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Wound Care Management with Primary Dressing on Diabetic Foot Ulcers Patients: A Case Study

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Abstract: Diabetic foot ulcers and diabetic ulcers are some of the consequences that diabetic patients often face. This study aimed to determine wound care using primary dressings on the feet of diabetic patients with tissue integrity problems. The method used in this study was a case study. This study utilized the intervention of treating diabetic foot ulcers of Mrs. J with primary dressings at the ETN Center Makassar Wound Care Home. This study was conducted with one respondent. After the diagnosis was established, the possible nursing intervention was to provide a primary dressing on the wound. After weekly patient wound care, I could see the changes. The visible changes were: The appearance of the scar will differ between the first and second visits. On the first visit, the wound looked like a thin serous exudate: 20%, epithelialized or pink: 70%. However, on the second visit, the wound looked like a thin serous exudate: 15%, epithelialized or pink: 85%. Based on the primary dressing wound care carried out, it can be concluded that primary epithelial cream wound care is effective in healing diabetic ulcers.
Keywords : ulcerbdiabetic, primary dressing, diabetic mellitus.

INTRODUCTION

Diabetes mellitus (DM) is a significant health problem that has reached an alarming level and silent killers. (1) More than four million people in the category aged 20 to 79 years died from this disease. In 2019, diabetes was on the rise to 9.3% (463 million)(2), according to the world's population. Type 2 DM (T2DM) is the most common form of diabetes, accounting for about 90% of all diabetes cases worldwide (3). On a global scale, T2DM attacks the middle age group between 40 to 59 years or major the elderly population. (4) In addition, T2DM affects mainly low- and middle-income countries because 77% of all DM sufferers worldwide live in these countries, according to the International Diabetes Federation (IDF). Indonesia ranks seventh in the world in terms of the number of patients. T2DM is complete in China, India, the US, Pakistan, Brazil, and Mexico. (5)

Increased prevalence in 2013-2018: Except for the province of East Nusa Tenggara, four provinces had the highest prevalence in 2013 and 2018: DI Yogyakarta, DKI Jakarta, North Sulawesi, and East Kalimantan. Several provinces had the highest increase in prevalence of 0.9%, namely Riau, DKI Jakarta, Banten, Gorontalo, and West Papua. (6) The results of the 2018 Riskesdas showed an increase in the number of Diabetes mellitus in Indonesia based on health research and age ≥15 by 2%. (6) This number shows an increase in many areas of Diabetes mellitus in the population ≥15 years, and the results of the 2013 Riskesdas were 1.5%. However, Diabetes mellitus disease Blood sugar test results increased from 6.9% in 2013 to 8.5% in 2018. (7) These statistics show that only about 25 percent of people living with Diabetes know they have Diabetes. T2DM is the most common diabetes found in someone aged 40

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years.

Diabetic ulcers are one of the consequences of the many cases of diabetes mellitus. (8) 15% of people suffer from diabetic wounds, which have a 30% risk of amputation and a 32% risk of death. (9) Eighty percent of hospital care in Indonesia is related to diabetic wounds. In Indonesia, around 13% of diabetes patients receive hospital care, while diabetes patients receive care outside the hospital in around 26%. (10) Diabetic foot ulcers or diabetic ulcers are one of the common consequences faced by people with diabetes mellitus. Neuropathy is the cause of this condition. Diabetic wounds also require ongoing care because they are a chronic condition that is difficult to treat. Diabetic foot wounds arise from repeated friction or pressure that damages the skin. The surface of the skin's epidermis can become damaged and abrasive due to this friction. A person with diabetes, which is caused by an imbalance in blood glucose, is more likely to experience diabetic foot ulcers.

CASES

Mrs. J came with a complaint of a wound on the right leg in the step area for ± 3 months. The wound began with a painful, swollen ulcer lasting ± 8 days. After 8 days, the ulcer developed into a complex wound. As a result of the wound, the patient had to be hospitalized. After being discharged from the hospital, the patient decided to go to the ETN Center for wound treatment. The wound assessment found a grade II diabetic wound, with a base wound of 70% and a slough of 30. The width of the wound was 5 cm, and the length of the wound was 3 cm. There was moderate serous exudate. Blood pressure was 110/70mmhg, pulse 87x/i, respiration 21ix/I, and temperature 36.5. On the wound assessment using the modified Bates Jensen Wound Care Assesment tools (BWAT). The initial score was 22 (October 16, 2024). Based on the calculation of the estimated healing of the wound, it is expected to heal in 10 weeks (December 23, 2024).

