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Family Support and Coping Strategies to The Quality of Life Among Diabetes Mellitus Patients in Rural Area, Indonesia

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ABSTRACT

Research on the quality of life among type II DM patients in rural areas is rarely conducted. This research aimed to analyze the relationship between family support and coping strategies with quality of life among type II DM patients in the rural area. This research is analytic with cross-sectional analytical. Population in this research is all type II of DM patients in Kedungbanteng Community Health Centers, Banyumas Regency which participated in Prolanis DM in 2018 (total of 130 people). The sampling method is based on total sampling with a total of 96 people who meet inclusion and exclusion criteria. Variables in this study were family support, coping strategies, and quality of life which were collected by Questionnaire. The data was analyzed as univariate and bivariate with the Chi-square test. The average age of the respondents is 57,59 years. The majority of respondents were female, has basic education level, has DM complications, family support, coping strategies, and quality of life among in high category. There is relationship between family support(p-value:0,006) and coping strategies (p-value:0,000) with quality of life among type II DM patients. There is a correlation between family support and coping strategies with quality of life among type II DM patients. The community needs to increase awareness that family support can improve the quality of life among type II DM patients.

Keywords: Type II Diabetes, Family Support, Coping Strategies, Quality of Life

INTRODUCTION

Diabetes Mellitus (DM) is a chronic disease that is still an important health problem in the world, including in Indonesia. The prevalence of Diabetes Mellitus (DM) is increasing in the world, both in developed and developing countries. Among several types of DM, type 2 diabetes (formerly called non-insulin-dependent, or adult-onset) is the most common type in the community. Uncontrolled diabetes frequently results in hyperglycemia, or elevated blood sugar, which over time causes substantial harm to many different bodily systems, including the neurons and blood vessels (Mekala & Bertoni, 2020). Diabetes mellitus incident cases grew by 102.9% globally from 11,303,084 cases in 1990 to 22,935,630 cases in 2017 (Liu et al., 2020). Uncontrolled hyperglycemia for a long period will increase the risk of stroke, heart failure, and blindness (WHO, 2020).

This disease has long-term effects on sufferers so that it has the potential to affect their quality of life. People with diabetes have an increased risk of developing a number of serious health problems that result in higher medical care costs, increased mortality, and decreased quality of life (Tamornpark et al., 2022). A person with diabetes will feel their energy is reduced so they get tired easily and cause a decrease in physical activity and their roles and responsibilities. In addition to impaired physical function, feelings of anxiety and irritability also cause limitations in social activities. These things cause individuals to feel less prosperous and reduce the quality of life. Diabetic Mellitus leads to a slew of problems and has a significant influence on patients' physical, psychological, and social well-being. These problems are severe and reduce their quality of life significantly (John et al., 2019).

Diabetes is a long-term disease that requires patients to continue to maintain a good quality of life. This is in dire need of family support that should provide support for diabetics. Family members are important sources of both practical and psychological support. Helping patients execute specific activities, such as scheduling an appointment with a doctor or assisting with insulin shots, is referred to as instrument support. While, when patients experience distress or frustration over the lengthy course of their diabetes care, emotional support can involve giving consolation and encouragement (Pamungkas et al., 2017). Several previous studies confirm the importance of family support to maintain the quality of life of diabetic patients (Bennich et al., 2017; Pesantes et al., 2018). Family support plays a crucial role in motivating DM patients, helping to improve their quality of life (Suniyadewi et al., 2023).

Family support is also influenced by the customs, culture of a particular area. There is still limited information regarding family support for people with diabetes in rural areas in Indonesia. Villagers may not have knowledge about the importance of family support for family members who have diabetes so it is interesting to study further, added to the coping efforts made by diabetics (Ramkisson et al., 2017). Coping strategies for diabetes mellitus (DM) patients are essential for managing the emotional, physical, and psychological challenges associated with the condition. Effective coping mechanisms can help improve adherence to treatment, enhance overall well-being, and maintain a better quality of life. Research on the relationship between family support and coping strategies with the quality of life of patients with type II diabetes, especially in rural areas, has not been widely carried out. This is interesting considering that the quality of life is one of the important factors that can affect a person's health. In addition, the number of DM cases in rural areas is also increasing.

