



Effectiveness of Virgin Coconut Oil (VCO) Topically to The Formation Granulations of Grade I and II Pressure wound (Decubitus)

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ABSTRACT

Decubitus ulcers or pressure sores are local tissue necrosis when soft tissue is compressed between the bony prominences and the external surface for a long period of time, due to pressure or due to frictional forces. Virgin Coconut Oil (VCO) is pure coconut oil produced from the processing of coconut meat without heating or through low-temperature heating, thus producing oil with a clear color and free from free radicals due to heating. This research aims to determine the effectiveness of using Virgin Coconut Oil (VCO) topically to treat pressure sores (decubitus) grade I and II. The research method used in quantitative research is quasi-experimental with a one-group pre-test and post-test design. Population study This is respondents who experienced wound press decubitus because of prolonged bed rest with condition decubitus wounds grade 1 and 2. Intervention study on group treatment with give virgin coconut oil with a temperature 37 degrees Celsius with method oil done light massage of the back (3 ml), sacrum (1 ml), heel (0.5 ml), buttocks (1.5 ml), ischium (1 ml), elbow (1 ml), malleolus (1 ml) and trochanter (1 ml) for approximately 5 minutes with frequency twice a day during seven days. The results study showing from treatments 1, II, III, IV, V, VI, and VII show results significant exists growth granulation grade II decubitus tissue. Wilcoxon Test showing There is an influence of CVO on growth network granulation on decubitus injury Grade 2. The conclusion is Virgin Coconut Oil is effective in the growth process grade II decubitus granulations. It is recommended that future studies explore the use of technologies, such as laser or ultrasound therapy, along with topical application of VCO to see if there is an improvement in the speed and quality of pressure sore healing.

Keywords: Virgin Coconut Oil, Growth Grade I and II Decubitus Granulations

ABSTRAK

Ulkus dekubitus atau luka tekan adalah nekrosis jaringan lokal ketika jaringan lunak tertekan di antara tonjolan tulang dan permukaan luar dalam jangka waktu yang lama, karena tekanan atau karena gaya gesekan. Virgin Coconut Oil (VCO) adalah minyak kelapa murni yang dihasilkan dari pengolahan daging kelapa tanpa pemanasan atau melalui pemanasan dengan suhu rendah, sehingga menghasilkan minyak dengan warna yang jernih dan bebas dari radikal bebas akibat pemanasan. Penelitian ini bertujuan untuk mengetahui efektivitas penggunaan Virgin Coconut Oil (VCO) secara topikal untuk mengobati luka tekan (dekubitus) grade I dan II. Metode penelitian yang digunakan dalam penelitian kuantitatif adalah quasi eksperimental dengan rancangan one-group pre-test and post-test design. Populasi penelitian ini adalah responden yang mengalami luka tekan dekubitus karena tirah baring lama dengan kondisi luka dekubitus grade 1 dan 2. Penelitian intervensi pada kelompok perlakuan dengan memberikan minyak kelapa murni dengan suhu 37 derajat celcius dengan metode minyak dilakukan pemijatan ringan pada bagian punggung (3 ml), sacrum (1 ml), tumit (0,5 ml), pantat (1,5 ml), ischium (1 ml), siku (1 ml), malleolus (1 ml) dan trokanterus (1 ml) kurang lebih selama 5 menit dengan frekuensi dua kali sehari selama tujuh hari. Hasil penelitian menunjukkan dari perlakuan I, II, III, IV, V, VI, dan VII menunjukkan hasil yang signifikan adanya pertumbuhan granulasi jaringan dekubitus grade II. Uji Wilcoxon Test menunjukkan ada pengaruh CVO terhadap pertumbuhan granulasi jaringan pada luka dekubitus grade II. Kesimpulannya adalah Virgin Coconut Oil efektif dalam proses pertumbuhan granulasi jaringan luka dekubitus grade II. Disarankan agar penelitian selanjutnya mengeksplorasi penggunaan teknologi, seperti terapi laser atau ultrasound, bersama dengan aplikasi topikal VCO untuk melihat apakah ada peningkatan kecepatan dan kualitas penyembuhan luka tekan.

