The Relationship of Blood Sugar Levels with Anxiety Levels on Patients Diabetes Mellitus in Public Health Center Ujung Loe Regency Bulukumba 2016

Fatmawati[*]

Nursing Department, Panrita Husada Health College, Bulukumba
Email: nengfatma_80@yahoo.com

Abstract

Based on data from the World Health Organization (WHO) in 2011 the number of diabetes mellitus reaches 200 million people, Indonesia ranks fourth, while data of District Health Office Bulukumba in Public Health Center 2015 there are 2999 who suffer from diabetes mellitus. The purpose of this study was to determine the relationship of blood sugar levels with anxiety levels in patients with diabetes mellitus in Ujung Loe Bulukumba District Year 2016. Diabetes mellitus is a metabolic disorder characterized by hyperglycemia (elevated blood sugar levels). Blood sugar is the amount of sugar (glucose) in the blood. Anxiety is an individual response to an unpleasant state and experienced by all beings. This research uses quantitative analytic design with cross sectional approach, the sample is taken by consecutive sampling amounting to 50 respondents from 238 population Result of Kolmogorov-Smirnov test with significance level (p <0,05) got p = 0,020 <0,05. So it can be concluded that there is a significant relationship between blood sugar levels with anxiety levels in patients with diabetes mellitus in Public Health Center Bulukumba District. Advice that can be given to health workers, especially nurses, to be more active in giving health education about the importance of controlling blood sugar levels to minimize the occurrence of anxiety heavier in the future.

Keywords: blood sugar level; anxiety; diabetes mellitus.

----

* Corresponding author.

1. Introduction

Anxiety according is a concern that is not clear and spread, which is associated with feelings of uncertainty and helplessness. This state of emotion has no specific object [1]. There are several factors that affect anxiety is one of them is the physical state, the disease is one of the factors that cause anxiety. A person who is suffering from a disease will more easily experience anxiety compared with people who are not suffering from disease [2]

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia (elevated blood glucose) that occurs due to insulin secretion abnormalities or insulin work [3].

In the world the number of people with diabetes mellitus from year to year has increased, this is related to the increasing population, life expectancy increases, urbanization that changes the traditional lifestyle to modern lifestyles, obesity increases and physical activity is reduced. Diabetes mellitus needs to be observed because of the progressive chronic disease, the increasing number of sufferers and many negative impacts[4]

World Health Organization (WHO) in 2011 the number of people with diabetes mellitus in the world reached 200 million people,Indonesia ranks fourth largest in the number of people with diabetes mellitus in the world. In Indonesia, based on epidemiological studies, the prevalence of diabetes mellitus is 1.5-2.3% in people over 15 years of age, even in urban areas, the prevalence of diabetes mellitus is 1.47% and the rural area is 7.2%. Prevalence is increased 2-3 times compared with developed countries, so diabetes mellitus is a serious public health problem.

Provincial Health Office of South Sulawesi, Makassar is the city with the highest diabetes mellitus. In 2010 there were 3827 new cases from 17245 or about 22.19%. While data from the District Health Office Bulukumba South Sulawesi Province in 2015 obtained data 2999 suffering from diabetes mellitus. Based on data from Public health center Ujungloe in 2015 there are 238 patients suffering from diabetes Mellitus.

2. Method of study

The type of this research is observational research with cross sectional design. This research was conducted at Public health center Ujung Loe Bulukumba Regency South Sulawesi Indonesia. The population of this study were all patients who suffered from diabetes mellitus at Ujung Loe Public Health Center in April of 2016 as many as 238 people.

The sampling technique used was consecutive sampling with a total sample of 50 people. The data collected include education, sex, blood sugar levels, and anxiety levels.

Blood glucose measurements used a Nesco blood sugar checking device, while anxiety level measurements used Zung Self-Rating Anxiety Scale (SAS / SRAS). The result of this research is processed by using SPSS program. Data analysis included univariate and bivariate analysis. Univariate analysis to describe frequency distribution of each variable. Bivariate analysis using chi square test.