Based on this background, researchers are interested in examining the relationship between family support and coping strategies with the quality of life of people with type II Diabetes Mellitus.

METHODS

Study design

This type of research is analytic study with a cross sectional approach. This research was carried out in rural areas in the working area of the Kedungbanteng Public Health Center, Banyumas Regency Indonesia.

Population and samples

The population in this study included all patients with type II DM in the working area of the Kedungbanteng Health Center during 2018, totaling 130 people. Kedungbanteng health center consist of 14 villages. The sampling method used is total sampling. Inclusion criteria: able to communicate well, have at least 1 family member (husband/wife, father/mother, children, brother/sister), reside in the working area of Kedungbanteng Health Center and have a clear home address. The exclusion criteria are not willing to be a respondents, the patient has a weak physical condition so that it is not possible to participate in the study or the patient has died. The number of samples that meet the inclusion and exclusion criteria are 96 people with details of 16 people died, 5 people moving house, physical conditions that don't allow interviewing as many as 3 people, refusing to participate in the study as many as 5 people and unknown home addresses as many as 5 people.

Research variables

The research variables consisted of family support and coping strategies as independent variables and quality of life as the dependent variable.

Research instruments

Data was collected through interviews with questionnaires. The family support questionnaire was adopted from the Hensarling Diabetes Family Support Scale (HDFSS) which has been modified by Fatimah (2016), the coping strategy questionnaire using the modified Brief Cope by Putri (2012), and the quality of life questionnaire using the modified Diabetes Quality of Life (DQoL). by Dzusturia (2016).

Data analysis

Data analysis includes univariate analysis and bivariate analysis using the Chi-Square test.

RESULTS

Characteristic of respondents

96 respondents were willing to be involved in the study, with an average age of 57.59 years old. Most of the respondents were female (79.2%), had basic/primary education (86.5%) and showed disease complications include hypertension, high cholesterol, eye disease, and pain and numbness in the feet (56.3%) (Table 1).

Table 1. Characteristics of respondents

Characterisctics		
Age	**Years old**	
Youngest	34	
Oldest	81	
Average	57,59	
Sex	**n**	**%**
Female	76	79,2
Male	20	20,8
Education		
Primary education	83	86,5
Senior High School	5	5,2
Higher Education	8	8,3
Having disease complications		
Yes	54	56,3
No	42	43,7

Family support, coping strategy and quality of life

We performed a univariate analysis to categorize the respondents' family support, coping strategies and quality of life (Table 2).

Table 2. Univariate analysis of variables

Variables	**n**	**%**
Family support		
Bad	3	3.1
Good	93	96.9
Coping strategy		
Low	8	8.3
High	88	91.7
Quality of Life		
Medium	5	5.2
High	91	94.8

In this study, the majority of respondents felt good family support (96.9%), had high coping strategies (91.7%) and good/high quality of life (94.8%)

Bivariate Analysis

In this bivariate analysis, the Chi-Square test was carried out, because it was found that the expected value was less than 5, the table reading used the Fisher's Exact value.

Table 3. The bivariate analysis between family support and quality of life for Type II DM Patients

Variables	Quality of Life				Total		p-value
	Medium		High				
	n	%	n	%	n	%	
Family support							
Bad	2	66.7	1	33.3	3	100	
Good	3	3.2	90	96.8	93	100	
Total	5	5.2	91	94.8	96	100	

Based on the Table 3, it is known that as many as 90 respondents (96.8%) who have good family support show a high quality of life. The results of the Chi-Square test with Fisher's Exact readings show that the p-value (0.006) < (0.05), so it can be concluded that there is a relationship between family support and the quality of life of patients with type II diabetes.

