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COPING MECHANISM AND ITS RELATED FACTORS AMONG DIABETES MELLITUS PATIENTS

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ABSTRACT

Diabetes Mellitus (DM) is a disease that is increasing in number every year in both developed and developing countries. Diabetes mellitus is a disease that cannot be cured, so you have to undergo various types of treatment throughout your life. Coping mechanisms are ways used by sufferers to adapt to stress, solve problems, adjust to changes that have occurred, and respond to something that threatens them. the sufferer Chronic diseases require adaptive coping mechanisms for the healing process. Objective: to analyze factors related to coping mechanisms in diabetes mellitus patients. Method: a descriptive correlational research design with a cross-sectional approach was used. The sample size was 96 respondents. The sampling technique used was purposive sampling. Data was collected by filling out questionnaires by diabetes mellitus patients who met the inclusion criteria. The data analysis used was Multivariate Analysis with Binary Logistic Regression. Results: Only family support has a relationship with coping mechanism with a significance value of 0.004 < 0.05, with a strength of relationship of 0.265. Conclusions: The conclusion of this study is that of several factors related to coping mechanisms in diabetes mellitus patients, it was found that only family support had a relationship.

Keywords: coping mechanism; diabetes mellitus; factors

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INTRODUCTION

Diabetes mellitus (DM) is a condition experienced by patients for a long time or more than 6 months, where in this condition the glucose level in the sufferer's blood increases because the body is unable to produce or produce insulin or the body cannot use insulin properly (Choirunnisa., 2018). Diabetes mellitus can also be defined as a group of metabolic diseases characterized by increased blood glucose levels caused by abnormalities in insulin secretion, abnormalities in insulin action or possibly both (Suharto, Lutfi, dan Rahayu., 2019). Diabetes Mellitus, if not treated immediately, can cause various other diseases such as microvascular (nephropathy, retinopathy and neuropathy) and macrovascular (stroke, coronary artery disease and diabetic foot ulcers). Diabetes mellitus is a disease that cannot be cured, so you have to undergo various types of treatment throughout your life. Long and continuous DM treatment apart from causing physical problems, other problems arise, namely psychological, social and environmental (Nisa & Kurniawati, 2022).

Diabetes Mellitus (DM) is a disease that is increasing in number every year in both developed and developing countries, 80% of deaths in the world are caused by diabetes mellitus so it can be said that this disease has become a health problem in society (Azis, Muriman, dan Burhan.,

2020). Diabetes mellitus sufferers in the world in 2021 reached 537 million people with an age range of around 20 years to 79 years, diabetes sufferers in 2021 experienced an increase of 15.98% compared to 2019, namely 463 million people suffering from diabetes mellitus, while Indonesia ranks The 5th largest number of diabetes sufferers in 2021 is 19.5 million people (International Diabetes Federation., 2021). Diabetes mellitus is the 10th most common disease in Samarinda, there are 3,420 diabetes mellitus sufferers (Dinas Kesehatan Kota Samarinda., 2022).

There are several factors related to the coping mechanisms of diabetes mellitus patients, namely levels of depression, quality of life, family support, self-efficacy, and levels of anxiety. Several factors influence whether the coping mechanisms of diabetes mellitus sufferers are adaptive or maladaptive. Coping mechanisms are ways used by sufferers to adapt to stress, solve problems, adjust to changes that have occurred, and respond to something that threatens them (Dewi et al., 2020). Coping mechanisms assess related to acceptance, diverting thoughts, and taking action to resolve problems. Coping mechanisms are divided into two classifications, namely adaptive coping mechanisms are the chosen way of correcting bad problems in a better direction, and maladaptive coping mechanisms are actions that can harm the sufferer, their family or other people in the surrounding environment, so the sufferer Chronic diseases require adaptive coping mechanisms for the healing process (Sinaga., 2019).

