

THE RELATIONSHIP BETWEEN FAMILY SUPPORT AND COMPLIANCE WITH SELF-CARE ACTIVITIES IN PATIENTS WITH TYPE II DIABETES MELLITUS AT THE BAITURRAHMAN COMMUNITY HEALTH CENTER IN BANDA ACEH

Yunita Yani¹, Khaira Rizki², Yadi Putra³

Department of Associate Degree in Nursing, Faculty of Health Science, Universitas Abulyatama, Aceh, Indonesia

Correspondence Email: khaira_d3kep@abulyatama.ac.id

Abstract: Family support plays a crucial role in the prevention and management of diabetes mellitus, helping to minimize complications associated with the condition. The majority of type 2 DM patients in Baiturrahman Public Health Center felt that family support had an important role in increasing compliance with self-care activities. This study aims to determine the correlation between family support and self-care activity compliance in type II DM patients at Baiturrahman Public Health Center, Banda Aceh. This research employs a quantitative study using a descriptive correlational design with a cross-sectional approach. The population was 555 Type II Diabetes Mellitus patients. The sample was 98 respondents chosen using a purposive sampling technique. The data collection was conducted from February 20 to April 30, 2025, using univariate and bivariate data analysis. The result shows that family support p value=0,010 ($p<0.05$), informational support ($p=0,016$), emotional support ($p=0,008$), appreciation support ($p=0,031$) with the compliance of self-care activity, but instrumental support ($p=0,111$) does not show any significant correlation on self-care activity on type II DM patients in Baiturrahman Public Health Center, Banda Aceh. This study recommends that the family always provide support and care to the patient, including informational, emotional, appreciation, and instrumental support, to achieve the optimal result in the patient's self-care.

Keywords: family support, self-care activity, diabetes mellitus

1. Introduction

The World Health Organization (WHO) reports that the number of people with diabetes has doubled over the past 30 years to more than 800 million worldwide, which is twice the previous estimate of around 422 million cases. Diabetes among adults has doubled from approximately 7% to 14% between 1990 and 2022, with over 95% of cases being type 2 diabetes mellitus (1).

Indonesia has the fifth highest prevalence of diabetes mellitus in the world, with 19.5 million cases of diabetes mellitus. Since 2023, Indonesia has recorded 11.7% of diabetes mellitus cases, and by 2024, according to data from the Indonesian Diabetes Federation, it is estimated that there will be over 20 million people with diabetes mellitus. This number is projected to rise to 28.6 million by 2045 if not addressed promptly, given the continuously increasing prevalence each year (2).

Aceh Province ranks eighth in terms of diabetes mellitus cases in Indonesia. Data obtained by researchers at the Aceh Health Office shows that there are 154,889 cases of

diabetes mellitus. The number of DM cases in the city of Banda Aceh alone ranks fourth with the highest prevalence of DM, reaching 15,404 people with diabetes mellitus (3).

Preliminary data obtained by researchers in October at the Baiturrahman Community Health Center in Banda Aceh showed that the total number of diabetes mellitus cases in 2024, reviewed from the previous three months, reached 555 people. In July, there were 159 diabetes mellitus cases, with 54 men and 105 women. In August, there were 200 diabetes mellitus cases, with 64 males and 136 females. In September, there were 196 diabetes mellitus cases, with 67 males and 129 females (4).

Based on this data, the number of people with DM continues to increase every year. People with diabetes mellitus must have the ability to prevent and manage their disease. This ability is aimed at controlling their blood sugar levels. If patients do not have good control, complications from diabetes can arise in the short term. Complications in diabetes mellitus are divided into two categories: acute complications and chronic complications. Acute complications in diabetes mellitus patients involve changes in blood glucose levels. Chronic complications in diabetes mellitus patients include macrovascular complications and microvascular complications (5).

One way to maintain blood sugar levels in the long term and prevent complications is through self-care activities. Self-care activities have a significant impact on the quality of life and blood sugar levels of people with diabetes mellitus (6). Non-compliance with self-care activities by diabetes mellitus patients can be influenced by several factors, one of which is family support, as shown by Syafriani's research, which found a significant relationship between family support and self-care activities in Type II DM patients with a p-value ($0.000 < 0.05$) (7).

The relationship between adherence to self-care activities and family support is mutually influential, whereby family support can influence an increase in serotonin, endorphins, and dopamine hormones, which can improve the self-esteem of people with diabetes mellitus. Patients will feel valued, loved, and cared for by their families, and will be able to accept the condition that affects their self-esteem so that the healing and treatment process can run smoothly (8). Families provide different types of support, namely informational support (families as providers of information), evaluative support (families as mentors, providers of problem-solving media, and sources of validation), instrumental support (families as sources of practical and concrete assistance), and emotional support (families as safe and comfortable havens) (9). Based on the above description, the researcher is interested in conducting research on "the relationship between family support and compliance with self-care activities in patients with type II diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh in 2025".

