

PATIENTS AND THEIR FAMILIES' PERCEPTION ON THE PERFORMANCE OF NURSES WITH CERTIFIED WOUND CARE COMPETENCY

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ABSTRACT

A chronic wound is a wound with a delayed healing process. Diabetes is a common risk factor for chronic wounds. Although wound care management has been an essential part of a diabetic patient's journey, chronic wound care for patients with diabetes mellitus requires a long and challenging treatment. Wound care nurses are certified healthcare professionals who provide specialized care to treat and manage wounds. This study explored patients' perceptions of wound care practices by certified wound care nurses. This qualitative phenomenological study involved seven participants with chronic diabetes mellitus ulcers who received wound care within the last six months and were recruited through purposive sampling. Data was obtained using semi-structured questions and analyzed using the Colaizzi approach. This study revealed three themes: (1) competent wound care, (2) efforts made to provide compassionate care, and (3) the nurse's role as an educator. Thus, nurses need to provide compassionate and competent care, including educating patients as part of their care. This study helps understand patients' perceptions of wound care nurses' performance.

Keywords: *Clinical competency; cultural competency; diabetic ulcer; nurses; wound healing*



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BACKGROUND

A chronic wound has a delayed healing process, such as pressure ulcers, diabetic foot ulcers, venous ulcers, and arterial insufficiency ulcers (Nunan et al., 2014). The prevalence of chronic wounds in the general population is 2.21 per 1000 people (Martinengo et al., 2019). Studies in nursing homes in Germany (Raeder et al., 2020), China (Yao et al., 2020), and Singapore that include a multiethnic Asian population (Goh et al., 2020) found that diabetes is the common cause of chronic wounds.

Chronic diabetic ulcers negatively impact patients' physical, social, and psychological well-being. They may experience chronic pain, loss of function and mobility, increased social stress and isolation, depression and anxiety, prolonged hospitalization, and financial burdens (Yan et al., 2021). They also have sadness, fear, or anxiety about amputation (Beattie et al., 2014; Khunkaew et al., 2018; Kusnanto et al., 2021; Suza et al., 2020). Therefore, it is crucial for healthcare

professionals to consider the psychosocial needs of patients with chronic diabetic ulcers (Beattie et al., 2014).

Managing chronic wounds is challenging; it is even more difficult for a diabetic wound, as it requires more time to heal than an acute wound (Pawar et al., 2021). Many studies showed that the contributing factors to wound healing are wound interface moisture, exudate management, dressing (Farahani & Shafiee, 2021) infection, diseases such as diabetes, cardiovascular diseases, cancer, end-stage renal disease (Mahmoudi & Gould, 2020), stress, and pain (Woo & Kevin, 2012).

Pain is a significant issue in chronic wound care (Eriksson et al., 2022). It often results from the wound and related procedures, including debridement, dressing changes, and cleansing (Eriksson et al., 2022). Patients with chronic wounds have described the pain as most intense during dressing changes and that the process is the worst part of living with an ulcer. Meanwhile, a study showed that reducing

pain has accelerated wound healing (Mahmoudi & Gould, 2020). Therefore, exploring patients' perceptions of their pain may help nurses provide the best care for their patients.

Wound care management is essential to the diabetic patient's journey (Khunkaew et al., 2018). The complexity of diabetic ulcers, including wound care management, has burdened patients and families (Crocker et al., 2021). Patients have admitted needing professional support from nurses and doctors (Khunkaew et al., 2018). A study conducted in Iran shows that patients are satisfied with nurse competence when assessing and treating wounds, which helps their healing process effectively (Nayeri et al., 2020).

Moreover, a study in Indonesia found that patients started to believe that nurses could give good care after the wound showed improvement (Suza et al., 2020). A study conducted in Norway also highlighted three paramount factors of wound care: competence, professional skills in wound management, and continuity of care (Smith-Strøm et al., 2016). Community wound care requires evidence-based standard care and a multidisciplinary team (Seaton et al., 2020). Thus, all healthcare professionals involved in treating the wounds make essential contributions to the healing process.