3. Result

Table 1: Frequency distribution of respondent characteristics

Variable	N	%
Education		
Lower	28	56.0
High	22	44.0
Gender		
Man	17	34.0
Continued Table 1.		
Woman	33	66.0
Age		
35 – 42	4	8.0
43 – 50	15	30.0
51 – 58	18	36.0
59 – 66	13	26.0
Blood sugar levels		
Controlled	21	42.0
Uncontrolled	29	58.0
Anxiety levels		
Not anxious	19	38.0
Mild Anxiety	16	32.0
Moderate Anxiety	1	2.0
Severe Anxiety	14	28.0

Source : Primary data

Table 1 shows the highest education level of respondents in low education, 28 (56%), most of them female respondents (66%), respondent age 51 - 58 years, 18 (36%). Respondents who had controlled blood glucose level of 21 people (42.0%) and uncontrolled for 29 people (58.0%). The anxiety level of respondents mostly did not experience anxiety that is as much 19 people (38%).

Table 2: Relationship of Anxiety Level Variables with Blood Sugar Levels

Blood sugar levels	Anxiety Level								total		Value p
	Not Anxious		Mild Anxiety		Moderate Anxiety		Severe Anxiety				
	N	%	n	%	N	%	n	%	n	%	
Controlled	12	24,0	8	16,0	0	0,0	1	2,0	21	42,0	0,020*
Uncontrolled	7	14,0	8	16,0	1	2,0	13	26,0	29	58,0	
Total	19	38,0	16	32,0	1	2,0	14	28,0	50	100	

*Chi Square Statistic Test

Based on data from table 2 above shows that of 21 (42.0%) of respondents whose blood sugar levels were controlled consisted of 12 people (24.0) who were not anxious, 8 people (16.0%) who experienced mild anxiety, 0 (0.0%) or no respondents who experienced moderate anxiety, and 1 person (2.0%) who experienced severe anxiety. Whereas from 29 (58,0%) respondents whose blood sugar level was not controlled there were 7 people (14.0%) who were not worried, 8 people (16.0%) who experienced mild anxiety, 1 person (2.0%) Who experienced moderate anxiety, and 13 people (26.0%) who experienced severe anxiety.The result of analysis using Chi-Square statistic test is p <0,05, but there are 2 cells so that alternative test used is kolmogorov-smirnov test. Based on the test results used, got the value p <a (p = 0,020 <a = 0.05). The results by using kolmogorov-smirnov test showed that there was a correlation between blood sugar levels with anxiety level in diabtetes mellitus patient at Public Health Center Ujungloe Regency Bulukumba year 2016 with value p <0,05.

4. Discussion

The results showed that 50 respondents found that blood sugar levels in the uncontrolled category were 29 people (58.0%) and blood glucose controlled with 21 people (42.0%).

Blood sugar is the amount of sugar (glucose) in the blood. Blood sugar levels are also commonly referred to as plasma glucose levels. One's ability to regulate plasma glucose levels within normal limits can be determined by blood glucose and serum glucose responses to glucose [5].

 Maintaining normal plasma glucose levels depends on the production of hepatic glucose, peripheral tissue glucose uptake and hormones that regulate glucose metabolism. Failure of this function causes an increase or decrease in blood sugar levels. In patients with diabetes mellitus (an absolute or relative deficiency state of insulin), serum blood sugar levels become abnormal after diagnosis [5].

This research is in line with the research conducted by [12], with the title of the relationship between knowledge about the disease and complications in people with diabetes mellitus with the action to control blood sugar levels in the work area of Puskesmas I Gatak Sukoharjo. The results of this study indicate that from 42 respondents blood sugar ≥200 mg /dL counted 24 people and 18 respondents who had controlled blood sugar levels <200mg/dL.

According to the researcher's assumption, that many patients with diabetes mellitus have uncontrolled blood sugar level. This happens because most patients who suffer from diabetes mellitus educated elementary school (SD) whose knowledge level is still less so that the patient does not know what foods can affect blood sugar levels, in addition to economic factors are also triggers so that patients rarely control sugar levels His blood.

2. Anxiety level

The results showed that 50 respondents found that 19 people (38.0%) were in the non-anxious category, who experienced mild anxiety as many as 16 people (32.0%), who experienced moderate anxiety as much as 1

person (2.0%) , And those who experienced severe anxiety as many as 14 people (28.0%). Anxiety is a state of unpleasant affective feeling accompanied by a physical sensation that warns people against impending dangers [5].