METHODS

The case study was conducted in an independent wound nursing practice in October. Care management followed the TIMERS management concept.(6) Documentation of wound development was taken using an Android camera to compare initial to final care visually; quantitatively, the decrease in (BWAT) score became an indicator of wound healing progress. (7)

RESULT AND DISCUSSION

Table 1 hows a significant decrease in the BWAT score from 22 in the first treatment to 21 in the second treatment.

Table 1. BWAT Score

	Day	Score
Cases	1	22
	II	21

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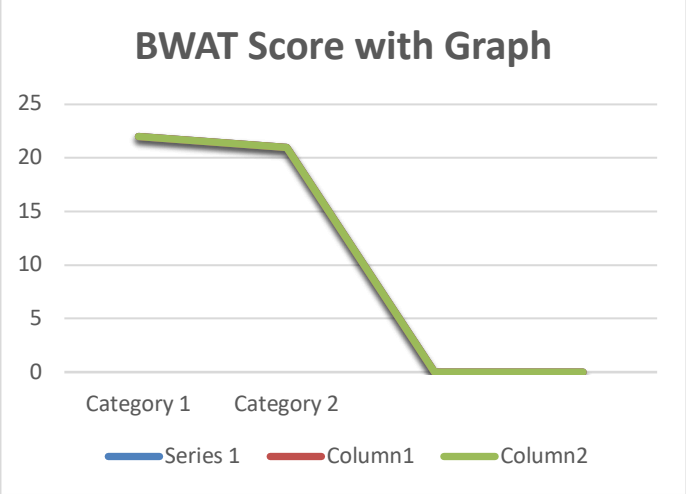

Figure 1 : BWAT Score with Graph

Visually seen in the photo documentation of the wound, there are significant changes in the wound base, which initially had little exudate with a serous type. The appearance of the wound depth in the epidermis to the dermis layer, the edge is visible, blends with the wound base, 20% thin serous exudate soaks the dressing, 70% epitheliating, and there is no necrotic tissue.

Figure 2 : at the first visiting

Figure 3 : at the second visiting

Figure 2 shows a patient's wound from the dermis to the epidermis, with the wound boundaries appearing to merge. The type of serous exudate was thin, with 20% exudate wetting the dressing and 70% wound epithelialization. In Figure 3, at the second visit, with the application of epithelial cream as a primary dressing, there was a patient's wound from the dermis to the epidermis, thin serosa, with 15% exudate wetting the dressing and 85% wound epithelialization.

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DISCUSSION

Diabetic foot ulcers are usually caused by inadequate foot care, peripheral vascular disease, neuropathy, or poor glycemic control. (11) In general, debridement, removal, and infection control are part of treating diabetic ulcers. (12-15) Diabetic foot ulcer treatment in Mrs. J with the main nursing problem of tissue integrity disorders related to mechanical factors, where wound care is carried out by applying a moist concept, which is carried out once every 3 days for each visit. Using epithelial cream as an antimicrobial dressing in wound care. Epithelial cream functions as wound re-epithelialization so that the wound heals quickly. After the assessment, data was obtained that Mrs. J's wound was in proliferation, marked by the presence of granulation tissue of around 20-305. Wound care was carried out once every 2-3 days, so the patient made 2-3 visits in a week.The intervention given was the use of epithelial cream as a primary dressing. Epithelial is an antimicrobial dressing that contains topical ingredients and its benefits in wound healing. Referring to the composition of the epithelial cream containing Zinc Oxide (ZnO), lanolin, rosemary leaf extract, sunflower seed extract, and grape oil.

In line with previous studies, the results showed that the use of antimicrobials such as epithelial cream for wound dressings could improve wound healing in patients, as indicated by the results of the Bates-Jensen score measurements, which decreased. This study aligns with previous studies stating that zinc cream can maintain wound moisture and accelerate healing progress. Based on the findings above, the author concludes that using epithelial cream effectively treats diabetic foot wounds, as evidenced by changes in wound size, granulation tissue, and epithelialization. Epithelial cream effectively maintains moisture in wounds so that prolonged infection does not occur and stimulates cell regeneration.

After nursing care was carried out at the ETN Center Makassar wound care home on Mrs. J for second visits, it can be concluded that the main nursing problem in the patient was tissue integrity disorders, which were then treated using epithelial cream as a primary dressing. Epithelial cream was chosen as a primary dressing because it functions as an antimicrobial that prevents inflammation maintains wound moisture, and helps granulation reepithelialization so that it can accelerate wound healing.

CONCLUSION

This research concludes that there is a relationship between work motivation and nurse compliance in identifying patients when administering medication. It suggests the need for regular supervision by the head of the room regarding nurses' compliance in administering medication according to the hospital's standard operating procedures.

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