

THE CORRELATION SELF-CARE MANAGEMENT BEHAVIOR WITH THE LIFE QUALITY OF DIABETES MELLITUS

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ABSTRACT

Diabetes mellitus (DM) is still one of the chronic diseases that have increased significantly every year, including in several regions of Indonesia, such as Gorontalo. The impact caused by DM has the potential to reduce the life quality of the DM sufferers, so thus sustainable alternative treatments are needed to manage the DM disease with self care management behavior. This research aims to investigate the relationship between self-care management behavior and the life quality of patients with DM in the Tilongkabila public health center. The research method is quantitative with a cross-sectional design. The population of this research is all patients with DM, comprising 61 patients with the purposive sampling technique and the data analysis using Spearman's rho test. The results show a significant correlation between self-care management behavior and life quality in patients with DM ($p = 0.000$). The research concludes the emergence of a significant correlation between self-care management behavior and the quality of patients with Dm under the care of the *Puskesmas* Tilongkabila. Moreover, it is hoped that the patients with Dm can implement the self-care management behavior optimally yet consistently to achieve a better quality of life.

Keywords: diabetes mellitus; quality of life; self-care management

INTRODUCTION

Diabetes Mellitus is one of the four priority Non-Communicable Diseases (NCDs) and is the most common chronic disease in the world which is currently a challenge in the world of health (Istianah, Septiani, & Dewi, 2020). Diabetes Mellitus (DM) is a metabolic disorder that occurs every year which is caused by a decrease in the amount of insulin from the pancreas, thereby increasing blood sugar levels (hyperglycemia) (Lestari, Zulkarnain, & Sijid, 2021). According to the International Diabetes Federation (IDF), in 2021, it was recorded that 537 million people or 1 in 10 adults aged 20-79 years and adolescents aged up to 19 years were living with DM throughout the world, both type 1 and type 2 DM and diagnosed and undiagnosed, and by 2030 this number is predicted to increase by 643 million, and by 783.2 million people in 2045. IDF also states that the highest death rate due to DM is in the group of adults aged between 20-79 year with a death toll of around 6.7 million or 1 death every 5 seconds. The rapid increase in DM cases has put Indonesia in 5th position among the 10 countries that have been identified, with a total of 19.47 million diabetes sufferers with a DM prevalence of 10.6%.

The DM population in Indonesia among adults aged between 20-79 years is estimated to reach 19,465,100 people with a prevalence of 10.6%, meaning that the data shows that 1 in 9 people suffer from DM. The increase in the number of DM cases in Indonesia often occurs in almost all regions including Gorontalo with a DM prevalence of around 13,450 people, Meanwhile in Gorontalo Province, the percentage of population with DM in 2023 will be 400,099 (87.3%) people who have been diagnosed with DM spread across several regions including Bone Bolango Regency 5,469 people, Gorontalo Regency 4,547 people, North Gorontalo Regency 2,825 people, Regency

Pohuwato 1,671 people, Gorontalo City 1,426 people, and Boalemo Regency 1,281 people (Dinas Kesehatan Provinsi Gorontalo, 2020).

The highest number of DM sufferers in Bone Bolango Regency is one of them at the Tilongkabila Community Health Center with a recorded number of sufferers of 539 people. Even though the Tilongkabila Community Health Center is in second place in prevalence, the number of cases at this place cannot be denied is also in the highest category in Gorontalo Province with an average increase that occurred in the last 1 year, namely 33.3%. The increase in DM cases continues to be a concern for the government and society, this can be proven by the existence of several non-communicable disease prevention programs that have been carried out by the government, especially for DM, which of course aims to prevent complications arising from DM (Ministry of Health, 2017) . Complications experienced by DM sufferers cause an increase in mortality rates. So when DM sufferers experience complications, it will have an impact on decreasing lifespan, life expectancy, and also decreasing quality of life.

Quality of life is an individual's emotional response to social, emotional functioning, work and family relationships, feelings of joy or happiness, conformity between expectations and reality, satisfaction with physical activity, and the ability to communicate with other individuals. Kualitas hidup juga merupakan perasaan puas dan bahagia sehingga penderita DM dapat mandiri dalam melakukan aktivitas sehari-hari (Luthfa & Fadhilah, 2019). The quality of life of DM sufferers depends on how well and optimally DM sufferers manage and control their disease (Handriana & Hijriani, 2020). One of the reasons for the decrease in quality of life in DM sufferers is the sufferer's inability to carry out self-care or self-care management properly (Luthfa & Fadhilah, 2019). Self care management is one of the abilities that must be possessed by an individual, family and community in an effort to maintain health, achieve optimal health status, prevent the emergence of comorbidities, reduce disability, with or without the assistance of health services. Self-care management is a complex alternative and is very much needed for the successful management of chronic diseases, one of which is DM (Asnaniar & Safruddin, 2019).

