

Effect of Psycho Education Modification on Health Locus of Control, Self Efficacy, Family Support in Type 2 Diabetes Mellitus Patients in 2020

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ABSTRACT

Diabetes mellitus (DM) has become a public health problem around the world especially in developing countries. According to the American Diabetes Association, DM is a group of chronic metabolic diseases with hyperglycemia characteristics that occur due to abnormalities in insulin secretion, insulin work, or both. Requiring medical care, education and self-management to prevent acute complications and lower the risk of long-term complications. The results of the Data and Information Center of the Ministry of Health of the Republic of Indonesia (2012) noted that DM is among the top ten diseases that cause death in Indonesia after intracranial bleeding, stroke, kidney failure, heart failure, and other heart diseases. Psycho Education is one of the educational programs that aims to reduce conflict and change communication patterns in the family to solve problems. The purpose of this study was to increase the control of blood glucose levels of type 2 diabetes mellitus patients with increased health locus of control, self-efficacy and family support. The type of research used in this research is Quasi Experimental research. The design of this research uses pretest-posttest control group design. The population in this study was elderly people suffering from Type 2 DM. From Puskesmas data sampled using Systematic Random Sampling method with each group consisting of 35 respondents. Psycho Education is given for 3 weeks and every week a random check of blood glucose levels is carried out. The results of the study were tested with Wilcoxon test. The results of this study are variables Health Locus of Control and Self Efficacy in Patients Diabetes Mellitus Type 2 Year 2020 influential with the implementation

of Psycho Education in the Working Area of Puskesmas Sentosa Bau Medan (p-value < 0.005). That DM Type 2 patients who initially responded were health workers and families, patients also initially thought that his health was destiny, fate, luck, or opportunity. After the application of Psycho Education patients so think the responsibility to control his health is on him. In self efficacy variables that before the treatment of patients on average efficacy low after the implementation of self efficacy Psycho Education patients are high majority because patients know how to manage diseases and bias control emotions with the teaching of mindfulness techniques in order to realize themselves and their feelings that are biased resulting in stress and impact KGD patients will. For variable family support before and after the application of Psycho Education is still enough because the majority of patients suffering from type 2 DM has been more than 3 years with the condition until now still healthy. From the results of this research it is expected that the nurses of Sentosa Baru Health Center can apply Psycho Education to DM Type 2 patients so that their blood glucose management can be maximally implemented.

Keywords: Health Locus of Control, Self Efficacy, Family Support, Diabetes Mellitus

INTRODUCTION

The high prevalence of Diabetes Mellitus (DM) is feared to increase the risk of accompanying diseases as a result of complications of this disease. Complications that occur in DM in Indonesia include neuropathy complications 60%, coronary heart disease 20.5%, diabetic ulcers 15%,

retinopathy 10%, and nephropathy 7.1% (S. Raudhoh, 2013). This risk can occur due to lack of information about diabetes and its management forms an inaccurate perception of diabetes (ill perception). The patient's incomprehension about his illness as a result of the lack of information received by the patient, led to a decrease in Health locus of control and was not sure of managing diabetes so as to avoid complications (self efficacy diabetes decreased) (Yulis Hati, 2014).

DM is a chronic disease that will be carried for life. The management of this disease requires the participation of doctors, nurses, nutritionists, and other health workers. The existence of family support underlying the formation of the family; Support assessment, instrumental, informational and most importantly emotional can shape the approach psychologically. In addition to being able to form a solid family, medical family support can play a role in reducing the thought of negative impacts on the disease experienced (Desy Nurwulan, 2017). Patients and families also have an important role, so it is necessary to get education to provide an understanding of the course of disease, prevention, difficulty, and management of DM (Novita Rosviantika, 2013).

Education with the aim of promoting healthy living, needs to always be done as part of prevention efforts and is a very important part of holistic dm management. One of the education of DM patients is psychoedukatif, Psycho Education is an education or education with a psychological concept approach that can be given individually or groups. Psycho Education is a therapy that is easy to do, more efficient in cost and time and well received by patients. The application of Psycho Education for people with Type 2 DM in Indonesia is still limited. So far Psycho Education is more focused on intervening psychological problems (S. Raudhoh, 2013).

Several studies on the development of diabetes education programs were also conducted in Indonesia, including the

provision of supportive educative programse, self management intervention (Darmansyah, AF, et al. 2013) (Aini, N., Fatmaningrum, W., Yusuf, A. (2011). Some of these studies have succeeded in increasing knowledge, understanding, satisfaction, self efficacy, self-care, self-regulation, compliance, and lowering blood glucose levels of Type 2 DM patients.

