

THE RELATIONSHIP OF SELF CARE WITH THE QUALITY OF LIFE OF DIABETES MELLITUS PATIENTS AT SEI LANGKAI HEALTH CENTER

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Abstract

Batam City has the highest estimated number of diabetes mellitus (DM) sufferers compared to districts/cities in the Riau Islands province of 20,338 people, with service coverage of 17,592 people (86%). An initial survey at the Sei Langkai Community Health Center found an increase in cases from 2021 to 2023. Most diabetes mellitus (DM) patients do not know self-care well, so this is followed by a decline in quality of life. The aim of this research is to determine the relationship between self-care and the quality of life of Diabetes Mellitus patients. The design of this research is correlational analytic with a cross sectional approach. The sample in this study was 77 diabetes mellitus patients who visited the Sei Langkai Community Health Center in 17 July- 07 August 2024, who were taken using a consecutive sampling technique. The instruments in this study used the Summary of Diabetes Self-Care Activities (SDSCA) and Diabetes Quality of Life (DQOL). The results of univariate analysis showed that the majority of Diabetes Mellitus patients had poor self-care behavior, namely 56 people (72.7%) and 58 people (75.3%) had poor quality of life. The results of the chi square statistical test obtained a p value of 0.000 <0.05, it can be concluded that there is a significant relationship between self-care and the quality of life of diabetes mellitus patients at the Sei Langkai Community Health Center in 2024. It is hoped that the nursing profession and other health workers can provide motivation, intervention, as well as further health education related to self-care for DM sufferers in improving health status and quality of life.

Keywords: Diabetes mellitus, Self-care, Quality of life

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HUBUNGAN SELF CARE DENGAN KUALITAS HIDUP PASIEN DIABETES MELITUS DI PUSKESMAS SEI LANGKAI TAHUN 2024

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Abstrak

Kota Batam memiliki estimasi jumlah penderita diabetes melitus (DM) tertinggi dibandingkan Kabupaten/kota di provinsi Kepri sebanyak 20.338 orang, dengan cakupan pelayanan sebanyak 17.592 orang (86%). Survey awal di Puskesmas Sei Langkai didapatkan peningkatan kasus pada tahun 2021 hingga tahun 2023. Sebagian besar pasien diabetes melitus (DM) belum mengetahui self-care dengan baik, sehingga di ikuti penurunan kualitas hidup. Tujuan penelitian ini adalah diketahui hubungan selfcare dengan kualitas hidup pasien Diabetes Melitus. Desain penelitian ini adalah analitik korelasional dengan pendekatan cross sectional. Sampel dalam penelitian ini adalah pasien diabetes melitus yang berkunjung di Puskesmas Sei Langkai pada tanggal 17 Juli-07 Agustus tahun 2024 sebanyak 77 responden, yang di ambil menggunakan tehnik consecutive sampling. Instrumen dalam penelitian ini menggunakan Summary of Diabetes Self-Care Activities (SDSCA) dan Diabetes Quality of Life (DQOL). Hasil analisa univariat didapatkan sebagian besar pasien Diabetes Melitus memiliki perilaku self-care kurang yaitu sebanyak 56 orang (72,7%) dan kualitas hidup yang kurang sebanyak 58 orang (75,3%). Hasil Uji statistik chi square diperoleh p value $0,000 < \text{dari } 0,05$, dapat disimpulkan terdapat hubungan yang signifikan antara self-care dengan kualitas hidup pasien diabetes melitus di Puskesmas Sei Langkai tahun 2024. Diharapkan profesi keperawatan dan tenaga kesehatan lainnya dapat memberikan motivasi, intervensi, maupun pendidikan kesehatan lebih lanjut terkait self-care penderita DM dalam meningkatkan status kesehatan dan kualitas hidup.

Kata Kunci: Diabetes melitus, Kualitas hidup; Self-care

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Introduction

Diabetes mellitus (DM) is defined as a disease or chronic metabolic disorder with multiple etiologies which is characterized by high blood sugar levels accompanied by disorders of carbohydrate, lipid and protein metabolism as a result of insulin function insufficiency. Insufficiency of insulin function can be caused by interference or deficiency in insulin production by the Langerhans beta cells of the pancreatic gland, or caused by a lack of responsiveness of the body's cells to insulin. Based on data from the IDF, the number of diabetes sufferers in the world in 2021 will reach 537 million. This figure is predicted to continue to increase, reaching 643 million in 2030 and 783 million in 2045. According to the IDF, Indonesia is ranked fifth in the country with the highest number of diabetes sufferers with 19.5 million sufferers in 2021 and it is predicted that there will be 28.6 million in 2045. (IDF, 2021).

