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The Relationship of Family Knowledge and Attitude with Diabetes Mellitus Prevention in Puskesmas Bengo, Bengo District, Bone District

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ABSTRACT

Knowledge is the result of knowing, and this happens after people sense certain objects. The five human senses are the senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through the eyes and ears, namely the process of seeing and hearing. This study aims to determine the relationship of family knowledge and attitudes with the prevention of Diabetes Mellitus at the Bengo Health Center, Bengo District, Bone Regency. The variables in this study include knowledge, family attitudes and prevention of diabetes mellitus. This study was sectional and a sample of 41 people was carried out from 1 August to 1 September 2022. The research method used was quantitative research with a cross-sectional design. Data collection used a purposive sampling technique. Variables were measured using a questionnaire containing questions and statements. Results of the study: the results showed that there was no relationship between family attitudes and the prevention of diabetes mellitus with a significance level of p = 0.446 where p> 0. 05, while for knowledge there was a relationship with p = 0.007 where 0.007 <0.05. It is a sign that knowledge of the client's family very important to take care of the diabetes mellitus clients.

Keywords

Knowledge, Family attitude, Diabetes mellitus.

Background

Diabetes Mellitus or diabetes is a disease that is often found in society. Diabetes Mellitus belongs to the group of non-communicable diseases. This disease can cause death if not handled properly. Efforts to prevent this are by adopting a healthy lifestyle such as maintaining a regular diet and exercise.

Globally, in 2014 there were 422 million adults living with diabetes, while in 1980 there were 108 million people with diabetes. The global prevalence of the standardized age since 1980 has almost doubled, increasing from 4.7 percent to 8.5 percent. This increase reflects being overweight or obese which a risk factor for diabetes [1] is. The International Diabetes Federation states that there are 451 million people aged 18-99 years suffering from diabetes mellitus worldwide and is expected to increase to 693 million people in 2045. According to Perkeni Consensus the prevalence of Diabetes Mellitus in Indonesia based on a doctor's diagnosis is 1.5 percent and the prevalence of Diabetes Mellitus based on blood tests in the Indonesian population aged > 15 years is 10.9 percent in 2018.

South Sulawesi Province accounted for 3.4% of the 91,823 cases of Diabetes Mellitus in 2013 and continued to increase in 2018 to 10.9% in the population aged > 15 years. The proportion of efforts to control Diabetes Mellitus in residents diagnosed with Diabetes Mellitus by doctors in 2018 is 80.2% from the influence of food, 48.1% from exercise 35.7% [2].

The South Sulawesi Provincial Health Office in 2013 the prevalence of diabetes in South Sulawesi diagnosed by a doctor was 1.6% and 0.5%. Based on symptoms, it was 3.4%. The highest prevalence of diabetes diagnosed by doctors was in Pinrang Regency 2.8%, Makassar City 2.5%, North Toraja Regency 2.3%, and Palopo City 2.1%. The prevalence of diabetes mellitus based on symptoms is highest in Tanah Toraja Regency 6.1%, followed

by Makassar City 5.3%, Luwu Regency 5.2% and North Luwu Regency 4.0%. The prevalence of diabetes mellitus in urban areas tends to be higher than in rural areas. Based on non-communicable disease surveillance data in the P2PL field of the South Sulawesi Provincial Health Office in 2019 there were 27,470 new cases of diabetes mellitus, 66,780 old cases and 747 deaths [3].

Based on data obtained from the Bengo Health Center, Bengo District, Bone Regency, there were 584 people with Diabetes Mellitus with 173 male sufferers and 411 female sufferers who were diagnosed with Diabetes Mellitus in 2018 who visited for treatment. To increase knowledge and Attitudes of families of Diabetes Mellitus patients can be carried out health education counseling so as to increase knowledge and attitudes of families in preventing Diabetes Mellitus, as for efforts to prevent Diabetes Mellitus which can be avoided various types of processed foods that are high in glucose, diligent in exercising, and doing physical activity for at least 30 minutes per day, especially for those at high risk of developing Diabetes Mellitus. Based on the description above, the researcher is interested in conducting research on "the relationship between family knowledge and attitudes and the prevention of Diabetes Mellitus" at the Bengo Health Center, Bengo District, Bone Regency.

