd grade in SMPN 3 Praya as many as 67 students. Sample in this research are 40 students selected with *simple random sampling* technique. Data Analysis in this research using *Chi-Square*.

### RESULTS

#### *Families Revenue*

The relationship between family income with anemia can be seen from *chi-square* test results, it can be seen in the cross table between family income with anemia.

Table 1. Families income with anemia

		Incidences of Anemia			<i>p value</i>
		Anemia	No Anemia	Total	
Family Income	High	8	3	11	.984
	Low	21	8	29	
Total		29	11	40	

Based on the *chi-square* test results obtained  $p$  value  $(0.984) > \alpha (0, 05)$ .

Thus, it can be determined that there is no connection between family income with incidence of anemia in SMPN 3 Praya.

The relationship between

knowledge of anemia and anemia can be seen from the *chi-square* test results, it can be seen in the cross table between family income with incidence of anemia.

### **Knowledge of anemia**

Table 2. Knowledge of Anemia

		Incidences of Anemia			<i>p value</i>
		Anemia	No Anemia	Total	
Knowledge of Income	Good	1	3	4	.025
	Less	28	8	36	
Total		29	11	40	

Based on the *chi-square* test results obtained  $p$  value  $(0.025) < \alpha (0.05)$ .

It can be concluded that there is a relationship of knowledge about anemia and anemia in SMPN 3 Praya.

Table 3. Eating habits inhibiting the absorption of magnesium

		Incidences of Anemia			<i>p value</i>
		Anemia	No Anemia	Total	
Eating habits inhibiting the absorption of magnesium	Good	24	11	35	.141
	Poor	5	0	5	
Total		29	11	40	

Table 4. Eating habits boosters of magnesium absorption

		Incidences of Anemia			<i>p value</i>
		Anemia	No Anemia	Total	
Eating habits boosters of magnesium absorption	Good	24	11	35	.141
	Poor	5	0	5	
Total		29	11	40	



Table 5. Infection diseases

		Incidences of Anemia			<i>p value</i>
		Anemia	No Anemia	Total	
Infection disease	Uninfected	16	8	24	.312
	Infected	13	3	16	
Total		29	11	40	

Table 6. Consumption of nutrition

		Incidences of Anemia			<i>p value</i>
		Anemia	No Anemia	Total	
Consumption of Good nutrition		15	7	22	.499
	Poor	14	4	18	
Total		29	11	40	

Table 7. Menstruation Pattern

		Incidences of Anemia			<i>p value</i>
		Anemia	No Anemia	Total	
Menstruation Pattern	Normal	9	0	9	.036
	Abnormal	20	11	31	
Total		29	11	40	

## CONCLUSION

Knowledge factors about anemia and bleeding patterns are factors associated with the incidence of anemia in adolescent girls in SMPN 3 Praya, Aik Mual village, Praya, Central Lombok, while the factors of family income, nutrition consumption, infection diseases, consumption of inhibitors foods and boosters of magnesium absorption are factors which unrelated to the incidence of anemia in adolescent girls in SMPN 3 Praya, Aik Mual village, Praya, Central Lombok.

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# THE DIFFERENCES OF NEWBORN WEIGHT INFANT TOWARD SOIL TRANSMITTED HELMINTHES INFECTION IN PREGNANCY

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## ABSTRACT

**Introduction:** Maternal nutrition status before and during pregnancy has affect toward inters-uterine growth. This research aimed to differences of newborn weight infant toward soil transmitted helminthes infection with uninfected. **Method:** This research is observational research with cross sectional approach. Samples in this research took with consecutive sampling, total samples in this research were 50 people. Instrument of the research used questionnaires, enterotest, baby scale. Processing and analysis data used independent t test. **Conclusion:** There were differences of newborn weight infant in mothers infected of soil transmitted Helminthes (0,046).

**Keywords:** Soil transmitted helminthes infection, newborn weight infant.

## INTRODUCTION

The infant mortality rate (IMR) in Indonesia is relatively high around 32 per 1,000 live births. The Millennium Development goals (MDG's) to reduce infant mortality rate in Indonesia become 23 per 1,000 live births (WHO, 2013).

The incidence of low birth of weight infant is one risk factor for neonatal mortality due to neonatal mortality rate of 60-80% due to low birth weight. The prevalence of LBW in the world at 15.5% and approximately 96.5% came from developing countries (WHO, 2011).

Growth and development of fetus in the womb is strongly influenced by maternal nutrition before and during pregnancy where it will affect the weight of infant (Gibney, 2009). Babies born with low birth of weight infant increased the risk of prenatal death. Loss of weight starts during the first trimester of pregnancy influenced of placental function derived from protein and maternal factors (R. Bukowski et al, 2007).

Parasite infection is an important problem as the cause of micronutrient deficiencies. Worm infection during pregnancy will affect on nutrition status of pregnant and the effect on the fetus (Brooker S, 2008). Worm infection will decrease the metabolism process, nutrients

absorption process, and hookworm infection will cause of loss of blood from the gastrointestinal tract (Wiknjosastro H, 2009). Generally worm infections in humans are caused by worms trichura T., A. lumbuicoides, N. americanus, A. doudonale. Hookworm and roundworm infections will lead to lack of energy and protein that will cause of nutrition absorption disorder in patients (Awasthi S., 2003).

Increasing of anemia risk occur in people infected with hookworm and Trichuris trichura. T. Trichura worm increases the risk of anemia greater than people who not infected with this worm (Makhoul et al, 2012). Pregnant women with anemia had 3-fold risk of having a baby of low birth weight compared with pregnant women who did not have anemia (Syarifuddin, 2011).

Based on the data from Padang Health Department in 2013 found the incidence of low birth of weight was highest in Ambacang Public Health Service with incidence rates around 4.5% higher than the incidence of low birth of weight infant in Padang around 2.0% (Assia S. and Kurniawati I., 2014)

Prenatal care in Indonesia is still using minimum standard, maternal health problems remains a priority national issue, but efforts to control the problem is still not

completely down to main factors that cause the problem. The incidences of Low Birth of Weight Infant in national level can not achieve the MDG targets on 2015. So that's the result showed the relationship of nutritional status, hemoglobin levels, soil-transmitted helminthes infections and other several factors in pregnant women at term with birth weight infants.

## METHOD

Types of this research is observational with cross sectional approach. This research conducted as long as one year. Samples of the research are mothers with inpartus who gave birth in a Midwife Private Practice in Ambacang Public Health Center. Samples used 50 people using consecutive sampling technique. The instruments used questionnaire, enterotest, baby scales. Feces taken when the mother's straining, It taken about 10 grams and was added to the stool tube and sent to Parasitological laboratory FK Uanad for worm infections examination, weighing the baby's birth weight in the first hour after birth and then recorded on a common questionnaire. The data obtained processed and analyzed using independent t test.

## RESULTS

### Univariate Analysis

Table 1. Distribution of Characteristics Frequency of Pregnant Mother

Variabel	Total	
	<i>F</i>	%
Education	39	22,0
<b>High</b>	11	78,0
<b>Low</b>		
Occupation		
<b>Jobless</b>	42	84,0
<b>Work</b>	8	16,0
Socioeconomic		
<b>High (≥ Rp. 1,650,000)</b>	37	74,0
<b>Low (&lt;Rp.1.650.000)</b>	13	26,0

Based on table 1 above, It shows that from 50 mothers of term studied, mostly highly educated mothers (78%),

most of them are jobless or housewife (84%), and has high level of socioeconomic (74%).

Table 2. Frequency of infection Soil Didtribusi Transmitted helminthes On Pregnant Women

Variabel	Total	
	<i>F</i>	%
Soil		
transmittedhelminthes	4	8.0
Infection	46	92.0
Infection		
Un infection		

Based on table 2 above most of respondents are not infected with soil-transmitted helminths worm (92%) and 4 (8%) infected, 1 person declared infected with *Ascarislumbricoides* worm with number of worm eggs 400 / g in faeces categorized of heavy infection, 1 person declared infected with *Trichura Trichuris* worms with number of worm eggs 157 500 / g in feces included in middle infection category. 2 people infected with both of that worm, they included in middle infection category for *A. lumbricoides* worm and heavy infection category for *T.Trichuris* worm

### Bivariate Analysis Results

Table 3 The difference of birth weight infants toward soil transmitted helminthes infection.

Variabel	<i>Mean ±SD</i>	<i>SE</i>	<i>p value</i>
Infected of STH	2375.00±170.78	85.391	0.046
Uninfected of STH	3054.35±455.68	455.68	

According to the table obtained test results of independent test showed the weight of infants on mothers who were not infected with worms soil transmitted helminths around 3054.35 grams with

standard deviation 455.68 grams, while weight of infants on mothers who were infected Soil Transmitted helminths around 2375.00 grams with standard deviation 170.78 grams with  $p$  value = 0.046 with alpha 5% , it can concluded that there is differences of birth weight infants on women who were infected with soil-transmitted helminths

## DISCUSSION

### *The differences of birth weight infants on mothers who were infected soil transmitted Helminths with uninfected mothers*

Based on the results of the research showed there are differences in birth weight infants on mothers who were infected soil tranmitted Helminths with uninfected mothers  $p = 0.046$  ( $p < 0.05$ ).

The condition of the pregnant woman with a worm infection will affect the state of the nutrients in the body. Mothers who experience worm infection will experience a shortage of nutrients in the body this is because the worms will live in the intestine and then will live in intestine. The worms will grow in intestine, if infected with *Trichura Trichuris* and *Ascarislumbuicoides* worm, it will affect the nutrients in the body in which both types of worms will cause a decrease in the body's metabolism and affect of absorption disorder in body thus nutrients that enter the body will not be enough to meet the body's needs, so that if this situation occurs during pregnancy will affect the nutritional needs of the fetus so the pregnant women were infected with worms tend to give birth to babies with low birth weight.

Research conducted by Ndibazza et al (2010), Helminths infections during pregnancy can affect the pregnancy adverse outcomes. Pregnancy with worm infections will result in anemia, protein-energy malnutrition, low birth weight, and prenatal death may also occur. Infections caused by *Ascaris lumbricoides* may result of decrease in appetite, decrease the absorption of fat, protein and will affected damage in intestinal mucosa, will affect the nutritional

status of patients (Cunningham FG., 2012). Infections of worm *Trichura Trichuris* will cause nutrition deficiency, magnesium deficiency and protein the worst effects of this condition is occurrence damage of intestinal wall.

Infections *A. Lumbricoides* in humans caused by the spread of infectious worm eggs through the ground this occur very quickly in ground infected of feces containing worm eggs (Mordi and Ngawodo, 2007). The results of this research, 3 mothers who suffered from worm *A. Lumbricoides* infections where 1 person suffered heavy infections and two others. Patients with worms *A. Lumbricoides*, it will cause loss of 0.8 grams of carbohydrates and 0.035 grams of protein for every day. One female worm will produce 240,000 eggs per day, and the worm will continue to proliferate in the intestine, how breed of worms *A. Lumbricoides* is by blocking absosbsi area within the intestinal lumen will then lead to absorption disorder and nutritional deficiencies will occur in people and if it in pregnancy will cause deficiency transfer of nutrients from the mother kejanin so will affect the growth of the fetus (Irianto K., 2009).

Conditions worm infected mother is also accompanied by nutritional status conditions are less where the mother LILA size 22.1 cm, this condition describes the condition of poor nutritional status in which the mother LILA size below the normal size so that the possibility of the mother experiencing chronic worm infection but no symptoms because based on the examination of the mother has a worm infection *A. Lumbricoides* the lightweight category. Birth weight infants of mothers who were infected not only influenced by maternal condition worm infections, but there are other data that support these conditions where most of the mothers infected with worms have socio-economic status is low, and has a circumference of the upper arm below normal , So that the state of helminth infections can caused worst

condition of mothers with maternal nutritional conditions and the effect on labor outcomes.

T. Trichura heavy worm infections will cause serious symptoms and impact on heavily infected respondents have close birth spacing of less than one year, low socioeconomic conditions, the size of a standard MUAC below normal, and mothers are heavy anemia, several factors this greatly affects the health of the mother and the fetus, so the presence of the positive results of the worms that can aggravate the condition of the mother's health and the effect on fetal growth and development of uterine intra. Mothers who experience worm infections tend to give birth to babies with a lower birth weight than women who did not undergo worm infections, low birth weight is not only influenced by the condition of the women who experienced a worm infection but there are many other factors that influence it.

## CONCLUSIONS AND SUGGESTION

Most pregnant women do not suffered of soil transmitted helminthes infection, and there is difference on birth weight infants in women who had infection of soil transmitted helminthes with mothers who did not infected.

Improving the quality of antenatal care, the health service in women of childbearing age and premarital with early detection of the complete examination of health status, laboratory tests such as hemoglobin examination level, examination of worms, disease screening which is likely to accompany during pregnancy.

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# FACTORS OF HEALTH INFORMATION AND SUPPORT INCREASE IN COMPLIANCE WITH TABLET Fe CONSUME PREGNANT WOMEN IN THE LABOR HEALTH EAST DISTRICT LOMBOK TERARA 2015

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## ABSTRACT

**Introduction:** Riskesdas (2013), 37.1% of pregnant women are anemic, namely pregnant women with hemoglobin levels less than 11.0 g / dl, the proportions were almost equal in urban areas (36.4%) and rural areas (37, 8%). Province NTB (Nusa Tenggara Barat) is one of the areas with the highest prevalence of AKI in Indonesia. The purpose of this study to determine the factors associated with compliance of pregnant women in consuming Fe tablet in Puskesmas Terara Regional East Lombok 2015. **Method:** This research is non-experimental survey with cross sectional approach. The research was conducted in Puskesmas Terara East Lombok district in January 2015. Data were collected using questionnaires and have been tested for validity and reliability and analyzed using univariate, bivariate and multivariate logistic regression. **Result:** This study found that only about half, or (54%) of pregnant women who are obedient to consume iron tablet. Information and support health workers and family support related to compliance consuming Fe tablet. **Conclusion:** It is expected that health personnel in this regard is the midwife can provide information about the health of pregnant women to enhance the knowledge about health and my family and in this case of anemia in pregnant women in the form of health promotion, leaflet, and video about health.

**Keywords:** Compliance pregnant women, information, support health workers

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## INTRODUCTION

Based Riskesdas Data (2013), that 37.1% of pregnant women are anemic, namely pregnant women with hemoglobin levels less than 11.0 g / dl, the proportions were almost equal in urban areas (36.4%) and rural areas ( 37.8%). Province NTB (Nusa Tenggara Barat) is one of the areas with the highest prevalence of AKI in Indonesia. In 2006 MMR in NTB is 370 per 100,000 live births, in 2008 NTB successfully reduced MMR to 320 per 100,000 live births, but in 2010 increased back to 329 per 100,000 live births (Riskesdas 2010).

The government's efforts to overcome iron deficiency anemia in pregnant women that is focused on the provision of iron tablet (Fe) in pregnant women. The Department of Health continues to implement programs penanggulangan iron deficiency anemia in

pregnant women with iron tablets or tablet to share blood added to expectant mothers sebanyak one tablet daily for 90 consecutive days during the pregnancy. Folate lebih iron supplements known as Tablet Add Blood (TTD). Based on MOH (2010), coverage of TTD (Fe) has reached 92.2%, but it is still quite high prevalence of anemia. The main cause of the failure of these activities is the low compliance of the target population in the consumption of TTD. Lack of compliance TTD consumption caused by a variety of people's perceptions of taste and side effects of the consumption of TTD. Results of a national health survey (Suskernas) in 2004 showed that adherence higher iron pills along with the height inspection ANC (Antenatal) and the increasing socio-economic households.

Based on data from January 2014 until December 2014 PHC Terara mark third trimester pregnant women, amounting

to 619 pregnant women attending an antenatal check detected 313 mothers were anemic and in 2013 of 613 targets third trimester pregnant women who come checkups detected 302 pregnant women were anemic.

Based on data ranging from Jan Based on the preliminary study conducted with interviews of 10 pregnant women who received iron tablets for one month (30 tablets) after being interviewed, the result is 5 people do not spend iron tablets and drank only between 20-25 tablets, 2 taking 25-30 tablets. Reasons not spend iron tablets, among others: forget, no family members were reminded, do not know the benefits of iron tablets, feel no need vitamins because healthy, afraid the baby was born too big, not be told by health workers about the importance of iron tablets, given to husband because iron tablets can add energy to the husband as breadwinner, nausea after taking iron tablets, so the color hitam.uari CHAPTER 2014 until December 2014 Terara health center of the target third trimester pregnant women, amounting to

619 pregnant women attending an antenatal check detected 313 mothers who are anemic and in 2013 of 613 targets third trimester pregnant women who come checkups detected 302 pregnant women were anemic.

This research was to describe and analyze the determinants of information and support for health workers in order to improve the compliance of pregnant women consume iron tablet in Puskesmas Terara East Lombok District 2015

## METHODS

The survey design is non-experimental approach using cross-sectional data. The research was conducted in Puskesmas Terara East Lombok, in January 2015. The population in this study were all pregnant women in the Puskesmas Terara East Lombok district is numbered 1747 pregnant women with minimal sample number 132. The data in this study is the primary data collected using questionnaires. The analysis is univariate, bivariate and multivariate logistic regression.

## RESULT

Table 1. Demography Data

<b>Umur</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
<35 tahun	136	90,7
≥35 tahun	14	9,3
Jumlah	150	100,0
<b>Pekerjaan</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Bekerja	24	16,0
Tidak Bekerja	126	84,0
Jumlah	150	100,0
<b>Pendidikan</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Rendah (SD, SMP)	111	74,0
Tinggi (SMA, PT)	39	26,0
Jumlah	150	100,0
<b>Jumlah Anak</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Cukup (<2)	141	94,0
Banyak (>2)	9	6,0
Jumlah	150	100,0
<b>Pengetahuan</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Rendah	65	43,3
Tinggi	85	56,7
Jumlah	150	100,0

<b>Sikap</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Positif	129	86,0
Negatif	21	14,0
Jumlah	150	100,0
<b>Akses</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Jauh	74	49,3
Dekat	76	50,7
Jumlah	150	100,0
<b>Ketersediaan Fe</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Tidak tersedia	24	16,0
Tersedia	126	84,0
Jumlah	150	100,0
<b>Ketersediaan Gizi</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Tidak Tersedia	29	19,3
Tersedia	121	80,7
Jumlah	150	100,0
<b>Informasi</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Tidak terpapar	53	35,3
Terpapar	97	64,7
Jumlah	150	100,0
<b>Dukungan Kesehatan Tenaga</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Tidak mendukung	66	44,0
Mendukung	84	56,0
Jumlah	150	100,0
<b>Dukungan Keluarga</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Tidak mendukung	63	42,0
Mendukung	87	58,0
Jumlah	150	100,0
<b>Dukungan Masyarakat Tokoh</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Tidak mendukung	31	20,7
Mendukung	119	79,3
Jumlah	150	100,0
<b>Kepatuhan</b>	<b>Frekuensi</b>	<b>Persentase (%)</b>
Tidak patuh	69	46,0
Patuh	81	54,0
Jumlah	150	100,0

Table 2. Selection Bivariat

Variable	p-value	Keterangan
Umur	0,973	Bukan Kandidat
Pekerjaan	1,000	Bukan Kandidat
Pendidikan	0,834	Bukan Kandidat
Jumlah anak	0,303	Bukan Kandidat
Akses	0,032	Kandidat
Pengetahuan	0,000	Kandidat
Sikap	0,385	Bukan Kandidat

Ketersediaan Fe	1,000	Bukan Kandidat
Ketersediaan gizi	0,947	Bukan Kandidat
Informasi	0,000	Kandidat
Dukungan Tenaga Kesehatan	0,000	Kandidat
Dukungan keluarga	0,000	Kandidat
Dukungan tokoh masyarakat	0,923	Bukan Kandidat

Bivariate selection results obtained above 5 variables that produces a value of  $p < 0.25$  is variable access, knowledge, information, support health care workers, and family support.

### Final Modeling Multivariate

Logistic Regression Test Results  
Variable Information, Health Personnel Support, Access and Knowledge.

Table 3. Final Modeling Multivariate

Variable	p-value	OR (odd ratio)	95% CI
Informasi	0,006	1,101	0,020-0,520
Dukungan Tenaga Kesehatan	0,026	0,293	0,099-0,865
Pengetahuan	0,158	0,375	0,096-1,462
Akses	0,088	2,388	0,878-6,493

Variable information is a factor which is predominant related to the compliance of pregnant women consume iron tablet (OR = 1.101), meaning that respondents were exposed to information will likely 1,101 times to adhere to consume iron tablet compared to respondents who were not exposed to the information after the controlled variable access, support health workers and knowledge.

## DISCUSSION

Compliance picture Pregnancy Eating Tablet Fe. The results showed that respondents who dutifully consume iron tablet was 54%. Based on previous research, it was found only about 25% Fe according WUS meet the nutritional adequacy rate is 26 micrograms / day. On average women taking 6,5µg per day through diet. Fe sufficiency not only fulfilled intake of food consumption source Fe (beef, chicken, fish, eggs, etc.), but is influenced by variations in the absorption of Fe. This variation is caused by physiological changes in the body such as pregnant and lactating thus increasing the need for the body Fe, Fe type which is

edible. Women require higher iron higher than men because of menstruation and bleeding as much as 50 to 80 cc every month and iron loss of 30 to 40 mgr. Besides pregnancy requires additional Fe intake to increase the number of red blood cells and form red blood cells of the fetus and placenta. The more often a woman experiencing pregnancy and childbirth will increasingly lose Fe substance. Total Fe needed in pregnant women is much greater.

### Information

The results showed that most respondents are exposed to information as much as 64.7%. Analysis of the relationship information with the compliance of pregnant women consume iron tablet indicates that respondents who are not exposed to the information obedient in consuming Fe tablet as much as 7.5%, while the group of respondents were exposed to information that dutifully consume as much as 79.4% Fe tablet. The statistical test result information relationship with the compliance of pregnant women consume iron tablet obtained p-value of 0.000, which means that there is a relationship between



compliance information with pregnant women taking iron tablet.

Health information is a set of data or facts about health organized or processed in a way that has meaning for the recipient. The data have been processed into something useful for the recipient means that can provide information or knowledge. Thus, the source of information is the data. Information can also tell a knowledge gained from learning, experience, or instruction. The more people are exposed to health information, the better the health behavior.

### Support Health Workers

The results showed that support health personnel to respondents largely support as much as 56.0%. Analysis of the relationship with the health worker adherence support pregnant women consume iron tablet indicates that respondents are not supported health workers docile in consuming Fe tablet as much as 21.2%, whereas in the group of respondents who supported the obedient consume as much as 79.8% Fe tablet. Statistical test results support relationships with the health worker adherence pregnant women consume iron tablet obtained p-value of 0.000, which means that there is a relationship between health personnel with adherence support pregnant women consume iron tablet.

### CONCLUSION AND SUGGESTION

Compliance overview of pregnant women consume iron tablet in Puskesmas Terara is half of pregnant women is 54%. This figure is quite high but still far from an iron tablet distribution coverage at the health center that is equal to 92.6% Terara. Variable information and support of health workers is a variable related to the compliance of pregnant women in consuming Fe tablet. Resources where respondents were exposed to 1,101 times the information would be likely to adhere to consume iron tablet compared to respondents who were not exposed to health

after the controlled variable information access, support and knowledge of health workers.

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# EFFECT OF COOPERATIVE PLAY TO SIBLING RIVALRY DIRECT REACTION IN CHILDREN AGES 8-12 YEARS IN SDN BLEGA 03 BANGKALAN

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## ABSTRACT

**Introduction:** Sibling rivalry was jealousy and hate experienced by a child. Results of preliminary studies conducted on school children in SDN Blega 03, found 8 out of 10 respondents experienced sibling rivalry. The purpose of this study to analyze the effect of cooperative play on the incidence of sibling rivalry in school age children 8-12 years. **Method:** The study design used was quasy Experiment with sibling rivalry approach dependent variable and independent variables cooperative play. Population study were 55 students who had a sister, a large sample of 18 respondents were divided into two groups: the treatment group (therapy cooperativ play) and the control group (get individual play), sampling with purposive sampling techniques, analysis of data using pairedt t test and independent samples test with  $\alpha$ : 0.05. **Result:** The results showed that sibling rivalry given cooperative play 9 respondents (100%) change, while the sibling rivalry given individual game 2 of the respondents (20%) experienced a change. **Conclusion:** Based on the statistics by using Independent Samples Test showed 0.009 value  $p < \alpha$ : 0.05, which means that there is a difference after the cooperative play. Cooperative play can be recommended as one of the interventions for parents who have children who are at risk of sibling rivalry.

