PSYCHO RELIGIOUS IN NURSING CARE ON DIABETES MELLITUS TYPE 2 PATIENTS ON DEPRESSION AND BLOOD SUGAR REDUCTION

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ABSTRACT

Effort to reduce depression and blood sugar levels through psycho religious of *dzikir* and *shalawat* was not carried out much yet. This research aims to explain psycho religious therapy effects towards depression and blood sugar level in diabetes mellitus type 2 patients. This research used experimental method with randomized pre test post test control group design. This research was carried out on diabetes mellitus type 2 patients in Pacar Keling area of Surabaya and they had been selected into two groups. The first group was given psycho religious and second group as control. The blood sugar and depression measurement was carried out one week after and before psycho religious giving. The change of depression levels analysis used Mann Whitney U test. While blood sugar concentration was analyzed using Pair T Test, Ind T Test. There was an effect of psycho religious towards depression of DM Type 2 patients with significant value of 0,004. (p<0,05). There was no effect of psycho religious therapy towards blood sugar level of patients, with significant value of 0,474 (p>0,05). DM type 2 patients who got psycho religious therapy had depression reduction but not with their blood sugar levels. Psycho religious need to be carried out to prevent severe depression. Further research are needed to be conducted which focus on duration and dose of psycho religious giving.

Keywords: psycho religious, depression, blood sugar level

INTRODUCTION

Depression has risk to occur in diabetes mellitus patients. Depression that occurs in diabetes mellitus patients can cause blood sugar levels increment (Dyah Surti Murdiningsih, 2013). High blood sugar levels cause several organ damage such as eyes kidneys, nerve, heart and blood vessels (ADA,2010). Various efforts to reduce blood sugar levels has been carried out for example through diet program, routine exercise, pharmacological therapy by medicine and insulin intake but efforts to reduce depression and blood sugar levels through psycho religious of *dzikir sholawat* was not carried out much yet.

Incident rate of diabetes mellitus and risk to experience of depression are still high in worldwide. Sufferers of diabetes mellitus have risk to experience depression 1,80 times higher than non diabetes mellitus people. The number of diabetes mellitus type 2 sufferers reach 329 million people, and the mortality rate reach 4,6 million in 2011 *International Diabetes Federation* (IDF,2011). The number of diabetes mellitus sufferers in Indonesia reach 6,6 million in 2011 and predicted to increase become 10,6 million people in 2030.

Diabetes mellitus sufferers in Surabaya reach 21.268 people in 2012 (Dinas Kesehatan Kota Surabaya, 2013).

Neurotransmitter factor have role in depression occurrence mechanism. Norepinephrine and serotonin are two neurotransmitters that have the biggest role in depression pathophysiology. Depression cause body malfunction include hormones, immunities, and digestion. Depression cause glucogenesis mechanism so that blood sugar levels in diabetes mellitus patients are uncontrolled (Dharmono, 2011). Blood sugar levels increment in diabetes mellitus patients can cause body cells problems and also disruption of blood flow to periphery as a result of macro vascular complications, so that inhibit wound recovery (Soebardi, 2006). Chronic diabetes mellitus complications cause less than 5 years lifetime, one of chronic complication results is gangrene.

Diabetes mellitus care efforts need comprehensive approach includes bio-psycho-socio-spiritual. Religion or religiosity gives important role to hasten patients' rehabilitation in psychological care of patients who suffer physical illness. There is a strong relation between religiosity and self serenity.

Religiosity allows people to have faith, obedient to do religious practice, experience and knowledge about religion. Religiosity pushes people to accept the reality, gets self serenity and guides people behaviour to more familiar with His God.

General aim of this research is explaining the effects of psycho religious towards depression and blood sugar levels of diabetes mellitus type 2 patients who experienced depression. While the specific aims of this research are: 1) Explaining depression reduction in diabetes mellitus type 2 patients who were given psycho religious treatment. 2) Measuring blood levels reduction in diabetes mellitus type 2 patients who were given psycho religious treatment.

RESEARCH METHOD

This study is experimental type research using randomized pre test-post test control group design on diabetes mellitus patients who got psycho religious therapy. Population in this research was all diabetes mellitus type 2 patients of 66 people in Pacar Keling Area of Surabaya. Chosen samples in this research were part of diabetes mellitus patients who were chosen by consecutive sampling. The experiment units in this research were 9 patients of every group identified from secondary data on Pacar Keling Health Center Surabaya. Informed consent was given to patient by putting their signature on approval letters as research subject to be interviewed, answer the questioners, depression and blood sugar levels measurement. The informed consent giving was based on research aims explanation. Blood levels and depression measurement was carried out two times, before psycho religion therapy and two weeks after psycho religious therapy. Psycho religious therapy is a sequence of *dzikir* and *doa* (prayers) by spelling "*Al-Fatihah* " 7 t*es* then " *istighfar*" 100 times, also "*Allahumma shalli 'ala Muhammad wa ali Muhammad* " *sholawat* 100 times ("*Ya sayyidi ya rasulullah*" sholawat 1000 times) that conducted once per day. Data were analyzed using computer software. Data description were using average and deviation standard for normal distributed data. Depression variable change was analyzed using Mann Whitney U test and blood sugar levels was analyzed using Pair T Test, Ind T Test.

