

The Relationship Between Family Support and Quality of Life in Patients with Type II Diabetes Mellitus

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Abstract

Patients with type II diabetes mellitus tend to receive less support from their families, which affects their quality of life. Family support is important in the management of diabetes mellitus prevention to minimize the occurrence of complications. This research examines the connection between family support and quality of life among type II diabetes mellitus patients at Krueng Barona Jaya Community Health Center. The study employed a descriptive correlational design using a cross-sectional methodology. Data was gathered between May 20 and June 18, 2025. From a population of 118 type II diabetes patients, 53 participants were chosen through purposive sampling. The researchers used the Hensarling Diabetes Family Support Scale and Diabetes Quality of Life questionnaires for data collection. Statistical analysis included univariate and bivariate analysis (chi-square test) conducted with SPSS software. The results of the study indicate that informational support ($p=0.000$), emotional support ($p=0.003$), appreciative support ($p=0.003$), and instrumental support ($p=0.003$) influence the quality of life of patients with Type II Diabetes Mellitus. In conclusion, there is a relationship between informational, emotional, appreciative, and instrumental support and quality of life among patients with type II diabetes mellitus. Family involvement in treatment is very important, especially in terms of emotional and instrumental support. The quality of life of patients with type II diabetes mellitus improves when accompanied by optimal family support. Patients who are always accompanied by their families are seen to regularly seek treatment by visiting health facilities and adhering to their diet.

Keywords: Family Support, Social Support, Type 2 Diabetes Mellitus, Patient Outcomes, Quality of Life.

1. Introduction

Noncommunicable diseases (NCDs) pose a major health challenge on a global scale in the 21st century, and diabetes mellitus is increasingly becoming a primary contributor to illness and death across the world. Approximately 71% of deaths worldwide are caused by non-communicable diseases, namely diabetes mellitus. Diabetes mellitus is a chronic disease that kills 36 million people every year. Diabetes mellitus occurs when the pancreas stops producing insulin, characterized by an increase in blood sugar levels in the body and the typical symptom of excessive urination (Lestari, 2022).

According to the International Diabetes Federation (IDF, 2021), diabetes is emerging as a critical global health concern. The prevalence is projected to rise from 537 million cases in 2021 to 643 million by 2030 and 783 million by 2045. In 2021, approximately 541 million



individuals were estimated to have impaired glucose tolerance, while 44.7% (239.7 million) of adults aged 20–79 were living with undiagnosed diabetes. The prevalence of diabetes is slightly lower among women aged 20–79, at 10.2%, in comparison to men, who have a prevalence of 10.8%. Data from the 2018 Basic Health Research (Riskesdas) indicate that diabetes mellitus prevalence in Indonesia reached 10.7%, with projections suggesting further increases (Riskesdas, 2018). DKI Jakarta showed the highest prevalence (3.4%), followed by DKI Yogyakarta (2.4%), Aceh (2.3%), East Kalimantan (2.2%), and the lowest in NTT (0.9%). Based on age categories, the highest number of diabetes mellitus patients is in the 44–70 age group. In Indonesia, there are more female diabetes mellitus patients (1.8%) than male patients (1.2%). Additionally, more diabetes mellitus patients reside in urban areas (1.9%) compared to rural areas (1.0%) (Bukhari et al., 2024).

Diabetes mellitus can lead to various health issues like high blood pressure or long-term complications that may impact the overall well-being of individuals diagnosed with the condition (Amin et al., 2022). Quality of life is each individual's response to life, which includes their life goals, hopes, and concerns. Living with diabetes can have various effects on a person's overall well-being, affecting their physical, mental, and social health as well as their surroundings. It can significantly decrease the quality of life for individuals, regardless of any additional health conditions they may have or lack of complications (Putri, 2021). The presence of diabetes mellitus exerts a profound adverse effect on quality of life. The domains most affected include dietary autonomy, capacity for physical activity, and work-related activities. Furthermore, individuals with diabetes report deterioration in physical functioning, social functioning, mental health, general health status, pain tolerance, and role fulfillment resulting from physical and psychological changes (Oluchi et al., 2021).

Getting assistance from their loved ones can enhance the well-being of individuals suffering from diabetes. The support that families can provide includes giving information and taking concrete actions so that people with diabetes mellitus feel loved and cared for (Sulkowski et al., 2024). The management of diabetes mellitus will be successful if it is accompanied by good collaboration between health workers, clients, and clients' families (Alenezi et al., 2021). In the management of diabetes mellitus, nurses hold a pivotal role. Their duties are not limited to responding to patients' physical symptoms, but also include delivering health education to patients and their families, with a focus on self-management strategies and lifestyle adjustments required by the condition (Aryanto et al., 2024).