2. Literature Review

2.1 Family

According to Friedman, a family is a group of people who are united by emotional bonds and identify themselves as part of the family (10).

The family is the smallest unit in society. It 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 fulfilling obligations and providing support due to birth, adoption, or marriage (11).

2.2 Family Support

According to Friedman, family support is a form of interpersonal relationship that protects a person from the adverse effects of stress. Family support is an attitude or action in response to a family member in the form of informational, evaluative, instrumental, and emotional support. Family support is also defined as encouragement in the form of assistance, attention, appreciation, or concern obtained from an individual bond related by marriage or blood (12).

Family support is assistance provided by the family to other family members in the form of goods, services, information, and advice that can make the recipient of support feel loved, appreciated, and at peace. Family members who are ill view supportive families as always ready to provide the assistance and support they need. This family support aims to fulfill the functions within a family and can impact a patient's self-confidence in facing the treatment process for their illness (13).

Friedman's Types of Family Support explains that family support is divided into four dimensions, as follows: (10)

1. Emotional support

Emotional support refers to the family as a safe and peaceful place for rest and recovery, and the family helps the patient manage their emotions. Aspects of emotional support include affection or love, trust, attention, listening, and being listened to. Emotional support involves expressing empathy, care, encouragement, warmth, love, and other forms of emotional assistance.

2. Instrumental support

Instrumental support refers to the family as a source of practical and concrete assistance in material terms, such as providing financial assistance, food, drink, and comfortable rest. Instrumental support can be financial and material, where the items or services provided can help the patient solve their problems, such as providing direct financial assistance, meeting the patient's daily needs, conveying messages, providing transportation, and caring for the patient while they are hospitalized.

3. Informational support

Informational support is where the family acts as a source of information, explaining and giving advice, making suggestions, and conveying health information that can be used to solve the problems faced by the patient. Aspects of informational support include advice, suggestions, guidance, and the provision of information related to the patient's care or health. For example, information about the disease and appropriate treatment is expected to reduce stress and facilitate the patient's treatment process.

4. Appreciation support

Appreciation support, also known as evaluation support, is where the family acts as a guide and mediator in problem-solving, as a source of validation of family members' identities, appreciation, and attention. For example, in the case of cancer patients, the family praises the patient's efforts during chemotherapy, does not force the patient to do what they do not want to do, and provides feedback on their ability to undergo the treatment process. This will strengthen the patient's self-confidence and self-esteem, motivating them to persevere in the treatment process they are undergoing.

2.3 Compliance

Compliance refers to a situation where the behavior of a person with diabetes mellitus is motivated by recommendations or advice given by a health practitioner or information obtained from other sources, such as advice provided in a health promotion brochure through a media campaign (14).

Compliance is an attitude of obedience and adherence, while obedience is the willingness to follow orders and comply with instructions. According to Sacket, client compliance is the extent to which a client's behavior conforms to the guidelines provided by a healthcare professional. Compliance is a manifestation of an attitude and behavior closely related to motivation. Motivation is the force that drives human behavior. Compliance is the level of patient behavior directed toward instructions or guidelines provided in the form of any prescribed therapy, whether diet, exercise, medication, or keeping appointments with the doctor (15).

2.4 Self Care Activities

Self-care activities are important activities that can prevent or delay the onset of diabetes complications by maintaining balanced glycemic control. These include maintaining a healthy diet (dietary management), medication, physical exercise, foot care, and blood sugar control (16).

Self-care activities that can be performed by individuals with type 2 diabetes include engaging in regular physical activity, maintaining a healthy diet, taking diabetes medications, regularly monitoring blood sugar levels, and performing routine foot care (14).

Self-care activities are programs or actions that must be carried out throughout life and are the full responsibility of every person with diabetes. Self-care activities are considered effective for people with diabetes in reducing the risk of coronary heart disease (CHD), as well as minimizing the impact of diabetes-related issues, achieving normal blood sugar levels, and reducing mortality and morbidity rates due to diabetes. Self-care activities for DM patients include proper meal planning and diet. For DM patients, it is important to emphasize the 3 of meal planning: regular meal schedules, regular food types, and regular food portions (17).

