THE RELATIONSHIP OF KNOWLEDGE, ATTITUDE, AND FAMILY SUPPORT TO COMPLIANCE WITH ROUTINE CONTROL OF DIABETES MELLITUS PATIENTS

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Article Info	ABSTRACT
	Diabetes is a disease caused by the body's inability to produce the hormone insulin, which is characterized by blood sugar levels. Diabetes mellitus can cause death. The results of data analysis showed that there was a significant relationship between routine control compliance, attitudes, and routine control adherence and family support to routine control compliance. This study aims to determine the relationship of knowledge between attitudes and family support with adherence to routine control of people with diabetes mellitus. The method used was cross sectional, the population of this study was 575 people with diabetes mellitus with a sample of 86, the sampling technique used was simple random sampling. With data analysis using chi-square. There is a relationship between knowledge (p = 0,000), attitudes (p = 0,000) and family support (p = 0,000) towards routine control compliance in the Paseh Health Center work area in 2022. For the Paseh Health Center it is expected to increase knowledge, family support and patient attitudes. diabetes mellitus to be more obedient to carry out routine control by providing education such as counseling for people with diabetes mellitus and families of people with diabetes mellitus about the importance of routine control.

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1. INTRODUCTION

Diabetes Mellitus (DM) is a chronic disease caused by the body's inability to produce the hormone insulin or due to ineffective use of insulin production. This is characterized by high levels of sugar in the blood (Kemenkes, 2021). Complications of diabetes are also divided into acute complications and long-term complications. There are three acute complications of diabetes that are important and are associated with short-term disturbances in the balance of blood glucose levels. The three complications are: hypoglycemia, diabetic ketoacidosis and the 12 HHNK syndrome (also called hyperosmolar nonketotic hyperglycemic city or HONK [non-ketotic hyperosmolar]). While the long-term complications of diabetes can attack all organ systems in the body. Categories of chronic complications of diabetes that are commonly used are: macrovascular disease, microvascular disease and neuropathy (Brunner & Suddarth, 2015).DM treatment management must be carried out for life so that patients often experience boredom and non-compliance in the management of DM treatment often occurs. People with diabetes will have a high level of quality of life if they can manage their diabetes well (IDF, 2017).

2. METHOD

This study uses a quantitative research method using a cross sectional research design which was conducted in July 2022 in the working area of the Paseh Public Health Center. The independent variables in this study were knowledge, attitudes and family support. The dependent variable in this study was the adherence to routine control of diabetes mellitus patients in the Paseh Public Health Center working area as many as 575 people. In this study, sampling using the Slovin formula, taking into account time and effort with an error tolerance levelof 10%, the number of samples obtained from the total population was 86 people. The sampling technique used was simple random sampling that met the inclusion criteria. The instrument in this research is in the form of a questionnaire. Test the validity and reliability in this study using a standardized questionnaire. Data were collectedthrough interviews using a questionnaire. Furthermore, the collected data was analyzed by editing, coding, cleaning and tabulation in processing the data. Overall data were analyzed using SPSS program including univariate analysis and bivariate analysis. The statistical analysis used the chi-square test.

3. RESULTS AND DISCUSSION

3.1. Result

1) **Uni-variate** Analysis

The frequency distribution based on knowledge can be seen in the table below:

Table 1 Table of Knowledge Frequency Distribution of Diabetes Mellitus Patients

Knowledge	Frequency (f)	Percentage (%)
Good- Knowledge	14	16,3
Enough- Knowledge	48	55,8
Lack- of Knowledge	24	27,9
Total	86	100 %

Knowledge of people with diabetes mellitus in Paseh sub-district in 2022 showed that most of themhad sufficient knowledge as many as 48 respondents (55.8%). The frequency distribution based on the attitude of people with diabetes mellitus can be seen in the tablebelow:

Table 2 Table of Frequency Distribution of Attitudes of People with Diabetes Mellitus

Parenting Patterns	Frequency (f)	Percentage (%)
Good-attitude	13	16,3
Enough- attitude	45	52,3
Lack-of attitude	28	27,9
Total	86	100%

The attitude of people with diabetes mellitus in Paseh sub-district in 2022 showed that most of the respondents' attitudes were sufficient, namely 45 respondents (52.3%). The frequency distribution of respondents based on family support can be seen in the table below:

Table 3 Table of Frequency Distribution of Family Support with Diabetes Mellitus

Parenting Patterns	Frequency(f)	Percentage (%)
Good-family support	24	27,9
Enough- family support	41	47,7
Lack-of family support	21	24,4
Total	86	100%

Regarding the family support of respondents in Paseh sub-district in 2022, it shows that most of their family support is sufficient, namely 41 respondents (47,7%). The frequency distribution of respondents based on compliance with routine control of peoplewith diabetes mellitus can be seen in the table below:

Table 4 Table of Frequency Distribution of Compliance with Routine Control of Diabetes

Routine Control Compliance	Frequency	Percent (%)
Obey	52	60,5
Not obey	34	39,5
Total	86	100%

Compliance with routine control of respondents in Paseh sub-district in 2022 showed that most ofthem complied, as many as 52 respondents (60,5%).

