

## **The Relationship Of Family Support With Quality Of Life Of Diabetes Mellitus People in The BLUD Of Kalumpang Health Ternate City**

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### **ABSTRACT**

Diabetes mellitus is a chronic disease that has a significant impact on the quality of life of sufferers. The quality of life of people with diabetes mellitus is influenced by various factors, including family support. Family support is expected to improve the quality of life of people with diabetes mellitus. This study aims to determine the relationship between family support and the quality of life of people with diabetes mellitus at the BLUD Kalumpang Health Center, Ternate City. The hypothesis proposed in this study is that there is a relationship between family support and the quality of life of people with diabetes mellitus at BLUD Kalumpang Health Center, Ternate City. The subjects in this study are diabetic mellitus patients of both female and male genders. The number of subjects in this study is as many as 75 people with diabetes mellitus. The subjects were taken using the purposive sampling technique, and data was collected using family support and quality of life scales. The data was analyzed using product moment correlation using SPSS version 23. Based on the results of the analysis, the correlation value of the coefficient ( $r_{xy}$ ) = hypothesis 0.719 with ( $p < 0.05$ ) was obtained so that the hypothesis in this study can be accepted. This means a significant positive relationship exists between family support and the quality of life of people with diabetes mellitus at BLUD Kalumpang Health Center, Ternate City. This study also showed that the determination ( $R^2$ ) obtained was 0.516, which showed that the family support variable made a compelling contribution of 51.6% to the quality of life variable. The remaining 48.4% was influenced by factors not studied in this study.

**Keywords:** family support, quality of life, diabetes mellitus

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### **Introduction**

Diabetes mellitus (DM) is a chronic disease that occurs in the long term and is characterized by high sugar levels that occur when the body can no longer use insulin effectively (WHO, 2019). Diabetes mellitus can have acute or chronic complications such as heart, stroke, kidney failure, blindness, impotence, and gangrene in the legs, which can lead to amputation of the legs and other physical diseases (Perkins, 2011). These chronic diseases include cancer, diabetes mellitus, chronic obstructive pulmonary disease (COPD), stroke, hypertension, and heart disease are one of the chronic diseases that can affect a person's quality of life, namely diabetes mellitus (Hardin & Dila, 2019).

According to IDF (2020), about 90% of cases of people with diabetes mellitus are type 2 diabetes mellitus, while according to the Ministry of Health (2021), it is estimated that more than 1.2 million children and adolescents have type 1 diabetes mellitus. Epidemiological studies show that diabetes mellitus is increasingly common worldwide. In 2017, *the International Diabetes Federation* (IDF) stated that there are 451 million people with diabetes, and this value is expected to continue to increase to 693 million by 2045 (Javaid et al., 2019). In 2018, the prevalence of diabetics in the world will increase rapidly, ranking fourth after countries such as the United States, India, and China; the number of people with diabetes every year continues to increase (WHO). WHO data in 2019 states that the prevalence and number of diabetes mellitus cases every year continue to increase. Indonesia is expected to be the fourth most in the world by 2030. According to the results of Rikesdas (2018), the number of Indonesian people suffering from diabetes mellitus is expected to increase by 2% from 2013 to 2030. According to Rikesdas, in 2018, the province of DKI Jakarta had a prevalence of diabetes mellitus of 3.4%, East Java had a prevalence rate of 2.6%, and in Banten province, there was 2.2%. North Maluku is one of Indonesia's provinces with a reasonably high diabetes prevalence rate, recorded at 1.5% in 2021 among all provinces in Indonesia.

According to Rikesdas 2013 and 2018 data, the increase in the prevalence of diabetes mellitus diagnosed by doctors in residents in North Maluku Province aged  $\geq 15$  years, which was initially 1.2% in 2013, will continue to increase until it reaches 1.5% in 2018. North Maluku Province also experienced an increase in the prevalence of diabetes mellitus, from an initial total of 1.1% in 2018 to 1.5% in 2019 (Ministry of Health of the Republic of Indonesia, 2019). Data from the Ternate City Health Office in 2019 showed there were patients with diabetes mellitus who had been recorded with the characteristics of new patients at the first visit; there were 1,154 cases that had not been recorded in hospitals or other health facilities. However, in patients with diabetes mellitus with the characteristics of old patients (second or more visits), up to 4,683 cases (Amien et al., 2020). According to the Ternate City Health Office, there has been an increase in diabetes mellitus cases, with almost 3 thousand cases (Malut Post, 2018).