The implementation of self-care management in DM sufferers aims to achieve optimal monitoring and management of DM and prevent the risk of complications so that the self-confidence and quality of life of DM sufferers can increase (Hidayah, 2019). However, if DM sufferers are unable to carry out self-care management well, such as not being active enough, consuming too much food that is high in sugar, not understanding about DM disease and its impacts, and not wanting to check their blood sugar, then as a result the sufferer will be more at risk of developing complications due to DM such as experiencing stroke, blindness, heart disease, leg ulcers and even death, as a result of this, DM sufferers are unable to maintain their quality of life (Istiyawanti, Udiyono, Ginandjar, & Adi, 2019).

Based on research conducted by Asnaniar & Safruddin (2019), self-care management of diabetes can effectively reduce the risk of coronary heart complications in DM sufferers, maintain stable blood sugar levels, and minimize mortality caused by DM. Apart from that, according to Hidayah's research (2019), implementing maximum self-care management behavior in diabetes sufferers can aim to achieve DM management as well as achieve the well-being and quality of life of DM sufferers. An initial survey conducted at the Tilongkabila Community Health Center found that on average the implementation of self-care management only took the form of taking medication,

while physical activities such as exercise were not carried out by DM sufferers, as well as the lifestyle of DM sufferers, some still smoked and did not pay attention to food. consumed.

METHOD

This type of quantitative research uses a cross sectional research design. The sampling technique in this research used purposive sampling with a sample size of 61 respondents who were then divided into 8 villages using the Sugiyono (2018) formula. This research instrument uses the DSMQ questionnaire to assess self-care management behavior and the DQOL questionnaire to assess the level of quality of life of DM sufferers.

RESULTS AND DISCUSSION

This research was carried out in the working area of the Tilongkabila Health Center, Bone Bolango, Gorontalo on January 18 - March 1, 2024.

Table 1.
Respondent characteristics (n=61)

Responden characteristics	f	%
Gender		
Male	14	23.0
Female	47	77.0
Age		
26-35 (young adults)	8	13.1
36-45 (middle-aged adults)	35	57.4
46-55 (old adults)	18	29.5
Education		
No school	1	1.6
SD (elementary school)	36	59.0
SMP (junior high school)	9	14.8
SMA (senior high school)	14	23.0
Bachelor	1	1.6
Work		
Farmer	9	14.8
Self-employed	6	8.2
Housewife	44	72.1
Government employees	2	3.2
Suffering DM		
<5 years	46	75.4
>5 years	15	24.6

Table 1, it can be describe that the majority of respondents were female, with a total of 47 (77%). The most common age among respondent was middle-aged adults, converting 35 people (57.4%) of the total sample. Most recent education was elementary school, namely 36 people from the total respondents. The majority of respondent's occupations were housewives 44 people (72.1%), meanwhile found that respondents had been diagnosed with DM for at most less than 5 years.

Table 2.
Distributions of respondents based on self-care management behavior (n=61)

<i>Self Care Management</i>	f	%
Sufficient	35	57,4
Good	26	42,6

Table 2, showed that most of the respondent's self-care management behavior was in the sufficient category with 35 respondents (57.4%).

Table 3.
Distribution of respondents based on quality of life (n=61)

Quality of life	f	%
Sufficient	33	54,1
Good	28	45,9

Table 3, of the total 61 people with DM shows that the quality of life most respondents is in the sufficient category with 33 respondents (54.1%).

Table 4.
Relationship between self-care management and quality of life in DM patients (n=61)

Self Care Management	Quality of life				Total	p
	Sufficient		Good			
	f	%	f	%		
Sufficient	28	45,9	7	11,5	35	0,000
Good	5	8,2	21	34,4	26	
Total	33	54,1	28	45,9	61	

Based on the table 4, it shows that of the 61 respondents, 28 respondents obtained sufficient self-care management results with an adequate quality of life, 7 respondents obtained sufficient self-care management results with a good quality of life, 5 respondents obtained good self-care management results with an adequate quality of life, and the results of self-care management were good quality of life for 21 respondents. The results of statistical tests using the Spearman's rho test obtained $p=0.000$ (<0.05). This means that there is a relationship between self-care management behavior and the quality of life in DM sufferers in the Tilongkabila Health Center.

Self-care management is a complex alternative and is very much needed for the successful management of chronic diseases, one of which is DM (Asnaniar & Safruddin, 2019). One of the goals of self-care management is to optimize and control blood glucose levels. To achieve this goal, DM sufferers must have good self-care management. However, on the other hand, if the implementation of self-care management is not carried out well, it can have a negative impact on the sufferer's health and can trigger the emergence of new diseases (Gea, 2020). The factor that influences the implementation of self-care management is the self-efficacy possessed by the respondent. Self-efficacy is an individual's belief or confidence in himself and his ability to carry out various activities or daily activities that support individuals in maintaining their health (Handayani, Putra, & Laksmi, 2019). A person who lives with a chronic disease such as Diabetes Mellitus, coupled with the many demands of Diabetes care and treatment that must be endured, sometimes makes DM sufferers feel bored when managing their Diabetes. This causes the self-efficacy of DM sufferers to decrease (Robiatun, 2021).

