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The Correlation Between Family Support and Adherence Level in Wound Care of Diabetes Mellitus Patients

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ABSTRACT

Diabetes mellitus is a group of metabolic diseases characterized by an increase in blood glucose levels due to abnormalities in insulin secretion. One of the complications of diabetes mellitus is diabetic ulcers, and adherence to wound care is crucial to accelerate healing. However, patients with diabetic ulcers often fail to adhere to treatment, highlighting the need for family support to boost patient motivation. The purpose of this study is to investigate the relationship between family support and adherence to wound care in patients with diabetic ulcers. The design in this study was a correlational analytic design with a cross-sectional approach. The population of this study consisted of all patients with diabetic ulcers undergoing wound care at the Surgical Clinic of Dian Husada Hospital Mojokerto. The study 48 respondents, who were selected using total sampling. The results showed that family support for wound care among diabetes mellitus patients at the Surgical Clinic of Dian Husada Hospital Mojokerto was categorized as moderately adherent and less adherent, with 20 and 21 respondents respectively, representing 41.7% and 43.8%. The hypothesis test cross-tabulation analysis with a significance value of $< \alpha = 0.05$ indicated a significant relationship between family support and adherence among diabetes mellitus patients. In providing wound care at the Surgical Clinic of Dian Husada Hospital Mojokerto, it is recommended that nurses involve the patient's family during the wound care process and facilitate family members in providing support to their loved ones undergoing treatment. This can help boost patient motivation and adherence to treatment.

Keywords: Family Support, Adherence, Wound Care

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INTRODUCTION

Diabetes Mellitus (DM) is a disease characterized by high blood sugar levels due to disruption of the insulin hormone. This disease is closely related to lifestyle and requires regulation of diet and daily activities. People with diabetes need to pay attention to calorie intake, food types, and meal schedules to stay healthy. DM can also lead to serious complications such as diabetic wounds, which, if left untreated, can lead to infection or amputation. Therefore, family support in wound care is crucial to prevent further complications [1].

According to the WHO, more than 346 million people worldwide have diabetes. In Indonesia, there are 10 million people with diabetes and another 17.9 million at risk. East Java is one of the provinces with a high prevalence, while Surabaya has the highest number of sufferers. Families play a crucial role in supporting wound care for patients with DM, and nurses can help by analyzing the support provided by familie [2].

Uncontrolled blood sugar levels can lead to short- and long-term complications, including hypoglycemia and diabetic ulcers, which can lead to amputation. Proper wound care requires ongoing checkups and family support, which can improve the patient's quality of life. Therefore, this study aims to determine whether there is a relationship between family support and the level of compliance in wound care in diabetic patients at the Surgical Clinic of Dian Husada Hospital, Mojokerto. The purpose of this study was to determine whether there is a relationship between family support and the level of compliance in wound care for diabetic patients at the Surgical Clinic of Dian Husada Hospital, Mojokerto [3].

METHOD

This study [4]employed a correlational analytical design with a cross-sectional approach, a type of research that emphasizes measurement/observation time, and the dependent and independent variables are only measured once.The population in this study was 30 patients with diabetes mellitus and poor wound care at the Surgical Clinic of Dian Husada Hospital, Mojokerto. This study used a total sampling technique, which included all patients with poor wound care. There was a relationship between family support and patient compliance in caring for diabetic wounds at the Surgical Clinic of Dian Husada Hospital, Mojokerto Regency [5].

RESULTS

1. Respondent Characteristics by Gender

Table 1.1 Respondent Characteristics by Gender of Diabetes Mellitus Patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025

Gender	Frekuensi	Presentase (%)
Male	28	58,3%
Female	20	41,7 %
Total	48	100%

Source: Primary data, January 2025

The table above shows that the majority of diabetes mellitus patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, were male, representing 28 respondents (58.3%).