As stated by Safarina et al. (2014), patients with diabetes mellitus will experience physical changes, which will make patients experience several psychological problems such as anxiety, stress, and fear. Emotional changes such as fear, feeling hopeless, anxious, feeling sad, hopeless, helpless, and stressed are some of the psychological impacts felt by people with diabetes mellitus (PH et al., 2018). Patients' negative views of themselves and various psychological problems show a low quality of life; poor quality of life can affect mental and physical health in people with diabetes mellitus and their families (Tamornpark et al., 2022).

WHO (2010) defines quality of life (QoL) as a person's view of their condition in their life within the scope of the cultural system and values in which they live and related to the level of expectations, standards, focus, and goals of life and other things that concern a person. The WHO definition emphasizes that a person's perception of the position they are in now in their life can be influenced by the culture and value system in which they live. Quality of life

has several aspects; according to WHO (2010), identifying quality of life includes physical health, psychological status, social relationships, and the environment in which one lives.

The existence of quality of life for people with diabetes mellitus can reflect good health, which includes aspects of physical and psychological health as well as self-confidence and relationship with the environment; good physical health can affect a person's quality of life, including the ability of diabetic mellitus patients to maintain a healthy lifestyle, by following a healthy lifestyle diabetic mellitus patients are expected to prevent complications that can worsen their condition so that the health of people with diabetes mellitus will improve. Their quality of life will improve (Zanzibar & Akbar, 2023). In providing psychological and physical comfort when experiencing diabetes mellitus, the family must support the patient. Family support is significant for survival for people with diabetes mellitus because a good quality of life for people with diabetes mellitus will be able to get good support as well.

According to Nisa and Kurniawati (2022), the study shows that people with diabetes mellitus have a poor quality of life (74.2%). In the study of Asnanian and Safruddin (2019), patients had a low quality of life (60.5%). This study is comparable to the research of Chaidar, Wahyuni, and Furkhani (2021), where 89 respondents, 52.8% of the quality of life of patients with diabetes mellitus, obtained poor quality of life results. Experiencing a poor quality of life, which means the patient is neglected or experiencing a low quality of life, with the conclusion that the patient's family should be further educated about the diet, lifestyle, and medication use of the patient diabetes mellitus. In the study of Yamin and Sari (2018), the quality of life of most respondents (50%) was below the group's median. This was due to low family support factors such as elementary education level 39.1%, female gender 70.7%, age 40-59 years 57.6%, and respondents' health characteristics such as long-term diabetes mellitus and comorbidities (58.7%). This study is comparable to the study of Ulfani et al. (2021), where 19 of the respondents (54.3%) experienced a poor quality of life, which means that the patient was neglected or experienced a low quality of life with the conclusion that the patient's family should be further educated about the diet, lifestyle, and medication use of diabetes mellitus patients.

The results of interviews conducted by researchers with five diabetes mellitus patients at the BLUD Kalumpang Health Center, Ternate City, via Google Meet on Tuesday, October 3, 2023, show that three of the patients coming to the health center regularly, with two of them coming on their own. Of the five patients interviewed, out of the five patients, three suffered injuries to the soles of their feet, and two others lost their vision. Of the five patients, two said they were bored with the pain and stressed, while the other three found it challenging to perform worship because of the pain, and the patient felt that his family was not paying attention to him. Therefore, the pain of diabetes mellitus experienced by patients causes various physical, psychological, social, and environmental problems that make the support of the people around the patient very important. Regarding quality of life, the interview results showed aspects of physical health, psychological and social relationships, and the environment. It can be concluded that people with diabetes mellitus tend to have a low level of quality of life. The results of the interviews in this study support the selection of family

support as an independent variable. Questions from subjects who stated that they felt that their families ignored them. This implies a lack of family support for people with diabetes mellitus.

Based on the impact that has been experienced by diabetic Mellitus patients in various aspects such as physical, psychological, social, and environmental due to the difficulty of curing diabetes mellitus, the environment of most sufferers affects the quality of life of diabetic mellitus patients, whether they have complications or not, studies show that many diabetic mellitus patients are depressed and need proper treatment because this condition can lead to quality of life they are decreasing (Yudianto et al., 2010). People with diabetes have both psychological and physical impacts. Psychological impacts such as loneliness, anger, shame, depression, helplessness, loss of hope, anxiety, grief, and guilt. Physical effects *such as diabetic retinopathy, diabetic nephropathy, and diabetic neuropathy* are also included in the fact that they can affect the quality of life in people with diabetes mellitus (Smeltzer & Bare, 2015). The patient's quality of life can be negatively affected by the complications experienced; poor quality of life can cause metabolic disorders to worsen, both directly through hormonal stress and indirectly through complications (Mandagi, 2010).