RESULTS
General description of research place.

This research was carried out on Pacar Keling Health Center, Surabaya work area. Pacar Keling Health Center Surabaya carries out therapy program for DM. Specific *Posyandu* in caring on DM patients was never established in Pacar Keling Health Center Surabay area. *Posyandu that* has been established is adult *Posyandu* that continuously carry out the routines. The routines include, gymnastic, promotion and continuously health examination.

Patients used in this research were DM type 2 patients registered on Pacarkeling Health Center Surabaya. Medical diagnose type based on ICD X was in the following : DM patients with ICD E10.8 (*DM Type 2 with insulin unspecific complication*). The data collecting process was carried out by investigating patients' data in Pacarkeling Health Center Surabaya data base and doing home visitation. The number of DM type 2 patients on Pacarkeling Health Center area based on Pacarkeling Health Center Surabaya online report, on Mei reached 66 patients. Patients that met the criteria and used as sample in this research were 30 people, but there was a patient rejected to be research subject, 5 patients had moved from their addresses and 6 patients had unclear addresses also difficult to meet. So there were 18 patients divided into two groups with 9 people in each group.

Demographic Data

Demographic data include DM patients' age, education background and sex which were served in frequency distribution form. Almost half of the DM patients' ages were above 60 years (38.3 %). Test results showed that the ages in control group and treatment group were homogeneous with significant value of 0,680 (p > 0,05).

Almost half of the DM patients' education background were elementary school (44,2%) and the minority (16,65) were college. Test results showed that the education backgrounds in control group and treatment group were homogeneous with significant value of 0,851 (p > 0,05).

Most of the DM patients' sexes were female (62,2%). Test results showed that the sexes in control group and treatment group were homogeneous with significant value of 0,851 (p > 0,05). For details, DM patients'

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characteristics distribution on treatment group and control group can be seen in this following table:

Table 1
DM patients' characteristics on treatment group and control group in Pacarkeling Health Center 2016

Patients' characteristic		Control group		Treatment group		Total		Sig. (2-tailed)
		Fn	%	Fn	%	Fn	%	
Age	40-50 Years	3	16,7	3	16,7	6	33,4	
	51-60 Years	3	16,7	2	11,1	5	27,8	0,680
	61-70 Years	3	16,7	4	22,1	7	38,8	
	Total					18	100	
Education Background	Elementary School	4	22,1	4	22,1	8	44,2	
	Junior High School	1	5,55	1	5,55	2	22,1	
	Senior High School	2	11,1	3	16,7	5	27,8	0,851
	College	2	11,1	1	5,55	3	16,65	
	Total					18	100	
Sex	Male	3	16,7	4	22,1	7	38,8	
	Female	6	33,4	5	27,8	11	61,2	0,653
	Total					18	100	

Effects of Psycho Religious on Depression In DM Patients

Tabel 2
Difference Before and After in Depression Variable on Treatment and Control Group

Depression	Group			
	Control		Treatment	
	Pre	Post	Pre	Post
None	0	0	0	5
	-	-	-	55,6 %
Mild	3	4	4	3
	33,3%	44,5 %	44,5 %	33,3%
Average	1	2	3	1
	11,1 %	22,2 %	33,3%	11,1 %
Severe	5	3	2	0
	55,6 %	33,3%	22,2 %	-
Total	9	9	9	9
	100%	100%	100%	100%
Sig	0,299		0,006	
Min	Pre = 2 Post =1			
Max	4		4	
Median	Pre = 3 Post = 2			
Modus	2		2	
Sig Pre	0,313			
Sig Post	0,004			

The calculation results showed minimum score of depression before treatment was 2 and after treatment was 1, indicated there was a depression levels reduction before and after the treatment. Mann Whitney U statistic test results obtained significant value of 0,299. Despite the significance was higher than 0,05 so it was stated that there was no difference of depression on control group before and after the treatment. While on treatment group, the significant was 0,006. Because of the significance was less than 0,05 so it was stated that there was a difference of depression on treatment group before and after

the treatment where treatment group had lower depression levels or better compared with before being treated.

The statistically calculations results of Mann Witney U Test obtained significant value of 0,013. Significant value was higher than 0,05 so there was no difference in depression variable between treatment group and control group on pre test. While in post test obtained significant value of 0,004. It was less than 0,05 so there was a difference in depression variable between treatment group and control group.