Puskesmas Sentosa Baru Kecamatan Medan Perjuangan became a place of research, because DM patients are quite a lot and the tone of the Prolanis program, but patients have not been able to control blood glucose levels. The purpose of this study was to identify Health locus of control, self efficacy and family support with the application of Psycho Education in patients with type 2 diabetes mellitus. The benefit of this study is that diabetes mellitus patients are able to contain themselves from the disease, its efficacy increases accompanied by the presence of family support so that the patient can control his blood glucose levels. This research is very important because diabetes mellitus patients have a lifelong disease that must be managed properly and obediently to avoid complications that worsen the patient's condition.

METHODOLOGY

This type of research is quasi experiment with the design of this research using pretest-posttest Control Group Design method. Research location in Puskesmas Sentosa Baru District Medan Perjuangan. Elderly people with Type 2 Diabetes Mellitus. From data Prolanis Puskesmas samples taken systematic random sampling in the working area of Puskesmas Sentora Baru obtained respondents as many as 35 respondents both intervention groups and control groups. Psycho Education was given for 3 weeks and every week was examined ad-random blood glucose levels. The Control Group is only given modules without psychoeducation.

The first week in the intervention group is Psycho Education about, the definition of diabetes, aspects of aspects that

affect diabetes mellitus. Week two taught respondents to do diabetic foot gymnastics and the third week Psycho Education about education management while providing mindfulness techniques to respondents. The implementation of Psycho Education was also attended by the families of respondents.

Data collection is done by providing questionnaire sheets (HLOC, Self efficacy and family support) to respondents where previously respondents had to sign a letter of agreement to become a respondent. Data analysis using Wilcoxon test.

RESULTS AND DISCUSSION

1. Demographic Data

The subjects in this study were divided into control groups and intervention groups. From the description of the study subjects it was found that the age of patients in the intervention and control group is the majority in the elderly/elderly (60 - 74 years) as many as 16 people (45.7 %) and

14 people (40.0 %). The sex of patients in both groups was male at 20 (57.1%) intervention group and 22 people (69.2%) control group. The majority of patient education levels are high school graduates, namely 23 people (65.7%) in the intervention group the majority of junior high school education is 13 people (37.1 %) control group. For work for intervention groups The majority of patients are retirees of 15 people (42.9%), with the majority income in the range of Rp. 1,000,000 - Rp. 2,000,000/month of 12 people (34.3%) intervention group and control group of the majority of junior high school educated as many as 15 people (42.9 %) control group. Marriage status of the majority of patients married and long suffered from Type-2 DM in both groups > 3 years, namely 27 people (77.1%). The following table will describe the research subjects based on demographic characteristics.

Table 1: Description of Research Subjects Based on Demographic Characteristics

No.	Characteristics of Respondents	Intervention Group		Control Group	
		F	%	F	%
1.	Age				
	Middle Age	10	28,6	9	25,7
	Elderly	16	45,7	14	40,0
	Young	9	25,7	12	34,3
	Total	35	100	35	100
2.	Gender				
	Man	20	57,1	22	62,9
	Woman	15	42,9	13	37,1
	Total	35	100	35	100
3.	Education Level				
	Elementary School	2	5,7	6	17,1
	Junior High School	6	17,1	13	37,1
	Senior High School	23	65,7	12	34,3
	Higher Education	4	11,4	4	11,4
	Total	35	100	35	100
4.	Pekerjaan				
	Not Working	8	22,9	7	20,0
	Civil Servants/TNI/POLRI	4	11,4	5	14,3
	Farmer/Trade/Laborer	8	22,9	15	42,9
	Other	15	42,9	8	22,9
	Total	35	100	35	100
5.	Income				
	0	9	25,7	7	20,0
	< 1 Millions	10	28,6	9	25,7
	1 – 2 Millions	12	34,3	12	34,3
	> 2 Millions	4	11,4	7	20,0
	Total	35	100	35	100
6.	Marriage Status				
	Married	19	54,3	19	54,3
	Widow/Widower	16	45,7	16	45,7
	Total	35	100	35	100
7.	Long Suffering DM				
	< 3 years	8	22,9	8	22,9
	> 3 years	27	77,1	27	77,1
	Total	35	100	35	100

2. Health Locus of Control

a. Effect of Application of Psycho Education with Health locus of control before and after treatment in intervention group

Table 2: Description of Health of control Before, After Treatment in Intervention Group

