



THE EFFECTIVENESS OF NURSE-LED INTERVENTIONS IN IMPROVING WOUND CARE OUTCOMES

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Abstract

Chronic wounds have a detrimental impact on individuals' quality of life and impose a significant financial burden on the Australian healthcare system. Insufficient understanding of the importance of chronic wounds results in a scarcity of resources for delivering evidence-based treatment. Nurses in the community are responsible for managing the majority of chronic wounds. To improve future practice, it is necessary to have a deeper knowledge of the present models of care. To conduct a comprehensive analysis of the existing literature about the results and satisfaction levels of individuals who get treatment for long-lasting wounds from nurses in community settings. The results indicate that treatment delivered by nurses was economically efficient, showed significant client satisfaction, and led to enhanced wound healing and decreased pain levels. Providing treatment supervised by nurses is a beneficial experience for those with chronic wounds and results in improved outcomes. The results indicated a want for further client instruction and specialized training for healthcare professionals who oversee persistent wounds.

Keywords: nurse, wound care, medical facilities, review, nursing intervention

1. Introduction

Individuals suffering with chronic wounds have a diminished quality of life and face a substantial financial burden, both for themselves and for the Australian healthcare system (Graves & Zheng, 2014). A chronic wound is characterized by a failure to progress through the normal phases of wound healing within the predicted timeframe (Morton & Phillips, 2015). According to Pacella (2017), the most prevalent kinds of chronic wounds are venous leg ulcers,



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pressure injuries, and diabetic foot ulcers. These wounds mostly affect elderly individuals. The prevalence of chronic wounds is increasing due to the aging population, but the present resources for wound care are insufficient to support evidence-based therapy (Pacella, 2017). By acknowledging the influence of chronic wounds on an individual, we get a deeper understanding of how current treatment methods might be enhanced.

Pain has a crucial role in affecting an individual's psychological welfare and may result in anxiety and despair, which is common among those with chronic wounds (Wellborn & Mocerri, 2014). Moreover, the protracted duration of wound healing instills feelings of discouragement in individuals, both towards themselves and the healthcare system as a whole. Many people often experience feelings of despair and pessimism since there is a lack of progress in providing treatment (Kapp & Santamaria, 2017). Moreover, individuals with limited mobility and impaired ability to manage exudate have obstacles in doing routine tasks, which may curtail the independence of an otherwise competent individual (Kapp, Miller, & Santamaria, 2018). The inability to do daily tasks hinders one's ability to maintain a job and earn a livelihood. Consequently, individuals have financial difficulties and struggle to meet the expenses of daily life (Kapp et al., 2018).

Insufficient government financing hampers the delivery of evidence-based treatment in the community, leading many individuals to finance their own wound care (Pacella, 2017). In their study, Kapp and Santamaria (2017) discovered that the participants allocated about 10% of their monthly discretionary expenditure towards purchasing dressing items and paying for clinician services. Healthcare professionals are often less motivated to employ evidence-based wound care in their practice since most of the supplies needed are not eligible for reimbursement via the Medicare Benefits Schedule (Pacella, 2017). The use of evidence-based practice in healthcare is advantageous and economically efficient. However, healthcare practitioners often neglect to provide this kind of treatment owing to limited financial resources and inadequate education in wound care (Pacella, 2017).

Diabetes mellitus is classified as one of the nine National Health Priority Areas and is a primary factor in the development of diabetic foot ulcers, according to the Australian Institute of Health & Welfare (2014). Over the last ten years, there has been a 30% rise in the frequency of foot-related amputation among those diagnosed with diabetes mellitus (Lazzarini, Gurr, Rogers, Schox, & Bergin, 2012). Australia has the potential to save \$2.7 billion AUD in expenses over a five-year period by implementing evidence-based practices for wound care in individuals with diabetes mellitus (Cheng et al., 2017).

Individuals suffering from persistent wounds often seek wound treatment from general practitioners (GPs), community nurses, community health clinics, and allied health professionals in the primary healthcare context (Norman et al., 2016). Adhering to evidence-based care is crucial not just in nursing practice, but also in other facets of healthcare. Implementing evidence-based treatment is crucial in nursing practice, especially when it comes to community nurses

who primarily care for individuals with chronic wounds (Grothier, 2018). Approximately one-third of individuals suffering with chronic lower leg ulcers get treatment from community nurses. It is anticipated that the complexity of care will increase due to the aging population (Edwards, Courtney, Finlayson, Shuter, & Lindsay, 2009).

