

Factors Related To Anxy Events In Diabetes Mellitus Type 2 In Public Health Center

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ABSTRACT

Diabetes mellitus or what is commonly referred to as diabetes is a metabolic disorder characterized by chronic hyperglycemia caused by disruption of carbohydrates, protein metabolism, fat due to problems with insulin secretion, insulin action, or both (WHO, 2014). The purpose of this study was to determine the factors related to the psychological health of patients with type 2 diabetes mellitus with the incidence of anxiety at the Puskesmas Kota Kab. Bantaeng 2020. Methods This study used an analytic observational research design with a cross sectional approach. The sample of this research was 63 respondents who were taken by incidental sampling method. Data analysis in this study used the Chi-square statistical test. The results of the study used the Chi-square statistical test with a significance level of 0.05. The results of data analysis using Chi-square showed that the knowledge factor p-value = 0.006, diet management p-value = 0.000, family support p-value 0.000 < 0.05 means that the test is significant. This means that there is a relationship between knowledge, dietary regulation, family support and anxiety in people with type 2 diabetes. Conclusions and suggestions are DM sufferers are encouraged to control their blood sugar levels regularly and reduce consumption of foods that contain lots of carbohydrates. The suggestion suggested is that the city health center institution pay more attention to the factors that can affect blood sugar levels and be able to control this situation by creating an innovative program.

Key Words: Knowledge, Diet Management, Family Support

INTRODUCTION

Diabetes mellitus is a chronic disease with signs of elevated blood sugar levels and metabolic disorders. When diagnosed with diabetes mellitus, many complications will arise (Soto-Estrada et al., 2018). Diabetes mellitus or commonly referred to as sugar disease is a metabolic disorder characterized by chronic hyperglycemia caused by disruption of carbohydrates, protein metabolism, fat due to problems in insulin secretion, insulin action, or both (WHO, 2014). DM is of three types; Diabetes Type 1 Mellitus (T1DM), Diabetes Mellitus type 2 (T2DM), and Gestational Diabetes mellitus (GDM). In

Nigeria, DM is one of the Non-lethal Infectious Diseases (NCD) estimated to account for 29% of all deaths in 2016 (WHO, 2018).

The World Health Organization (who) predicts an increase in the number of people with diabetes mellitus (DM) and becomes a global health threat. Each year DM sufferers are increasing, both in Indonesia and in the world. It is recorded that the number of people with diabetes mellitus in Indonesia from 8.4 million in 2000 to around 21.3 million in 2030 (PERKENI, 2015). Based on the WHO report, 3% of the total population of Indonesia (239,870,937 people) in 2010 had diabetes mellitus, or more than 7 million people suffered from diabetes mellitus. It can be interpreted that out of 100 Indonesian residents 3 people suffer from diabetes mellitus.

Based on a report from (IDF) in 2017, the number of DM sufferers in the world reaches 425 million adults aged between 20-79 years (Sundari, Asmoro and Arifin, 2019). In 1995, according to the World Health Organization (WHO), it estimated that people with diabetes or diabetes mellitus reached 171 million people or 2.8% of the world's population, while in 2030 it was estimated to be 366 million (4.4% of the world's population). Then in 2050, at the age of 60 years, there will be an increase of 2,000 million people with diabetes mellitus. Population aged 45-65 years are the most sufferers. Meanwhile, based on surveillance data for non-communicable diseases in the P2PL area of the South Sulawesi Provincial Health Office in 2014, there were 27,470 cases of diabetes mellitus with 747 deaths (Zainuddin, the relationship of medication adherence to blood sugar levels during type 2 diabetes mellitus, 2019).

Based on data obtained from the Bantaeng District Health Office in 2020, 1,115 cases of diabetes mellitus were recorded in 2015, in 2018 the number decreased to 723, and in 2019 increased to 1,368 (Bantaeng District Health Office 2020). Diabetes mellitus increases due to various factors apart from genetic factors, a poorly controlled diet can cause diabetes mellitus, in addition to lack of activity such as lack of exercise can also cause diabetes mellitus. Lack of knowledge about this disease also affects the community, therefore information or counseling is very important for the community to know the dangers of the disease and to know the causes of diabetes mellitus and how to treat and prevent it. This is supported and strengthened by research conducted by Hamdan Hariawan et al (Diabetes et al., 2019).

