



Original Research

Relationship between Knowledge and Attitude about Prevention of Diabetes Mellitus Complications in Diabetes Mellitus Patients

Henrianto Karolus Siregar¹, Khairunnisa Batubara², Hanna Ester Empraninta³, Fatima Ura Pabanne⁴

¹ STIKes RS Husada Jakarta, Indonesia

² Akademi Keperawatan, Kesdam I/BB Medan, Indonesia

³ Akademi Keperawatan, Kesdam I/BB Binjai, Indonesia

⁴ Politeknik Kaltara, Indonesia

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Abstract

Diabetes mellitus is a chronic disorder characterized by hyperglycemia characterized by defects in insulin secretion, insulin action or both. Attitudes of patients regarding complications of diabetes mellitus need to be approached to patients who have diabetes mellitus. The number of people with Diabetes Mellitus in the world from year to year has increased, this is related to the increasing population, increasing life expectancy, urbanization which changes traditional lifestyles to modern lifestyles, obesity increases and physical activity decreases. Knowledge of patients with diabetes mellitus can be interpreted as the result of knowing from patients about their disease, understanding the disease, and understanding prevention, treatment and complications. This study aims to identify the relationship between knowledge and attitudes of patients with diabetes mellitus about complications of diabetes mellitus. This study is descriptive with 105 samples and data collection techniques using Convenience Sampling. Collecting data using a questionnaire that has been validated and reliability using the Cronbach alpha test. The results showed that the knowledge of diabetes mellitus patients about complications of diabetes mellitus was categorized as good as many as 83 respondents (79.0%). It can be used as a guideline for carrying out nursing care for patients with diabetes mellitus in order to realize the desired nursing goals and evaluations such as health workers are expected to further increase their role in providing health education about the prevention of complications of diabetes mellitus.

INTRODUCTION

Diabetes Mellitus is a group of metabolic diseases characterized by hyperglycemia that occurs due to abnormalities in insulin secretion, insulin action or both, characterized by carbohydrate and fat metabolism that is relatively insulin

deficient.¹

According to the World Health Organization (WHO), Indonesia ranks fourth largest in the number of people with diabetes mellitus with a prevalence of 8.6% of the total population, while the positions above are India, China and the United States and WHO

Corresponding author:

Henrianto Karolus Siregar

henriantokarolus9219@gmail.com

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predicts an increase in the number of people with diabetes mellitus in Indonesia from 8.4 million in 2000 to around 21.3 million in 2030. It is estimated that the number of people with Diabetes Mellitus will increase in 2030, namely India (79.4 million), China, United States (30.3 million) and Indonesia (21,3 million), in 2020 it will be 300 million people and in 2030 it will be 366 million people.²

In Indonesia, based on epidemiological research, the prevalence of Diabetes Mellitus is 1.5-2.3% in the population over 15 years of age, even in urban areas the prevalence of Diabetes Mellitus is 14.7% and in rural areas is 7.2%. The prevalence increases 2-3 times compared to developed countries, so Diabetes Mellitus is a serious public health problem, and can occur in the elderly.³

According to the International Diabetes Foundation (IDF) there are 1785 diabetics with complications of neuropathy (63.5%), retinopathy (42%), nephropathy (7.3%), macrovascular (16%), microvascular (6%), wounds. diabetic foot (15%). The number of complications caused, the preventive measures that can be taken by people with diabetes mellitus to prevent complications, namely by controlling blood sugar levels, physical exercise, consumption of anti-diabetic drugs, and diabetic foot care are important for people with diabetes mellitus.³

In North Sumatra, according to the profile of RSUD dr. Pirngadi diabetes mellitus is the most common type of disease suffered by patients who make visits to RSUD dr. Pirngadi Medan during January-December 2021 Diabetes mellitus was ranked first among the top 10 diseases throughout 2014 at dr. Pirngadi Medan as many as 1050 patients from 11779 visits.