A wound care nurse is a registered nurse specialising in wound care (Howell & Kirkland-Kyhn, 2022). They are also known as advanced practice nurses (APN), with additional wound care practice training. The wound nurses' proficiency is essential to achieving optimal wound healing. The handling or caring of patients' wounds may differ between cases because many factors affect wound healing speed. Hence, nurses might feel professional pride and happiness in caring for wounds that are difficult to heal (Aune & Struksnes, 2019). A study in China identified the association between career success and the core competencies of wound, ostomy, and continence nurses. They revealed that competency has a close relationship with career success (Yu et al., 2022). Although competency is closely related to career success, there is still a lack of studies on wound care nurses' skills.

Furthermore, a qualitative study of a group of nurses in Finland that aimed to identify the competence of nurses who provide acute wound care highlighted that nurses need knowledge, skills, good performance, and wound management and assessment (Kielo-Viljamaa et al., 2022). The study also revealed that nurses must be concerned about their attitude and professionalism (Kielo-Viljamaa et al., 2022). Another study revealed that nurse specialists' competencies include clinical nursing, counselling, encountering people, self-consciousness, knowledge of how to learn, and networking (Jokiniemi & Miettinen, 2020).

Moreover, a study in Nigeria revealed that a nurse in a clinical setting needs wound assessment and management skills in wound care practices (Iretiola et al., 2020). A study also captured nurses' knowledge and practices about pressure sores (Aydin et al., 2019). Only one study in China disclosed the core competencies of a wound ostomy continence nurse: clinical practice, critical thinking, health education, professional development, interpersonal communication, and nursing management (Yu et al., 2022). Additionally, wound care nurses in Indonesia follow a high standard of wound care assessment (Ligita et al., 2018a).

Wound care nurses play an important role in patient care as healthcare professionals. However, there is still a lack of studies on certified wound care nurses' performance in Indonesia. At the same time, studies have found that

understanding the patients' experiences would help healthcare professionals determine relevant care (Aliasgharpour & Nayeri, 2012; Çakmak & Özdemir, 2024). Therefore, this study explores patients' perceptions of the wound care practices certified wound care nurses perform. Only the abstract of this work has been published in a printed publication, while a portion of it was delivered orally at a conference.

METHOD

Study design

This qualitative study employed a descriptive phenomenology that attempted to capture the significance of the patients' experiences.

Participants

The target population were patients and their caregivers who were undergoing wound care at a Private Wound Care Clinic in West Java - Indonesia. Of all 23 patients who underwent wound care therapy, ten patients had diabetes mellitus, but only seven patients received treatment two times per week routinely.

The researchers recruited participants using purposive sampling techniques by creating several inclusion criteria: willing to be respondents, diabetes mellitus patients, and patients who had undergone wound care at the wound care clinic in the last six months. The researchers contacted participants to explain and ask for their willingness to interview. One of the participants was only willing to be interviewed by telephone. Before conducting the interviews, the researchers obtained informed consent.

Data collection

Data was collected using semi-structured interviews conducted by the first author from October to November 2022. The interview length varied from 40 to 60 minutes at the participants' homes. During the interview, the main caregiver accompanied the patients. The interviews were recorded using a digital voice recorder. The researchers also collected information from the participants, such as age, gender, clinical condition, treatment status, and the number of treatments they have experienced.

Data analysis

The researchers employed Colaizzi's approach (Polit & Beck, 2017) for data analysis: (1) each audio recording was listened to, and the transcripts were read carefully to gain a general sense of the data; (2) the transcripts were re-read repeatedly, to extract important or meaningful statements; (3) each researcher formulated a general meaning from the text. Next, two researchers discussed the transcript and coded the data; (4) the researchers then clustered the formulated meaning into themes; (5) the clusters were combined to reveal the main themes, and the researchers made an exhaustive description of the phenomenon; (5) the description was made clearly and concisely; (6) and the researchers validated the result to study participants. The final stage was writing a report by writing every phrase, word, and sentence with the right understanding so that it could describe the analysis results.

