

# The Relationship Between Family Support in Diabetes Management and Self-Acceptance among Patients with Type 2 Diabetes Mellitus

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Dyah Restuning Prihati\*<sup>1</sup>, Heny Prasetyorini<sup>1</sup>, Miya Susilawati<sup>2</sup>

<sup>1</sup> Nursing Study Program, Universitas Widya Husada, Semarang, Indonesia

<sup>2</sup> Ketapang District Health Office, Pontianak, Indonesia

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## Correspondence Author:

Dyah Restuning Prihati.  
Universitas Widya Husada  
Semarang. Jl. Subali Raya  
No. 12, Krapyak, Semarang,  
50146  
Email:  
[dyah.erpe@gmail.com](mailto:dyah.erpe@gmail.com)

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## Abstract

**Background:** Patients with type 2 diabetes mellitus (T2DM) who have low self-acceptance often develop negative perceptions of their abilities, which can hinder effective diabetes self-management. T2DM is a chronic metabolic disorder characterized by insulin resistance and progressive  $\beta$ -cell dysfunction and long-term complications that negatively affect patients' quality of life (QoL). This study aims to determine the relationship between family support and self-acceptance in patients with T2DM.

**Methods:** A cross-sectional study design was used, involving 221 respondents from Community Health Centers under the jurisdiction of the Ketapang District Health Office. Data were collected using the Hensarling Diabetes Family Support Scale (HDFSS) and the Illness Acceptance Scale (AIS).

**Result:** The results showed a significant value of  $p = 0.000$  and a Spearman correlation coefficient of  $r = 0.546$ , indicating a moderate positive correlation.

**Conclusion:** There is a significant relationship between family support in diabetes management and self-acceptance in patients with T2DM

**Keywords:** Hypertension, Older Adults, Self-Care Adherence

## BACKGROUND

Diabetes mellitus (DM) is a chronic disease that causes lifelong health problems for patients. Patients with diabetes often experience boredom and fatigue, which may lead to decreased self-care abilities. The number of adults with diabetes exceeded 500 million in 2024 and is projected to increase to nearly 900 million by 2050 (1). In the same year, T2DM fourth among diseases in Ketapang Regency, with a total of 7,932 reported cases (2).

Complications of DM include cardiovascular disease, retinopathy, nephropathy, and neuropathy. These result from an insulin imbalance. Patients with DM need long-term treatment to prevent complications. However, long-term treatment may harm mental health. It often leads to hopelessness and lower self-concept, which can cause depression. Physical complaints in DM may cause stress and depression. This is often due to limits on daily activities. Emotional stress can trigger higher blood glucose levels. It contributes to poor metabolic control in diabetes (3). Emotional stress is worsened by unhealthy lifestyles, lack of exercise, smoking, and alcohol abuse (4). Diabetes-related stress includes fear, anxiety, anger, guilt, sadness, frustration, and fatigue. Managing this stress is crucial. Unmanaged stress is linked to poor glycemic control, nonadherence to treatment, lower quality of life, lower self-efficacy, poor health beliefs, and ineffective self-care (5,6).

Disease self-acceptance refers to a patient's awareness and acceptance of their condition (7). Patients with low levels of DM acceptance tend to have poor self-care abilities. Diabetes management involves not only pharmacological therapy but also behavioral and lifestyle changes. Psychosocial problems in DM arise from decreased self-management and negatively affect patients' quality of life (8). Factors that can improve the quality of life of patients with DM include social support, a comfortable living environment, and medication adherence (9,10). Social support plays a crucial role in reducing stress and improving the quality of life of patients with DM (11).

The family is the smallest unit in society, and its health plays a crucial role in shaping the community's overall health. Strong family support helps individuals with diabetes mellitus develop self-confidence, attentiveness, and motivation for self-care, thereby improving their quality of life (11). Elderly patients are highly dependent on their families due to physical, psychological, and social limitations (12). The attitudes and communication styles of family members significantly influence patients' psychological well-being, medication adherence, and behavioral changes related to diet and physical activity (13). Family support improves diabetes management in patients with T2DM because families play a crucial role in caring for sick family members (14). Family support is also essential in increasing patients' confidence in performing self-care (15) and is a key factor in successful self-management at home (16). However, a study by Chen (2025) found that total social support scores, including family support, were not significantly correlated with HbA1c control in patients with T2DM. Therefore, social support may not directly influence self-care outcomes (17).

