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How Diabetic Foot Ulcer Patients Can Self-Treat Wound Care: An Integrative Literature Review

SAGE Open Nursing
Volume 10: 1–13
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Abstract

Introduction: To improve the capacity of diabetic foot ulcer (DFU) patients for self-management of wound care, there is a renewed need for self-care on their part, as well as an increase in their readiness to deal with issues and heal their wounds. Therefore, this review empirically assessed contemporary evidence on how patients with DFU can perform self-treat wound care.

Methods: This integrative literature review assessed how patients with DFU could perform self-treat wound care. Whitemore and Knafl integrative information literature review involved searching four databases (Scopus, PubMed, Web of Science, and Google Scholar), which resulted in 2,595 published articles, between 2010 and 2023. Nineteen articles satisfied the requirements for inclusion and quality assessment, and the PRISMA review checklist was followed.

Results: No research has addressed DFU patients' self-treatment of wound care. The integration of evidence from quantitative and qualitative studies was achieved in three categories: (1) motivation, (2) self-wound care strategy, and (3) self-wound care performance by DFU patients.

Conclusion: To equip themselves to perform wound care independently, patients with DFU must receive training to clean wounds, apply wound medication, and perform dressings. There is a need for research that develops a self-treat wound care intervention model in patients with DFU.

Keywords

diabetic foot ulcer, motivation, self-wound care strategy, wound healing

Received 9 August 2023; Revised 11 July 2024; accepted 16 July 2024

Introduction

A diabetic foot ulcer is a common complication of diabetes mellitus, a chronic condition characterized by elevated blood sugar levels. This condition specifically refers to open sores or wounds that develop on the feet of individuals with diabetes. Diabetic foot ulcers often occur because of a combination of factors, including nerve damage (neuropathy) and poor circulation. Common causes of DFUs include excessive pressure on the foot, fungal infections, peripheral neuropathy, poor circulation, irritation, and wounds on the feet. Poorly fitting shoes are also a leading cause of foot ulcers (Bell, 2022). The degree of DFU, according to the Meggitt-Wagner system, is grade 0 (a closed wound), grade 1 (shallow wound), grade 2 (wound reached the tendon), grade 3 (abscess formation wound), grade 4 (gangrene has not yet spread), and grade 5 (gangrene has

spread) (Onni, 2020). Patients with this condition require intensive and continuous foot care to ensure that the wound heals properly and prevents more severe complications.

Studies have highlighted that DFU foot care is essential for preventing infection and accelerating wound healing (Bakker & Schaper, 2000; Game et al., 2018). However, in research on the motivation and strategies of DFU sufferers

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79 in caring for their wounds, patients reported individually that it was crucial for them to develop self-care behaviors to minimize the risk of amputation (Selma & Cingil, 2020). Therefore, reports of consolidated evidence in this area are required. There is a need to understand the motivating factors for people with DFU, the factors that affect the treatment of their foot wounds, and the strategies they use to deal with wound healing problems in terms of knowing what approaches and wound care techniques are practical and performed by the patients themselves. In addition, this information will help DFU patients plan and manage their wounds. A researcher's understanding of the elements that are globally consistent is similarly essential. This integrative literature review summarizes information on motivational wound care abilities, self-efficacy-boosting techniques, and factors affecting their ability to care for wounds (Guest et al., 2018).

73 Access to necessary medical care is not always easy for patients with diabetic foot ulcers, especially in developing countries or rural areas. High treatment costs, lack of health facilities, and long distances can be barriers for patients to receive proper medical care. Therefore, it is vital to learn how patients with diabetic foot ulcers can properly perform self-treatment of wound care (Alexandrescu et al., 2009).

There is not much clinical foot care advice or self-wound care techniques for DFU patients. There are discrepancies between DFU patients' beliefs and behaviors and the clinical advice on self-wound care provided by the American Diabetes Association (ADA). (Ploderer et al., 2018). Improvements must be made for self-wound care, and novel approaches are required to involve patients in self-care. Daily maintenance is one of the greatest strategies for preventing foot issues, and preventive treatment is essential (Polikandrioti et al., 2021). Blood sugar management is critical, and other good diabetes management habits such as healthy eating, physical activity, and regular doctor's appointments can also help prevent foot complications.

71 This review empirically assesses contemporary evidence on how patients with DFU are able to care for their own wounds. Three questions support the review objectives: (1) How do DFU patients motivate themselves to perform self-wound care (2) How do DFU patients perform self-wound care strategies? (3) What is the perception of DFU patients to perform self-wound care? This review is very important to support DFU patients in their progress of wound healing, especially when professional care is not available in their area.