2. Respondent Characteristics Based on Education

Table 1.2 shows respondent characteristics based on education level of diabetes mellitus patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Education	Frekuensi	Presentase (%)
Elementary	13	27,1 %
Junior Hight school	17	35,4%
Senior hight school	7	14,6%
No schooling	11	22,9%
Total	48	100%

Source: Primary data, July 2025

The table above shows that almost half of the diabetes mellitus patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, had a junior high school education, with 17 respondents representing 35.4%.

3. Respondent Characteristics by Occupation

Table 1.3 Respondent Characteristics by Occupation of Diabetes Mellitus Patients in the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Work	Frekuensi	Presentase (%)
Work	25	52,1 %
Not Working	23	47,9%
Total	48	100%

Source: Primary data, July 2025

Table 1.3 above shows that the majority of diabetes mellitus patients in the Surgical Clinic of Dian Husada Hospital, Mojoketo, were employed, representing 25 respondents (52.1%).

4. Respondent Characteristics by Marital Status

Table 1.4 shows respondent characteristics by marital status of diabetes mellitus patients in the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Marital status	Frekuensi	Presentase (%)
Married	44	91,7%
Single	4	8,3%
Total	48	100%

Source: Primary data, July 2025

Table 1.4 above shows that almost all of the marital status of diabetes mellitus patients in the Surgical Clinic of Dian Husada Hospital, Mojoketo, was married, representing 44 respondents (91.7%)[6].

5. Frequency distribution of family support in wound care for diabetes mellitus patients in the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Table 1.5 shows frequency distribution of family support in wound care for diabetes mellitus patients in the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Family support	Frekuensi	Presentase (%)
Good	7	14,6%
Enough	20	41,7%
Less	21	43,8%
Total	48	100%

Source: Secondary data, July 2025

Table 1.5 above shows that nearly half of family support for wound care of diabetes mellitus patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, was sufficient and inadequate, with 20 and 21 respondents, respectively, representing 41.7% and 43.8%, respectively [7].

6. Frequency distribution of compliance in Wound Care for Diabetes Mellitus Patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Table 1.6 Frequency distribution based on compliance in Wound Care for Diabetes Mellitus Patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Category	Frekuensi	Presentase (%)
Not yet complian	20	41,7
Quite complian	13	27,1
Complian	9	18,8
Very complian	6	12,5
Total	48	100%

Table 1.6 above shows that nearly half of the patients with diabetes mellitus who were not compliant with the wound care program at the Dian Husada Hospital Mojoketo Surgery Clinic were non-compliant, representing 20 respondents (41.7%) [8].

7. Analyzing the relationship between family support and adherence to wound care for patients with diabetes mellitus who were compliant with the wound care program at the Dian Husada Hospital Mojoketo Surgery Clinic, July 2025.

The Spearman's rho correlation test involving 48 respondents showed a correlation coefficient of 0.843, with a significance value of $p = 0.000$ ($p < 0.05$). These findings indicate a very strong, positive, and statistically significant relationship between family support and adherence to wound care among patients with diabetes mellitus at the Surgical Clinic of Dian Husada Hospital, Mojokerto, in July 2025. The positive direction of the correlation indicates that better family support is associated with higher patient adherence to the wound care program. Therefore, H_0 is rejected and H_1 is accepted, confirming a significant relationship between family support and wound-care adherence among patients with diabetes mellitus.

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DISCUSSION

1. Frequency Distribution of Family Support in Wound Care for Diabetes Mellitus Patients at the Surgical Clinic of Dian Husada Hospital, Mojoketo, July 2025.

Family support refers to the family's attitudes, actions, and acceptance of the patient. Support provided includes informational support, appraisal support, and emotional support, as described by[9]. Informational support serves as a source of information about the world that can be used to address a problem. Aspects of this support include advice, suggestions, guidance, guidance, and information. Assessment support acts as feedback, guidance, and mediation, as well as validating family members' identities. It includes providing support, recognition, appreciation, and attention. Emotional support serves as a safe and peaceful haven for rest and recovery, as well as fostering emotional control. Emotional support encompasses support manifested in the form of affection, trust, attention, and listening. The benefits of family support include the impact a problem experienced by one family member can have on other family members, particularly in chronic illnesses such as diabetes mellitus, which can lead to chronic complications[9].

