Factors That Are Related to the Compliance of Blood Sugar Control in Mellitus Type 2 Diabetation Patients in the Cipondoh Puskesmas Working Area in 2019

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Abstract: According to the IDF (2015) in 2015 as many as 10 million people in Indonesia suffering from diabetes with a prevalence of 6.25%. Based on data from the health center Cipondoh Type 2 diabetic patients by 2018 as many as 2132 people. 2019 January - May 2019 722 patients with diabetes mellitus type2. The aim of research to determine the factors associated with adherence to blood sugar control in patients with type 2 diabetes mellitus in Puskesmas Cipondoh 2019. Design Crossectional, samples of 31 patients. Method Simple Random Sampling, data analysis methods chi-square. The study was conducted in January-July 2019. Results of the univariate highest proportion of adherent patients control blood sugar at 51.6%, of patients with a positive attitude amounted to 71.0%, of patients with the poor motivation of 61.3%, the patient didn't receive support family of 51.6%, of patients with a good knowledge of 67.7%. There is a relationship between patient motivation (PR = 4.105, 95% CI: 1.117 to 15.086), family support (PR = 2.578, 95% CI: 1.046 to 6.353) with blood sugar control compliance. It's expected that the clinic made the book as a reminder patient compliance is indirectly carried out by the health center.

1 PRELIMINARY

According to the Ministry of Health (MoH RI), DM ranks 6th as cause death and the 2030 estimated DM ranks 7th leading cause of death world (MoH RI, 2013). Diabetes mellitus is a medical disorder that is a collection of symptoms caused by increased levels of sugar (glucose) of blood due to deficiency or insulin resistance (Bustan, 2007).

World Health Organization (WHO) explained that diabetes mellitus can be expected to continue to grow from year to year up to 415 million people worldwide the disease diabetes mellitus (WHO, 2016). According to International Diabetes Federation (IDF) in 2013, the number of diabetics in Indonesia has reached 8,554,155 people and in 2015 as many as 10 million people in Indonesia suffering from diabetes with a prevalence of 6.2%, or about 5,286 cases (IDF, 2015).

The number of patients with DM in Indonesia years year shows presence enhancement, based on data from the Health Research (Riskesdas) that an increase in the prevalence of diabetes in Indonesia 5.7% in 2007 to 6.9% or about 9.1 million in 2013 (MoH RI, 2016).

One Indonesian province with the highest prevalence of diabetes mellitus Banten province was ranked 10th with a prevalence of 1.7%. Tangerang City as one of the major cities in Banten has a higher prevalence of diabetes mellitus 23.5% (Kemekes RI, 2013). This suggests the possibility of an increase in the number of people with diabetes mellitus as much as 2-3 times by 2030 if is not done prevention (health Tangerang City, 2016).

DM disease generally will not recover, therefore only with compliant will be recommended by doctors expected the quality of life of patients can be maintained as normal people (Tapan, 2005). Type 2 DM complications according to the Bustan (2007) is divided into early complications and further complications. Complication early as; hiperalbuminura, background retinopathy, neuropathy, and hypertension while further complications such as; kidney failure, gangrene, and amputation, as many as 896 people, in 2017 as many as 1394 people and in 2018 as many as 2132 people were registered at health centers Cipondoh diagnosed diabetes mellitus type 2. In 2019 from January until May 19 recorded 722 patients with Type 2 diabetes mellitus in poly PTM control sugar blood.

1.1 Theory Overview and Research Earlier

According to (Bustan, 2015) diabetes mellitus is a medical disorder in the form of a collection of symptoms caused by elevated levels of blood sugar (glucose) of blood due to a shortage of insulin resistance. In this study referred to in diabetes mellitus is where a person's glucose levels are above normal. Glucose levels in men and women alike, in which glucose levels as normal is <120 mg/dl and normal fasting glucose was 70mg / dl to 105 mg/dl.