Living with a chronic disease such as DM can affect the sufferer's psychological condition. Depression is one of the long-term stressors that often occur in people with chronic diseases such as diabetes mellitus. Negative emotional responses to diagnosed sufferers include denial or unwillingness to accept reality, anxiety, anger and depression. Among these conditions, the highest prevalence in DM sufferers is depression. Depression is a mental health problem that if someone experiences it, feelings of sadness, helplessness and pessimism will arise which can lead to feelings of excessive anger and even despair (Agustina, Yuniarti, & Okhtiarini, 2016). Quality of life is the main goal of treatment for DM sufferers, so to get effective treatment a good quality of life is needed. DM sufferers who have a low quality of life tend to take less care of themselves, which will worsen their condition over time. Quality of life issues are an important aspect in DM to predict how well DM sufferers will control the disease and maintain long-term health. Apart from that, to assess the burden felt by DM sufferers from their disease condition and measure the effect of the treatment that has been carried out (Purqoti et al., 2022).

According to Rachmawati (2020), explained that the family also has a task in treating the health of a family who is sick, namely knowing whether there are disorders in the health development of each family member, being able to make decisions to choose appropriate health measures, providing care to sick family members, maintaining a comfortable home atmosphere for the members' health. family, maintaining a reciprocal relationship between the family and health facilities, so that from the explanation above, family support is an interpersonal relationship which includes attitudes, actions and acceptance of family members, in the form of informational support, instrumental support, emotional support and appreciation support (Roza et al., 2020).

Ideally, patients have the confidence to be able to carry out self-care as a DM sufferer so that it supports the therapy they are undergoing. The research results show that the majority of diabetes sufferers have a level of confidence in their abilities (self-efficacy). Low self-efficacy is related to psychological distress. There is a negative relationship between self-efficacy and

stress. Stressed individuals tend to have poor self-efficacy. Therefore, stress management is necessary, especially for DM sufferers. Indicators of self-efficacy are the ability to check blood sugar, regulate diet, maintain ideal body weight, physical activity, foot care, and follow a treatment program. Ideally, patients have the confidence to be able to carry out self-care as a DM sufferer so that it supports the therapy they are undergoing. The research results show that the majority of diabetes sufferers have a level of confidence in their abilities (self-efficacy). Low self-efficacy is related to psychological distress. There is a negative relationship between self-efficacy and stress. Stressed individuals tend to have poor self-efficacy. Therefore, stress management is necessary, especially for DM sufferers. Indicators of self-efficacy are the ability to check blood sugar, regulate diet, maintain ideal body weight, physical activity, foot care, and follow a treatment program (Alfinuha, Hartanti, & Dianovinina, 2021).

The coping mechanisms used by diabetes mellitus sufferers greatly influence the stress or anxiety conditions they experience, that is, if diabetics have good adjustments to their coping strategies, then diabetics can successfully overcome the problems they face and vice versa. In coping, sufferers can do many things to be able to deal with stress and anxiety due to diabetes mellitus effectively. Coping mechanisms are ways used by individuals to adapt to stress, solve problems, adjust to change, and respond to life-threatening situations by managing certain external and internal needs that limit a person's resources (Rosliana et al, 2023). Several factors described above might be influence individuals in making decisions regarding adaptive or maladaptive coping mechanisms. Therefore, it is important to carry out this research in order to identify what factors can influence coping mechanisms in patients with diabetes mellitus which also have an impact on the stability of their condition. Researchers aim to analyze factors related to coping mechanisms in diabetes mellitus patients.

METHOD

In this study, a descriptive correlational research design with a cross-sectional approach was used. The population of this study consisted of diabetes mellitus patients registered in the working area of the Bengkuring Community Health Center. The sample size was 96 respondents. The sampling technique used was purposive sampling, with the following inclusion criteria; patients with a medical diagnosis of diabetes mellitus, diabetes mellitus patients who are willing to be respondents, diabetes mellitus patients who can communicate well and cooperatively, diabetes mellitus patients who are undergoing treatment at the Bengkuring Community Health Center, and diabetes mellitus patients who can read and write. Coping mechanism was assessed by cope inventory questionnaire developed by Charles S. Carver, Michel Scheier, and Jdgish Weintraub in 1989. Validity and reliability tests have been carried out using 30 respondents with the results of the valid test of 28 question items showing that 16 question items are valid with an r table value of 0.361 and the results of the reliability test obtained a Cronbach's alpha value of 0.732, which means that the questionnaire is reliable (Salsabil., 2022).

