

The relationship between family social support and diabetic foot care behavior of Diabetes Mellitus patient in Pekanbaru City."

Tri Siwi Kusumaningrum¹, Ermi Girsang^{2*}, Ali Napiah Nasution³

¹Fakultas Kedokteran, Kedokteran Gigi dan Ilmu Kesehatan, Universitas Prima Indonesia, Medan, Indonesia.

²PUI Phytodegenerative and Lifestyle Medicine, Fakultas Kedokteran, Kedokteran Gigi dan Ilmu Kesehatan, Universitas Prima Indonesia, Medan

³Center of Excellence for Phytodegenerative and Lifestyle Medicine, Faculty of Medicine, Dentistry and Health Science, Universitas Prima Indonesia, Medan.

*E-mail : e.ermigirsang@unprimdn.ac.id

Abstrac

Patients with Diabetes Mellitus (DM) often experience complications such as diabetic foot syndrome, which can lead to foot amputation. Regular diabetic foot care can help prevent these complications. Family support plays a crucial role in improving foot care behavior among DM patients. The aim of this study was to determine the relationship between family social support and foot care behavior in DM patients. The study involved 59 respondents selected using purposive sampling techniques. Data collection included respondent characteristics, supporting data, a family social support questionnaire, and a diabetic foot care behavior questionnaire based on the Nottingham Assessment of Functional Footcare (NAFF), which was modified by the researcher. Data were analyzed using the Wilcoxon Signed Rank Test. The results showed that family social support is associated with diabetic foot care behavior in DM patients, with an r-value and p-value of ($r = -7.170$, $p < 0.005$). Therefore, it is recommended that public health promotion officers at community health centers strengthen family health education programs so that families can provide optimal support to members with DM, helping to prevent various diabetic complications.

Keywords: family social support, diabetic foot care, Diabetes Mellitus

Introduction

Diabetes mellitus (DM) is a chronic disease that can cause damage to various body systems, particularly the nerves and blood vessels (WHO, 2017; Susanti, 2018). A common neuropathic complication among DM patients is Diabetic Peripheral Neuropathy (DPN), which results from metabolic and microvascular changes due to chronic hyperglycemia (Monteiro et al., 2020). Epidemiological data show that neuropathy contributes to approximately 50% of diabetic foot syndrome (DFS) cases. This condition arises due to increased plantar pressure and impaired cellular wound healing, leading to chronic foot lesions (Volmer-Thole & Lobmann, 2016; PERKENI, 2021).

Among DM patients with DFS, approximately 25% are at risk of developing lifelong diabetic foot ulcers that may result in amputation. In some cases, 35% of patients with foot ulcers are at risk of infection and injury (Volmer-Thole & Lobmann, 2016). These complications can be prevented through early and routine diabetic foot care. Such care includes daily foot inspection, proper nail trimming, drying feet thoroughly, and applying moisturizer (Yudianti, 2020). Patients with diabetes should always wear footwear and avoid tight-fitting shoes (PERKENI, 2021).

Health behavior is defined as an individual's actions aimed at improving quality of life. It encompasses internal attributes such as beliefs, expectations, motives, values, perceptions, and other cognitive

elements (Notoadmodjo, 2012). Diabetic foot care is part of positive health behavior that helps prevent foot complications and improves the quality of life for DM patients. However, the willingness of patients to engage in regular foot care can be influenced by factors such as knowledge, motivation, and social support from family.

Family social support plays an essential role in helping patients adapt, improve cognitive function, and enhance self-confidence in managing DM. Higher quality support—instrumental, emotional, affirmational, and informational—can boost patients’ motivation to adhere to treatment and self-care. Scarbec (2006) found that family involvement has a strong impact on patients’ health status. Patients who receive maximal family support are more motivated to engage in daily health activities (Runtuwarow et al., 2020).

Given the issues described above, the study aim to explore the relationship between family social support and self care behaviors related to diabetic foot care behavior in Diabetes Mellitus patients in the city of Pekanbaru.

