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ORIGINAL RESEARCH

Optimizing self-management and quality of life for patients living with diabetic foot ulcers: Insights from Indonesia

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Abstract
Diabetic foot ulcers (DFUs) are chronic wounds on the lower extremities of individuals with diabetes, characterized by slow healing. Without effective self-management, patients with DFUs face an increased risk of hospitalization and amputation, which can significantly impair daily activities and diminish quality of life. This study aims to analyze the correlation between self-management and quality of life in patients with diabetic foot ulcers. Employing a correlational study design, this research involved adults with any stage of diabetic foot ulcers treated at a public hospital in Semarang, Central Java. Participants were consecutively sampled, and data were collected using the Diabetes-related Foot Ulcer Self-Management Behaviour Scale (DFUSMBS) and the Diabetic Foot Ulcer Scale-Short Form (DFU-SF). Descriptive and correlational analyses were conducted on the collected data. The study included 36 participants with a mean age of 57.61 years (SD = 9.71), over half of whom had no history of amputation. Results indicated a positive correlation between self-management and quality of life ($r = 0.385$, $p<0.05$). However, both self-management and quality of life scores were generally low, with mean scores of 42.52 and 89.55, respectively. Effective self-management is positively correlated with improved quality of life for individuals with diabetic foot ulcers. It is recommended that healthcare providers offer targeted self-management education to enhance or maintain the quality of life for these patients.

Keywords: Diabetic foot ulcers; diabetes care; amputation; self-management; quality of life; nursing care

Introduction

Diabetic foot ulcers (DFUs) are the most common complication of diabetes due to neuropathy and peripheral arterial disorders in the lower extremities (Khunkaew et al., 2019; Kudlová & Kočvarová, 2020). As the prevalence of people with diabetes continues to rise, its complications also continue to increase throughout the world including in Indonesia which is estimated by 2030 it will continue to increase to 12 million cases in adults who are aged 20-79 years old (Wipa Sae-Sia et al., 2013). DFUs cause 80% of people living with diabetes to be hospitalized (Efendi et al., 2020). Approximately 50% of individuals with diabetes who experience DFUs will develop an infection which is estimated that every 30 seconds, a lower limb is lost somewhere in the world due to diabetes (Abdelhamid et al., 2018; Schechter et al., 2020). Moreover, people with DFUs that end in amputation have a prevalence of 15-30% with a mortality rate of 17-32% (Efendi et al., 2020). DFUs can cause permanent disability since if they do not get the right treatment they will end up with amputation. Therefore, the ability of those who have DFUs to carry out self-management is very important to prevent amputation and reduce the severity of complications (Costa et al., 2021; Efendi et al., 2020; Khunkaew et al., 2019). People with DFUs need self-management, the independent self-care, in general and specifically in foot self-care (Kim & Han, 2020).

The characteristics of ulcers experienced by people with diabetes often require a long healing time in which the infection exists and leads to an increased risk of amputation that can reduce their quality of life and even death (Efendi et al., 2020). In a certain phase, DFUs can impact the wider network, negative self-image, emotional stress such as fear, anxiety, depression, social isolation, decreased self-esteem due to long-term disability, decreased productivity, and increased health costs, which will affect the quality of life (Kudlová & Kočvarová, 2020; Reardon et al., 2020). Some studies found that people with DFUs have reduced their quality of life even low with varies across domains (Dias et al., 2022; Mairghani et al., 2023; Perrin et al., 2022). Previous studies related to quality of life and self-management of people living with DFUs have been conducted. The latest study of health-related quality of life (HRQoL) among Spanish patients with DFUs revealed that the emotional state of people with DFUs should be considered by healthcare providers (Álvaro-Afonso et al., 2024). A study in Thailand explained that foot care included in self-management will affect the quality of life