The questionnaires used to assess family support was the Hensarling Diabetes Family Support Scale (HDFSS) was modified by Setiawan (2019), consists of 17 question items with alternative answers using a Likert scale which includes emotional, appreciation, instrumental and informational support, so that the questionnaire is declared valid with an r table value of more than 0.361 so it is stated valid and a reliability test has been carried out with a calculated r value of 0.755 > r is a constant of 0.6, so it can be stated that the questionnaire is reliable. The quality of life was assessed by using Diabetes Quality of Life (DQOL) questionnaire developed by Munoz and Thiagrajan in 1998 and it was modified by (Bujang, Adnan, Mohd

Hatta, Ismail, & Lim, 2018). The validity test was carried out using 30 respondents and obtained results from 16 valid question items with an r table value of 0.361. The DQOL questionnaire has been tested for reliability, the method used is the Cronbach's Alpha method. The DQOL questionnaire has been tested for reliability, but the researchers still carried out another reliability test on 30 people with diabetes mellitus outside of the research respondents with a Cronbach's Alpha value of 0.912, which means perfect reliability (Kurniawati, 2022).

The level of depression was assessed by using PHQ-9 (Patient Health Questionnaire) which was developed by (Dr. Kurt Kroenke et.al) from Columbia University developed PHQ-9 in 1999 with a grant from Pfizer. This instrument shows valid and reliable results using the alpha coefficient method (Cronbach's alpha), obtaining an alpha value of 0.885. This concludes that the results of the PHQ-9 (Patient Health Questionnaire-9) scale measuring tool are valid and reliable (Dian, 2020). The self-efficacy was assessed by using Diabetes Management Self-Efficacy Scale (DMSES). The self-efficacy questionnaire was adopted from The Diabetes Management Self-Efficacy Scale (DMSES) (Van der Bijl and Shortbridge-Bagget, 1999 in Kott, 2008). The instrument has been tested on 30 respondents. The test results showed that there were several questions that were invalid, so the researcher replaced the questions and carried out the test again. The test results showed that the questions were truly valid, namely with an r value ≥ 0.361 . And the reliability test that the researcher carried out using (Cronbach's alpha) and the reliability test result was 0.847 (Ismonah, 2008).

The level of anxiety was used items from Depression Anxiety Stress Scales (DASS). This instrument has been translated into Indonesian and has been tested for reliability and validity by Damanik (2011). This test is reliable with a score (α =0.948) and based on the internal validity test, 41 items were found to be valid. This indicates that the 41 questions of the DASS questionnaire can differentiate between high and low levels of general psychological distress well, while 1 question item cannot differentiate them well. The DASS questionnaire is quite valid, reliable and can be used in Indonesia (Damanik, 2011). The data analysis used was Multivariate Analysis with Binary Logistic Regression. This data analysis was used to identify factors related to coping mechanisms in diabetes mellitus patients

RESULTS Table 1. Results of Multivariate Analysis with Binary Logistic Regression Test Factors Associated with Coping Mechanism

Variables	Regression Coefficient (B)	Std. Error	Exp. B (OR)	95% CI for Exp. B	P-value (Sig)
Level of depression	-0.296	0.499	0.743	0.280 - 1.978	0.553
Family Support	-1.327	0.462	0.265	0.107 - 0.656	0.004
Quality of life	-0.817	0.454	0.442	0.181 - 1.075	0.072
Self-efficacy	-0.497	0.463	0.608	0.246 - 1.506	0.282
Level of anxiety	0.608	0.459	1.836	0.746 - 4.519	0.186

Based on the results of the multivariate binary logistic regression analysis on the table 1, it shows that family support has a relationship with coping mechanism with a significance value of 0.004 < 0.05, with a strength of relationship of 0.265. Meanwhile, the level of depression, quality of life, self-efficacy and anxiety level do not have a significant relationship with coping mechanism on diabetes mellitus patients.