Trustworthiness

To ensure the study's credibility, the researchers audio-recorded all participant interviews electronically. All participants then validated the interview transcripts. To maintain the accuracy of the meaning, all researchers conducted the transcript translation process. The agreement between the two researchers on the data analysis process

aimed to seek dependability. The researchers also provided clear research steps to achieve conformability. This article provides the demographic data of the study's participants so that readers may decide the transferability of this study.

Ethical consideration

Before the data collection process, this study sought ethical approval from the ethics committee. The ethical clearance number was 1374/SLKE-IM/UKKW/FKIK/KE/X/2022.

RESULT

Table 1. Study participant characteristics

P	Age (y.o)	Sex	Clinical condition	Status
P1	66	M	DFU	Healing
P2	48	M	DFU	Healing
P3	72	M	Pressure injury	In care
P4	65	M	DFU post amputation	In care
P5	48	F	DFU	Healing
P6	62	M	DFU	Healing
P7	47	M	Carbuncle	In care

The participants had a mean age of 58.3 years. There were six male participants and one female participant. This study highlighted that wound care nurses performed their duties

competently and compassionately. Three themes emerged: (1) competent wound care, (2) efforts made to provide compassionate care, and (3) the nurse's role as an educator.

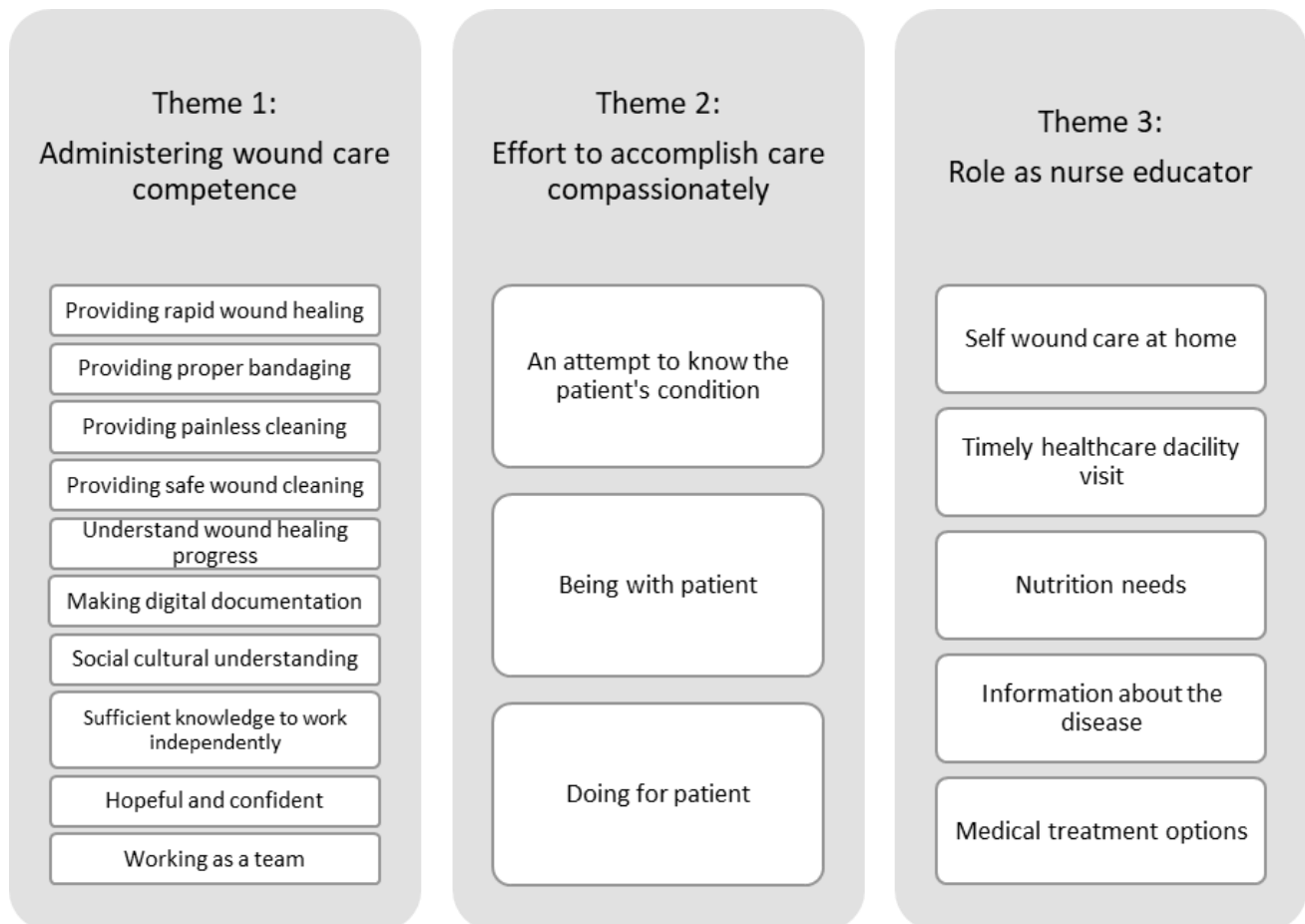


Figure 1. The apparent competence of wound nurses

Theme 1: Competent wound care

Wound care nurses aim to provide proper wound care management to support wound healing. However, there may be challenges that can hinder the wound healing process.

Rapid wound healing

This study's participants believed medicine and wound management would support optimal wound care recovery. The participants believed that fast wound healing was an indicator of proper wound care management by the nurse.

"In my opinion, the treatment here supports my recovery. It's the same with other patients as well. Our wounds were treated until they're healed... the combination of the right medicine and the right treatment leads to a good result." (P1)

"The nurse uses the right medicine and knows how to treat a wound; the medicine is also good, so that the wound healed quickly." (P2)