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(Khunkaew et al., 2019). Meanwhile, a study in Indonesia showed that self-management is considered to be a program that can be done to control diabetes in general, such as blood glucose level and complications, and finally, the quality of life of patients increased (Saminan et al., 2020). Self-management and HRQoL have been proven to have a significant role in the management of DFUs (Álvaro-Afonso et al., 2024; Hirpha et al., 2020; Matricciani & Jones, 2015; Tzeravini et al., 2018). Self-management will help people with DFUs to improve their outcomes at home, including quality of life. However, to the best of our knowledge, no previous study has evaluated the relationship between self-management and HRQoL in Indonesia. In Indonesia, DFUs pose a significant health challenge due to high prevalence, often limited access to specialized care, and the chronic nature of diabetes. Managing these ulcers is complex, requiring a multifaceted approach that integrates medical treatment, lifestyle adjustments, and rigorous self-care (Mavrogenis et al., 2018). Self-management, a process where patients actively participate in managing their condition, plays a crucial role in DFU care, as it empowers patients to adhere to daily treatment routines, monitor symptoms, and make informed lifestyle choices (Zhu et al., 2023). Effective self-management is not merely a set of actions but involves psychological, social, and cognitive dimensions. It demands a strong sense of autonomy, an understanding of the illness, and sustained motivation—all essential for improving treatment outcomes and preventing complications (Costa, Tregunno, & Camargo-Plazas, 2021). However, despite the recognized importance of self-management in chronic conditions like DFU, research on its direct impact on HRQoL in Indonesia remains sparse.

The connection between self-management and HRQoL is particularly significant for patients with DFUs, whose condition often entails a daily struggle with pain, restricted mobility, and psychological distress. HRQoL encompasses physical, emotional, and social well-being, all of which are impacted by chronic diabetic conditions (Oluchi et al., 2021). Effective self-management can positively influence HRQoL by giving patients the tools and strategies needed to alleviate physical discomfort, enhance mobility, and address psychological distress (Pouwer et al.,2024). For example, by regularly cleaning and dressing wounds, adhering to prescribed medications, and managing blood sugar levels, patients can prevent ulcer deterioration and reduce pain. These activities support physical aspects of HRQoL, allowing patients greater freedom in daily activities and fostering a sense of control over their health (Chin, Huang, Hsu, Weng, & Wang, 2019). Yet, without specific research in Indonesia, the nuances of how self-management affects HRQoL among patients with DFUs patients in this cultural context are not well-understood. Cultural beliefs, healthcare access, and socioeconomic factors play influential roles in how self-management is practiced and perceived. Indonesian patients may face barriers to effective self-management, such as limited healthcare resources, financial constraints, and potentially a lack of structured education on DFU care. These factors can hinder their ability to adopt consistent self-care practices and may impact their HRQoL. Understanding these contextual factors through focused research can offer insights into tailored strategies that healthcare providers can adopt to enhance self-management skills, address psychosocial barriers, and ultimately improve HRQoL among patients with DFUs in Indonesia. This knowledge is essential to developing effective, culturally appropriate interventions that support the unique needs of this patient population. Even though the research has been carried out abroad, the demographic characteristics, health facilities, health care system, and national culture in Indonesia are different. This allows for variations in the research results to be obtained. Therefore, this study aims to analyse the correlation between self-management and health-related quality of life of people living with DFUs in Indonesia.

Method

This study employed a correlational quantitative analytic design with a cross-sectional approach, which was strategically chosen for its ability to investigate multiple variables simultaneously. This design is advantageous as it allows for the collection of data in a relatively quick and cost-effective manner, making it suitable for the current research context. Data collection took place in both outpatient and inpatient wards at a public hospital in Semarang over a two-month period, from April to May 2021. Participants included individuals with diabetes who were actively receiving treatment for DFUs and were aged 26 years or older. To ensure the reliability of the data, only fully conscious participants were recruited consecutively. Demographic characteristics and clinical conditions of the participants were gathered through direct interaction with them, as well as from their medical records. A structured questionnaire was specifically designed for this study to compile relevant information, including variables such as age, sex, education level, marital status, employment status, duration of diabetes, health education received regarding foot care, body mass index (BMI), history of amputation, and the presence of other comorbidities.