Kata Kunci: Minyak Kelapa Murni, Granulasi Dekubitus Tingkat Pertumbuhan I dan II

INTRODUCTION

Pressure sores are injuries to the skin as a result of constant pressure due to impaired mobility. Decubitus often known as pressure sores are localized injuries to the skin and/or underlying tissue, usually over bony prominences, as a result of pressure or a combination of pressure and friction (Santiko & Faidah, 2020) . Decubitus is a local injury to the skin or tissue usually caused by bone protrusion as a result of unrelenting pressure or pressure in combination with friction (Zikran, Pahria & Adiningsih, 2023) .

Decubitus ulcers or pressure sores are local tissue necrosis when soft tissue is compressed between the bony prominences and the external surface for a long period of time, due to pressure or due to frictional forces. Pressure results from reduced blood flow and ultimately causes cell death, skin damage, and the development of open wounds (Wasliyah, 2018) . Decubitus is caused by unremitting pressure with great force in a short time or with less force over a long period which disrupts the blood supply to the capillary network, inhibiting blood flow so that the tissue does not get oxygen and nutrients (Zikran, Pahria & Adiningsih, 2023) .The incidence of decubitus worldwide occurs in around 1,000,000 patients who experience decubitus, 65,000 of whom die (Apryanto, & Satiti, 2023). The prevalence of pressure ulcers is around three million adults in America, which is an average of 25%. The prevalence of pressure ulcers in Europe is 10.5% and in England from 6.7% to 42.7% (Zikran, Pahria & Adiningsih, 2023) . The prevalence of pressure ulcers in *international studies* throughout the world reached 63.6%, in Indonesia it reached 33.3%, which is still high compared to ASEAN (Europe, America, England and Singapore) (Wardani, & Nugroho, 2022)

One solution to prevent pressure sores (decubitus) is topical application. To reduce the possibility of developing decubitus in all patients, nurses must take various preventive measures, such as nurses maintaining patient skin cleanliness, maintaining skin integrity, teaching patients and families about prevention and providing nursing care on how to prevent decubitus (Santiko & Faidah, 2020) . Wound treatment can be done using ingredients of natural origin. Many of these natural ingredients contain anti-inflammatory, antibacterial, antioxidant and can stimulate collagen growth. The use of these natural ingredients has been widely used by the community, both for treating acute and chronic wounds. Several wound treatments have been carried out using ingredients containing Virgin Coconut Oil (VCO) (Dafriani et al. , 2020) ,

Virgin Coconut Oil (VCO) is pure coconut oil produced from the processing of coconut meat without heating or through low-temperature heating, thus producing oil with a clear color and free from free radicals due to heating (Rukmana, Komalasari & Hasibuan, 2017) . The content of VCO is a scientific fat that can play an antimicrobial role in the skin and protect the skin from infection (Zahra, & Dwiningsih, 2023) . Virgin Coconut Oil (VCO) has benefits, including being able to make new blood vessels in wounds form more quickly. Contains many antioxidants, can help wound healing, and healing is assisted by a constant supply of nutrients and oxygen (Achiyat, Julianto, & Puspasari, 2023) , contains antibacterials (Shilling, et al., 2013), and anti-inflammatory (Intahphuak, Khonsung, & Panthong, 2010).

Based on the results of research conducted by Rukmana, Komalasari and Hasibuan (2017), it was found that virgin coconut oil was proven to be effective in preventing pressure sores in immobility patients. In research conducted by (Sumah, 2020). VCO was used in patients with decubitus wounds as a medication used topically in the amount of 5 ml which was applied within 20 minutes and added with massage efflurage for 4-5 minutes in the sacrum, dorsal, humerus, and patella. The results of the study showed that preventive measures with VCO intervention were significantly effective in preventing pressure ulcers in stroke patients (p-value <0.05). Research conducted by Handayani, Irawaty, & Panjaitan, (2011) showed that giving Virgin Coconut Oil (VCO) with massage was effective for use in preventing grade I pressure ulcers in patients at risk of developing pressure ulcers. Focus studies study This is a group of decubitus wounds of the elderly who suffer wound suppress grade 1 and II intervention with giving CVO as much as twice a day for seven days will increase granulation healing decubitus wounds grade 1 and II. This research aims to determine the effectiveness of using Virgin Coconut Oil (VCO) topically to treat pressure sores (decubitus) grade I and II.