Complications of long-term diabetes mellitus include cardiovascular disease (multiple risk), chronic kidney failure (the main cause of dialysis), retinal damage that

can cause blindness, and nerve damage that can cause impotence and gangrene with the risk of amputation. More serious complications are more common when blood sugar control is poor.⁴

Diabetes mellitus is mostly a hereditary disease but not an infectious disease. However, this does not mean that the disease must be passed on to children. Even though both parents suffer from diabetes mellitus, sometimes none of their children suffer from the disease.⁵

The morbidity and mortality rate in diabetes mellitus is increasing in various countries, this is associated with a very fast increasing incidence and progression of the disease due to the ignorance of the patient himself, or the patient generally comes with advanced and severe complications. If we look more deeply, it turns out that hyperglycemia is the beginning of a disaster for diabetics, this is proven and also occurs in patients with impaired glucose tolerance who have vascular complications disorders.⁵

Based on the results of these studies, it can be concluded that prevention efforts must begin early, namely when Glucose Tolerance is Disturbed (TGT) or since the discovery of risk factors for diabetes mellitus that can be corrected. Efforts to change lifestyles, which include weight loss by reducing calorie intake and increasing physical activity, must always be emphasized given the fairly good success rate, low cost and almost no risk.⁶

Knowledge can be interpreted as the result of knowing that occurs after someone senses a certain object. Knowledge of diabetes mellitus patients can be interpreted as the result of knowing from patients about their disease, understanding their disease, and understanding prevention, treatment and complications.⁷

Knowledge itself is influenced by formal education factors. Knowledge is very closely

related to education, where it is hoped that with higher education, the person will have wider knowledge. A person's knowledge of an object contains two aspects, namely positive aspects and negative aspects.⁷

The attitude of respondents who are not good is shown by the attitude of respondents who do not support the complications of diabetes mellitus. Attitude is a reaction or response that is still closed from a person to a stimulus or object. An attitude will not necessarily be manifested in the form of an action. For the realization of the attitude to become a real action, a supporting factor or a possible condition is needed, including facilities.⁸

A person with Diabetes Mellitus who has intended to eat according to the meal plan that he has made himself, sometimes gets out of line because the situation at home or work is not supportive. If all positive behaviors have been implemented, of course, the Diabetes Mellitus sufferer can be included in the group of Diabetes Mellitus sufferers with high compliance.⁹

As a result of compliance is controlled diabetes. This study aims to examine the knowledge of diabetes mellitus patients about complications of diabetes mellitus at dr. Pirngadi Hospital Medan

METHODS

This type of research is descriptive research which aims to identify the relationship between knowledge and attitudes of patients with diabetes mellitus about complications of diabetes mellitus in RSUD dr. Pirngadi Medan. This research was conducted in RSUD dr. Pirngadi Medan in 2021. The number of samples in this study was 105 people.

The sampling technique used is Convenience Sampling. This method is a way of determining the sample by looking for subjects on the basis of things that please or please the researcher. The inclusion criteria

for the sample in this study were patients with diabetes mellitus who were treated as outpatients and inpatients, were willing to be respondents who could read and write Indonesian.

The validity test in this study was carried out with content validity. This validity has been consulted with 3 expert lecturers who are competent at the Faculty of Nursing, University of North Sumatra. The instrument is declared valid if the content validity index is 0.8 or more. The instrument validity value is 0.88. The results of the reliability of this research instrument using Cronbach Alpha is 0.911.

Prior to data collection, the ethical permit was approved by the Ethics Commission of the Faculty of Nursing, University of North Sumatra. Researchers gave informed consent to respondents before being studied. Researchers require participants to sign an informed consent and explain the purpose of the study and the benefits of the research for respondents.

RESULTS

From the research that has been done, the results obtained about the characteristics of the respondents consist of: age, duration of suffering from diabetes mellitus, gender, education level, occupation. In table 5.1 it can be seen that the majority of respondents aged 56-65 years were 59 people (56.2%), respondents had long suffered from diabetes mellitus 0-6 years were 41 people (39.0%), respondents were male as many as 60 people (57.1%), respondents with high school education as many as 47 people (44.8%), respondents having jobs as retired civil servants as many as 43 people (41.0%).

The table above shows that of 105 respondents who have good knowledge of complications of diabetes mellitus as many as 83 people (79.0%). The table above shows that out of 105 respondents who had a positive attitude towards complications of diabetes mellitus, 83 people (79.0%).