"It takes twenty days, six meetings for every 3 days... yes, it's speedy, very speedy to me, the wound was dry in less than a month." (P6)

Proper bandaging

When a patient finds a nurse who cannot bandage their wound neatly with bandages, the patient feels disappointed and considers the nurse incompetent.

"Well... when she wrapped (the wound) with brown elastic bandage, she didn't do it neatly." (P5)

Painless cleaning process

The process of cleaning the wound often causes pain for patients. The patients stated they were satisfied with the nurses service when they can help them be free from pain.

"My father didn't complain of pain when he was at home. He was given medicine for his wound, which probably made it painless. The nurse treated the wound and understood the medicine dosage well." (P6)

Safe wound cleaning

Caring for wounds must be done carefully and with great patience. This study's participants revealed that wound care nurses must be nimble, thorough, and patient.

"The nurse treats my wound carefully. She could remove the bandage in a painstakingly careful way, even though I personally find it disgusting." (P1)

Understand the patient's wound healing progress

A wound care nurse must have expertise in identifying wound progress. The wound care nurse must be able to identify the appropriate type and technique of wound treatment to administer and determine whether a referral to more advanced services is needed.

"The nurse said that the healing has been successful. Now you don't need treatment anymore, sir. Nothing has come out; it's clean now." (P1)

"Maybe because she (nurse) already has more experience treating wounds. She explained this: We will assess the wound first. If I can't handle it, I will refer you to the hospital." (P6)

Making digital documentation

The nurses' technical skills in digitalization are useful for documenting the care provided. These records shows the wound's progress to the patients and their families.

".. every time the nurse comes, they take notes and takes a photo of the wound." (P3)

Social and cultural understanding

Nurses need to have an understanding of their patients' sociocultural backgrounds. They must understand their patients' different cultural backgrounds, ages, educational backgrounds, and social and economic conditions.

