Relationship of Self Care With Blood Sugar Rate On Patients With Diabetes Mellitus At Herna Rsu Medan

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ARTICLE INFO	ABSTRACT
	DM that does not get a good handler can cause an increased risk of acute and chronic complications. So self-care is needed to reduce the risk of complications. This study aims to determine the relationship between Self-Care and Blood Sugar Levels in Patients with Diabetes Mellitus at Herna Medan General Hospital in 2019. Method: Type of analytic observational study with a cross-sectional design. The population was sampled, namely all diabetes mellitus sufferers who came for treatment from September to October 2019 at Herna Medan General Hospital, totaling 60 respondents. The data analysis technique uses the chi square statistical test . Results: The majority of self-care performed by people with Diabetes Mellitus at Herna General Hospital had insufficient self-care as many as 38 respondents (66.3%). 35 respondents (58.3%) had abnormal blood sugar levels of Diabetes Mellitus sufferers at Herna General Hospital. there is a relationship between poor self-care and abnormal blood sugar levels with a value of p = 0,00. Conclusion: there is a relationship between self-care and blood sugar levels in people with diabetes mellitus at Herna General Hospital in Medan. It is recommended that Herna Medan General Hospital improve health promotion strategies on Diabetes Mellitus Self-Care through leaflets, posters so that cases of Diabetes Mellitus with complications can be reduced.
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1.   Introduction

One of the non-communicable diseases that have an impact on human quality of life is Diabetes Mellitus (DM) where this disease is a chronic metabolic disorder characterized by increased blood glucose (or blood sugar) levels, which in turn causes serious damage to the heart, blood vessels, eyes, kidneys, and nerves. (WHO, 2019)

In the last three decades, the prevalence of diabetes has increased dramatically in countries of all income levels, approximately 422 million people worldwide suffer from diabetes, mainly in low- and middle-income countries, and 1.6 million deaths are directly attributed to diabetes each year. year. Both the number of cases and the prevalence of diabetes have steadily increased over the last few decades. There is a globally agreed target to halt the rise in diabetes and obesity by 2025. (WHO, 2019)

One of the countries with the 7th rank with the highest prevalence of DM in the world in 2015 is Indonesia with 10 million and this will continue to increase to 16.2 million people in 2040 so that it ranks 6th. (IDF, 2015)

DM that does not get a good handler can cause an increased risk of complications that are acute or chronic. So self-care is needed to reduce the risk of complications. The Symptoms of this complication are seen in millions of cases worldwide. 3% of global blindness can be associated with diabetic retinopathy, kidney failure, reduced blood flow and nerve damage in the feet which can lead to leg ulcers, resulting in the need for limb amputation, as well as severe and lifelong health problems. . (WHO, 2019)

The starting point for living well with diabetes is early diagnosis – the longer a person lives with undiagnosed and untreated diabetes, the worse their health outcomes are likely to be. Easy access to basic diagnostics, such as a blood glucose test, should therefore be available in the primary health care setting. Patients will require periodic specialist assessments or treatment for complications. (WHO, 2019)

A series of cost-effective interventions can improve patient outcomes, regardless of what type of diabetes they may have. These interventions include control of blood glucose, through a combination of diet, physical activity and, if necessary, medication; control of blood pressure and lipids to reduce the risk of cardiovascular and other complications; and routine screening for damage to the eyes, kidneys and feet, to facilitate early treatment. (WHO, 2019)

Self-care as a whole has not shown optimal results Most patients do not regularly monitor blood sugar, diet and physical exercise and do not adhere to taking medication. (Tewahido et al, 2017). Research conducted by Putra (2016) in Rambipuji District, Jember Regency, self-care behavior in DM patients is still low, the average value of self-care behavior is 3.97 days/week, of course this has an impact on blood sugar levels and research conducted by Daoud et al. (2014) regarding the self-care of DM patients in Jerusalem, it was found that 84.8% of patients did not do physical activity, did not do a low-fat diet 64.3% and did not monitor blood sugar levels 46.5%.

Blood sugar levels are affected by diabetes management with self-care, based on research conducted at Herna Medan General Hospital in 2018 it was found that there was a relationship between diet and medication adherence in DM sufferers which caused blood glucose levels to go out of control (Sinaga M, 2018)

In the initial survey conducted at Herna Medan General Hospital by distributing the Summery Diabetes Self Care Activity (SDSCA) questionnaire to 10 people, it was found 4.50 days per week. As many as 6 people had never checked their blood sugar regularly and 2 people had never done a meal plan (diet) for DM patients, 5 people had not taken medication regularly and 6 people had never had a foot check.