Effects Of Psycho Religious Therapy On Blood Sugar Levels in DM Patients

Tabel 3

The difference before and after blood sugar levels variable in the treatment and control group

Blood sugar levels	Group			
	Control		Treatment	
	Pre	*Post*	*Pre*	*Post*
<120	1	0	0	2
	11,1 %	-	-	22,2 %
>120	8	9	9	7
	88,9 %	100%	100%	77,8 %
Total	9	9	9	9
	100%	100%	100%	100%
Mean	207,67	264,84	265,78	224,67
SD	54,461	54,299	128,948	108,212
Levene's Test for Equality of Variances	0,940		0,468	
Sig.	0,040		0,474	

The calculation results showed that blood sugar levels in patients of control and treatment group are homogeneous with p>0,050. T Test statistically calculation results in the control group obtained significant value of 0,040 (p<0,05), it meant that there was a difference of blood sugar levels in the control group before and after treatment. The blood sugar levels of control group increased before and after treatment. While in the treatment group, significant value was 0,474 (p>0,05) meant that there was no difference of blood sugar levels in the treatment group before and after treatment.

The average value of blood sugar levels in the control and treatment group showed high values (>200 mg/dl). Nominally, blood sugar levels in the treatment group did show a reduction after the intervention, but statistically that reduction was meaningless.

DISCUSSION
Effects Of Psycho Religious Therapy on Depression In DM Patients

The significant value of *Mann Whitney U* Test statistical calculation results was 0.004. Due to the significance of less than 0.05 so it can be said there was difference of

depression in the treatment group before and after treatment, which the group that received treatment had lower levels of depression or better than before being treated.

The depression is a mood disease. A disease which more than just sadness or grief. Depression is one form of psychiatric disorders in mood (affective/ mood disorder), which characterized by moodiness, sluggishness, lack of interest in life, feeling useless, hopeless, etc (Hawari Dadang,2001). The psycho religious therapy given to breast cancer patients can increase self efficacy and reduce depression levels (Kastubi, 2013).

The condition of depression that experienced by the patient due to the more severe stressor psychosocial, discrimination surrounding communities, life expectancy is getting smaller, also the fear of death. Besides DM is already known by public with a variety of complications such as gangrene and blood sugar levels that difficult to control. In terms of age, DM patients used in this research were patients older than 40 years. According to the development of Erik Ericson (1963), individuals in that age range start receive the change in his self and think positively about life, so with psycho religious therapy which focuses on religious activities such as *dzikir* and *sholawat* can lead to peace of mind and influence towards reduction of depression.

Effects Of Psycho Religious Therapy On Blood Sugar Levels in DM Patients

The statistical calculation results on control group obtained significance value was of 0.040(p<0.05), meant that there was difference of blood sugar levels in the control group before and after treatment. The blood sugar levels of control group increased before and after treatment. While in the treatment group, significance value was of 0,474 (p>0,05) meant that there was no difference of blood sugar levels in the treatment group before and after treatment. The blood sugar levels in the treatment group after treatment did show a reduction, but statistically that reduction was meaningless.

The factors that cause a increment in blood sugar levels in patients with DM are excessive consumption of food, less physical activity, deficiency of insulin and stress. Depression in diabetes contributes to neurohormonal and neurotransmitter change that can affect the metabolism of glucose (Medved, 2009).

Patients used in this research are patients who were at home with self-care by patients and families. It caused researcher difficulty control other variables that influential. The results of interview obtained data that showed some patients were less discipline in diet program and some patients were less regular in the consumption of drug or insulin. This condition caused change of blood sugar levels in each patients became uncontrolled.

Limitation

In this research, there were several things that cause limited course of the process and the results of research among others : 1) The differences of socio – economic status of patients and education level socio – economic status of patients, this caused psychological differences on patients in receiving and resolving any problems. 2) Age, most patients who be the subject of this research were adults, so that the development of self-concept was in a condition to accept change in himself and think positively about life. 3) The type of disease, all patients werw insulin dependent DM Type 2 with unspecified complications. So, the results of this research cannot describe how it would affect DM patients in general or other chronic disease.

CONCLUSION AND RECOMMENDATION
Conclusion

Based on the study of psycho religious therapy research, can be concluded that Psycho religious therapy was reduced the level of depression but it has no effect on reduction of blood sugar levels in patient with DM type

Recommendation

Psycho religious therapy necessary in patients with DM type 2 disease in order to prevent more severe depression, and it can be carried out anywhere during the treatment process to reduce the depression. 2) Nurses need to be prepared with technical skills of psycho religious therapy as a complementary therapy to provide better patient care.

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