Statement of the Problem

Based on the background above, the formulation of the research problem is "How is the relationship between knowledge and attitudes of the family with the prevention of Diabetes Mellitus.

Objective Study

To determine the relationship between knowledge and attitudes of the family with the prevention of Diabetes Mellitus at the Bengo Health Center, Bengo District, Bone Regency.

Research Method

This research is a quantitative research, quantitative research aims to describe (describe) important events that occur in the present. Quantitative events are carried out systematically and emphasize factual data rather than conclusions. Researchers will collect data using question and answer by distributing questionnaires to DM patient families at the Bengo Health Center, Bengo District, Bone Regency [4].

The research design used is Cross Sectional. Cross Sectional is a research design that is measured and carried out at one time (Simultaneously). Where researchers make observations of the problems raised by paying attention to frequency and time simultaneously [5]. The population of this study was all diabetes mellitus sufferers who were treated at the Bengo Health Center, Bengo District, Bone Regency, totaling 584 people. The sample in this study were families with diabetes mellitus at the Bengo Health Center, Kec. Bengo, Kab. Bone, with a total of 41 people. The sampling technique used was *purposive* sampling. *Purposive* sampling is a technique for determining a sample by selecting a sample from among the population according to what the researcher wants (objectives/problems in the study), so that the sample can represent the characteristics of a previously known population [4].

Results of the Study

This research was conducted at the Bengo Health Center, Bengo sub-district, Bone district from August to September 2022. The variables, namely knowledge and attitudes of the family as independent variables and prevention of DM as dependent variables. With a total sample of 41 respondents. Samples were taken from families with Diabetes Mellitus at the Bengo Health Center, Bengo District, Kab. Bone that fits the sample criteria determined by the researcher. The data obtained included: general characteristics of the respondents (age, gender, education, occupation, and data on the results of measuring family knowledge and attitudes as well as efforts to prevent DM with instruments questionnaire.

General Characteristics of Respondents

a. Age

Based on research conducted on 41 respondents, the age category was obtained respondent.

Table 1: Frequency Distribution of Respondents by Age at the Bengo Health Center, Bengo District, Kab. Bones.

Age	Frequency (f)	Percentage%
36-45 Years	1	2.4
46-55 Years	21	51.2
56-65 Years	11	26.8
> 65 Years	8	19.5
	Total	41100.0

Source: Primary Data 2022

Based on table 1, it shows that of the 41 respondent families who suffer from DM at the Bengo Health Center, Bengo District, Bone Regency, most are in the age range of 46-55 years, namely 21 0 people (51.2%). Meanwhile, the least was in the age range of 36-45 years, namely 1 person (2.4%).

b. Type Sex

Based on research conducted on 41 respondents, the gender category was obtained respondent.

Table 2: Frequency Distribution of Respondents by Gender Type Gender Frequency (f) Percentage %

Gender Type	Frequency (f)	Percentage (%)
Males	14	34.1
Females	27	65.9
Total	41	100

Source: Primary Data 2022

Based on table 2, it shows that of the 41 respondent families who suffer from DM at the Bengo Health Center, Bengo District, Bone Regency, the majority are female, namely 27 people (65.9%), while male sex, only 14 people (34.1%).

c. Education

Based on research conducted on 50 respondents, the education category was obtained respondent.

Table 3: Frequency Distribution of Respondents According to Education.

Education	Frequency (f)	Percentage%
SD	2	4.9
JUNIOR HIGH SCHOOL	15	36.6
SENIOR HIGH SCHOOL	15	36.0
College	9	22.0
Total	41	100.0

Source: Primary Data

Based on table 3, it can be seen that 41 respondent families who suffer from DM at the Bengo Health Center, Bengo District, Bone Regency show that most of them are junior high school and high school graduates, 18 people (36.6%), 9 people from tertiary institutions (22.0%) and at least Elementary school graduates as many as 2 people (4.9%).

d. Work

Based on research conducted on 41 respondents, the job category was obtained respondent.

Table 4: Frequency Distribution of Respondents by Occupation.

