THE CORRELATION OF FINANCIAL MODELS AND MEDICINE ADHERENCE IN PATIENTS WITH DIABETES MELLITUS INATALATION OF OUTPATIENT AT RSUD NGUDI WALUYO WLINGI

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Abstract

Medication adherence in patients with Diabetes Mellitus is important in achieving treatment goals and effective in preventing some of the complications of Diabetes Mellitus. Patients with chronical diseases such as Diabetes Mellitus whose treatment requires a long time even a lifetime to note about the social economy, especially how patients pay for treatment.

The purpose of this study was to determine the correlation between financial models and medicine adherence in patients with diabetes mellitus of Outpatient in RSUD Ngudi Waluyo Wlingi.This study was a type of non-experimental research design and analysis of cross sectional. This study was conducted in 68 patients with Tipe 2 Diabetes Mellitus at Outpatient RSUD Ngudi Waluyo Wlingi, in Nopember 2014, the samples were taken by accidental sampling technique. The correlation score of medication adherence with financial models was analized using Spearman Rank test.

It was found that there were correlation between financial models and medicine adherence in patients with diabetes mellitus by p value 0,000. It was important to improve health education about medicine adherence and how to acces financing to support their treatments.

Key words: medicine adherence, financial models

Introduction

Diabetes mellitus is a disease characterized by high blood sugar levels. Basically, this is because the body lacks insulin substance produced by the pancreatic gland. Disadvantages here could be the lacking amount of insulin that, or the insulin is quite but it works less well. Diabetes mellitus is a chronic degenerative disease / not curable but blood sugar levels can be stabilized to normal (Sukarjdi, 2009).

According to WHO Indonesia ranks fourth largest number of diabetics in the world. In 2000 there were approximately 5.6 million people in Indonesia who have diabetes. The number of diabetics in urban areas of Indonesia in 2003 was 8.2 million people. While 5.5 million people in rural areas. It is estimated that 1 of 8 people in Jakarta have diabetes. The high count of patients in urban areas is partly due to lifestyle (Prapti Utami, 2009).

Based on data obtained in Outpatient of Ngudi Waluyo Wlingi hospital that the average patient visits during 2009 was 259, in 2010 the average patient visit was 278, in 2011 the average patient visit was 300 and in 2012 the average patient visit was 295. Then in 2013, 33 visit patient was new patient and 311 visit patient was the old patients. In 2014

until September, the average patient visits were 354.

It is estimated that there are still many people (about 50%) who have not been diagnosed with diabetes mellitus in Indonesia witch was only two-thirds of diagnosed people who have undergoing treatment, both non-pharmacologic and pharmacologic. From the undergoing such treatment is only one-third are well-controlled (PERKENI 2011). Whereas patients with diabetes mellitus if it does not receive appropriate treatment will have a negative impact on the patient's own form of occurrence of various complications. Which it will further increase the burden of medical expenses that should be covered by the patient.

Various studies have shown that generally patient compliance in the treatment of chronic diseases is low. The research involving outpatients showed that more than 70% of patients do not take medication according to the right dose (Basuki, 2009). According to a WHO report in 2003, the average compliance of patients on long-term therapy for chronic disease in developed countries is only 50%, whereas in developing countries, the number is even lower (Asti, 2006).

From the analysis of some of the opinions of experts known that medicine adherence is influenced by many factors. These factors include economic factors. Estimates that there are states that 20% of hospitalization as a result of non-compliance of patients to treatment (Sarafino, 2013)

Based on this condition, non-compliance of diabetes mellitus patients maybe due to socio-economic related factors. In patients with chronic diseases such as diabetes mellitus whose treatment requires a long time and even a lifetime must note about the social economy, especially how to finance patient treatment. If the patient is in lower economic level or do not know about the existence of the system of financial model dedicated to him, the patient will tend to disobey in the treatment. Based on research of Isa and Baiyewu in Ramdani, 2012, showed that lower quality of life in patients type 2 diabetes is influenced bybsocio-economic factors that is associated with financial problems or financial availability to support their treatment. The lower of socioeconomic status is also associated with poor adherence in patients with diabetes mellitus (Faradhilah, 2014). Medication adherence in patients with Diabetes Mellitus is important in achieving treatment goals and effective in preventing some of the complications of Diabetes Mellitus. Patients with chronical diseases such as Diabetes Mellitus whose treatment requires a long time even a lifetime to note about the social economy, especially how patients pay for treatment, (Putri, 2008).

There were various financial models at Ngudi Waluyo Wlingi hospitasl such as general financial, BPJS and Jamkesda. Based on observation there, the 80% of 354 visit of diabetes mellitus patient to September choosen BPJS as financial models and a lot of patients who used a general financial and

Jamkesda moved to BPJS financial models.

Based on the above description of the importance of sustainable financial models to support the treatment of patients with chronic diseases such as diabetes mellitus, the researchers were interested to know the correlation of Financial Models and Medicine Adherence in Patients with Diabetes Mellitus Inatalation in Outpatient at RSUD Ngudi Waluyo Wlingi.

The general purpose of this research was to explain the correlation between Financial Models and Medicine Adherence in Patients with Diabetes Mellitus Inatalation in Outpatient at RSUD Ngudi Waluyo Wlingi While the specific purposes of this study were: 1) Describe the financial model of diabetes mellitus patient in Outpatient of Ngudi Waluyo Wlingi hospital. 2) Describe the medicine adherence of diabetes mellitus patients in Outpatient of Ngudi Waluyo Wlingi hospital. 3) Analyze the relationship between financial models and medicine adherence in patients with diabetes mellitus inatalation in Outpatient at RSUD Ngudi Waluyo Wlingi.