Methods

This research employed a quantitative approach using a cross-sectional study design. The objective was to identify the relationship between family social support and diabetic foot care behavior among DM patients in Pekanbaru. A purposive sampling technique was used to recruit 59 participants. Data collection included respondent characteristics, supporting data, a Family Social Support Questionnaire, and a Diabetic Foot Care Behavior Questionnaire based on a modified version of the Nottingham Assessment of Functional Footcare (NAFF). Due to non-normal data distribution, the Wilcoxon Signed Rank Test was used for analysis

Results

a. Respondents’ Sociodemographic Characteristics

Table 1. Sociodemographic Characteristics

Variabel	Category	f	%
Age	Adult	1	1,7
	Pre-elderly	40	67,8
	Elderly	18	30,5
	Total	59	100
Education level	Elementary School	9	15,3
	Junior High School	15	25,4
	High School	27	45,8
	Bachelor Degree	8	13,6
	Total	59	100
Occupation	Housewife	31	52,5
	Civil Servant	5	8,5
	Unemployed	3	5,1
	Wiraswasta	2	3,4
	Laborer	5	8,5
	Private Sector	10	16,9
	Retired	3	5,1
	Total	59	100
Gender	Male	23	39
	Female	36	61

	Total	59	100
Duration of DM	≥4 tahun	55	93,2
	<4 tahun	4	6,8
	Total	59	100

Most respondents were in the pre-elderly age group (67.8%), had high school education (45.8%), worked as housewives (52.5%), and were female (61%). Most had been diagnosed with DM for over 4 years (93.2%). Family social support was generally categorized as moderate to good (94.92%).

Table 2. Diabetic Foot Care Behavior

Variabel	Category	f	%
Diabetic foot care behavior	Good	51	86,4
	Poor	8	13,6
	Total	59	100

Most respondents (86.4%) demonstrated good diabetic foot care behavior.

Table 3. Family Social Support

Variabel	Category	f	%
Family Social Support	Good	48	81,4
	Moderate	11	18,6
	Total	59	100

Most respondents reported receiving good family social support (81.4%).

Table 4. Correlation Between Family Social Support and Foot Care Behavior

category	Family Social Support	Foot Care Behavior
Correlation Coefficient		0,446
Significance (2-tailed)		0,001
N		59

There was a moderate positive correlation ($r = 0.446$) between family social support and diabetic foot care behavior. The p-value of 0.001 indicates a statistically significant relationship

Discussion

The results indicate a significant relationship between family social support and diabetic foot care behavior in DM patients. Health behavior reflects an individual's response to illness, healthcare, nutrition, and the environment. Diabetic foot care is a critical component of health behavior aimed at preventing complications (Mulyaningrum et al., 2024; Hartono, 2019).

Behavioral change is a long-term process influenced by knowledge, attitudes, and personal practices (Mamahit, 2021). Individuals who receive information about self-care are more likely to adopt such practices in daily life. This process starts with awareness, leads to perception, and culminates in health practices (Mulyaningrum et al., 2024).

Motivation and social support are key factors influencing health behaviors. Literature shows that family support significantly improves self-management in DM patients (Onyango et al., 2022). Family involvement is part of patient empowerment, which includes emotional, educational, and practical support. Families can guide patients to attend health services and maintain adherence to treatment plans (Sasmita et al., 2022).

According to Islamic principles, social support is aligned with the concept of *ta'awun* (mutual help), reflecting the social nature of human beings and their interdependence (Wardah, 2008; Nurhayanti, 2024).

Interviews revealed that both intervention and control groups initially lacked adequate instrumental, emotional, and informational support regarding foot care. After educational intervention, families better understood their role, highlighting the importance of proactive, daily foot care—not just reactive care after injury.

Family support significantly influences patients' self-care behavior and compliance. It also positively affects psychological well-being, leading to improved health status (Ambarwati et al., 2025). Effective communication and emotional attention from family members foster patient confidence and long-term health maintenance (Qona'ah et al., 2022).

Conclusion

Most respondents reported moderate to good levels of family social support, and most demonstrated good diabetic foot care behavior. There is a significant relationship between family social support and diabetic foot care behavior among patients with Diabetes Mellitus.

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