Studies have shown the advantages of evidence-based treatment. However, there is a scarcity of data on the effects of nurse-led wound care on the outcomes of individuals with chronic wounds in community settings. Given that nurses are primarily responsible for providing wound care to individuals with chronic wounds, it is crucial to enhance our comprehension of the outcomes linked to wound care led by nurses. The objective of this literature review was to ascertain the results and perceptions of individuals with chronic wounds who received wound care from community-based nurses.

2. Health outcomes

Health-related outcomes pertain to the effects of nurse-led wound care on the overall health of patients, including information on wounds, pain, quality of life, and patient education. The literature recognized pain as a reoccurring subject, and five research examined the impact of nurse-led wound care on pain. These studies include the works of Edwards et al. (2009), Kelechi et al. (2014), Van Hecke et al. (2011), Wellborn & Mocerri (2014), and Woo & Sibbald (2009). According to Edwards et al. (2009), those who took part in a social community nursing intervention saw a significant decrease in pain when compared to the control group who received home nursing care. Similarly, Van Hecke et al. (2011) discovered that before a community leg exercise program, the average pain level was "moderate," and after the intervention, it decreased to "no pain."

In another study, Kelechi et al. (2014) assessed two motivational programs using a comparative study design, but found no statistically significant differences in behavioral outcomes. Nevertheless, the therapies resulted in a substantial decrease in the overall degree of discomfort. One of the main themes reported by individuals visiting an outpatient wound clinic was "discomfort," as found via qualitative analysis. Overall, the participants in the study by Wellborn and Mocerri (2014) often experienced a prevailing theme of "deterioration before improvement." Woo and Sibbald (2009) acknowledged this occurrence and included a Wound Associated Pain model into their service model at a wound care center. They saw a decrease in pain by 3.5 points on a 0-10 numerical pain scale. In general, individuals with chronic wounds consistently experienced pain, and the research analyzed have shown that nurse-led care is effective in alleviating pain.

Four distinct tools were used for pain quantification, as shown by the data analysis. The study conducted by Edwards et al. (2009) used the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) to evaluate pain levels. This approach provided a practical means of gathering data for quality of life assessments. In Kelechi et al. (2014), a more straightforward method was used, using a visual analogue scale to assist participants in rating their discomfort.

Nevertheless, Taylor and Herr (2003) discovered that visual measures exhibited reduced reliability among individuals with lower educational attainment and advanced age. Consequently, Woo and Sibbald (2009) and Van Hecke et al. (2011) used the numeric rating scale (NRS) to evaluate pain. This scale requires participants to score their discomfort on a range of 0 (no pain) to 10 (most severe pain conceivable). The validity of pain assessment instruments relies on the level of detail needed and the specific characteristics of the group being studied (Hjermstad et al., 2011).

Chronic wounds had a significant impact on the quality of life of individuals, with pain being a contributing factor. Individuals suffering with lower extremity ulcers had a diminished quality of life due to their inability to carry out routine tasks such as walking, bathing, and shopping (Ousey et al., 2014). According to Edwards et al. (2009), a nurse-led intervention in community care was shown to enhance the quality of life in individuals with chronic leg ulcers. Nevertheless, Ousey et al. (2014) discovered that there was no notable improvement in the quality of life for those who had nurse-led wound care using negative pressure wound treatment. The group that underwent negative pressure wound treatment exhibited a significant augmentation in social contact in comparison to the group that received routine wound care. Edwards et al. (2009) used the SF-36 questionnaire to assess the quality of life. Ousey et al. (2014) used the Cardiff Wound Impact Schedule (CWIS), a specialized measure designed for the assessment of chronic wounds, rather than general chronic diseases. Price and Harding (2004) discovered a robust association between the SF-36 and the CWIS, indicating that using both techniques to assess quality of life would provide comparable outcomes.

Regarding wound-related outcomes, the data analysis identified three studies that examined the effect of nurse-led wound care on the rate of wound healing (Carville et al., 2018; Edwards et al., 2009; Woo & Sibbald, 2009). Venous leg ulcers were the predominant kind of wound, identified in seven investigations (Bergersen et al., 2016; Carville et al., 2018; Dowsett et al., 2012; Edwards et al., 2009; Kelechi et al., 2014; Van Hecke et al., 2011; Woo & Sibbald, 2009). The use of low-frequency ultrasonic wound debridement led to a 67% rate of wound healing, as reported by Carville et al. in 2018. Similarly, a research conducted by Edwards et al. (2009) found that there was a wound healing rate of 60% when examining a community nursing intervention. According to Woo and Sibbald (2009), the deployment of a nurse-directed Wound Associated Pain model resulted in a 67.74% wound healing rate for venous lower leg ulcers. Nevertheless, the study's comprehensive wound healing rate was 39.24% since it accounted for palliative wounds, which were not anticipated to undergo healing. To summarize, the research presented many approaches to nurse-led wound care, all of which yielded comparable rates of wound healing.