The relationship between knowledge and adherence to routine control of people with diabetes mellitus The results of knowledge analysis with routine control compliance can be seen in the table below:

Table 5 Relationship Of Knowledge With Routine Control Compliance

Parenting Patterns	Routine Control Compliance						P Value*
	Not obey		obey		Total		
	f	%	f	%	f	%	
Not enought	20	83,3%	4	16,7%	24	100%	0,000
Enough	6	12,5%	42	87,5%	48	100%	
good	8	57,1%	6	42,9%	14	100%	
Total	34		52		86		

Based on the table above, the majority of diabetes mellitus patients who adhere to routine controlshave sufficient knowledge of 42 people (87.5%). The results of the Chi-Square statistical test where thedegree of confidence used was 95% and α = 0,05 obtained a p value of 0,000 where the p value <0,05, so the null hypothesis was rejected or in other words statistically it means that there is a significant relationship between the level of knowledge of sufferers diabetes mellitus with adherence to routine control of diabetes mellitus patients.

The results of the attitude analysis with routine control compliance can be seen in the table below:

Table 6 Relationship between Attitude and Compliance with Routine Controls

Attitude	Routine Control Compliance						P-value
	Not obey		Obey		Total		
	f	%	f	%	f	%	
Not enought	20	71,4%	8	28,6%	28	100%	
Enough	10	22,2%	35	77,8%	45	100%	0.000
good	4	30,8%	9	69,2%	13	100%	
Total	34		52		86		

Based on the table above, most people with diabetes mellitus who adhere to routine controls have a sufficient attitude of 35 people (77.8%). The results of the Chi-Square statistical test where the degree of confidence used was 95% and α = 0,05 obtained a p value of 0,000 where the p value <0,05, so the null hypothesis was rejected or in other words statistically it means that there is a significant relationship between attitudes of people with diabetes mellitus with adherence to routine control of diabetes mellitus patient.

The results of family support analysis with routine control compliance can be seen in the table below:

Table 7 Relationship Of Family Support With Routine Control Compliance

Family Support	Routine Control Compliance						P-value
	Not obey		Obey		Total		
	f	%	f	%	f	%	
Not enought	f	%	f	%	21	100%	
Enough	18	85,7%	3	14,3%	41	100%	0.000
good	6	14,6%	35	85,4%	24	100%	
Total	10	41,7%	14	58,3%	86		

Based on the table above, the majority of diabetes mellitus patients who adhere to routine controls have sufficient family support, as many as 35 people (85.4%). The results of the Chi-Square statistical test where the degree of confidence used was 95% and α = 0.05 obtained a p value of 0.000 where the p value <0.05, so the null hypothesis was rejected or in other words statistically it means that there is a significant relationship between attitudes of people with diabetes mellitus with adherence to routine control of diabetes mellitus patients.

3.2. Discussion

Based on the results of the study, it was found that the majority of diabetes mellitus patients who adhered to controls were patients with sufficient knowledge (87,5%). The Chi-Square statistical test showed a p value of 0,000 where the p value <0,05, meaning that there was a significant relationship between the level of knowledge of people with diabetes mellitus and compliance with routine control of diabetes mellitus patients in the working area of the Paseh Health Center. According to Indirawaty (2021) that the better the knowledge of people with diabetes mellitus, the more obedient these sufferers are in controlling their blood sugar levels. This can be because the knowledge possessed by people with diabetes mellitus will affect the motivation and care of patients with diabetes mellitus so that they control their blood sugar levels more routinely. under control to prevent complications. A person's knowledge is influenced by education (Notoatmodjo, 2003), the higher a person's education, the wider the knowledge possessed. With education people will easily receive new information, analyze and adopt knowledge to take advantage of the knowledge gained. The results of this study are in line with the theory (Smeltzer, et al. 2008) which states that education in DM patients is necessary because the management of DM requires special behavior for life. Patients not only learn self-care skills to avoid sudden fluctuations in blood glucose levels, but also have to adopt preventive lifestyle behaviors to avoid long-term diabetic complications. Patients must understand nutrition, benefits and side effects of therapy, exercise, disease progression, prevention strategies, blood sugar control techniques and adjustments to therapy. This is in accordance with previous research by Anis Febriyani (2018), that there is a relationship between knowledge and the level of adherence to blood sugar control in people with Diabetes Mellitus with a ρ value of 0,001 <0,05. According to the researcher's assumption, knowledge is closely related to adherence to routine control of diabetes mellitus patients. People with diabetes mellitus who have poor knowledge tend to be disobedient in carrying out routine controls. If people with diabetes have good knowledge, they will know what are the risks that have a good impact on them, but good knowledge must also be accompanied by good attitudes to produce good behavior.