8 Methods

8 Design

8 An integrative review is the best strategy for properly understanding the phenomenon. This research used Whittemore's 23 five-stage integrative review process, which includes (1) problem formulation, (2) data collection or literature search,

(3) evaluation of data, (4) data analysis, and (5) interpretation and presentation of results (Whittemore & Knafl, 2005).

The investigation of research evidence and literature from both quantitative and qualitative approaches is a characteristic of the integrative review technique (Toronto & Remington, 2020). To gather evidence regarding the review's stated purpose and aims, both quantitative and qualitative studies were methodically reviewed. Below is a further explanation of the steps and procedures involved in the review.

Search Methods

The initial search for literature was conducted from 2010 to February 2023. Literature was searched from online databases such as Scopus, PubMed, Web of Science, and Google Scholar. The main search terms used in the databases were "diabetic foot ulcer AND self-wound care AND motivation AND strategy." To guarantee clear reporting of reviews, the PRISMA checklist was used (Appendix A). The process of an integrated review may include the analysis of accumulated research data and literature (Toronto & Remington, 2020).

Inclusion/Exclusion Criteria

Inclusion Criteria. All articles were required to be about DFU patients, they were required to be primary research studies, and they needed to address in combination or separately DFU patients' motivation, strategy, and self-wound care. Articles published in English between January 2010 and February 2023.

Exclusion Criteria. The following exclusion criteria were used: (1) DFU caused by Peripheral Artery Disease; (2) Patients who have significant neuropathy, retinopathy, or other diabetic issues may find it difficult to take care of their wounds on their own; (3) Patients with significant cognitive or physical impairment, which may affect their ability to understand and perform wound care instructions on their own; (4) Patients with grade 3 and 4 diabetic foot ulcers; (5) There was no published research article; for instance, literature reviews, opinion pieces, editorials, and commentaries were not included.

Selection of Studies

All database search results were exported to the Mendeley reference manager software, and duplicate search results were deleted. Next, a two-step selection process was undertaken by the covidence application. First, three reviewers (NVM, SK, EM) scanned the title and abstract of all articles reporting self-wound care of DFU patients. In the second step, the reviewers screened full text to determine their eligibility. Finally, fully eligible articles were selected for further analysis (Figure 1). Evaluators' disagreements were resolved via the two reviewers (EY, AY).