Work	Frequency (f)	Percentage (%)
civil servant	4	9.8
Self-employed	4	9.8
IRT	17	41.5
Pension	16	39.0
Total	41	100.0

Source: Primary Data 2022

Based on table 4, 41 respondent families who suffer from DM at the Bengo Health Center, Bengo District, Bone Regency, show that the majority have jobs as IRT as many as 17 people (41.5%) and the least with jobs as self-employed and civil servants, there are still 4 people each (9.8%).

Analysis Univariate

e. Knowledge

Table 5: Frequency Distribution of Respondents Based on knowledge.

Knowledge	Frequency (f)	Percentage%
Good	37	90.2
Not enough	4	9.8
Total	41	100

Source: Primary Data 2022

Table 5 above shows that of the 41 respondents there were 37 (92.0%) respondents who had good knowledge regarding DM, there were 4 people (9.8%) respondents who had less knowledge about DM.

f. Attitude Family

Table 6: Frequency Distribution of Respondents Based on Family Attitudes.

Family Attitude	Frequency (f)	Percentage%
Good	35	85.4
Not enough	6	14.6
Total	41	100.0

Source: Primary Data 2022

From table 6 above it shows that of the 41 respondents there were 35 people (85.4%) respondents who had good family attitudes, and as many as 6 people (14.6%) respondents who had bad family attitudes.

g. Prevention DM

Table 7: Frequency Distribution of Respondents Based on DM Prevention.

DM prevention	N	%
Good	32	78.0
Not enough	9	22.0
Total	41	100.0

Source: Primary Data 2022

Table 7 above shows that of the 41 respondents, there were 32 people (78%) of the respondent's family who had DM prevention efforts in the good category, and there were 9 people (22%). Respondents' families who have DM prevention efforts are included in the bad category.

Analysis Bivariate

Bivariate analysis is analyzing the relationship of Knowledge in the Prevention of Diabetes Mellitus by using the *Chi Square test.*

Relationship of knowledge with diabetes prevention Mellitus

Table 8: Frequency Distribution of Respondents Based on Knowledge with DM Prevention.

Knowledge	Prevention DM				Total		(Results chi square test)
	Good		Less				
	f	%	f	%	f	%	*pValue*
Baik	31	97.8	6	40	37	92.0	0,007
Kurang	1	2.2	3	60	4	8.0	

Source: Primary Data 2022

Chi square test based on table 8 found that respondents with good knowledge about DM and good prevention efforts were 31 people (97.8%), respondents who did not know and good prevention efforts were 1 person (2.2%). Meanwhile, respondents with less knowledge about DM had 3 people (60.0%) poor prevention efforts and 6 respondents (40.0%) with good knowledge and poor prevention efforts. Statistical test results obtained p value = 0.007 ($p \leq 0.05$), which means there is a relationship knowledge with prevention of diabetes mellitus in the family at the Bengo Health Center, Bengo District, Bone Regency.

Relationship between Family Attitudes and Diabetes Prevention Mellitus

Table 9: Frequency Distribution of Respondents Based on Family Attitude with Prevention DM.

Family Attitude	Prevention DM				Total		(Results chi square test)
	Good		Less				
	f	%	f	%	f	%	*pValue*
Fine	28	80.0	7	20.0	35	86.0	0.466
Less	46	6.7	23	3.3	6	14.0	
Total	32	90.0	9	10.0	41	100	

Source: Primary Data 2022.

Chi square test based on table 9 found that respondents with good family attitudes and good prevention efforts were 28 people (97.7%). Meanwhile, 2 respondents (42.9%) had poor family attitudes and lack of prevention efforts. Meanwhile, there were 7 respondents (2.3%) who had good family attitudes but poor prevention efforts and 4 respondents (10.0%) who had unsupportive family support and did not routinely control their blood sugar. Statistical test results obtained (p = 0.446) which means there is no relationship with family attitudes with the prevention of DM at the Bengo Health Center, Bengo District, Bone Regency.

Discussion

Knowledge

Based on the results of research that has been conducted on 41 respondents, it is known that most have good category knowledge, namely there are 37 respondents (90.2%) who know about DM, as many as 4 people (9.8%) respondents who do not know about DM.