Self-management was assessed using the Diabetes-related Foot Ulcer Self-Management Behaviour Scale (DFUSMBS), which comprises three distinct domains: care management, wound care, and diabetes management (Chin et al., 2019). The DFUSMBS consists of 18 items, each requiring a response on a five-point Likert scale ranging from 1 to

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5. The total score for this scale can range from 18 to 90. Both the original and Indonesian versions of the DFUSMBS demonstrated strong reliability, with a Cronbach's alpha of 0.8 overall. The individual domain reliabilities were also acceptable, with care management at 0.74, wound care at 0.75, and diabetes management at 0.69. To evaluate health-related quality of life (HRQoL), the Diabetic Foot Ulcer Scale-Short Form (DFS-SF) was utilized. This instrument measures various aspects of HRQoL, including leisure activities, dependence in daily life, negative emotional experiences, physical health, concerns regarding ulcers and feet, and the burdens associated with care (Bann et al., 2003). The DFS-SF consists of 29 items, each rated on a five-point Likert scale (1-5), with total scores ranging from 29 to 145. The original version of the DFS-SF reported a Cronbach's alpha of 0.70, while the internal consistency of the Indonesian version was found to be excellent, with an alpha of 0.92.

Data analysis was conducted in a systematic manner, incorporating both univariate and bivariate analyses using the Statistical Data Analysis program STATA version 13.1. Univariate analysis was employed to describe the sociodemographic characteristics and clinical conditions of the participants, utilizing frequency counts and percentages to present the findings clearly. For the bivariate analysis, the Pearson Product Moment Correlation was applied to explore the relationships between self-management and HRQoL. This inferential statistical method was selected because it effectively measures the linear relationship between two variables that have been quantified on interval or ratio scales, provided that both variables are normally distributed (Schober & Schwarte, 2018). This approach also enables the assessment of whether a statistically significant relationship exists between the two variables under investigation. Ethical considerations were paramount in this study, and ethical clearance was obtained from the Faculty of Medicine at Universitas Diponegoro (number 77/EC/KEPK/FK-UNDIP/III/2021) as well as from KRMT Wongsonegoro Hospital (number B/2332/070/V/2021). Prior to participation, each individual was provided with a comprehensive explanation of the study's potential risks and benefits. Following this, participants were invited to voluntarily sign an informed consent form, ensuring that their participation was both informed and voluntary. This ethical framework not only protected the rights of the participants but also enhanced the integrity and credibility of the research process. Overall, the methodology employed in this study was designed to yield robust and insightful findings regarding the correlation between self-management practices and HRQoL among individuals living with DFUs in Indonesia.

Results

A total of 36 individuals diagnosed with DFUs consented to participate in this study, and all participants successfully completed the entire set of questionnaires. Consequently, all 36 participants were included in the final analysis, ensuring a comprehensive dataset for evaluation. The sociodemographic characteristics of the participants are detailed in table, providing insights into the demographics of individuals living with DFUs in this specific population **(Table 1)**. The mean age of the participants was 57.62 years, with a standard deviation of 9.71 years, indicating a mature cohort. Among the participants, 52.78% (n=19) were female, highlighting a relatively balanced gender distribution. Notably, three-fourths of the participants (n=27) reported that they had not received any formal education about foot care, which underscores a significant gap in health education that could impact their self-management capabilities. Additionally, 61.11% (n=22) of the participants had no prior experience with amputation, suggesting that a majority of the cohort had not yet faced the most severe complications associated with diabetes.

The mean scores for self-management, health-related quality of life (HRQoL), and each of the specific domains assessed are presented **(Table 2)**. The overall mean score for self-management was 42.52 (SD=9.03), which is notably below half of the maximum possible score, indicating that self-management practices among this population require substantial improvement. When examining the specific domains of self-management, the diabetes management domain yielded the highest mean score of 3.47 (SD=1.37). This suggests that participants felt more confident or engaged in managing their diabetes compared to the other areas. In contrast, the care management and wound care domains scored lower, with mean scores of 2.82 (SD=1.47) and 2.89 (SD=1.49), respectively. This disparity highlights a critical area for intervention, as effective care management and wound care are essential for preventing complications and improving health outcomes. Regarding HRQoL, the overall mean score was 89.55 (SD=18.38), reflecting a moderate level of quality of life among participants with DFUs. Within this assessment, the domain of leisure activities received the lowest mean score of 2.63 (SD=1.35), indicating that participants may experience restrictions in their leisure activities due to their condition. Conversely, the domain related to being bothered by ulcer care had the highest mean score of 3.46 (SD=1.51), suggesting that concerns about ulcer care significantly impact the participants' quality of life. These findings point to the emotional and psychological burdens that individuals with DFUs face, as they navigate the complexities of their condition.