Diabetes Mellitus is a complex chronic disease that requires ongoing medical care with multifactorial glycemic risk reduction strategies. Continuous patient self-management is important to prevent acute complications and reduce the risk of long-term complications (ADA, 2017).

Self-care carried out in diabetes mellitus patients includes regulating diet, monitoring blood sugar levels, drug therapy, foot care, and physical exercise (exercise). Dietary regulation aims to control metabolism so that blood sugar levels can be maintained normally. Monitoring blood sugar levels aims to determine whether the activities carried out are effective or not. Drug therapy aims to control sugar levels blood so as to prevent complications, foot care aims

to prevent diabetes. Physical exercise to increase the sensitivity of insulin receptors so that you can carry out your activities well (Chaidir et al, 2017).

Diabetes Mellitus sufferers need a lot of hard work and consistency to get a good quality of life. Because Diabetes Mellitus sufferers have Therefore, if DM sufferers do not really maintain a good lifestyle, it will be very difficult to achieve a high level of quality of life (Perkeni, 2021).

Health profile data for the Riau Islands Province (2021) showed that there were 34,029 people suffering from diabetes mellitus (DM), with service coverage of 29,671 people (87.2%). Batam City has an estimate The highest number of diabetes mellitus (DM) sufferers compared to districts/cities in Riau Islands province is 20,338 people, with service coverage of 17,592 people (86%). (Riau Islands Province Health Profile, 2021).

Based on initial data collection from the Sei Langkai Community Health Center, it was found that the number of diabetes mellitus patients in 2021 was 1182 people, then increased by 2048 people in 2022. In 2023 there were 2002 people. Meanwhile, visits for the January-May 2024 period reached 474 visits and diabetes mellitus sufferers experienced complications such as hypertension, gouty arthritis, dyslipidemia and insomnia (Sei Langkai Community Health Center, 2024).

Based on the background description above, researchers are interested in researching the title "The relationship between self-care and the quality of life of diabetes mellitus patients at the Sei Langkai Community Health Center in

2024".

Materials and Methods

This research was conducted at the Sei Langkai Community Health Center in 2024 using consecutive sampling. The respondents for this study consisted of 77 diabetes mellitus patients who visiting the Sei Langkai Community Health Center in July 17 to August 7, 2024. The instruments in this study used a modification of the *Summary of Diabetes Self-Care Activities (SDSCA)* and *DQOL (Diabetes Quality of Life)* questionnaires. Data analysis using univariate analysis to determine the frequency distribution of independent or dependent variables and bivariate analysis using *chisquare* analyze to see

the relationship between the independent variable and the dependent variable.

Results

Based on the results of research entitled "The relationship between self-care and the quality of life of diabetes mellitus patients at the Sei Langkai Community Health Center in 2024". Data on the frequency distribution of respondents was obtained based on the results studied, as follows:

a. Univariate Analysis

In this study, there are self-care and quality of life in diabetes mellitus patients at the Sei Langkai Community Health Center, Batam City, as can be seen in the following table:

Table 4.1 Frequency Distribution of Self care for diabetes mellitus patients at the Sei Langkai Community Health Center, Batam City, in 2024

Self care	Frequency	(%)
Kurang	56	72,7%
Baik	21	27,3%
Total	77	100%

Based on table 4.1, The results of the frequency distribution of self-care at the Sei Langkai Community Health Center, Batam City, showed that the majority of respondents had less self-care, namely 56 people (72.7%). Self care is a nursing theory developed by Dorothea Orem (1971). Orem

developed a definition of nursing that emphasized the client's need for self-care. Components in implementing DM self-care include regulating eating patterns (diet), physical exercise (sports), foot care, taking diabetes medication, and monitoring blood glucose.