According to Sudiyanto (1999) cited in the journal [11], this anxiety can be caused by physical illness or abnormality, not because of emotional conflict. These anxieties include secondary anxiety. People who suffer from diabetes mellitus disease can cause anxiety because this disease is a chronic disease and can arise various complications and can shorten the age and require lifelong treatment. Extrinsic factors of anxiety, namely medical conditions (disease diagnosis), the occurrence of anxiety symptoms associated with medical conditions are often found although the incidence of disorders varies for each medical condition, for example in patients according to the results of the examination will get a surgical diagnosis, this will Affect patient's anxiety level. So even with blood sugar levels, according to the results of the examination with abnormal blood sugar levels (uncontrolled) it will affect the anxiety of patients [8] cited in the journal [9].

This study is different from the results of research conducted by [10], with the title of anxiety relationship relationship with coping mechanism in people with type II diabetes mellitus in polyclinic disease in Tobelo General Hospital of North Halmahera Regency. The results of this study indicate that from 32 respondents there are 4 people (12.5%) who are in the category of mild anxiety, 14 people (43.8%) who are in the category of medium anxiety and 14 people (43.8%) who are in Category of severe anxiety.

According to the researcher's assumptions, most respondents do not experience anxiety yet there are some who experience anxiety in the mild category and some even experience anxiety in the weight category. This is because patients with diabetes mellitus who have no anxiety have long suffered from diabetes mellitus and have adapted to the condition whereas patients who suffer from diabetes mellitus and experiencing anxiety occurs because the patient does not have good coping mechanism management to fight the anxiety that it faces. The relationship of blood sugar levels with anxiety levels in patients with diabetes mellitus in Puskesmas Ujungloe Bulukumba District Year 2016.

The result of research done by hypothesis testing using kolmogorov-smirnov test shows p value equal to 0,020. When compared with the p value of 0.05.

Acknowledgement

Competing Interest

The authors declare that they have no competing interests.

References

[1.] Stuart dan Sundeen. (1998). Buku Saku Keperawatan Jiwa Edisi 3 alih bahasa Achir Yani. S. Jakarta:

EGC.

[2.] Lestari, T. (2014). Kumpulan Teori Untuk Kajian Pustaka Penelitian Kesehatan. Yogyakarta: Nuha Medika.

[3.] Hartati, T. 2003. Kualitas Hidup Penderita DM tipe 2: Perbandingan Antara penderita Kadar Gula Darah Terkendali dan Tidak Terkendali. (Thesis). Program Pascasarjana. Universitas Gajah Mada. Yogyakarta.

[4.] Price, S. A. dan Wilson, L. M. (2006). Patofisiologi : Konsep Klinis Proses- Proses Penyakit, Edisi 6, Volume 1. Jakarta: EGC

[5.] Lestari, T. (2014). Kumpulan Teori Untuk Kajian Pustaka Penelitian Kesehatan. Yogyakarta: Nuha Medika.

[6.] Smeltzer, S. C., & Bare, B. G. (2013). Buku Ajar Keperawatan Medikal-Bedah. Jakarta: Buku Kedokteran EGC.

[7.] Wiyadi, Loriana, R., & Lusty, J. (2013). Hubungan tingkat kecemasan dengan kadar gula darah pada penderita diabetes mellitus. Jurnal Husada Mahakam

[8.] Kaplan H.I, Sadock B.J, Grebb J.A. 1997. Sinopsis Psikiatri Jilid 1. Edisi ke-7. Terjemahan Widjaja Kusuma. Jakarta: Binarupa Aksara. p. 86 -108

[9.] Murdiningsih, D. S., & Ghofur, G. g. (2013). Effect of anxiety on blood sugar levels in people with diabetes mellitus in Banyuanyar Puskesmas Surakarta. Nursing journal, 180-197.

[10.] Taluta, Y. P., Muliyadi, & Hamel, R. S. (2014). Hubungan tingkat kecemasan dengan mekanisme koping pada penderita diabetes mellitus tipe II di Poliklinik penyakit dalam Rumah Sakit Umum Daerah Tobelo.

[11.] Wiyadi, Loriana, R., & Lusty, J. (2013). Hubungan tingkat kecemasan dengan kadar gula darah pada penderita diabetes mellitus. Jurnal Husada Mahakam , 263-271

[12.] Rahmadiliyani, N., & Muhlisin, A. (2010). Hubungan antara pengetahuan tentang penyakit dan komplikasi pada penderita diabetes mellitus dengan tindakan mengontrol kadar gula darah di wilayah kerja Puskesmas I Gatak Sukoharjo. Jurnal keperawatan , 63-67.