"Some patients do not like to be asked many things because they like their privacy. So, we must find out about our patients' preferences and figure out how to deal with various kinds of patients. For instance, the way we interact with older adult patients may be different from interacting with young patients. Therefore, nurses have to consider the situation. Nevertheless, it's important for the nurses to be friendly." (P2)

Sufficient knowledge to work independently

The participants expect nurses to be able to perform nursing action procedures independently.

"Nurses must know the kind of medical issue found and what they need to do to treat it. They shouldn't have to wait for instructions from the doctor as they have their own knowledge and self-initiative." (P2)

Hopeful and confident

This study's participants hoped that the nurses had the motivation and spirit to give the best care to their patients.

"That's my hope... nurses must have high spirits and energy to handle patients with diabetes mellitus. They have to be detailed and diligent. They should not be discouraged easily. That's the thing; you must have courage." (P7)

Team work

The nurses' team work skills with the wound care team requires effective communication and being open to collaboration.

"There must be chemistry between nurses so we can all work together. If they work well together, the treatment can be conducted more quickly. For example, one nurse can hold the bandage, the other can hold the scissors, (all of the team members) already know what to do after this... the nurse must be comfortable with working with whomever is available." (P2)

The participants were also concerned about the nurses' ability to determine the need for referral for more advanced treatment, their digital literacy, their social-cultural competence, and emotional competence as such factors affect their teamwork skills.

Theme 2: Efforts made to provide compassionate care

Aside from wound care competence, compassionate care is also essential for wound care services.

Taking the initiative to know the patient's condition

Patients with chronic wounds are facing a complex situation, especially at the beginning of the wound treatment phase. Thus, nurses must provide the patients with a comfortable environment throughout their care.

"She was doing a good job. She asked: Which part felt painful? Do you feel better ma'am? Which side (of the bandage) is too tight? She would fix any problems." (P5)

"The nurses cared about my complaints. Usually, nurses with a bachelor's degree or over are friendly to us patients; they are gentle... understand the psychological aspect, and always ask about our feelings. They can also accept if their patients are angry, which (I think) is an understandable reaction because of their situations." (P3)

The nurse's sincerity when treating the patient

A nurse's ability to display sincerity in her work can increase the patient's comfort.

"I'm impressed by her willingness when giving a care. We don't have any complaints. She also seems to enjoy getting along with us; we often joke around with her." (P4)

The nurse's attitude

A welcoming attitude is essential and is a positive value for wound care nurses. A good first impression is the basis for

the patient's belief that they will receive good service and treatment.

"I'm satisfied, very satisfied. When I arrived, a friendly nurse greeted me, I felt welcomed and I felt sure that my wound will be healed if I get it treated here." (P7)

Nurses must treat the wound with full care and understand its consequences, including its various conditions.

"The nurses must be thorough and patient." (P7)
"The nurse treats my wound carefully. She could remove the bandage in a painstakingly careful way, even though I personally find it disgusting." (P1)
"Patients want to be talked to and asked how they feel and why it hurts so they can be calm. When treating the wound, the nurse was friendly, kind, and gentle." (P2)
"In the Javanese language, it's called gemati... it means treating others sincerely from the heart, like caring for your own family... the nurses showed good dedication, attentive, knows what the disease is, and knows the right action to treat the wound..." (P2)

The participants also stated empathy contributed to the wound care nurses' caring attitude.

"The nurses are patient. They treat me just like they would treat children. She also pays attention to me and asks if I experience pain or not. She treats me gently." (P5).

When patients experience pain, they will feel more comfortable knowing that nurses care about their pain.

"The nurse did a great job because she asked: Which part hurts? How are you feeling ma'am? Which part (of the elastic bandage) is too tight for you?" (P5)

The nurses' caring attitudes positively impact the patient's recovery. The participants appreciated the nurses' kindness, patience, sincerity, and attentiveness.

Theme 3: The nurse's role as an educator

This study's results show that patients and their families expect nurses to educate them about DM.

Wound-care at home

The participants stated that they expect to be educated about how to treat their wounds at home.

