Journal of Islamic Nursing, 2023, 8(2), 60-65
DOI : https://doi.org/10.24252/join.v8i2.41899
Received October 2023, January 2024, Accepted January 2024, Published January 2024

pISSN 2528-2549; eISSN 2549-5127

DESCRIPTION OF THE USE OF CHRONIC WOUND DRESSINGS BASED ON WOUND CHARACTERISTICS

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Abstract

Currently, wound dressings consist of many types and have different functions. However, the many types of dressings available make it challenging to select the dressing used for wounds. This study aims to determine the description of the use of chronic wound dressings based on wound characteristics. This research design uses a quantitative research design with a retrospective approach. The instrument used in this research was the DMIST observation sheet. The primary dressing used most often at the beginning of wound care is wound half: The first primary dressing in 19 cases (26.0%) and the second primary dressing in 44 cases (60.3%). Meanwhile, the secondary dressing most often used at the beginning of the visit was gauze, as the first secondary dressing in 27 cases (37.0%) and the second secondary dressing in 42 cases (57.5%). Meanwhile, at the end of the treatment process, the first primary dressing was dominated by half of the wounds in 30 cases (41.1%) and the second primary dressing in 28 cases (38.4%). Meanwhile, the most frequently used secondary dressing was gauze in 18 cases (24.7%). In conclusion, the primary dressing widely used in wound care is wound half. The secondary dressing is dominated by gauze.

Keywords*: Wound Dressing, Wound Care, Wound Characteristics, Chronic Wound*

Introduction

Chronic wounds represent a challenging wound type, characterized by a prolonged and intricate treatment process. They pose both international and local concerns, given their considerable prevalence. Globally, chronic wounds account for 2% of all hospitalized patients (Yao et al., 2020). Our prior investigation substantiated this concern, revealing a prevalence of chronic wounds in adults (26.9%) and the elderly (73.1%), with diabetic foot ulcers (DFU) emerging as the primary chronic wound type (Yusuf et al., 2013). The characteristic presentation of chronic wounds often involves yellow and black necrotic tissue, along with other common features such as infection and systemic complications, which can impede the wound healing process (Nugroho et al., 2020). In the context of wound care, it is imperative to meticulously observe and consider the specific characteristics of each wound. This attention to detail is crucial for informed clinical decision-making throughout the wound care process.

The challenges associated with chronic wounds extend beyond epidemiological concerns to encompass intricate treatment hurdles. Managing chronic wounds is a prolonged process impeded by various factors. Key impediments include challenges in infection control, issues related to vascularization, considerations of age, nutritional aspects, complications arising from underlying diseases, psychological factors, and others (Siahaan & Hasugian, 2021). The multifaceted nature of these factors contributes to the protracted nature of chronic wound care. Prolonged wound care, influenced by these contributing factors, can give rise to complications surrounding the wound site. Issues such as infection and excessive exudate may lead to a moist wound environment, creating challenges in the healing process (Junaidi et al., 2022). Consequently, adopting a comprehensive approach that addresses not only the wound itself but also its contributing factors, including treatment considerations and characteristics, is imperative for effective management.

Effectively treating chronic wounds necessitates the implementation of appropriate measures to expedite the healing process, such as opting for gel dressings to create a conducive moist environment (Suparwati et al., 2022). Wound dressing

is a pivotal aspect of chronic wound treatment. In the contemporary landscape, various types of wound dressings are available, each serving distinct functions. However, the abundance of dressing options presents a challenge in selecting the most suitable one for a particular wound (Mustamu et al., 2020). Consequently, this study aims to provide a comprehensive understanding of the utilization of chronic wound dressings based on specific wound characteristics. By delving into the intricacies of wound characteristics and the corresponding dressing choices, the research seeks to offer valuable insights into optimizing the treatment of chronic wounds.

Methods

The research design employed in this study follows a quantitative approach with a retrospective design. Data collection relies on secondary data obtained from patient medical records. The population under consideration encompasses all patients who underwent treatment at the Griya Afiat Makassar Wound Care Clinic between 2020 and 2022. Total Sampling is the chosen method for data collection in this research. The inclusion criteria for this study encompass patients with chronic wounds treated at the Griya Afiat Makassar Wound Care Clinic during the specified period. Conversely, exclusion criteria are applied to patients whose medical records lack the necessary variables for study, including wound depth, wound maceration, infection of the wound, size of the wound edge tissue, wound bed tissue, and type of dressing used. To assess and measure these variables, the research employs the DMIST scale, originally developed for DFU studies (Oe et al., 2020). Despite its primary application in DFU research, the DMIST scale is deemed suitable for this study due to its relevant sub-scales that align with the clinical characteristics of chronic wounds. Ethical cleareance approved form ethical committee No. 567/UN4.14.6.1/KEPK-FKUH/2023 from the Health Research Ethics Commission (KEPK) Universitas Hasanuddin