Wound Care Independence in Diabetic Foot Ulcers Patients

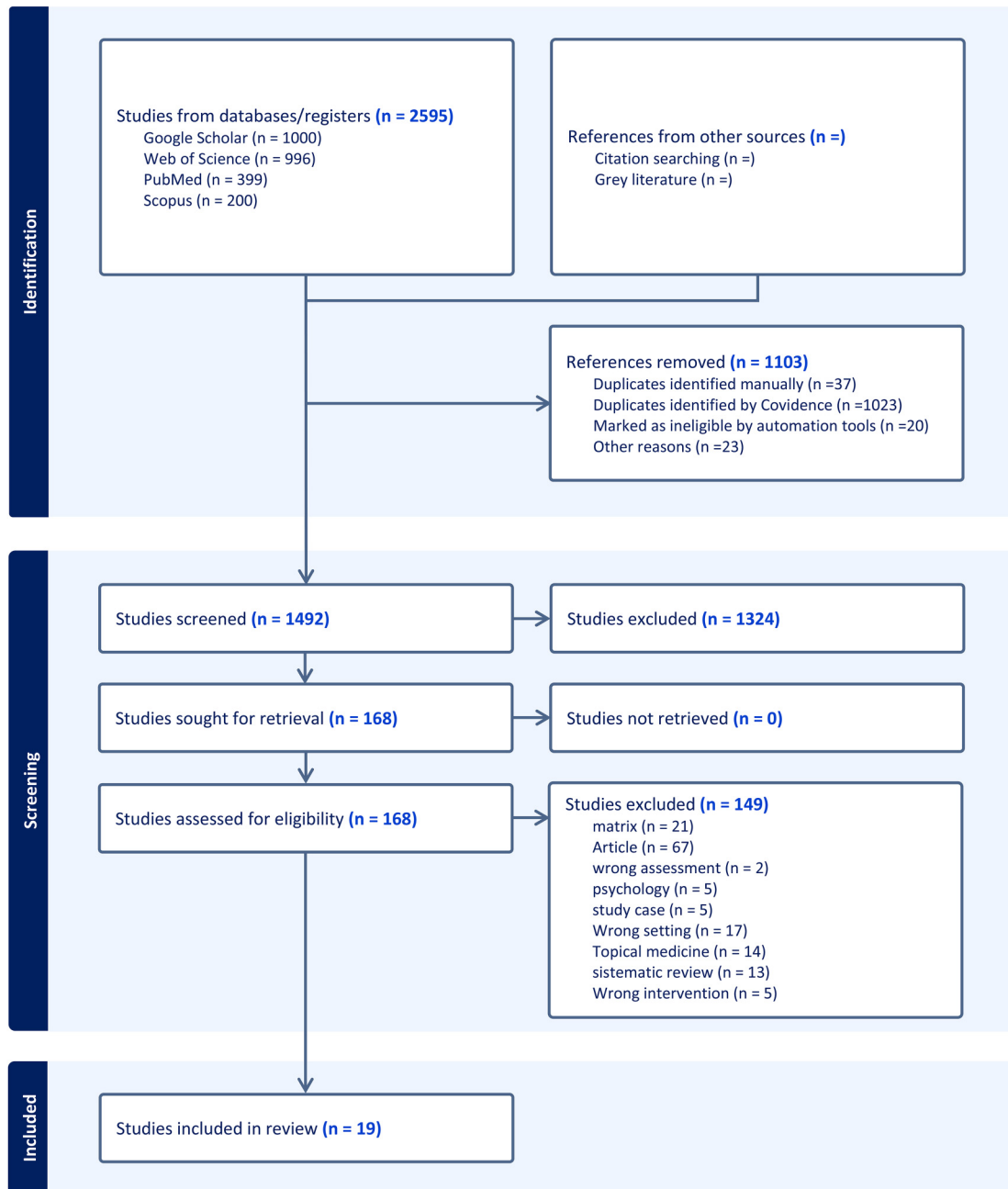


Figure 1. PRISMA flow chart covidence.

Data Extraction, Analysis, and Synthesis

The data were extracted using the covidence application. Initially, articles were re-read to gain a comprehensive

understanding of their methodologies and findings. Patterns in each article were identified. The authors abstracted variables that were relevant to the review question. Consequently, the authors recorded the author, year

of publication, country, aim, study setting, design, sample size, and main findings of each article. Finally, the findings were synthesized according to the study characteristics and the aim of the review.

Quality Assessment

The methodological quality of the articles was evaluated using the JBI quality assessment checklist for cross-sectional studies (Appendix B).

The number of respondents in each study's sample ranged from 10 minimum to 323 maximum, depending on the study. The majority of respondents and participants were DFU patients. Table 1 lists the major themes and subthemes of the study articles. The outcomes of integrating the findings from the research investigations into each study are detailed in the following sections.

Results

Characteristics of the Studies

The literature search generated 2,595 articles, and 1,103 articles were assessed for relevance by title and abstract after duplicate articles were eliminated. In total, 1,429 articles were eliminated after titles were examined. After analyzing the abstracts, another 1,324 articles were discarded, leaving 168 articles that could be evaluated in full. Because 149 complete articles did not match the inclusion and exclusion requirements, they were excluded. Following a quality assessment by three reviewers using evidence, 19 complete articles were included in the evaluation for analysis and thematic integration of the research findings (Figure 1). These studies were conducted in the United States of America ($n=2$), Saudi Arabia ($n=1$), Canada ($n=5$), Australia ($n=1$), the United Kingdom ($n=2$), Singapore ($n=1$), Indonesia ($n=1$), Sudan ($n=2$), Rome ($n=1$), Norway ($n=1$), Texas ($n=1$), and the Netherlands ($n=1$). The number of respondents in each study's sample ranged from 10 to 323. The total sample size from these studies was 1,885 patients with DFU, and the majority ($n=15$) of the studies were conducted in at least two or more healthcare settings. Regarding study design, six were retrospective studies, four were cross-sectional studies, five were RCTs, two were qualitative studies, and one was a prospective study, while only one was mixed. Furthermore, a correlation analysis was performed in all articles to show how diabetic foot ulcer patients can perform self-treat wound care (Table 2).

Quality Appraisal of the Review

As a result, using JBI quality assessment tools, 19 studies were of high methodological quality because all these articles received a "yes" rating for all relevant elements (Appendix B). No article was excluded based on this data evaluation rating system.

Table 1. Themes Identified From the Literature.

Theme and subtheme	Alsaigh et al. (2022)	Meloni et al. (2020)	Khunke et al. (2019)	Edwards et al. (2013)	Patry et al. (2021)	Schechter et al. (2020)	Dumville et al. (2013)	Musa & Ahmed (2012)	Guest et al. (2018)	Heng et al. (2020)	Zamani et al. (2021)	Subrata et al. (2020)	Kelechi et al. (2014)	Yu et al. (2016)	Ahmed et al. (2022)	Costa et al. (2022)	Bus et al. (2010)	Smith-Storm et al. (2017)	Costa et al. (2022)	
Motivation																				
Intention																				
Supportive educative																				
Strategy for wound care																				
Problem solving																				
Positive reappraisal																				
Social Support																				
Skill enhancement																				
Performance self-care for wounds																				
Meaning: self-care of wounds																				
Factors affecting DFU patients																				
Training in wound care																				

Table 2. Summary of the Articles.