METHODS

The research method used in quantitative research is quasi-experimental with a one-group pre-test and post-test design. Population study This is respondents who experienced wound press decubitus because of prolonged bed rest with condition decubitus wounds grade 1 and 2. Intervention study on group treatment with give virgin coconut oil with a temperature 37 degrees Celsius with method oil done light massage of the back (3 ml), sacrum (1 ml), heel (0.5 ml), buttocks (1.5 ml), ischium (1 ml), elbow (1 ml), malleolus (1 ml) and trochanter (1 ml) for approximately 5 minutes with frequency twice a day during seven days. Results study showing from treatments 1, II, III, IV, V, VI, and VII show results significant exists growth granulation grade I and II decubitus tissue. Analysis with Wilcoxon Test with level significant (p value <0.05).

RESULTS

Table 1. Treatment Results wound with the use of Virgin Coconut Oil

Intervention	Minimum	maximum	Mean \pm SD	p-value
T1	8.54	16.80	16.23 \pm 20.33 ^a	0.008
T2	7.34	15.50	15.6 \pm 2.43 ^a	
T3	8.12	16.80	16.76 \pm 2.56 ^a	
T4	10.80	20.50	16.35 \pm 2.53 ^a	
T5	8.43	13.34	13.65 \pm 2.33 ^a	
T6	9.54	18.45	18.5 \pm 2.38 ^a	
T7	13.94	23.45	23.14 \pm 2.39 ^a	

Table 1 shows that giving and rubbing virgin coconut oil on area grade 2 decubitus wounds can increase granulation And healing wounds. Giving 5 ml of VCO with frequency twice a day for 7 days with temperature body can improve the granulation process of wound press grade 1 and 2 decubitus with (p value <0.05). $p=0.008$ shows existing significance granting VCO to growth network decubitus wounds grade 1 and II.

DISCUSSION

Decubitus ulcers or pressure sores are local tissue necrosis when soft tissue is compressed between the bony prominences and the external surface for a long period, due to pressure or due to frictional forces. Pressure results from reduced blood flow and ultimately leads to cell death, skin damage, and the development of open wounds. Decubitus is caused by unrelenting pressure with great force in a short time or with less force over a long period which disrupts the blood supply to the capillary network, inhibiting blood flow so that the tissue does not get oxygen and nutrients Primary risk factors are risk factors that cause decreased movement (morbidity) resulting in relative/total immobilization, namely. Virgin coconut oil is pure coconut oil produced from processing coconut meat without heating and has many benefits, one of which is supporting tissue repair and healing (Mayangsari, 2020; Yeap, et al., 2015). Virgin Coconut Oil (VCO) is pure coconut oil produced from the processing of coconut meat without heating or through low-temperature heating, thus producing oil with a clear color and free from free radicals due to heating (Rukmana, Komalasari & Hasibuan, 2017) . Virgin Coconut Oil (VCO) has benefits, including being able to make new blood vessels in wounds form more quickly. Contains many antioxidants, can help wound healing, and healing is aided by a constant supply of nutrients and oxygen (Achiyat, Julianto, & Puspasari, 2023). Using a way topical directly on the skin believed as method best to get VCO benefits supported by a study. Vitamin E from the VCO given in a way topical can absorbed in 24 hours. Vitamin E is a functioning substance as a cell membrane stabilizer, protecting damaged cells from radicals free and as savings fat in cell organelles. Besides that, VCO has the ability antioxidant, antimicrobial, antifungal, and protect skin from dangerous radical free, and degeneration network (Setiyowati, 2018; Yeap, et al., 2015).

CONCLUSION

The conclusion is Virgin Coconut Oil is effective in the growth process of grade II decubitus granulations. It is recommended that future studies explore the use of technologies, such as laser or ultrasound therapy, along with topical application of VCO to see if there is an improvement in the speed and quality of pressure sore healing.

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