Study by Dewi et al. (2024) shows that there is a tendency for the quality of life of diabetes mellitus patients to improve in accordance with the increase in family support. In a similar vein, research conducted by Pranata et al. (2021) shows that the recovery rate of patients with diabetes mellitus is significantly influenced by the level of support they receive from their family members. Unique social and cultural characteristics influence the dynamics of family support. In Aceh Besar society in general, the role of the family in the care of chronic diseases such as Type II Diabetes Mellitus is central, in contrast to the more individualistic care model in the West. By focusing on this population, this study can explore how cultural norms, family structures, and collective values shape the type and quality of support provided. This allows researchers to identify specific factors such as the role of senior family members, communication patterns, or participation in religious activities that may not be relevant elsewhere but are highly significant in this study. While many studies have linked social support to the quality of life of diabetes patients, most of the literature focuses on support from friends or support groups, with little emphasis on the specific role of family support in a particular cultural context.

Based on data from 2021, there are approximately 184,527 people with diabetes mellitus in Aceh Province, with 97,131 of them having received treatment at hospitals. The highest number of cases was recorded in Singkil District with 76,954 people, Bireun District with 13,061 people, North Aceh District with 12,036 people, Pidie Jaya District with 10,375 people, Banda Aceh City with 7,002 people, East Aceh District with 4,883 people, Lhokseumawe City with 4,236 people, Sabang City with 2,773 people, South Aceh District with 2,519 people, Central Aceh District with 1,940 people, and the lowest number is in Subulussalam City with 480 people.

Data obtained from the Krueng Barona Jaya Community Health Center shows that in 2024, there were 118 people with diabetes mellitus aged between 45 and 75 years old. Researchers at the Krueng Barona Jaya Health Center in Aceh Besar conducted observations and interviews with 8 individuals diagnosed with type II diabetes. These individuals varied in age, level of knowledge, education, and family support. During the interviews, 5 diabetes mellitus patients reported receiving family support in managing their condition, while 3 patients mentioned a lack of family support due to their diabetes mellitus diagnosis. Hence, the present study is conducted to investigate how informational, emotional, appreciative, and instrumental support relate to the quality of life of type II diabetes mellitus patients at the Krueng Barona Jaya Community Health Center.

2. Literature Review

2.1. The Concept of Family

The household comprises the tiniest entity within a community. The family is defined by kinship, where individuals are united in a marital bond by becoming parents. In a broader sense, family members are those who have personal and reciprocal relationships in carrying out obligations and providing support due to birth, adoption, or marriage (Yuliastuti et al., 2022). According to Pangandaman et al. (2021), the concept of family support reflects an interpersonal relationship that protects individuals from stress-related harm. Such support is evident in the actions and attitudes of family members toward each other, manifested through informational, evaluative, instrumental, and emotional means. Family support is also defined as encouragement in the form of assistance, attention, appreciation, or concern derived from a bond between individuals connected by marriage or blood.

According to Galuh & Prabawati (2021), there are four dimensions of family support for diabetes, which include: the emotional dimension, which shows support and understanding for family members suffering from diabetes mellitus; the appreciation dimension, which is an expression of positive acceptance of those around them, encouragement, or agreement with the ideas or feelings of individuals; instrumental support, which is provided through direct assistance, such as offering physical help, financial support, or dedicating time to serve and listen to family members as they express their feelings; the informational dimension, achieved by providing advice or feedback on how someone should approach a situation, such as in decision-making.

2.2. Quality of Life

How people perceive and experience life is unique to each person, shaped by their goals, worries, and aspirations (Tamornpark et al., 2022). This can affect physical, mental, social, and environmental health. Quality of life means that a person enjoys life and has experiences and satisfaction. It can be said that quality of life is a response to assessment and a way of achieving life expectations (Pranata et al., 2021). Living with diabetes mellitus can affect one's

quality of life, often referred to as a negative impact on the quality of life of patients, whether with or without complications (Sari & Nurhayati, 2021). As a theoretical and operational construct, quality of life encompasses indicators of well-being, general life satisfaction, and autonomy in daily activities. In medical research, it serves as a key metric for understanding the influence of treatments on individuals experiencing acute or chronic illnesses (Runtuwarow et al., 2020).