Reference	Study aim/s	Sample/location	Study design/data collection tool	Analysis
Ahmed et al. (2022)	To evaluate the potential etiology, treatment options, and outcomes of diabetic ulcers on the dorsum of the foot and the distal leg (DUDFDLs), whether they are primary sites or expanded lesions from other foot areas	102 patients with DUDFDLs <i>Sudan</i>	A retrospective study Management of wounds, treatments used, and results of wound healing	Mean and percentage Meggitt–Wagner Classification of DFU
Alsaigh et al. (2022)	To determine how well informed and aware Saudi Arabia’s diabetic patients, their families, and healthcare professionals are of the condition of the diabetic foot and the behavior it is associated with	131 health care workers: physicians ($n = 66$), nurses ($n = 56$), and physiotherapists ($n = 9$); 100 diabetic patients; 117 relatives. <i>Saudi Arabia</i>	Cross-sectional Questionnaire structured questionnaire by Alsaigh et al. (2022) developed using Bilal et al. (2018)	Mann–Whitney U tests, chi-square test
Bus et al. (2010)	Use a novel photographic foot imaging technology to compare live and photographic assessments of the clinical indications of diabetic foot disease	39 DFU patients prototype device ($n = 20$) and definitive version ($n = 19$) <i>Netherlands</i>	A randomized controlled trial The existence of ulceration, an abundance of callus, or the lack of symptoms can be determined by quality color images of the plantar foot surface, which are taken repeatedly	Time to healing average or median, multivariate analysis of variance
Costa et al. (2020)	To identify the elements that affect people’s capacity to self-manage diabetic foot ulcers (DFU) and to develop a theoretical model that illustrates these factors and the results.	30 DFU patients <i>Canada</i>	A randomized controlled trial Self-management of DFU	Multivariate analysis of variance, mean or median time to healing
Costa et al. (2022)	To investigate the patients’ perceptions of the factors that delay referral to a wound care specialist at the first sign of a diabetic foot ulcer (DFU)	30 DFU patients <i>Canada</i>	Constructivist grounded theory study. Participants were interviewed using a semi-structured approach up until no new attributes of the patterns appeared	Constructivist grounded theory-informed procedures were used to record, code, and evaluate every interview
Dumville and Deshpande (2013)	The impact of NPWT on the healing of foot wounds in DM patients compared to normal care or other adjuvant therapies	231 DFU patients <i>United Kingdom</i>	Randomized controlled trial For the treatment of diabetic foot wounds, any NPWT brand may be used.	Time to healing average or median
Edwards et al. (2013)	To find efficient health service pathways of care that aided in the management of persistent leg ulcers using evidence	70 patients foot ulcer <i>Australia</i>	The retrospective study, and the prospective phase. For 24 weeks after admission, wound management, therapies, and wound healing results were tracked on a weekly basis. by Meggitt-Wagner Classification (Smith, 2003)	ANOVAs, T-tests, and ANCOVAs, Kaplan–Meier, Mann–Whitney U , or Kruskal–Wallis tests
Guest et al. (2018)	To calculate the expenses associated with patient management and the	130 DFU patients <i>United Kingdom</i>	A retrospective cohort analysis Diabetic foot management	Kruskal–Wallis test, Mann–Whitney U test, or 2 test. Kaplan–Meier analysis, multiple

(continued)

Table 2. Continued.

