

FAMILY EXPERIENCES OF PATIENTS WITH DIABETES MELLITUS IN SOUTHEAST AND SOUTH

Syamsul Alam Natsir*, Syahrul

Master of Nursing Science Study Program, Faculty of Nursing, Universitas Hasanuddin, Jl. Perintis Kemerdekaan
No.KM.10, Tamalanrea Indah, Makassar, Sulawesi Selatan 90245, Indonesia

*syamsulalamnatsir95@gmail.com

ABSTRACT

The prevalence of diabetes mellitus continues to increase in Asia, with diabetic foot wound complications as one of the severe problems. The role of the family is crucial in the prevention of these complications. Objective: To identify the scientific literature on family experiences of patients with diabetes mellitus in Southeast and South Asia to prevent diabetic foot wounds. Methods: An integrative review was conducted using six electronic databases. The search was limited to English or Indonesian articles published between 2013-2023. Six articles that met the inclusion criteria were analyzed. Results: The analysis revealed three main themes: family experiences, family barriers, and the role of health professionals. Families needed information about disease and care, faced barriers such as stress and stigma, and required support from health professionals through education and instrumental support. Conclusions: Prevention of diabetic foot ulcers requires a comprehensive approach involving families, culturally sensitive, and supported by health professionals. Effective health education and appropriate support can improve the family's ability to manage diabetes and prevent complications.

Keywords: diabetes mellitus; patients; southeast and south asia

INTRODUCTION

Patients with diabetes mellitus (DM) are increasing every year. As reported by the International Diabetes Federation (IDF), the number of people with diabetes worldwide was 9.3% in 2019 and is expected to increase to 10.2% in 2030 and 10.9% in 2045. (Saeedi et al., 2019). In 2021, people worldwide had 10.5% diabetes, increasing to 12.2% in 2045, with equal prevalence in men and women and highest in the 75-79 age group. (Williams et al., 2020). On the other hand, the number of diabetes cases and the prevalence of the disease continue to increase in Asia. With the increasing prevalence of diabetes, various complications can arise if proper prevention and treatment are not provided. Complications that will arise are macroangiopathy, diabetic retinopathy, diabetic foot ulcers, diabetic nephropathy and susceptibility to infection, myopathy, osteoporosis, and liver damage. (Farmaki et al., 2021). In patients with type 2 diabetes, cutaneous microangiopathy appears before clinical neuropathy, retinopathy, or nephropathy (Sugimoto et al., 2021). (Sugimoto et al., 2019). Approximately one in four people with diabetes will develop diabetic foot wounds in their lifetime (Monteiro-Soares et al., 2020).. Diabetic foot ulcers are a severe complication of diabetes and affect many people in Asia (Xia et al., 2018). However, the problem can be prevented with proper care.

Various measures can be taken to prevent diabetic foot ulcers by taking care of one's own feet, checking footwear, washing feet, drying between toes carefully, cutting nails properly, using emollients to lubricate the skin, examining feet, and avoiding using plasters or chemicals to remove calluses. (van Netten et al., 2020).Foot care education interventions, although not operative, can improve foot self-care of patients with type 2 diabetes mellitus and help reduce the risk of foot complications.(Moreira et al., 2020)Diabetes prevention mainly involves the use of medications, but least of all physical activity and footwear control. (Binhardi et al., 2021).If not recognized and

prevented, it will cause diabetic foot wounds. These health professionals should receive extensive training and education on foot care, including delivering theory- and practice-based health education. (Adeyemi et al., 2022). This can include educating patients and their families on the importance of regular foot surveillance, proper shoe selection, and recognizing early signs of foot ulcers (Dari et al., 2022). By implementing a health belief model and involving family members in the education process, patients can become more aware of the risk of developing diabetic foot ulcers and the protective measures they can take.

Age, education level, family support, and knowledge are predictors of foot care behavior (Sari et al., 2020). (Sari et al., 2020) Educational programs and targeted interventions are needed to improve diabetic foot care among people with diabetes (Wazqar et al., 2021). In addition, there is a need to address the lack of preventive foot care services in many parts of South Asia (Gupta & Misra, 2016). By providing access to foot examinations and foot care education, the incidence of diabetic foot ulcers can be significantly reduced. This review aimed to identify scientific literature related to family experiences of patients with diabetes mellitus in Southeast and South Asia on diabetic foot wound prevention.