2.5 Diabetes Mellitus

Diabetes Mellitus is a disease in which blood glucose levels are high because the body cannot release or use insulin adequately. This disease can be cured and requires lifelong management to control blood sugar levels in order to improve the quality of life of sufferers. The high number of Diabetes Mellitus patients is partly due to changes in lifestyle, including lack of knowledge and education, low awareness of health maintenance, poor dietary habits, and insufficient physical activity, which can contribute to the prevalence of Diabetes Mellitus in the community. If left untreated, it can lead to more severe conditions with various complications (18).

Diabetes mellitus is a metabolic disorder characterized by hyperglycemia due to impaired insulin secretion, insulin action, or both. Chronic hyperglycemia in diabetes mellitus is associated with long-term damage, dysfunction, and failure of various organs, particularly the eyes, kidneys, nerves, heart, and blood vessels (19).

3. Method

This is a quantitative descriptive correlational research design with a cross-sectional study approach. The research population consisted of 555 patients, and the sample size was 98 respondents. Data collection was conducted using the HDFSS (Hensarling Diabetes Family Support Scale) and SDSCA (Summary of Diabetes Self Care) questionnaires, which had undergone validity and reliability testing using purposive sampling techniques. The researcher then processed and analyzed the data using univariate and bivariate methods in accordance with the research findings.

4. Finding and Discussion

Finding

The characteristics of the respondents in this study include: age, gender, highest level of education, occupation, duration of diabetes mellitus, insulin program, dietary patterns, and health checkups. The demographic data of the respondents can be seen in the table below:

Table 1 Frequency Distribution of Characteristics of Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

Respondent Characteristics	N	Percentage (%)
Age		
Middle Age	28	28,6
Elderly	61	62,2
Very Elderly	9	9,2
Gender		
Male	13	13,3
Female	85	86,7
Education		
No schooling	26	26,5
Elementary school	8	8,2
Junior high school	2	2,0
Senior high school	25	25,5
College/university	37	37,8
Occupation		
Unemployed	50	51,0
Civil servant	3	3,1
Self-employed	4	4,1
Farmer	18	18,4
Retired	23	23,5
Duration of Diabetes		
< 1 Year	13	13,3
> 1 Year	85	86,7
Insulin Program		
Yes	27	27,6
No	71	72,4
Diet		
More than 3 times a day	48	49,0
Less than 3 times a day	50	51,0
Health Checkups		
Once a month	74	75,5
More than once a month	24	24,5
Total	98	100.0

Source: Primary Data (Processed in 2025)

Based on the research results in Table 1, the majority of respondents were elderly, with 61 respondents (62.2%), the majority were female, with 85 respondents (86.7%), the

majority had a college education, with 37 respondents (37.8%), and the majority were unemployed, with 50 respondents (51.0%). the duration of diabetes was most commonly over 1 year, with 85 respondents (86.7%), insulin was not used by 71 respondents (72.4%), the most common eating pattern was less than 3 times a day, with 50 respondents (51.0%), and health check-ups were most commonly conducted once a month, with 74 respondents (75.5%).

Table 2. Frequency Distribution of Information Support for Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

No	Information Support	Frequency	Percentage (%)
1	High	72	73,5
2	Low	26	26,5
Total		98	100,0

Source: Primary Data (Processed in 2025)

Based on the research results in Table 2, the most common classification of information support is high, with 72 respondents (73.5%).

Table 3. Frequency Distribution of Emotional Support for Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

No	Emotional Support	Frequency	Percentage (%)
1	High	71	72,4
2	Low	27	27,6
Total		98	100,0

Source: Primary Data (Processed in 2025)

Based on the research results in Table 3, the most common classification of emotional support is high, with 71 respondents (72.4%).

Table 4. Frequency Distribution of Support for Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

No	Support for Recognition	Frequency	Percentage (%)
1	High	73	74,5
2	Low	25	25,5
Total		98	100,0

Source: Primary Data (Processed in 2025)

Based on the results of the study in Table 4, it can be seen that the classification of support for recognition is high, with 73 respondents (74.5%).

Table 5. Frequency Distribution of Instrumental Support for Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

No	Instrumental Support	Frequency	Percentage (%)
1	High	68	69,4
2	Low	30	30,6
Total		98	100,0

Source: Primary Data (Processed in 2025)

Based on the results of the study in Table 5, the most common type of instrumental support was high, with 68 respondents (69.4%)

Table 6. Frequency Distribution of Family Support for Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

No	Family Support	Frequency	Percentage (%)
1	High	77	78,6
2	Low	21	21,4
Total		98	100,0

Source: Primary Data (Processed in 2025)

Based on the results of the study in Table 6, the most common classification of family support was high, with 77 respondents (78.6%).