According to WHO (2003), Compliance is the extent to which patients follow complications are the third-highest cause of death in Indonesia that is equal to (6.7%) (WHO, 2016). Compliance by Brannon and Feist is the behavior of the patient to follow medical demands or could be defined ability individuals follow recommended health practices (Niman, 2017). Results of research conducted by Rusnoto et al., (2017) showed obedience control BP DM patients in the Holy Humanica that is equal to (66.7%) non-adherent. Other research results by Nugroho et al., (2018) in the diabetic patient treatment compliance check blood sugar levels in PHC Kendal, Central Java at (77.6%) non-adherent.

Based on the medical report of PHC Cipondoh diagnosed with Type 2 diabetes mellitus in poly PTM continues to rise each year, during the year 2016 obey what was ordered, obey the orders and rules relating to the treatment process. Based on the definition used by PHC Cipondoh on compliance control blood sugar of type 2 diabetes patients in which patients were timely in making return visits or back control. Visit the patient has been determined by the examining physician, namely when one day before the medicine runs out or when the drug out.

Diabetes mellitus could classify into four categories, namely clinical type 1 diabetes mellitus, type of damage is caused by pancreatic β cells so as to absolute insulin deficiency. generally, disease this growing diabetic ketoacidosis towards the cause of death. In this type of diabetes usually occurs before the age of 30 and have to get insulin from outside. The second is diabetes mellitus type 2 type this pancreas relatively produces insulin but the insulin that works perfectly because of their resistance insulin due to obesity.

Almost 90% of people with diabetes is type 2 diabetes mellitus is the third Gestational Diabetes or diabetes mellitus in pregnancy diabetes mellitus is a disease that appears during pregnancy whereas before the blood sugar is always normal. This mode will return to normal after delivery. And the last is another type of diabetes caused by genetic defects of beta-cell function, insulin function genetic defects, disease of the exocrine pancreas, endocrinopathies, due to drugs or chemicals, infections and other genetic syndromes associated with diabetes mellitus. Some hormones such as growth hormone, cortisol, glucagon, DNA epinephrine is the antagonist or against the action of insulin. excess hormones mentioned could lead to diabetes mellitus (ADA, 2014).

In this study, researchers used some research History, false only is study of Siti Aisyah, Yesi Hasneli, and Febriana Sabrian entitled The Relationship Between Family Support With Blood Sugar Control And Sports In Diabetics Mellitus in the study in 2018 which showed that there is a relationship between family support with blood sugar control and there is a relationship between family support with exercise in patients with DM. Future studies of research Vera Tombokan, AJ M Rattu, Ch. R. Tilaar entitled Factors Associated with Diabetes Mellitus Patients Medication Compliance in Family Physician Practice in Tomohon, 2015 by the findings that the existence of a relationship that significantly between patient knowledge, patient attitudes, and knowledge of patients with treatment compliance.

2 METHOD

Methods in research this using a quantitative approach to design cross-sectional which means that an examination in which the variables which include the risk factors and variables that include the effect observed while at the same time (Notoatmodjo, 2012). The dependent variable in this study is the adherence of blood sugar control and the independent variable in this study is the attitude, motivation, Support Family and knowledge. The sampling technique in this research that is probability sampling techniques simple random sampling. The population in this study were all patients with diabetes mellitus type 2, which is housed Live in Urban Village Cipondoh Makmur conducting routine control in January to May 2019 in Puskesmas Cipondoh is numbered 121 people. The samples in this study were patients with type 2 diabetes control routine in PHC Cipondoh totaling 31 people.

In this study the primary data obtained directly in the form distribution of questionnaires to independent variables such as attitude, motivation, family support, and knowledge. Secondary data in this study are the data obtained from the relevant agencies, namely the data of medical records in 2019 for type 2 diabetes disease to see how obedience comes to control.

3 RESULT AND DISCUSSION

Table 1: Result of univariate.