Attitude Family

Based on the research results obtained from 41 respondents, most of them were in the *good category,* namely 35 people (85.4%), and the attitude that was lacking *was* 6 people (14.6). This shows a better attitude towards the prevention of diabetes mellitus at the Bengo Health Center, Bengo District, Bone Regency.

Prevention DM

Based on the research results obtained from 41 respondents, there were 32 people (78.0%) of families with DM who understood DM prevention, and 9 people (22.0%) did not understand DM prevention. This shows that more respondents understand about the prevention of diabetes mellitus at the Bengo Health Center, Bengo District, Bone Regency.

Relationship of knowledge with Diabetes Prevention Mellitus

Chi square test, which obtained a value of p = 0.007, where there was a significant relationship between knowledge and the prevention of diabetes mellitus. Of the 41 respondents who had good knowledge, 37 people (92.0%), while respondents with less knowledge about DM Prevention were 4 people (22.0%). Statistical test results obtained p value = 0.007 > 0.05, which means there is a relationship between knowledge and the prevention of diabetes mellitus at the Bengo Health Center, Bengo District, Bone Regency. Says knowledge is the result of knowing, is an important domain in shaping one's actions *(over behavior)*. This is in accordance with the research of Ananda AP et al. [6] that with good knowledge, blood glucose levels are more controlled than those who have less knowledge.

The results of this study were also supported by research conducted by Agueda Da Conceicao et al. [7], with the title: "*The relationship between knowledge about diabetes mellitus and wound prevention behavior in physical activity in patients with type 2 diabetes at the Bambanglipuro Bantul Health Center, Yogyakarta.*" *non-experimental* research. This study used an *analytic survey method* with a *cross sectional approach.* The sampling technique used *was accidental sampling.* The purpose of this study was to determine the relationship between knowledge about diabetes mellitus and diabetes mellitus behavior prevention of injuries in physical activity of type 2 DM patients at the Bambanglipuro Bantul Health Center, Yogyakarta. Based on the results of *the chi square test,* it was found that there was a significant relationship between patient knowledge about diabetes mellitus and injury prevention behavior in physical activity in type 2 diabetes mellitus patients with a pvalue *of* 0.000 <0.05. The results showed that the better the knowledge of families with diabetes mellitus, the better about prevention of DM. family.

The Relationship between Family Attitudes and the Prevention of Diabetes Mellitus

Chi square test, which obtained a value of p = 0.446 (p≥0.05), in which there was no relationship between family attitudes and the prevention of diabetes mellitus. Of the 41 respondents who had good family attitude values and good prevention efforts, 28 people (97.7%). Meanwhile, there were 2 respondents with bad family attitudes and poor prevention efforts (42.9%). Meanwhile, there are as many respondents who have good family attitudes and poor prevention efforts 7 person (2.3%) as well as respondent Which own support families who are less supportive and do not routinely control blood sugar as many as 4 people (10.0%).

The results of the study show that the better the family support for people with diabetes mellitus, the more obedient they are in preventing diabetes mellitus. Life by routinely controlling blood sugar levels to prevent complications. The benefits of family social support for health are specifically proven to reduce mortality, recover more easily from illness, improve cognitive function, physical and emotional or psychological health. In addition, the positive influence of family social support is in the adjustment to events in life that are full of stress in [8].

This research contradicts the research that has been conducted by Nanang Muhibuddin et al. [9] with the title: the relationship of family knowledge and attitudes with controlled blood sugar levels in patients with type 2 diabetes mellitus at the general hospital in Kediri district, the purpose of this study was to analyze the relationship of knowledge and attitude family with under control rate sugar blood in type 2 DM, an *analytic study design* with a *cross sectional approach.* The results obtained were p = 0.001 (37%), which means that there is a significant relationship between family attitudes and controlled blood sugar levels in type 2 diabetes mellitus patients at the district general hospital Kediri.

Based on the results of the research and description above, it can be concluded that lack of knowledge greatly influences the improvement of health status, especially in efforts to prevent DM. Because with a tool called attitude, in making decisions individuals will be able to adapt to their environment to achieve a goal, as well as with family attitudes, the lower the family support, the lower the level of family desire to control and have their disease checked at a facility health.

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