Table 7. Frequency Distribution of Self-Care Activities among Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

No	Self-Care Activities	Frequency	Percentage (%)
1	Good	59	60,2
2	Bad	39	39,8
Total		98	100,0

Source: Primary Data (Processed in 2025)

Based on the results of the study in Table 7, the compliance rate for self-care activities among type II diabetes mellitus patients was highest, with 59 respondents (60.2%) reporting good compliance.

Table 8. Analysis of the Relationship between Information Support and Compliance with Self-Care Activities in Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh (n=98)

Health Center in Banda Aceh (n = 98)							
Variable	Self-Care Activities Compliance				Total		p-value
Information Support	Good		Bad		N	%	
	N	%	N	%			
High	49	50,0	23	23,5	72	73,5	0,016
Low	10	10,2	16	16,3	26	26,5	
Total	59	60,2	39	39,8	98	100,0	

Source: Primary Data (Processed in 2025)

Based on Table 8, the results of the data analysis show a relationship between information support and adherence to self-care activities among patients with type 2 diabetes mellitus. The results obtained were $p = 0.016$ ($p < 0.05$), meaning that there is a relationship between information support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh.

Table 9. Analysis of the Relationship between Emotional Support and Compliance with Self-Care Activities in Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

Self-Care Activities Compliance							
Variabel	Self-Care Activities Compliance				Total		p-value
Emotional Support	Good		Bad		N	%	
	N	%	N	%			
High	49	50,0	22	22,4	71	72,4	0,008
Low	10	10,2	17	17,3	27	27,6	

Total	59	60,2	39	39,8	98	100,0
--------------	----	------	----	------	----	-------

Source: Primary Data (Processed in 2025)

Based on Table 9, the results of the data analysis show a relationship between emotional support and adherence to self-care activities among patients with type 2 diabetes mellitus. The results obtained were $p = 0.008$ ($p < 0.05$), meaning that there is a relationship between emotional support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh.

Table 10. Analysis of the Relationship between Reward Support and Compliance with Self-Care Activities in Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

Variabel	Self-Care Activities Compliance				Total		p-value
Award Support	Good		Bad		N	%	
	N	%	N	%			
High	49	50,0	24	24,5	73	74,5	0,031
Low	10	10,2	15	15,3	25	25,5	
Total	59	60,2	39	39,8	98	100,0	

Source: Primary Data (Processed in 2025)

Based on Table 10, the results of the data analysis of the relationship between reward support and compliance with self-care activities in patients with type 2 diabetes mellitus. The results obtained were $p = 0.031$ ($p < 0.05$), meaning that there is a relationship between reward support and compliance with self-care activities in patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh City.

Table 11. Analysis of the Relationship between Instrumental Support and Compliance with Self-Care Activities in Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

Health Center in Samaritan City (n = 98)							
Variabel	Self-Care Activities Compliance				Total		p-value
Instrumental Support	Good		Bad		N	%	
	N	%	N	%			
High	45	45,9	23	23,5	68	69,4	0,111
Low	14	14,3	16	16,3	30	30,6	
Total	59	60,2	39	39,8	98	100,0	

Source: Primary Data (Processed in 2025)

Based on Table 11, the results of the data analysis of the relationship between instrumental support and self-care activity compliance in patients with type 2 diabetes mellitus. The results obtained were $p = 0.111$ ($p > 0.05$), meaning that there was no relationship between instrumental support and self-care activity compliance in patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh.

Table 12. Analysis of the Relationship between Family Support and Compliance with Self-Care Activities in Type II Diabetes Mellitus Patients at the Baiturrahman Community Health Center in Banda Aceh City (n=98)

Self-Care Activities Compliance							p-value
Variabel	Self-Care Activities Compliance				Total		
	Good		Bad		N	%	
Family Support	N	%	N	%	N	%	

High	52	53,1	25	25,5	77	78,6	0,010
Low	7	7,1	14	14,3	21	21,4	
Total	59	60,2	39	39,8	98	100,0	

Source: Primary Data (Processed in 2025)

Based on Table 12, the results of the data analysis show a relationship between family support and adherence to self-care activities among patients with type 2 diabetes mellitus. The results obtained were $p = 0.010$ ($p < 0.05$), meaning that there is a relationship between family support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh..

Discussion

1. Relationship between information support and adherence to self-care activities

Table 1 shows that of the 72 respondents with high information support, 49 respondents (50.0%) had good adherence to self-care activities, while of the 26 respondents with low information support, 16 respondents (16.3%) had poor adherence to self-care activities. The results of the data analysis on the relationship between information support and adherence to self-care activities yielded a p-value of 0.016 ($p < 0.05$), indicating a significant relationship between information support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Health Center in Banda Aceh City.

