

Relationship Between Diabetes Mellitus Knowledge Levels With Diabetes Mellitus Patients In Tasikmadu Health Center

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Abstract—Data from the World Health Organization (WHO) states that in 2011 the number of people with diabetes mellitus (DM) worldwide was 346 million and projected to increase to 366 million in 2030. According to WHO and International Diabetes Federation (IDF) data estimates, explained data on the number of cases of diabetes in Indonesia based on the results of a 2008 survey ranks fourth highest in the world after China, India, and America, which is 8.4 million people and the estimated number exceeds 21 million in 2020. Between the various provinces in Indonesia, Central Java has a high prevalence of DM. In Indonesia, Diabetes Mellitus has ranked 4 chronic diseases based on prevalence. Diabetes mellitus is generally caused by uncontrolled consumption of food or as a side effect of the use of certain drugs. The purpose of this study looks at the relationship level of knowledge about diabetes mellitus to patient lifestyle in Tasikmadu Health center. The research used is the type of quantitative research with the design used is Quasi Experiment with one group post-test design. Data analysis in this study uses Person Correlation. The total sample study is as much as 33 patients who got Diabetes Mellitus by using the techniques of probability sampling with the kind of simple random sampling. Based on the results of the analysis of person correlation data obtained a significant value (p-value) of 0.001 with a correlation value of person co-relation of 0.533 which means there is a relationship between the level of knowledge of diabetes mellitus on the lifestyle of people with diabetes mellitus in the work area of Tasikmadu Health Center.

Keywords— Knowledge, lifestyle, diabetes mellitus

I. INTRODUCTION

WHO data states that in 2011 yesterday the number of DM sufferers worldwide was 346 million and is projected to increase to 366 million in 2030 [1]. According to WHO and IDF (International Diabetes Federation) data estimates, the data on the number of diabetes cases in Indonesia based on the 2008 survey ranks fourth highest in the world after China, India, and America, which is 8.4 million people and is estimated to exceed 21 million souls in 2020. Among various provinces in Indonesia, Central Java has a high prevalence of DM.

In Indonesia, Diabetes Mellitus has ranked 4 chronic diseases based on prevalence. Riskesdas data in 2013, the national prevalence of disease states Diabetes Mellitus was 1.5%. Referring to the national prevalence, West Sumatra has a total prevalence of DM as much as 1.3%. Where West Sumatra is ranked 14 out of 33 provinces in Indonesia. Based on age, many patients in the age range of 56-64 years with a prevalence of 4.8% [2].

Diabetes mellitus is generally caused by uncontrolled consumption of food or as a side effect of the use of certain drugs. Diabetes Mellitus is caused by insufficient insulin hormone produced by the pancreas to neutralize blood sugar in the body. The hormone insulin is useful for processing sugars or glucose from the food and drink that you consume. If the pancreas is normal or the production of insulin is sufficient, then the blood sugar will be processed properly, meaning that the person concerned has damaged the work of the pancreas is not perfect. As a result, the pancreas does not produce enough insulin to neutralize blood sugar. The factors that can cause diabetes mellitus are heredity, obesity (overweight), eating instant foods, hormonal disorders, hypertension (high blood pressure), high triglycerides, smoking, stress, consuming too many carbohydrates, damaging pancreatic cells, high cholesterol levels, hormone abnormalities [3]. The reasons about the lack of knowledge of the disease Diabetes Mellitus community environment writer interested in researching on "Relationship Between Knowledge Levels of Diabetes Mellitus with Diabetes Mellitus Patients in Tasikmadu Health center"

II. METHOD

The type of research used is the type of quantitative research. The method that will be used in this study is the quasi-experimental research method (Quasi experiment). According to Sugiyono [4], Quasi experiment research method is a study used to determine whether there is a result of "something" imposed on the subject under study by looking for the effect of certain treatments on others under controlled conditions.

The population in this study are patients suffering from Diabetes Mellitus in the region work of Tasikmadu Health center that as many as 50 people. In this study, the authors used probability sampling with a simple random sampling type. In this study, researchers took a sample of 33 the patients who suffer from Diabetes Mellitus in Tasikmadu Health Center.

The independent variable in this study is the level of knowledge about Diabetes Mellitus and the dependent variable in this study is the Lifestyle of Diabetes Mellitus sufferers. In the study 's researchers used questionnaires to obtain data, a questionnaire composed of sheets of approval / in font consent of respondents are willing to do the research, demographic data of respondents, the questionnaire knowledge about diabetes mellitus (16 questions), and the questioner style living arrangement patterns of eating in patients with diabetes mellitus (11 question). Data analysis uses univariate analysis and bivariate analysis. Univariate analysis performed on patients with Diabetes Mellitus in the

region work Health center Tasikmadu, such as the distribution of frequencies and percentages and bivariate analyze namely to the erratic right level of knowledge about diabetes mellitus (independent variable) to the style of life of patients with diabetes mellitus (dependent variable). To determine the relationship of each variable, a person's correlation statistical test was performed because of the data with an ordinal scale.

III. RESULT

Table 1. Age Distribution of Respondents in the Tasikmadu Community Health Center Work Area

Age	Frequency (n)	Presentation (%)
<40	5	15.2%
40-65	22	66.7%
> 65	6	18.2%
Total	33	100%

Table 1 explains the frequency distribution based on age can be seen that respondents aged 40-65 years have a higher frequency that is equal to 66.7%.

This is in accordance with Misdarina's research [5] of 82 respondents studied stated that the respondents surveyed were mostly 40-65 years old as many as 49 respondents (59.8%).