Table 4.2 Frequency Distribution of Quality of life in diabetes mellitus patients at the Sei Langkai Community Health Center, Batam City in 2024

Kategori	F	Persentase
Kurang	58	75,3%
Baik	19	24,7%
Total	77	100%

Based on Table 4.2, itbe explain that frequency distribution of quality of life in Diabetes Mellitus patients at the Sei

Langkai Community Health Center, Batam City. The results showed that the majority of respondents had a poor

quality of life, namely 58 people (75.3%).

b. Bivariate Analysis

Bivariate analysis is an analysis carried out to determine the relationship between 2 variables. In this analysis, two measurements are taken for each observation. In bivariate analysis, the samples used can be paired or independent with their treatment. Bivariate analysis is a type

of analysis that is used according to the condition of the number of variables. This seemingly simple analysis can produce very useful tests. The bivariate analysis in this study aims to determine the relationship between self-care and the quality of life of diabetes mellitus patients at the Sei Langkai Community Health enter in 2024. The statistical test used is the chi-square test.

Table 4.3 The Relationship between self-care and the quality of life of diabetes mellitus patients at the Sei Langkai Community Health Center Batam City in 2024

Variablel		Kualitas Hidup				Total		p-Value
		Kurang		Baik				
		f	%	F	%	F	%	
<i>Self care</i>	Kurang	53	68,8	3	3,9	56	72,7	0.000
	Baik	5	6,5	16	20,8	21	27,3	
Total		58	75,3	19	24,7	77	100,0	

Based on the table above, it shows that the majority of Diabetes Mellitus patients with poor self-care have a poor quality of life, namely 53 respondents (68.8%) and only a small percentage have a good quality of life, namely 3 respondents (3.9%). Meanwhile, the majority of Diabetes Mellitus patients with good self-care had a good quality of life, namely 16 respondents (20.8%) and a small number had a poor quality of life, namely 5 respondents (6.5%). The results of the chi square test statistic with a degree of 95% obtained a value of $p=0.000$ (less than $\alpha=0.05$), so it can be concluded that there is a relationship between self-care and the quality of life of diabetes mellitus patients.

Discussion

a. Self-care

The results of the study showed that the majority of Diabetes Mellitus patients at the Sei Langkai Community Health

Center, Batam City, respondents had poor self-care behavior, namely 56 people (72.7%).

Self-care is a nursing theory developed by Dorothea Orem (1971). Orem developed a definition of nursing that emphasized the client's need for self-care. Meanwhile, according to WHO (2019), self-care is defined as the ability of individuals, families and communities to improve

health, prevent disease, maintain health and overcome disease and disability with or without support from health service providers. The goal of Orem's theory is to help clients carry out self-care.

DM self-care is an independent action that DM sufferers must carry out in their daily lives with the aim of controlling blood glucose. Components in implementing DM self-care include regulating eating

patterns (diet), physical exercise (sports), foot care, taking diabetes medication, and monitoring blood glucose.

Diabetes self-care activities such as diet, exercise, taking medication, monitoring blood sugar and foot care should be done consistently seven days a week. However, actions such as exercise can be done at least 3-5 days per week but should be done every day of the week to achieve optimal glycemic control.

The results of this study indicate that every diabetes self-care activity has not been implemented fully 7 days a week. Diabetes self-care activities that have been carried out better are regulating eating patterns (diet), physical exercise (sports) and taking medication regularly, this is because clients already understand the importance of carrying out these activities in managing diabetes. Meanwhile, foot care procedures are carried out on average 3-4 days a week, this is due to a lack of important for diabetes clients to prevent diabetes complications, such as foot ulcers. On average, blood sugar monitoring was carried out once in the last week, this is because respondents do not have a tool to check blood sugar personally, only 1-2 people have this tool so most of them monitor blood sugar at home. laboratory when they carry out control at the hospital. For those who have personal devices, blood sugar checks are not carried out every day because the sticks used to check blood sugar are quite expensive.

b. Quality of life

The results of this study showed that the majority of Diabetes Mellitus patients at the Sei Langkai Community

Health Center, Batam City had a poor quality of life, namely 58 people (75.3%).

A good quality of life can make the DM treatment process easier.

According to Ginting & Saragih., (2021) factors that influence the quality of life must also be considered, which of course can change the value of the sufferer's quality of life. Quality of life is defined as the degree to which a person enjoys the possibilities in his life, this enjoyment has two components, namely experience, satisfaction and possession or achievement of several characteristics and these possibilities are the result of each person's opportunities and limitations in his life and reflect the interaction of personal environmental factors. Individuals' perceptions of their lives in the context of culture and life norms and their relationship to their goals, expectations, standards and concerns.