Family information support is the provision of information, where family members offer advice, suggestions, and guidance that can be used to address an issue (20).

The results of this study align with Hairani's research, where respondents reported receiving family support with a percentage of 64.9%. The percentage of self-care activities was 45.5%, indicating a relationship between family support and self-care, with a p-value of 0.001 ($p < 0.05$). It can be assumed that there is a relationship between information support and adherence to self-care activities among patients with type 2 diabetes mellitus (21).

The researcher assumes that adequate information support regarding type 2 diabetes mellitus plays an important role in improving patient compliance with self-care activities. The information in question includes understanding the disease, possible complications, the importance of regular treatment, and a healthy lifestyle. The higher the quality and accessibility of information received by patients about type 2 diabetes mellitus, the higher their level of adherence to self-care activities.

2. Relationship between emotional support and adherence to self-care activities

Table 2 shows that of the 71 respondents with high emotional support, 49 respondents (50.0%) had good adherence to self-care activities, while of the 27 respondents with low emotional support, 17 respondents (17.3%) had poor adherence to self-care activities. The results of the data analysis on the relationship between emotional support and adherence to self-care activities yielded a p-value of 0.008 ($p < 0.05$), indicating a significant relationship between emotional support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Health Center in Banda Aceh City.

Emotional support is support in the form of empathy, concern, and attention from family members, making the family a place of rest and recovery and helping family members manage their emotions. Paterson and Bredow state that emotional support involves physical strength and the desire to trust family members, so that individuals become confident that family members influence the love and affection they receive (20).

The results of this study align with Pitaloka's research, where the statistical test using the Spearman rank correlation showed that respondents received good

family support with a percentage of 48.6%. The percentage of self-care activities was 8.6%, and there was a significant relationship between family support and self-care, with a p-value of 0.000 ($p < 0.05$). It can be assumed that there is a relationship between emotional support and compliance with self-care activities in patients with type 2 diabetes mellitus (22).

The researchers assume that emotional support from family, which includes empathy, concern, attention, and love and affection, has a significant influence on the psychological condition and motivation of patients in undergoing treatment or recovery. The presence of family as a source of emotional comfort is believed to increase patients' sense of security, self-confidence, and enthusiasm in facing illness or other health challenges. Consistent emotional support from family members can strengthen an individual's mental resilience and emotional well-being, so that patients do not feel alone in facing their illness. This has the potential to increase patient involvement in self-care, adherence to treatment, and overall quality of life.

3. Relationship between reward support and self-care activity compliance

Based on Table 3, it shows that out of 73 respondents with high reward support, 49 respondents (50.0%) had good self-care activity compliance. Meanwhile, out of 25 respondents with low reward support, 15 respondents (15.3%) had poor self-care activity compliance. The results of the data analysis on the relationship between reward support and adherence to self-care activities yielded a p-value of 0.031 ($p < 0.05$), indicating a significant relationship between reward support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Health Center in Banda Aceh City.

Supportive encouragement is assistance from family members in the form of feedback and encouragement, demonstrating positive responses and approval of someone's ideas or feelings. Family support that is evaluative/rewarding involves the family acting as a guide and mediator in problem-solving, serving as a source and validator of family members' identities, including providing support, recognition, reward, and attention (20).

This finding aligns with Hairani's theory and research, where the study results showed that respondents received family support at a rate of 64.9%. The percentage of self-care activities was 45.5%, and there was a significant association between family support and self-care, with a p-value of 0.001 ($p < 0.05$). It can be assumed that there is a relationship between recognition support and adherence to self-care activities in patients with type 2 diabetes mellitus (21).

The researcher assumes that recognition support from family or the surrounding environment, such as encouragement for health check-ups, reminders about the importance of diet and medication, and approval of the patient's feelings or actions, plays a crucial role in enhancing patients' motivation and adherence to self-care activities. Researchers believe that individuals who feel valued will have higher motivation and self-confidence in managing chronic diseases such as type 2 diabetes mellitus. The higher the level of support and recognition received by patients, the higher their compliance with self-care activities. Forms of recognition provided by family members or healthcare professionals can serve as positive triggers for patients to maintain a healthy lifestyle, adhere to treatment, and manage diabetes optimally.

4. Relationship between instrumental support and adherence to self-care activities

Table 4 shows that of the 68 respondents with high instrumental support, 45 respondents (45.9%) had good adherence to self-care activities, while of the 30 respondents with low instrumental support, 16 respondents (16.3%) had poor adherence to self-care activities. The results of the data analysis on the relationship between instrumental support and adherence to self-care activities yielded a p-value

of 0.111 ($p > 0.05$), indicating no significant relationship between instrumental support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Health Center in Banda City.