DM sufferers who have high self-efficacy are able to achieve better self-care management and support the maintenance of their activities, such as implementing healthy eating patterns and implementing physical activity. On the other hand, if DM sufferers have low self-efficacy, this can lead to a lack of motivation for DM sufferers in maintaining and improving their health condition, so this will have an impact on the low success of self-care management carried out by DM sufferers (Despitasi, et al., 2022).

There are several behaviors included in self-care management, namely in the form of regulating eating patterns (diet), where this behavior is very necessary to regulate balance and maintain blood sugar levels. Someone who can maintain and manage their diet well is 4 times more likely to be successful in managing DM compared to someone who does not maintain their diet. Then doing regular physical exercise at least 3 times a week for 30-60 minutes can help muscles take up glucose so that blood sugar levels decrease and remain stable. Check and monitor blood sugar levels in health services at least once a month or independently at home before eating or after eating, carry out foot care to prevent the possibility of diabetic ulcers, and take anti-diabetic medication in accordance with medical personnel's recommendations for helps control blood sugar levels in DM sufferers (Istiyawanti, Udiyono, Ginandjar, & Adi, 2019).

From the results of the research conducted, there were several respondents who had self-care management behavior in the good category, namely 26 respondents (42.6%). This is proven by the results of questionnaire interviews conducted by researchers where some respondents check their blood sugar levels once a month according to the schedule set by health workers through PROLANIS activities, use diabetes medication as recommended by the doctor, do regular physical exercise, carry out treatment feet properly, such as washing the feet then drying them and cutting the nails carefully, and adhering to the recommended diet program. The results of this data are certainly in accordance with the self-care management behavior recommended for DM sufferers.

One of the reasons for the decline in quality of life that occurs in DM sufferers is age. As people get older, DM sufferers will experience physiological, anatomical and biochemical changes (Nisa & Kurniawati, 2022). This is in accordance with the research results obtained, that the majority of respondents who have sufficient quality are in the 36-45 year age category (late adulthood) with a total of 20 respondents. The results of this research are in line with the statement put forward by Arania, Triwahyu, Prasetya, & Cahyani (2021), in their research where the age of 35-45 years is a transition period or a period of aging symptoms which is characterized by a decrease in the body's physiological functions which can manifest in various diseases, then when you are > 45 years old, a clinical period occurs where all the functions of the body's systems decrease, making the body susceptible to disease, one of which is DM.

From the results of the research conducted, there were several respondents whose quality of life was in the good category, namely 28 respondents (45.9%). This is because some respondents feel satisfied with their health condition, satisfied with the treatment they are undergoing, satisfied with their interpersonal or social relationships and there is good adjustment and self-control regarding DM disease and their daily activity environment. Quality of life is an individual's emotional response to social, emotional functioning, work and family relationships, feelings of joy or happiness, conformity between expectations and reality, satisfaction with physical activity, and the ability to communicate with other individuals. The quality of life of DM sufferers depends on how well and optimally DM sufferers manage and control their disease (Handriana & Hijriani, 2020). The quality of life in the good category possessed by several respondents was influenced by the length of time the respondent had suffered from DM, namely 12 respondents who had a history of DM for > 5 years. According to Khamilia & Yulianti (2021), DM sufferers who have a long history of suffering > 5 years have a good quality of life, this is because the longer a person suffers from the disease, the more experience the person will have in dealing with the disease, the easier and more capable they will be adapt to their activities and life. This is in line with research by Chaidir,

Wahyuni, & Furkhani (2017), which has a moderate level of correlation, where it was found that respondents had high self-care values with poor quality of life. This is caused by several factors that influence the quality of life of DM sufferers, such as gender, age, length of suffering, anxiety, and others. Anxiety is a condition where unpleasant feelings arise which refer to worries and fears about things that may not necessarily happen. This will certainly cause the quality of life of DM sufferers to decrease if their anxiety level increases.

In this study, it was found that self-care management was correlated with quality of life, this is because the quality of life will be better when self-care is carried out well. In other words, when self-care management is carried out consistently, there will be an increase in the quality of life, so that DM sufferers can achieve optimal health status and will be more comfortable in living their lives. The direction of the relationship between the two variables in this study shows a positive relationship. The results of the analysis in this study were that the majority of respondents had sufficient self-care management with an adequate quality of life, 28 respondents (45.9%). The results above can be seen in the answers to the questionnaire where several respondents in the implementation of DM self-care management sometimes still consume prohibited foods related to their disease because sufferers feel bored and are not satisfied with the food choices that suit their disease, some only do physical exercise and/or exercise 1-2 times a week or only once a month, and sometimes do foot care, so that the blood glucose levels of DM sufferers are sometimes in the normal range, which then actually affects their level of health and satisfaction when carrying out activities in daily life. -days, and in the end will have an impact on reducing the quality of life of DM sufferers and this is in accordance with the results previously presented.

CONCLUSION

Self-care management behavior has a close relationship with the quality of life of DM sufferers because self-care management can influence the level of quality of life of DM sufferers. If DM sufferers are able to carry out self-care management behavior consistently and optimally, the incidence of complications due to DM can be minimized and a better improvement in the quality of life of DM sufferers can be achieved.

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