**Keyword:** Sibling rivalry, cooperative play

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## INTODUCTION

With sibling rivalry is jealousy and hate that are usually experienced by a child on the presence or birth siblings. Therefore, parents should explain this to the children with illustrations that are simple and easy to understand, so the children aware of the changes that will occur, for example, change the beds and rooms, as well as the preparation of baby equipment (Nursalam, 2008).

The results of preliminary studies conducted on school children in SDN Blega 03 District of Blega Bangkalan on September 17 of 2015 experience sibling rivalry at school-age children as much as 10 respondents showed: children who took her sister to play 40% of children who seek attention from parents 70%, and the child who made her sister cried when the toy grab 60%.

One strategy that can be applied directly to the children who experienced

direct reaction Sibling rivalry is to make children cooperate with cooperative activities. Cooperative activities that can be done is activity in the form of a game.

With sibling rivalry is jealousy and hate that are usually experienced by a child to the presence or the birth of a sibling. It can be transferred by way of giving toys, such as dolls, which can be necessary as a baby (Nursalam, 2008).

Hurlock (2006) report that sibling rivalry is caused by several factors, among others: The attitude of the parents, the order of position, gender, age differences, number of siblings, the kind of discipline. Wong (2008) explains that the cooperative play is a collaboration of games that are organized and children playing in a group with other children. Objectives and achievements require an organizing activity, the division of labor, and role playing of each child to coordinate with other children.

The immediate reaction sibling rivalry is a form of behavior that is raised by the child and tangible aggression, aggression both verbally and non-verbally in their siblings. According to Fletcher in Maula (2011) said cooperative play more emphasis on participation, the challenge, and doing fun than to beat somebody.

## METHODS

The research design is quasi-experimental research design (quasy-experiment), and sampling using purposive sampling nonprobability simple sampling also called judgment sampling by using paired t-test and independent samples test. The population in this study were school-age children in SDN 03 Blega as many as 30 children, the study sample number 9 children for the treatment group and the control group of children 9 to riteria inclusions:

- Children aged 8-12 years who experienced sibling rivalry with his siblings,
- Willing to do research (approved informed consent), the number of siblings 1-4,
- The age range of 2-4 years siblings,
- Family type; main family

While the exclusion criteria for this study are:

- Respondents with special needs such as ADHD, autism, and other
- Respondents had been ill for a period of time to provide interventions conducted by the researchers.

## RESULT AND DISCUSSION

Characteristics of respondents by sex brother and sister

Table 1 Distribution of frequency of respondents who experienced sibling rivalry by sex

No	Gender	Treatment		Control	
		F	(%)	F	(%)
1	Man and man	4	44,4	3	33,3

2	Woman and woman	3	33,3	4	44,4
3	Man and woman	1	11,1	1	11,1
4	Woman and man	1	11,1	1	11,1
Total		9	100	9	100

Source of data: primary data 2016

From table 1 shows that the treatment group sex almost halved men and boys as much as 4 respondents (44.4%). While the control group almost half are female and women as much as 4 respondents (44.4%).

Table 2. The frequency distribution of respondents who experienced sibling rivalry is based on the number of siblings.

No	Number of sibling	Treatment		Control	
		F	(%)	F	(%)
1	Two	5	55,6	4	44,4
2	Three	3	33,3	3	33,3
3	Four	1	11,1	2	22,2
Total		9	100	9	100

Source of data: primary data 2016

From table 2 shows that the treatment group had a number of relatives mostly two by 5 respondents (55.6%). While the control group almost half of the respondents who his number two as much as 4 respondents (44.4%).

Table 3 The frequency distribution of respondents who experienced sibling rivalry by spacing births.

No	Spacing births	Treatment		Control	
		F	(%)	F	(%)
1	One year	1	11,1	-	-
2	Two year	5	55,6	3	33,3
3	Three year	2	22,2	4	44,4
4	Four year	1	11,1	2	22,2
Total		9	100	9	100

Source of data: primary data 2016

From Table 3 indicate that the treatment group mostly spacing of two years as many as five respondents (55.6%). While the control group nearly halved three years birth spacing as much as 4 respondents (44.4%).

Table 4 Distribution of the frequency of respondents who experienced sibling rivalry is based on the work of parents.

No	Work of parents	Perlakuan				Kontrol	
		F	(%)	F	(%)	F	(%)
1	PNS	4	44,4	6	66,7		
2	Swasta	1	11,1	-	-		
3	Wiraswasta	3	33,3	1	11,1		
4	IRT	1	11,1	2	22,2		
Total		9	100	9	100		

Source of data: primary data 2016

From Table 4 shows that in the treatment group nearly halved the work of parents were civil servants as much as 4 respondents (44.4%). While the control group largely the work of parents of respondents most civil servants as much as 6 respondents (66.7%).

Table 5 Distribution of the frequency of respondents in school age children who experienced sibling rivalry that gets cooperative play (the treatment group)

No. Respondent	Pre	Post
1	19	16
2	26	22
3	20	17
4	30	28
5	27	22
6	18	16
7	29	25
8	25	24
9	28	27

Mean	24,67	21,89
Paired T Test	$\rho = 0,00$	$\alpha = 0,05$

After analysis of data obtained that from 9 respondents were given a cooperative game play found that the average pre-test results of observations of post-test 24.67 and 21.89 value. From table 5 the results of different test that uses paired samples t-test is obtained  $\rho$  value (0.000) <value alpha (0.05) so that it can be concluded there is no difference observed values sibling rivalry before and after cooperative game play.

Table 6 Distribution of the frequency of respondents in school age children who experienced sibling rivalry that get individual game (the control group)

No. Respondent	Pre	Post
1	30	27
2	29	29
3	31	31
4	29	29
5	21	21
6	26	26
7	30	30
8	28	28
9	25	25
Mean	27,67	27,33
Paired t Test	$\rho = 0,347$	$\alpha = 0,05$

After analysis of data obtained that from 9 respondents were given the individual games (the control group) found that the average value of the observation of the pre-test post-test 27.67 and 27.33 value. From table 6 the results of different test that uses paired samples t-test is obtained  $\rho$  value (0.347) <alpha value of 0.05, so it can be concluded there was no difference observed values sibling rivalry before and after individual games.



Table 7 Distribution of sibling rivalry comparison of observed values in school age children between the treatment group and the control group on January 25-February 6, 2016.

Responden	Treatmen	Control
t	t	
1	16	27
2	22	29
3	17	31
4	28	29
5	22	21
6	16	26
7	25	30
8	24	28
9	27	25
Mean	21,89	27,33
<i>Independen</i>	$\rho =$	$\alpha = 0,05$
<i>t t test</i>	0,009	

After analysis of data obtained from the difference between the 2 groups were given a cooperative game was found that the average value of sibling rivalry observation in a given school-age cooperative game worth 21.89 and are given individual game worth 27.33. The results of the statistical test of independent samples test treatment group and the control group  $p$  value (0.009) <value alpha (0.05), so it can be concluded that there are differences in observed values sibling rivalry between treatment and control groups. This suggests that the effect on the decline of cooperation game sibling rivalry.

#### ***Differences in children aged sibling rivalry that get cooperative game play (the treatment group)***

Based on the results of research conducted showed the treatment group were given play therapy cooperative play in the post test decreased the 7 respondents who did not experience sibling rivalry and 2 respondents still experiencing sibling rivalry.

Some of the factors which may occur among others, sex. The results showed that nearly half of the respondents

of the same sex. This would lead to disharmony, because if the sibling pairs have the same sex tend to experience sibling rivalry reaction. According Priatna & Jane in Rahmawati (2013) it is due to the same sex siblings can trigger the occurrence of envy as a result of the same needs and characteristics as well.

Factors that may lead to sibling rivalry that is the number of siblings in the family, if the fewer the number of siblings in the family would cause undesirable effects such as sibling rivalry. The results showed that respondents who received play therapy cooperative play as much as 55.5% have a number of siblings two people. This is in accordance with the opinion of Hurlock (2006) that a small number of siblings tend to generate more disputes relationship of the amount of its big brother.

#### ***Differences sibling rivalry at that age children get the individual games (the control group)***

Based on the results of research conducted in the control group did not show any change in the value of observation sibling rivalry. Pretest performed in the control group showed that the number of respondents who experienced a direct reaction high sibling rivalry as much as 77.7%, whereas after posttest fixed amount of 77.7%.

The results showed no decrease in the number of children who have a sibling rivalry can be caused by several factors, among others of the same sex between brother and sister. In the control group were more likely to occur gender and women, this is because girls are more similarities in the way of playing, and the needs and characteristics of the same, so the child will arise envy, and a sister may be more chatty and love set against sister of the younger brother. This is in accordance with the opinion of the Rahmawati Aderson (2013) that the sexes are equal in siblings can lead to envy due to the needs and characteristics as well.

Other factors that occurred in the control group was spacing with their siblings. Birth spacing adjacent to the incidence of sibling rivalry and the age difference between siblings will affect the way they act. The results showed that in the control group, within the respondent's birth more than half between 2-3 years. According Woolson in Rahmawati (2013) this is because at such distances have increased understanding of the child so that the child tends to be disrupted when one of the children get a different concern.

***Differences observed values sibling rivalry in school age children between 2 groups administration of cooperative game and giving the game individually***

The results showed that the treatment group after getting intervention cooperative play, sibling pairs who have a sibling rivalry reaction changed from the previous high of 55.6% to 22.2%. While the control group showed no decrease in the incidence of sibling rivalry.

The decline in direct reaction to the treatment group sibling rivalry can already be seen at the fourth meeting and continued to increase until the end of the meeting, the sixth meeting. The fourth meeting is a meeting at the beginning of the second week of a total of two weeks of meetings planned. The first meeting, children are often in conflict with their siblings during play cooperatively children are still often fight with rough and even to hit his brother. The second meeting of the third to behavioral changes expected due to the provision of intervention by the researchers have not been so evident in children and siblings. Observations made by the researchers found that during the game the kids, the parents of respondents said that their children often quarreled before the administration of the intervention. Things became different after the intervention of respondents get cooperative play for six sessions.

These results have proved that the intervention of the cooperative play can

lower direct reaction sibling rivalry through collaborative activities kids to finish the mission together. The statistic shows there is a significant effect on the direct reaction of sibling rivalry before and after the intervention of cooperative play for  $p$  value (0.009)  $< \alpha$  (0.05). This intervention is appropriate to be applied by parents who have school-age children who experience immediate reaction sibling rivalry with his brother.

**CONCLUSIONS  
AND  
RECOMENDATION**

**Conclusion**

The whole of the respondents were given cooperative play in the treatment group had significant decrease after Given cooperative play for 3 times in 1 week. Respondents were given almost entirely individual game in the control group did not decline during the reaction of sibling rivalry given the individual games in 3 times for 1 week. This suggests that the cooperative play sibling rivalry affect the reaction at school-age children in SDN 03 Blega.

**Recomendation**

Nurse practitioners need to provide insight to parents about the importance of anstispasi for those who have children of the difference between 2-3 years of age and the same gender to implement cooperative play for prevention in order to avoid sibling rivalry. For further research is need for more studies using other methods of play to reduce sibling rivalry reaction.

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# THE EFFECT OF ZINK SUPPLEMENTATION FOR GROWTH DEVELOPMENT IN CHILDREN

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## ABSTRACT

**Introduction:** Zinc deficiency occurs in many creating countries, especially in children up to women of reproductive age. Zinc is closely related related to height growth and function of the body. Cooperate of zinc with critical hormones included to bone Growth and centralization in the bone grid is high contrasted with different networks. Insufficient blood levels of zinc in the body in children can affect a child's growth. **Methods:** The method used by the research journal PubMed and BMJ. adapted to the journal search and limited research topic of the year 2011-2017. **Result:** Zink deficiency can affect on growth development in children. Given zinc supplementation in children can affect a child's growth. **Conclusion:** Children with zink deficiency can affect the growth of children up to 18 years. Supelemntasi zinc can affect bone metabolism and growth hormones that are needed by infants and young children in developing countries particularly vulnerable to zinc deficiency. Zinc deficiency can also lead to low body height in children.

**Keywords:** zinc, deficiency, growth, child, height, weight, zinc supplement.

## INTRODUCTION

Insufficient blood levels of zinc in the body including a case that resulted in the most widespread micronutrient loss. People of all ages are at risk, ranging from children to women of reproductive age are at high risk of zinc deficiency, mainly in low-income countries (Petry 2016).

Growth and development is a continuous process from conception to age 18 years. Components of nutritional are among the factors that determine and plays an important role in the growth and development of children. Children need more intake of zinc to obtain normal growth and development (Leon 2009).

Zinc (Zn) is a structural constituent that is essential for cell growth, proliferation and differentiation. Zinc has 3 main basic functions: to catalyze action of the enzyme, provides for participation the component of proteins, and control gene interpretation. Specific symptoms of Zinc insufficiency, such as growth retardation, diarrhea, Postponed puberty, glossitis, erectile dysfunction, nail dystrophy,

alopecia,immunity decreases, and hypogonadism on men (Hwan, Lee, Kim 2016).

Zinc is closely related to height growth and function of the body. Cooperate of zinc with critical hormones included to bone Growth and centralization in the bone grid is high contrasted with different networks (Abdollahi 2014) . Infants and children who have Zinc insufficiencywould be vulnerable to impaired height growth and function of the body (Petry 2016).

The purpose of this researchmight have been on perform literature review competency of midwives inthe treatment of children with zinc deficiency through supplementation with zinc to reduce the incidence of zinc deficiency and the consequences that occur.

## METHODS

The search strategy study of the english language that are relevant to the topic conducted using PubMed and BMJ restricted from January 2011 to December 2016. Keyword used were zinc, deficiency,

growth, child, height, weight, zinc supplement. Full text articles and abstracts were analyzed to choose studies that fit the criteria. Consideration standards used for review was the impact of zinc for growth development in children.

The research examined in this article using the treatment group and the control group of the respondent to the treatment of children with zinc deficiency.

Gier et al. (2015) showed that several studies conducted on school children in Cuba and Cambodia using analysis of height to STH infections and plasma as well as hair zinc. The research in Cuba there is no relation between the effect of STH with the child's height by age views of hair zinc. but in Cambodia indicate that there is relation between plasma zinc with the child's height by age.

The study by Hamzah, Hamed, Sallam (2012) in fifty children of Egypt pre-pubertal height lower and Zn deficiency showed that the levels of serum IGF-1 and IGFBP-3 are low and supplementation Zn for 3 months did not can increase the serum used to increase the growth of children. So that Zn supplementation to children in need in the long period of time, thereby increasing serum growth in children.

Results from Dehghani (2011) in Shiraz- Iran explained that there might have been no huge correspondence between zinc levels on children with weight (BMI), height, but the incidence of gentle wasting also short stature. were relevant higher light

is found over kids with insufficient blood levels of zinc. Contrasted in kids with ordinary alternately large amounts of zinc.

El-Shazly (2015) showed that the BMI and zinc serum was higher on men over women, in any case there might have been no significant correlation between levels of zinc with sex. there is a significant relationship between zinc supplementation in children with BMI. and provision of zinc supplements can improve appetite in children.

Results of research conducted Abdollahi et al. (2014) concluded that zinc supplementation clinched alongside know youngsters under 5. A long time of age can affect linear growth of children, especially in developing countries. but the effect of zinc supplementation when given in 7:03 months duration and dose range 1-20 mg / day.

Tae Hwan (2016) in Seoul Hanyang University Hospital expressed about the role of micronutrient deficiencies, especially zinc. Zinc deficiency is known to affect bone metabolism. the contribution of zinc in the growth can be explained by the participation in the synthesis of DNA. Zinc has a direct effect on the hormonal system of primary (IGF-I / GH) control of linear growth in children. Zinc supplementation will produce a positive impact when given to children who proved with zinc deficiency.



## RESULTS & DISCUSSION

No .	Title	Author/year	Design	Population and Sample	Intervention	Control	Random	Outcome	Result
1.	Height, Zinc Furthermore Soil-Transmitted helminth Infections to Schoolchildren: An investigation in cuba and cambodia.	De Gier <i>et al.</i> 2015	Carried out a cross-sectional study	1389 Youngsters from 13 haphazardly chose schools clinched alongside cuba and. Starting with 20 haphazardly chose schools were included 2471 in cambodia.	Investigated gathered information once height, STH contamination Also zinc centralization Previously, Possibly plasma (Cambodia) or hair (Cuba).	No	Yes	Cooperations between tallness to Age, Zinc and sth spoiling.	Relapse investigation indicated An huge negative affiliation between sth contamination Furthermore tallness to period and in addition over zinc hair However sure companionship (aB-0. 471, p = 0. 033) might have been found between hair zinc Also tallness to agen.
2.	Impact for zinc supplementation around Growth hormone insulin response Growth component hub in short egyptian kids with zinc lack.	T Hamza R , I Hamed A, T Sallam M. 2012	Cohort	50 pre-pubertal egyptian [27 guys and 23 females whose ages went between 3. 2	Auxological appraisal Also estimation from claiming serum Zn, IGF-1, insulin response development figure tying protein-3	Yes	No	supplementationof Zinc might make huge expands in stature standard deviation score (SDS,	After 3 months for Zn supplementation for Zn-deficient patients, there were Zn rose On the whole patients Be that arrived at typical ranges On 64 %, IGF-1 levels rose over 60 % yet all the arrived at typical ranges to 40 % What's

				Furthermore 10. 9 years.know youngsters for short stature and Zn lack	(IGFBP-3); and basal Furthermore invigorated GH previously, then 3 months then afterward Zn supplementation (50 mg/day).			P = 0. 033), serum Zn (P < 0. 001), IGFBP-3 (P = 0. 042), IGF-1 standard deviation score (SDS,P < 0. 01) and IGF-1 (P < 0. 01) .	more IGFBP-3 levels rose for 40 % in any case arrived at reference ranges for 22 %. Development speed (GV) SDS didn't contrast the middle of situations Also controls (p = 0. 15) At might have been higher Previously, GH-deficient patients over non-deficient ones, both Hosting Zn lack (p = 0. 03).
3.	Predominance of Zinc insufficiency for 3-18 a considerable length of time old kids in Shiraz-Iran.	S M Dehghani <i>et al.</i> 2011	Carried out a cross-sectional study	902 Youngsters age-old 3-18 a considerable length of time of age were haphazardly sampled for serum zinc level.	Sex, weight, age, and height were all recorded. ask permission to the parents and to take blood samples of 4-5 mL for measurement of their serum zinc level	No	Yes	Age, sex, weight, and height no significant with zink deficiency	There might have been no huge Acquaintanceship between zinc insufficiency and age, gender, weight, tallness. Those predominance for zinc lack might have been 10. 2%, 7. 8%, 4. 8%, Also 5. 8% for underweight, ordinary weight, at danger for overweight and overweight, separately (p=0. 207).

									However, the predominance from claiming gentle wasting Also hindering might have been fundamentally higher in zinc inadequate Youngsters contrasted with kids for ordinary or helter skelter zinc level.
4.	Effect of zinc supplementation on body mass index and serum levels of zinc and leptin in pediatric hemodialysis patients	El- shazly <i>et al.</i> 2015	Eksperiment al	Led on 60 know youngsters the middle of 5 Furthermor e 18 a considerabl e length of time of age once general HD during the pediatric dialysis units, Menoufia school doctor's facilities. and Benha college.	Patients were haphazardly partitioned under two groups: i assembly i (supplemented group, n=40) gained zinc sulfide supplementatio n, What's more gathering ii (control, n=20) accepted placebo (cornstarch capsules) twice Every day to 90 times.	Yes	Yes	There might have been an expand On serum zinc level What's more BMI Also diminishe d serum leptin after zinc supplemen tation over kids.	Zinc supplementation brought about An critical build in intend serum zinc level Also BMI. Serum leptin diminished essentially then afterward supplementation done kids. A critical negative correspondence might have been watched the middle of serum zinc What's more leptin levels Likewise an aftereffect for zinc supplementation..

5.	Oral Zinc Supplementation Positively Affects Linear Growth, But not Weight, in Children 6-24 Months of Age	Abdollahi <i>et.al.</i> 2014	Multistage randomized sampling design	393 Also 445 Youngsters 6-24 months of age.	Kids for both Assemblies accepted schedule iron What's more multivitamin alternately vitamin An What's more d supplements through PHC administrations . Moms of kids in the mediation bunch were required will provide for a single dosage of 5 ml/day zinc sulfide syrup (containing 5 mg natural zinc) should their Youngsters for 3 months same time Youngsters in the control gathering didn't	Yes	Yes	Oral zink supplementation viable for expanding straight Growth rate of Youngster s.	Anthropometric estimations were performed In benchmark and around An month to month groundwork done both gatherings. Found that An 0. 5 cm distinction in the stature increase in the mediation aggregation Similarly as compared with the control (P < 0. 001). Zinc supplementation needed no impact around weight increase for kids.
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					accept those supplement.				
6.	Hair Zinc Level Analysis and Correlative Micronutrients in Children Presenting with Malnutrition and Poor Growth	Tae Hwan, Lee Jin, Kim yong.2016	Cohort	56 pediatric patients (28 males and 28 females age, 1-15 years) presenting with anorexia, malnutrition, poor growth, poor appetite, with/without other GI symptoms (diarrhea, abdominal pain, constipation)	Biochemical studies for major micronutrients and macronutrients Were additionally directed furthermore hair mineral analyses.	No	No	The major clinical manifestation of zinc deficiency is poor body growth.	Calcium. (r=0. 564, 0. 339, p=0. 001, 0. 011). Hair calcium level might have been associated with serum pre-albumin (r=0. 423, p=0. 001). Furthermore Standard of hair zinc were Exceptionally associated for serum vitamin d (r=-0. 479, p=0. 001), which likewise demonstrated connection with hair levels about first mass of the magnesium Furthermore calcium. (r=0. 564, 0. 339, p=0. 001, 0. 011). Hair calcium level might have been associated with serum pre-albumin (r=0. 423, p=0. 001).



Research that has been explored in these article indicate that zink deficiency can affect on growth development in children. Given zinc supplementation in children can affect a child's growth. However, administration of zinc must regularly and within a span of time

## CONCLUSION AND RECOMMENDATION

### Conclusion

The results of the literature review on the research that has been done on the 6 articles about the effect of zink in children so that it can be concluded that children with zink deficiency can affect the growth of children up to 18 years. Zinc supplementation can affect bone metabolism and growth hormones that are needed by infants and young children in developing countries particularly vulnerable to zinc deficiency. Zinc deficiency can also lead to low body height in children.

### Recommendation

To prevent and reduce the number of zinc deficiency in children should be the provision of zinc supplements on a regular basis with a certain dose in the long term.

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# A LITERATURE REVIEW; EFFECTIVENESS OF WARM FOOTBATH ON SLEEP QUALITY IN ELDERLY

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## ABSTRACT

**Introduction:** Sleep disorders are common mental disorders reported among the elderly in all countries, and with nonpharmacological interventions, they could be helped to improve their sleep quality. Footbath therapy is one of the complementary nursing. This aims of this review was to amplify the available evidence of warm footbath to improve sleep quality in the elderly health program. **Methods:** Using electronics database as search strategy. This study retrieved evidence from 43 articles accessed from three databases (including PubMed, Proquest, EBSCO), that limited from 2008 until 2016. After read the abstract, the keywords, and the full text of retrieved articles, finally, 5 articles were selected. **Results:** This study showed that these studies agreed that the footbath were improving sleep quality for elderly **Conclusion:** The available evidence reviewed indicate that footbath therapy is effective to reduce insomnia and improve sleep quality of elders participated in the five articles.

**Keywords:** Footbath, sleep quality, elderly.

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## INTRODUCTION

Sleep is a life-sustaining activity that affects every individual's well-being and quality of life. Sleep deprivation increases levels of fatigue, anxiety, and depression, inducing cognitive impairment, sleep-disturbed behaviors, and higher mortality. Although sleep disturbance can occur in all age groups, quality of sleep tends to decrease in older adults. In particular, older adults who reside in nursing homes reported higher levels of stress due to collective living conditions and poor sleep quality due to unfamiliar environments and living habits differing from those in their homes.