No	Variable	Sub Variable	Category	Before Treatment		After Treatment	
				f	%	f	%
1.	Health locus of control	Internal	Low	21	60,0	8	22,9
			High	14	40,0	27	77,1
			Total	35	100	35	100
		Powerful others	Low	15	42,9	23	65,7
			High	20	57,1	12	34,3
			Total	35	100	35	100
		Chance	Low	11	31,4	34	97,1
			High	24	68,6	1	2,9
			Total	35	100	35	100

Based on the table above on health locus of control where the sub variable internal health locus of control in the majority intervention group in the low category is 21 people (60%) where respondents who have confidence in their health with influence from outside themselves are more dominant than themselves. In the other powerful health locus of control, the majority of high categories are 20 people (57.1%) where patients who have confidence in health control are all entrusted to others (health workers and families). And there were 24 people (68.6%) the majority are in the high category for chance health locus of control, which means that the patient believes more in the fate, fate, luck, or opportunity that has a major influence on his or her health.

Patients with Type 2 DM experience many changes in life habits such as blood sugar control, physical activity, drug consumption, and diet that must be done regularly. This condition can lead to negative psychological reactions in the control of his health condition. His health condition will make the patient stressed. Everyone who faces stress depends on the coping mechanism they have. One of the factors that influence the coping mechanism is the health locus of control which is a form of one's belief in controlling the health condition achieved today, possibly obtained as a result of past experience determined by his own actions (internal) or from outside forces (powerful others or chance) who control his health (Auliya Hidayati, 2017)

Health Locus of Control in the intervention group after being treated on the variable Internal Health Locus of control majority in the high category of 27 people (77.1%) where the patient has control over his own health. In 2014, 23 people (65.7%) namely patients who have confidence in controlling their own health in addition to other factors that affect their health and there are 34 people (97.1) to be the majority in the category of health locus of control chance, where patients who have confidence to control their health in addition to factors of fate, luck or opportunities that can affect their health.

Each individual has a different locus of control, because the individual has different judgments and experiences so that it will affect his behavior (Retno Dwi Susanti, 2018). Disease control in this research is the controller of blood sugar levels, diet, activity and emotional control in patients with type 2 diabetes mellitus that will affect their health status. To see the effect of Psycho Education on health locus of control in DM type 2 patients in the bias intervention group we see in the following table.

This study aims to look at the influence of Psycho Education on Health locus of control before and after the action by using Wilcoxon test using SPSS version 23 application. The results of the table showed that both internal sub-variables, powerful other health locus of control and health locus of control chance showed that P Value < 0.005 then ho received the

influence of Psycho Education on health locus of control in DM Type 2 patients in the working area of Puskesmas Sentosa Baru Medan.

From Table 2, it can be seen that there is an increase in each variable health locus of control towards a positive direction that we can conclude that patients are more

likely to take responsibility on themselves for their health control, so that the individual will be responsible for his health and comply with the recommendations in self-management for blood sugar stability in diabetics (Nurina Dewi Pratita, 2012) in this case the implementation of 5 pillars of DM Type 2 management.

Table 3: Psycho Education for Health Locus of Control in Intervention Group

No	Variable	Sub Variable	Category	Mean	Z	P Value
1.	Health locus of control	Internal	Before	1,40	3,153	0,002
			After	1,77		
		Powerful others	Before	1,57	2,828	0,004
			After	1,34		
		Chance	Before	1,69	4,796	0,000
			After	1,03		

b. Effect of Application of Psycho Education with Health locus of control before and after treatment in Control group

Table 4: Description of Health of Control Before, After Treatment in the Control Group

No	Variable	Sub variable	Category	Before Treatment		After Treatment	
				f	%	f	%
1.	Health locus of control	Internal	Low	19	54,3	16	45,7
			High	16	45,7	19	54,3
			Total	35	100	35	100
		Powerful others	Low	17	48,6	14	40
			High	18	51,4	21	60
			Total	35	100	35	100
		Chance	Low	17	48,6	14	40
			High	18	51,4	21	60
			total	35	100	35	100

From table 4, it can be seen that the majority of patients in the internal health locus of control variables before being given a module without direct Psycho Education are in the low category of 19 people (45.7%) which means that the patient has confidence in his health control with influence from outside him is more dominant. Meanwhile, after 3 weeks, researchers again conducted HLOC questionnaires found that the majority of respondents in the high category were 19 people (54.3%) patients who have control over their own health. On powerful variables locus of control before and after treatment the majority in high categories where the majority of patients have confidence in health control are all entrusted to others be it health workers or families.