Referring to research conducted by Nazarpour et al. (2024) and Bekele et al. (2022), the quality of life for patients with type II diabetes mellitus is influenced by four key factors. First, the age factor demonstrates that adults with type II diabetes mellitus have a better quality of life compared to older individuals. Second, men are generally considered to have a higher standard of living compared to women when looking at gender differences. Third, complications arising from this disease significantly affect the level of quality of life in patients. Fourth, the duration of illness serves as a crucial determining factor, where based on research findings, individuals who have been diagnosed with diabetes for more than a decade are at a significantly increased risk and experience a decrease in overall quality of life when compared to those with a shorter duration of the disease.

2.3. Diabetes Mellitus

Diabetes mellitus is an endocrine pancreatic disease in which the beta cells of the pancreas do not produce enough insulin, leading to hyperglycemia and metabolic complications. Diabetes mellitus has the potential to lead to problems in multiple organs all over the body (Akbar et al., 2025). The classification of diabetes mellitus according to Zatihulwani et al. (2025) is as follows:

- 1) Type I diabetes mellitus, often referred to as insulin-dependent diabetes, is a disease caused by autoimmune damage that destroys the beta cells of the pancreas.
- 2) Type II diabetes mellitus (non-insulin-dependent diabetes) is a chronic metabolic disorder often associated with conditions such as metabolic syndrome. It arises from impaired insulin secretion and resistance, influenced by factors including genetics, obesity, poor diet, medications affecting glucose regulation, physical inactivity, aging, pregnancy, smoking, and psychological stress. Reduced insulin sensitivity results in excessive hepatic glucose production and persistent hyperglycemia, which may lead to various complications.
- 3) Gestational Diabetes Gestational diabetes is diabetes that occurs during pregnancy with impaired glucose uptake. During pregnancy, insulin retention increases threefold compared to non-pregnant individuals.
- 4) Certain types of diabetes due to their causes, such as monogenic diabetes syndrome, endocrine disorders, infections triggered by medications or chemicals.

The causes of diabetes mellitus based on the Utami et al. (2025) classification are as follows:

- 1) Type 1 Diabetes Mellitus or Insulin-Dependent Diabetes Mellitus (IDDM) can be caused by genetic or hereditary factors and viral infections.
- 2) Type 2 Diabetes Mellitus or Non-Insulin-Dependent Diabetes Mellitus (NIDDM) most commonly occurs in adults, where obesity in individuals can reduce the number of insulin receptors within insulin target cells throughout the body. This makes the available insulin less effective in enhancing the usual metabolic effects.
- 3) Malnutrition-related Diabetes Mellitus can be Fibrocalculous Pancreatic Diabetes Mellitus (FCPD) occurs due to consuming low-calorie and low-protein diets, leading to pancreatic dysfunction through mechanical (fibrosis) or toxic (cyanide) processes that

damage beta cells. Protein-Deficiency Pancreatic Diabetes Mellitus (PDPD) results from chronic protein deficiency causing beta cell dysfunction in the pancreas.

- 4) Other types of diabetes mellitus may include pancreatic diseases such as pancreatitis and pancreatic cancer. Hormonal disorders also contribute to diabetes development, particularly acromegaly, which increases growth hormone (GH) levels, stimulating pancreatic beta cells and causing them to become hyperactive and damaged. Additionally, certain drugs can induce diabetes, including cytotoxic drugs such as alloxan and streptozotocin, as well as drugs that reduce insulin production, such as thiazine derivatives and phenothiazine.

People with diabetes mellitus require attention because this disease will accompany patients until their death, making them susceptible to complications, severe and terminal diabetes complications, and patient indifference due to not feeling sick. Patients with diabetes mellitus generally only become aware of their condition after complications arise. It is these complications that are fatal, not the diabetes itself. The threat of diabetes complications continues to loom over society, with one person dying every 10 seconds worldwide due to complications caused by the disease (Syatriani, 2023).

3. Methods

The study adopts a quantitative approach and employs a descriptive correlational method within a cross-sectional design. The design combines the power of quantitative methods for measuring and analyzing numerical data with descriptive and correlative approaches that directly address the research objectives of describing characteristics and analyzing relationships between variables at a specific point in time. Accordingly, this investigation focuses on the relationship between family support (independent variable) and quality of life (dependent variable) in patients with type II diabetes mellitus at the Krueng Barona Jaya Community Health Center.