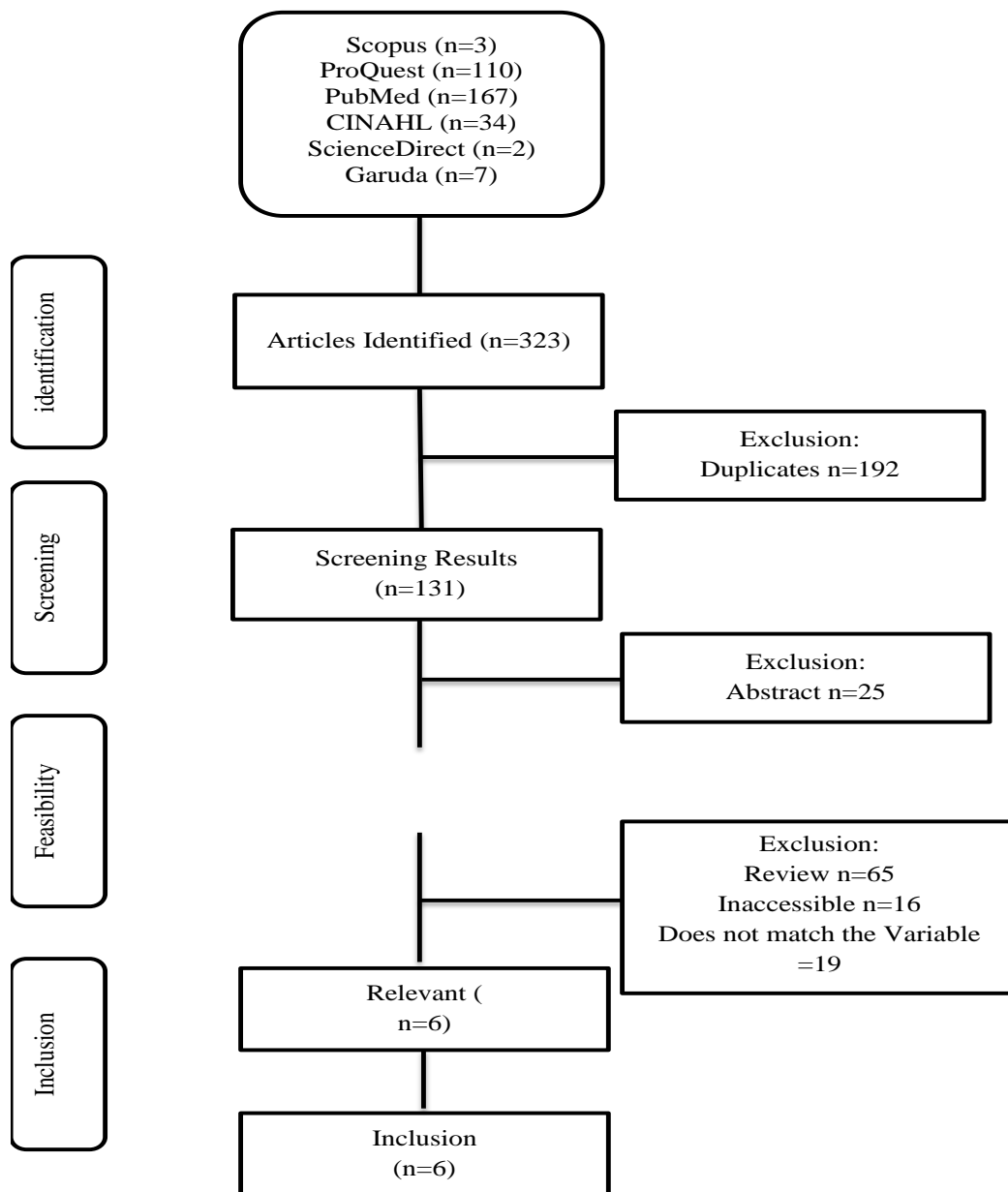
METHOD

Many studies on diabetic foot wound prevention have been conducted. We sought to focus on understanding more about the experiences of families of patients with diabetes mellitus in Southeast and South Asia on diabetic foot wound prevention.

- a. What is the family's experience in preventing diabetic foot wounds?
- b. What are the family barriers to preventing diabetic foot wounds?
- c. What is the role of health workers in involving families in preventing diabetic foot wounds?