Results

Table 1: Respondents Characteristics

Respondent Characteristics	Mean (SD)	Min-Max	f	%
Age	54 (11,22)	23-80		
Duration of treatment	39 (45.26)	3-183		
Frequency of Visits	10 (10.45)	2-52		
Types of Wounds				
DFU Wounds			50	68.5
DM Abscess Wound			4	5.5
Burns			4	5.5
Callus Wounds			2	2.7
Arterial Wounds			2	2.7
Laceration Wounds			2	2.7
Abscess Wound			2	2.7
Ca Mammae Wounds			2	2.7
Decubitus Wounds			1	1.4
Luka Pos Op Debri			1	1.4
Non-Foot DM Wounds			1	1.4
Vein Wounds			1	1.4
Post Accident Op Wounds			1	1.4
Years of Treatment				
2022			39	53.4
2021			26	35.6
2020			8	11.0

Our findings reveal that the predominant type of cases in this study were Diabetic Foot Ulcers (DFU), constituting the majority at 50 cases (68.5%). The mean age of the patients was 54 years, ranging from 23 to 80 years. The duration of treatment averaged 39 days, with a frequency of visits occurring approximately 10 times (Table 1).

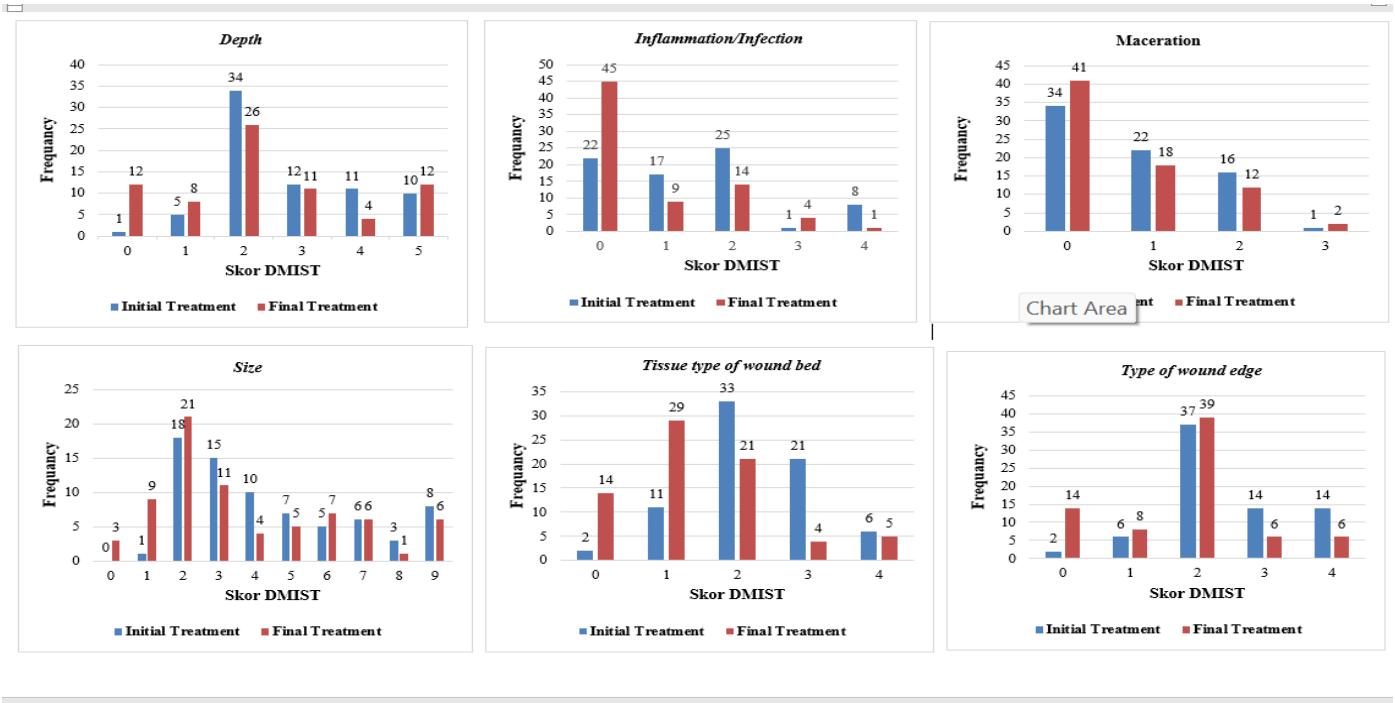

Figure 1: Wound Characteristics based on DMIST Scale

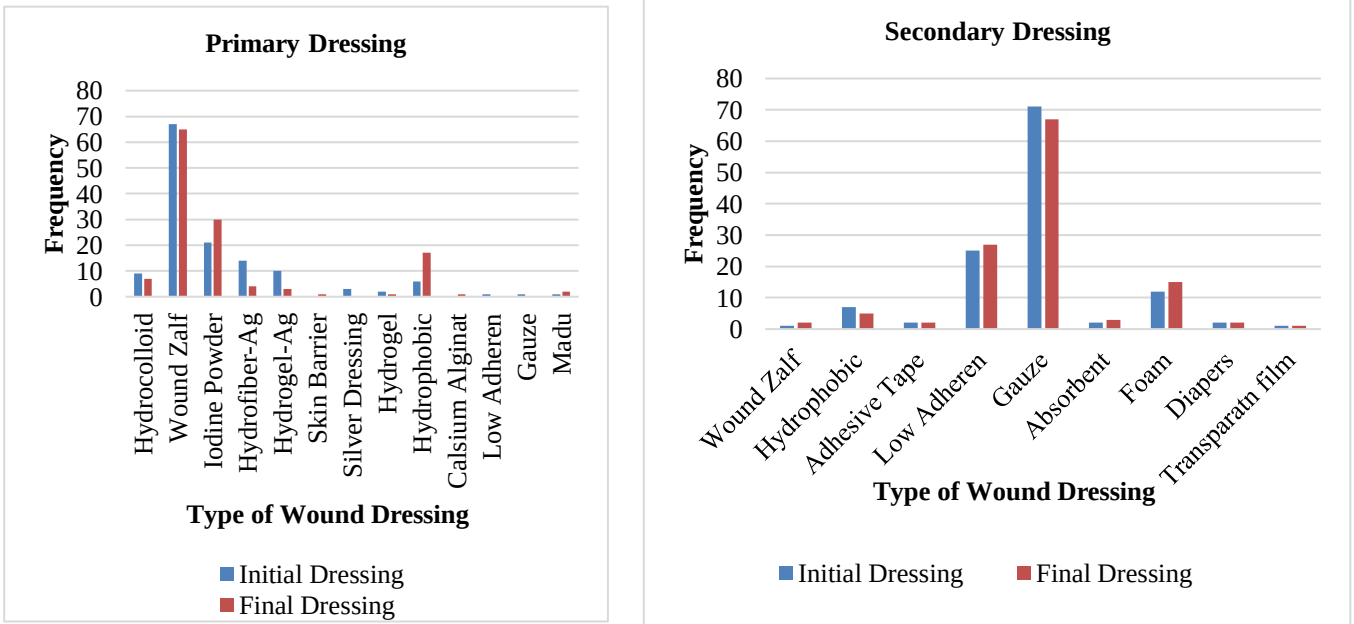

Figure 2: Distribution of Primary and Secondary Dressing

The results indicate positive progress in the wound characteristics. Specifically, concerning inflammation/infection characteristics, cases with signs of local infection (e.g., induration, pus, foul odor) decreased from 25 patients (34.2%) at the initial visit to 14 patients (19.2%). Regarding the type of wound bed, there is also positive healing, with the number of patients with a poor wound bed decreasing from 33 patients (45.2%) to 21 patients (28.8%). Furthermore, the wound edge status confirms healing progress, as wounds with hyperkeratosis/lining/epibole at the initial visit (37 patients, 50.7%) reduced to 39 patients (53.4%) (Figure 1).

In terms of wound dressing, our findings reveal that the most commonly used dressing at the initial admission is Wound Zalf (n: 67, 49.9%) as the primary dressing and Gauze dressing (n: 71, 52.6%) as the secondary dressing. At the conclusion of the wound treatment episode, Wound Zalf remains the predominant topical therapy (n: 65, 48.1%) as the primary dressing, accompanied by Gauze dressing (n: 67, 49.6%) as the secondary dressing (Figure 2).