"The nurse also taught me that if at home I find wound exudate on the bandage, I need to replace the bandage." (P7)

At the beginning of treatment, the nurse explained wound care management. Clear explanations of the procedure would make the patient feel confident and peaceful.

"The nurse explained the disease, what medicine could treat it, and what I will do next... So when I was sick for two weeks because something was swollen, I did not panic because I knew that I could get treatment here. I would recover because I already know there is a solution." (P2)

Healthcare facility visits

Wound healing requires time, wound care routines, and scheduled visits to healthcare workers. Patients need to be informed about when their wound condition would require them to visit the wound clinic again, which includes routine and incidental visits.

"The nurse's advice was: if you don't feel good, just let us know. If it's not in the schedule, just visit us anyway. If you feel uncomfortable, don't wait, don't postpone the visit." (P1)

"During my first visit, the nurse explained that the wound can't heal right away... it needs regular treatment every 3 days..." (P7)

"Yes, I am satisfied, but I also had some complaints. It was because the medicine they gave me ran out before my scheduled visit." (P4)

Nutritional needs

Diabetes mellitus patients need to align their wound management with their nutritional needs. A study participant conveyed his experience of being given unclear information about nutrition.

"The nurse only said that I could only eat two spoons. I had to ask to clarify if she meant two spoons full?" (P4)

Information about the disease

The participants stated that they did not immediately seek wound care because they did not know that their wounds were due to diabetes mellitus.

"He had a spot, like an abscess, on his back. It was big, swollen, and hard. It was hot. When he was taken to the emergency room after being checked, his blood sugar level was high. This shocked me. I didn't know my husband suffers from diabetes. I wondered how this could happen. At first, it was only a small black spot; how did it widen after a while?" (P7)

"My husband said he felt very thirsty; I gave him hot water and brewed palm sugar, and he said he wanted it like that." (P7)

"When I checked at the clinic near my house, I was asked if I had diabetes or not. At the time, I said no. When I came home, I met a neighbour, a nurse, and she suggested for me to check if I have diabetes or not; even if I don't have diabetes, I should just check... I was shocked when I found out that my blood sugar is high, at 370 mg/dl." (P1)

Medical treatment options

The results showed that patients need to know the treatment options for wound care.

"Maybe it's just the information provided that needs to be improved. Most people with diabetes do not know there are different treatment options for their wounds. Most know that they need to visit hospitals if they have a wound, but they only know amputation as an available treatment (which may scare them). They might need information on different types of treatments that would heal their wound." (P6)

Information and education are paramount parts of wound care. The participation of patients and families can support the success of wound healing, as it is often also determined by the patient's behaviour at home. Thus, health professionals must provide extensive information and educate patients and their families about the treatments they can do at home.

DISCUSSION

This study highlighted that wound care requires competent nurses, reflected in their knowledge, skills, and experiences. Additionally, nurses' compassion and role as educators play

essential roles in the success of wound care in rural areas in West Java, Indonesia.

A nurse's knowledge of wound management is essential in wound healing (Aune & Struksnes, 2019). Such knowledge includes wound debridement, wound covering management, therapeutic nutrition, mobility, and psychosocial support (Sen, 2021). Previous studies have determined several aspects that accelerate healing. Some important factors are the types of dressings used for chronic wounds (Las Heras et al., 2020) and wound care management to support the healing process: moisture, exudate, dressing, and infection (Farahani & Shafiee, 2021; Mahmoudi & Gould, 2020).

Furthermore, wound bed preparation impacts wound healing (Thomas et al., 2021). Some wound dressings have been proven to be effective in supporting the wound healing process (Farahani & Shafiee, 2021). Hydrogel is also effective for chronic diabetes wounds because it is anti-inflammatory and anti-bacterial and supports the formation of blood vessels (Guo et al., 2022). Moreover, nursing practices in primary care services require continuous professional development to ensure high-quality and cost-effective care (Kimble et al., 2020). Therefore, nurses must continuously update their knowledge and skills to provide effective home wound care (Aune & Struksnes, 2019).