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Table 1. Distribution of Respondents' Demographic Characteristics and Clinical Conditions.

Variables	*n*	%
Age (mean ± SD; years)	57.62 ± 9.71	
Sex		
Female	19	52.78
Male	17	47,22
Level of Education		
Not graduated from Elementary school	6	16.67
Elementary school	8	22.22
Junior high school	7	19.44
High school	10	27.78
Diploma	2	5.56
Bachelor	2	5.56
Master	1	2.78
Marital status		
Not married	1	2 ,78
Married	26	72.22
Divorced alive	6	16.67
Divorced	3	8.33
Employment status		
Unemployed	13	36.11
Housewife	12	33.33
Entrepreneur	3	8.33
Civil servant	1	2.78
Farmer	1	2,78
Private employee	1	2.78
Other occupations.	5	13.89
Clinical Conditions		
Length of diabetes (mean ± SD; months)	88.25±71.34	
Health education about foot care		
Ever received	9	25
Never received	27	75
Body Mass Index (BMI)		
Underweight (<18.5)	5	13.89
Normal weight (18.5-22.9)	15	41.67
Overweight (23-24.9)	3	8.33
Obesity I (25-29.9)	11	30.56
Obesity II (≥30)	2	5.56
History of amputation		
Ever	14	38.89
Never	22	61.11
Other comorbidities		
None	21	58.33
Nephropathy	1	2.78
Neuropathy	1	2.78
Stroke	1	2.78
Dyslipidaemia	1	2.78
Hypertension	7	19.44
Disease coronary heart disease	2	5.56
Other diseases	2	5.56

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The correlation between self-management and HRQoL is elaborated **(Table 3)**. In the final analysis, the Pearson's correlation coefficient revealed a correlation coefficient (r) of 0.385 with a p-value of 0.02. This statistically significant result (p<0.05) indicates a positive relationship between self-management and HRQoL. Specifically, this means that as self-management practices improve, there is a corresponding increase in HRQoL. This finding supports the hypothesis that enhancing self-management strategies can lead to better health-related quality of life outcomes for individuals living with DFUs. Overall, these results underscore the importance of targeted interventions aimed at improving self-management practices among individuals with DFUs. Given the significant correlation identified, healthcare providers and policymakers should prioritize educational programs focused on foot care management, diabetes education, and comprehensive self-management strategies. Addressing these areas anticipated that individuals with DFUs will experience enhanced quality of life and better health outcomes, ultimately reducing the burden of this chronic condition on both individuals and the healthcare system. The findings of this study contribute valuable insights into the complex interplay between self-management and quality of life, paving the way for future research and intervention development in this critical area of diabetes care.

Table 2. Self-Management and Quality of Life in Patients with DFUs.

Variables	Mean	SD
Self-Management	42.52	9.03
Care management	2.82	1.47
Wound care	2.89	1.49
Diabetes management	3.47	1.37
Quality of life	89.55	18.38
Leisure	2.63	1.35
Physical health	2.76	1.36
Dependence/ Daily life	3.12	1.46
Negative emotions	3.32	1.31
Worried about ulcers	3.46	1.51
Bothered by ulcers	3.46	1.51

Table 3. Correlation between Self-Management and Quality of Life.

Variables	*p*	r table	r count
Self-management and Quality of Life	0.02	0.329	0.385

Discussion

In this study, we analyze the correlation between self-management and HRQoL among individuals living with DFUs in Indonesia. The primary focus of this research is to address the critical question of whether there is a significant correlation between self-management practices and HRQoL for this specific population. Individuals managing DFUs have the capacity to act according to their own understanding and will through self-management strategies, which can significantly influence their overall health outcomes. Several factors have been identified as influencing self-management in individuals with DFUs, including age, gender, occupation, level of education, duration of diabetes, and the extent of health education received regarding foot care (Usta et al., 2019). These factors underscore the complex interplay of personal, social, and educational elements that shape an individual's ability to effectively manage their condition. The findings of this study demonstrated a significant relationship between self-management and HRQoL, even though the correlation coefficient was relatively low. This suggests that while higher levels of self-management among individuals with DFUs are associated with improved quality of life, the strength of this relationship may not be as robust as one might hope. Nevertheless, the results imply that enhancing self-management practices can lead to better HRQoL outcomes. These findings are consistent with those reported in previous studies conducted in other provinces of Indonesia, which indicated a positive or directly proportional relationship between self-care activities and quality of life. For instance, self-care activities identified in Sinjai included diet management, glucose monitoring, medication adherence, foot care, and physical activity, all of which are integral components of diabetes management (Arifin et al., 2020). However, this study specifically examined the management of DFUs, highlighting the need for targeted interventions that address the unique challenges faced by this population.