Anxiety is a condition of mental anxiety, concern, or a feeling or feeling of hopelessness because of a threat that will occur or a threat of anticipation that cannot be

identified with oneself or a meaningful relationship. If people with diabetes mellitus experience anxiety, it will affect the healing process and hinder their ability to carry out daily activities. Physical symptoms that are often experienced when a person experiences severe or high anxiety are decreased energy, fatigue, and difficulty sleeping which can affect changes in diet. Most people complain of not having an appetite, but some complain that their eating is getting out of control. In patients with diabetes mellitus, this condition will certainly affect the diet or diet that has been determined. Diabetes mellitus who experience anxiety has poor blood sugar control and increased symptoms of the disease (Wijayanto and Pringsewu, 2019).

Based on preliminary data collection carried out at the Bantaeng City Health Center on January 23-30 2020, from 15 DM patients found 10 DM patients who experienced anxiety about their disease due to lack of knowledge possessed by these sufferers. They said that they would not be cured if they had diabetes, in addition to the lack of knowledge, patients with the female gender had more type 2 diabetes mellitus than men. 2 among the DM patients said they were no longer anxious because they had received a lot of information about DM that they suffered through both counseling and electronic media, while other patients said they needed family support to deal with their illness, accompany them when they wanted to seek treatment or wanted to check their blood sugar levels.

Public Health collaborates with the local government in controlling or reducing the number of DM sufferers by conducting counseling and mobile health centers besides that the public Health assigns staff who hold a program called POSBINDU (integrated service post) PTM (non-communicable disease) to carry out screening in the work area of city public Health bull. The purpose of this study was to determine the factors associated with the incidence of anxiety in people with type 2 diabetes mellitus at the Bantaeng city health center.

MATERIAL AND METHODS

This research is quantitative in nature, the approach used is cross sectional where this type of research focuses on time and observation of data measurement on the independent and dependent variables only once at the same time (Nursalam, 2008). The population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are determined by the researcher to study and then draw conclusions (Sugiyono, 2018). The population in this study were all Bantaeng

people who came for treatment at the Polyclinic of the Bantaeng District Health Center who were diagnosed with Type 2 Diabetes Mellitus.

The sample is a component of the number and marks owned by the population. If a large population does not allow a researcher to analyze everything in the population, then it can use the sample obtained from that population. Everything that is learned from the sample will draw conclusions to apply to the population, therefore the sample taken from the population can truly represent (Sugiyono, 2018).

The number of samples used in this study was 63 people. The sampling technique in this study is a nonprobability sampling technique, namely the incidental sampling technique. The instrument in this study was a questionnaire (questionnaire). The questionnaire was used to collect data on age, gender, diet management, family support, and anxiety levels in patients with DM type 2. Data were analyzed based on measurement scale and research objectives using computerized software programs. Data were analyzed by: (1) Univariate analysis, the analysis was carried out to see the proportion. (2) Bivariate analysis, bivariate test is done to find the relationship between the independent variable and the dependent variable with the test used is Chi Square if it meets the requirements. Significance received if $p < 0.05$.

RESULTS

Table 1. Frequency Distribution of Respondents Characteristics

Variables	Frequency (F)	Percentage (%)
Gender		
Male	26	41,3
girls	37	58,7
Age		
Early Adult (26- 35 Years)	7	11,1
Late Adult (36-45 years)	19	30,2
Early Elderly (46- 55 years)	19	30,2
Late Elderly (56- 65 years)	18	28,6
Level of education		
SD	12	19,0
Junior High	15	23,8
High school	14	22,3
D3	5	7,9
S1	17	27,0
Knowledge Level		
Good	42	66,7
Less	21	33,3

Diet Management		
Obey	39	61,9
Not obey	24	38,1
Family Support		
Support	42	66,7
Does not support	21	33,3
Anxiety Level		
Anxious	39	61,9
Don't worry	24	38,1
Amount	63	100,0