Variables	Frequency	Percentage (%)
Compliance Control	15	48.8%
Not obey	16	51.6%
Submissive		
Attitudes Patient		
The negative attitude	9	29.0%
Positive attitude	22	71.0%
Motivation Patient		
Bad	19	61.3%
Good	12	38.7%
Family Support Patients	16	51.6%
The family did not support	15	48.8%
Family support		
Patient Knowledge		
Bad	10	32.3%
Good	21	67.7%

Source: SPSS Data Olah 22

Based on the above table of 31 respondents in the study gained the highest proportion in adherent patients control blood sugar as many as 16 patients with Type 2 diabetes mellitus (51.6%), while the lowest proportion is in the non-adherent patients back control blood sugar as much as 15 types 2 DM patients (48.8%). In patients' attitudinal variables obtained the highest proportion in the attitude positive patients as many as 22 patients with Type 2 diabetes mellitus (71.0%), while the lowest proportion is the negative attitude as much as 9 patients with Type 2 DM patients (29.0%). At the highest proportion of patient motivation, the variable is the poor patient motivation as many as 19 patients with Type 2 diabetes mellitus (61.3%), while the lowest proportion is in a good patient motivation as many as 12 patients with Type 2 diabetes mellitus (38.7%). At the patient's family, support variable obtained the highest proportion of patients that do not get family support as many as 16 patients with Type 2 diabetes mellitus (51.6%), while the lowest proportion is on family support as many as 15 patients with Type 2 DM patients (48.8%). In patients with acquired knowledge variable highest proportion is in good patient knowledge of as many as 21 patients with Type 2 diabetes mellitus (67.7%), while the lowest proportion is in the knowledge that bad as many as 10 patients with Type 2 diabetes mellitus (32.3%).

Table 2: Result of bivariate.

Bivariat

variables	Compliance sugar control blood				Total	p-value	PR (95% CI)
	Not obey N% N%		submissive		N%		
attitudes patient							
Negative	5	55.6	4	44.4 9	100.0	0.704	1.222
Positive	10	45.5	12	54.5 22	100.0		(0.582 to 2.568)
Motivation Patients							
Bad	13	68.4	6	31.6 19	100.0	0,015	4.105
Well	2	16.7	10	83.3 12	100.0		(1.117 to 15.086)
Family Support Patients							
Does not support	11	68.8	5	31.3 16	100.0	0,047	2,578
Support	4	26.7	11	73.3 15	100.0		(1.046 to 6.353)
patient knowledge							
Bad	5	50.0	5	50.0 10	100.0	1,000	1,050
Well	10	47.6	11	52.4 21	100.0		(0.489 to 2.257)

Source: Sports Result SPSS Data 22

3.1 Attitudes Patient

Based on the statistical test chi-square earned value p-value = 0.704 (p <0.05), it can be concluded that there is no statistically significant relationship between attitude with blood sugar control compliance. Based on these results the value Prevalence Ratio (PR) in this analysis is 1.222 with a 95% CI: 0.582 to 2.568 which means that patients who have a negative attitude 1.222 times the risk of non-compliant control. Although the attitude of patients with compliance controls the blood sugar no related but patient attitude risk that if the attitude of a negative patient then the patient will not be obedient to the control of blood sugar.

This in line with research conducted by Oktaviani et al., (2018) which states that their relationship Among attitude respondents to the disease diabetes mellitus the compliance of the respondents in the treatment of DM.

3.2 Motivation Patients

Based on the statistical test chi-square earned value p-value = 0.015 (p> 0.05), it can be concluded that there is a statistically significant relationship between motivation compliance the control of blood sugar. Based on these results the value Prevalence Ratio (PR) in this analysis was 4.105 with 95% CI: (1.117 to 15.086) means Type 2 diabetic patients who have poor motivation risky 4.105 times do not obey to do control repeated if compared with patients with good motivation.

This is consistent premises to research conducted by Tomboka et al., (2015) which states that there is a significant relationship among the motivation of patients with treatment compliance.

From the findings, it seemed that patients who have poor motivation and disobedient because of the interview the patient actually has the desire to be healthy but the patient will forget to come back because the date of examining physician only reminiscent of the days in which time the patient comes controls, in addition to the reasons patients are not motivated to obey control because patients feel when doing blood sugar control in accordance with the specified date and the passing of the date determined no difference in outcomes.

3.3 Family Support Patients

Based on the statistical test chi-square earned value p-value = 0.047 (p > 0.05), it can be concluded that there is a statistically significant relationship between family support compliance with the control of blood sugar. Based on the result mentioned score Prevalence Ratio (PR) in this analysis is 2,578 with 95% CI: (1,046-6.353) means Type 2 diabetic patients who have no family support at-risk 2,578 times do not obey to do control repeated if compared with patients who received family support.