Family instrumental support is a source of practical and concrete assistance, including direct support in terms of financial needs, food, drink, physical assistance, and rest (20).

This finding aligns with Nitarahayu's research, which showed that nearly all families provided support (48 people, 96%), and the average self-care activity of respondents was 4.26 days per week. The hypothesis test using Pearson's correlation revealed no significant relationship between family instrumental support and self-care activity, with a p-value of 0.345 (23).

The researchers assumed that instrumental family support, which includes practical and direct assistance such as providing food, physical assistance, financial support, and arranging rest, does not have a significant relationship with the level of self-care activities in type 2 diabetes patients in this study. This is due to advanced age and the duration of uncontrolled diabetes, which were not homogenized in the study's inclusion criteria. The majority of respondents in this study were over 60 years old, who physiologically experience a decline in physical, cognitive, and mobility functions. Advanced age limits the ability to perform independent activities, such as exercise, actively managing diet, or monitoring daily blood sugar levels. Additionally, the duration of diabetes also affects the physical and psychological condition of patients. Patients who have had DM for a long time are more likely to experience chronic complications such as neuropathy, vision problems, or fatigue, which also hinder self-care activities, regardless of the practical support they receive from their families. Therefore, despite family members providing instrumental support, respondents were unable to fully engage in self-care activities due to biological limitations resulting from age and disease duration.

Family instrumental support does not show a significant relationship with self-care activities in type 2 DM patients, especially in the elderly group. Factors such as age over 60 years and duration of illness are more dominant in influencing patients' ability to perform self-care activities than the practical assistance provided. Therefore, in efforts to improve self-care activities, an approach that considers the patient's overall physical condition is needed, not just from the perspective of family support.

5. Relationship between family support and adherence to self-care activities

Based on Table 5, the results of the data analysis show the relationship between family support and adherence to self-care activities among patients with type 2 diabetes mellitus. The results obtained were $p = 0.010$ ($p < 0.05$), indicating a significant relationship between family support and adherence to self-care activities among type 2 diabetes mellitus patients at the Baiturrahman Health Center in Banda Aceh City.

The number of diabetes mellitus patients continues to increase each year. Diabetes mellitus patients must have the ability to prevent and manage their condition. This ability aims to control their blood sugar levels. If patients lack adequate ability, diabetes complications may arise in the short term. Diabetes complications are categorized into two types: acute and chronic complications. Acute complications in diabetes patients include changes in blood glucose levels. Chronic complications in diabetes patients include macrovascular and microvascular complications (5).

One way to maintain blood sugar levels in the long term and prevent complications is through self-care activities. Self-care activities significantly influence the quality of life and blood sugar levels of diabetes mellitus patients (6).

Non-compliance with self-care activities among diabetes mellitus patients can be influenced by several factors, one of which is family support. The relationship between compliance with self-care activities and family support is mutually influential, as family support provides incentives that make respondents feel valued, cared for, loved, and confident in their ability to recover. Good family support can have a very positive impact on a patient's ability to practice self-care (24).

The results of this study are supported by Faswita's research, which shows that the majority of respondents receive good family support with a percentage of 52.5%, and the percentage of adherence to self-care activities is 69.6%. There is a relationship between adherence to self-care activities and family support, with a p -value of 0.007 ($p < 0.05$) (25).

The researchers concluded that there is a relationship between family support and adherence to self-care activities among patients with type II diabetes mellitus at the Baiturrahman Health Center in Banda Aceh City. Family support significantly influences adherence to self-care activities because, in the community, individuals tend to neglect their health if they are not supported by their families during the recovery process. High levels of family support can occur because families provide informational, instrumental, emotional, and evaluative support to diabetes patients. This will help patients accept their condition and improve their adherence to self-care activities, boost their self-confidence, reduce stress, and enhance treatment adherence—especially in controlling blood sugar levels—thereby preventing potential complications.

Based on the research results in Table 1, the majority of respondents were elderly, with 61 respondents (61.6%), the majority were female, with 85 respondents (85.9%), the majority had a college education, with 37 respondents (37.4%), and the majority were unemployed, with 50 respondents (50.5%). the duration of diabetes mellitus was most commonly over 1 year, with 85 respondents (85.9%), insulin was not used by 71 respondents (71.7%), the most common dietary pattern was less than 3 times a day, with 50 respondents (50.5%), and health check-ups were most commonly conducted once a month, with 74 respondents (74.7%).

