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DESCRIPTION OF MODERN WOUND CARE USING RED FRUIT OINTMENT DRESING FOR Mr. S WITH DIABETICT ULCER IN GELANG VILLAGE RAKIT DISTRICT

GAMBARAN PERAWATAN LUKA MODERN DRESSING SALEP BUAH MERAH PADA Tn. S ULKUS DIABETIKUM DI DESA GELANG KECAMATAN RAKIT

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Abstract

Background: Diabetic ulcers are a chronic complication frequently experienced by individuals with diabetes mellitus and significantly contribute to morbidity, mortality, and lower extremity amputation rates. Effective wound management is key to preventing further complications. Modern dressings based on the moist wound healing principle have been proven more effective than conventional methods, as they maintain wound moisture and support tissue regeneration. Objective: To describe the treatment of diabetic ulcers using the modern dressing method with red fruit (Pandanus conoideus Lamk) ointment in Gelang Village, Rakit District. Methods : This study used a descriptive case study approach involving one diabetic ulcer patient who met the inclusion criteria. Wound care was performed every two days for 14 days using modern dressing and red fruit ointment. Data were collected through observation, interviews, and documentation. Results: There was an improvement in wound conditions after the application of red fruit ointment, marked by an increase in granulation tissue and a decrease in necrotic tissue. The active ingredients in the ointment such as β-carotene, tocopherol, oleic acid, and linoleic acid have antioxidant and anti-inflammatory effects that accelerate the healing process. Conclusion: Modern dressing with red fruit ointment is effective in accelerating the healing process of diabetic ulcers and can serve as an alternative topical therapy to support optimal wound recovery.

Keywords: Diabetic ulcers, modern dressing, red fruit ointment.

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1. INTRODUCTION

The World Diabetes Association predicts that the total number of people with diabetes mellitus in Indonesia will increase from 9.1 million in 2014 to 14.1 million in 2035. Indonesia ranks third in the number of diabetes patients, with a prevalence of 11.3%. In Southeast Asia, Indonesia ranks seventh among 10 countries, contributing to the increase in diabetes cases in the region (Anggriani et al., 2020). The prevalence of diabetic ulcers is around 15%, with amputation rates of 30%, mortality rates of 32%, and accounting for 80% of diabetes-related hospitalizations (Dinkes Banjarnegara, 2024). Diabetic ulcers are a major problem in diabetes mellitus due to skin wounds caused by repeated pressure on specific areas. The main cause of health problems and death worldwide is diabetic ulcers, and it is a significant issue being addressed in the healthcare world (Allyhiani et al., 2022).

Diabetic ulcers are wounds that occur due to blockage of blood vessels caused by atherosclerotic microemboli, a complication of vascular occlusion in diabetes patients (Muhammad et al., 2023). Modern wound care methods, such as moisture balance, are being developed to promote wound healing. This method maintains a moist environment, prevents contamination, and supports the growth of cells and cytokines in the wound. Research has shown that modern wound dressing is more effective than conventional wound care in accelerating wound healing in diabetes patients (Subandi et al., 2019; Kartika, 2015).

A study by Irwan et al. (2022) found that modern wound dressing with moist healing was more effective than conventional wound care in promoting wound healing. Another study by Dzaki et al. (2023) found that salep buah merah (red fruit oil) was effective in maintaining skin moisture, preventing irritation, and promoting wound healing. The active compounds in red

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fruit oil, including carotenoids (12,000 ppm), β-carotene (700 ppm), and tocopherol (11,000 ppm), have antioxidant effects that can help reduce blood glucose levels (Khairani et al., 2024).

Based on the background above, the author is interested in conducting a case study on the "Description of Modern Wound Dressing with Red Fruit Oil on Mr. S with Diabetic Ulcers in Gelang Village, Rakit District." This study aims to identify the effectiveness of modern wound dressing with red fruit oil in promoting wound healing in diabetic patients.

2. RESEARCH METHOD

This scientific paper will use a descriptive case study approach. A descriptive case study is a research method that aims to explain a phenomenon that occurs and analyze the results of the subject, but does not aim to provide broader implications (Agusriani et al., 2021). A case study is a type of research used by researchers to explore a phenomenon that occurs in society and seek detailed information using various data collection procedures over a certain period (Fauzi et al., 2022). This case study aims to describe and illustrate modern wound dressing care using red fruit oil (Pandanus conoideus oil) and accelerate healing in diabetic ulcers.