Reference	Study aim/s	Sample/location	Study design/data collection tool	Analysis
	patterns of treatment and annual levels of resource use in the U.K.'s National Health Service (NHS) that may be attributed to treating diabetic foot ulcers (DFUs)			linear regression, and logistic regression
Heng et al. (2020)	To assess the success of a group patient education program for people with diabetic foot wounds	52 patients who had an active foot ulcer. Singapore	RCT, two-arm pragmatic randomized controlled trial. Questionnaire of knowledge, behaviors, and efficacy by Heng et al. (2020)	Paired <i>t</i> -test, Cronbach's Alpha
Kelechi et al. (2014)	To assess the therapeutic effectiveness of a self-managed cooling strategy on pain relief and increased physical activity in people with recently healed venous leg ulcers (VLUs) and diabetic foot ulcers (DFUs)	140 individuals whose DFU and VLU have already recovered 3 outpatient wound centers United States of America	A 6-month longitudinal randomized controlled trial. The International Physical Activity Questionnaire and the Brief Pain Inventory measure physical activity.	An accelerometer was used to measure the metabolic equivalent of tasks (METs) and the amount of time spent walking each week.
Khunke et al. (2019)	To investigate the viewpoints of medical professionals regarding the challenges and solutions in providing patient-focused wound treatment and results	194 participants took part Canada	A qualitative, descriptive study design Open-ended wound care and solution-focused strategies	For accuracy and in accordance with best practices, the question data were entered into NVivo (v10) verbatim
Meloni et al. (2020)	To evaluate the potential for diabetic ulcers of the dorsum of the foot and the distal leg (DUDFDLs) as primary sites or expanded lesions from other foot	102 patients with DUDFDLs Rome, Italy	SAS (JMPI2; SAS Institute, Cary, NC) for personal computers	Data are expressed as means ± SD Independent-sample
Musa & Ahmed (2012)	To determine the risk variables, clinical manifestation, and results connected with chronic DFU lasting 6 months.	108 patients who had DFU > 6 months Sudan	A prospective study Classification of DFU: size, depth, protective sensation, perfusion, and presence of infection.	Mean, total contact cast (TCC)
Patry et al. (2021)	To ascertain the results of wound healing in individuals with a plantar diabetic foot ulcer (DFU) treated by an interdisciplinary team and to discover associated variables.	40 patients in adulthood with a plantar DFU Canada	A retrospective observational cohort study Characteristics extracted used ABI values and Doppler waveforms, manual toe pressures, and transcutaneous oximetry. The Semmes-Weinstein 5.07 (10 g) sensory testing monofilament was used to evaluate neuropathy. A DARCO Orth Wedge or MedSurg shoes (DARCO International, Huntington) were both employed as an unloading method	In descriptive analyses, proportions were used to represent categorical data, and means and standard deviation (SD) were used to report continuous data. Bivariate and multivariate logistic regression analyses are employed in receiver operating characteristics (ROC) curve evaluations.
	A diabetic foot ulcer (DFU) is		A retrospective cohort studies	REDCap data source. Paired <i>t</i> or

(continued)

Table 2. Continued.

Reference	Study aim/s	Sample/location	Study design/data collection tool	Analysis
Schechter et al. (2020)	frequently present before diabetes-related amputations, and hence it is important to look into a model to quantify both inpatient and outpatient quality	323 DFU patients <i>United States of America</i>	International Classification of Diseases codes, 10th revision Metrics for patient care include those linked to glycemic control, such as (a) inpatient glycemic control, which is defined as mean glucose during the last hospital day 180 g/dl, (b) Hb1Ac assessment within 90 days of hospital release, and (c) education about diabetes received. Following the standards of the Society for Vascular Surgery, a foot-offloading device and an ankle-brachial index (ABI) assessment should be used	Wilcoxon Rank-Sum tests for continuous variables and chi-square or Fisher tests
Smith-Storm et al. (2017)	To determine if (a) the length of the ulcer before the beginning of specialized medical care, and (b) the severity of the ulcer as determined by the University of Texas classification system (UT) at the beginning of specialized medical care (baseline), are independent predictors of healing time.	105 DFU participants 2 outpatient clinics <i>Norway</i>	A retrospective cohort studies UT classification system (baseline) at the beginning of the course of treatment	Using the Stata stcomet command and Fine & Gray competing risk regression, descriptive statistics include mean, standard deviations, counts and percentages, chi-square tests, and cumulative incidence
Subrata et al. (2020)	To examine the impact of 3-month family and self-management support programs on the clinical results of Indonesians with diabetic foot ulcers	56 participants experimental ($n = 27$) and control group ($n = 29$) <i>Indonesia</i>	A randomized controlled trial Based on a literature review and diabetes management guidelines created by the Indonesian Society for Endocrinology, self- and family management support programs for three months are combined with standard therapy. Information gathered four times. Hemoglobin A1c (HbA1c), family support, wound size, and self-management	Generalized Estimating Equations, descriptive statistics, and multivariate analysis of variance
Yu et al. (2016)	To evaluate the use of a portable topical oxygen delivery system with industry best practices in patients with DFUs that are not healing	20 DFU patients, were topical oxygen group ($n = 10$) and control group receiving normal therapy ($n = 10$) <i>Canada</i>	An 8-month longitudinal randomized controlled trial. Management of wounds, treatments used, and results of wound healing	t-Test, Pearson correlations Meggitt–Wagner classification of DFU
Zamani et al. (2021)	To better prioritize patient-centered treatment and to understand how patients and caregivers perceive having a DFU	10 participants active DFU ($n = 6$), caregivers ($n = 3$), and wound clinic staff ($n = 1$) <i>Texas</i>	Qualitative study design One of the project team members created a codebook. (N.Z.)	N.Z. and F.S.-D., two team members, completed the codebook. The project team then performed a content analysis on the codes

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How Diabetic Foot Ulcer Patients Can Self-Treat Wound Care

The themes identified from the literature are motivation to perform self-treatment of wound care, self-wound care strategy, and DFU patients' self-treatment of wound care (Table 1).