This is in line with research conducted by Laoh et al., (2013) which states that family support may be associated with treatment compliance of diabetes mellitus, where a good family support can have an impact on treatment compliance DM patients.

The results of the study show that the patients who did not get the support of family and noncompliant because of the interview because the family has an activity like work. Thus, the patient cannot be accompanied by his family. The reason the patient should be delivered because of the condition of patients who are already quite old and cannot come to puskesmas own, besides lack of access to public transport from the region Cipondoh Cipondoh Makmur to the health center so that patients can only rely on their families to be able to deliver it to the clinic.

3.4 Patient Knowledge

Based on the statistical test chi-square earned value p-value = 1.000 (p> 0.05), it can be concluded that there is no statistically significant relationship between the knowledge of the compliance control blood sugar values Based on these results Prevalence Ratio (PR) in this analysis is 1,050 with 95% CI:0.489 to 2.257, which means patients have poor knowledge of risk 1,050 times not obey perform routine control of blood sugar when compared with patients with good knowledge.

This is not in line with research conducted by Lenny and Fridalina (2018) which states that the existence of a significant relationship between knowledge and treatment compliance. Other studies that are inconsistent that which was performed by Tombokan et al., (2015) which states that the existence of a significant association between knowledge of patients with treatment compliance.

4 CONCLUSIONS

1   Overview sugar control compliance blood in patients with Type 2 diabetes mellitus in Puskesmas Cipondoh 2019 the highest proportion of adherent patients control blood

sugar as many as 16 patients with Type 2 diabetes mellitus (51.6%).

2   Overview attitude in patients with DM Type 2 in Puskesmas Cipondoh precisely in Cipondoh Makmur in 2019 the highest proportion of patients who had a positive attitude compared with a negative attitude that as many as 22 patients with Type 2 diabetes mellitus (71.0%).

3   Overview of motivation in patients with DM Type 2 in Puskesmas Cipondoh in 2019 the highest proportion of patients who have a poor motivation compared with patients who have a good motivation as many as 19 patients with Type 2 diabetes mellitus (61.3%).

4   Picture of the family support to Type 2 diabetic patients in Puskesmas Cipondoh 2019 the highest proportion of patients who did not got Support family as many as 16 patients (51.6%).

5   Overview of knowledge on Type 2 diabetic patients in Puskesmas proportion Cipondoh 2019 highest patients with good knowledge of as many as 21 patients with Type 2 diabetes mellitus (67.7%).

6   There was no relationship between attitude the compliance of blood sugar control in Type 2

7   diabetic patients Puskesmas Cipondoh 2019 (PR = 1.222).

8   There is a relationship between motivation the control of compliance of patients with a blood sugar of type 2 diabetic patients in Puskesmas Cipondoh 2019 (PR = 4.105).

9   There is a relationship between support family with the compliance control blood sugar in Type 2 diabetic patients Puskesmas Cipondoh 2019 (PR = 2.578).

10 There was no relationship between knowledge patients with compliance control blood sugar in Type 2 diabetic patients Puskesmas Cipondoh 2019 (PR = 1.050).

5   SUGGESTION

1   In order for the patient to keep remembering dates come Furthermore, the researcher advised making a book of blood sugar control compliance to facilitate the patient sees further control schedule when patients forget.

2   Cooperation with the cadre so that PIS-PK reach into the working area can be expanded community health centers quickly and reach 100% achievement.

3   In order to invite families to more care on member families who have a   chronic illness as DM, the researcher suggested that the clinic makes communication group or WhatsApp specifically for families of patients who have the disease DM with the aim to make it easier to remind family patient back control of blood sugar.

4   Patients should be reminded again and be educated about the dangers of not monitoring blood sugar routine that patients always remember and have awareness for requires him to come on the date on which predetermined for the control back.

5   The clinic when giving education more compliance-related stress again the patient's blood sugar control of diabetes and when patients come to check sugar levels blood should doctor examiner also emphasizes more about the time control of blood sugar and normal levels of blood sugar while.

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