Based on the results of the study, 35 people (77,8%) had sufficient attitudes towards diabetes mellitus who adhered to routine controls. The Chi-Square statistical test showed a p-value of 0,000 where the p-value <0,05, meaning that there was a significant relationship between the attitude of people with diabetes mellitus and adherence to routine control of diabetes mellitus sufferers in the working area of the Paseh Health Center. According to Zaenab's research (2021) that diabetes mellitus sufferers who have a positive attitude towards adherence to diabetes mellitus control are influenced by the knowledge and experience possessed by sufferers, so that with personal experience sufferers leave a good impression as well so that it becomes the basis for forming sufferers' attitudes.

The results of this study are in line with research conducted by Nainggolan (2019) which obtained statistical test results using the chi-square test showing that the p-value was 0,037 <0,05, so that there was a relationship between attitude and adherence to taking oral hypoglycemic drugs in diabetes mellitus patients. The results of other studies also show that the person chi-square test (Asymp Sig 2-sided) obtained a value of $\rho=0,012$ where $\rho<\alpha(\alpha=0,05)$ so it can be concluded that there is a relationship between attitude and adherence to treatment of diabetes mellitus patient.

According to the assumptions of researchers, attitude is closely related to adherence to diabetes mellitus control. Attitude is one of the factors forming behavior. Compliance attitude is based on various factors. These factors can be influenced by internal and external factors, internal factors include personality, awareness, understanding, and self-control. Obedience is a behavior shown by someone to fulfill another person's orders. Compliance is behavior in accordance with orders to comply with regulations. Compliance as the level of patient carrying out the treatment and behavior suggested by a doctor or other person. Compliance is the extent to which the patient's behavior is in accordance with the provisions given by health professionals. In this study, the non-compliance referred to is not carrying out routine control of diabetes mellitus examination. Some of the factors that influence non-compliance with DM sufferers in the Paseh Health Center work area are influenced by the attitude of the patient itself because attitude is the main thing for someone to be able to carry out behavior. Therefore the patient's attitude is important in routine control compliance because attitude comes from self-awareness and understanding that cannot be changed by others. Based on the table above, the majority of diabetes mellitus patients who adhere to routine controls have a sufficient attitude of 35 people (85.4%). The Chi-Square test showed a p-value of 0.000 where the p-value <0.05, meaning that there is a significant relationship between the attitude of people with diabetes mellitus and compliance with routine control of diabetes mellitus patients in the working area of the Paseh Health Center.

The results of the study also found that there were 41.7% of diabetes mellitus sufferers with good family support but did not adhere to blood sugar control controls. This is because there are other factors that affect adherence of diabetes mellitus patients in controlling blood sugar such as the patient's own knowledge which influences awareness to check blood sugar. This is in accordance with previous research by Husna (2014)

that there is a relationship between knowledge and adherence to drug therapy (p value 0,015), medical nutrition therapy (p value 0,028), and physical activity (p value 0,023). Knowledge of the disease and the principles of drug therapy are the most important factors contributing to adherence to diabetes treatment.

The results of this study are in line with previous research by Alfiah and Isfandiari (2014). The results showed that the proportion of diabetes mellitus sufferers who received family support was 55,9%, while the proportion of diabetes mellitus sufferers who controlled blood sugar levels well was 17% of respondents. and there is a relationship between family support and control of blood sugar levels with symptoms of microvascular complications.

Researchers assume that adherence to diabetes mellitus in the Paseh Health Center work area is influenced by family support because the family plays an important role in determining compliance with diabetes mellitus control. Family is the main institution that will shape values, beliefs, and foster self-image and confidence in diabetes patients. Therefore, the patient's family must support the treatment of people with diabetes mellitus in order to form optimal family support. In the end, with optimal family support, it is expected that sufferers will also increase control compliance

4.   CONCLUSION

From the results of research on the relationship between knowledge, attitudes and family support with adherence to routine control of diabetes mellitus sufferers in the work area of the Paseh Public Health Center which was carried out on 86 respondents (Diabetes mellitus sufferers), it can be concluded that:
1. The description of knowledge with sufficient category is 48 people (55,8%), with less category 24 people (27,9%) and in good category 14 people (16,3%).
2. Attitude description with sufficient category 45 people (52,3%), with less category 28 people (32,6%) and with good category 13 people (15,1%).
3. The description of family support with sufficient category is 41 people (47,7%), with less category 21 people (24,4%) and with good category 24 people (27,9%).
4. Overview of compliance with routine controls with 52 people (60,5%) in the obedient category and 34 (39,5%).
5. There is a significant relationship between knowledge and compliance with routine control in the Paseh Puskesmas working area, with a P value of 0,000 <0,05.
6. There is a significant relationship between attitude and compliance with routine control in the Paseh Puskesmas working area, with a P value of 0.000 <0,05.
7. There is a significant relationship between family support and compliance with routine controls in the Paseh Puskesmas working area, with a P value of 0,000 <0,05.

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