Motivation to Perform Self-Treatment for Wound Care. DFU patient motivation means having the intention to care for themselves. In two of the study articles, it was stated that to avoid prolonged recovery durations, hospital stays, amputations, and decreased quality of life after DFU treatment, patients were consistently motivated to practice self-care (Guest et al., 2018; Patry et al., 2020). In addition, some patients are motivated to engage in self-care because of their beliefs about DFU and the importance of self-wound care (Yu et al., 2016). However, more investigation is required to pinpoint the elements that boost DFU patients' enthusiasm for self-care and create practical plans to encourage their adoption of self-wound care management techniques (Kuhnke et al., 2019). Several articles (Guest et al., 2018; Patry et al., 2020; Yu et al., 2016) discuss factors related to motivation and its impact on wound self-care. Related studies highlight three key elements: the desire to recover, personal involvement in wound care, and enhanced quality of life. Findings were categorized as connected to motivating intention or supporting education due to data integration. Meanwhile, the supportive education provided by the wound nurse during discharge had an impact on the independence of DFU wound care, which resulted in maximum wound healing (Ahmed et al., 2022; Guest et al., 2018; Kuhnke et al., 2019; Meloni et al., 2020; Musa & Ahmed, 2012; Patry et al., 2020; Smith-Strøm et al., 2016; Zamani et al., 2021).

Self-Wound Care Strategy. Research shows that effective strategies for wound self-care include problem solving, positive reappraisal, social support, and skill improvement (Costa et al., 2022). Patients used problem solving to identify and overcome barriers to self-wound care, such as limited health literacy and social support (Alsaigh et al., 2022; Costa et al., 2022; Costa et al., 2017; Heng et al., 2020; Schechter, 2020). Positive reappraisal helps patients reframe negative thoughts and emotions related to their condition and improve a positive outlook (Alsaigh et al., 2022; Bus et al., 2010; Musa & Ahmed, 2012; Subrata et al., 2020).

Social support from healthcare providers, family, and friends provided emotional and practical support to patients managing their wounds and promoted self-wound care training, which is vital for their problem solving to achieve good wound healing (Alsaigh et al., 2022; Heng et al., 2020; Innocent et al., 2019; Meloni et al., 2020; Musa & Ahmed, 2012; Smith-Strøm et al., 2016).

Skills enhancement from wound care experts, like a nurse, assisted patients in acquiring the information and abilities necessary to effectively manage their wounds, including wound care, glucose management, and infection avoidance (Alsaigh et al., 2022; Meloni et al., 2020; Musa & Ahmed, 2012). Therefore a comprehensive approach to wound care includes strategies addressing the underlying factors influencing patients' ability to engage in self-wound care and support their self-management practices (Heng et al., 2020; Innocent et al., 2019; Smith-Strøm et al., 2016).

DFU Patients' Self-Treatment of Wound Care. Self-treatment of wound care performance involves several factors, including independent wound care, factors that influence DFU patients, and training in wound care. To avoid protracted healing durations, hospital stays, amputations, and a decreased quality of life, patients must comprehend the value of self-care and be encouraged to do it regularly during the months of DFU treatment. Some patients do it conventionally, and others use modern wound care methods that have been taught by wound experts. Even though they are not as good as expert wound nurses, DFU patients are considered quite successful with sustainable wound healing results (Dumville & Deshpande, 2013; Edwards & Stapley, 2010; Kelechi et al., 2014).

Factors affecting patients with DFU's ability to engage in self-care include limited health literacy, social support, and motivation, which can be addressed through education, social support, and motivational strategies (Costa et al., 2020; Guest et al., 2018). Only a few studies have included patients gaining the knowledge and skills necessary to effectively manage their wounds, including wound care, off-loading, glycemic management, and infection prevention (Costa et al., 2020, 2022; Dumville & Deshpande, 2013; Schechter, 2020; Yu et al., 2016).

Therefore, a comprehensive approach to wound care must include strategies that address the underlying factors influencing patients' ability to engage in self-care, provide education and training in wound care, and support their involvement in self-management practices (Kuhnke et al., 2019; Meloni et al., 2020; Musa & Ahmed, 2012; Patry et al., 2020; Yu et al., 2016; Zamani et al., 2021).