Search Strategy

To improve the accuracy of this integrative review, the integrative review method updated by Whitemore & Knafl (Dunwoody et al., 2008) from Cooper (Cooper, 1998) was chosen. An integrative review allows the summarization of various research designs to provide a complete picture of a phenomenon. To improve the efficiency of article searches, this integrative review followed the PRISMA checklist 2020 guidelines. For the six databases, namely PubMed, ProQuest, Scopus, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Ebsco and Garuda, the keywords used were 'Diabetes patient', 'family experience', 'support', 'role', and 'knowledge' "prevention". Garuda is a database recommended by the Ministry of Education, Culture, Research and Technology. Inclusion criteria were set as follows: 1) Published in English or Bahasa Indonesia, 2) Original research, 3) Published in the last ten years (between 2013 and 2023), 4) The research focuses on the experience of families of patients with diabetes mellitus in preventing the incidence of diabetic foot wounds knowledge, family roles, and family support, 5) The research subjects are adults aged >18 years. Exclusion criteria were: 1) Review studies, 2) Studies related to developing assessment tools, and 3) Unpublished studies.



The initial search was conducted based on predetermined keywords resulting in articles from six databases. After identifying the articles, duplicate articles were removed. The selection of articles related to full-text availability, publication within the past year, and topic suitability continued to obtain full-text articles that met the eligibility criteria. The process continued with a careful observation of the available full-text articles. Articles that met the inclusion criteria were then selected for the integrative review process. After the quality assessment, data analysis was carried out through several stages: data reduction, display, comparison, conclusion drawing, and verification. Data reduction is done by classifying data, which is extracted, simplified, arranged into a framework, and analyzed sequentially. Furthermore, the data is compared to be checked repeatedly to identify patterns, themes, or similar data that are regrouped and harmonized. Finally,

the last stage of data analysis includes verification of data sources to ensure accuracy, followed by a conclusion.

Table 1.
Quality Appraisal

Authors	Goals are clearly explained	Study design explained	Appropriate research method	Adequate description, sample, and exclusion criteria	Ethics presented	Results reported	The results are in accordance with the study questions and literature	Limitations presented	Implications discussed	Value/level
(Puri et al., 2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9/9 High
(Krishna moorthy et al., 2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9/9 High
(Rohmah, 2019)	Yes	Yes	Yes	Yes	Yes	No reported	Yes	Yes	Yes	8/9 High
(Prihati & Prasetyorini, 2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9/9 High
(Hidayat et al., 2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9/9 High
(Swerdlow et al., 2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9/9 High

Table 2.
Data Extraction

First Author	Year/Country	Research Objectives	Methods	Family Experience	Family barriers	The role of health workers or nurses or doctors in patient engagement
(Krishnamoorthy et al., 2022)	India	Treatment adherence and prevention of diabetic foot ulcers of patients in India	Quantitative	Household chores, personal priorities, commitments or other family-related issues prevent family members from getting the	In India, some of the barriers to medication adherence in DM patients include a lack of understanding of the disease and its complications, forgetfulness, misconceptions about medication,	The duties of nurses are explicitly addressed, but the discussion also includes how healthcare providers and stakeholders can improve medication adherence,

First Author	Year/ Country	Research Objectives	Methods	Family Experience	Family barriers	The role of health workers or nurses or doctors in patient engagement
				necessary support.	stress, stigma, cultural beliefs, perception of discrimination, and social customs.	including affordability, accessibility, acceptability, risk communication, counseling, empathy, and innovation in patient care.
(Rohmah, 2019)	Indonesia	to determine how health service support, knowledge, encouragement, and attitudes of diabetic patients toward diabetic foot ulcer prevention behavior.	Quantitative	"Family experience" is not explicitly mentioned. Nevertheless, the paper discusses the huge impact diabetic foot complications have on quality of life and the need for strong motivation. This indirectly suggests that family experiences might help and encourage people with diabetic foot complications.	not explicitly mentioned	The nurse's role is to provide instrumental support to the patient. Instrumental support can change the patient's response to diabetes and reduce stress, which impacts behavioral changes related to preventing diabetic foot ulcers.
(Prihati & Prasetyorini, 2023)	Indonesia	The purpose of the study was to analyze the behavior of diabetic wound prevention after being given foot care education based on family support.	Quantitative	family experience of diabetic foot care, providing support and care for patients at home, making health decisions, and dealing with difficulties in recognizing and managing	Barriers to diabetic wound prevention include the importance of prevention, family difficulties in caring for patients with diabetic foot ulcers, and possible misunderstandings due to misinformation.	The nurse's role includes working with the family to conduct foot care assessments, providing innovative education through videos, and conducting follow-ups to assess the family's foot