Based on these data, the researcher assumes that the majority of type 2 diabetes mellitus patients treated at the Baiturrahman Community Health Center in Banda Aceh City are dominated by the elderly (61.6%) and females (85.9%), indicating that old age and female gender are likely significant risk factors for the prevalence of type 2 DM in this region. Although the majority of respondents had a college education (37.4%), which theoretically could enhance health knowledge, this does not seem to fully correlate with the adoption of a healthy lifestyle, as evidenced by the high percentage of respondents who eat less than three times a day (50.5%) and are unemployed (50.5%). Inactivity may contribute to a lack of physical activity, which is one of the risk factors for diabetes complications. Additionally, the majority of respondents have had diabetes for more than one year (85.9%) but have not yet used insulin (71.7%), indicating that disease management is still in the early or intermediate stages with oral medication and does not yet require insulin therapy, although this does not rule out the possibility of limitations in access or knowledge regarding advanced therapy. On the other hand, awareness of the importance of regular health check-ups is quite high, as evidenced by the majority of respondents who undergo health check-ups every month (74.7%), indicating a concern for monitoring their health condition on a regular basis. Overall, the researchers' assumptions suggest that despite good health monitoring efforts, there are still significant challenges in consistently implementing a healthy lifestyle, particularly regarding dietary patterns, physical activity, and adherence to sustained self-care activities among type 2 diabetes patients at the Baiturrahman Health Center in Banda Aceh City.

5. Conclusion and Recommendation

Conclusion

After conducting research on the relationship between family support dimensions and self-care activity compliance, the results were divided into four dimensions as follows:

1. The relationship between informational support and self-care activity compliance
The results obtained were $p = 0.016$ ($p < 0.05$), indicating a significant relationship between informational support and self-care activity compliance among patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh.
2. The relationship between emotional support and adherence to self-care activities
The results obtained were $p = 0.008$ ($p < 0.05$), indicating a significant relationship between emotional support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Health Center in Banda Aceh City.
3. The relationship between recognition support and adherence to self-care activities
The results obtained were $p = 0.031$ ($p < 0.05$), indicating a relationship between reward support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Health Center in Banda Aceh City.
4. The relationship between instrumental support and adherence to self-care activities
The results obtained were $p = 0.111$ ($p > 0.05$), indicating that there is no relationship between instrumental support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh City.
5. The relationship between family support and adherence to self-care activities
Based on the research results obtained after statistical analysis, a p -value of 0.010 ($P < 0.05$) was obtained, indicating that there is a relationship between family support and adherence to self-care activities among patients with type 2 diabetes mellitus at the Baiturrahman Community Health Center in Banda Aceh City.

Recommendation

1. To respondents
People with type 2 diabetes and their families can internalize the importance of self-care activities, including healthy eating, exercise, taking medication, and checking blood sugar levels to avoid serious complications.
2. To healthcare facilities
They can create an educational program called "Diabetes-Aware Families" that involves families in patient care, as well as add psychosocial screening to detect emotional support needs that affect patients' self-care activities.
3. To institutions
Especially for the three-year nursing diploma program, they can develop the "Family Diabetes Care Education" program through workshops, digital modules, and community service. This program can involve students in family education and mentoring, and be integrated into the health curriculum.
4. To other researchers
To serve as a reference source, develop specialized instruments to measure family support, and create educational media such as videos or applications that can be tested through experimental or longitudinal studies to enhance patients' self-care activities.