Sleep disorders and depression are the most common mental disorders reported among the elderly in all countries. The most common sleep complaints in the elderly are trouble falling asleep, waking up during the night, waking up early in the morning, and daytime sleepiness. Eser et al. showed that 60.9% of the elderly have insufficient sleep. Based on studies conducted in Indonesia, 67% of the elderly have sleeping disorders and 61% have insomnia.

Because long-term use of sleeping pills can cause various side effects, such as physical dependence and cognitive impairment, many of studies have examined the effectiveness of nonpharmacological treatments for sleep disturbance, including herbal inhalation, massage, and footbaths. Footbath therapy has been reported to effectively enhance the quality of sleep by decreasing core body temperature through peripheral vasodilation. It has been reported to improve sleep by reducing sleep-onset latency, increasing NREM sleep, and reducing REM sleep. Moreover, it is easy to administer and cost-effective, and it involves minimal risk. The effects of footbath therapy vary depending on water temperature, length of the therapy, and subject; however, there are no detailed criteria suggested for older adults. The purposes of this study were to address this gap in the literature by (1) evaluating the long-term effects of footbath therapy on sleep quality and sleep-disturbed behaviors and exploring

the therapy's effectiveness relative to the baseline sleep quality of the participants. The human sleep-wake rhythm is synchronized with the circadian body temperature rhythm. Circadian body temperature rhythms are suggested to be a signaling pathway for the modulation of sleep and wakefulness. During the daytime, humans are actively awake and experience an increased core body temperature. After core body temperature peaks around 16:00–20:00, core temperature declines and prepares the body to retire. The decrease in core temperature rhythms in the evening is mainly determined by heat loss from the core to the distal body (extremities), which is associated with increased skin temperature in the extremities. Warming the skin can activate the preoptic anterior hypothalamus. Amplitude, the difference between the peak and trough of core body temperature is associated with sleep depth. The gradient of temperature from proximal body sites (infraclavicular, thigh, stomach, forehead) to peripheral sites (feet and hands) (distal–proximal skin temperature gradient, DPG) is an indirect measure of heat dissipation or loss from the core to the periphery and is a predictor of sleepiness.

There is a relationship between the circadian rhythm of the skin temperature, core body temperature, and sleep cycle with awakening regarding function. Rectal temperature begins to rise in the morning after waking up and reaches its highest point (peak) in the afternoon or evening. Between the core body temperature and sleep tendency, there is a negative relationship; at the beginning of sleep, when the core body temperature significantly reduces, it is more likely to occur. Reduce in body core temperature (rectal) before and during sleep is associated with peripheral vasodilatation and possible heat loss from the body core to the peripheral parts of the body. Therefore, a Footbath with warm water may increase blood flow and ambient temperature, with no increase or decrease in core temperature;

and thereby could facilitate the onset of sleep and improve sleep quality

## METHODS

Search strategy that used in this study was electronic database search. Using the electronics database from Ebsco, Proquest and Pubmed database. Using combining keywords of footbath and sleep quality Elderly. The articles were restrict only for English articles from 2009 to 2016. The 43 articles were found. Then, 37 articles were removed for double titles. After read the title, 7 were removed because of unmatched keywords, Finally after read the full text, 5 were selected

## RESULTS

Based on the selected articles, Comparing the Effects of Reflexology and Footbath on Sleep Quality in the Elderly: A Controlled Clinical Trial (Leila Valizadeh, 2016), In the foot bath group, the intervention was effective in all the components except sufficient sleep, and using sleeping drugs. In the control group, the intervention was not effective in any of the components of the questionnaire. The score changes of the quality of sleep among the three groups showed that the most changes were related to the second and third components, delay in falling sleep and duration of sleep. Total score changes among the three groups was statistically significant.

## DISCUSSION

Multiple factors may affect the relationship between body temperatures, thermoregulation and sleep in older adults. In addition to body temperature, sleep is affected by multiple factors, such as mood, life events, and sleep state misperceptions. Single interventions, such as footbath.

Yeung et al. systematically review five clinical trials on the effectiveness of warm footbath and other effective methods of dealing with insomnia. Zhao and Cao showed that reflexology compared with

routine care, significantly reduced sleep disorders. According to the findings of this study, both interventions improved the quality of sleep in two separate aspects; therefore, warm footbath could be recommended as consolidations in nondrug treatment of insomnia in the elderly. It should be noted that footbath intervention is an easy and safe intervention, and can be easily applicable by the elderly themselves; however, footbath is an intervention that should be carried out by a nurse or another person. Therefore, foot bath intervention in terms of cost and effectiveness is more preferred. It is the most cheapest among others. Because there's no need to pay much to do this treatment and very suitable for the elderly who decline in sleep quality and other functions. an alternative nonpharmacological therapy that is effective to reduce insomnia and improve the sleep quality of potential large older.

## CONCLUSION AND RECOMMENDATION

### Conclusion

The available evidence reviewed indicate that footbath therapy is effective to reduce insomnia and improve sleep quality of elders participated in the five articles. Warm footbath therapy can be offered as an alternative care-delivering strategy for elderly. However, to ensure that warm footbath therapy is effective in various settings that are related to older adults, nurses must consider the specific values and experiences of older people in a specific cultural group.

The hot water is cheap and simple way to relieve stress, insomnia, anxiety, and fatigue by increasing the foot vessel expansion and blood volume is increased and timely ought to brain of oxygen & nutrients needed to relieve the fatigue. Thus the hot water foot bath can find great relief without drugs at home for elderly.

### Recommendation

Nurses are needed to evaluate and design interventions targeting the gerontic

health needs of older adults, especially those residing in long-term care facilities. Consequently, it seems plausible that strategies for enriching the lives of elderly people are crucial, and that reminiscence offers a method of promoting healthy ageing.

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# INTERVENTION TO REDUCE ANXIETY IN NURSING STUDENTS: A SYSTEMATIC REVIEW

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## ABSTRACT

**Background:** Conditions of anxiety and other psychological problems was found in nursing students. Anxiety and stress were received during academic process and professional education, such as stress due to academic load, the demands of clinical experience and other personal issues. Various kinds of interventions are recommended to reduce anxiety in nursing student, but has not been found the appropriate intervention which can be applied to all nursing education settings, neither clinical education nor profession. **Purposes:** These sistematic review is determined, described and analyzed the previous studies in intervention to reduce anxiety for nursing students. **Method:** A systematic review was conducted using the PICO searching method. Research articles published were restricted to 2011-2017 and identified from the following database: Sage, Google Scholar, Proquest and Science Direct. **Results:** Article search obtained 15 articles: 6 articles about mindfulness-based intervention reduction on anxiety. 1 article mentions that anxiety can not be lowered with hatha yoga meditation, while 5 other articles mentions that mindfulness-based stress reduction on anxiety is more effective for decreasing anxiety. **Conclusion:** interventions that were found effective related to mindfulness-based stress reduction. Those are meditation, hypnosis and others. Meditation is conducted together with internal reinforcement by words repeatedly.

**Keywords:** Anxiety, Nursing Students, Systematic Review.

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## INTRODUCTION

Psychological stress is a common in the profession of nursing. Conditions associated with stress include the demands of work, unappropriated staffing, increasing number of patients, lack of administrative support, environmental changes of health service, emotional changes due to grieving and pain process. Stress and anxiety are also experienced by nursing students during their education. Some studies stated that stress experienced by nursing students tend to be greater than for medical students. Nursing students experienced many stages during their education, including clinical and academic experience (Patterson, 2016). Nursing student anxiety relate to competition in academic and clinics, the use of the latest medical technology, financial problems, interpersonal conflicts, family problems, others physical and mental problems, less of social support, and poor

coping strategies. Anxiety also can cause illness, dependence on health services, and declining of performance. Nursing is therefore recognized as a hard profession and has a lot of stressors associated with it.

During the training period, nursing student must pay attention to the needs of patients, providing appropriate care, and explore as much as possible the clinical experience. Nursing student are different to other nurses who already have licensed to work in health services or in a clinic. They are not free to express their opinions and make a decision. Every day during clinical practice nursing students witness the pain and suffering of patients joy and smiles of patients. Those emotions can affect their performance and general outcomes in health care (Torabizadeh, 2016).

Various coping stress and anxiety strategies have been discussed in many studies and are widely published.

Interventions to reduce anxiety of nursing students that had been reported include: creating positive reinforcement, problem solving approach, time management, relaxation techniques, and also other interventions (Patterson, 2016). Many studies that have been published discuss reducing anxiety from a single perspective only eg. management of personal thoughts or peers only. Based on the data above, the authors consider it necessary to do a systematic review to get assess intervention for reducing anxiety of nursing student during the period of education.

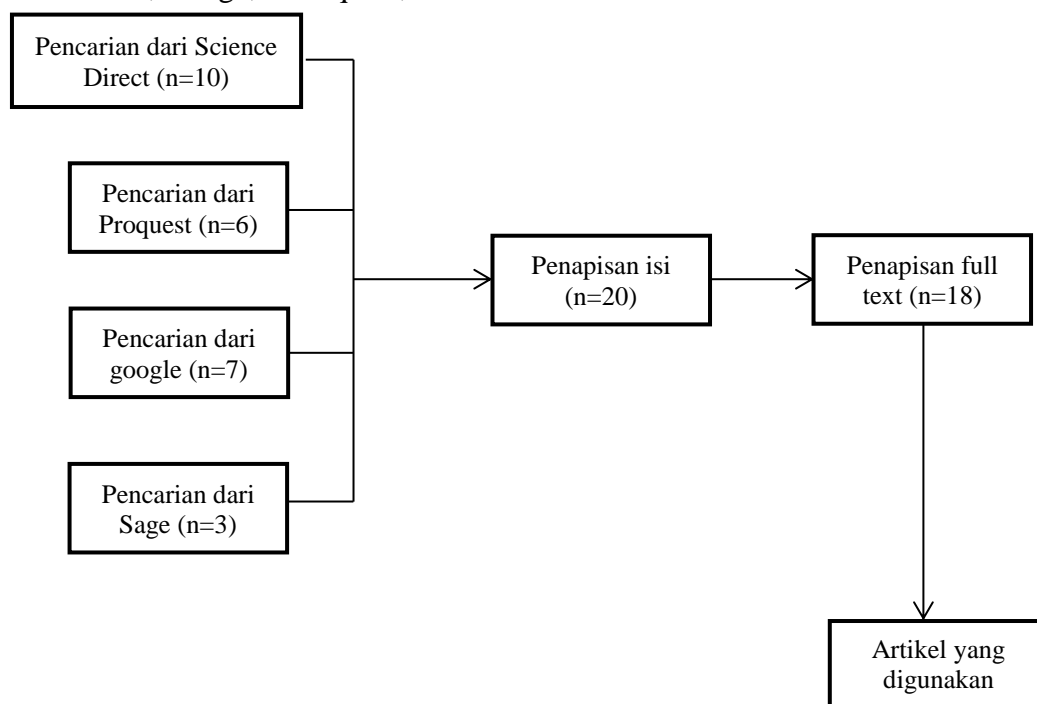
## METHODS

This systematic review begins with searching for articles related to the topic. Searching was conducted using PICO (problem, intervention, comparison and outcomes) framework. *Problem*: nursing student, *intervention*: intervention, *comparison*: -, *outcome*: a reduce in anxiety. The articles were retrieved from Google Scholar, Sage, Proquest, and

Science Direct. Keywords used to search the articles were: "anxiety reduction", "anxiety intervention", and "nursing student". The articles retrieved from Google scholar using keywords "intervention of anxiety" and "nursing student".

The inclusion criteria used in this systematic review are: the article is restricted from years 2011-2017, the research article, thesis or dissertation were published, articles in both English and Indonesian, articles with quasi experimental research methods, and research articles with nursing student as respondents.

As a result of searching by keywords, the corresponding articles was found. Then, the corresponding articles were selected and included in the systematic review. The process of screening articles as listed in the figure below. In the end, 15 articles obtained in accordance with the purpose of systematic review.



Gambar 1. Alur Penapisan Artikel

## RESULTS

### a. Reducing Anxiety Using Brain Gymnastics

Research conducted by Chosiyah, et.al. (2011), reports that anxiety can be reduced by doing brain gymnastic. This Quasi-experimental study took 30 samples

of 30 final-year nursing students, and without control group. According to the study, brain gymnastics is done by a simple exercises using water movements, abdominal breathing, cross-motion, positive point, hooks relaxed, draw button, waving legs and double streaks. The exercise was carried out 10-15 minutes once in each day. Anxiety was measured using HAMS (Hamilton Rating Scale for Anxiety). The results showed that the students anxiety reduced after brain gymnastics. There was no control group in this study. The movements of brain Gymnastic activate neocortex and parasympathetic nerve and then reduce the increase of adrenaline that relieve psychological and physical tension. Therefore, the body and soul are relaxed and balanced.

*b. Reducing Anxiety Using Laughter Therapy*

Research on laughter therapy intervention to reduce anxiety was performed by Mathofani (2012). Nursing student anxiety was measured using Hamilton Rating Scale for Anxiety (HAMS). The results showed that anxiety reduced after laughter therapy. In the study did not mention how laughter therapy guide is done.

*c. Reducing Anxiety Using Hypnotherapy and Meditation*

The author found several sources that use subconscious or personal mind approach to cope anxiety in nursing student. One of the studies, Santoso (2014) mentioned that the use of direct suggestion in hypnotherapy effectively reduces the students anxiety who are under preparation of the thesis. Hypnotherapy is a combination of hypnosis and therapeutic intervention or healing intervention. The therapist will guide the client to be more positive to reduce anxiety. Deep relaxation state has a high chance to insert the suggestion, this condition called trance. Trance is condition of unconscious.

Unconscious condition can control unconsciously the conscious mind and may uncover the actual ideas or thoughts far beyond the conscious mind.

The conscious mind stores all information relating to the physical, emotional, psychological and intellectual that had acquired consciously. Whereas the unconscious mind automatically stores a person's emotions which are oftenly illogical and irrational. Through emotions, the individual feelings become known though sometimes people do not realize what their feeling are. Research conducted by Santoso (2014) emphasized self directing techniques of hypnotherapy. Therapist will help students to achieve relaxed state, then hypnosis techniques conducted to bridge the person critical thinking, so the person will easily accept the therapist suggestion.

In another study conducted by Song (2015), one of the strategies used was empowering personal thought to reduce anxiety is mindfulness-based stress reduction technique. Mindfulness-based stress reduction technique is conducted through meditation. Initial exercise performed for 45 minutes by paying attention to the uncomfortable movement in lying position. Then, mindfulness-based stress reduction is conducted by alternately standing and sitting, then noted the breathing rhythm of respondent. Mindfulness-based stress reduction carried out for 8-10 weeks with meeting duration for 2-2.5 hours per week. The study reported that anxiety is reduced in the group using mindfulness-based stress reduction.

Different result revealed by Purwaningsih (2013), mentioned that there is no effect of hatha yoga and jogging on reducing anxiety on 8<sup>th</sup> semester nursing student. The treatment group was divided into two, yoga and jogging team. Yoga is conducted twice a week with duration of 90 minutes, while jogging twice a week with duration of 30 minutes. Shortcomings in these study is the absence of control group and did not explain how hatha yoga and

jogging procedure should be performed. So this study can not be compared with similar studies.

Study by Malinski (2011), stated that co-meditation can reduce anxiety and facilitate the relaxation. The study was conducted in nursing academy. Respondents were all member of nursing academy, including nursing student, lecturers, staff and others. Co-meditation could be conducted in flexible way, it may be changed in accordance with the state of people. Co-meditation may be done by sitting, lying down or standing. The focus of the intervention is to create the relaxed sensation of breathing and spread throughout the body. After that, the facilitator will guide respondents and asked them to imitate the facilitator words. Then alternately respondents were asked to say positive words during the expiration and will be imitated by others in those groups.

Research conducted by O'Brien (2013), stated that mindfulness meditation with humor can be used to reduce the anxiety of nursing student during practice in health care. The mindfulness meditation with humor is done for 4 weeks. The sample are 73 respondents with control group. This technique can be applied by lecturers during the period of education. Mindfulness meditation is done by directing person to be positive thinking. Patterson (2016) in his study mentioned that emotional freedom technique can reduce anxiety. Emotional freedom technique is done by pressure the midpoint of head, face, neck, chest and hands. The therapy is given along with the provision of positive word "Although I'm stressed and anxious, but I believe, can accept these conditions" repeatedly. Measurements of anxiety conducted at 37 respondent using STAI (State-Trait Anxiety Inventory). These study did not use control group.

#### *d. Reducing Anxiety by Relaxation*

Research conducted by Torabizadeh (2016) studied the effects of muscle

relaxation and group support in reducing anxiety in nursing students. Progressive muscle relaxation conducted in this study is not aggressive, inexpensive and had positive impact. This relaxation technique using Jacobson's progressive muscle relaxation. Individual volunteers were asked to relax the muscles for 5-10 minutes so blood flow smooth to the muscles. Prior explanation of the purpose is given before performing the progressive muscle relaxation. Progressive muscle relaxation performed in a relaxed way, respondents were asked to lie down, accompanied by comfortable music and in a dark room. Then, respondents guided by the therapist to think of unstressful things. At the end of the sessions, respondents were asked feedback and expressed their feelings. The results of these research that there is significant relationship between the treatment and control groups. Anxiety levels reduced more significant in treatment group compared to support group.

#### *e. Reducing Anxiety by Simulation*

Simulations as discussed in this review is a simulation that is used when the nursing student will enter clinical setting and take the test. Several simulation techniques will be discussed, including: patients cases simulation using probandus or simulation on standardized patients, simulation by look at nursing expert demonstration, as well as simulation of learning situations with humor.

One study that investigated the simulation is Coram (2015), who examined the effectiveness of expert nurse as role model to anxiety, self-confidence and clinical judgment. This research was conducted on first semester students. The treatment group was given a skill demonstration video of expert nurses, then the student using standardized simulated patients (probandus) to practice skills as seen in the video. Prior to the laboratorium skills, all respondents submit the assigned task were asked before. Then, before video, treatment group will be given pre conference about the scenario faced, and

after that students will watch a video with duration of 5-7 minutes performed by expert nurses whose age is not much different from the respondents. The video contains about nursing care performed on simulated patients. The results showed that there is a difference between control and treatment groups. The anxiety of treatment group reduced when performing simulations on standardized simulated patients. These study used 43 respondents, and had control group.

Another study conducted by Gore (2011), stated that clinical experience simulation can reduce anxiety. The simulation begins with a review of progress notes or patient status for 15-20 minutes. The facilitator will help to carry out the assessment, formulate the priorities of nursing diagnoses and interventions. Measurements of anxiety performed on 70 respondents using STAI (State-Trait Anxiety Inventory). These study did not use control group. In addition, Kameg (2014), stated that the use of standardized patients will be able to reduce anxiety. The number of respondents was 69 respondents.

## DISCUSSION

The results of the study stated that meditation, hypnosis or therapy that comes from the inside of mind is more effective than intervention from outside. Meditation techniques to reduce anxiety can be done with different procedures, because it has been not found the standard operational procedure of meditation. Meditation techniques may be performed in any kind of the position and condition, as far as a person feels comfortable. Meditation techniques are also carried out in environment that make person comfortable. Meditation is given together with internal reinforcement by words repeatedly.

## CONCLUSION AND RECOMMENDATION

### Conclusion

Interventions to reduce anxiety are widely reported as a result of scientific

research studies. According to the systematic review conducted by the author, there were 6 of the 15 articles that examined the effects of meditation and mindfulness-based stress reduction on anxiety. Based on 6 articles, one article stated that anxiety can not be lowered with hatha yoga meditation, while 5 other articles mentioned that mindfulness-based stress reduction is more effective for reducing anxiety. All of 6 articles used quasi-experimental methods, and 3 studies did not use control groups, while the other 3 using control groups.

## Recommendation

Based on the results of the study, meditation techniques to reduce anxiety can be done with different procedures, in any kind of positions and conditions. Therefore, further research is needed focus on implementation of the meditation standard procedure.

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# POISONING DUE TO PESTICIDE SPRAYING VIEWED FROM PERSONAL HYGIENE AND LONG EXPOSURE TO ONION FARMERS IN SUMBERJO NGANJUK

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## ABSTRACT

**Introduction:** Pesticide poisoning is the influx of chemicals into the human body through direct contact, inhalation, ingestion and absorption, causing negative effects to the body. Poisoning can occur due to the influx of excessive pesticides or for ignoring safety procedures, health and safety and working equipment are inadequate. The purpose of this study to determine the effect of personal hygiene and long exposure to poisoning due to pesticide spraying on onion farmers in the village of Sumberjo, the District of Gondang, the Regency of Nganjuk. **Methods:** The design study is observational with cross sectional approach. The population in the study was all members of farmers 150 farmers with 109 respondents sample simple random sampling technique. The data collection is using the questionnaire. **Results:** The results showed most of the onion farmers have personal hygiene enough categories by 47% (51 respondents), farmers spraying pesticides with a long exposure of more than 4 hours / day by 56% (61 respondents), and the farmers who suffered the poisoning was by 42 % (46 respondents). The results of the analysis of ordinal regression test no influence personal hygiene and long exposure to poisoning due to pesticide spraying by 14.3% to 0.002 p value <0.05 then H0 is rejected. **Conclusion:** Pay attention to personal hygiene including the use of personal protective equipment (PPE) as well as the spraying of pesticides full accordance with the rules and procedures appropriate security is strongly recommended to farmers to avoid the danger of pesticide poisoning that can improve the health of onion farmers.

**Keywords:** onion farmer, pesticide poisoning, personal hygiene, long exposure.

## INTRODUCTION

The use of pesticides is increasingly high, especially in developing countries in Asia, Africa, Central America and Latin America. Developing countries are only using 25% of total pesticide use around the world (world-wide), but in the case of deaths caused by pesticides, 99% experienced by the countries in the region. According to WHO (World Health Organization) this is due to the low educational level of farmers in the country that use tends to be unsafe manner or not in accordance with existing rules.

According to estimates by the World Health Organization (WHO) and Environment Program of the United Nations (UNEP) 1.5 million cases of pesticide poisoning in agricultural workers.

Most cases of poisoning in developing countries, 20,000 of them fatal. Farmers as a pesticide users have the highest risk of exposure to pesticides resulting in disability and death, the results showed high incidence of pesticide poisoning caused by between 20-50% (MOH, 2005).

Test results on blood cholinesterase farmers in Nganjuk (2001) showed that out of 22 people onion farmers who examined his blood cholinesterase activity, 12 (37.5%) mild poisoning, and 10 (31.25%) of severe poisoning (Alkadri, 2009).

In some cases direct pesticide poisoning, according Djojsumarto (2005) in Nuryana (2008) states that the work that most often lead contamination is mainly spraying when applying pesticides. Spraying pesticides that do not meet the

rules will lead to many effects, including impacts to human health is the incidence of poisoning to the individual farmers (Djafaruddin, 2006) in Nuryana (2008). In this case the farmers in spraying pests must use personal protective equipment, conduct spraying technique correct, and maintain personal hygiene to avoid contamination of pesticides, but farmers users tend to underestimate the dangers of pesticides so that they do not comply with the requirements for safety and health in the use of pesticides including the use of personal protective equipment and spraying application techniques. Pesticide poisoning is often not felt and due to unpredictable encouraging them to apply pesticides in their way because it does not feel disturbed (Djojsumarto, 2005) in Nuryana (2008).

Based on preliminary studies that researchers do the onion farmers in the village of Sumberjo active spraying pesticides on average had experienced symptoms of poisoning such as headaches, like vomiting, sweating, weakness, even in 2015 has never been even one (1) case of onion farmers red suffered pesticide poisoning to experience vomiting and fainting were then taken to the District General Hospital Nganjuk. Based on observations and interviews researchers to farmers in the village of Sumberjo seen from the duration of exposure to pesticides the farmers on average worked from seven o'clock to twelve o'clock, if the pest attack increases the farmers also increase the frequency of spraying, in a week sometimes more than three times spraying, and the average farmer has more than one rice field, so that every day they have to move from one to the rice paddy others to do the spraying, that's what every day brings farmers exposed to pesticides longer. Besides personal hygiene onion farmers are still poor, many farmers who wash hands without using soap on the flow got former stream they passed when spraying, and at meal times they do not use a spoon and still wearing work clothes used when spraying, farmers also often bathe in the diesel wells

near the fields without using soap and wash work clothes without using detergent. It often triggers farmers suffered poisoning from contaminated by exposure to pesticides.