Health-related quality of life is the quality of life that describes the quality of life of individuals who have experienced, or are experiencing, an illness that is receiving management (Sani et al., 2022). Complications cause an increase in complaints experienced by patients, both physical, psychological and emotional complaints which also affect physical, social activities and other complaints which reduce a person's quality of life because the disease they suffer becomes more severe (Teli, understanding about foot care which is 2017).

According to the researchers' analysis, the quality of life of diabetes mellitus patients in this study was mostly in the

poor category, which could be influenced by educational factors where the majority of respondents' education was junior high school, namely 33 people (42.8%), so they had insufficient knowledge about diabetes mellitus. and have a low quality of life. As in various previous studies, the quality of life of people with diabetes mellitus is influenced by patient characteristics, such as age, gender, education, socio-economic status, and length of time suffering from diabetes mellitus.

Relationship between self-care and quality of life in Diabetes Mellitus patients at Sei Langkai Health Center, Batam City. This research shows that the majority of Diabetes Mellitus patients at the Sei Langkai Community Health Center, Batam City with poor self-care have a poor quality of life, 53 respondents (68.8%). Likewise, Diabetes Mellitus patients with good self-care mostly had a good quality of life as many as 16 respondents (20.8%). The statistical test results of the chi square test obtained a value of $p=0.000$, so it can be concluded that there is a relationship between self-care and the quality of life of diabetes mellitus patients.

This research is in accordance with that carried out by Inge (2019), where it is known that the significance (p) is 0.000, which means $0.000 < 0.05$ so that H_0 is rejected and H_a is accepted so it can be concluded that there is a significant relationship between self-care and the quality of life of diabetes mellitus patients.

According to Roifah's statement (2021), self-care can be done by increasing physical activity, healthy eating patterns, controlling blood

sugar, taking diabetes mellitus medication and regular foot care. Self-care must be carried out consistently to avoid complications of diabetes mellitus which have a negative influence on organs throughout the body. It is these complications that have a lasting negative impact on the patient, both physically and mentally, thereby reducing the quality of life.

In this study, it was also found that 53 respondents (68.8%) of Diabetes Mellitus patients at the Sei Langkai Community Health Center, Batam City with poor self-care had a poor quality of life. Likewise, Diabetes Mellitus patients with good self-care mostly had a good quality of life as many as 16 respondents (20.8%).

According to researchers' assumptions, self-care is a factor related to the quality of life of diabetes mellitus sufferers. Good self-care does not necessarily mean a good quality of life, one of which can be influenced by psychological factors where the respondent feels anxious about the illness they are experiencing, which affects the quality of their life.

Researchers are of the opinion that effective diabetes mellitus self-care can reduce the risk of diabetes mellitus sufferers experiencing complications such as blood vessel disorders and nervous system disorders or neuropathy, apart from that, self-care can also control normal blood sugar levels, reduce the impact of problems caused by diabetes mellitus, and reducing mortality and morbidity rates due to diabetes mellitus, thereby providing a good quality of life. Poor self-care tends to have a lower quality of life, so it can be concluded that the

lower the self-care, the lower the quality of life for diabetes mellitus sufferers.

Conclusions and Recommendations

Conclusion

Based on the results of research conducted on "c. Relationship between self-care and quality of life in Diabetes Mellitus patients at Sei Langkai Health Center, Batam City in 2024" it can be concluded that:

The majority of Diabetes Mellitus patients at the Sei Langkai Community Health Center, Batam City have poor self-care behavior, namely 56 people (72.7%).

The majority of diabetes mellitus patients at the Sei Langkai Community Health Center in 2024 have poor quality of life, namely 58 people (75.3%).

The chi square test statistical test results obtained a value of $p=0.000$, so it can be concluded that there is a relationship between self-care and the quality of life of diabetes mellitus patients at the Sei Langkai Health Center in 2024.

Recommendations

a. For Puskesmas

It is hoped that it can provide motivation, intervention and further health education regarding self-care for DM sufferers in improving clients' health status and quality of life.

b. For Batam University

It is hoped that the results of this research can be used as information and reference in developing knowledge, especially regarding the relationship between self-care and the

quality of life of DM sufferers.

c. For Further Researchers

It is hoped that other researchers can modify and develop this research more broadly, such as conducting research on factors that influence self-care and the quality of life of Diabetes Mellitus patients as well as efforts to improve it.

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