Pain is a major issue in chronic wound care, as the process of cleaning a wound often causes pain. Pain management affects a patient's adherence to therapy (Eriksson et al., 2022). It is also important to reduce the patient's pain as the less pain they feel, the more the wound will heal. Stress produces cortisol and catecholamines, which cause vasoconstriction and poor tissue oxygenation (Woo & Kevin, 2012). However, some measures, such as a moist dressing, can reduce the patient's pain (Eriksson et al., 2022). Additionally, nurses' knowledge, attitudes, and behaviours related to pain are determined by their work experience and pain training experience (Brant et al., 2017). Nurses with over 5 years of work experience have better knowledge and attitudes toward patients with pain (Brant et al., 2017).

Next, the waiting process and the duration of healthcare visits can be stressful (França & Jafferany, 2016). Stress reduction strategies such as imagery guidance, biofeedback-assisted relaxation, and mindfulness-based strategies can help wound healing (Pombeiro et al., 2022). Mindfulness-Based Stress Reduction (MBSR) is also effective in the early stages of wound healing (Meesters et al., 2018). Thus, nurses can apply such techniques to provide less stressful wound care. Demonstrating cultural safety while implementing nursing care is vital (Ismail et al., 2023; McGough et al., 2022). Nurses' cultural competence is important in improving the quality of nursing care (Sadeghi et al., 2022). It enables them to work in transcultural situations (Sharifi et al., 2019), improving patient satisfaction and trust (Tang et al., 2019). A study conducted in the US by Farber (2019) revealed that 118 full-time nurse faculty needed to be more confident in their cultural knowledge. Cultural nursing confidence among students can be improved through an intervention program (Cho & Kim, 2022). Thus, cultural competence is essential for nurses. Improving cultural competence during education effectively increases health professionals' cultural knowledge, skills, and attitudes (Chae et al., 2020).

This study revealed that the participants were more concerned with nurses' compassion than competence. Caring for a chronic wound requires focusing on patients' physiological and psychological aspects (Eriksson et al.,

2022). This recent study found that nurses' compassion could help patients endure wound care treatments, which may be uncomfortable. Calong and Soriano (2018) highlighted that nurse caring behaviour is related to patient satisfaction. In contrast, a study conducted in Turkey showed that patients' satisfaction was more dependent on the nurse's skills and their respect for patients than the nurse's ability to comfort them (Kol et al., 2018). Thus, nurses must provide services that consider the patient's psychological well-being and comfort.

When caring for patients with diabetes mellitus, it is important to educate patients on topics such as the treatment process and the disease's progression (Ligita et al., 2018b). Health literacy is related to compliance with medical treatment (Lenggogeni et al., 2024). A previous study revealed that health workers' provision of health information supports patient satisfaction (Ng & Luk, 2019). A study of primary health services in Lebanon found that the quality of care provider's health education also affected patient satisfaction (Hemaddeh et al., 2019). Nurses can use a teach-back method to evaluate the effectiveness of patient education activities. This method can also improve patient satisfaction (Centrella-Nigro & Alexander, 2017). Another determinant factor for patient satisfaction is the (Batbaatar et al., 2017) health education given by healthcare professionals as part of the health services they receive (Atbaatar et al., 2017). Health education for patients is important for the success of their treatment.

Despite the valuable findings regarding the performance of wound nurses, this research has limitations. Firstly, the participants only came from one health service provider in West Java. Therefore, these findings may not reflect the needs of wound nurses in different contexts. Future studies can be conducted on the performance of wound care nurses with more participants and contexts.

CONCLUSION AND RECOMMENDATION

Nurses must use their competence and compassion to provide the best wound-healing services when caring for patients with chronic diabetic ulcers. Compassion plays a crucial role, just as competence does. Patients must also be educated as part of their care. Further studies on wound care nurses' performance still need to be conducted in various contexts to accurately capture the hard and soft skills needed to provide the best possible care.

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