From the preliminary study conducted on 24 April 2016 Sumberjo village there are 5 farmer groups with 30 members in each group brackish. Onion farmers in the village Sumberjo use an average class of organophosphate pesticides to eradicate the pest (plant pests) shallots and average farmers to spray 10-15 times per season (2 months) depending on the pest (plant pests) that attack the onion crop in one year, there are 3 red onion season. Spraying activities throughout the year, so that the level of exposure of farmers to pesticides is very high, it further illustrates the risk level of farmers against pesticide poisoning. Basic information about pesticide poisoning, personal hygiene, and the factors that influence pesticide poisoning in specific onion farmers in the village of Sumberjo is yet available.

Based on the above background, the researcher interested to study about personal hygiene and long exposure to pesticides on onion farmers against poisoning due to pesticide spraying under the title: "Poisoning Due Pesticide Spraying Seen From Personal Hygiene and Long Exposure At Farmers Onion In the village Sumberjo the District Gondang Nganjuk ".

## METHODS

In this study, it is using observational study design. This type of research used in this research is analytic survey research with cross sectional approach. Total sample is 109 respondents who are active members of farmers spraying pesticides by simple random sampling method in the District Gondang Village Sumberjo Nganjuk.

The primary data collection is using the questionnaire. The questionnaire was divided into three groups of questions or statements include; The first question of the

general characteristics of respondents including pesticide spraying long exposure; Second statements regarding personal hygiene and; The third statement about the poisoning due to pesticide spraying. Furthermore, the recapitulation of the questionnaire was analyzed using statistical test Ordinal Regression.

## RESULTS

### A. Characteristics of Respondents

Table 1. Characteristic of Respondents by Age, Old Work, Education, And Pesticide Active Ingredients Used

Characteristics	N	%
<b>Age</b>		
20-25	21	19
26-31	16	15
32-37	15	14
38-43	18	16
44-49	18	16
50-55	16	15
56-61	5	5
<b>Long Working</b>		
2-7	19	17
8-13	21	19
14-19	15	14
20-25	15	14
26-31	16	15
32-37	9	8
38-43	11	10
44-49	3	3
<b>Education</b>		
Never Schools	12	11
Primary school	27	25
Junior high school	37	34
Senior High School	27	25
College/University	6	6
<b>Pesticide Active Ingredients</b>		
Tetraethylpyrophosphate	23	21
Klorfenafir	11	10
Abamectin	10	9
dichlorvos	30	28
Acetate	16	15
Triazofos	11	10
profenofos	8	7

Source: Data Analysis Results

### B. Variable characteristics

Table 2. Characteristics Variable Based on Personal Hygiene, Long Exposure, and Toxicity Due Pesticide Spraying

Characteristics	N	%
<b>Personal Hygiene</b>		
Good	20	18
Enough	51	47
Less	38	35
<b>Long exposure</b>		
≥5 hours / day	48	44
<5 hours / day	61	56
<b>Poisoned</b>		
Mild poisoning	44	40
poisoning Medium	46	42
poisoning weight	19	17

Source: Data Analysis Results

### C. Test Results Statistics

Table 3. Statistical Test Results Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept	51.327			
Only	36.764	14.564	3	0.002
Final				

Statistical test results using ordinal regression test to 109 respondents with  $\alpha = 0.05$  was obtained p value of 0.002 (0.002 < 0.05) reject H0 This means that there is the influence of personal hygiene and long exposure to poisoning due to pesticide spraying on onion farmers in Sumberjo village Gondang district Nganjuk.

Statistical test results in this study were obtained Pseudo R-square value at Nagelkerke amounted to 0.143 this means that personal hygiene and poisoning due to long exposure affects 14.3% of pesticide spraying and spraying pesticide poisoning is influenced by other factors amounted to 85.7%.

## **DISCUSSION**

### **A. Personal Hygiene**

Of the 109 respondents acquired mostly onion farmers have enough personal hygiene by category by 47% (51 respondents).

Based on the results of cross tabulations age of respondents with personal hygiene known to most farmers aged 20-25 years old have enough personal hygiene category of 10.1% (11 respondents). Long worked with personal hygiene known to most farmers to work 8-13 years old have enough personal hygiene category by 8.3% (9 respondents). Education with personal hygiene is known to most farmers with personal hygiene education SMP have enough categories of 15.6% (17 respondents). The active ingredients of pesticides with personal hygiene known to most farmers use pesticide active ingredient dichlorvos have enough personal hygiene category was 13.8% (15 respondents).

Personal hygiene onion farmers surveyed in the village Sumberjo most still have enough categories. This is because of the attitude of farmers in the use of personal protective equipment (PPE) many are incomplete because of discomfort when wearing personal protective equipment (PPE) is complete. Farmers just wear a hat and a long shirt to protect from the sun. Farmers believe that the situation as it is common. Masks they use are usually in the form of masks "kerojong" threadbare or torn used instead of a hat and a mask, there is also a long-sleeved shirt tied around his head and covered his face instead of a mask. This greatly affects the exposure to pesticides can enter through the respiratory tract (mouth and nose) or through the skin (inhalation). Rarely do the farmers wear gloves and goggles.

In addition APD onion farmers in the village of Sumberjo also pay less attention to personal hygiene in the moments before spraying; at the time of spraying; and after spraying. Farmers, who make a habit of pesticide formulations

without the use of PPE, are smoking at the time of spraying, pausing to drink and eat and then continued spraying. At mealtime; drink; the smoking or do not bathe or wash your hands first with water and soap. If the fields far from the wells used to wash hands diesel farmers in rice paddies former street gutter flow spraying and rinsed with potable water carried. So the farmers at the time of eating, drinking, and smoking are still in the condition of the body is not clean and not replace work clothes.

### **B. Long exposure**

Of the 109 respondents mostly do long exposure to the pesticide spraying more than equal to 5 hours / day by 56% (61 respondents).

Based on cross-tabulations of age with long exposure to the pesticide spraying is known mostly 20-25-year-old farmer spraying pesticide with a long exposure is less than 5 hours / day by 11.9% (13 respondents). Long worked with long exposure to the pesticide spraying known to most farmers to work 8-13 years old spraying a pesticide with long exposures more than equal to 5 hours / day by 11.9% (13 respondents). Education with a long exposure to the pesticide spraying known to most farmers spraying pesticides junior high school education with a long exposure of more than equal to 5 hours / day amounted to 23.9% (26 respondents). The active ingredient of pesticides used by farmers with long exposure to the pesticide spraying known to most farmers use pesticide active ingredient dichlorvos spraying pesticides by long exposure to more than equal to 5 hours / day 16.5% (18 respondents).

Based on research in the field most of the farmers in the village Sumberjo spraying more than equal to 5 hours / day, this is because the land owned by farmers an average of nearly 1 Ha, so farmers work the farming land owned start spraying, watering morning and evening, cleaning grass done alone. Therefore they began their work from early morning until noon



and then resumed again in the afternoon. Their activities are mostly spent in the fields to care for their onion planting. If pests increased by almost all farmers spraying pesticides on a daily basis, it is not uncommon that spraying from morning till noon without regard to time and long exposure to the pesticide spraying. In fact, according to the theory put forward Novizan (2002) suggested in general a good time to spray the pesticide is in the morning at 7 am to 10 am and afternoon from 3 pm to 6pm.

### **C. Due Spraying Pesticide Poisoning**

Of the 109 respondents found most of the onion farmers in the village of Sumberjo poisoning was by 42% (46 respondents).

Based on cross-tabulations Age poisoning known to most farmers aged 20-25 years experienced mild poisoning by 8.3% (9 respondents) and poisoning was by 8.3% (9 respondents). Long worked with poisoning known to most farmers to work 8-13 years old suffered mild poisoning of 10.1% (11 respondents). Education with poisoning is known to most farmers with junior educational experience mild poisoning at 18.3% (20 respondents). The active ingredients of pesticide poisoning are known to most farmers use pesticide active ingredient dichlorvos poisoning was 12.8% (14 respondents).

Based on the results of research in the field is a lot of farmers who suffered moderate and severe poisoning. Farmers often complain of headaches, like vomiting, watery eyes, blurred vision, sweating, pain in muscles and sudden tremors after spraying pesticides. These complaints arise because farmers do not pay attention to the procedures spraying appropriate, such as: personal hygiene including the use of PPE is complete, and the spraying technique that is true, it is not uncommon farmer spraying is not in accordance with the direction of the wind, blowing nozzle clogged with the mouth directly. In addition, farmers often bring their own food and drinks from home.

On the sidelines of spraying or spraying is finished they normally eat "lunch" they had brought from home. This can affect the health status of farmers because of cleanliness and personal hygiene is lacking, they only wash their hands in the rice fields with makeshift water is not clean and do not use soap. Farmers always underestimate these things when could endanger the safety and health of farmers.

### **D. Effect of Personal Hygiene and Long Exposure Due Pesticide Spraying Against Poisoning**

Based on the results of the ordinal regression analysis results obtained 14.3% of personal hygiene and long exposures affect poisoning due to pesticide spraying on onion farmers with p value  $0.002 < 0.05$ . Under these conditions,  $H_0$  is rejected and  $H_1$  accepted which means that there is the influence of personal hygiene and long exposure to poisoning due to pesticide spraying on onion farmers.

Results were also consistent with research Aulia (2016), in which the statistical test using the Fisher Exact Test, p value of 0.038 obtained. Then the p value less than 0.05 ( $0.038 < 0.05$ ), which means there is a significant correlation between the level of personal hygiene farmer spraying pesticide poisoning in the Hamlet Banjarrejo Cepogo Kembang Kuning District of Boyolali.

Related to long exposure in line with the results of Yahya (2009) in which the statistical test by using ANOVA, p value = 0.003 ( $p < \alpha = 0.05$ ) so that it can be interpreted that there is a long exposure effect vegetable growers use pesticides to farmers of blood cholinesterase activity, where blood cholinesterase levels signify lower peasant farmers suffered poisoning.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

Most of the onion farmers have enough personal hygiene categories by 47% (51 respondents). Most of the onion

farmers spraying pesticides by long exposure to more than equal to 5 hours / day by 56% (61 respondents). Most of the onion farmers being poisoned by 42% (46 respondents). There is the influence of personal hygiene and long exposure to poisoning due to pesticide spraying on onion farmers in the village of Sumberjo the District of Gondang in Nganjuk with p value of 0.002.

### Recommendation

1. For Farmers, is expected to improve personal hygiene and how good pesticide spraying applications and according to the rules correctly; more active in seeking information in recognizing pesticide poisoning and how to cope with poisoning due to pesticide spraying; as well as routine medical examination at the health center or Other Health Services.
2. For Academic See more about these findings, it can be used as one of literature in teaching and learning can be applied in practice in the field in order to improve preventive measures the incidence of poisoning due to pesticide spraying and promoting health status of farmers.
3. Health Agencies, expected health workers conduct periodic health checks and provide counseling to farmers about personal hygiene, spraying pesticides, and actions to take in case of pesticide poisoning.
4. Agencies Agriculture, agricultural institutions are expected to provide oversight in the use of pesticides, provide information pesticide poisoning prevention, help improve safety and health in the form of the provision of a complete PPE, supervision during the spraying season, and look spraying technique performed by farmers directly
5. Other researchers, it is expected that the results of this study can be used as a reference for further research such as on the cleanliness of the farmhouse, the

cleanliness of the water used in pesticides applied in including hand washing and showering after spraying, pesticide storage, compliance in full PPE receipts from when preparing pesticides until such time as pesticide spraying applications, as well as the examination of blood cholinesterase levels in farmers so that the results can be used for comparison with the results of this study, it can then complement theories that can strengthen the research.

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# ANALYSIS OF THE MAIN INDICATORS OF NUTRITION AWARE FAMILY (KADARZI) ON THE OCCURRENCE OF MALNUTRITION IN CHILDREN UNDER FIVE YEARS IN THE WORK AREA HEALTH CENTERS NORTHERN TERRITORY OF KEDIRI

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## ABSTRACT

**Introduction:** Kadarzi (Nutrition Aware Family) is a family that is able to recognize, prevent and address nutritional issues of every member. **Results:** From the research almost all families with children under five malnutrition is not behaving Kadarzi that 45 families (86.54%) and 7 families (13.46%), others behave Kadarzi. From the statistical test Dummy Linear regression showed that the 0.02 significance value less than 0.05 means that a significant standard acceptable alternative hypothesis, that there is the effect of applying Nutrition Aware Family (Kadarzi) Toward Less occurrence of Nutritional Status in Toddlers In in the Northern Region Health Center Kediri. The result of the variable nutritional supplement drink affected occurrence of malnutrition in children under five in the Work area of the City Health Center, Northern region is in line with research conducted by Jannah (2010) at the Health Center of north Kambat middle stream Hulu on the effect of vitamin supplementation to changes in nutritional status (B / U) toddler BGM. After testing subset of the statistics where p value = 0.0000 which is smaller than the value of alpha (0.05). **Conclusion:** So, there is the effect of vitamin supplements on Changes in Nutrition Status (W / A) Toddler BGM. One of the factors that affect the growth and development of children is nutrition. Malnutrition in food cause impaired child growth that will affect the development of the entire body.

**Keywords:** kadarzi, malnutrition, toddler

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## INTRODUCTION

Efforts to improve public nutrition as stated in Law No. 36 Year 2009 on Health, aims to improve the nutritional quality of individual and community, including through the improvement of food consumption patterns, behavior improvement aware of nutrition, improving access and quality of services of nutrition and health in accordance with the progress of science and technology.

Nutritional problems occur in every cycle of life begins in the womb (fetal), infant, child, adult and elderly. A second period of life is a critical period, because at this time there is a growth and very rapid development. Nutritional disorders that occur during this period resulted in a permanent, cannot be restored even if nutrient needs are met for the next period.

According to the World Health Organization (WHO) in 2012, 99 million children under five are underweight. But this figure has decreased compared to the year 2010 as many as 102 million children under five are underweight. In 2012, 67% of all underweight children live in Asia and 29% in Africa.

East Java Province, in this case the Nutrition Section of East Java Provincial Health Office has activities Nutritional Status Monitoring (PSG). The prevalence of infant malnutrition is one of the indicators of the MDGs and the Strategic Plan Health Office of East Java province, based on an index Weight Loss by Age (W / A), ie from the numbers weight (BW) is very less and the weight (BW) less, And based on the results of PSG in 2014, East Java has successfully reached under the MDG target

(15.5%) and the Strategic Plan (15.1%) which amounted to 12.6% (10.3% Less Weight and Weight Very Less 2.3%).

Cases of infant malnutrition is still prevalent in the city of Kediri, namely by 3.4% or 500 toddlers in 2013. pada 2014 by 3.5% or 617 children under five, and in 2015 by 4.6% or 779 toddlers and public health centre which is most high increase in cases of infant malnutrition is Public Health Center Northern Territory, namely by 4.6% in 2013, 11.8% in 2014 and 4.7% in 2015. There are many factors that can affect the incidence of infant malnutrition.

The increasing cases of malnutrition in the Work Health Center Northern Territory is because toddlers do not get the diversification of food, so it does not get the nutrients are balanced, with the provision of a balanced diet toddler will get nutrition to increase their nutritional status, if toddlers are not getting a balanced diet the nutritional status will decrease and result in less nutrition. The low exclusive breastfeeding which can make children susceptible to disease so that the nutritional status of children has declined or the child will get malnutrition. Exclusive breastfeeding is very important for toddlers because with exclusive breastfeeding toddlers will not be susceptible to disease which will affect the nutritional status of children. As well as the high percentage of mothers who work shows that parents cannot directly provide supervision to toddlers, and cannot directly monitor nutritional status.

Nutritional condition is affected by nutrition and infectious diseases are interlinked. Family and community level nutritional problems is affected by the knowledge and ability of families to provide food for its members both the number and types according to the nutritional needs, the availability of health services and nutritional quality, affordable, as well as the ability and knowledge of the family in terms of personal and environmental hygiene.

Image that show for the bad nutrition behavior also indicated by the low

utilization by the public service facilities. Figures achievement toddler was taken to an integrated service post for weighed Kediri is still relatively low, in 2014 figure of 75.8% achievement, where the toddler was taken to a target of achieving an integrated service post for weighed is 80%, while for the achievement Exclusive breastfeeding by 53.5%. This figure is still very far from achieving the fulfillment of the targets exclusive breastfeeding in the amount of 85%.

Survey Kadarzi in Kediri on 2014 showed that 51% of families in the town of Kediri already behaved Kadarzi, while the results of the survey in the Northern Region Health Center are as follows: 89.8% children are weighed regularly to neighborhood health center; 42.9% of infants 0-6 months get exclusively breast-fed; 64.8% of families eat a variety of foods; 100% of the families taking iodized salt and 97% of families drink nutritional supplement, and which implements the five indicators only 59% means that there are 51% of the families in the Northern Territory Health Center that has not behaved Kadarzi.

The low behavior nutrient of families will be able to have an impact on health status and nutritional status of children. This situation can be seen from the 54% children had a fever in the last 3 months, 20.69% children with malnutrition and 5.17% children with poor nutritional status, when seen in KMS toddlers, the weight is below the red line. Seeing the impact and some research results as well as the prevalence of malnutrition, Kadarzi behavior is one important part in tackling the acute-chronic nutritional problems as well as improving other factors such as maternal education, infections, nutrition consumption and environmental health. There was a significant influence on the behavior of households Kadarzi nutritional status of children in Trenggalek.

Based on the description above, the researchers want to find out more about the how the analysis of the main indicators of



Nutrition Aware Family (Kadarzi) on the occurrence of malnutrition in children under five. The researchers took the title "Analysis of the main indicators of nutrition aware family (Kadarzi) on the occurrence of malnutrition in children under five years in the Work Area Health centers Northern Territory of Kediri'.

## METHODS

This research design was using observational study with cross sectional approach. The study population was families who have children with malnutrition in the Work Area Health centers Cities Northern Territory Kediri. The sampling technique in this study is simple random as many as 52 toddlers.

In this research there are independent variables and the dependent variable. The independent variables studied were nutrition aware family (Kadarzi) consist of: a child's weight, exclusive breastfeeding, consumption of diverse food, use iodized salt, and take nutritional supplements (vitamin A high dose) as recommended, a data collection method the researchers used was a structured interview using a questionnaire Kadarzi. The dependent variables studied were malnutrition in toddlers; the researchers used the tool to collect malnutrition data by using measuring device weight infants in the form of digital scales.

The instruments used are digital scales to measure the weight of each toddler

and a questionnaire to determine the behavior of Kadarzi. The research was carried out in the region of North City community health centers, Kediri City in August 2016, for approximately 2 weeks.

The collections of data were primary data and secondary data. Primary data include data on weight, Kadarzi indicator data. To determine the weight of each respondent weight measurements were taken using digital scales, and then fill out a questionnaire to determine the behavior Kadarzi the family of toddlers with malnutrition through interviews with mothers. Secondary data was taken from the department of Health Kediri.

The collected data then will be processed. Data processing is done by editing that is by checking the data obtained. Encoding is done by giving the code on each characteristic. The next process is the analysis of the data. The analysis is a Dummy linear regression to determine the independent variables are most influential on the Nutritional Status Less in Toddlers at Work Areas City Center Northern Territory public health.

## RESULTS

Characteristics of the subjects in this study include gender, age, and weight of malnutrition toddlers. The description of the characteristics of the subject as shown in Table 1.

Table 1. Characteristics of Research Subjects are gender, Age, Weight of malnutrition Toddler

Characteristics	Regularly Weight		Exclusive Breastfeeding		Consumption of Diverse Food		Use Iodized Salt		Take Nutritional Supplements (Vit A)	
	F	%	F	%	F	%	F	%	F	%
Gender										
F	25	48	14	6.9	3	5.8	27	51.9	21	40.4
M	24	46	9	7.3	7	13.5	25	48.1	22	4
Age										
12-23	11	21.2	7	13.5	2	3.8	13	25.0	6	11.5
24-25	9	17.3	4	7.7	3	5.8	9	17.3	9	17.3
36-47	19	36.5	6	11.5	5	9.6	19	36.5	18	34.6
48-59	8	15.4	6	11.5	0	0.0	9	17.3	8	15.4
Weight (Kg)										
<10	22	42.3	12	23.1	5	9.6	24	46.2	17	32.7
10-15	27	51.9	11	21.2	5	9.6	28	53.8	26	50.0

Source: Data Analysis Results

Based on Table. 1 shows that the majority of subjects who did the indicators of Kadarzi are the male gender, age range between 36-47 months, and weight between 10-15 kg.

### *The Univariate Analysis*

After collecting data, coding is done, editing, tabulating, and analyzing research data. Result of univariate analysis is shown in Table 2.

Table 2 Results Analysis of application Nutrition Aware family (Kadarzi) on the occurrence of less Nutritional Status in Toddlers.

Variable	Sig Value		R-Square		Unstandardized Coefficients	
	(B)	Sig	(B)	Sig	(B)	Sig
Regularly Weight	0.02	0.219	-0.008	0.967		
Exclusive breastfeeding					-0.067	0.386
Diverse food			0.242	0.016		
Iodize salt			-	-		
Nutrition Supplement			0.286	0.021		

Source: Data Analysis Results

Based on the results of data analysis using regression test Linier Dummy with a degree of error of 0.05 obtained p-value of  $0.02 < 0.05$ , then the alternative hypothesis is accepted which means there is the effect of applying Nutrition Aware Family (Kadarzi) on the occurrence of malnutrition Work under-fives in the area of public health Center Northern territory town of Kediri. Obtained R-square value of 0.219, which means weighing, exclusive breastfeeding, consumption of diverse food and drink nutritional supplements influence the occurrence of malnutrition in children under five by 21.9%, while 78.1% affected by other unknown factors.

From the five indicators in the variable Kadarzi acquired two significant variables that are diverse food consumption (0.016) and take nutritional supplements (0.021), which means the consumption of diverse food and drink nutritional supplements affect the occurrence of malnutrition in children under five. But the most variable which influence on the incidence of malnutrition is nutritional supplements because it has the largest B value among other variables (0.286).

Consumption of Iodine Supplements cannot be analyzed in the statistics because the results showed that a

uniform value throughout the toddler using iodized salt (100%).

### **DISCUSSION**

Kadarzi (nutrition family aware) is a family that is able to recognize, prevent and address nutritional issues of every member. From the research almost all families with children under five, malnutrition is not behaving Kadarzi that 45 families (86.54%) and 7keluarga (13.46%), others behave Kadarzi. By behaving Kadarzi, the family expected to have attitudes and behaviors can independently realize the nutritional state as well as possible. In the family aware of nutrition at least one member of the family who are consciously willing to make changes in family behaved towards good nutrition and true.

These results are consistent with descriptive research conducted by Nurmayati (2002) in the village Betet Kediri mention that the implementation Kadarzi only done by some of society who have obstacles educational and weak economic factors.

The purpose of this study is to analyze the main indicators of Nutrition Aware Family (Kadarzi) on the occurrence of malnutrition in children under five in the Work Area Health centers Cities Northern Territory Kediri.

From the statistical test Dummy Linear regression showed that the 0.02 significance value less than 0.05 means that a significant standard acceptable alternative hypothesis, that there is the effect of applying Nutrition Aware Family (Kadarzi) Toward Less occurrence of Nutritional Status in Toddlers at Work Area Health centers Northern territory city of kediri.

Kadarzi is a movement associated with the program Family Health and Nutrition (KKG), which is part of the Family Nutrition Improvement Effort (UPGK). Called Kadarzi if the attitudes and behavior of families can independently realize the nutritional state as well as possible which is reflected in the food consumption of diverse and high quality balanced nutrition. With Kadarzi program expected to increase notably public health to reduce the incidence of malnutrition. In line with the implementation of government programs Kadarzi should still give attention to the people who conducted among others by continually promoting and providing infrastructure facilities in order to achieve Kadarzi program. While for the community is expected to continue to participate in implementing the program well.

Nutritional status of children is one indicator of health assessed the success achieved in the MDGs (Millennium Development Goals). The nutritional status is important because it is one risk factor for morbidity and mortality. Kadarzi behavior is a factor that can affect the nutritional status of children because the mother has a habit behavioral nutrition conscious families will be able to monitor the development and growth of infants.