According to Kumar and Majumdar (2014), several variables can affect the quality of life, including age, marital status, education, and family. A family is a group of people connected through marital bonds, birth, and adoption, seeking to build, maintain, and improve family culture and promote the mental, physical, emotional, and social growth of patients suffering from diabetes mellitus (Friedman, 2013). In a broad sense, family members are patients who have a personal and reciprocal relationship in carrying out responsibilities and providing support caused by birth, adoption, or marriage (Stuart, 2014). According to Robinson's (2006) study of 19 patients with diabetes mellitus, family support is the key to maintaining *metabolic control*, impacting the patient's quality of life.

Family support (Friedman, 2013) is a relationship between individuals that includes attitudes, actions, and acceptance toward family members to give them a feeling of value. Family members such as husbands, wives, parents, relatives, or children can represent family support in terms of actions, attitudes, and acceptance of someone sick (Cusmeywati, 2016). Some aspects of family support include emotional support, reward support, instrumental support, and information support (Friedman, 2013). The quality of life of individuals with diabetes mellitus is affected by the level of family support they receive, such as family members providing instrumental, emotional, and supportive tools, including helping them complete patient-specific tasks such as emotional support, which includes comfort and support. If the patient experiences depression or stress during long-term diabetes treatment, this can affect diabetes treatment policies (Pamungkas et al., 2017).

Antari et al. (2012) estimate that there is a functional relationship, namely that providing support to people with diabetes mellitus can improve the quality of life of people with diabetes mellitus because support controls psychological processes and helps them change the behavior of people with diabetes mellitus. Supportive families of a person with diabetes mellitus have a strong correlation with patients' adherence to controlling their blood

sugar levels, which can have an impact on their quality of life. Families who support patients with diabetes mellitus help them cope and adjust to their condition (Rifki, 2011). Families who support diabetic patients can improve their quality of life by controlling psychological processes and encouraging behavior change (Zanzibar & Akbar, 2023). A study conducted by Damanik et al. (2020) found a significant correlation between family support and the quality of life of diabetic mellitus patients in hospitals; having good family support outcomes tended to have a better quality of life. Research by Nilla and Prijono (2015) obtained results by stating that the quality of life in patients with diabetes mellitus in the Tanah Kalikedinding Health Center is highly dependent on the family support provided.

### **Methods**

The research method used in this study is quantitative. The sampling technique in this study uses the purposive sampling technique, namely, taking specially selected sample members with specific considerations (Sugiyono, 2018). The number of subjects in this study was 75 people with diabetes mellitus who were male and female. The scale used in this study is the Likert model scale. According to Sugiyono (2018), *the Likert* scale is used to measure subjects' attitudes, opinions, and perceptions about social phenomena. Two instruments were used in this study. First, the quality of life scale of Novita Sari (2022) proposed by WHO (2010) consists of physical health, psychological status, social relationships, and the environment. The second modified family support scale from Febrina (2021) using the Friedman scale (2013) consists of emotional, informational, instrumental, and award support aspects. In this study, the researcher used a *product-moment* correlation analysis developed by Karl Person Pearson to examine the relationship between quality of life and family support (Sugiyono, 2018). The analysis was carried out using the help of the SPSS version 23.0 *for windows program*.

### **Results**

Based on the results of the Quality of Life Scale analysis with a minimum score of  $1 \times 19 = 19$  and a maximum score of  $4 \times 19 = 76$ , the hypothetical average  $(76 + 19) : 2 = 47.5$ , the hypothetical spread distance  $76 - 19 = 57$  and the standard deviation  $(76 - 19) : 6 = 9.5$ . Meanwhile, the results of the empirical data analysis are a minimum score of 41 and a maximum score of 76, an empirical average of 63.53 with a standard deviation of 7,325.

The results of the Family Support Scale analysis with a minimum score of  $1 \times 29 = 29$  and a maximum score of  $4 \times 29 = 116$ , a hypothetical average  $(116 + 29) : 2 = 72.5$ , a hypothetical distribution distance of  $116 - 29 = 87$  and a standard deviation  $(116 - 29) : 6 = 14.5$ . Meanwhile, the empirical data analysis results are a minimum score of 66 and a maximum score of 116, with an empirical average of 86.92 and a standard deviation of 9,943. The description of the research data is used as the basis for testing the research hypothesis obtained from two scales, namely Quality of Life and Family Support. A description of the data of the Quality of Life and Family Support Scale research can be seen in the table below.