3. RESULTS AND DISCUSSION

Tabel 4. 1 Hasil Pengkajian Luka

Item	Pengkajian	Tanggal						
		18/6/25	20/6/25	22/6/25	24/6/25	26/6/25	28/6/25	30/6/25
Luas luka	1. P x L < 4cm 2. P x L 4 < 16 cm 3. P x L 16 < 36 cm 4. P x L 36 < 80 cm 5. P x L > 80 cm	3	3	2	2	2	2	2
Kedalaman	1. Stage 1 2. Stage 2 3. Stage 3 4. Stage 4 5. *Necrosis Wound*	3	3	3	2	2	1	1
Tepi luka	1. Samar, tidakjelasterlihat 2. Batas tepiterlihat, menyatudengandasarluka 3. Jelas tidakmenyatudengandasarluka 4. Jelas tidakmenyatudengandasarluka, tebal, 5. Jelas, fibriotic, paruttebal / hyperkeratonic	3	3	3	3	2	1	1
Goa	1. Tidak ada 2. Goa < 2 cm di area manapun 3. Goa 2-4 cm < 50% pinggirluka 4. Goa 2-4 cm > 50%	1	1	1	1	1	1	1

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	5. pinggirluka Goa > 4cm dimanapun di area manapun							
Tipeeksudate	1. Tidak ada 2. *Bloody* 3. *Serosanguineous* 4. *Serous* 5. *Purulent*	4	4	4	4	4	1	1
Jumlaheksudate	1. Kering 2. Moist 3. Sedikit 4. Sedang 5. Banyak	3	3	3	3	3	1	1
Warna kulitsekitarluka	1. Normal, merahmuda 2. Merah cerahsaatditekan 3. Putih / pucat/ hipopigmentasi 4. Merah tua 5. Hitam / hyperpigmentasi	2	2	2	2	2	3	3
Jaringan yang edema	1. Tidak adapembengkakanatauedema 2. Tidak ada pitting edema< 4 cm di sekitarluka 3. Tidak ada pitting edema> 4 cm di sekitarluka 4. Pitting edema< 4 cm disekitarluka 5. Krepitasiatau pitting edema> 4 cm	1	1	1	1	1	1	1
Jaringan yang granulasi	1. Kulitutuh / stadium 1 2. 100% jaringangranulasiterang 3. 50% jaringangranulasiterang 4. granulasi 25% 5. Tidak adagranulasi	3	3	3	3	3	2	2
Epitelisasi	1. 100% epitelisasi 2. 75% - 100% epitelisasi 3. 50% - 75% epitelisasi 4. 25% - 50% epitelisasi 5. < 25% epitelisasi	4	3	3	3	2	2	2
	Jumlahskor	26	24	23	22	20	18	15

Table 4.1 shows the results of wound assessment using the Bates Jensen Wound Assessment Tool from June 18, 2025, to June 30, 2025. After 2 weeks of wound care every 2 days using red fruit oil ointment, Mr. S's wound condition showed improvement and no signs of infection. This was evident through evaluation on June 30, 2025, where the initial wound score decreased from 27 to 15, indicating a reduction of 12 points. The wound size was 2.5 cm x 3 cm, with a depth of stage 2, and the wound edges were blurry and unclear. There were no cavities, and no visible exudate. The surrounding skin was pale/ hypopigmented, with no edema. The wound showed 100% bright granulation tissue, and epithelialization was at 100%.

Table 4.2 shows the results of random blood glucose (RBG) tests conducted routinely from June 16 to June 30, 2025. There were changes in blood glucose levels in Mr. S during

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wound care. The initial RBG value was 361 mg/dL on June 16, 2025, and increased to 471 mg/dL on June 18, 2025. The average RBG value was 384.6 mg/dL, which is above the normal limit (100-200 mg/dL). However, a significant decrease to 154 mg/dL on June 30, 2025, indicated a clear improvement towards the end of the monitoring period.