2. Method

This type of analytic observational research uses a cross-sectional approach to see the relationship between self-care and blood sugar levels in people with Diabetes Mellitus, meaning that variable measurements are only carried out by observing a certain period and one observation is carried out which is measured at a certain time simultaneously. (Machfoedz et al., 2005). According to Sugiyono (2011) Population is all objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. The population of this study were all Diabetes Mellitus sufferers who came for treatment from October to November 2019 at Herna Medan General Hospital with a total of 60 respondents. The sampling technique was total sampling, namely the entire population of people with diabetes mellitus was used as a sample of 60 respondents with the criteria of sufferers having awareness of Compos Mentis, willing to be respondents. Data analysis method was carried out by the Chi-quare test at the significant level $ÿ = 0.05$. Drawing conclusions is based on rejecting Ho if $p < 0.05$.

3. Result and Discussions

3.1 Characteristics of Diabetes Mellitus Patients at Herna General Hospital in October November 2019

Univariate analysis in this study provides an overview of characteristics which include age, gender, education, occupation, occupation, marital status, duration of diabetes mellitus. Sociodemographic characteristics describe an individual's self-image of blood glucose levels in Herna Medan General Hospital, a total of 60 people. An overview of the characteristics of people with Diabetes Mellitus can be seen in Table 1 below.

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Table 1.
Characteristics of Diabetes Mellitus Patients at Herna General Hospital in
October-November 2019

No	Karakteristik	N	%
1	**Age**		
	40-49 years	12	20
	50-59 years	23	38,3
	≥ 60 years	25	41,7
	Total	60	100
2	**Gender**		
	Man	22	36,7
	Women	38	63,3
	Total	60	100
3	**Education**		
	SD	2	3,3
	SLTP	7	11,7
	SLTA/SMK	34	56,7
	D3/Sarjana	17	28,3
	Total	60	100
4.	**Woks**		
	Tidakbekerja/IRT	12	20
	Buruh/Petani	6	10
	Wiraswasta	23	38,3
	Pegawai Swasta	10	16,7
	PNS	9	15
	Total	60	100
5.	**Income**		
	≤ 2,5 juta	23	38,3
	> 2,5 juta	37	61,7
	Total	60	100
6	**Duration of diabetes mellitus**	24	40
	<5 tahun	36	60
	>5 tahun		
	Total	60	100

This study found that the most age of diabetes mellitus sufferers was age ÿ 60 years 25 respondents (41.7%) and female sex 38 respondents (63.3%), high school/vocational school education 34 respondents (56.7%), work as self-employed (38.3%) Income > 2.5 million (61.7%) and suffer from Diabetes Mellitus > 5 years (60%).

3.2 Self-Care for Patients with Diabetes Mellitus at Herna Medan General Hospital

Self-care performed by Diabetes Mellitus sufferers at Herna General Hospital Medan consists of diet, activity/exercise, drug use, foot care and checking blood sugar levels, based on the score obtained by the data as shown in the table below

Table 2.
Self-Care for Diabetes Mellitus Patients at Herna General Hospital

No	Self Care	N	%
1	Less	38	63,3
2	Well	22	36,7
	Total	**60**	**100**

Based on Table 2 regarding self-care carried out by people with Diabetes Mellitus at
Herna General Hospital, the majority had insufficient self-care as many as 38 respondents (66.3%).

Table 3.
Blood Sugar Levels for Patients with Diabetes Mellitus at Herna General Hospital

No	Blood Sugar Levels	N	%
1	Normal (≤ 200 mg/dl)	25	41,7
2	Abnormal (>200 mg/dl)	35	58,3
	Total	**60**	**100**

Based on Table 3 above, it can be seen that 35 respondents (58.3%) had abnormal blood sugar levels > 200 mg/dl for diabetes mellitus patients at Herna General Hospital.

3.3 The relationship between self-care and blood sugar levels

The relationship between self-care and blood sugar levels at Herna Medan General Hospital can be seen in table 4. below

Table 4
Relationship between Self-Care and Blood Sugar Levels in Patients with Diabetes Mellitus at Herna General Hospital

Self Care	Nilai KGD Value				Amount		Signifikan
	KGD Normal		KGD abnormal				
	n	%	N	%	n	%	
Less	8	11,1	30	8,9	8	100	*p*=0,000
Well	17	7,3	5	2,7	2	100	
Jumlah	25	1,67	35	8,33	10	100	

From the table above it can be seen that 30 (78.9%) had less self-care that experienced abnormal blood sugar levels higher than self-care that lacked normal sugar levels 8 (21.1%). There is a relationship between poor self-care and abnormal blood sugar levels with a value of p = 0.000.