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Additionally, this study revealed that the scores for care management and the wound care domain were lower than those for diabetes management, indicating a gap in knowledge and practice related to foot care. This discrepancy may be attributed to the fact that more than half of the participants reported never having received health education about foot wound care. Previous research has emphasized the necessity of foot care education to promote knowledge and positively impact the self-care behaviors of individuals with DFUs (Goodall et al., 2020; Pourkazemi et al., 2020). Many patients with DFUs often do not have their wounds examined unless they experience pain or tenderness, which can delay appropriate care. Furthermore, a significant portion of the participants in this study were of an age that is typically associated with increased risk of complications, leading to a decreased quality of life due to mobility challenges and difficulties in performing daily activities. The percentage of the DFU Self-Management Behavior Scale (DFUSMBS) score obtained in this study indicates that self-management levels are not particularly high, remaining below the halfway mark. This phenomenon has been observed in several previous studies (Chin et al., 2019; Elpriska, 2016), suggesting that individuals may require additional time to adapt to their new health conditions. In this study, self-management was categorized into three domains: appropriate care management, wound care, and diabetes management. It is crucial for individuals with DFUs to be adequately prepared to manage their wounds effectively. Ideally, patients should seek examination or contact a healthcare worker within 24 hours of discovering a wound. Moreover, they should be vigilant for any signs of skin changes or wounds, such as redness, swelling, warmth, or fever. Unfortunately, the results of this study indicate that many participants did not check their wounds until they exhibited signs of infection, such as redness and swelling. This pattern is not unique to Indonesia; similar findings were reported in Taiwan, where many individuals with DFUs failed to seek treatment for their wounds due to a lack of pain (Chin et al., 2019). This low awareness regarding the importance of wound care, coupled with discomfort in seeking medical assistance, may stem from insufficient health education. Additionally, patients often hold the belief that wounds will heal on their own, leading to delays in seeking necessary treatment.

Wound care practices among individuals with DFUs have been shown to be critical determinants of the wound healing process. Effective wound care should encompass washing the wound, debridement, and selecting appropriate dressings. However, many patients tend to rely on home care practices, which often leads to inadequate wound management. For instance, both patients and their families may neglect to clean wounds when they become dirty, fail to apply medications appropriately, and overlook the need to change dressings when they are saturated with blood or other fluids. Furthermore, patients often keep the dressing dry during bathing or other activities to prevent the wound from getting wet, which can compromise the healing process. In terms of diabetes management, respondents in this study exhibited a lack of understanding regarding the signs of glycemic abnormalities. Despite this, they still adhered to scheduled blood glucose checks. It was noted that many patients preferred to have their blood glucose monitored at healthcare facilities rather than independently, aligning with findings from Chin and Rahmadanti, who reported that most DFU patients seldom monitor their blood sugar levels due to a lack of glucometers at home (Chin et al., 2019; Rahmadanti et al., 2020).

Regarding quality of life, this study indicates that respondents tend to report low levels, consistent with previous research that found most individuals with DFUs experience a diminished quality of life (Mairghani et al., 2023; Polikandrioti et al., 2020). Factors influencing quality of life encompass physical conditions related to activity, rest, pain, and the medical therapies undertaken. Engaging in daily activities that exceed one's physical capabilities can lead to increased stress, potentially resulting in emotional challenges such as depression, anger, and feelings of helplessness, all of which can adversely affect quality of life. Additionally, quality of life can be assessed from an emotional perspective; individuals with DFUs must come to terms with their current health status. Support from family and significant others is essential, as it provides not only physical comfort but also psychological reassurance. Concerns regarding wound care and the discomfort associated with treatment are critical aspects that must be addressed in the management of DFUs. Patients may experience distress from visible physical problems, such as non-healing sores that emit unpleasant odors, further impacting their emotional well-being. Finally, it is important to acknowledge the limitations of this study. The small sample size and the inclusion of participants from only one hospital restrict the generalizability of the findings. Future studies should aim to recruit a broader population across multiple healthcare settings to enhance the representativeness of the results. Furthermore, the cross-sectional design of this study does not allow for an examination of changes in self-management practices and their long-term impact on HRQoL over time. The reliance on self-reported instruments also presents limitations, particularly concerning the total number of questions and potential biases in responses. Future research should consider conducting longitudinal studies to gain a comprehensive understanding of the cause-and-effect relationships between self-management and HRQoL, employing diverse methodologies and techniques to capture