Method
This research was non-experimental research with cross sectional method. The sample in this research was 68 people who suffer from diabetes mellitus who visited the Outpatient of Ngudi Waluyo Wlingi hospital with accidental sampling technique The independent variable of this research was financial model while the dependent variable was the medicine adherence. The data were analyzed by Spearman rank test with significance level ≤ 0.05

Result and Analysis
The Gender of Respondents
Table 1 The Distribution of Respondent's
Gender In Outpatient of Ngudi
Waluyo Wlingi Hospital, November
2014

Gender	Amount	Procentage
Male	25	37%
Female	43	63%
Total	68	100%

The Employment of Respondents
Table 2 The Distribution of Respondent's
Employment In Outpatient of
Ngudi Waluyo Wlingi Hospital,
November 2014

Employment	Jumlah	Prosentase
House wife	19	27,9%
Private Job	15	22,1%
Farmer	7	10,3%
Pentionary	23	33,8%
Teacher	3	4,4%
Government emp	1	1,5%
Total	68	100%

The Education Of Respondents
Table 3 The Distribution of Respondent's
Education in In Outpatient of Ngudi
Waluyo Wlingi Hospital, November
2014

Education	Amount	Procentage
Elementary	21	30,9%
Junior High	18	26,5%
Senior High	17	25%
Diploma/ bachelor	12	17,6%
Total	68	100%

Cross-tabulation financial model with medication adherence of Diabetes mellitus patients

Table 4 Cross Tabulation Financial Model with medicine adherence of Diabetes mellitus patientsIn Outpatient of Ngudi Waluyo Wlingi Hospital, November 2014

Financial Model	Medication Adherence		
	High	Moderate	Low
BPJS	37	9	2
General	3	13	4
Spearman Rank	0,000		

The above table shows that there was a correlation between financial model with medicine adherence in diabetes mellitus patients, with the results of analysis using SPSS 16 software with Spearman Rank test P value of 0.000 was obtained, and in this case of course P value less than 0.05.

Discussion

Based on the research results could be obtained that the majority of respondents, 40 people have a high compliance rate (58.8%), 22 with moderate compliance rate (32.4%), six people had a low compliance rate (8.8%). It could be obtained from the study also that patients with diabetes mellitus using BPJS were 48 people (71%), and patients who use public financing were 20 people (29%).

The 40 people who have a high density of as many as 37 people (92.5%) were respondents who use BPJS financial model, while 3 people (7.5%) are respondents who use public financial model. This happens because the ongoing financing needed when the level of compliance to be achieved successful therapy with either (WHO 2003), in which the BPJS patient is no guarantee continued their threatment. While on public patients there was a possibility of high socio-economic status so that they could pay for their treatment, because the sustainable financing needed if the level of medicine adherence to be achieved works so well (WHO, 2003).

From the results of the research obtained from the data that there were 22 people who have a moderate level of compliance in which 13 people were patient with public financial models. In addition to socio-economic factors that could affect adherence, the majority of respondents (8 people) answered yes when asked if they feel that therapy was complicated, this means that factors associated therapies such as the duration, the treatment regimen, previous treatment failures , changes of treatment, the unfavorable effects of the drug, side effects, and the availability of medical support to deal with them was a prominent factor in influencing medicine adherence (Takiya et al, 2004). While in the BPJS financial model there were 9 people with moderate adherence and the majority of respondents (4) have the same answer with 8 respondents of public financial models.

The result also showed that there were 6 people have low adherence level and most of them (4 patient) are public financial models that were commonly influenced by socioeconomic factors which socioeconomic status were low also associated with poor adherence in patients diabetes mellitus

(Faradhilah, 2014). Whereas in BPJS patients there are 2 people who have low level of adherence in which the majority of them answered yes when asked if they sometimes forgets to take medication. It was appropriate with that some of the factors related to clients adherence affected factors was reportedly forgetfulness (WHO, 2003), besides of course also due to the lack of motivation of the client to perform the treatment, as well as the level of education of the patients were low (elementary shool), considering education can affect the level of patients' knowledge about the importance of regularity of taking the drug, it was appropriate because education were a process of changing attitudes and code of conduct of a person or group and also mature human effort through the efforts of the teaching and training (Meliono Irmayanti, 2007).

From the results of this study showed that BPJS patients have a high compliance rate of more than patients who used public financial model in which of the 48 respondents who used as 37 respondents (77.1%) have a high compliance rate. While in public financial model patients from 20 respondents there were 3 respondents (15%) had a high compliance rate. This condition occurs because BPJS patients had availability of financing for access to treatment, while the public financial model patient not necessarily guarantee the availability of financing because it depend on the social economic status. At the level of moderate compliance there were more BPJS patient than public client that was 13 respondents (65%) and in BPJS patients from 48 respondents have 9 respondents (18.75%) with high levels of complianc. It was a fact that there were other factors that affect adherence in this case that were relevant with therapy factor.

At the low level of medicine adherence the amount of public patient are more than BPJS patient where from 6 low adherence respondents, 4 of them were public financial models, this condition could be happens because in public patients not necessarily guarantee the availability of sufficient financial access to treatment, while BPJS patients have other factors affecting adherence that were factors related to the client them self.

Conclusion

There were correlation between model of financial model with medicine adherence in diabetes patients in Outpatient of Ngudi Waluyo Wlingi Hospital with α significance value of 0.000.

Acknowledgement

Among patients with a number of public financial and BPJS patients in this study is not the same

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