**Table 1** Life Quality Scale Research Data Description Table and Family support

Variable	N	Hypothetical Data				Empirical Data		
		Mean	Score		SD	Score		SD
			Min	Max		Min	Max	
Quality of Life	75	47,5	19	76	9,5	41	76	7,325
Family Support	75	72,5	29	116	14,5	66	116	9,945

The assumption test that has been carried out shows that the normality test of the quality of life variable shows  $KS-Z = 0.094$  with  $p = 0.100$ , which indicates a normal distribution. In contrast, the family support variable shows  $KS-Z = 0.084$  with  $p = 0.200$ , which indicates a normal distribution. The results of the linearity test obtained values of  $F = 83.125$  and  $p = 0.000$ , which shows that the relationship between quality of life and family support is linear.

The hypothesis test that has been carried out shows a relationship between family support and quality of life with a correlation coefficient ( $r_{xy}$ ) = 0.719 with  $p = 0.000$ , so the hypothesis proposed in this study is accepted. The correlation coefficient ( $r_{xy}$ ) = 0.719 with  $p = 0.000$  also shows that the relationship between family support and quality of life is quite strong. The results of this study revealed a significant positive relationship between family support and quality of life. This means that the higher the family support, the higher the quality of life experienced by people with diabetes mellitus. On the other hand, the lower the family support, the lower the quality of life experienced by people with diabetes mellitus. These findings are supported by Aryanto, Sulastyawati, Pujiastuti, and Hidayah (2024), and the results show a significant positive relationship between family support and quality of life.

### Discussions

Based on the results obtained in a study conducted by researchers on Diabetes Mellitus patients at BLUD Kalumpang Health Center, Ternate City, the results show a significant positive relationship (quite substantial) between family support and quality of life. This aligns with the hypothesis proposed by the researcher that the higher the Family Support, the higher the Quality of Life. On the other hand, the lower the Family Support, the lower the Quality of Life at the Kalumpang Health Center in Ternate City. This aligns with the theory put forward by Green and Kreuter (1999) that one of the reinforcing factors determining a person's health behavior is family support; how a person with diabetes mellitus can regulate their quality of life by looking at how they have family support.

A person's perception of his or her life in society related to standards, goals, expectations, satisfaction, and well-being of life is known as the definition of quality of life (Raudatussalamah & Fitri, 2012). Quality of life, according to the WHO (2010), is defined as a person's perception of their place in life based on the cultural context and value system in which they live. Quality of life is also defined as the relationship between goals, expectations,

standards, and other elements that concern a person. The definition given by the WHO shows that everyone has a perception of their current position in life, which the culture and value system can influence in the place where they live. Aspects of Quality of Life include physical health, which is the ability of people with diabetes to perform activities; psychological status, which is the mental state of people with diabetes; and social relationships, which are how people with diabetes interact with others. The environment also includes all the means available to help people with diabetes mellitus.

Diabetic Mellitus patients need family support because a person with high family support and the quality of life of people with diabetes mellitus will be higher, family support and quality of life are mostly dominantly high, this can be said that family support is needed in individuals conquer the problems they are undergoing because family is a close social relationship with someone who is experiencing diabetes mellitus (Ramkisson et al., 2017). This opinion is supported by research conducted by Ratnawati et al. (2019), which shows that family support significantly positively affects the quality of life of patients with diabetes mellitus. According to Friedman (2013), there are four aspects of Family Support: Emotional Support, Award Support, Instrumental Support, and Information Support.

The Emotional Support aspect of the family provides a safe and peaceful place for rest and recovery, and the family helps manage the individual's emotions. Emotional support from the family consists of a sense of empathy or care. Others also influence this support, an expression of support that can help people with diabetes mellitus. This includes establishing good interaction and communication to understand the condition of families experiencing health problems, especially diabetes mellitus. This is in line with research conducted by Hisni et al. (2017), which states that emotional support is an aspect of the family that is easy to get in the family. A person who can read the emotions of others will have a better quality of life, and a person who can read the emotions of others also has a higher level of self-awareness. Because a person is more open to their own emotions, they are better able to recognize and understand their own emotions, so they are better able to read the emotions of others. Diabetic patients need to understand each other with diabetes mellitus; this aims to encourage each other to recover from the disease that is being experienced.

Then, in support, family information is provided in the form of advice or suggestions to family members, such as advising diabetic mellitus patients to obey and comply with treatment procedures so that the patient's disease does not develop into complications. This information is provided to the family to help the patient decide (Yusra, 2011). This is in line with Mirza's (2017) research, which stated that there is a relationship between information support and the quality of life of people with diabetes mellitus. Families who get health information can learn about their illness and make sufferers want the proper care and treatment. Diabetic mellitus patients desperately need information from their families to motivate them to recover and overcome the challenges of treatment.