Based on table 1, it can be seen that from a total of 63 respondents in the district health center, the city. Bantaeng, showed that the characteristics of respondents who were male were 26 (41.3%) and female respondents were 37 (58.7%). Characteristics of respondents based on age 26-35 years were 7 (11.1%), 19 (30.2%) 36-45 years old, 19 (30.2%) aged 46-55 years (30.2%) while 56 -65 years of 18 (28.6%). Characteristics of respondents based on primary education were 12 (19.0%), junior high school as much as 15 (23.8%), high school as much as 14 (22.2%), D3 as much as 5 (7.9%), while as many as 17 S1 (27, 0%). Distribution of the number of respondents Based on the knowledge of the 63 respondents who know is dominated by the category of good knowledge as many as 42 (66.7%). Based on diet management dominated by respondents with the obedient category as many as 39 (61.9%). Based on family support, it was dominated by respondents with the supportive category as much as 42 (66.7%). Based on the level of anxiety, it shows that the characteristics of respondents based on anxiety are dominated by respondents who are not anxious as many as 39 (61.9%).

Table 2. The Relationship between Knowledge and Anxiety

Worry					
Knowledge	Not anxious		Anxious		P Value
	F	%	F	%	
Good	31	73,8	11	26,2	
Not Good	8	38,1	13	61,9	0,006
Amount	39	100,0	24	100,0	100

The results of the analysis using the Chi-square test obtained a significance value of 0.006 ($p < 0.05$), so it can be concluded that There is a relationship between knowledge and anxiety in patients with Type 2 diabetes in the Bantaeng city health center.

Table 3. Relationship Between Diet Management and Anxiety Levels

Diet Management	Worry				P Value
	Not anxious		Anxious		
	f	%	f	%	
Obey	34	87,2	5	12,8	0,000
Not obey	5	20,8	19	79,2	
Amount	39	100,0	24	100	

The results of the analysis using the Chi-square test obtained a significance value of 0.000 ($p < 0.05$), it can be concluded that There is a relationship between diet management and anxiety in patients with Type 2 diabetes in the Bantaeng city health center.

Table 4. Family support relationship with Anxiety Level

Worry					
Family Support	Not anxious		Anxious		P Value
	F	%	F	%	
Support	33	78,6	6	21,4	0,000
Not Support	15	71,4	9	28,6	
Amount	39	100	24	100	

The results of the analysis using the Chi-square test obtained a significance value of 0.000 ($p < 0.05$), it can be concluded that "There is a relationship between family support and anxiety in patients with Type 2 diabetes in the Bantaeng city health center.

Table 5. Relationship between Gender and Anxiety Levels

Worry					
Gender	Not anxious		Anxious		P Value
	F	%	F	%	
Male	15	57,7	11	42,3	0,564
Female	24	64,9	13	35,1	
Amount	39	100,0	24	100	

The results of the analysis using the Chi-square test obtained a significance value of 0.564 ($p > 0.05$), it can be concluded that "there is no relationship between gender and anxiety in patients with Type 2 diabetes in the Bantaeng city health center.

Table 6. Relationship between Age and Anxiety

Worry					
Age	Not anxious		Anxious		P Value
	F	%	F	%	
Early Adult (26- 35 Years)	4	50,0	4	50,0	6,821
Late Adult (36-45 years)	11	61,1	7	38,9	
Early Elderly (46- 55 years)	16	84,2	3	15,8	
Late Elderly (56- 65 years)	8	44,4	10	55,6	
Amount	39	100	24	100	

The results of the analysis using the Chi-square test obtained a significance value of 6.821 ($p > 0.05$), it can be concluded that "There is no relationship between age and anxiety in patients with Type 2 diabetes in the Bantaeng city health center.

DISCUSSION

In this study, it can be seen that there is a significant relationship between knowledge, diet management, and family support with the anxiety level of Type 2 DM sufferers at the district health centers Bantaeng of 2020. From the results of statistical tests using the Chi-Square test, the p -value = 0.006 is smaller than the $\alpha = 0.05$. So it can be concluded that there is a relationship between knowledge and the level of anxiety of people with Type 2 diabetes.