Table 4. The correlation between Coping Strategies and Quality of Life for Type II DM Patients

Variables	Quality of Life				Total		p value
	Medium		High				
	n	%	n	%	n	%	
Coping Strategy							
Low	4	50	4	50	8	100,0	0,000
High	1	1,1	87	98,9	88	100,0	
Total	5	5,2	91	94,8	96	100,0	

Based on the table, it is known that as many as 87 respondents (98.9%) who have high coping strategies show high quality of life as well. The results of the Chi-Square test with Fisher's Exact readings show that the p-value (0.000) < (0.05), so it can be concluded that there is a relationship between coping strategies and the quality of life of patients with type II diabetes.

DISCUSSIONS

The results showed that there was a statistically significant relationship between family support and the quality of life of patients with type II diabetes (p-value: 0.006). The better the family support, the better the quality of life for people with type II diabetes. Based on the identification of the four components of support, the emotional support that was received more by the respondents was regarding the understanding and attention of the family when the respondent experienced problems related to diabetes. Appreciation support received by respondents is always being reminded by the family to control blood sugar. Instrumental support that is often received by respondents is about the ease of asking for help from families to support diabetes care. Informational support that is often received by respondents is about the family giving advice so that the respondent checks regularly to a doctor or health center.

This result in accordance with the previous study stated that family support will increase the quality of life among Diabetes patients (Winkley & Upsher, 2020; Aldossari et al., 2022; Hapunda, 2022). Support from family members helps lessen the strain brought on by illness by fostering optimism and self-confidence, which lowers stress and improves medication compliance. Patients with type II diabetes will be able to establish a sense of security and comfort if they are constantly looked after by their family members. This condition will lessen worry and stop stress from developing, which is thought to be one of the reasons why sufferers' quality of life has declined. The presence of strong family support will significantly enhance the patients' quality of life. The features of respondents who live in rural areas are assumed to be related to good family support in this study, such as reminding to regulate blood sugar and taking respondents for treatment. People in rural areas frequently live close to their families. The development of an interdependent family life pattern will inspire feelings of giving and supporting one another. If the study is carried out in the urban area, the level of family support can be different. This is because of the urban dwellers' tendencies to be more independent and reside far from their relatives (Pamungkas et al., 2017).

The support provided by the family to people with DM is not just attention to physical needs, but also psychological needs and family understanding of the illness suffered by family members. Support given by families to family members who suffer from DM can improve the quality of life of DM sufferers themselves. Increasing the quality of life of people with DM will automatically increase self-confidence and sufferers will survive more in living their lives with DM (Aldossari et al., 2022). The findings of this study also revealed a statistically significant link between coping mechanisms and type II diabetes patients' quality of life (p value: 0.000). This means that the higher the coping strategy, the better the quality of life for type II DM sufferers. The results of this study are in line with previous studies which state that there is a relationship between coping strategies and quality of life (Hapunda, 2022; Coelho et al., 2023). Success in managing stress in DM will lessen the symptoms of the condition, including physical and psychological problems, as well as the reasons that lead to them. Effective coping techniques can also boost self-esteem, enhance problem-solving abilities, and raise life satisfaction, which is one measure of quality of life (Gomez-Pimienta et al., 2019). According to the findings of the interviews, the majority of the respondents had diabetes for less than five years. It is possible that it will affect the use of this type of coping strategy. Some respondents also took traditional medicines, such as bitter black honey, soursop leaves, bay leaves, and cinnamon. Respondents also use emotion-focused coping in addition to problem-focused coping. This is evident from the respondent's response, which

claims that if the pain is experienced too intensely, it will actually cause blood sugar levels to rise and eventually become a mental load. Respondents learnt to accept their condition and grew closer to God after receiving a diabetes diagnosis.

CONCLUSION

This study shows that with family support and good coping strategies, diabetic patients can show a good quality of life as well. Therefore, families with diabetes must have the knowledge and awareness to support family members affected by diabetes. Health education related to how to provide support for family members with diabetes should be provided in various methods.

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DECLARATION

These authors declare that there is no conflict of interest in any form.

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