In addition, the data analysis revealed that nurse-directed care led to a decrease in wound size, which served as an indication of wound healing. After the introduction of a wound contact nurse who acted as a mediator between the community nurse and the hospital, there was a significant decrease of 70% in wound size, as well as a general enhancement in eczema and

oedema conditions (Bergersen et al., 2016). Edwards et al. (2009) confirmed these findings by seeing a decrease in eczema and oedema, along with a significant 77.65% reduction in wound size after the adoption of a community nursing strategy. In addition, the intervention group reported elevated levels of granulation and epithelialization tissue, which are crucial for the process of wound healing. In comparison, a different community nursing program was assessed and showed no change throughout the trial period. However, three months following the study period, there was a considerable reduction in wound size (Van Hecke et al., 2011).

Providing clients with education is essential for enabling them to take care of themselves and have knowledge about their own health. According to Clark (2012), a social community intervention resulted in a 75.5% increase in participants' comprehension of their lower leg ulcers. In line with this, Van Hecke et al. (2011) discovered that individuals who participated in a nurse-led community program and got guidance on lower leg lifestyle had a heightened understanding of the reasons behind their actions and a clearer awareness of what actions to take. Providing client education enabled individuals with lower leg ulcers to comprehend the rationale for engaging in certain lower leg exercises and making lifestyle modifications (Van Hecke et al., 2011).

Nevertheless, Wellborn and Mocerri (2014) discovered a lack of understanding among persons with chronic venous insufficiency in a wound care clinic. The survey participants acknowledged the need for more client education and expressed a strong interest in obtaining more information on the prevention and treatment of chronic venous insufficiency. Moreover, the participants expressed challenges in obtaining information on chronic venous insufficiency from both online sources and their primary healthcare providers. Hence, it is crucial that individuals suffering with persistent wounds get accurate and up-to-date information from healthcare professionals (Wellborn & Mocerri, 2014).

3. Customer experience

Four studies investigated the subjective experience of individuals who received wound care directed by nurses. Irrespective of whether they were new or returning participants, individuals involved in the Lindsay Leg Club treatment model expressed high levels of satisfaction and would recommend the clinic to others (Clark, 2012). The Lindsay Leg Club approach of treatment distinguishes itself from conventional wound care by emphasizing healthcare in a community environment, where members are actively encouraged to exchange their experiences with one another. The Lindsay Leg Club, which is an innovative paradigm of evidence-based treatment, is increasingly gaining popularity in communities worldwide (Clark, 2012). According to Stevens et al. (2016), 63.3% of individuals receiving home nursing care for chronic wounds expressed a desire to continue the intervention even after the trial had concluded. Participants who received nurse-led wound care reported experiencing significant support from nurses and other care providers. This assistance was much appreciated by both the

participants and their families, providing them with a sense of comfort. (Stevens et al., 2016; Van Hecke et al., 2011; Wellborn & Mocerri, 2014).

4. Economic results

Two studies examined the economic impact of wound care led by nurses. In their study, Bergersen et al. (2016) calculated that the introduction of a wound nurse liaison between a hospital and the community resulted in an annual cost savings of \$28,341 USD for the hospital. This, in turn, led to a reduction in healthcare costs in the city of \$149,754 USD each year. In addition, the use of negative pressure wound care by trained nurses in the community, as opposed to inpatient treatment, led to a cost reduction of £4814GBP per patient, per day (Dowsett et al., 2012). Based on this evidence, more investigation into the cost-effectiveness of nurse-led wound care is justified.

5. Conclusion

The primary conclusions drawn from this literature analysis indicate that community-based nurse-led wound care may provide superior results for individuals with chronic wounds and optimize the use of the healthcare system. Nevertheless, we have recognized the need for enhanced financial resources to support and maintain evidence-based practice, which is carried out by specialized healthcare professionals in the community context.

This study conducted a comprehensive analysis of existing literature to get a deeper knowledge of the results and patient experiences of nurse-led wound care in community settings, specifically in relation to health-related outcomes, client experiences, and economic outcomes. The literature often addressed the issue of pain, and nurse-led care had a significant role in alleviating pain in those with chronic wounds. Most research used evidence-based treatment to promote wound healing. Providing care directed by nurses proved to be a beneficial source of support for individuals with chronic wounds, resulting in high levels of client satisfaction. Nevertheless, it is important to prioritize client education in the nurse-led community context. The nursing care delivered in the community was both cost-effective and resulted in a reduction in healthcare expenditures. Considering that the majority of wound care is administered outside of hospitals and that chronic wounds are more prevalent among elderly individuals, it is evident that there is a distinct need for nurse-led practice models.

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