The researchers' assumptions related to the results of the study that the District Health Center. Bantaeng has activity in collaboration with the BPJS which is carried out regularly every 24th of the month. Every implementation of the prolanis carried out educational activities in the form of counseling. This counseling is carried out to minimize the lack of knowledge of Diabetes mellitus patients who seek treatment at the City Health Center. Lack of knowledge of Diabetes Mellitus patients about their disease can result in high anxiety. If the patient is constantly anxious, it will result in psychological problems in the patient. Psychological disorders cause patients to feel sad, stressed about their illness. What's more with the amount of inaccurate information about Diabetes Mellitus.

From the results of statistical tests using the Chi-Square test, the p -value = 0.000 is smaller than the value of $\alpha = 0.05$. So it can be concluded that there is a relationship between diet management and the level of anxiety in people with Type 2 diabetes. Researchers assume that dietary compliance resulted from respondents with a high

educational background because the City Health Center is located in the urban center of Kab. Bantaeng, where the visitors to the City Health Center are served are mostly people who work in government or private agencies. So that they can manage and process their diet according to the daily diet for people with Diabetes Mellitus. Researchers assume that dietary compliance resulted from respondents with a high educational background because the City Health Center is located in the urban center of Kab. Bantaeng, where the visitors to the City Health Center are served are mostly people who work in government or private agencies. So that they can manage and process their diet according to the daily diet for people with Diabetes Mellitus.

Respondents who obeyed were more anxious because they thought that even though they often came to the health center and checked their sugar levels and obeyed their diet, their sugar levels were still high or even uncontrollable. Therefore, even though the respondents adhere to the diet, but in a state of anxiety and depression, they tend to be less accepting of the medical therapy that is given which certainly increases the blood sugar levels of the respondent. From the results of statistical tests using the Chi-Square test, the $p\text{-value} = 0.000$ is smaller than the value of $\alpha = 0.05$. So it can be concluded that there is a relationship between family support and the level of anxiety in people with Type 2 diabetes. In this study, all respondents were patients who were members of the prolanis. Respondents said the support they usually received from their families included support and motivation to diligently control their health every month at the public health. Besides, the family also helps in regulating diet and taking medicine hours. Family support can help improve anxiety about the prognosis of diabetes mellitus by managing blood sugar levels in diabetic patients, controlling dietary intake, and taking medication adherence.

The higher the family's support for the patient, the lower the anxiety about the future of the disease so that the patient's quality of life can be higher as well. From the results of statistical tests using the Chi-Square test, the $p\text{-value} = 0.000$ is smaller than the value of $\alpha = 0.05$. So it can be concluded that there is no relationship between gender and the level of anxiety of people with Type 2 diabetes. Researchers assume that one of the causes of high anxiety levels in women is because there are hormones that can trigger anxiety. In women, the optimal ability of the brain to deal with anxiety, the ability to predict and feel something is different from men.

Currently, there is a change in the role of women, who initially played a role as caregiver, now a figure who works hard is careful and protective. Besides, the female brain system is more intuitive and analytical thinking compared to men who are more optimal in motor skills. Gender does not affect a person's anxiety, but individual rejection of the disease they suffer. Besides, the characteristics of someone who tends to experience greater levels of anxiety, such as dependent, occlusive abusive, and histrionic, have more effect on the level of anxiety.

From the results of statistical tests using the Chi-Square test, the p-value = 0.000 is smaller than the value of $\alpha = 0.05$. So it can be concluded that there is no relationship between age and the level of anxiety in people with Type 2 diabetes. At a psychologically unstable level based on the characteristics of the respondents, the authors have the assumption, at the age of 35-55 years, the respondents think about their children's future if something happens due to diabetes mellitus they have. From the results of this study, it can be seen that the increasing age of the patient, the lower the level of anxiety. Age is related to experiences and views on something, the older the thinking process will be the better.

CONCLUSION

Based on the results of research conducted with the aim of the study was to determine the factors associated with the incidence of anxiety in people with type 2 diabetes mellitus at the Bantaeng city health center. Public health centre are expected to improve the quality of services including facilities and infrastructure so that they can identify as early as possible the incidence of diabetes mellitus.

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