Referensi

1. WHO. More Than 800 Million People Worldwide Have Diabetes [Internet]. 2024.

- Available from: <https://www.medscape.com/viewarticle/more-than-800-million-people-worldwide-have-diabetes-2024a1000kv7#:~:text=An estimated 828 million adults,Pakistan%2C Indonesia%2C and Brazil.>
2. IDF. Jumlah Penderita Diabetes di Indonesia Terus Meningkat [Internet]. 2024. Available from: <https://www.voaindonesia.com/a/jumlah-penderita-diabetes-di-indonesia-terus-meningkat/7870777.html>
 3. Dinkes. Pelayanan Kesehatan Penderita Diabetes Melitus. [Internet]. Kota Banda Aceh; 2023. Available from: <https://profilkes.acehprov.go.id/statistik/grafik/pelayanan-kesehatan-penderita-diabetes-melitus/>
 4. Puskesmas Baiturrahman. Data Pasien Diabetes Melitus Tipe II Puskesmas Baiturrahman. Kota Banda Aceh; 2024.
 5. Eka Santi PA. Hubungan Dukungan Keluarga Dengan Self-Care Management Pada Pasien Diabetes Melitus Di Puskesmas Bareng Kota Malang. Malang; 2024.
 6. Sari NPWP. Diabetes Mellitus: Hubungan antara Pengetahuan Sensoris, Kesadaran Diri, Tindakan Perawatan Diri dan Kualitas Hidup. J Ners Lentera. 2020;IV(1):51–9.
 7. Syafriani AM, Siregar MA, Kaban AR, Lubis HH. Hubungan Dukungan Keluarga terhadap Penerapan Diabetes Self Care Activity pada Pasien Diabetes Mellitus Tipe II di RSUD Mitra Medika. J Pembaruan Kesehatan Indones. 2024;1:184–93.
 8. Mutiudin AI, Mulyana H, Wahyudi D, Gusdiana E. Hubungan Efikasi Diri Dan Dukungan Keluarga Dengan Perilaku Perawatan Kaki Pada Penderita Diabetes Tipe 2. J Ilmu Keperawatan dan Kebidanan. 2022;13(2):512–21.
 9. Kuswanti AI. Hubungan Dukungan Keluarga Dengan Pelaksanaan Footcare Pada Penderita Diabetes Mellitus Di Wilayah Kerja Puskesmas Puring. 2022.
 10. Friedman MM, Bowden VR, Jones EG. Buku Ajar Keperawatan Keluarga : Riset, Teori, & Praktik. 5th ed. Tiar E, editor. Jakarta: Penerbit Buku Kedokteran EGC.; 2019.
 11. Stuart, G. W., & Sundeen SJ. Buku saku keperawatan jiwa. 5th ed. 2014.
 12. Friedman M. Buku Ajar Keperawatan keluarga : Riset, Teori, dan Praktek. Edisi ke-5. Jakarta: EGC; 2010.
 13. Misgiyanto DS. Hubungan Antara Dukungan Keluarga Dengan Tingkat Kecemasan Penderita Kanker Serviks Paliatif. J Keperawatan. 2014;5(Anggrek I):01–15.
 14. Nurhaliza S, Mulfianda R, Putra Y. Hubungan Motivasi Dan Dukungan Keluarga Terhadap Kepatuhan Diet Pada Penderita Diabetes Melitus. Idea Nurs J. 2021;XII(2).
 15. Setyorini A. Stres dan Koping pada Pasien Dengan DM Tipe 2 dalam Pelaksanaan Manajemen Diet di Wilayah Puskesmas Banguntapan II Kabupaten Bantul. Heal Sci Pharm J. 2017;1(1):1.
 16. Kristelina J, Zainal S, Fajriansi A. Pengaruh Self Care Activity Dalam Mengontrol Gula Darah Pada Penderita Diabetes Melitus Tipe 2. JIMPK J Ilm Mhs Penelit Keperawatan. 2023;3(3):136–42.
 17. Luthfa I. Implementasi Selfcare Activity Penderita Diabetes Mellitus di Wilayah Puskesmas Bangetayu Semarang. Bul Penelit Kesehat. 2019;47(1):23–8.
 18. Mulfianda R, Nursaadah, M. Agus Fitra. Efek Senam Kaki Terhadap Penurunan Kadar Gula Darah Pada Penderita Diabetes Melitus Tipe 2. J Rumpun Ilmu Kesehat. 2021;1(3):124–31.
 19. ADA. Standards of medical care in diabetes-2018. Diabet Retin. 2018;1–36.
 20. Afna S, Putra Y. Hubungan Dukungan Keluarga dengan Resiko Jatuh Pada Lanjut Usia di Gampong Lambaet Kecamatan Kuta Baro Aceh Besar Tahun 2022. J Heal Technol Med. 2022;8(2):2615–109.
 21. Hairani WMAY. Hubungan dukungan keluarga dengan kepatuhan self care activity pada penderita diabetes melitus di puskesmas gunung tua padang lawas utara tahun 2023. 2023;
 22. Pitaloka ND. Hubungan Dukungan Keluarga Dan Tingkat Stress Dengan Self Care Activity Pada Penderita Diabetes Melitus Di RSUD Dr. Gondosuarso Ungaran. Semarang; 2023.

23. Nitarahayu D, Azhari H, Tini. Hubungan Dukungan Keluarga Dengan Self Care Activity Pada Pasien Diabetes Melitus Tipe 2 Di Wilayah Kerja Puskesmas Sidomulyo Samarinda. 2019;
24. Lahagu S, Berutu LAB, Gaho CS, Monica GA. Dukungan Keluarga Dengan Tingkat Kepatuhan Pasien Dalam Perawatan Diri Secara Mandiri pada Penderita Diabetes Melitus. 2025;9(1):164–71.
25. Faswita W, Nasution JD, Elfira E. Hubungan Kepatuhan Self Care Activity Dengan Dukungan Keluarga Pada Penderita Diabetes Melitus. 2022;2(2):110–8.