a more nuanced view of these dynamics. Addressing these gaps can contribute valuable insights that inform clinical practices and improve the overall quality of care for individuals living with DFUs.

Conclusion

Self-management has been shown to significantly correlate with positive health outcomes, particularly for individuals dealing with DFUs. The findings of this study underscore the critical need for these individuals to receive comprehensive support and education regarding foot care, which should be integrated into their self-management practices to enhance their HRQoL. This highlights the essential role of healthcare providers in delivering targeted health education and training programs that not only inform patients about effective self-care techniques but also raise public awareness about the importance of self-management in managing DFUs. Equipping patients with the necessary knowledge and skills can empower them to take an active role in their care. Furthermore, there is a pressing need for future research to delve deeper into the cause-and-effect relationships between self-management practices and HRQoL among individuals with DFUs. Such studies could provide valuable insights into how different self-management strategies impact patient well-being, guiding the development of more effective interventions tailored to the unique challenges faced by this population. Exploring these dynamics can contribute to a more robust understanding of the factors that influence health outcomes in individuals with DFUs.

Author's declaration

The authors made substantial contributions to the conception and design of the study as well as took responsibility for data analysis, interpretation, and discussion of results. Both of the authors have read and approved the final manuscript.

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Availability of data and materials

All data are available from the authors.

Competing interests

The authors declare no competing interest.

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References

Abdelhamid, F. M., Taha, N. M., Mohamed, E. H., & EL-Khashab, M. N. (2018). Effect of a Self-Management Support Program on Diabetic Foot Care Behaviors. International Journal of Pharmaceutical Research & Allied Sciences, 7(4), 67–76. https://doi.org/10.3844/ijrnsp.2013.14.21

Álvaro-Afonso, F. J., García-Madrid, M., García-Morales, E., López-Moral, M., Molines-Barroso, R. J., & Lázaro-Martínez, J. L. (2024). Health-related quality of life among Spanish patients with diabetic foot ulcer according to Diabetic Foot Ulcer Scale – Short Form. Journal of Tissue Viability, 33(1), 5–10. https://doi.org/10.1016/j.jtv.2023.11.011

Arifin, H., Afrida, & Ernawati. (2020). Hubungan Self Care dengan Kualitas Hidup pada Pasien Diabetes Melitus Tipe 2 di RSUD Sinjai. Jurnal Ilmiah Kesehatan Diagnosis, 15, 82. http://jurnal.stikesnh.ac.id/index.php/jikd/article/view/397

Bann, C. M., Fehnel, S. E., & Gagnon, D. D. (2003). Development and Vaidation of the Diabetic Foot Ulcer Scale - Short Form (DFS-SF). Pharmacoeconomics, 21(17), 1277–1290.

Chin, Y. F., Huang, T. T., Hsu, B. R., Weng, L. C., & Wang, C. C. (2019). Factors associated with foot ulcer self-management behaviours among hospitalised patients with diabetes. Journal of clinical nursing, 28(11-12), 2253–2264. https://doi.org/10.1111/jocn.14822

Costa, I. G., Tregunno, D., & Camargo-Plazas, P. (2021). Patients' Journey Toward Engagement in Self-Management of Diabetic Foot Ulcer in Adults With Types 1 and 2 Diabetes: A Constructivist Grounded Theory Study. Canadian journal of diabetes, 45(2), 108–113.e2. https://doi.org/10.1016/j.jcjd.2020.05.017

Dias, Â., Ferreira, G., Vilaça, M., & Pereira, M. G. (2022). Quality of Life in Patients with Diabetic Foot Ulcers: A Cross-sectional Study. Advances in Skin and Wound Care, 35(12), 661–668. https://doi.org/10.1097/01.ASW.0000891864.37619.34