Obtained significant value on 2 variables: varied food consumption (0.016) and nutritional supplements (0,021), which means the consumption of diverse food and drink nutritional supplements influence the occurrence of malnutrition in children under five. But the most effected variable is nutritional supplements with the largest B value compared to other variables, namely 0.286.

Results of research on variable drink nutritional supplements influence the occurrence of malnutrition in children under five in the Work Area Health Center, City of the North region is in line with research conducted by Jannah (2010) in Health centers Kambat North Hulu river middle on the effect of vitamin supplementation on changes in status nutrition (W / A) toddler BGM. After testing subset of the statistics where p value = 0.0000 which is smaller than the value of alpha (0.05). So, there is the effect of vitamin supplements on Changes in Nutrition Status (W / A) Toddler BGM. One of the factors that affect the growth and development of children is nutrition. Malnutrition in food cause impaired child growth that will affect the development all of the body.

The emergence of malnutrition is not only because the food is lacking but also because of the disease. Children who are get good food but often attacked diarrhea or fever, finally they will get malnutrition. In contrast, children who eat is not good enough then the body resistance (immunity) may be weakened, so vulnerable to infectious diseases, lack of appetite and eventually susceptible to malnutrition.

While variety of foods influence the occurrence of malnutrition in children under five in health centre Northern region is in line with research conducted by Purwaningrum (2010) using bivariate analysis showed that food intake related to the nutritional status of children.

Toddlers with normal nutritional status, most of them have sufficient food intake. This indicates that food directly affects the nutritional status.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

1. There is the influence of the application of Nutrition Family Aware (Kadarzi) Toward Less occurrence of Nutritional Status in Toddlers At Work Area City

community health center Northern Territory city of Kediri.

2. Key Indicators of Nutrition Family aware (Kadarzi) on the occurrence of malnutrition in children under five in the Work Area Health centers City North region of Kediri is a nutritional supplement.

### Recommendation

1. Enhancing the role of Posyandu cadre through training and guidance prepared by the community health center on the importance of diverse food and treatment efforts as well as the prevention of malnutrition in children under five.
2. It is expected that the Department of Health of the can conduct monitoring in the provision of nutritional supplements needed by infants and distribution to the target.
3. Further research is expected to do research use other variables such as parenting, household food availability, infectious diseases, and other nutritional supplements associated risk factor of malnutrition

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# EFFORT TO IMPROVE THE ABILITY OF NURSE IN APPLYING THE PATIENT CENTERED CARE (PCC) IN HOSPITAL

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## ABSTRACT

**Introduction:** Patient Centered Care (PCC) is a new paradigm in health care, which puts the patient as the center of care. PCC not only to leverage the benefits of technology without compromising the importance of human to human interactions. Research related to the implementation of PCC in Indonesia is still very limited. The purpose of this study is to establish the effectiveness of the PCC training nurses to improve patient's perception the application of PCC. **Methods:** This study uses a Quasi - experimental with pretest – posttest design. The research sample for the intervention group was inpatients of Harjono Hospital and the control group were inpatients of Iskak Hospital by using purposive sampling technique. PCC deployment training given to all nurses inpatient dr. Harjono Ponorogo Hospital by using total sampling. **Results:** The results showed statistically with P value 0,000 and  $\alpha$  0,05 that means significant improvement in patients' perceptions about the application after receiving training PCC. But when viewed from a clinical application, this training does not show satisfactory results. **Conclusion:** PCC training is effective to increase the application of PCC seen from the patient's perception even though the results obtained are less satisfactory. Necessary efforts in monitoring of hospital managers to monitor the implementation of the PCC in the hospital.

**Keywords:** training, Patient Centered Care (PCC), patient's perception

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## INTRODUCTION

Patient Centered Care (PCC) is a new paradigm in health care, which puts the patient as the center of care. PCC is – low – tech and high – touch. PCC not only to leverage the benefits of technology without compromising the importance of human to human interactions. (Forman, 2010)

PCC concept was first reported by Harvey Picker in 1988 through the Picker Institute in the UK. According to the Picker Institute in Patient - Centered Care Improvement Guide, the four principles of the PCC such as *dignity and respect, information sharing, participation, and collaboration* (Frampton, 2008). In the application of PCC, hospital treatment should involve all aspects related hospital, Starting from the head, doctors, nurses, until the non-medical personnel. Strategies that can be employed in the PCC is leadership training, granting rewards and

incentives and training for quality improvement. (Drenkard, 2013)

Several studies have linked the PCC was mostly done abroad. The result of Bertakis et al research (2011) showed there is a relationship between the PCC with a reduction in the utilization of health services. It means that the patient and family involvement in health care is needed to reduce the number of patients admitted to hospital. PCC also improve health status and increase the efficiency of care by reducing diagnostic tests and referrals. Patient interaction - a nurse during the treatment process consistent with the principles PCC effectively to improve the delivery of nursing care, and to ensure PCC applied in the treatment process, nurses should conduct an sustainable assessment of the patient's needs related to their care process and encourage the patient the opportunity to participate. (Jhonson, 2008)



Result of Little P et al research (2001) showed that PCC approach has been proven to reduce the burden on patients' symptoms as a result of disease. This study divides patients' perceptions of the PCC into five different components, which include communication and cooperation, personal relationship, health promotion, positive approach in the diagnosis and prognosis, the effects of the disease in the patient's life. Application of PC directly feel is patient and family while being treated at the hospital until they are reset control. The need for cooperation between providers with patients and families to create a symbiotic mutualism between the two parties.

Research of Steward et al (2010) and Anderson EB (2002) showed that PCC approach in treatment has been shown to improve patient status. This approach relied on the foundation of the relationship between providers and patients, improving communication, develop a positive climate, and encourage patients to participate actively in the interaction between both of them.

Data from quality control team of Harjono Hospital in 2014 adverse event, potential injury incident, near miss. Number of adverse event 7 cases include patient falls and blood transfusion reactions, number of potential injury incident 4 cases all of which are a result of patients without identity bracelet. Data until September 2015 obtained 3 cases of near miss includes an error in the administration of drugs from the pharmacy and prescriptions are swapped, 5 cases not expected incident include patient falls off the brancard and blood transfusion reactions, and 3 cases of potential injury incident covering the bed without protection and patients without identity.

PCC is a concept of care that focuses on patients. Patients and families are the main targets of PCC so it needs to be monitored in terms of the application of patients' perception. The patient's perception includes application of 8 dimensions of PCC, such as *patient*

*preferences, emotional supports, physical comfort, information and education, continuity and transition, coordination of care, access to care and family and friends.* The nurse as one of the health care providers in hospital, should apply 8 of these dimensions in accordance with the needs of patients and families. Retrieve the importance of the application of PCC by nurses, so far in Indonesia has been no research on the application of patients' perceptions PCC. Therefore, need to do research on the effectiveness of PPC training the nurses to the patient's perception of the implementation of the PCC.

## METHODS

Population of this research for the intervention group was whole hospitalized of Harjono Hospital and population of the control group were all patients hospitalized of Iskak Hospital. The population will receive training are all nurses hospitalization of Harjono Hospital.

Sample of this research for the intervention group was hospitalized of Harjono Hospital and population of the control group were hospitalized of Iskak Hospital which fulfill inclusion and exclusion criteria. The sample selection for inpatient nurses of Harjono Hospital who will receive training by using total sampling, while the proportion of the number of patients taken by using purposive sampling.

Measuring instrument used in this study is a questionnaire that is used to identify the application of PCC by nurses. The questionnaire in the form of a statement which is based on eight components of a PCC in the Picker Institute assessed by patient. Measuring instruments used to test the validity and reliability of both content validity and validity construc performed on 50 patients of Gambiran Hospital

## RESULTS

Based research results, the distribution of respondents in the

intervention and control as well as the statistical test each respondent characteristics. At the educational level of the statistical test showed p value of 0.000 with  $\alpha$  values of 0.05 it means that level of education of patients the intervention and control groups have different characteristics. The results of the analysis to show the job status p value 0.167 with  $\alpha$  0.05 it means that employment status of patients in the intervention and control groups had similar characteristics.

Statistical test results related history of hospitalized showed p value of 0.246 with  $\alpha$  values of 0.05 it means that history of hospitalized of patients the intervention and control groups have same characteristics. Analysis results of long treated showed p value 0.234 means that long treated of patients the intervention and control groups have same characteristics.

Statistical results characteristic of nurse the intervention and control groups showed p value 0.001 with  $\alpha$  0.05 means that characteristic education of nurse the intervention and control groups have different characteristics. Analysis results showed p value 0.000 with  $\alpha$  0.05 that means length of work the intervention and control groups have different characteristics.

This research uses 27 statement about application of PCC observed from patient perception's. Good categories if score obtained of 27, and less categories if score under 27. Table 1 showed the frequencies distribution of patient perception's about application of PCC.

Table 1. The frequencies distribution of patient perception's

Patient perception's about application of PCC								
Group	Before				After			
	Good		Less		Good		Less	
	N	%	N	%	N	%	N	%
Int.	1	2	57	98	5	9	53	91
Control	17	31	38	69	7	13	48	87

Table 1 showed that in the intervention and control group majority application of PCC in less categories. In the intervention group application of PCC before intervention 1 respondent (2%) in good categories dan 5 respondents (9%). In the control group application of PCC before intervention 17 respondents (31%) in good categories, while after intervention 7 respondents (13%).

Table 2. Patient perception's application of PCC

Group	Mean Before	Mean After	Varia ns	P value
Int.	18,94	20,88	1,94	0,000
Control	23,82	22,22	-1,6	0,012

Table 2 showed averages between before and after from the intervention group increase by 1.94 by using paired T Test obtained p value 0.000  $<\alpha$  0.05, which means that there are differences in the application of PCC in the intervention group between before and after. In the control group, the mean value obtained -1.6 with p value 0.012  $<\alpha$  0.05, which means that there are differences in the application of PCC in the control group between before and after intervention.

Table 3 Differences Application of PCC

Group	Mean Before	P value	Mean After	P value
Int.	18,94	0,000	20,88	0,000
Control	23,82		22,22	

Table 3 showed that the application of PCC in the intervention group after the intervention given at 20.88 and in the control group gained a mean of 22.22. the test results of independent samples T Test before the intervention was obtained p value of 0.000, which means that there are differences in the application of PCC in the intervention group and the control group before the intervention is given. For the test result of independent samples T Test after intervention was obtained P value of 0.000, which means that there are differences in

the application of PCC in the intervention and control group was given after the intervention.

The results showed scores of each subcomponents in the PCC which is divided into intervention and control groups given both before and after the intervention. The highest score before the given intervention in the intervention group, namely the information and education component with the mean 46.6, while components in the control group on physical comfort and continuity and transition with mean 51.3. the highest score awarded after the intervention in the intervention group that is at the physical comfort with the mean 49.3, while the control group of the information and education with mean 48.4.

The lowest score was given after the intervention and control both before and after the intervention given that the components of emotional support with the mean 33.33 for the intervention group and 37.7 for the control group.

## **DISCUSSION**

In Rangkuti (2002), one of the factors that influence the perception is a moments of service (service situation). The situation of service associated with the customer's internal conditions that affect the performance of services. Service performance is determined by the service provider, the service process and the physical environment in which services are provided.

Research by Oroh et al all relevant factors relating to the level of patient satisfaction with nursing care, shows that there is a relationship between the length of treatment with patient satisfaction with nursing care. Duration of treatment can affect the physical and psychological condition of the patient and the family, because the hospital environment is different from the patient's residence. Other patients with variuos medical and nursing diagnoses can add to the anxiety experienced by the patient.

Treatment for at least 3 days, patients already getting health care include nursing, medical and other support services. In addition, the patient was getting used to the situation in hospitals, especially in the inpatient unit.

According to invesgators, training PCC in hospitals Harjono Ponorogo to the application of PCC in terms of the perception of patients has increased, although the results are less than satisfactory. Application of PCC in Hospitals need to be increased, either by conducting seminars or workshops and conduct periodical evaluation can be performed by the head of nursing or nurse managers.

Rejection must be accompanied by the signing in the informed refused in accordance with the provisions of the hospital. It aims to protect patients and nurses as a form of matters relating to the lawsuit, the family can sue the hospital in civil or criminal.

Within a period of one month between the provision of training to the questionnaire after training, an increase of 4 respondents have not been so satisfactory that the necessary supervision continuously from the management of the hospital, from hospital director, head of nursing and head of the room.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

The results showed that the patient's perception of the ability of nurses in implementing PCC significantly different, but the results obtained are less satisfactory. Need further research related to modification of the PCC concept with the needs of the bio – psycho – social – emotional – spiritual in patients in order to improve the delivery of services to patients.

### **Recommendation**

The advice given, among others, the hospital must take a standard operational procedure (SOP) related to the supervision

of the application of PCC in the inpatient unit, so obviously the main tasks and functions and should be documentation as evidence of supervision that can be reported by the head of the room periodically to nurse managers. It must be done on scheduled basis at all nurses in the inpatient unit and evaluated fair, feedback and follow up.

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# THE QUALITY OF PATIENT SATISFACTION WITH SERVICE INSIDE OF HEALTH CARE OF A SYSTEMATIC REVIEW

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## ABSTRACT

**Introduction:** one of the indicators of the success of the health care is the satisfaction of the patient. The patient's own satisfaction in service can be determined by expectations compared with the fact that accepted by the patient. **Methods:** A literature search was conducted in several major databases such as Proquest, ScienceDirect, DOAJ, Sagepub, MEDLINE, and Google Scholar with the limitation of the time used is from January 2006 through December 2016. **Results:** as many as fifteen research raised in this study, all of which have almost the same purpose how to increase patient satisfaction in every population. Fourteen of the study chose random respondents. **Conclusion:** patient satisfaction with significantly, so that it can be concluded that the satisfaction of patients actually refers to the appearance of the existence of that care or more perfect appearance of the care, then the more perfect also the quality.

**Keywords:** Patients satisfaction, quality of management, the quality of service

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## INTRODUCTION

Community health services as users expect optimal health services in terms of quality. Health services are feasible and appropriate what is expected. In addition to the quality of service, increasing the level of education, knowledge and social economic effect on society demands also an increase in the quality of health care, one of them the organization of health care in the hospital staffs about the performance of health. In addition, the public critiquing various aspects of health services especially regarding care. Because at the hospital most of the human resources that interact directly with the patient is the nurse, so that quality of service implemented by nurses can be rated as a good indicator of what the bad quality of service at the hospital (Sulistiyono, 2014). According to Parasuraman (1990) of health services there are five dimensions play of them: responsiveness of the willingness and the readiness of health workers to help patients to seek treatment quickly intervening, respond to demand patients, and informed anytime the service will be given. The best

thing is consistency that the performance of the service, capable of offer a service that trusted according to the promise and for a upon. Security agreed that has been in the behavior of health workers can give trust and security for reviews their customers, always be polite, and control knowledge and skills. Empathy that is the ability of health workers to understand complaints patients, pay attention individually, give an opportunity to ask and timeliness of so the customer is not too long a wait for treatment. Physical evidence that is the state of the environment around roommates real, and seen from the health service workers appearance the which includes officers, equipment and facilities that is used (Solihat, 2013). To know the quality of service that perceived as real by consumers, there is a measure of satisfaction indicator of consumers that is situated on five dimensions of quality of service. The fifth dimension items, namely: physical evidence (tangibles), direct evidence that includes physical facilities, supplies and materials used hospitals and the appearance



of existing employees. Dependability (reability), pertaining to the ability of hospital services to provide immediate and accurate since the first time without making anything wrong and satisfactorily; responsiveness) (responsiveness, with respect to the willingness and the ability of employees to help Patients and respond to Reviews their demand to respond, as well as inform services accurately; guarantee (assurance) ie includes knowledge, skill, civility, capable of Cultivating his patient trust; Empathy (empathy) means ease inintercourse good communication, personal concern in understanding the patient as customers and acting sake of Patients.

## METHODS

Searchconduct in some major literature like proquest database, ScienceDirect, DOAJ, sagepub, MEDLINE, and google scholar by inserting keywords Patients satisfaction, quality of management, the quality of pelayanan.batasan time used is january 2006 until december 1643 article 2016.From acquired, only 15 meet the criteria inclusion.The article criteria for inclusion article is: 1) rs / clinic, 2) 5 indicators measuring quality service, 3) sample of visitors or inpatients / outpatient, and 4) parameter is satisfaction Patients assessed.The parameters of the satisfaction of Patients who were judged to be using the instruments varity. Fifteen research uses the dimensions of responsiveness, assurance and empathy, while tangible dimensions reliability. Patients and satification Also have been influenced by Several among other factors: reliability, assurance, tangibility, empathy and responsiveness. reliability (dependability) is capability officers of providing services to consumers with tepat.dalam health services is the assessment of Patients in the ability of exertion healt. Assurance officers the which is the ability to provide services to customers so that trust can be .Inside health services is clarity of health workers provide

information on the disease and the cure to patient. tangibility (physical evidence) the provision of facilities and physical facilities that can directly perceived by konsumen. Inside health treatment services is cleanliness and toilet room. Emphaty (attention) the ability officers relationships, attention, and understand the konsumen needed and responsiveness (responsiveness of the officers) ability of providing services to consumers quickly intervening inside health services a long time waiting for Patients from the register to Obtain access to health workers (Kotler , 2000).

## RESULTS

### The Relationship Between The Physical Evidence With Patient Satisfaction

Based on the data on physical evidence either, most of the respondents ie as many as 71 respondents (45.0%) feel satisfied, as many as 10 respondents (10.2%) feel less satisfied. On the physical evidence is less good, the majority of the respondents ie Thirteen respondents (13.3%) feel less satisfied and 4 respondents (4.1%) were satisfied. Chi square analysis Continuity Correction results between the physical evidence to the satisfaction of the Patients Obtain the values of URA symp.sig (2-sided) or p value of 0.000. If the value of p is smaller than the value of  $\alpha = 0:05$ . From the analysis results Obtained Also the value of the Odds Ratio (OR) = 23.075. According to Suryati (2006), aspects of physical evidence Became important as a measure against the Ministry. Customer will use the senses of sight a service quality attributes of variables. Good physical evidence will Affect the perception of the customers. At the same time aspects of the physical evidence IS ALSO one of the sources that may Affect the customer's expectation, Because physical evidence good, hope customers to higher .this research in line with Irfan et al (2012) in research with satisfaction 320 of respondents for Patients and the quality of service in government hospital in pakistan see the relationship

between meaningful dimension physical evidence and other dimensions of quality with satisfaction Patients .Lumintang (2012) in 86 Patients on observational research about the factors associated with pleasure Patients asks to the public in Hospital patient in installation b .Rd prof .Dr. Kandou Manado found that the physical environmental conditions a factor that influences Significantly Patients with satisfaction ( $p = 0.03$ ) .Similarly Susmaneli dantriana in research on 92 respondents using a design cut latitude about the quality of service obstetrics Patients dimension of satisfaction. Jampersal program at Hospital Rokan Hulu Baru week discovered proof of physical dimensions ( $p = 0.003$ ) dealing in a meaningful manner with satisfaction Patients (Susmaneli, 2014) .Kambong et al (2013) on research on the relationship between a nurse with service satisfaction of Patients at PHC Talawaan north Minahasa region discovered the existence of the relationship between nurse in service dimensions physical evidence, dependability, security, concern with satisfication patient and the absence of the relationship between nurse in service dimensions responsiveness of gratification Patients with .Simbala (2013) in research analytic to a draft survey of 100 respondents found that physical evidence in a meaningful manner Patients associated with satisfaction ( $p = 0.002$ ) . So far the research by calisir et al (2012) about the effects of the dimensions of quality against satisfaction patient and repeated visits against 292 respondents by wearing a method of servqual modified found that physical evidence a factor that is essential for the satisfaction of Patients and influence the decision to return wearing services the hospital was .that Significantly physical evidence associated with satisfaction of Patients, so that we can conclude that patient satisfaction actually refer to the appearance of / the form of services that the more perfect the appearance of services, hence the more perfectly of its quality. Research conducted Lubis and Martin

(2009) on the Effects of Price and Quality Care Inpatient Satisfaction in North Sumatra Deli Hospital, says that physical evidence variable has a positive effect on customer satisfaction.

### **The Reliability Of The Relationship Between Patient Satisfaction**

Based on the data, the reliability is good, the majority of respondents as many as 71 respondents (72.4%) are satisfied and as many as 10 respondents (10.2%) were less satisfied. On the reliability is not good, most respondents as many as 13 respondents (13.3%) were less satisfied and as much as 4 respondents (4.1%) are satisfied. The results of the analysis of Chi Square Continuity Correction between reliability and patient's satisfaction scored Asymp.Sig (2-sided) or a p-value of 0.000. If the p-value is smaller than the value of  $\alpha = 0.05$  means that H1 is accepted or there is a relationship between reliability and patient's satisfaction. From the results obtained by analysis of the value Odds Ratio (OR) = 23 075.

Research from Rahman et al (2013) to identify factors that affect the quality of service patient satisfaction in a private hospital in Bangladesh with 390 respondents and use 11 variable dimensions of quality shows that reliability significantly associated with patient satisfaction. Likewise, the study of Faisal et al (2013) about the relationship between nursing care and patient's satisfaction in Inpatient A BLU Dr Prof. Dr. RDKandou Manado with 85 respondents found no significant relationship between reliability and client satisfaction.

### **Responsiveness With The Relationship Between Patient Satisfaction**

Based on the data, the responsiveness is good, the majority of respondents, 75 respondents (76.5%) are satisfied and as many as 19 respondents (19.4%) were less satisfied. On the less good responsiveness, most respondents as many as 4 respondents (4.1%) were less satisfied and no respondents who were satisfied. The results of the analysis of Chi

Square Continuity Correction between responsive to patient satisfaction scored Asymp.Sig (2-sided) or a p-value of 0.002. This study is in line with Simbala et al (2013) in the analytic survey research with cross-sectional design of the 100 respondents found that responsiveness significantly associated with patient satisfaction ( $p = 0.002$ ). Badri et al (2009) in research on the quality of health services and the factors that influence patient satisfaction expressed responsiveness as one of the 12 indicators that are always included in various studies related to quality of care. In analytical research with 246 respondents to compare patient satisfaction with care in government hospitals and private hospitals, found that private hospitals have numbers high satisfaction in the dimensions of responsiveness and empathy, while the government hospitals of the most undervalued in the dimensions of responsiveness (Brahmbhatt et al, 2011).

### **The Relations Responsiveness To Patient's Satisfaction**

With the responsiveness of the relationship is the responsiveness of patient satisfaction has positive and significant impact on patient satisfaction. The better the customers' perception of the responsiveness of the patient satisfaction will be higher, and if the patient's perception of the responsiveness bad, then the lower patient satisfaction. In accordance with the opinion Leboeuf (2012), that responsiveness as an employee responsiveness of the airport when it is needed the patient is closely related to customer satisfaction.

### **Assurance With Relationship Between Patient Satisfaction**

Based the data, the better the guarantee, the majority of respondents as many as 75 respondents (76.5%) are satisfied and as many as 19 respondents (19.4%) were less satisfied. On the less good collateral, 4 respondents (4.1%) were less satisfied and no respondents who were satisfied. Correction Chi Square Continuity the analysis results between patient

satisfaction guarantee to obtain the value Asymp.Sig (2-sided) or a p-value of 0.002. If the p-value is smaller than the value of  $\alpha = 0.05$ . Research on patient satisfaction in hospitals Jombang by Ariyani (2009), also found that the guarantee would increase patient satisfaction with hospital services, thus making patients tend to trust and believe will each service performed by the hospital. Mustafa (2008) in a cross-sectional analytical research on 30 respondents of the relationship between the patient's perception of the nursing service quality dimensions found that there was a significant association between patients' perception of the dimension of assurance with patient satisfaction. According Tjiptono (2006), the quality of health care for a patient is not out of satisfaction with health care received, with a good quality associated with the cure of disease, improving health or fitness, the environment pleasant care, and hospitality personnel. Assurance includes the ability for the knowledge of the product / service appropriately, quality hospitality, attention and courtesy in providing services, skills in providing information, in providing security capabilities in utilizing the services offered, and the ability to instill confidence in customers to the company. Sayed et al (2013) study on the perception of the patient as an indicator of the quality of nursing services in 90 respondents found that jaminanberhubungan significantly with patient satisfaction ( $p = 0.0$ ). Essiam (2013) which examines the quality of care and patient satisfaction in the health service with quantitative methods on 400 respondents identified a significant relationship between collateral with patient satisfaction ( $p < 0.01$ ). Each patient basically want to be treated well by the manager of the hospital. Relations with satisfaction guarantee patient

Relationship with patient satisfaction guarantee is a guarantee to have positive and significant impact on patient satisfaction. In line with these studies, Winardi, et al. (2014), in a study entitled

Effect of Service Quality Customer Satisfaction in SMC Inpatient Hospital Telogorejo that relate to patient satisfaction guarantee so that it can be concluded that a good guarantee associated with increased patient satisfaction and patient loyalty.