According to researchers, the extent to which family support is adequate or inadequate can be influenced by external factors, such as education. In this study, the average level of education was relatively low, ranging from no schooling to elementary, middle, and high school. This can contribute to a lack of knowledge from a health perspective, including how to manage patients with chronic

problems such as wound healing from diabetes mellitus. Internal factors that influence include age, nutritional status, comorbidities, and respondent condition.

2. Frequency distribution of compliance in wound care for diabetes mellitus patients at the surgical clinic at Dian Husada Hospital, Mojoketo, July 2025 [10].

Compliance is the degree to which patients follow treatment methods and behaviors recommended by doctors, nurses, or others, as a positive behavior in achieving therapeutic goals. These actions are performed while under supervision. However, once supervision is weakened or removed, these behaviors are abandoned. According to[11], factors influencing adherence include: client education can improve adherence, provided the education is active; accommodation, which involves understanding the client's personality traits that can influence adherence; environmental and social modification, which involves building social support from family and friends; support groups can be formed to foster adherence to treatment programs; changes in therapy models, which involve simplifying treatment programs and actively participating in treatment (therapy); and increased interaction between healthcare professionals and patients[11].

According to researchers, nearly half of diabetes mellitus patients are non-compliant due to internal and external factors. Internal factors include a lack of family support and relatively low patient education. Low education leads to a lack of knowledge. If a patient's knowledge is low, supervision from both the healthcare team and the family is needed to collaborate in monitoring patient adherence to wound care. Low education levels and low levels of action or behavior in diabetes patients are often due to a lack of information regarding the impact of untreated wounds, which can lead to dead skin tissue or necrosis that can spread and produce an unpleasant odor. This odor can lead to low self-confidence, as patients feel alienated from those around them due to the wound. Therefore, collaboration between the medical team and family is essential for intensive wound care to achieve optimal results [12].

Patients with diabetes mellitus require continuous care because diabetic wounds may heal slowly and demand regular monitoring. Without sufficient support, patients may experience reduced motivation, forget treatment schedules, or fail to follow wound-care recommendations consistently. Conversely, patients who receive adequate assistance and encouragement from their families may be more capable of overcoming physical and psychological barriers during treatment. Therefore, family support should be considered an integral component of diabetic wound management rather than merely an additional form of assistance.

The findings also have implications for nursing practice. Nurses should provide education not only to patients but also to family members regarding wound-care procedures, warning signs of infection, treatment schedules, medication adherence, nutrition, and blood-glucose control. Family members should be encouraged to participate in treatment planning and accompany patients during wound-care visits. This family-centred approach may strengthen patient motivation and improve adherence to the recommended treatment program, consistent with the study's recommendation that nurses facilitate family involvement during wound care.

Nevertheless, the results should be interpreted cautiously. Because this study employed a cross-sectional design, family support and adherence were measured at one point in time; therefore, the findings demonstrate an association but cannot establish a causal relationship. Furthermore, the study was conducted among 48 patients at a single surgical clinic, which may limit the generalisability of the findings. Future studies should use larger samples, involve multiple healthcare facilities, and apply longitudinal or interventional designs to determine whether structured family-support interventions can directly improve adherence and wound-healing outcomes.

CONCLUSION

Family support for wound care among diabetes mellitus patients in the surgical clinic at Dian Husada Hospital, Mojoketo, was found to be sufficient or insufficient. Compliance with wound care among diabetes mellitus patients in the surgical clinic at Dian Husada Hospital, Mojoketo, was found to be non-compliant. There is a relationship between family support and compliance with wound care among diabetes mellitus patients in the surgical clinic at Dian Husada Hospital, Mojoketo. Therefore, family support is crucial, as a lack of family support can lead to poor patient compliance with wound care.

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