Previous research has primarily focused on the medical management of diabetes, such as blood glucose control. However, this study explores the role of family support in facilitating self-acceptance. Family support can significantly affect the emotional and psychological well-being of individuals with T2DM. In other words, this study introduces a new perspective on the importance of family social support. Family support can help patients accept their condition and engage in more effective diabetes management. Furthermore, it emphasizes the need for a holistic approach to diabetes care. A holistic approach addresses not only physical aspects but also psychological factors. Therefore, this study aimed to examine the relationship between family support in diabetes management and self-acceptance among patients with T2DM.

## METHODS

### *Study Design*

A quantitative correlational approach with a cross-sectional design was employed. The study was conducted from January to February 2024 at Community Health Centers under the Ketapang District Health Office.

### *Sample/Participants*

The sample consisted of 221 patients with T2DM, selected through purposive sampling. Inclusion criteria required patients to be aged 25 years or older and literate. Patients with decreased levels of consciousness were excluded.

### *Instruments*

The 29-item Hensarling Diabetes Family Support Scale (HDFSS) measured family support, with scores ranging from 29 to 116; higher scores indicated greater support among patients with T2DM. The Acceptance of Illness Scale (AIS) assessed self-acceptance and demonstrated validity and reliability (Cronbach's alpha = 0.898;  $r = 0.429$  to  $0.797$ ). AIS scores were categorized as low (<20), moderate (20-30), or high (>30) self-acceptance (18).

### *Data Analysis*

Data analysis was performed using SPSS version 27. Both univariate and bivariate analyses were conducted. Univariate data analysis included respondent characteristics, namely age, gender, education, occupation, and duration of diabetes. Bivariate analysis was conducted using Spearman's rank correlation test because the data were ordinal. This test was used to determine the relationship between family support in diabetes management and self-acceptance among patients with T2DM

### *Ethical Consideration*

The study received approval from the Research Ethics Committee of Widya Husada University, Semarang, No. 5/EC-LPPM/UWHS/I-2024. All procedures adhered to the ethical principles outlined in the Declaration of Helsinki. Participants were provided with detailed information about the study's objectives, procedures, and potential risks before providing written informed consent.

## RESULT AND DISCUSSION

### *Demographic Characteristics*

**Table 1.** Demographic Characteristics of Respondents (n=221)

Characteristics	n	%
Age		
25 - 35 years	10	4.5
36 - 45 years	45	20.4
>45 years	166	75.1
Gender		
Male	72	32.6
Female	149	67.4
Educational background		
Primary school	19	8.6
Junior high school	72	32.6
Senior high school	37	16.7
College	58	26.2

Characteristics	n	%
<b>Occupation</b>		
Unemployed	131	59.3
Private employee	52	23.5
Civil servant	38	17.2
<b>Duration of DM</b>		
<1 year	15	6.8
1 - 5 years	143	64.7
>5 years	63	28.5
<b>Total</b>	<b>221</b>	<b>100</b>

Note: n; total

Table 1 presents the frequency distribution of respondents' characteristics. The majority are over 45 years old (166 respondents, 75.1%), female (149 respondents, 67.4%), have graduated from junior high school (72 respondents, 32.6%), are unemployed (131 respondents, 59.3%), and have experienced diabetes mellitus (DM) for 1 to 5 years (143 respondents, 64.7%).

**Table 2.** Correlation Between Family Support and Self-Acceptance Among Patients With T2DM

Family Support	Self-acceptance			r	p- Value
	Low	Moderat	High		
Low	0	0	0	0.546	0.000
High	66	91	64		

Note: A Spearman's rho correlation test was used; \*= $p < 0.00$ ; \*\*= $p < 0.005$

Table 2 shows the distribution of 221 respondents, with most reporting moderate self-acceptance ( $n = 91$ ), followed by high ( $n = 64$ ) and low ( $n = 66$ ). All participants were classified as having high family support. Spearman's correlation analysis demonstrated a significant positive association between family support and self-acceptance ( $r = 0.546$ ,  $p < 0.05$ ), indicating a moderate correlation strength.