In a study on patient satisfaction in Selangor, Malaysia, by Hayati et al. (2010) also found that the guarantee would increase patient satisfaction with hospital services, thus making patients tend to trust and believe will each service performed by the hospital. Indiraswari and Damayanti (2012), found also that the guarantee was significantly besides increasing patient satisfaction for services, it will also affect the assessment of the patient will be other variables.

### **The Relationship Between Empathy With Patient Satisfaction**

Based on data, on a good care, most respondents as many as 72 respondents (73.3%) were satisfied and 13 respondents (13.3%) were less satisfied. At the unfavorable attention, most respondents as many as 10 respondents (10.2%) were less satisfied 11 and as many as three respondents (3.1%) are satisfied. The results of the analysis of Chi Square Continuity Correction of attention to patient satisfaction scored Asymp.Sig (2-sided) or a p-value of 0.000. This is in line with research Puspitasari and Edris (2011) regarding the satisfaction of the patients in the Inpatient Hospital Healthy Families Pati get that attention very dominant variable influence on patient satisfaction. Muninjaya (2011) emphasized the importance of the dimensions of attention in providing quality services. This is in line with research Rattoe (2013) about the relationship between the quality of service with the decision revisited at Bethesda Hospital Tomohon get that attention very dominant variable influence on patient satisfaction. Moreover, studies of Sulianti (2010) as well as the research of Rondonuwu (2014), found that variables are closely related to attention teriptanya quality services.

## **DISCUSSION**

The results stated that patient satisfaction is actually referring to the appearance/form of service that pelayananan appearance more perfect, more perfect then also the quality. Than it also needs to pay attention to the amount and homogeneity of subjects (age, gender, level of disability and the time used in the study) so it does not create a bias in the results.

A summary of the research conducted *systematicreview*, showed a positive effect on the quality and service excellence to client satisfaction. There is a relationship between the quality of nursing service with health patient satisfaction seen from the dimensions of responsiveness, reliability, assurance, empathy, and tangibles.

## **CONCLUSIONS**

## **AND**

## **RECOMMENDATIONS**

### **Conclusions**

Satisfaction is as level one's feelings after comparing the performance or results that he felt with his expectations. The level of satisfaction is a function of the difference between the perceived performance with expectations. If the performance below expectations, then the customer will be very disappointed. When performance as expected, then the customer will be very satisfied. Meanwhile, when the performance of exceeding customer expectations will be very satisfied (Oliver, 1998, in Supranto, 2001). Patient satisfaction / customer is service responses to the conformity of the level of interest or expectations of customers before they receive services with the service after they receive (Muninjaya, 2011). Therefore, customer satisfaction is determined by expectations compared with the reality that is accepted by the customer. Customers include internal customers external customers and customers. *intermediate* Endeavored to satisfy customer needs in all aspects, including price, convenience, safety, and timeliness.

## Recommendation

Hospitals can arrange patient satisfaction survey program on a regular basis so as to evaluate the performance of nursing services by improving, upgrading and development of quality of care and make efforts to maximize the satisfaction of patients

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Table 1. Research about quality of care and patient's satisfaction in health care

No.	Citation	State	Research question / hypothesis	Independent variable and measures	the dependent variable and measuring the	Amount of sample	Results	Excess	Weakness, limitations, bias
1	Billy Manengkei, 2016  Quality of services with satisfaction patient	Indonesia	<ul style="list-style-type: none"> <li>- for know the proof of physical with patient satisfaction</li> <li>- to knowing reliability with patient satisfaction</li> <li>- to knowing the responsiveness satisfaction</li> <li>- to knowing guarantee and/or the patient's satisfaction</li> <li>- with patient satisfaction to mengetahui pasien</li> </ul>	Determine the quality of service perceived significantly, by the consumer there is a size indicator of consumer satisfaction conveniently to five dimensions of service quality. This research is an analytic survey with cross sectional study.	Patients will be satisfied if the service he gets at least equal or exceed the expectations of Patients, while dissatisfaction will arise if the result (outcome) does not meet the expectations of the patient	Population of this study is that patients who've been reset and outpatients in the installation space of hospital inpatient arc of love average per month amounted to 162 patients.	<ul style="list-style-type: none"> <li>- There is a relationship between physical evidence and patient's satisfaction r at a road there is a relationship between reliability with satisfaction outpatient</li> <li>- correlation between responsiveness to the satisfaction of outpatients</li> <li>- there is a relationship between</li> </ul>	<ul style="list-style-type: none"> <li>- inclusion criteria clear</li> <li>- a long time study</li> </ul>	<ul style="list-style-type: none"> <li>- research quality this experiment did not use a control group.</li> <li>- The number of respondents a little research.</li> </ul>

							collateral with the satisfaction of outpatients  - there is a relationship between empathy with satisfaction outpatient		
2	Azlika M. Alamri, 2015  Quality of nursing services and patient satisfaction level of education and social security of the organizing body of participants (BPJS)	Indonesia	- To Determine the relationship between the quality of nursing services and education level of patient satisfaction with pesertat Social Security Agency (BPJS )	Increased public education demanding quality health services, especially nursing services that can be seen from the dimensions <i>serviqual</i> (responsiveness, reliability, assurance, empathy, tangibles).	Nurse service have parts that berinteraksi with the patient directly so that the quality of services performed by nurses is an indicator of good or bad quality of care in hospitals.	This study uses analytic survey with <i>cross sectional study</i> . The number of samples in this study as many as 89.	The results of the bivariate analysis demonstrated an association between quality of care nurses with patient satisfaction because value $p = 0.000 < \alpha (0:05)$ . Also bivariate test results Showed the value of OR 7733 and then to the variable level of education that there was no correlation between level of	- The collection of Data Obtained through questionnaires.  - the inclusion criteria.	Through this study, Researchers give suggestions for hospitals to be Able to put together a program of patient satisfaction surveys on a regular basis.

							education and patient satisfaction because value $p = 0.750 > \alpha (0:05)$ .		
3	Rini Winasih 2014  Organizational culture and <i>quality of nursing work life</i> on the performance and job satisfaction of nurses	Indonesia	- To explain the influence of organizational culture and <i>quality of nurses work life</i> (QNWL) on the performance and job satisfaction of nurses	Factor objective (innovation and risk-taking, attention the details, results orientation, the orientation of human resources, team aggressiveness and stability), individual factors (age, sex, marital status, education, promotion, and tenure), social and environmental factors (communication,	The performance of nurses and nurse job satisfaction	This research uses design explanatory with approach. <i>cross-sectional</i> The population was all nurses Civil Servants in the hospital operating room. Dr. Soetomo. A sample of 95 nurses Obtained by cluster sampling. Data were Analyzed using <i>partial least square</i> .	Cultural organisasi affected by objective factors. Factors affecting QNWL is social and environmental factors, operational factors, administrative factors, and workplace culture. QNWL Affect performance and job satisfaction of nurses. Job satisfaction Affects the performance of nurses.	Strong organizational culture can create good quality of work life for nurses in improving the performance and job satisfaction of nurses at the Hospital Dr. Soetomo. Improved quality of work life of nurses in hospitals Dr. Soetomo influenced by social and environmental factors	Future studies need to be done to analyze the effect of <i>empowerment</i> and <i>job involvement</i> on the quality of work life of nurses.

				<p>leadership, relationships between nurses, relationships between departments, and the relationship between the profession), operational factors (the number of nurses, service schedule, and supervision supervisor), administrative factors (policy organization, safety and health, career development, salary and remuneration). variable <i>an intervening</i> is the culture of the organization and quality of work life of nurses.</p>				operational factors. administrative	
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4	Gustop Amatoria 2012  Quality of nursing services by using Team on inpatient	Indonesia	- To see if the quality of nursing care to the method the team can improve patient satisfaction in inpatient	dimension of quality have Contributed Significantly to Affect the relationship of the above is the dimension of responsiveness (responsiveness) , assurance (assurance) and Emphati (Proximity), while the dimensions of Tangible and Reliability does not have a significant contribution insatisfaction Influencing	pengembangan method professional nursingcareof functional methods into methods of team. The change Began with a <i>pilot project</i> on adult inpatient spacewoman.	Design <i>Cross-sectional</i> The population is all inpatientsin the mature adult men and women, usingmethod of sampling <i>purposive sampling</i> amounted to 90 respondents. Measuring instruments using a questionnaire and the questionnaire method. Processing of the data analysiswith the results of univariate and bivariate <i>Chi Square</i> test.	an Increase in the value of pelaksanaan method diruangan team (81.1) improving the quality of nursing service value (81.30) and thevalue of averagesatisfaction (65.24). A adanya significant relationship between the quality of nursing care using a team to patient satisfaction in hospitals. Immanuel Bandar Lampung (pV = 0.0001). Of the five quality dimensions measured was only 3 (three) dimensions are	Of the five quality dimensions measured was only 3 (three) dimensions are related, <i>Responsiveness</i> , <i>Assurance</i> and <i>Emphati</i> ,	while two (2) dimensions are not related are <i>Tangible</i> and Reability.
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							related, <i>Responsiveness,</i> <i>Assurance</i> and <i>Emphati.</i>		
5	Welas Haryati 2007  Quality of nursing services response to the levels of patient satisfaction	Indonesi a	To find out if there is a significant difference between the quality of service expected and the quality of service actually	nursing care given because of the weakness of physical, mental, lack of knowledge or a lack of will lead to the ability to carry out life daily-day Independently. This activity is done in an effort to improve health, disease prevention, cure, rehabilitation and health care.	Knowing the patient satisfaction is very important Because benefit the hospital in order to Evaluate the current position of hospital Compared with competitors and needed to find the which parts are in need of repair.	all users services of nursing care amounted to 1820 people distributed in 12 treatment rooms, a sample was 100 people. Data collection using questionnaires and documentation.	there is a significant difference between the expected service and the quality of the actual service.	The number of respondents lot	-
6	Abdul Majeed Alhashem 2009  Factors Influencing patient satisfaction in	Kuwait	- To identify factors that influence patient satisfaction in primary health	The quality of the communication link between physicians and Patients Showed a positive effect	Patient satisfaction can be defined as assessments made by the care recipient to care Whether	the data collected during January 2007 and May 2007 through a questionnaire	- Exploratory factor analysis identified six factors and the reliability of the overall scale	Regarding the quality of the communication link between doctors and	- Another limitation is that we do not validate the questionnaire

	primary health clinics		care clinics.	on the size of the patient satisfaction	Reviews their expectations have been met or not	distributed randomly.	was found 0.61. Study limitations / implications - One limitation of this study is the exclusion of the private sector.	Patients Patients respond most negatively.	e in the local environment.  - Another drawback is that some patients are reluctant to participate when they know that there is an incentive would be given to compensate them for their time.
7	Pall Biering, 2006  The concept of patient satisfaction with the construct validity and sensitivity study questionnaires	USA	- To explore the construct validity and sensitivity of patient satisfaction questionnaires intended to obtain a better	Criteria for construct validity and sensitivity resulted in findings that throw some light on the issues of definition and	The concept of "patient satisfaction with care" is most often defined as an indicator for how well the treatment is received as	to analyze the construct validity and sensitivity questionnaire used in the survey conducted in 11 hospitals texas	Two factors were found; one consisting of items other negative tone and positive tone of the item. Item negative tone of the items contributing more	Internal consistency is high and homogeneity	Casting light on the concept of patient satisfaction with the study of construct validity and sensitivity questionnaire

			understanding of the concepts, and issues around size.	measurement concepts	expected patient nursing care		positive tone to the sensitivity of the instrument.		
8	<i>Xavier Institute of Management, 2014</i>  Measurement of patient satisfaction An empirical study	India	- To understand the patient a different dimension to stay in a hospital is regarded as essential for the satisfaction and how dimensions affect their overall satisfaction level.	Improving the quality of services in health care have gained much attention in the last decade due to delivery of care leads to better health outcomes for patients.	Patients were satisfied with interpersonal care, but less satisfied with the comfort, environment, sanitation, and public and private instructions.	field surveys given to patients who were excluded in the past from the public or private hospital in the city. Data collected were analyzed using multivariate techniques.	The data analysis highlighted four important dimensions of patient satisfaction. Four dimensions are significantly and positively affect the overall level of patient satisfaction.	This study provides valuable insight into the dimensions of patient satisfaction in the Indian context and how they affect the dimensions of the overall patient satisfaction	- study was conducted in one of the four major metropolitan cities in India.
9	Hong Qin, 2014  UCPERF: An Urgent Care Patient Satisfaction Instrument	Texas	To determine patient satisfaction with one instrument UPCERF	UPCERF is one of the instruments for measuring akeulaitas services	patient satisfaction including indicators to measure the level of health care.	Simple random sampling	Urgent care service quality (UCPERF) shows a positive picture	-	not shown in the instrument on article

10	LTC Angelo D. Moore, AN, 2016  Patient provide recommendation s to improve patient satisfaction	USA	shows that the implementation of PCMHs improve patient satisfaction; reduce emergency room visits, unnecessary and avoidable service costs; and improving access to services	PCMHs implement processes without input patient, they risk the chance to implement appropriate processes and fail to produce the expected results.	Patient satisfaction is an important and measurable out-comes related to the experience of patients and included patients' perceptions or attitudes about their health ing receivers and their interaction with the health care	of the 200 participants from a larger quantitative study, 148 (74%) of the participants to respond to open questions	implementation of PCMHs improve patient satisfaction; reduce emergency room visits, unnecessary and avoidable service costs; and improving access to services	These studies provide input from the patient's perspective and a deeper understandin g of how patient satisfaction is affected by the provider of health care actions and attributes in addition to access to care.	-
11	AmieForan,2016 Patient satisfaction with hospital services based neuropsychologi cal	Australi a	- To develop and pilot measure patient satisfaction include themes, activities and interaction settings	Evaluate neuropsychologi cal hospital-based ambulatory services, including the extent to which the service is intended model	Patient satisfaction for the process of neuropsychologi cal assessments that are required in order to evaluate and determine how changes in clinical practice	testing phase (85%) rated significantly better than the pre-assessment (79%) and feedback (70 %) stage. Comments given by 32 respondents.	Interpersonal facilitator for neuropsychologic al assessment satisfying experience, but also dissatisfaction with the physical aspect of the test environment in	As a quality assurance tool to evaluate neuropsychol ogical performance.	Further research could also include a broader perspective on the consumer experience of neuropsychol ogical services

			specific to neuropsychological assessment process.	of patient-centered care.	can be valid to be realized in the context of this service		addition to the availability of the service.		
12	Roberta S. Russell 2014  Patient's perception quality of	USA	To analyze the patient satisfaction survey	Evaluate the health system that includes several types of clinics, medical specialties and types of doctors.	To test the satisfaction surveys of patient data from hospital medical center representative and determine whether additional analysis can provide the center with useful information to improve quality of care and patient satisfaction.	Patients during visits	Variables associated with Access, Moving Through Visit, Nurse / Assistant, Care Providers and Personal Issues significantly impact the overall assessment of service quality.	Focus on medical practice, not a hospital, and includes several types of clinics, medical specialties and types of physicians in the analysis.	while gender and types of service providers do not appear to have any impact on patient satisfaction overall, significant differences exist by age group, specialized doctors and clinic types
13	Lorissa MacAllister, 2016  Environmental variables that	USA	To determine the environmental variables that influence satisfaction the patient's	physical environment noted as important to be clean and quiet but is not considered an	patient care-called patient satisfaction-is great interest in the healthcare industry, as it becomes more	Identify at least 10 known variable spatial environment that has been proven to have a direct	There are certain features of spatial and environmental design in hospital settings or jobs that affect the	The inclusion criteria for the 14 studies selected is a clear analysis of statistics, variable	Padaartikel no mention of how the samples used in research



	affect patient satisfaction			essential part of patient satisfaction or the result of other health	directly related to the income of the provider of health system ,	relationship with health and behavioral outcomes of patients.	outcome and should be recorded in future research.	spatial measurable predictor clear, and variable outcomes associated with health outcomes or human behavior (ie tariffs, death, fall, or rehospitalization)	
14	LVCheldelin 2012  patient satisfaction measurement method	USA	To test whether patient satisfaction measurement methods affect the results of	Providence Saint Vincent NICU already in place two parallel surveys. One of them is an exclusive survey email (Press Ganey) and other telephone-based survey.	telephone survey is a better estimate of the actual attitude of the populationfamilies discharged from NICUand we can not just do the math adjustments between surveys to account formode.	All families with patients discharged hospital NICU parents surveyed at 2 to 42 days after discharge with two parallel survey (mailed and telephone) from August 2010 to December 2011.	Eight hundred and thirteen families included in the study.	mail survey and telephone survey respondents have a different attitude that can not be adjusted for the effects of methodological measurement .	there is no linear correlation can be found between two of the five questions, the constant process of mathematical values can not be identified.

					differences Both methods give us a population survey with a different attitude.				
15,	J. Baker 2013 Patient satisfaction with nurse clinical specialistpractice	British	- to ensure that sufficient CNSS available to women attending breast screening assessment centers.	A coordinated approach is adopted to monitor standards of practice among clinical nurse specialists (CNSS)	Patient satisfaction has allowed the team toquality assurance Build aarea of good practice to be shared across the region.	These women are invited to attend skriningpayudar a center.	Women attend for breast screening assessment, interactions with CNS has been very helpful.	In this study the aspects that more than previous studies.	Generalizing the results are less

## THE EFFECT OF MUROTTAL ALQURAN ON THE SLEEP QUALITY OF CHILDREN (1-5 YEARS OLD)

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### ABSTRACT

**Introduction:** A problem often encountered toddler is the poor quality of sleep, which can be caused by physical and psychological factors. Based on the data in PAUD Muhammadiyah Bangkalan showed that there is still a lack of quality sleep toddler as much as 60% of children aged 1-5 years. One method that can used to increase the quality of sleep in children 1-5 years old is by Murottal AlQur'an. The purpose of this study was to determine the effect of Murottal Al-Qur'an therapy on the quality of sleep of children aged 1-5 years old in PAUD Muhammadiyah Bangkalan. **Methods:** The research design was quasi experimental pre-post test with control group design. The population of 35 infants who experience the quality of sleep of children aged 1-5 years old in PAUD Muhammadiyah Bangkalan. The sampling technique used simple random sampling with 18 respondents are divided into two groups, 9 children in the control group and 9 children in treatment groups. Independent variable is the Murottal AlQur'an, the dependent variable is the quality of sleep. Data collection using questionnaires. The statistical test used Wilcoxon and Mann-Whitney with  $\alpha = 0.05$ . **Results:** The results showed that was significant difference between the quality of sleep before and after Murottal AlQur'an on treatment groups (p value 0.009;  $\alpha = 0.05$ ). Same results in the control group there was difference between the quality of sleep before and after the observation (p value 0.046;  $\alpha = 0.05$ ). In addition, there is a significant difference between sleep quality improvement between intervention and control groups (p value 0.000;  $\alpha = 5\%$ ). It can be concluded that there is a therapeutic effect of Murottal Qur'an to increase sleep quality children 1-5 years old in PAUD Muhammadiyah Bangkalan. **Discussion:** Based on this study, it is recommended for parents to give Murottal AlQur'an to their children in 1-5 year old, and rotated for 5-10 minutes at night when the children going to bed to improve their sleep quality

**Keywords:** Murottal Qur'an, quality of sleep, Children (1-5 years old)

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### INTRODUCTION

Quality of sleep is a person satisfaction from sleep experience, include of sleep initiation, sleep quantity, and feel fresh when wake up (Gellman, 2013). Sleep problems often encountered is difficulty to initiate sleep, difficulty falling asleep and waking up at night but can not sleep. (Sari paediatrics, 2006). Toddler sleep problems in the future may lead to the age of toddlers and school age, and it can predict the occurrence of sleep and behavioral problems later (Sakartini, 2006).

Sleep habits also have a role as important as the total amount of sleep time. Toddlers and children tend to sleep a couple

of times in any 24-hour period. But along with the maturation toward school years and older, they tend to sleep in one phase of a long, daylight decreases and tends to sleep through the night (Robotham, 2011). The level of development of normal sleep patterns, namely, the amount of sleep you need 0-2 months of age from 10.5 to 18 hours per day. ages 2-12 months the amount of sleep it takes about 14-15 hours a day. Age 1-3 years the amount of sleep you need 12-14 hours a day. At the age of 3-5 years of approximately 11-13 hours a day. 5-12 years of age approximately 10-11 hours in a day. 12-18 years of age about 7-9 hours a day (Waluyo, 2011).

Based on the preliminary studies in PAUD Muhammadiyah on January 6, 2016 there were 10 people in the early childhood school students Muhammadiyah Bangkalan, data showed that 20% of people have a good sleep quality, 20% of people including sufficient quality, and 60% children including sleep quality was lacking. From the above preliminary study found that the high incidence of lack of quality sleep is when you start to sleep at night, toddlers aged 1-3 years 12-14 hours while the age of 3-5 years less than 11/13 hours sleep, difficult to wake in the morning, and children easily awakened when environment in noisy.

Some of the possible solutions with the quality of sleep is the Story Telling, massage, music therapy, punggun Massage therapy, therapy Murotal Qur'an. Besides the right solution to improve the quality of sleep in infants become disturbed by therapy murotal al-quran. Therapy murotal al-Quran is one of the relaxing effect and can reduce anxiety, including the management of restful sleep patterns in infants aged 1-5 years due to problems of physical and psychological factors that are often found in infants. With therapy murotal al-quran on infant sleep quality requirements can be addressed and met. Because toddlers will feel relaxed and less anxious after therapy murotal the Quran, so that will make the quality of sleep in infants needs will be met.

The research design is quasi-experimental (Quasi eksperiment). With the approach of pre-post test design with control group design into two groups: treatment group and the control group by revealing the influence. Both groups were observed before the intervention, then the group of treatment were observed again after the intervention (Nursalam, 2013).

The population in this study are each subject (eg, human; clients) that meet the criteria established (Nursalam, 2011). In this study, there is a population of 35 infants in early childhood Muhammadiyah Bangkalan.

So the study sample size results in the control group and the treatment group is 18 people. Sampling is the process of selecting the portion of the population to be able to represent the population (Nursalam, 2003) Sampling technique using simple random sampling. Instrument used questionnaire.

## RESULT

### A. GENERAL DATA

4.1.1 Characteristics of Respondents by Gender  
Table 4.1 Distribution of Frequency respondents by Gender

N o	Gender	Treatment		Control	
		f	(%)	f	(%)
1	Male	4	44,4	4	44,4
2	Female	5	55,6	5	55,6
Total		9	100	9	100

Data source: field data

Based on Table 4.1 show that the treatment group the majority of respondents were female that is 5 respondents (55.6%). While the control group some respondents were female that is 5 respondents (55.6%).

4.1.2 Characteristics of respondents by age  
Table 4.2 Distribusi frequency of respondents age

N o	Age	Perlakuan		Kontrol	
		f	(%)	f	(%)
1	3 years	4	50,0	4	50,0
2	4 years	2	37,5	3	37,5
3	5 years	3	12,5	2	12,5
Total		9	100	9	100

Data source: field data

Based on Table 4.2 show that the treatment group of respondents most 3 year olds as much as 4 respondents (50.0%). While the majority of the control group was 3 years old as much as 4 respondents (50.0%).

#### 4.1 Specific Data

In particular the data will be presented on data collection which includes a frequency distribution of respondents based on the variables studied.