Discussions

Case Characteristics

The outcomes of the research conducted at Griya Afiat Makassar Wound Care Clinic yielded various case characteristics. The study indicated a higher prevalence of chronic lesions among female cases compared to their male counterparts, aligning with prior research that reported the majority of cases visiting the Griya Care Clinic of the Wound Care Center were female, constituting 70.6% of cases (Rukmi & Hidayat, 2018). Furthermore, the investigation elucidated that diabetic foot ulcers (DFU) were the predominant type of injuries at Griya Afiat Makassar Wound Care Clinic compared to other injury types. This corresponds with findings from Salud Wound Care Clinic, where 44.4% of cases in the study presented with diabetic foot injuries (Sriwiyati & Kristanto, 2020). In terms of age demographics, the study revealed that the average age of cases seeking care at Griya Afia Makassar Wound Care Clinic was 54 years. Notably, the majority of diabetic patients fell within the age range of 46-55 years, comprising 78.3% of cases (Amelia, 2018). Consequently, the research results affirm that advanced age is associated with a heightened risk of injury, particularly in the context of diabetic foot ulcers.

Wound characteristics

The analysis of infection and inflammatory characteristics from the research revealed a decrease in the manifestation of signs of local infection, such as induration, pus, and foul odor, at the final visit. The study indicated that signs of infection or inflammation were prevalent in the wounds of a majority of cases, constituting 41.1% of cases (Kusumaningrum et al., 2020). These findings align with research on diabetic foot wounds, where 98.8% of cases showed clinical evidence of infection at the initial treatment (Pemayun et al., 2015). Given the higher incidence of infection in chronic wounds, understanding the root cause and effectively managing infections becomes crucial. This underscores the importance of proactive measures to identify and address infections in chronic wounds for optimal patient care and wound healing outcomes.

The examination of wound base tissue types with characteristics of white, yellow, and/or grey necrotic tissue revealed a decrease in these features by the end of the visit. This aligns with research conducted by Sriwiyati & Kristanto (2020), where the first observation indicated that 88.9% of wounds were red, and 11.1% were yellow. In the second observation, all wounds were red, suggesting a decrease or improvement in the wound condition. Moreover, there was a notable decrease in the number of cases with necrotic tissue score 4 at the final observation, reducing from covering less than 70% to less than 25% of the wound base (Harmiady et al., 2020). Sukmawati's research (2022) also supported these findings, indicating a reduction in necrotic tissue in wounds, with the base of the wound becoming visible at the next visit. The removal of necrotic tissue from the wound is highlighted as a factor that can contribute to a shorter wound healing time.

The analysis of wound edge types with characteristics of hyperkeratosis, lining, or epibole indicated a decrease in these features at the final visit. This aligns with research conducted by Muliadi et al. (2018), where the wound edge at the initial visit was predominantly characterized by unfused edges in 22 cases. However, by the final visit, all 30 cases (100%) exhibited fused wound edges, indicating a significant improvement. These results are consistent with findings from Gifari's research (2018), which reported no hardening of the wound edges, and an increase or improvement was noted at the final observation. The healing process of the wound edge is identified as a crucial indicator, as emphasized by Mustamu et al. (2020). The presence of fused, clean wound edges without hardening indicates substantial progress in the wound's healing process, marked by regenerative changes at the wound edges.

Wound dressing

From the results of the research conducted at Griya Afiat Makassar Wound Care Clinic, insights were obtained regarding the utilization of primary and secondary dressings. The study revealed that the most commonly used primary dressing at both the initial and final visits was Zalf dressing. Similarly, the predominant choice for secondary dressing at both stages was gauze dressing. In a related study focusing on diabetic foot wounds, Azizah et al. (2019) reported the use of ointment dressing as the primary dressing, complemented by sterile gauze and diapers as secondary dressings. This pattern was mirrored in research conducted by Sukmawati et al. (2022), where zinc cream and chitosan dressing, in ointment form, served as the primary dressing to maintain wound moisture. Subsequently, gauze was applied as a secondary dressing to absorb exudate. Furthermore, Gifari's research (2018) highlighted that the most widely used primary dressing on wounds was the topical cream type, constituting 31.7% of cases. These collective results suggest that topical cream is effectively employed as a primary wound dressing, emphasizing its significance in wound care management.

Conclusions

Based on the research findings detailing the utilization of chronic wound dressings based on wound characteristics at Griya Afiat Makassar Wound Care Clinic, it can be inferred that the primary demographic seeking wound care at the clinic comprises women with an average age of 54 years. The prevailing types of injuries encountered predominantly involve Diabetic Foot Ulcers (DFU). The results of the research concerning wound characteristics, as assessed using DMIST observation sheets, suggest that a majority of the observed wounds undergo a process of regeneration or repair, as evidenced by an increase in the number of improved characteristics. Furthermore, in both initial and final treatments, the primary and secondary dressings employed predominantly include Zalf dressing for the primary dressing and gauze for the secondary dressing. These findings collectively contribute to a comprehensive understanding of the characteristics and dressing preferences in the management of chronic wounds at Griya Afiat Makassar Wound Care Clinic.

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