The third variable is health locus of control canche where respondents before and after treatment obtained a majority in a high category majority of respondents

believe more in fate, fate, luck, or opportunities that have a great influence in their health. Powerful variables and canche is one part of the external health locus of control where health control becomes an external responsibility that is health control in diabetic patients who have responsibility is others (health workers and families) and also fate, destiny, luck is not the result of self-responsibility.

Statistical Test Results for the influence of Psycho Education on health locus of control in the control group found that there was no effect of health locus of control on respondents from before given the module and after being distributed a module containing Psycho Education. If we look at the results of table 4 and associated with no Psycho Education influence it is clear that respondents have the thought that their health control is influenced by outside the patient. According to the results of research from Papova (2012) it was found

that patients who have a low excess health locus of control are less likely to care about their health that has a stress impact. Patients with TYPE 2 DM if stress will be displayed

KGD value can increase and can cause complications so that with the application of Psycho Education given can cause conflict or stress.

Table 5: The Application of Psycho Education to the health locus of control in the control group

No	Variable	Sub Variable	Category	Mean	Z	P Value
1.	Health locus of control	Internal	Before	1,64	1,134	0,257
			After	1,54		
		Powerful others	Before	1,51	0,832	0,405
			After	1,60		
		Chance	Before	1,51	0,905	0,366
			After	1,60		

Psycho Education is a form of intervention that can be applied to individuals, groups or families that aim for rehabilitation so that the individual does not experience the same problems when faced with certain challenges or prevention so that the individual does not experience disorders when facing a challenge in this case is health control in DM Type 2 patients so that it does not have a stress impact because the content of Psycho Education among others is to provide mindfulness techniques to realize himself and his feelings.

3. The Effect of Psycho Education Application with self efficacy

Self efficacy intervention group before being treated showed that self efficacy in the low category (low) yqitu 19 people (54.3%) and after being treated majority respondents self efficacy high that is as many as 25 people (71.4%). In the control group initially self efficacy respondents majority in the moderate category is as much as higher than the low category of 11 people (55%) and the same in the control group before and after being given the module without direct Psycho Education majority in the moderate efficacy category as illustrated in table 6

Table 6: Description of Self Efficacy Before, After Treatment

No	Variable	Group	Category	Before Treatment		After Treatment	
				f	%	f	%
1.	Self Efficacy	Intervention	Low	19	54,3	0	0
			Moderate	15	42,9	10	28,6
			High	1	2,9	25	71,4
			Total	35	100	35	100
		Control	Low	12	34,3	7	20,0
			Moderate	15	42,9	18	51,4
			High	8	22,9	10	28,6
			Total	35	100	35	100

Table 7: Effect of Psycho Education Application on Self Efficacy

No	Variable	Group	Category	Mean	Z	P Value
1.	Self Efficacy	Intervention	Before	1,49	5,246	0,000
			After	2,71		
		Control	Before	1,89	2,333	0,20
			After	2,09		

DM patients are experiencing problems that make them feel uncomfortable with their illness. The problems they feel uncomfortable both stem from a lack of information and from a lack of contact with other fellow diabetic patients. Therefore, it is necessary to have

Psycho Education in order to influence the behavior of everyday patients such as in the regulation of diet, drugs, social arrangements and lifestyle changes independently even though assisted by others only on a small scale such as health workers and families.

From the results of the analysis found that the average results of self efficacy intervention group after education was found that $p < 0.05$ while in the control group it was found that P-value 0.20 ($p > 0.05$). In this case, the researchers realized that Psycho Education administration has an increased impact of self efficacy in TYPE 2 DM patients. This research was conducted by quasi-experimental method pre and post with control group, homogeny variables and distributed normally become statistical test requirements in this study that have been met.

In the respondents in the intervention group, Psycho Education was carried out in 3 meeting, which was also found that the majority of patients suffering from DM Type 2 > 3 years meant that the treatment was more discussion. The process

of discussion and sharing becomes very important in the implementation of education with a Psycho Education approach that emphasizes the involvement of sufferers, other sufferers and families directly. This provides space for respondents to express their complaints, exchange information and solutions, to be given motivation and inputs that are constructive.

This is in accordance with research conducted by Yulis (2014) that education can change the behavior of patients through information provided to patients. Providing information to patients is a stimulus that can increase knowledge, thus raising awareness to behave as expected. DM type 2 patients have different abilities and responses to the stimulus provided, so the patient's behavior and ability to perform self-care is also different.