Table 1
Distribution and frequency of respondent characteristics, knowledge and attitude of diabetes mellitus patients about complications of diabetes mellitus (N=105)

Indicators	f	%
Age		
36-45	7	6.7
46-55	11	10.5
56-65	59	56.2
66-86	28	26.7
Long Suffering from Diabetes Mellitus		
6 Age	41	39.0
7-12 Age	32	30.5
13-18 Age	14	13.3
19-24 Age	9	8.6
25-30 Age	8	7.6
31-36 Age	1	1.0
Gender		
Man	60	57.1
Woman	45	42.9
Level of education		
Primary school	4	3.8
Junior high school	17	16.2
Senior High School	47	44.8
College	37	35.2
Work		
Government employees	14	13.3
Entrepreneur	25	23.8
Retired civil servants	43	41.0
Housewife	23	21.9
Knowledge		
Good	83	79.0
Enough	19	18.1
Not enough	3	2.9
Attitude		
Good	83	79.0
Not enough	19	18.1

DISCUSSION

Knowledge of diabetes mellitus patient

Based on the results of research conducted at RSUD dr. Pirngadi Medan has good knowledge. These results indicate that the majority of patients with diabetes mellitus have diabetes mellitus complications in RSUD dr. Pirngadi Medan already has good knowledge with respondents aged 56-65 years so that the older they are, the level of maturity and strength of a person will be more mature in thinking and working.⁷

The results of Masniari research say that age is one of the most important characteristics of people. Age has a

relationship with the level of exposure, the magnitude of the risk and the nature of resistance. Differences in experience with health problems/diseases and decision making are influenced by the age of the individual. The older a person is, the more mature his mental development will be and it will also affect the knowledge he gains.⁸

Based on the respondent's education is high school and college so that education can affect a person, including a person's behavior will pattern of life, especially in motivating to participate in development, in general, the higher a person's education, the easier it is to receive information. Knowledge is very closely related to

education, where it is hoped that with higher education, the person will have wider knowledge.⁷

The level of knowledge can be influenced by two factors, namely internal factors and external factors. Internal factors are education, occupation, and age. External factors are the environment, and socio-cultural.¹⁰

Based on the occupation of the respondent is a retired civil servant so that the ability and understanding of diabetes mellitus knowledge about complications of diabetes mellitus is good. According to respondent 1 that statements about complications of diabetes mellitus do not know, namely diabetes can cause blood to become thick if blood sugar levels are high, diabetes can cause damage to blood vessels, diabetes can cause skin conditions to become dry and easy to blister, diabetes can cause skin problems. cause stress, diabetes can cause depression.¹¹

Based on this statement, the respondent did not know that the above statement was a complication of diabetes mellitus because the respondent did not experience this complication. These results indicate that the respondent's education is high school, the age of the respondent is 74 years old and has suffered from diabetes mellitus for 17 years.⁹

According to respondent 2 that the statement about complications of diabetes mellitus did not know to answer all the statements because the respondent's length of suffering from diabetes mellitus was still 1 month. According to respondent 7 that the statement about complications of diabetes mellitus did not know the answer to all the statements because the respondent's length of suffering from diabetes mellitus was still 1 month, the respondent's education was junior high school, the respondent's job was as a housemaid.³

These results indicate that the respondent does not know the statement regarding complications of diabetes mellitus and the level of knowledge is very closely related to education, where it is expected that with higher education, the person will have wider knowledge.¹¹

According to respondent 42 that the statement about complications of diabetes mellitus did not know the answer to all the statements because the duration of suffering from diabetes was still 2 months, the respondent's education was high school, and the respondent's occupation was self-employed. This shows that the respondents did not know that the statement was about complications of diabetes mellitus and had never experienced these complications.⁸

According to respondent 45 that the statement about complications of diabetes mellitus did not know the answer to all the statements because the respondent's length of suffering was still 6 months, the respondent's education was junior high school, and the respondent's occupation was self-employed. This is influenced by the education level of the respondent is junior high school so that the level of knowledge about complications of diabetes mellitus still has less knowledge. Where education can affect a person, including a person's behavior regarding lifestyle, especially in motivating to participate in maintaining health.⁹

According to respondents 53 that statements about complications of diabetes mellitus do not know the answer to statements about diabetes can result in a decrease in blood sugar levels at a dangerous level, diabetes can cause falls/injury if blood sugar levels are very high.³