Efendi, P., Heryati, K., & Buston, E. (2020). Faktor Yang Mempengaruhi Lama Penyembuhan Ganggren Pasien Diabetes Mellitus Di Klinik Alfacare. MNJ (Mahakam Nursing Journal), 2(7), 286. https://doi.org/10.35963/mnj.v2i7.165

Elpriska. (2016). Pengaruh Stres, Dukungan Keluarga Dan Manajemen Diri Terhadap Komplikasi Ulkus Kaki Diabetik Pada Penderita Dm Tipe 2. Idea Nursing Journal, 7(1), 20–25.

Goodall, R. J., Ellauzi, J., Tan, M. K. H., Onida, S., Davies, A. H., & Shalhoub, J. (2020). A Systematic Review of the Impact of Foot Care Education on Self Efficacy and Self Care in Patients with Diabetes. European Journal of Vascular and Endovascular Surgery, 60(2), 282–292. https://doi.org/10.1016/j.ejvs.2020.03.053

Hirpha, N., Tatiparthi, R., & Mulugeta, T. (2020). Diabetic foot self-care practices among adult diabetic patients: A descriptive cross-sectional study. Diabetes, Metabolic Syndrome and Obesity, 13, 4779–4786. https://doi.org/10.2147/DMSO.S285929

Khunkaew, S., Fernandez, R., & Sim, J. (2019). Health-Related Quality of Life and Self-Care Management Among People With Diabetic Foot Ulcers in Northern Thailand. SAGE Open Nursing, 5, 1–10. https://doi.org/10.1177/2377960819825751

Kim, E. J., & Han, K. S. (2020). Factors related to self-care behaviours among patients with diabetic foot ulcers. Journal of Clinical Nursing, 29(9–10), 1712–1722. https://doi.org/10.1111/jocn.15215

Kudlová, P., & Kočvarová, I. (2020). Quality of life in patients with diabetic foot ulcers. Central European Journal of Nursing and Midwifery, 11(1), 34–42. https://doi.org/10.15452/CEJNM.2020.11.0006

Mairghani, M., Sorensen, J., Elmusharaf, K., Patton, D., & Moore, Z. (2023). The health–related quality of life in patients with diabetic foot ulcers in the Kingdom of Bahrain. Journal of Tissue Viability, 32(4), 465–471. https://doi.org/10.1016/j.jtv.2023.06.007

Matricciani, L., & Jones, S. (2015). Who Cares About Foot Care? Barriers and Enablers of Foot Self-care Practices Among Non-Institutionalized Older Adults Diagnosed With Diabetes: An Integrative Review. The Diabetes Educator, 41(1), 106–117. https://doi.org/10.1177/0145721714560441

Mavrogenis, A. F., Megaloikonomos, P. D., Antoniadou, T., Igoumenou, V. G., Panagopoulos, G. N., Dimopoulos, L., Moulakakis, K. G., Sfyroeras, G. S., & Lazaris, A. (2018). Current concepts for the evaluation and management of diabetic foot ulcers. EFORT open reviews, 3(9), 513–525. https://doi.org/10.1302/2058-5241.3.180010

Oluchi, S. E., Manaf, R. A., Ismail, S., Kadir Shahar, H., Mahmud, A., & Udeani, T. K. (2021). Health Related Quality of Life Measurements for Diabetes: A Systematic Review. International journal of environmental research and public health, 18(17), 9245. https://doi.org/10.3390/ijerph18179245

Perrin, B. M., van Netten, J. J., aan de Stegge, W. B., Busch-Westbroek, T. E., & Bus, S. A. (2022). Health-related quality of life and associated factors in people with diabetes at high risk of foot ulceration. Journal of Foot and Ankle Research, 15(1), 1–9. https://doi.org/10.1186/s13047-022-00586-9

Polikandrioti, M., Vasilopoulos, G., Koutelekos, I., Panoutsopoulos, G., Gerogianni, G., Babatsikou, F., Zartaloudi, A., & Toulia, G. (2020). Quality of Life in Diabetic Foot Ulcer: Associated Factors and the Impact of Anxiety/Depression and Adherence to Self-Care. International Journal of Lower Extremity Wounds, 19(2), 165–179. https://doi.org/10.1177/1534734619900415