Data collection was conducted at the Krueng Barona Jaya Community Health Center over 19 days, from May 20 to June 18, 2025. The study population comprised 118 individuals. Using the Lemeshow formula, the required sample size was determined to be 53 respondents, who were chosen through purposive sampling. Data collection was conducted using the HDFSS (Hensarling Diabetes Family Support Scale) questionnaire developed by Hensarling and later modified by Zeren & Canbolat (2023). The HDFSS consists of 25 questions with alternative answers using a Likert scale covering emotional, appreciation, instrumental, and informational dimensions. The cumulative score of family support respondents is divided by the total number of questions on an interval scale. The highest score is 4 and the lowest is 1. The validity value ($r = 0.395-0.856$) and reliability value (Cronbach's Alpha = 0.940).

The Diabetes Quality of Life (DQOL) questionnaire developed by Munoz and Thiagarajan was modified by Yusra (2011). The DQOL consists of 30 items. Responses are based on a Likert scale. The cumulative quality of life score includes satisfaction and the impact of the disease on an interval scale. The validity coefficient ($r = 0.428-0.851$) and reliability coefficient (Cronbach's alpha = 0.963) were calculated. Both questionnaires can be concluded to be valid and reliable. The information gathered was transformed into charts. A Chi-Square test was conducted on the data, with a threshold of $p < 0.005$, utilizing IBM SPSS version 22 as the analytical tool.

4. Results And Discussion

4.1. Respondent Characteristics

Fifty-three participants with diabetes who fulfilled the criteria were included in the study. The distribution of participant characteristics can be found in Table 1.

Table 1. Frequency Distribution of Characteristics of Type II Diabetes Mellitus Patients at the Krueng Barona Jaya Community Health Center

Respondent Characteristics	N	Percentage %
Age		
Middle Age	34	64,1
Elderly	18	34,0
Young Elderly	1	1,9
Total	53	100,0
Gender		
Women	35	66,0
Men	18	34,0
Total	53	100,0
Latest Education		
Not in school	1	1,9
Elementary school	8	15,1
Junior high school	10	18,9
Senior high school	21	39,6
College	13	24,5
Total	53	100,0
Occupation		
Not working	1	1,9
Housewife	22	41,5
Entrepreneur	16	30,2
Civil servant/retired	8	15,1
Private employee	6	11,3
Total	53	100,0
Marital Status		
Unmarried	0	0,0
Married	43	81,1
Widower/Widow	10	18,9
Total	53	100,0
Prolonged Diabetes Mellitus Experience		
< 1 Year	37	69,8
> 1 Year	16	30,2
Total	53	100,0

As presented in Table 1, the demographic characteristics of the respondents reveal that the largest proportion belongs to the middle-aged group (64.1%). Females constitute the majority (66.0%), while high school education is the most common educational attainment (39.6%). In terms of occupation, housewives represent the largest share (41.5%), and most respondents are married (81.1%). Furthermore, the majority have been living with diabetes for less than one year (69.8%).

4.2. Univariate Analysis

The findings from the solo analysis on factors such as Information Support, Emotional Support, Appreciation Support, Instrumental Support, Family Support, and Quality of Life in patients with Type II Diabetes Mellitus at the Krueng Barona Jaya Community Health Center are displayed in Table 2.

Table 2. Family Support and Quality of Life of Type II Diabetes Mellitus Patients

Variable	N	Percentage %
Information Support		
High	42	79,2
Low	11	20,8
Total	53	100,0
Emotional Support		
High	47	88,7
Low	6	11,3
Total	53	100,0
Award Support		
High	43	81,1
Low	10	18,9
Total	53	100,0
Instrumental Support		
High	43	81,1
Low	10	18,9
Total	53	100,0
Quality of Life		
Good	48	90,6
Bad	5	9,4
Total	53	100,0

The results summarized in Table 2 reveal that information support was predominantly in the high category (42 respondents; 79.2%), emotional support was also largely in the high category (47 respondents; 88.7%), as were reward support (43 respondents; 81.1%) and instrumental support (43 respondents; 81.1%). Meanwhile, the quality of life was most frequently classified as good, observed in 48 respondents (90.6%).