Diabetes can cause blood to become thick if blood sugar levels are high, diabetes can cause blockage of the heart arteries, diabetes can cause heart pumping failure (heart failure), diabetes can cause foot

infections, diabetes can cause sores or abrasions. On the hands and feet, diabetes can cause skin conditions to become dry and blister easily.⁵

These results indicate that the respondent has never experienced these complications, the duration of suffering from diabetes mellitus is still 2 months, education is high school, and the respondent's occupation is self-employed. Differences in experience with health problems/diseases and decision making are influenced by age and duration of suffering from diabetes mellitus.⁶

According to respondent 54 that the statement about complications of diabetes mellitus did not know the answer to all the statements because the duration of suffering from diabetes mellitus was still 1 year, the age of the respondent was 45 years, the respondent's education was junior high school, and the respondent's occupation was self-employed. Increased knowledge can be influenced by age, education level, and duration of suffering from diabetes mellitus.¹¹

Age has a relationship with the level of exposure, the magnitude of the risk and the nature of resistance. The older a person is, the more mature his mental development will be and it will also affect the knowledge he gains. Knowledge is very closely related to education, where it is hoped that with higher education, the person will have wider knowledge.⁸

According to respondents 63 that statements about complications of diabetes mellitus do not know the answer to statements about diabetes can result in falls/injury if blood sugar levels are very high, diabetes can cause blood to become thick if blood sugar levels are high, diabetes can cause fluid deficiency.⁵

Diabetes can cause blockage of the heart arteries, diabetes can cause heart pumping failure (heart failure), diabetes can damage blood vessels, diabetes can damage the

kidneys and cause kidney failure, diabetes can cause tingling in the legs, diabetes can cause numbness in the feet and hands, diabetes can cause infections in the feet, diabetes can cause skin conditions to become dry and easy to blister, diabetes can cause stress and depression.³

These results indicate that the respondent has never experienced these complications, the duration of suffering from diabetes mellitus is 11 years, the respondent's education is junior high school, and the respondent's occupation is self-employed. So that education greatly affects a person, including a person's behavior towards a healthy lifestyle. According to respondent 80 that the statement about complications of diabetes mellitus did not know the answer to all the statements because the respondent's length of suffering was 20 years, the respondent's education was junior high school, and the respondent's occupation was a housewife.⁹

These results indicate that it is not necessarily long-standing experience of suffering from diabetes mellitus respondents know about the knowledge of complications of diabetes mellitus. So that education greatly affects the level of knowledge of respondents about complications of diabetes mellitus. Knowledge is very closely related to education, where it is hoped that with higher education, the person will have wider knowledge.³

Patient attitude towards complications of diabetes mellitus

An attitude will not necessarily be manifested in the form of an action. For the realization of an attitude to become a real action, a supporting factor or an enabling condition is needed, including facilities. A person with Diabetes Mellitus who has intended to eat according to the meal plan that he has made himself, sometimes gets out of line because the situation at home or work is not supportive. If all positive

behaviors have been implemented, of course, the Diabetes Mellitus sufferer can be included in the group of Diabetes Mellitus sufferers with high compliance. As a result of compliance is controlled diabetes.

If the patient does not have a positive attitude towards diabetes mellitus, complications will occur and will eventually lead to death. In order to maintain the quality of life and avoid complications from diabetes mellitus, each patient must live a healthy lifestyle, namely living a healthy lifestyle with diabetes mellitus and regular exercise.

CONCLUSION

Based on the results of this study, the knowledge of diabetes mellitus patients about complications of diabetes mellitus already has good knowledge because knowledge is closely related to education, where it is expected that with higher education, the person will have more extensive knowledge. Age is one of the most important characteristics of people. Age has a relationship with the level of exposure, the magnitude of the risk and the nature of resistance.

The older a person is, the more mature his mental development will be and it will also affect the knowledge he gains. So that the education and attitudes of patients with diabetes mellitus can influence a person, including a person's behavior regarding lifestyle, especially in motivating to participate in development, in general, the higher a person's education, the easier it is to receive information. Prevention that can be done by people with diabetes mellitus to prevent complications, namely by controlling blood sugar levels, physical exercise, consumption of anti-diabetic drugs, and diabetic foot care are important for people with diabetes mellitus.

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