Pourkazemi, A., Ghanbari, A., Khojamli, M., Balo, H., Hemmati, H., Jafaryparvar, Z., & Motamed, B. (2020). Diabetic foot care: Knowledge and practice. BMC Endocrine Disorders, 20(1), 1–8. https://doi.org/10.1186/s12902-020-0512-y

Pouwer, F., Perrin, B., Lavender, A., Najafi, B., Ismail, K., & Vileikyte, L. (2024). The quest for wellness: How to optimise self-care strategies for diabetic foot management?. Diabetes/metabolism research and reviews, 40(3), e3751. https://doi.org/10.1002/dmrr.3751

Rahmadanti, M., Diani, N., & Agianto, A. (2020). Motivasi dan Self Management Pasien Diabetes Mellitus Tipe 2. Dunia Keperawatan: Jurnal Keperawatan Dan Kesehatan, 8(1), 87. https://doi.org/10.20527/dk.v8i1.7359

Reardon, R., Simring, D., Kim, B., Mortensen, J., Williams, D., & Leslie, A. (2020). The diabetic foot ulcer. Australian Journal of General Practice, 49(5), 250–255.

Saminan, S., Rabbany, N., Aini, Z., Zulkarnain, Z., & Murzalina, C. (2020). The Relationship Between Diabetes Self-Management and Blood Glucose Control in Patients With Type 2 Diabetes Mellitus in Ulee Kareng Subdistrict, Banda Aceh. The International Journal of Tropical Veterinary and Biomedical Research, 5(2), 40–49. https://doi.org/10.21157/ijtvbr.v5i2.20487

Schechter, M. C., Fayfman, M., Khan, L. S. M. F., Carr, K., Patterson, S., Ziemer, D. C., Umpierrez, G. E., Rajani, R., & Kempker, R. R. (2020). Evaluation of a comprehensive diabetic foot ulcer care quality model. Journal of Diabetes and Its Complications, 34(4), 107516. https://doi.org/10.1016/j.jdiacomp.2019.107516

Schober, P., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. Anesthesia and Analgesia, 126(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864

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Journal of Holistic Nursing Science
E-ISSN: 2579-7751 P-ISSN: 2579-8472

Setia, M. S. (2016). Methodology Series Moodul 3: Cross-sectional Studies. Indian Journal of Dermatology, 61(3), 261–264. https://doi.org/https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4885177/

Tzeravini, E., Tentolouris, A., Tentolouris, N., & Jude, E. B. (2018). Advancements in improving health-related quality of life in patients living with diabetic foot ulcers. Expert Review of Endocrinology and Metabolism, 13(6), 307–316. https://doi.org/10.1080/17446651.2018.1541403

Usta, Y. Y., Dikmen, Y., Yorgun, S., & Berdo, I. (2019). Predictors of foot care behaviours in patients with diabetes in Turkey. PeerJ, 2019(2), 1–12. https://doi.org/10.7717/peerj.6416

Wipa Sae-Sia, Maneewat, K., & Kurniawan, T. (2013). Effect of a Self-Management Support Program on Diabetic Foot Care Behaviors. International Journal of Research in Nursing, 4(1), 14–21. https://doi.org/10.3844/ijrnsp.2013.14.21

Zhu, X., Lee, E. S., Lim, P. X. H., Chen, Y. C., Chan, F. H. F., & Griva, K. (2023). Exploring barriers and enablers of self-management behaviours in patients with diabetic foot ulcers: A qualitative study from the perceptions of patients, caregivers, and healthcare professionals in primary care. International wound journal, 20(7), 2764–2779. https://doi.org/10.1111/iwj.14153

Authors' insight

Key points

- DFUs are the most common complication of diabetes due to neuropathy and peripheral arterial disorders
- Self-management has been shown to significantly correlate with positive health outcomes in patients with DFUs
- The critical need for these individuals to receive comprehensive support and education regarding foot care

Emerging nursing avenues

- What are the key self-management practices that improve the quality of life for patients with DFU?
- How does enhanced self-management impact the physical, emotional, and social well-being?
- What barriers do patients with diabetic foot ulcers in Indonesia face in maintaining effective self-management?

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