Discussion

This is the first review that comprehensively combines research studies and examines how DFU patients deal with and motivate themselves to take care of their wounds. This review's key finding is the absence of any single study that combines independent wound care management, supportive educational, and persuasive wound care viewpoints. This finding, which is important, establishes the need for further study to close this skill and knowledge gap.

However, there are some studies that focus on each area separately. This review, which offers fresh perspectives on the subject, summarized and extracted the findings.

The findings from this review reveal that DFU patients' motivation can be intentional, supportive, and educative. This is consistent with the study that DFU patients with intention motivation are probably more involved and dedicated to their wound care and consistent with research related to supportive education (Fife et al., 2016; Wang et al., 2010). Innovative educational pilots supporting literacy for independent wound care have been found to be effective in increasing knowledge and skills among uninsured patients who do not have access to healthcare resources (Young & Bullen, 2016).

However, there is limited proof that health literacy affects DFU patients; therefore, literacy-sensitive training initiatives are required to address wound knowledge and abilities. Practice-based learning can also effectively enhance wound care education, but skilled professionals are needed to facilitate the process and support learners. Therefore, supportive educative interventions that address the underlying factors influencing a patient's ability to engage in self-care and provide education and training on wound care can be effective in improving independent wound care (Costa et al., 2022).

Practical strategies for independent wound care include collaboration, self-care, optimal self-care, wound cleaning, wound inspection, application and removal of wound dressings, and recognition of the warning signs of infection. Education focusing on wound care for patients is critical for optimizing patient outcomes and healing rates (Moore & Coggins, 2021). The Association of Diabetes Care & Education Specialists (ADCES) and the ADA can provide wound care professionals with access to educational materials and resources, including wound care educational opportunities featuring the latest standards of practice presented by top leaders in the field. Consequently, a thorough strategy for wound care must incorporate tactics that discuss the underlying reasons affecting patients' capacity for self-care, offer education and training on wound care, and support their participation in self-management techniques (ADCES, 2021).

Effective wound care involves several factors, including optimal self-care, recognizing the warning signs of infection, cleaning, inspection, applying and removing wound dressings, and good nutrition. The movement toward self-care is primarily driven by rising healthcare costs, **increasing numbers of people living with injuries, and the understanding that patients can take an active role in their care.** Health education interventions can also be effective in improving wound care independently of patients, especially in patients at home (Zhu et al., 2023).

The review's findings highlight what is understood about DFU patients' motives and coping mechanisms for dealing with daily challenges and responsibilities. They also found

factors influencing their ability to provide independent wound care. These results indicate the need for additional education and dissemination and implications for future studies. It is crucial that patients with DFU are given the opportunity to think about how learning about their intentions and motives might improve their future wound care and recovery as well as strategies for preventing recurrent wounds. Community service initiatives can include discussions on these topics. Additionally, DFU patients in wound care and self-care management roles might think about how these findings can affect local wound care policy and government funding to promote sustainable health.

No research has connected DFU patients' motivation, self-care, and self-perform of wound care. This is a crucial research gap that will aid patients' ongoing self-treatment of wounds. Only the findings of this integrative review covered the inclusion and exclusion criteria. Data integration should be handled independently because none of the articles that assessed or described the three topics (motivation, self-care, and wound care) were found together. Another drawback is that not all regions have been adequately covered by the scientific evidence that is now available.

Implications for Practice

In this literature study, several practice areas were found that wound care and medical professionals might address to provide self-directed wound care environments and guidelines that can sustain and boost DFU patients' motivation and intention to continue caring for their wounds. Overall, from reading this literature review, patients with DFU will clearly understand the importance of motivation and wound care strategies to defend themselves and care for their wounds in their daily needs.

The identified intentional and supportive educative factors related to motivation, intention, will, and involvement are essential because they can advance wound care and healing continuity. Additionally, DFU patients manage stress and stressful situations by using independent wound care techniques because they better understand their physical condition, have the time to care for their own wounds, and see the progress of wound healing, thus eliminating anxiety due to diabetic foot wounds. Patients with DFU may require counseling or training to enable them to employ adaptive rather than maladaptive techniques. They can assist themselves in efficiently caring for their wounds using adaptive methods, including problem solving, positive reframing, and seeking help. To assist DFU patients in setting and achieving holistic wound healing and health objectives, a better grasp of self-care is required.

Conclusion

The growing understanding of wound care and its relationship to wound healing necessitates the concurrent accumulation of

data on the factors influencing DFU patients' intentions for autonomous wound care and how they handle its requirements and environment. In this integrative literature review, we combine and emphasize key facts about DFU patients' motivation and wound care techniques that will help them continue to treat their wounds independently.