##### 4.2.1 Data Research on Treatment Group

Table 4.3 Differences in the quality of sleep before and after given Murottal AlQur'an

Sleep Quality	Pre Treatment		Post Treatment	
	F	%	F	%
Good	0	0	6	66,7
Enough	4	44,4	3	33,3
Less	5	55,6	0	0
Jumlah	9	100	9	100
Mean	14,11		19,22	
Uji Wilcoxon	p value = 0,009		$\alpha = 0,05$	

Based on Table 4.3 After analysis of data obtained that from 9 respondents were given Murottal Qur'an (the treatment group) showed that sleep quality pre part has less quality in sleep as many as five respondents (55.6%), and sleep quality in post mostly good sleep quality as much as six (66.7%).

Based on statistical test Willcoxon that the treatment group pre and post results showed that the p value  $0.009 < \alpha (0.05)$  so that H1 is accepted, and it can be deduced that there is a difference in the quality of sleep before and after therapy murottal Koran on group treatment of children 1-5 years old in PAUD Muammadiyah Bangkalan.

##### 4.2.2 Data Results In Control group

Table 4.4 Differences in Sleep quality before and After That is not given Murottal AlQur'an

Sleep Quality	Pre Control		Post Control	
	F	%	F	%
Good	1	11.1	0	0
Enough	6	66,7	4	44,4

Less	2	22,2	5	55,6
Jumlah	9	100	9	100
Mean	15,89		14,00	
Uji Wilcoxon	p value = 0,046		$\alpha = 0,05$	

According to the table to do the taxable income 4.4 Analysis showed that from 9 respondents not provided Murottal Qur'an (control Group) found that most big pre Sleep Quality The experience kaitas Simply Sleep as much as 6 respondents (66.7), and Sleep Quality The experience of post partially Sleep quality less by 5 respondents (55.6).

Data From The differences showed statistical test findings Willcoxon that control group pre and post the results showed that the p value  $0.046 > \alpha (0.05)$  so that H1 is rejected, and can be deduced that the Difference Sleep quality before and after Treatment group toddlers age 1-5 years in PAUD Muhammadiyah Bangkalan.

##### 4.2.3 The Effect of Murottal AlQur'an before and after Murottal AlQur'an on the quality of sleep

Table 4.5 The Effect Murottal AlQur'an before and after given Murottal Qur'an

No	difference in treatment	difference in control
1	6	-4
2	8	0
3	6	0
4	4	-5
5	7	-4
6	5	0
7	4	0
8	4	-4
9	2	0
Mean (rata-rata)	5,11	-1,89
Uji Mann-Whitney	P value = 0,000	$\alpha = 0,05$

After analysis of data showed that the difference between the 2 groups were given the Qur'an murrotal therapy and no



treatment murrotal the Quran was found that the average difference in the quality of sleep in infants aged 1-5 years were given therapy murrotal Al -Qur'an value is -5.11 and that no treatment murrotal Qur'an value of 1.89 and a statistical test Mann-Whitney treatment group and the control group p value is 0,000. So the significance is smaller than the error rate ( $0.000 < 0.05$ ) specified researcher that the error rate of 5% (0.05). so that, it can be concluded there is a significant difference in sleep quality between group were given Murottal Alquran and did not given.

## DISCUSSION

In this chapter will be a discussion of the variables to be studied by comparing the quality of sleep in infants with impaired sleep quality Murottal therapy given the Qur'an and that no treatment Murottal Qur'an in ECD Muhammadiyah Bangkalan.

### 5.1 Differences in Quality of sleep in infants who experience sleep quality before and after given Murottal Qur'an in PAUD Muhammadiyah Bangkalan

Based on the results of research conducted in PAUD Muhammadiyah Bangkalan is known that in the treatment group gained Wilcoxon statistical test p value is 0.009, so the significance is smaller than the degree of error that has been

established by researchers that 5% (0.05). It can be concluded no difference in sleep quality between pre and post given murrotal Qur'an.

Based on the results of research in PAUD Muhammadiyah Bangkalan found that there are differences in the quality of sleep in infants between pre and post given murrotal Qur'an. From 9 respondents treatment groups before therapy Murottal Qur'an part has less than 5 respondents sleep quality and sleep quality experienced enough in 4 respondents. While the post test 6 respondents had a good sleep quality and 3 respondents had enough sleep quality.

From the research that has not been given murrotal AlQuran was found that the quality of sleep in infants majority (55.6%) less sleep quality. This is possible because toddlers who feel thirsty and toddlers more sleep during the day that in the evening fussy toddler and could not sleep well. This is supported by the theory Tarwoto and Wartonah (2004) that infants sleep quality can be affected by physical factors and psychological factors. Physical factors that affect the quality of sleep can be a malnourished toddler (toddler or child becomes fussy and can not sleep well). The research in Carneigie Mellon University and the University of Pennsylvania found that the quantity and quality of sleep actually affects how people can become ill. The characteristics of toddlers get enough sleep, that is, the toddler will be able to fall asleep easily at night, fit when I wake up, no fuss, and does not require a nap in excess of needs in accordance with its development.

Therefore, researchers give murrotal therapy Qur'an. In the opinion of Faradisi (2009) one would be easier to get the relaxation response. The relaxation response can arise because there is a relationship between the mind and the body (mind-body conection). So hear reading the Qur'an can be referred to also as a religious relaxation.

Group that has been given murrotal AlQuran was found that the quality of sleep in infants majority (66.6%) have good sleep quality. This is possible due to the rhythm of the Qur'an make children become calm and relax the body, so it can make toddlers are not fussy and trigger drowsiness. With a toddler bed that needs are met so that the quality of sleep toddler be improved. This is supported by the theory that with a slow tempo and harmonic chant the Qur'an can reduce stress hormones, activate natural endorphins, increase the feeling of relaxation, and divert attention away from fear, anxiety and tension, improve chemical system body that lowers blood pressure and slows respiration, heart rate, pulse rate, and brain wave activity, it is this which will

improve so that the circadian rhythm of sleep quality improved (Heru, 2008).

The factors that affect the quality of sleep is the age factor. Where in this study in part 4 (50.0%) of respondents aged 3 years. This is because age affects the quality of sleep because of age is one factor that affects the quality of sleep and sleep a person needs. The need for sleep is reduced in accordance with age. sleep quality associated with the disease and ill health. So that age has an influence on the quality of one's sleep.

This is supported by the opinions treasures and Hidayati (2012) that the habit of sleeping patterns also have a role as important as the total amount of sleep time. Toddlers and children tend to sleep a couple of times in any 24-hour period. But along with the maturation toward school years and older, they tend to sleep in one phase of a long, daylight decreases and tends to sleep through the night (Robotham, 2011). The level of development of normal sleep patterns, namely, the amount of sleep you need 0-2 months of age from 10.5 to 18 hours per day. ages 2-12 months the amount of sleep it takes about 14-15 hours a day. Age 1-3 years the amount of sleep you need 12-14 hours a day. At the age of 3-5 years of approximately 11-13 hours a day. 5-12 years of age approximately 10-11 hours in a day. 12-18 years of age about 7-9 hours a day (Waluyo, 2011).

Based on the research of experts, that increasing age, the time spent in sleep decreases. This is due to increased physical activity, such as playing (Suherman, 2000). In (Yadi 2013).

About when a child sleeps, depending on the age, state of consciousness, daily activities, and how the state of the child, the child's sleep pattern changes can affect the quality of sleep, sleep quality is not only measured by the length of a person's sleep during the day. Normal sleep patterns based on age or developmental level may be one indication. According Kozier (2003), in (Yadi 2013), with a regular pattern of sleep is more

important than the number of hours of sleep itself. In some people, they have enough with only slept for 5 hours each night. In sickness may make patients less sleep or not to sleep (Tarwoto and Wartonah, 2004), in (Yadi 2013).

## 5.2 Differences Sleep Quality in children without Murrotal AlQuran in PAUD Muhammadiyah Bangkalan.

Based on the results of research conducted in early childhood Bangkalan Muhammadiyah is known that in the control group gained Wilcoxon statistical test p value is 0,046 so the significance is smaller than the degree of error that has been established by researchers that 5% (0.05). It can be concluded no difference in sleep quality between pre and post without given murrotal Qur'an.

Based on the research in early childhood Muhammadiyah Bangkalan regency showed that there are differences in the quality of sleep in infants between pre and post diberikan murrotal Qur'an. From 9 respondents control group pre largely enough sleep disturbance as much as 6 respondents. While the post test most of the sleep disorder is less by 5 respondents.

From this research, group that was not given murrotal AlQur'an has significant value to decrease, it can be possible because not given any intervention during the observation, nothing stimulates the hypothalamus in the brain to increase production of melatonin so the quality of sleep infants in the control group did not experience improvement. Though poor quality require a treatment in order to improve. This is certainly in line with the opinions Roccichelli, Stanford, Vandewaa (2010) which states that poor sleep quality issues require a treatment. In addition, according Golman (2007), a sleep disorder can be treated either medically or non-medically.

The factor that affect the quality of sleep was less in children is gender, which in this study were female toddler as much as 5 toddlers. This has a direct impact on

circadian rhythms and sleep patterns. Psychological conditions such as increased anxiety, restlessness, and often uncontrolled emotions in women. This is supported by research Kimura (2005) and research Khasanah & Hidayati (2012) that 52 women had poor sleep quality and 17 women had a good sleep quality. As for male, 16 male have poor sleep quality and 12 others had a good sleep quality. This means that the number of female who have poor sleep quality were more than male.

### 5.3 Effect of the murrotal AlQur'an on quality of sleep in PAUD Muhammadiyah Bangkalan.

Based on the results of research conducted in PAUD Muhammadiyah Bangkalan is known that in the treatment group were given murrotal Qur'an ie (5.11) and the control group were not given murrotal Qur'an is (-1.89). Based on statistical test of Mann-Whitney control group and the treatment group p value is 0,000 so the significance is smaller than the degree of guilt ( $0.000 < 0.05$ ). So it can be concluded that there is the effect after the administration of murrotal AlQur'an.

Based on the results of research in PAUD Muhammadiyah Bangkalan, 9 respondents in the treatment group experienced a significant improvement in sleep quality show most experienced improved sleep 6 (66.7%). Whereas in most of the control group significantly decreased quality of sleep as many as 6 respondents (66.7%). This is because the presence of a given therapy will provide the stimulus that can stimulate the feeling of being relaxed so easy to sleep and sleep needs are met. Vice versa if no treatment is given then no stimulus could also stimulate feelings of wanting to sleep.

This difference occurs because the treatment group was given the Qur'an Murottal therapy, while the control group was not given the Murottal AlQur'an. Based on the working principle of the Murottal AlQur'an is one kind of sound therapy. The effects of sound therapy in the

form of psychological effects and neurological effects. The cadence chant physiological repair nerve - the nerve can improve the body's mechanism toddler elderly so sleep quality to be good (Asrin, Mardiyono and Saryono, 2007).

This is in line with research by Faradisi (2009) showed that murottal AlQur'an could stimulate the parasympathetic nervous system which have an effect opposite to the sympathetic nervous system. So there is a balance in both the autonomic nervous system. This is the basic principle of the onset of the relaxation response, which is a balance between the sympathetic nervous system and the parasympathetic nervous system.

Effects of murottal and remembrance among others, can reduce anxiety. It also provides relaxing effect on the body (tranquility, peace and concentration). While voice murottal Qur'an is an alternative therapy that can reduce stress and increase comfort. This is caused by the chant melody murottal Qur'an makes the stimulatory effect of hormones - hormone in the body Besides murottal Qur'an makes pendengarnya become closer to God. Someone closer to God would be easier to get some peace and relaxation. So listen murottal Qur'an can stimulate relaxation effects and increase the quality of sleep (Mardiyono, 2011). It can be concluded that there is a therapeutic effect murottal Qur'an to quality early childhood sleeping toddler in Muhammadiyah Bangkalan. And therapy murottal Qur'an is one of the non-medical therapies that can improve the quality of sleep toddler.

But in this study, there are several factors that come into effect in improving the quality of sleep toddler, factors that affect the quality of infant sleep is a disease, physical exercise, nutrition, the environment and the motivation to cover internal and external factors. Eksternal factors include environmental factors conducive crowded and not affect the quantity of the toddler bed. In this study, environmental factors are not controlled

strictly, so that raises the effect also to the quality of sleep. Meanwhile, internal factors include health conditions toddlers (Widianto, 2005).

One of the factors that affect the quality of sleep is a disease that every disease that causes pain, physical discomfort may cause sleep problems. Physical exercise is exhaustion due to higher activity may require more sleep to maintain energy balance was issued. Nutrition is an important factor for maximizing the golden period of growth of the brain is the fulfillment of a toddler nutrition and adequate sleep. ASI proved to contain high protein alpha, alpha protein is the first protein in whey protein that is smooth and easy to digest protein. Environment The environment that is safe and convenient for someone to speed up the process of sleep. Instead environmentally unsafe and uncomfortable for someone can lead to the loss of serenity that affect the sleep process.

## CONCLUSIONS

### 6. 1 Conclusion

Based on research that has been done can be concluded as follows:

- a. There is a difference in the quality of sleep in children (1-5 years old) before and after given Murottal AlQur'an in PAUD Muhammadiyah Bangkalan.
- b. There is a difference in the quality of sleep in infants who are not given Murottal AlQur'an in PAUD Muhammadiyah Bangkalan.
- c. There are effect of Murottal AlQuran on the sleep quality of children (1-5 years old) in PAUD Muhammadiyah Bangkalan.

### 6.2 Suggestions

After knowing the results of this study, the researchers gave the following advice:

#### 6.2.1 Suggestions theoretical

##### a. For professions (nursing)

This thesis is expected for the development of professional health workers, especially the influence of the

Qur'an Murottal Stimulasi against kuaitas sleeping toddlers aged 1-5 years

##### b. For educational institutions

This thesis is expected to add references to therapy Murottal Qur'an against kuaitas sleeping toddlers aged 1-5 years As well as to improve the quality of education and professionalism of health workers.

#### 6.2.2 Practical advice

##### a. For Health Personnel (Hospital)

The results of this study may provide additional scientific information and knowledge for nurses in providing stimulation intervention Murottal Koran in infants in improving the quality and improvement as well as health services.

##### b. For further research

The results of this study can be used as a source of basic data and reference literature and literature for further research to develop a similar research. for further research is expected to increase with the number of larger samples and a wider range and compare more influence on Stimulation Murottal Qur'an.

##### c. For Parents The results of this study can be used as therapy to overcome the problem of the quality of sleep in infants, as well as to increase knowledge.

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## FAMILY ENVIRONMENT AND PUBLIC (SOCIAL), INDEPENDENCE ELDERLY, THE ACHIEVEMENT OF WELFARE OF ELDERLY

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### ABSTRACT

**Introduction:** Elderly was part of the growth and development process. The existence of physical deterioration and social changes lead to dependency on the activity of its sovereignty. Elderly who were accustomed for having the activity will be more independent than the elderly who were in dependency. Family environment in the form of family support and community support, can affect the condition of the elderly well-being. Elderly are part of the family, which was expected to provide support in the achievement of physical well-being. Whereas the elderly themselves, because of decreasing process in the physical, psychological, social and mental ability, resulted in a lessening in the role and status of the elderly in the family. This study aims to determine the relationship between the family and society, the independence of the elderly with the elderly well-being. **Method:** Descriptive analytic with cross sectional approach was used in recent study. Samples include 400 elderly and families in Surabaya with Multistage Random Sampling technique. Collecting data using interviews and observation. Confirmatory Factor Analysis was used in the data analysis. **Result:** The result showed that family environment that supports the well-being of the elderly was an environment that provides opportunities for elderly to participate in daily activities, family support which given in the achievement of the elderly well-being were the instrumental support in the form of fulfilling the daily needs, harmonious home environment; emotional support in the form of trust in the family, a sense of care to the elderly. Results of the data analysis showed the value of the social environment, loading factor 0,51;  $R^2 = 0.72$ , and self independency-loading factor of 0.36;  $R^2 = 2:35$ . Chi-square 21.79, p-value = 0,2512 RMSEA = 0.002. **Conclusion:** It showed that the family and the community environment with the provision of family support, independence having a significant influence on the elderly well-being. The role of nurses was important to raise families and the elderly, so that the health, well-being and quality of life of the elderly can properly be met.

**Keywords:** family support, the welfare of the elderly

### BACKGROUND

Age-related further period with hearts change lifecycle. Around the social environment of elderly life related operate direct not with welfare (both -being) elderly. The ability of elderly hearts addressing different issues between life, the life pressure, stress depending on the achievement in successful aging (Adi 2013). It singers subscribe with the elderly personal growth, while the growth depending on the implementation of different telecoms developments in every

stage of life. Based on the data which states that in 2020 the elderly term increase 25%. Based on data from Susenas states that figure elderly population dependency ratio in 2014 was at 17.02 that show every 100 elderly population productive age should bear approximately 17 elderly population elderly. Elderly are not earning more and more must be a dependent family, society and the government. Socio-economic conditions of the elderly in Surabaya currently categorized generally cannot quality living prosperous elderly resulted

more low, decrease in the degree of health and dependency (on dependence other family). Figures elderly dependency in 2014 ranges from 17.02 stating that every 100 elderly population of productive age must bear approximately 17 elderly. Elderly dependency burden value is at psychological impact of the elderly.

Environmental media where are a living beings, finding and had characters and the typical functions which operates subscribe reciprocal with existence of beings who occupied mainly role the man who have more complex and real. All that is with may be used by the human environment for human life needs sufficient review, because carrying that neighborhood has a neighborhood's ability to review support the livelihood of human and other living things (Azizah, 2011). The neighborhood has a relationship by elderly. Environment influences such attitude and human behavior also the elderly, as well as human life environment will affect his place.

If the elderly not being able to run telecoms operating developments optimal psychological happiness so not met. Inability troubleshooting pressure against environmental and self adjusting underprivileged hearts, feel yourself not needed, a shape of the psychological stress experienced by the elderly. If by advanced age adaptable environment, has optimal development of personal, so it can overcome psychosocial stress and can achieve optimum aging and even aging has been successfully get. Positive attitude the is with advanced age is a form of response acceptance with conditions aging, associated positively with other elderlys shown seniors with liveliness in 'the community leads shown to the formation of the function of psychological functioning the positive (psychological functioning positive) that brings shown to the realization of welfare psychological (psychological wellbeing) (gilmour, 2012). Positive self assessment the singer is praying the welfare indicators. Mental

health is a prayer one dominant aspect hearts formation of welfare. The condition is not fully achieved can in further ages, thus impacting in no achievement of welfare.

Based on the findings of research in surabaya, obtained data that the average elderly have hearts welfare higher-especially men, while more women are having moderate welfare. The efforts undertaken to achieve meaningfulness life review are a long stay, worshiping, helping families, and maintain relationship. The forms of support can improve the welfare is a concern, encouragement, information, solutions experienced an issue differences, financial aid, transportation, entertainment, health and development service capabilities (mahajudin et al, 2008). Another issue not only at at elderly term needs parent compensation, but rather involves cultural value. Seniors contribute hearts of cultural continuity that pattern of behavior, confidence into the next generation. Elderly who achieve high social status hearts a culture where the elderly get the award, respect, instrumental hearts particularly useful functions and is valuable in this case we can elderly welfare materialized.

Social networking (social network) may provide further advantages for seniors, the good society relations hearts social problems as well as problems related to health. The ada social support in 'communities as a result from social networks the ada affect their aid granted by the individual, family and' the community (gilmour, 2012; heave, brown, et.al, 2012).

Based on the description above can be interpreted that the social environment affects the well-being of the elderly. The aims of this study were identification of family and community interaction component in the elderly, the identification of the physical welfare of the elderly, and the analysis of social environmental influences on physical wellbeing.

## METHOD

This study aims to determine the characteristics, social environment component that supports the welfare of the elderly. The study is in two phases the first phase yaitkomponen social environment related to the welfare lansia.penelitian this is a survey. Conducted on 400 elderly. Samples elderly who live with their families and aged 60 years and older. The research

sample obtained with the multi-state random sampling technique. Data were analyzed using factor analysis confirmary. The research variables consisted of ind variable that is characteristic of the elderly and social environment that consists of, social networks, family and community interaction, problems faced by the elderly in the family.

## RESULTS

Identification of family and community interaction component in the elderly

Indicators	Categories	Frequency	Percentage
Family environment & Community	Not Good enough	6	1.5
	Good enough	39	9.8
	Good	144	36
	Very Good	211	52.8

The identification of the physical welfare of the elderly

Indicators	Categories	Frequency	Percentage
Independency	High Dependency	2	0.5
	Mild Dependency	40	10.0
	Low Dependency	126	31.5
	Independent	232	58.0

Signifikasi variables

Indicators	Factor Loading ( $\lambda$ )	$t_{\lambda}$	$1-\delta$	$t_{1-\delta}$
Independency	0,36	13,01	0,50	8.55
Family Environment & Community	0,51	19,85	0,53	13,35

Results of the data analysis showed the value of the social environment, loading factor 0,51;  $R^2 = 0.72$ , and self independency-loading factor of 0.36;  $R^2 = 2:35$ . Chi-square 21.79, p-value = 0,2512 RMSEA = 0.002.

## DISCUSSION

The social environment is an environment where advanced age had interaction to run his social life, while being a singer is their study of social networks around advanced age, advanced interaction age hearts family and 'society, as well as issues affecting the hearts of family welfare and advanced age. Life of the neighborhood

highly advanced age plays against further development age, environmental conditions that will provide further support can increasing interest in age to the review reached welfare (hamidah, 2012).

The problems faced by families hearts advanced age, advanced age tin data that 74.5% had problems hearts advanced age friendly happiness and the issue further reduce age. It singer according to the research conducted by agency for research on rights of man, which states that the independence of advanced age increasingly feel you with change shape of large families being a family nucleus that causes potential for a review express more freely, but things

singer actually can make losing the family as a social basis of stability and regulation. Economic factors play a role being more hearts singer family and become status indicator and life changes. Singer circumstances occurred by for members hearts leaving family home. Even in a state of hearts family, continued age with children who lived in a home may act as caretaker's grandchildren. An economic help family expense operates in addition to adding further flurry on age.

## CONCLUSION

Family and community environment is very good 52.8%, 58.0% Independent elderly Independence, Results of the analysis of data Showed the value of the social environment, loading factor of 0.51;  $R^2 = 0.72$ , independency and self-loading factor of 0.36;  $R^2 = 0.25$ . Chi-square 21.79, p-value = 0.002 RMSEA = 0.002.

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# EFFECTIVENESS EXERCISES OF SELF-ACCEPTENCE: RELAXATION AND DZIKIR FOR REDUCTION OF BLOOD GLUCOSE DEGREE TO THE PATIENT OF DIABETES MELLITUS TYPE 2

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## Abstract

**Introduction:** Diabetes mellitus is a heterogeneous disease that is marked by the reduction of blood glucose or hyperglycemia. The number of incidents of diabetes mellitus type 2 is still high in the Burneh Health Centre. The purpose of this research is to make some analysis of the side effect of exercises of self-acceptance: relaxation and dzikir for reduction of blood glucose levels to the patients of diabetes mellitus type 2 in the Burneh Health Centre, Bangkalan Regency. **Method:** The research is the kind of experiment research with Design Quasi Experimental Pretest-Posttest with control group. The population in this research is all the patients of diabetes mellitus type 2 in the Burneh Health Centre, Bangkalan Regency as many as 55 people. With the sample as many as 18 people who were selected at random and the result will be analyzed with the use of the test of paired t-test, and the test of independent t-test. Before doing this research, the average of blood glucose from 9 respondents was 266,78. While after doing the exercises of self-acceptance it became 249,7. **Result:** In the analysis of paired t-test showed there are some effects from the exercises of self-acceptance for the reduction of blood glucose to the patients of diabetes mellitus type 2 with the  $p$  value = 0,018. **Conclusion:** The suggestion for all health staffs in the Burneh Health Centre and also for the other health staffs in wherever, they need to demonstrate that in addition to drug therapy, dietary adjustments, and the healthy lifestyle for the client/patients of diabetes mellitus type 2, the training of self-acceptance can also help in lowering blood glucose levels in diabetes mellitus type 2 clients.

**Keywords:** Exercises Of Self-Acceptance: Relaxation and Dzikir, Blood Glucose, Diabetes Mellitus Type 2

## INTRODUCTION

Diabetes mellitus is a heterogeneous group of disorders characterized by increased levels of glucose in the blood or hyperglycemia. In type 2 diabetes the body's ability to use insulin can decline (Wijaya & Putri, 2013).