## DISCUSSION

Elderly people experience an aging process that affects their physical, social, psychological, and spiritual well-being. They also undergo degenerative changes in their body systems, including decreased pancreatic function. Elderly individuals with diabetes constitute a vulnerable group experiencing reduced physical function, which impacts their roles and daily activities. These limitations hinder them from performing activities optimally and meeting financial needs. Therefore, elderly people with diabetes require family support, including economic, informational, instrumental, and psychological assistance (19). There is a correlation between education level and the prevalence of T2DM. Individuals with higher levels of education generally have greater health literacy, enabling them to better maintain their health (20).

Education level also influences a family's capacity to support patients with diabetes mellitus (21). Furthermore, socioeconomic status, cultural beliefs, and lifestyle factors affect individuals' knowledge and practices regarding diabetes mellitus risk (22). This study identified that most individuals with T2DM have had the disease for less than ten years. Longer disease duration is frequently associated with complications and reduced quality of life. To manage patient self-care behaviors and optimize treatment outcomes, families promote the development of a positive self-image and increased disease awareness (23). Family support refers to assistance from family members that enhances an individual's physical and psychological well-being during stressful situations (24).

Families exhibit supportive attitudes and behaviors by monitoring patient adherence to therapy, including dietary restrictions, physical activity, and blood glucose self-monitoring. Research indicates that self-care and family support are interrelated among patients with T2DM. By promoting treatment

adherence, families directly influence quality of life. Additionally, patients receiving family attention report feelings of safety, comfort, and motivation to engage in self-care. Family support is also associated with reduced patient stress levels. Interventions such as reminders to control blood glucose, maintain a healthy diet, adhere to medication regimens, and exercise regularly enhance confidence in self-care (25).

Conversely, self-stigmatization and negative self-perceptions hinder self-care and diminish quality of life. Self-acceptance mitigates these effects and promotes health improvement. Individuals who align their actions with personal values and goals manage their disease more effectively. Qualitative research reveals that many patients initially struggle to accept their condition but gradually integrate diabetes into their lives, ultimately enhancing quality of life. This study demonstrates that fostering acceptance behaviors can concurrently improve self-care and overall well-being by counteracting the adverse effects of self-stigma. Poor self-acceptance leads to negative perceptions of self-management capabilities, whereas patients with robust family support experience increased safety, heightened self-awareness, and sustained motivation for effective disease management. This supportive environment also helps prevent stress(26,27).

Furthermore, family support plays an instrumental role in raising patients' awareness of diabetes management and controlling blood sugar levels. With ongoing support, families encourage healthy lifestyle changes, such as regular exercise and a balanced diet, while helping to reduce complications like heart disease and stroke. Such encouragement not only boosts patients' confidence but also alleviates stress and anxiety. By assisting with diabetes management and fostering coping skills, family support ultimately improves quality of life (28,29).

In summary, family support constitutes a foundation for fostering self-acceptance among patients with T2DM. Emotional encouragement reduces psychological distress, while family involvement facilitates coping strategies and enhances treatment adherence. Instrumental support increases patients' sense of control, thereby contributing to self-acceptance. Continuous family recognition diminishes isolation and promotes more positive illness perceptions. Collectively, these support forms alleviate emotional burdens, reinforce adaptive strategies, and strengthen patients' capacity to manage their condition.

## **CONCLUSION**

The results indicate a significant relationship between family support in diabetes management and self-acceptance among patients with T2DM. A limitation of this study is the exclusion of other potential factors that may influence self-acceptance in these patients. These findings provide a foundation for evidence-based nursing practice by highlighting the importance of involving family members in diabetes management programs to enhance patients' psychological adaptation and self-care behaviors.

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## **AUTHOR'S CONTRIBUTION STATEMENT**

DRP contributed to the study's conception and design, data acquisition, and data analysis, wrote the first draft of the manuscript, revised the final draft, and gave final approval of the version to be published. HP contributed to data acquisition and data analysis, wrote the first draft of the manuscript, and revised the final draft. MS contributed to data analysis, wrote the first draft of the manuscript, and revised the final draft. All authors approved the final version of the article.

## CONFLICTS OF INTEREST

The authors declare no conflict of interest

## DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

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