3.4 Discussion

a. Characteristics of Diabetes Mellitus Patients at Herna Bulan General Hospital October-November 2019

The results of the study obtained characteristic data from the respondents seen in Table 1. Of the 60 respondents, it was found that the most age of people with diabetes mellitus was age ÿ 60 years, 25 respondents (41.7%) and female, 38 respondents (63.3%), high school education /SMK 34 respondents (56.7%), work as an entrepreneur (38.3%) Income > 2.5 million (61.7%) and suffer from Diabetes Mellitus > 5 years (60%). There are several characteristics in common with research conducted by Milda (2019) in the Work Area of the Pucang Sewu Public Health Center in Surabaya in terms of age > 66-70 years (46.8%), female gender (62%) and the majority high school education level (40 ,5%).

The characteristics of self-care have also been carried out by research by Linda (2017) stating that the most DM sufferers are the elderly ÿ 56 years of 49.8%, female sex 61.5% and high school education, namely 31.8%. This result is supported by the statement of Gusti & Erna (2014) which states that DM disease is often found in the elderly, because the older a person gets, the physiological function of a person's body will experience a decrease in insulin secretion resulting in a less optimal ability to control blood glucose. According to Irawan (2010) women have a greater chance of developing Diabetes Mellitus, one of which is due to the syndrome of the monthly cycle (Premenstrual syndrome), or the occurrence of post-menopause which causes the distribution of body fat to accumulate more easily as a result of the hormonal processes that occur.

b. The relationship between self-care and blood sugar levels at Herna General Hospital While

Based on Table 2 regarding self-care carried out by people with Diabetes Mellitus, there were less than 38 respondents (66.3%). This research is in accordance with research conducted by Putri (2013) at the DM Polyclinic at Sumedang Hospital where the level of self-care is lacking and but research conducted by Linda (2017) the majority of respondents have low self-care good and Hidayah (2019) stated that people with Diabetes Mellitus in the working area of the Pucang Sewu Health Center, Surabaya had good self-care status (self-management) in the category of regulating diet and medication adherence. This difference can arise due to different factors in each respondent where the age of people with diabetes mellitus at Herna Medan General Hospital is a group > 60 years and the average suffers > 5 years, this affects adherence to self-care. According to Tiv (2012)

which states that the duration of the disease has a negative relationship with adherence: the longer the patient suffers from Diabetes Mellitus, the less likely they are to comply with the management of Diabetes Mellitus which involves self-care in terms of food, activity/exercise and medication so that self-care is seen. in RSU Herna Medan the majority is lacking.

Based on Table 3 above, it can be seen that 35 respondents (58.3%) had abnormal blood sugar levels > 200 mg/dl for diabetes mellitus patients at Herna General Hospital. This is also in accordance with research conducted by Nunung (2016) at dr. Zainoel Abidin Banda Aceh who stated that the majority of diabetes mellitus patients had abnormal blood sugar levels (68.7%). From Table 4.4 it can be seen that 30 (78.9%) had less self-care that experienced abnormal blood sugar levels higher than self-care that lacked normal sugar levels 8 (21.1%). Based on the relationship test using chi square, it was found that the value of p = 0.000 was less than 0.05 so that Ho was rejected, which means there is a relationship between lack of self-care and abnormal blood sugar levels.

Abnormal blood sugar levels > 200 mg/dl are caused by several aspects included in self-care management or management of Diabetes Mellitus which are inappropriate, therefore dietary arrangements (number of calories, type of food and time to eat) must apply an appropriate eating pattern. for Diabetes Mellitus sufferers in terms of regulating a diet that serves to suppress intake of carbohydrates, excess fat so that glucose levels in the direction can be balanced with insulin hormone work, physical activity/exercise helps control body weight so that glucose in the blood can be burned into energy in the body which causes the body's cells become more sensitive to insulin, foot care can help maintain healthy feet thereby minimizing the risk of foot injuries in diabetes mellitus patients who develop into diabetic ulcers.

The ingredients contained in anti-diabetic drugs such as a type of sulvuniurea derivative drug can help absorb glucose in the blood and the type biguanides can inhibit the process of glucose formation. The behavior of checking blood sugar levels regularly can be used as a benchmark to see the success of diabetes management that has been done and can be used as motivation to keep blood sugar levels within normal limits.

4   Conclusion

After conducting a study entitled The Relationship between Self-Care and Blood Sugar Levels in Patients with Diabetes Mellitus at RSU Herna Medan, it was concluded that there is a Relationship between Self-Care and Blood Sugar Levels in Patients with Diabetes Mellitus at RSU Herna Medan with a value of p = 0.000.

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