Intentional and supportive educative motivation is found in patients with DFU, and this motivation is crucial for altering behavior, intention to remain, and involvement. DFU patients employ adaptive and maladaptive wound care techniques to maintain their will, abilities, and motivation. The perspectives of patients with DFU on effective wound care and its associated elements are crucial for sustaining their beliefs, even though reasons for and techniques for providing wound care are critical.

Considering the available research, key aspects of motivation, wound care techniques, and DFU patients' attitudes toward independent wound care are discussed. The evidence has a significant gap that highlights the need for further study, especially in the sustainability of self-sustained wound care. The evidence results produced by this integrative review must be retrieved and used by patients with DFU.

Acknowledgment

The authors thank for the mentoring publication program from the Research Centre of Research Excellent in Advancing Community Health (REACH), Surabaya, Indonesia.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

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Appendix A. Literature searching strategies and results (February 2023).

Database	Query	Search result
Google Scholar	"Self-wound care" AND "diabetic foot ulcer" AND "motivation*" Filters applied: 2010–2023,	1,000
Web of Science	(ALL = (Self-wound care) AND ALL = (diabetic foot ulcer) AND ALL = (motivation)) AND (PY == ("2023" OR "2022" OR "2021" OR "2020" OR "2019" OR "2018" OR "2017" OR "2016" OR "2015" OR "2014" OR "2013" OR "2012" OR "2011" OR "2010") AND DT == ("ARTICLE") AND LA == ("ENGLISH"))	996
PubMed	((("independent"[All Fields] OR "self-care"[All Fields]) AND ("wound care"[MeSH Terms] OR "self-wound care"[All Fields] AND ("diabetic foot ulcer"[MeSH Terms] OR ("DFU"[All Fields] AND "self-wound care"[All Fields]) OR "DFU"[All Fields]) AND "patient"[All Fields]) AND ((ft[Filter]) AND (english[Filter]) AND (2010:2023[pdat])))	399
Scopus	(self-wound care) AND (diabetic foot ulcer) AND (patient) Filters applied English, 2010–2023	200
Total		2,595
Final full text relevant to our review		19

Appendix B. JBI critical appraisal checklist for analytical studies.

Articles	Parameter								Score out of 8
	Clear inclusion criteria	Clear study setting and subject	Valid and reliable exposure measurement	Standard objective	Identification of confounding factors	Strategies to deal with confounding factors	Valid and reliable outcomes measurement	Appropriate statistical analysis	
Ahmed et al. (2022)	✓	✓	✓	✓	✓	✓	✓	✓	8
Alsaigh et al. (2022)	✓	✓	✓	✓	✓	✓	✓	✓	8
Bus et al. (2010)	✓	✓	✓	✓	N/A	N/A	✓	✓	6
Costa et al. (2020)	✓	✓	✓	✓	✓	✓	✓	✓	8
Costa et al. (2022)	✓	✓	✓	✓	✓	✓	✓	✓	8
Dumville and Deshpande (2013)	✓	✓	✓	✓	✓	✓	✓	✓	8
Edwards et al. (2013)	✓	✓	✓	✓	✓	✓	✓	✓	8
Guest et al. (2018)	✓	✓	✓	✓	✓	✓	✓	✓	8
Heng et al. (2020)	✓	✓	✓	✓	✓	✓	✓	✓	8
Kelechi et al. (2014)	✓	✓	✓	✓	N/A	N/A	✓	✓	6

(continued)

Appendix. Continued.

Articles	Parameter								Score out of 8
	Clear inclusion criteria	Clear study setting and subject	Valid and reliable exposure measurement	Standard objective	Identification of confounding factors	Strategies to deal with confounding factors	Valid and reliable outcomes measurement	Appropriate statistical analysis	
Kuhnke et al. (2019)	√	√	√	√	√	√	√	√	8
Meloni et al. (2020)	√	√	√	√	√	√	√	√	8
Musa & Ahmed (2012)	√	√	√	√	√	√	√	√	8
Patry et al. (2021)	√	√	√	√	√	√	√	√	8
Schechter et al. (2020)	√	√	√	√	√	√	√	√	8
Smith-Storm et al. (2017)	√	√	√	√	√	√	√	√	8
Subrata et al. (2020)	√	√	√	√	√	√	√	√	8
Yu et al. (2016)	√	√	√	√	√	√	√	√	8
Zamani et al. (2021)	√	√	√	√	√	√	√	√	8

Key, X=NO, √=YES, N/A = not applicable, High methodological quality =8, moderate methodological quality = 5–8, low methodological quality = <5.