DISSCUSION

Tanggal	Perawatan Luka	Skor Pengkajian	Deskripsi
16 Juni 2025		27	Luka terbukalebar, jaringanputihkekuningan dan pucat, ukuranluka 11,4 cm (P = 3 cm x L = 3,8 cm)dengankedalamanluka stage 2. Tepi lukatampakjelas, tidakmenyatudengandasarluka, tipeeksudat *serous*sertajumlahnyasedikit, warnakulit di sekitarlukamerahsaatditekan dan terdapatjaringangranulasi 25- 50 % danepitelisasi 25%-50 %. Hasil pemeriksaan GDS361 mg/dL
18 Juni 2025		26	Luka terbukalebardenganukuranluka 10,7 cm (P = 2,9 cm x L = 3,7 cm) dengankedalamanluka stage 2 aringanmerahmulaimuncul (granulasiawal), namunmasihada slough kuning.warna kulit normal merah muda , terdapat *callus*,tidak adaedema, jaringan granulasi 25- 50 % dan, epitalisasi 25% -50%. Hasil pemeriksaan GDS 461 mg/dL.
20 Juni 2025		24	Ukuranluka10,1 cm (P = 2,8 cmx L = 3,6 cm) kedalamanluka stage 2, tepiluka: batas tepiterlihatmenyatudengandasarluka. Granulasi 50%warnamerahterang,slough mengering, tepilukakasar, *callus*masihada, epitelisasi 50%. Hasil pemeriksaanGDS: 471 mg/dL.

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22 Juni 2025		23	Ukuranluka 9,5 cm (P = 2,7 x L = 3,5 cm), kedalamanluka stage 2, tepi luka: batas tepi terlihat menyatu dengan dasar lukawarnakulitsekitarluka Pink-merahdominan, granulasi 50%, slough berkurang. *Callus*mulaimenipis, Epitelisasi 50%. Hasil pemeriksaan GDS 439 mg/dL
24 Juni 2025		22	Ukuranluka 8,8 cm (P = 2,6cm x L = 3,4 cm) kedalamanluka stage 2, tepi luka: batas tepi terlihat menyatu dengan dasar luka Terdapatperdarahanringan (*bleeding*), tipeeksudat*bloody,*granulasim erah 50%, epitelisasi 50-72%. Hasil pemeriksaan GDS = 438 mg/dL.
26 Juni 2025		20	Kondisilukamembaik, ukuranlukamengecilmenjadi7 ,5 cm (P = 2,5 cm x L = 3 cm),*callus* menipis,kedalamanluka stage 2, tepi luka: batas tepi terlihat menyatu dengan dasar luka, terjadi granulasi 50% terang, epitelisasi 75%-100%.Hasil pemeriksaanGDS 51 mg/dL
28 Juni 2025		18	Ukuranluka 6,4 cm (P = 2,3 cm x L = 2, 8 cm) Kedalaman stage 1, warnakulit di sekitarlukaputih, pucat/ hipopigmentasi, batas tepiterlihatsamar, tidakjelasterlihatsamar, tidakjelas Luka mulaimengering,hampirseluru h slough hilang,*callus* menipis, warna kulit di sekitar luka putih, pucat/ hipopigmentasi, Hasil Pemeriksaan GDS402 mg/dL.

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30 Juni 2025		15	Lukamengering, ukuranluka 5,0 cm (P = 2,0 cm x L = 2,5 cm ,kedalaman stage 1,warna kulit di sekitar luka putih, pucat/ hipopigmentasi, batas tepi terlihat samar, tidak jelas terlihat muncul epitelisasi 100%, permukaan halus, dan tertutup, Hasil pemeriksaan GDS 154 mg/dL.

Sumber :Koleksipribadi (2025)

This chapter discusses the wound care of Mr. S's diabetic ulcer using red fruit oil ointment. In this case study, the author used a single respondent who received wound care with red fruit oil ointment for 2 weeks, with treatment every 2 days. The wound assessment was conducted on June 18, 2025, and Mr. S had a history of diabetes mellitus. At the time of the assessment, his random blood glucose (RBG) level was 461 mg/dL, and he had a wound on his toe.

The initial wound assessment revealed a wound size of 3 cm x 3.8 cm, with a depth of stage 2, clear edges, no tunneling, serous exudate, and slight edema. The surrounding skin was bright red when pressed, with 25-50% epithelialization. After obtaining informed consent, the author performed wound care using standard operating procedures (SOP).

The results of the wound assessment after the first treatment showed a wound size of 3 cm x 3.8 cm, with a depth of stage 2, clear edges, no tunneling, serous exudate, and slight edema. The surrounding skin was normal pink, with 50% granulation tissue and 25-50% epithelialization. The RBG level was 461 mg/dL, with a Bates-Jensen Wound Assessment Tool (BJWAT) score of 26.

During the 2-week treatment period, Mr. S's blood glucose levels showed an increase, with an initial RBG level of 361 mg/dL (June 16, 2025) and a significant increase to 471 mg/dL (June 18, 2025). This increase may be attributed to several factors, including metabolic condition, stress, and non-adherence to diabetes management.