Number of patients with type 2 diabetes mellitus from year to year tend to increase. Based on data from the International Diabetes Federation (IDF), in the year 2030 in the world as much as 552 million people will have diabetes, and in Indonesia ranks fourth in patients with diabetes mellitus (Tandra, 2008). Preliminary studies conducted in Puskesmas Subdistrict Bangkalan Burneh

the data showed an increase in patients with diabetes mellitus.

Table 1 Number of cases of Diabetes Mellitus Type 2 from 2013 to 2015 at the health center Bangkalan Burneh

No	Tahun	Amount Patients Diabetes Melitus
1	2013	109
2	2014	125
3	2015	98

From the data in Table solid conclude that there is high incidence of type 2 diabetes mellitus in Puskesmas Burneh Bangkalan. Factors cause of type 2 diabetes is obesity because obesity decreases the amount of insulin receptors on target cells

throughout the body, changes in insulin resistance and impaired insulin secretion, insulin levels are available to be less effective in improving metabolic effects, the age of which is likely to increase over 65 years, history families of patients with diabetes mellitus type 2 (Wijaya & Putri, 2013).

Complaints that happens is peripheral neuropathy (tingling), especially in the legs at night time, visual disturbances, skin disorders such as itching, usually occurs in the pubic area and the area of skin folds such as the armpits and under the breasts, erectile dysfunction, and vaginal discharge and itching occurs in women (Wijaya & Putri, 2013).

In addition to the pharmacological, treatment in patients with type 2 diabetes mellitus can be done by way of non-pharmacological, namely the surrender exercise therapy using relaxation techniques and dhikr. Relaxation is the activation of nerves that stimulate parasympathetic decline in all the functions that raised by the sympathetic nervous system, and stimulates the rise of all the functions derived by sympathetic nerves (Saleh, 2010).

According to Benson (2000) relaxation exercises should be done before eating so that the relaxation process is not disturbed by the work of digestion. Meanwhile, According to (Sangkan 2006) dhikr as a form of worship in Islam is a religious relaxation, with utter lafadz God or Ahad are continually slowly and rhythmically could lead to a relaxation response.

In the relaxation required deliberate physical relaxation in relaxation dhikr which will be combined with resignation. Based on the description above mentions that medical therapy alone without being accompanied by prayer and remembrance, is not complete; otherwise prayer and dhikr alone without being accompanied by medical therapy, are ineffective (Hawari, 2006).

This study aimed to determine the effect of exercise therapy has resigned himself to a decrease in blood glucose levels in patients with type 2 diabetes mellitus.

## **METHOD**

This research is experimental study which analyzes the effectiveness of exercise therapy surrender with dhikr to decrease blood glucose levels in patients with diabetes mellitus type 2. The study was conducted using a control group for comparison, the study design is called a pretest-posttest design with control group (Notoatmodjo, 2005).

While the design of the study is a Quasi Experiment. In this design, the experimental group and the control group was given no treatment. In both treatment groups starting with the pre-test and after the treatment is held back measurement (post-test) (Nursalam, 2008).

The population in this study was the number of patients in 2014, a number of 98 patients with diabetes mellitus, the sampling technique is simple random sampling a total of 18 people with diabetes mellitus. In January to March 2016.

The results of data analysis using a paired t-test and independent t-test. The criteria for inclusion in this study were willing to be tested, Muslim, while blood glucose levels  $\geq 200$  mg / dl, age  $\geq 45$  years, not accompanied by other diseases.

## RESULT

### Differences in Blood Glucose Levels of Patients with Type 2 Diabetes Mellitus Intervention Group (Doing Exercise Surrender Yourself: Relaxation & Dhikr) in Puskesmas Burneh Bangkalan.

Table 2 Comparison of Blood Glucose Distribution Type 2 Diabetes Mellitus Patients Intervention Group (Doing Exercise Surrender Yourself: Relaxation & Dhikr)

Responden Code	Blood Glucose Levels	
	PRE	POST
1	224	220
2	197	215
3	312	270
4	379	354
5	204	180
6	283	254
7	206	198
8	273	254
9	323	303
Average	266,78	249,78

From the results of different test that uses a paired t-test p value obtained for 0,018 blood glucose levels. It can be concluded there is difference in blood glucose levels pre and post in the group who exercised surrender: relaxation and dhikr

### Differences in Blood Glucose Levels of Patients with Type 2 Diabetes Mellitus Control Group (Without Exercise Surrender Yourself: Relaxation & Dhikr) in Puskesmas Burneh Bangkalan.

Table 3 Comparison of Blood Glucose Distribution Type 2 Diabetes Mellitus Patients Control group

Responden Code	Blood Glucose Levels	
	PRE	POST
1	578	400
2	196	274
3	227	382
4	345	363
5	283	252
6	438	504

7	246	467
8	312	307
9	180	294
Average	331,67	360,33

From the results of different test that uses a paired t-test p value obtained test for blood glucose levels 0,244. It concluded there was no difference in glucose levels darahpre and post in the group that did not exercise surrender: relaxation and dhikr.

### Changes in Blood Glucose Levels in Patients with Type 2 Diabetes Mellitus in Puskesmas Burneh Bangkalan

After analysis of data showed that the changes in blood glucose levels respondents who exercise surrender: relaxation and dhikr (the treatment group) as being significant because of 9 respondents largely decreased by 8 votes (88.89%). While the blood glucose levels of respondents who do not exercise surrender: relaxation and dhikr (the control group) were increased by 6 (66.67%), strengthening exercises surrender: relaxation and remembrance can lower blood glucose levels in type 2 diabetes mellitus kliend patient.

Results of independent t-test p value stated is 0.006. So the significance of blood glucose levels less than the degree of culpability (0.006 <0.05). It can be concluded there is difference in blood glucose levels with exercise surrender.

## DISCUSSION

### Differences in Blood Glucose Levels of Patients with Type 2 Diabetes Mellitus Intervention Group (Doing Exercise Surrender Yourself: Relaxation And Dhikr) In Puskesmas Burneh Bangkalan.

There are differences in blood glucose levels in patients with type 2 diabetes mellitus in the intervention group (Exercise surrender: relaxation and dhikr).

Relaxation therapy as a form of physical exercise that effectively control blood sugar is also one of the relaxation techniques seem to some people with diabetes can help, although it is more likely to help people with type 2 diabetes than those with type 1 diabetes (Yildirim and Fadiloglu 2006). Implementation can be performed in conjunction with medical therapy (Moyad & Hawks, 2009).

Dhikr been selected for repeated pronunciation of words is believed to be an effect on the body than the words that mean nothing (Saleh, 2010). It is connected in selecting respondents was included in the respondents who are Muslims, so that the respondent can appreciate and mentransdensikan sentence spoken dhikr Divine Name.

#### **Differences in Blood Glucose Levels of Patients with Type 2 Diabetes Mellitus Intervention Group (Doing Exercise Surrender Yourself: Relaxation And Dhikr) In Puskesmas Burneh Bangkalan.**

There was no difference in blood glucose levels in patients with type 2 diabetes mellitus in the control group (no exercise surrender: relaxation and dhikr). So it can be a comparison with respondents to intervention.

Based on the criteria of age category was also influential as most of the control group was aged 56 -65 years of the 5 people. Based on the theory that there is in this control group had decreased insulin resistance is more significant than the intervention group.

The higher the person's level of stressors, the higher the stress level is going to happen. Cortisol plays many roles in maintaining homoeostatis by affecting the immune response, metabolic intermediates, vascular tone and to some extent, renal function. Cortisol reduces glucose uptake into cells while simultaneously increasing the amount of substrate (glukoneogenik amino acids and glycerol) for the conversion of glucose in the liver. Cortisol accomplishes this by stimulating lipolysis

and protein catabolism resulting in the mobilization of individual fatty acids and amino acids (Tao & Kendall, 2013).

#### **Effect of Exercise Surrender Yourself: Relaxation And Dhikr To Decrease Blood glucose levels In Type 2 Diabetes Mellitus In Puskesmas Burneh Bangkalan**

Based on the statistical test independent t-test can be concluded that there is influence surrender exercises: relaxation and remembrance to the decrease in blood glucose levels in people with diabetes mellitus type 2. This shows that there are differences in blood glucose levels in those who exercise self surrender: relaxation and remembrance and who do not exercise surrender: relaxation and dhikr.

Exercise Surrender Yourself (LPD) is one method in mind and body intervention, which is a method that combines relaxation and remembrance with a training focus on respiratory and words contained in the dhikr (relaxation and repetitive prayer) to evoke the relaxation response that is expected to improve symptoms of stress or depressive symptoms (Subandi, 2009).

The relaxation technique is one of the nursing interventions that can be given to patients with diabetes mellitus to improve relaxation and self-management capabilities. This exercise can help reduce muscle tension, stress, lowers blood pressure, increases tolerance to everyday activities, enhance immunity, so that the functional status and quality of life improved (Smeltzer and Bare, 2010).

In the analysis of the effects of exercise surrender relaxation and dhikr on blood glucose levels in people with type 2 diabetes mellitus in Puskesmas Burneh Bangkalan, showed that there is a decrease in blood glucose levels client type 2 diabetes mellitus in the intervention group, while the control group occurred penigkatan on blood glucose levels.

Based on the above it can be concluded that the practice of surrender relaxation and remembrance is one therapy that can be used in patients with diabetes mellitus type 2, so that it can be suggested to health workers who were in the neighborhood health center Burneh Bangkalan regency could consider providing training techniques surrender relaxation and dhikr as an alternative therapy in lowering blood glucose levels in type 2 diabetes mellitus clients.

## CONCLUSION

There are exercises influence surrender: relaxation and remembrance to the decrease in blood glucose levels in patients with type 2 diabetes mellitus in Puskesmas Burneh Bangkalan

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# THE SELF-CONCEPT OF CHRONIC RENAL FAILURE PATIENTS WHO UNDERGOING HEMODIALYSIS IN DR SOERADJI TIRTONEGORO HOSPITAL

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## ABSTRACT

**Introduction:** Chronic Kidney Disease (CKD) is a health problem that is increased every year. All stages of CKD are related to the increased risk of cardiovascular morbidity, premature mortality and the decreased quality of life (Hill, NR, Fatoba, ST, Oke, JL, Hirst, JA, O'Callaghan, CA, Laseserson, JS, Hobbs, FDR 2016). People who experience chronic kidney disease (CKD) will require renal replacement therapy, and one of treatment for patient with CKD is hemodialysis. Patients undergoing hemodialysis will experience psychological, sociological, spiritual, biological, and physical change that result in the changes of self-concept. The Purpose of this research was to describe self-concept of chronic renal failure patients who undergoing hemodialysis in dr Soeradji Tirtonegoro Hospital Klaten. **Method:** This research is descriptive survey research design. The sampling technique is purposive sampling of 30 respondents using inclusion and exclusion criteria. Instrument of self-concept used modified questionnaire from The Tennessee Self Concept Scale (TSCS) (Fitts, WH & Warren, WC 1996) and Musyanawati (2015). **Results:** The result showed that 30 respondents (100%) had adaptive self concept, but respondents showed symptoms that risk on changing self concept. Body image of respondents are in the positive and negative ranges. Ideal self of respondent was in the realistic and unrealistic ranges. Self esteem of respondents is in the high and low range. Role of respondents are in the performance unsatisfactory and satisfactory. Identity respondents are in the range of clear identity to negative range. **Discussion:** Overall, the self concept in patients undergoing hemodialysis are in the adaptive ranges, but respondents showed symptoms that risk on changing self concept.

**Keywords:** Chronic Renal Failure, Hemodialysis, Self Concept

## INTRODUCTION

Chronic Kidney Disease (CKD) is one of disease with high incidence and called silent disease because it doesn't show the sign and symptom at the beginning. Commonly this disease known by the sufferer after the disease has been so bad and need medical treatment to replace the function of the renal. According to Center for disease control and prevention cited in Lukman (2013), the prevalence of CKD in US in 2002 was counted 345.000 people, and at the end of 2007 increased to 80.000 people. Year 2010 the incidence was increased more than 2 million of people. In Indonesia prevalence of CKD age  $\geq 15$  year in each province, the highest prevalence in Central Sulawesi 0,5%

followed by Aceh, Gorontalo, and North Sulawesi with similar number 0,4%. East Nusa Tenggara, South of Sulawesi, Lampung, West Java, Central Java, Yogyakarta, and East Java province, counted 0,3% each province (RISKESDAS cited in Health Ministry of Republic Indonesia 2013). Chronic kidney disease is pathophysiologic process with various etiology and result in the decreased of kidney function, progresive and usually end with renal failure. Renal failure is clinical condition with the sign of the decrease of renal fuction permanently. In the grade of replacement therapy, it needs dialysis or renal transplantation as a permanent renal function replacement (Suwitra, K cited in

Sudoyo, A.W., Setiyohadi, B., Alwi, I., K, M. S., & Setiati, S (Eds) 2010)

More than 70% countries in the world reported at least 80% of people suffering from CKD undergoing hemodialysis (Arova, 2014). The number of patient ongoing hemodialysis was 24524 people (Indonesia Renal Registry cited in Afiatin 2014). Chronic kidney disease patient undergoing regular hemodialysis increased from day to day. The number of patient increased fourfold in the last 5 years. The number of CKD patients need hemodialysis in Indonesia was estimated 150.000 people, but the number of patient undergoing hemodialysis was only 100.000 people. There is 200.000 new case of CKD in terminal stadium. (Perhimpunan Nefrologi Indonesia 2016).

Hemodialysis could extend life of chronic kidney disease patient, however it could change the proccces of the disease and couldn't repair all renal function (Ratnawati cited in Musyanawati, 2015). Hemodialysis is treatment as physical stressor that result in life dimention changes including biological, psychological, sociological and spiritual changes. According to Asti, A D, Hamid, A Y S, & Putri, YSE (2014) patients undergoing hemodialisis experienced psychological, physical, activity, and spiritual changes. These changes occurred from beginning of hemodialysis until the long process of hemodialysis. Patient with hemodyalisis experience physical problem such as: nausea, vomiting, pain, muscle weaknesses, and oedema. Powerlessness and deficit self acceptance become psychological factor that contribute to the incidence of stress, anxiety and depression. The changes in physical, emotional, spiritual, and sociocultural can lead to the changes in self concept (Potter & Perry, 2010). The patient's personality should be taken into account, modalities and attention to passive-aggressive behavior can be considered as suitable intervention for hemodialysis patients (Hyphantis, T, Katsoudas, S & Voudiclari, S 2010).

Psychological defence mechanism and coping style can be place on a continuum of adaptability ranging from matur and adaptive to those that are immature, maladaptive, neurotic, and radical attempts to deal with stressor Defence mechanism and coping style are necessary to understanding neurogenic communication disorder. Defence mechanism and coping style play important role in psychological adaptation to disabilities (Stuart & Laraia 2007).

The availability of accurate data regarding the condition of the patient especially psychological data among CKD patient conducting hemodialysis becomes important for the nurses to give appropriate care by considering psychological aspects of the patient. Further more knowing the adaptation process of the patients and family through the research becomes important in empowering patients and family during lifetime treatment. According to preliminary study conducting in dr. Soeradji Tirtonegoro hospital year 2016, commonly patient performs hemodyalisis for 1 – 3 times a week. The number of patient having hemodialysis average 165 patients each month and the number of patient getting hemodyalisis average 18 people every shiff.

## METHODS

This research is descriptive research by survey to describe self concept of chronic kidney disease patients undergoing hemodialysis. The sampling methods is *purposive sampling* with 30 respondents based inclusion and exclusion criteria.

The instrument used in this research is modified questionair TSCS (Fitts, WH & Warren, WC 1996 adapted by Musyanawati 2015). Data was analyzed using univariate analysis in describing self concept and the change in components of self concept including body image, self ideal, self esteem, role, and identity by using frequency distribution.

## RESULTS AND DISCUSSION

The result of this result was presented on the tables of demography such as: gender, age, marital status, education level, work experience and self concept continuum as following tables:

Table.1 Frequency distribution of Gender

Gender	Number	Percentage
Male	15	50.0 %
Female	15	50.0 %
Total	30	100 %

Table. 2 Frequency distribution of Age

Age	Number	Percentage
Adolesent	1	3.3 %
Adult	8	26.7 %
Elderly	21	70.0 %
Total	30	100 %

Table.3 Frequency distribution of Marital Status

Marital Status	Number	Percentage
Married	21	70.0 %
Unmarried	2	6.7 %
Widow	7	23.3 %
Total	30	100 %

Table. 4 Frequency distribution of Education Level

Education Level	Number	Percentage
Primary School	10	33.3 %
Junior High School	3	10.0 %
Senior High School	11	36.7 %
Under and Post Graduate	6	20 %
Total	30	100 %

Table. 5 Frequency distribution of Work Experience

Work Experience	Number	Percentage
Farmer/Labor	4	13.33 %
Civil Servant/Army/Police	4	13.33 %
Entrepreneur	4	13.33 %
No work	18	60.0 %
Total	30	100 %

Table. 6 Frequency distribution of Self Concept Continuum

Self Concept	Number	Percentage
Adaptive	30	100 %
Mal Adaptive	0	0 %

Total	30	100 %
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Table. 7 Frequency distribution of Body Image

Body Image	Number	Percentage
Positive	151	83.89 %
Negative	29	16.11 %
Total	180	100 %

Table. 8 Frequency distribution of Self Ideal

Self Ideal	Number	Percentage
Realistic	160	88.89 %
Unealistic	20	11.11 %
Total	180	100.0 %

Table.9 Frequency distribution of Self Esteem

Self Esteem	Number	Percentage
High	167	92.78 %
Low	13	7.22 %
Total	180	100%

Table .10 Frequency distribution of Role

Role	Number	Percentage
Satisfied	129	71.67 %
Unsatisfied	51	28.33 %
Total	180	100 %

Table.11 Frequency distribution of Self Identity

Self Identity	Number	Percentage
Clear	160	88.89 %
Negative	20	11.11 %
Total	180	100 %

Based on the table can be described that :

### 1. Self Concept

All 30 participants showed adaptive response. However based on participant response on the component of self concept can be explained as following. Body image range from positive and negative responses, self ideal range from realistic to unrealistic responses, self esteem range from high

to low responses. In term of role, participants have satisfaction to unsatisfaction response, and the identity of participant range from clear to negative identity. According to Gerogianni & Babatsiko (2014) Chronic disease such as CKD is continous and progressive process from how the people accept their body image to how they can adapt with the situation and condition during hemodialysis treatment. Patient with dialysis treatment have problem with their job, social status, financial and the limitation of diit in relation to the disease at the beginning.

## 2. Body Image

Table 7 showed that body image response of participants 83,89% positive and 16,11 % was negative. According to Suliswati, Payopo, Maruhawa, Sianturi & Sumijatun (2005) that body image was dynamic, can be changed when the perception and experience also change. When the people already accept their body well, they also will accept the changes of their body. Gradually people will get feeling safety and free from anxious condition. Individual who accept his body image realistically, He/She will have higher self esteem that other who does'nt like his/her body. Oxtavia (2014), supports this study result that people with problem of altered body image have little chance to have good quality of life than other people who don't have the problem.

## 3. Self Ideal

Response of participants in relation to ideal diri due to hemodialysis showed that 88,89% was realistic while 11,11 % response was unrealistic. Suliswati, Payopo, Maruhawa, Sianturi & Sumijatun (2005) stated that self ideal is internal regulation that help individual to maintain capacity to deal with conflict or confusing condition in order to balancing and maintaining mental health.

Fear is the most emotional feeling of patient with CKD undergoing hemodialysis(Andri 2012) Patients often experienced fear about future and getting denial and anger with their condition. Fear and grieving result from feeling dependent during lifetime and dependent on hemodialysis. This feeling couldn't be avoided and usually the patients make someone else surrounding them as an object to be scolded.

## 4. Self Esteem

This research can be concluded that 92,78% responden undergoing hemodialysis showed high self esteem. It might be the family giving more help and care for the patient, the patient still have time to interact with others, and stiil have existency. Overall respondents think that every person has strength and limitation. Respondents can adapt with the change and pressure during ongoing hemodialysis because they have positif feeling and high self esteem. This statement is supported by other researcher ( McLeod 2008) where people who have high self esteem have positive thinking. It will contribute to person'confidence to the own capability, acceptance to themselves, no worries about other's thinking and optimism.

From the table 9 there was 7,22% response refer to low self esteem such as feeling useless, feeling unhelped by family, and lack of interaction with others, feeling unimportant and easy quitter. Low self esteem and other components of self concept correlated each other due to horrible effect. According (Andri 2012), CKD patients often loss of control. They need more time to adapt with the situation such as role change, feeling as a burden for the family and the effect of hemodialysis itself to the change of body image.

## 5. Role

From table. 10 can be seen that 28,33% response of CKD patient

showed unsatisfied role. This result supported by data such as: the patient can not participate in community activity, loss job and less participation in decision making in the family and community, and lack of concentration. Potter & Perry (2010) stated that one of stressor for role performance is sick role where this role included family and community expectation about how the people suffering from the disease can behave as patient. Role conflict occur when patient's expectation and other's expectation conflict each other.

Physical limitations and mental or emotional force have impact on individual and community. The physical limitation can impact on the limitation on social role then this situation will influence the relationship among patient, family and community (Bayhakki & Hatthakit 2012).

On the other hand the research showed that 71,67% response of CKD patient undergoing hemodialysis was satisfied with their role. The patients still had chance to give attention and respected by the family, could contribute to make decision making in family and community, have capability to think critically, still work actively and participating in the community activity. The emotional and financial support from the family is needed by sick people based on social and traditional value. Then the relationship among individu, family and community can be maintained optimally (Petrini, Y cited in Bayhakki & Hatthakit 2012).

#### 6. Self Identity

A number of 88,89% response of CKD undergoing hemodialysis showed clear identity such as feeling part of the family and community and respect to themselves. This statement was proved by the patients stated to not hate themselves, feeling happy, not felling weakness, and only feeling

different with others. With clear identity person thinks himself as unity, unique and different with others. This perception has impact to other components of self concept. Achieving self identity is the important thing to gain closed relationship as the people expressed their identity during making relationship with others( Stuart & Laraia 2007, Potter & Perry 2010).

Although most of response of identity was clear identity, the number of 11,11% response of CKD patient was negative identity. This negative identity appeared from unhappy feeling, hating himself, feeling weakness, and feeling different with others as negative feeling. This feeling might occur because CKD patients assumed that they can't fulfil their and other's expectation. CKD and hemodialysis and medication give impact on various things such as the change of self perception and identity, time for working and recreation, marital status, and relationship. CKD is struggling disease in which this disease need continuous treatment such as diit management, treatment scheduling including hemodialysis that result in the change in self function( Psychonephrology 2015). Patients undergoing dialysis have many psychological disorders and the type of dialysis is not of much importance in this regard; so, adequate education and information for clients in order to use appropriate methods of adaptation as well as appropriate social relationship, continuing social support and developing health policies seem necessary in order to prevent mental disorders and providing required services and supports for patients (Shahgholian, N, Tajdari, S, & Nasiri, M 2012). Self concept clarity and identity commitments influence each other reciprocally across days, the day to day changing in identity predicted later



anxiety and depression (Schwartz 2010).

## CONCLUSION AND RECOMMENDATION

This research recruited 30 CKD patients undergoing hemodialysis in dr Soeradji Tirtonegoro hospital. It can be concluded that a hundred persen of the patient had adaptive self concept, however there is still a chance for patient to have change in the component of self concept. Body image of respondents is in the positive and negative ranges. Ideal self of respondents are in the realistic and unrealistic ranges. Self esteem of respondents is in the high and low range. Role of respondents are in the performance unsatisfactory and satisfactory. Identity respondents are in the range of clear identity to negative range. The result of the research suggested to the family, care giver, health professional including nurses who caring for patients with hemodialysis to maintain and give attention to support and spirit to avoid adaptive self concept developed to be maladaptive self concept as there is still changes in component of self concept that risk to the development of maladaptive self concept. As nurses who closed to patient should applying caring factor, giving attention to the patient, empathy and giving accurate information to the patients. Qualitative research can be conducted for the future research in order to gain depth information about self concept of CKD patient conducting hemodialysis.

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- [gagalginjal\\_55123a95a33311c856ba7ff5](http://www.kompasiana.com/psikosomatik_andri/aspekpsikososialpasien-gagalginjal_55123a95a33311c856ba7ff5)
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