Table 2. Distribution of Frequency of Respondents by Gender

Gender	Frequency (n)	Present ase (%)
Male	17	51.5%
Girl	16	48.5%
Total	33	100%

Based on Table 5.2 it is known that there are 16 female respondents (15.2%), while male respondents have 17 (66.7%), so most respondents are male.

This is consistent with Misdarina's [5] study of 82 respondents surveyed stating that the respondents surveyed were mostly male with as many as 46 respondents (56.1%).

Table 3. Distribution of Frequency of Respondents by Education

Education	Frequency (n)	Percentage (%)
Elementary school	14	42.4%
Junior High School	13	39.4%
Senior High School	6	18.2%
Total	33	100%

Table 3 explains the distribution of frequencies based on education can be seen that respondents who have an elementary school education have 14 higher frequencies that are equal to 42.4 %.

The level of education has an influence on the incidence of diabetes mellitus. People with a high level of education will usually have a lot of knowledge about health, the level of education also affects a person's physical activity because

it is related to the work done. People who are higher education levels are usually more works in an office with physical activity while low levels of education more as laborers or farmers with enough physical activity (Irawan, 2010).

Table 4. Distribution of Frequency of Respondents by Occupation

Occupation	Frequency (n)	Percentage (%)
Private	16	48.5%
Not working	17	51.5%
Total	33	100%

Table 4 explains the distribution of frequencies can be seen that respondents who do not work have a higher frequency of 17.5%.

This is consistent with the study of Misdarina [5] of 82 respondents surveyed stating that the respondents surveyed were mostly respondents with respondents who did not work as many as 50 respondents (61.0%), private employment as many as 24 respondents (39.3%).

Table 5. Distribution of the Respondent's Level of Knowledge

Characteristics	Frequency (n)	Percentage (%)
Low	8	24.2%
Is	17	51.5%
High	8	24.2%
Total	33	100%

Table 5 explains that the results of the study of 33 respondents with a low level of knowledge were 8 (24.2%), while 17 (51.5%), high were 8 (24.2%).

According to Hairi's research [6] Based on the results of research that has been conducted on 53 respondents found that most of the level of public knowledge about Diabetes Mellitus in Nya Tnyono Village, Ungaran Barat District, Semarang Regency is in the medium category, which is 23 people (43.4%) from 53 of respondents, compared to respondents with good knowledge number of 19 persons (35.8%) of 53 respondents and respondents with low knowledge number 11 of 53 respondents (20.8%).

Table 6. Lifestyle Distribution of Patients with Diabetes Mellitus Respondents

Characteristics	Frequency (n)	Percentage (%)
Not healthy	9	27.3%
Unwell	19	57.6%
Healthy	5	15.2%
Total	33	100%

Table 6 explains that the results of the study of 33 respondents with an unhealthy lifestyle of diabetic Mellitus 9 (27.3%), Less healthy 19 (57.6), Healthy 5 (15.2%).

The results of the study according to Hairi [6] based on the lifestyle of people with diabetes mellitus showed that of

53 DM sufferers in Nyatnyono Village, Ungaran Barat District, Semarang Regency, diabetics who have unhealthy lifestyles were 15 out of 53 respondents (28.3%) Meanwhile, diabetics with healthy lifestyles were 38 out of 53 respondents (71.7%).

Table 7. Relationship between the level of knowledge about diabetes mellitus with the lifestyle of patients with diabetes mellitus in the Tasikmadu working area

Frequency (n)	Correlation (r)	Significant Value (p)
33	0.533	.001

Table 7 explains that a significant value of 0.001 is smaller than 5% ($0.001 < 0.05$) so it can be concluded that the hypothesis is accepted which means there is a relationship between the level of knowledge about diabetes mellitus and the lifestyle of people suffering from diabetes mellitus in the working area of the Tasikmadu Health center.

This is in accordance with Hairi's research [6] The Relationship between the Knowledge Level of Diabetes Mellitus and the Lifestyle of Diabetes Mellitus Patients in Nyatnyono Village, Ungaran District, Semarang Regency, the Chi-Square value was 9,179 with a p-value of 0.010. Therefore, $p\text{-value} = 0.010 < \alpha (0.05)$, then H_0 is rejected and concluded that there was a significant relationship between the level of knowledge about diabetes mellitus in patients with diabetes mellitus lifestyle in the community in the village of Ke Nyatnyono c observations West Ungaran Semarang District.

IV. CONCLUSION

From the results of research conducted on 33 respondents in the Tasikmadu Working Area, it was concluded that the results of the study showed that most respondents with moderate knowledge of diabetes mellitus were (51.5%), the level of diabetes mellitus knowledge was 24.2%, the level of diabetes knowledge Mellitus is 24.2% high. The results

showed the majority of respondents to the lifestyle of people with diabetes mellitus healthy as many (57.6%), diabetes mellitus lifestyle is not healthy 27.3%, diabetes mellitus lifestyle healthy 15.2%. There is a correlation between the level of diabetes mellitus knowledge on the lifestyle of diabetics with a significance value (p-value) of 0.001.

For educational institutions, it is hoped that this research can function as a reference for teaching materials in community nursing. People can explore and find information about DM and can change their unhealthy life so that it can reduce the risk of DM complications. The Research Community suggests that health workers or health cadres can monitor the lifestyle of DM sufferers, especially diets for people with type 2 diabetes and can improve public health outcomes and reduce mortality for people with diabetes mellitus. In subsequent studies conducted by other researchers, it is hoped to explore more deeply about other factors that influence lifestyle. In addition, it is necessary to consider the weaknesses in this study as well as consider other factors that can affect the lifestyle of people with Diabetes Mellitus.

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