The wound assessment after the second treatment showed a wound size of 2.9 cm x 3.7 cm, with a depth of stage 2, clear edges, no tunneling, serous exudate, and slight edema. The surrounding skin was normal pink, with 50% granulation tissue and 25-50% epithelialization. The RBG level was 471 mg/dL, with a BJWAT score of 24.

Mr. S reported that the wound started in May 2025 due to a blister that was broken, resulting in a lesion that did not receive immediate care, leading to the wound spreading. According to Muhammad et al. (2023), diabetic ulcers that do not receive prompt treatment can lead to infection, further spreading, and deepening of the wound.

Some cases may require amputation due to tissue necrosis. On the third wound care visit, the wound size had changed to 9.5 cm (2.7 cm x 3.5 cm), with a depth of stage 2, clear edges, no tunneling, serous exudate, and slight edema. The surrounding skin was bright red when pressed, with 50% granulation tissue and 50-75% epithelialization. The random blood glucose (RBG) level was 439 mg/dL, with a Bates-Jensen Wound Assessment Tool (BJWAT) score of 23.

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The results showed that there was a change in callus on the third wound care visit. The callus, which was initially thick, dry, and hard, gradually softened and thinned after the second treatment. The skin texture in the callus area became more elastic, and the skin color appeared brighter, with no signs of inflammation. The reduction of callus in Mr. S's diabetic ulcer is a good clinical sign, as callus is a risk factor for new ulcers.

On the fourth wound care visit, the wound size was 8.8 cm (2.6 cm x 3.4 cm), with a depth of stage 2, clear edges, no tunneling, serous exudate, and slight edema. The surrounding skin was bright red when pressed, with 50% granulation tissue and 50-75% epithelialization. The RBG level was 438 mg/dL, with a BJWAT score of 22.

On the fifth wound care visit, the wound size had changed to 7.5 cm (2.5 cm x 3 cm), with a depth of stage 2, clear edges, no tunneling, no exudate, and dry exudate. The surrounding skin was bright red when pressed, with no edema, 50% granulation tissue, and 75-100% epithelialization. The RBG level was 351 mg/dL, with a BJWAT score of 20.

Mr. S was worried about his high RBG level, which was still above the normal limit. According to Aminuddin et al. (2020), the increase in RBG level shows that there is a metabolic imbalance that occurs simultaneously with the wound healing process. This condition indicates that the success of wound therapy in Mr. S's diabetic ulcer depends not only on topical wound care methods but also on strict and consistent blood glucose control.

On the sixth wound care visit, the wound was dry, with a size of 6.4 cm (2.3 cm x 2.8 cm), depth stage 1, unclear edges, no tunneling, no exudate, dry exudate, pale skin, no edema, 100% granulation tissue, and 100% epithelialization. The RBG level was 402 mg/dL, with a BJWAT score of 18.

The wound was dry, with reduced necrotic tissue, and showed signs of healthy granulation tissue growth. The wound edges were more organized, with no signs of inflammation, and a thin layer of new epithelial tissue had formed. This indicates that the wound was in the proliferation phase, characterized by fibroblast activity, collagen formation, and epithelialization (Diah et al., 2025).

On the seventh wound care visit, the wound had improved and was almost closed, with a size of 5.0 cm (2.0 cm x 2.5 cm), depth stage 1, unclear edges, no tunneling, no exudate, dry exudate, pale skin, no edema, 100% granulation tissue, and 100% epithelialization. The RBG level was 154 mg/dL, with a BJWAT score of 15.

After 2 weeks of wound care with red fruit oil ointment, the wound showed significant improvement. According to Arliagustiani et al. (2025), the use of red fruit oil ointment on diabetic ulcers has a positive impact on wound healing. The ointment contains antioxidants, carotenoids, beta-carotene, tocopherol, and linoleic acid, which have anti-inflammatory and moisturizing properties, promoting wound healing.

4. CONCLUSSION

Based Palu. Based on the results of the study conducted by the researcher for 2 weeks, every 2 days, it can be concluded :\

1. Wound care using modern dressing methods combined with red fruit oil ointment shows positive results in helping the healing process of diabetic ulcer wounds.
2. Before wound care using modern dressing with red fruit oil ointment, the Bates Jensen Wound Assessment Tool score was 27.

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3. After wound care using modern dressing with red fruit oil ointment, there was a decrease in the Bates Jensen Wound Assessment Tool score, from 27 to 15, a reduction of 12 points.
4. Red fruit oil ointment helps in the healing of diabetic ulcer wounds in Mr. S.
5. Diabetic foot ulcers (DFU) with callus growth require footwear that can function as off-loading to reduce pressure on the affected area.

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