First Author	Year/ Country	Research Objectives	Methods	Family Experience	Family barriers	The role of health workers or nurses or doctors in patient engagement care practices.
				the health conditions of family members with diabetic foot ulcers. In addition, family support-based foot care education improves diabetic wound prevention behavior.		Nurses are essential to assist families when caring for patients at home.
(Hidayat et al., 2023)	Indonesia	to determine how effective foot exercises are in preventing diabetic foot ulcers.	Quantitative	Contributing to Foot Gymnastics	Time and coping of Families with DM	By establishing a health education program on foot care, nurses can help prevent diabetic foot wounds and improve their ability to manage their health, including controlling and preventing foot wound complications through optimal care practices.
(Swerdlow et al., 2023)		to address the unmet need for simple and practical methods for early detection and monitoring of DFU,	Quantitative	In this study, family experience refers to how participants accepted and supported the Foot Selfie system and how they had power and control over foot-related issues. They	It is difficult for the patient's family to monitor the DM patient's feet for various reasons, such as work and distance.	nurses play a role in monitoring the patient's feet

First Author	Year/ Country	Research Objectives	Methods	Family Experience	Family barriers	The role of health workers or nurses or doctors in patient engagement
				said they preferred the system to previous foot examination methods and found it easy.		
(Puri et al., 2022)	Indonesia	to consider strategies to improve glycemic control in patients with T2DM to prevent diabetic foot wounds.	qualitative	contribute to the learning experience and management of diabetes mellitus.	patient reluctance to participate in health education	In collaboration with other healthcare professionals, nurses conduct interviews with patients to determine how to prevent diabetic foot wounds.

RESULTS AND DISCUSSION

Six articles were critically analyzed and synthesized, resulting in an answer to the question of family experiences of patients with diabetes mellitus in Southeast Asia and South Asia on the prevention of diabetic foot wounds. The studies were conducted in different contexts in Southeast Asia and South Asia: Pakistan (n=1), India (n=1), India (n=1), Indonesia (n=1), Indonesia (n=1), Indonesia (n=1).

Family experience

Of the six articles analyzed, five discussed families' experiences with diabetic foot wound prevention. Most people say that families want to know about the disease, treatment procedures, proper foot care to prevent diabetic foot wounds, and the best information. Therefore, health workers should meet families' needs for knowledge about diabetic foot wound prevention.

Family Barriers

Of the six articles analyzed, five addressed family barriers to the prevention of diabetic foot wounds in family members with diabetes mellitus. These barriers include stress, stigma, cultural beliefs, perception of discrimination, forgetfulness, misconceptions about medication, and lack of understanding about the disease and its complications. Therefore, health workers should encourage and support families with diabetes mellitus to prevent diabetic foot wounds. They should encourage them to participate in various efforts, including making decisions to prevent diabetic foot ulcers.

The role of health workers

Overall, the articles analyzed show several ways that healthcare professionals can engage patients in preventing diabetic foot wounds. By establishing health education programs on foot care, nurses

can help patients prevent diabetic foot wounds and improve their ability to manage their health, including controlling and preventing foot wound complications through care practices, Providing instrumental support to patients is a duty of nurses. Instrumental support can change the family's response to diabetes and reduce stress. Ultimately, this can lead to behavioral changes related to diabetic foot wound prevention.

CONCLUSION

An analysis of six articles from different countries in Southeast Asia and South Asia revealed several important aspects related to family experiences of patients with diabetes mellitus in the prevention of diabetic foot wounds: Information Needs: The patient's family strongly desired an understanding of the disease, treatment procedures, and proper foot care. This shows the importance of comprehensive health education. Barriers: Families face challenges such as stress, stigma, cultural beliefs, and misconceptions about the disease and its treatment. This emphasizes the need for culturally sensitive approaches and social context in health interventions. Role of Health Workers: Healthcare professionals have a crucial role in supporting families through education, decision-making empowerment, and instrumental support. Health education programs on foot care can improve patients' self-management skills. Holistic approach: Preventing diabetic foot wounds requires an approach that involves not only the patient but also their family. Proper support can change the family's response to diabetes and reduce stress, which in turn can encourage positive behavioral changes. Cultural Context: The study covered a wide range of Southeast and South Asian countries, demonstrating the importance of considering cultural and geographical factors in designing prevention and intervention strategies. This conclusion emphasizes the importance of a comprehensive, family-centered and culturally sensitive approach to diabetic foot wound prevention in Southeast and South Asia.

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