4. The Effect of Psycho Education Application on Family Support

Table 7: Description of Family Support Before, After Treatment

No	Variable	Group	Category	Before Treatment		After Treatment	
				f	%	f	%
1.	Family Support	Intervention	Less	8	22,9	0	0
			Enough	22	62,9	20	97,1
			Good	5	14,3	15	42,9
			Total	35	100	35	100
		Control	Less	11	31,4	6	17,1
			Enough	18	45,7	26	74,3
			Good	8	22,9	3	8,6
			Total	35	100	35	100

From table 7 it can be found that the support of patients with Type 2 DM is majority in the category of quite good intervention group and control group before and after treatment. It is supported by Friedmen (2015) that family support and knowledge levels can have a positive impact on care management compliance in DM sufferers. Sufferers who get family support tend to make changes in behaviors in a healthier direction than those who lack support.

The effect of Psycho Education on family support of DM type 2 patients can be seen in table 8 after being tested statistically found that p value < 0.05 (0.000) in intervention group and in control p value > 0.05 (1,000). This means that in the intervention group there is an influence of Psycho Education with family support in DM type 2 patients in the working area of Puskesmas Sentosa Baru Medan.

Table 8: The Effect of Psycho Education on Family Support

No	Variable	Group	Category	Mean	Z	P Value
1.	Family Support	Intervention	Before	1,91	3,690	0,000
			After	2,43		
		Control	Before	1,91	0,000	1,000
			After	1,91		

From Nailiy Huzaimah research (2018) that Psycho Education given can produce changes in individual behavior. Training type 2 DM sufferers on how to manage diabetes independently by including families to provide support, is a needed part of a series of diabetes education activities. Family support in the form of assessment support in the form of a positive family response to the disease suffered by the patient, in other cases patients who have congenital heart disorders, the condition in this case is important and needs to get positive assessment support from the family and those closest to him. If the patient gets a negative assessment, it will adversely affect the sustainability of the treatment. Not only assessment support, instrumental support in the form of services, in this case can be medical expenses, accompanying patients. Informational support from the family is to provide solutions to existing problems, in the case of the case, the family can provide sentences that calm the patient to keep the patient focused during his treatment. The emotional support provided by the family can be in the form of encouragement and motivation for the patient's recovery (Desy Nurwulan, 2017).

Family support in diabetics is expected to help the success of diabetes management; so as to avoid complications and improve the quality of life of people with Diabetes mellitus will accompany a lifetime so as to affect the quality of life of patients. The conclusions in this study are Health Locus of Control and Self Efficacy In Diabetes Mellitus Type 2 Patients in 2020 with the implementation of Psycho Education in the Working Area of Puskesmas Sentosa Baru Medan. It appears that The Type 2 Diabetes Mellitus Patient who was originally a responsible health management trust is a health officer and family, the patient also initially thought that his health was destiny, fate, luck, or opportunity. After the application of Psycho Education patients so think the responsibility to control his health is on him.

In self efficacy that before the treatment of patients on average efficacy low because of the lack of understanding of the challenges of managing diabetes mellitus disease that the patient suffered. After the implementation of self efficacy Psycho Education patients are high majority because patients know how to manage diseases and bias control emotions with the teaching of mindfulness techniques in order to realize themselves and their feelings that are biased resulting in stress and impact KGD patients will increase even until complications occur. Family support before and after the application of Psycho Education is still sufficient because the majority of patients suffering from type 2 DM have been more than 3 years with the condition until now still healthy. And all respondents are elderly people who live with children or family members who pay little attention to the needs of respondents.

CONCLUSION

1. The influence of Psycho Education application on locus of control in DM Type 2 patients in the Working Area of Puskesmas Sentosa Baru Medan has an influence with a value of $P < 0.005$ both in the internal sub-variables Health Locus of Control, power full others Health Locus of Control and Health Locus of Control chance. Where DM Type one patients in health control think it is their own responsibility even though there are health workers and families do not consider that his health is affected by fate.
2. The effect of Psycho Education application on self efficacy in TYPE 2 DM patients in the working area of Puskesmas Sentosa Baru Medan with P Value < 0.005 (0.000).
3. The influence of Psycho Education on family support in Type 2 DM patients in the working area of Sentosa Health Center Baru Medan with P Value < 0.005 (0.000).

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How to cite this article: Hati Y, Fadillah F, Pase M et.al. Effect of psycho education modification on health locus of control, self efficacy, family support in type 2 diabetes mellitus patients in 2020. *International Journal of Science & Healthcare Research*. 2020; 5(4): 399-408.