4.3. Bivariate Analysis

The bivariate analysis of Information, Emotional, Appreciation, Instrumental, and Family Support in relation to Quality of Life among Type II Diabetes Mellitus patients at the Krueng Barona Jaya Community Health Center is summarized in Table 3

Table 3. Family Support and Quality of Life of Type II Diabetes Mellitus Patients

Variable	Quality of Life				Total		P-value
	Good		Bad		N	%	
	N	%	N	%			
Information Support							
High	42	79,2	6	11,3	48	90,6	0,000
Low	0	0,0	5	9,4	5	9,4	
Total	42	79,2	11	20,8	53	100,0	
Emotional Support							
High	44	83,0	4	7,5	48	90,6	0,003
Low	3	5,7	2	3,8	5	9,4	
Total	47	88,7	6	11,3	53	100,0	
Award Support							
High	42	79,2	6	11,3	48	90,6	0,003
Low	1	1,9	4	7,5	5	9,4	
Total	43	81,1	10	18,9	53	100,0	
Instrumental Support							
High	42	79,2	6	11,3	48	90,6	0,003
Low	1	1,9	4	7,5	5	9,4	
Total	43	81,1	10	18,9	53	100,0	

According to the data in Table 3, it is apparent that there is a clear connection between receiving information support and the overall well-being of individuals diagnosed with type II diabetes. Findings show a significant correlation ($p < 0.05$) indicating that information support plays an important role in enhancing the quality of life of patients at the Krueng Barona Jaya Community Health Center. This study reinforces the findings previously reported by Aryanto et al. (2024), where the study found that individuals who receive strong support from their families experienced a higher quality of life at a rate of 73.9%, in contrast to those who received support but had a poorer quality of life at 26.1%, with a statistically significant p-value of 0.001. This suggests that the level of family support directly correlates with the quality of life for individuals with diabetes.

Findings demonstrated that emotional support is significantly associated with the quality of life of individuals with type II diabetes at the Krueng Barona Jaya Community Health Center ($p = 0.003$, $p < 0.05$). The current findings substantiate those reported by Jais et al. (2021) which shows that out of the 132 diabetes mellitus patients who did not have family emotional support, 33.5% reported a good quality of life. On the other hand, a total of 95 patients received emotional support from their families, of whom 30.8% reported good quality of life outcomes. The significance value ($p = 0.002$) indicates a meaningful association, suggesting that emotional support contributes to the quality of life of patients with type II diabetes mellitus.

The correlation between appreciation support and quality of life for patients with type II diabetes mellitus was found to be significant at the Krueng Barona Jaya Community Health Center. This indicates that appreciation support plays a role in improving the quality of life for these patients. These findings parallel the results obtained by Zanzibar & Akbar (2023) shows that over half of individuals with Type II diabetes receive encouragement from their families (54.5%) and have an average quality of life (49.4%). After conducting a statistical examination with the chi-square method, a p-value of 0.02 was obtained, suggesting a correlation between family support and the well-being of those with Type II diabetes.

The analysis revealed a statistically significant relationship ($p = 0.003$, $p < 0.05$) between instrumental support and the quality of life of patients with type II diabetes mellitus, highlighting the importance of this type of support. This result aligned with the findings of Abbas et al. (2023) where the majority of respondents (85.7%) reported high levels of support, and a significant proportion (88.1%) reported high quality of life. The analyses confirmed a statistically significant relationship between family support and quality of life in individuals with type II diabetes mellitus, with a p-value of 0.000 ($p < 0.005$).

5. Conclusion

The results confirm a significant association between informational, emotional, reward, and instrumental support and the quality of life among type II diabetes mellitus patients at the Krueng Barona Jaya Community Health Center ($p < 0.05$). Family involvement in treatment is crucial, particularly in emotional and instrumental support. The quality of life of patients with type II diabetes mellitus improves when accompanied by optimal family support. Patients who are consistently accompanied by their families are more likely to regularly visit healthcare facilities and adhere to dietary guidelines. For future researchers, it is recommended to expand the scope of the study beyond Type II diabetes, and also investigate Type I diabetes and gestational diabetes.

The implications of these important findings are that healthcare practitioners (doctors, nurses, nutritionists) should educate the public about the importance of involving families in

diabetes education programs. Rather than focusing solely on patients, education should include family members on how to provide emotional and practical support (e.g., helping with diet management or blood sugar monitoring). In public health education activities, it is important to include family support modules as part of diabetes management. These can take the form of family support groups, seminars, or informative brochures designed for the entire family unit, not just the patient. Lastly, it is important for people with diabetes to communicate openly with their families about the challenges they face. And families should be proactive in offering support that is tailored to the patient's needs.

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