DISCUSSION

Based on the results of this study, it has been shown that the factor related to coping mechanisms was family support. The results of this study are in line with previous research,

which states that there is a relationship between family support and coping mechanisms in hypertension sufferers, using a sample of 101 respondents, where there were results of 95 respondents with good family support and adaptive coping mechanisms, while respondents with less family support both with maladaptive coping mechanisms as many as 1 respondent, the analysis test used was the Chi Square statistical test with a p-value of 0.000 < 0.05 (Djalaluddin, Fatmalia, Al Hijrah, Kandacong, & Batter, 2021).

Furthermore, another study with a total of 50 respondents used a statistical test using Chi-Square and obtained a p-value of 0.010 < 0.05 so that it was stated that there was a relationship between family support and coping mechanisms in patients with chronic kidney failure (Cumayunaro, 2018). Another study that used a cross sectional approach used an accidental sampling technique with a sample of 65 respondents and after carrying out the Chi Square test, the result was a p-value of 0.000 < 0.05, which means there is a relationship between family support and coping mechanisms in cervical cancer patients (Sudiyanti, 2017). Family support is people who are able to provide comfort, both physical and psychological, in providing positive things for family members who receive support. Family support is very important for people with chronic illnesses because with good family support, sufferers can adapt to the problems that occur well because they get it. attention, information and facilities from the family so that sufferers have adaptive coping mechanisms in responding to stressors, someone with adaptive coping mechanisms is able to respond to problems from a positive perspective, but someone with maladaptive coping mechanisms can cause psychological disorders, one of which is The source of whether a person's coping mechanisms are adaptive or maladaptive comes from the support provided by the sufferer's family (Rozi, 2017).

Chronic disease sufferers whose families do not care about the sufferer, this can affect the sufferer's health and cause the sufferer's coping mechanisms to become maladaptive, which should require good thinking in relation to the healing process for their illness, but due to the lack of support given from the family, it can make the sufferer becomes unable to think properly about the disease he is suffering from (Indotang, 2015). Family support is very much needed for sufferers of chronic illnesses because it can increase self-confidence in sufferers who are undergoing treatment so that it can enable sufferers to solve problems well (Dyanna, Dewi, & Herlina, 2015). Meanwhile, the level of depression, quality of life, self-efficacy and anxiety level there were no significant relationship with coping mechanism. The results of this study are consistent with the results of several previous studies in patients with other chronic diseases. Research conducted on patients undergoing hemodialysis shows that there is no relationship between coping mechanisms and levels of anxiety and levels of depression (P value: 0.617 and 0.617) (Adetyas, Nadissa, Pasaribu, & Jesika, 2021).

The results of this study are in line with previous research, which did not find a significant relationship between coping mechanisms and the quality of life of type 2 DM clients in the Kaliwates Community Health Center working area with a p-value of 0.273 (Rochmah, Rasni, & Nur, 2019). Furthermore, other studies have reported that there is no relationship between coping mechanisms and quality of life in T2DM patients in the Kasihan II Community Health Center Work Area with a p-value from the Spearman rank test of 0.384 (Ramadhani, 2022). Other research that is in line with the results of this research is research that shows a p-value of 1.00 which can be concluded that there is no significant relationship between coping mechanisms and quality of life in hypertension sufferers at the Central Cilacap I Community Health Center (Ratnaningsih, 2023). Moreover, the results of other research obtained p-value = 0.463, it can be concluded that there is no significant relationship between coping

mechanisms and quality of life in patients with CKD who are undergoing hemodialysis. (Hasanah, 2020).

CONCLUSION

The conclusion of this study is that of several factors related to coping mechanisms in diabetes mellitus patients, it was found that only family support had a relationship. Therefore, family support is very important for patients with chronic diseases, including diabetes mellitus patients, because it will influence their coping mechanisms.

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