In terms of instrumental support, it is real support, such as funds for the treatment of sick family members. So, with this instrumental support, families suffering from diabetes mellitus will receive support in terms of health and economic functions. (Friedman, 2014).

Support in the form of material or instrumental material obtained by patients motivates individuals to recover from diabetes mellitus treatment activities by utilizing the facilities to treat them effectively. This is in line with the research of Jais, Tahlil, and Susanti (2021), which found a correlation between instrumental support and the quality of life of people with diabetes mellitus. In diabetic mellitus, patients are indispensable and instrumental to the family for the patient; the family can provide individual physical, financial, occupational, and equipment support so that the patient can meet his needs to get optimal treatment.

Then, in support and appreciation, family members who suffer from diabetes mellitus feel appreciated with positive support and appreciation. Family members usually support the patient's ideas. In addition, this support serves as a way to accept and appreciate a person's existence, both with shortcomings and advantages, so that the patient's quality of life can be improved (Hensarling, 2009). Feedback guidance, problem handling as a resource, and family identity are some ways to support family appreciation. One way families give rewards is by taking the time and effort to accompany control patients to health facilities and raise awareness of treatment. The above is in line with research conducted by Nuraisyah et al. (2017), which states that there is a relationship between reward support and the quality of life of people with diabetes mellitus. In diabetic Mellitus patients, it is essential to have appreciation from the family for the patient so that the family can give positive expressions and behave politely toward the patient to feel appreciated. It is hoped that the improvement in the quality of life will be influenced by family support.

By accepting the patient's condition, the family can show their care and support to the diabetic Mellitus patient, always helping with what the patient needs and accompanying the patient to the doctor for medical care. Families also always give people with diabetes mellitus the opportunity to communicate and listen to their complaints so that they can get the proper treatment. Sharing thoughts with the people closest to you is also essential because this can affect the patient's health condition and improve the patient's quality of life. The higher the value of the family support score obtained, the higher the family support given to diabetes mellitus patients. However, if the score value of family support is low, the family support given to people with diabetes mellitus is also low. In addition, research conducted by Aryanto, Sulastyawati, Pujiastuti, and Hidayah (2024) supports this opinion. The study found that there was a significant positive relationship between family support and quality of life. In addition, a study written by Wulan and Wahyuni entitled "The Relationship between Family Support and Quality of Life of Type 2 Diabetes Mellitus at the Pademawu Health Center" shows that family support can improve health and reduce depression in people with diabetes so it can ultimately improve the quality of life of people with diabetes.

In this study, the results of the categorization of family support variables showed that the results were in the high category of 57.33% of the subjects in the high category (43 subjects), the medium category of 42.66% in the medium category (32 subjects), and the low category of 0% or no subjects in the low category (0 subjects). So, in this study, the family support variable is included in the outstanding category. This aligns with research conducted by Anggraini, Ningsih, and Jaji (2019), which has high family support results. This study also



found results about the quality of life variables with a high category of 80% (60 people), while in the medium category, as many as 20% (15 people), and for the low category, as much as 0% (0 people) so that in this study the quality of life variable is included in the outstanding category. This aligns with research conducted by Archentari, Nuriyyatiningrum, and Iskandarsyah (2017), which shows that it has a high quality of life outcomes. From the hypothesis accepted with a delimitification coefficient ( $R^2$ ) of 0.516, the family support variable effectively contributed 51.6% to the quality of life variable. Other factors that were not studied in this study contributed to 48.4%. This study only examined the relationship between family support and quality of life in people with diabetes mellitus. This is a limitation because many other factors that can affect the quality of life of people with diabetes, such as economic status, education, and diabetes complications, were not studied in this study.

### **Conclusion**

Based on the research and discussion that has been carried out, it can be concluded that there is a positive and significant relationship between family support and quality of life in people with diabetes mellitus at BLUD Kalumpang Health Center, Ternate City. The positive correlation implies that the higher the family support, the higher the quality of life for people with diabetes mellitus. On the other hand, the lower the family support, the lower the quality of life of people with diabetes mellitus. This means that when family support increases, family diabetes mellitus patients can show their care and support to diabetes mellitus patients, always help with what the patient needs, and accompany them to the doctor to get medical care. Families also always give people with diabetes mellitus the opportunity to communicate and listen to their complaints so that they can get the proper treatment. Sharing thoughts with the people closest to you is also essential because this can affect the patient's health condition and improve the patient's quality of life.

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