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THE EFFECT OF GIVING VIRGIN COCONUT OIL MASSAGE ON PATIENTS WITH PRESSURE WOUNDS IN THE INTENSIVE CARE UNIT

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ABSTRACT
Patients on bed rest in the ICU who experience pressure sores cause problems with skin and tissue integrity. As a result, the skin becomes dry, the wound becomes red and causes infection. This data raises nursing problems, namely disruption of skin and tissue integrity. The intervention of providing massage using Virgin Coconut Oil is a non-pharmacological therapy that is applied with the aim of preventing and reducing the incidence of pressure sores in patients who have been on bed rest for a long time. The aim of this research is to search for and analyze articles on the implementation of massage with Virgin Coconut Oil on bed rest patients with pressure ulcers in the ICU. This research method uses a literature review method through a data search base via search engines such as the Biomedic Database (PubMed) Google Scholar and Science Direct with the keywords namely ICU patients OR ICU Patients AND Virgin Coconut Oil OR VCO OR coconut oil AND pressure ulcer OR pressure sore were reviewed according to the PRISMA flow diagram. A total of 37 articles were found from searches using predetermined keywords then adjusted to the journal inclusion criteria. We found 6 journals that met the inclusion criteria and continued with review. The review process is carried out by analyzing the interventions carried out, the research methods used and the research results. The results of the review showed that pressure sores measured on the Braden scale by using Virgin Coconut Oil massage decreased compared to before. So, the results of this review can be a basis for health workers, especially nurses, to apply massage with Virgin Coconut Oil to bed rest patients to prevent pressure sores.

Keywords: icu patients; pressure ulcer; virgin coconut oil

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INTRODUCTION

The incidence of pressure ulcers in patients on bed rest in the ICU is a problem that often occurs in hospitals. Pressure ulcers are areas of tissue injury to the skin or soft tissue that covers and protrudes the bone. Pressure sores occur due to the process of pressing for a long time and experiencing friction on the skin (National Pressure Ulcer Advisory Panel, 2019). The cause of pressure sores, according to Gail et al. (2019), is that there is pressure on the soft tissue over the protruding bone and there is pressure from the outside for quite a long time. Pressure sores occur on bones that come into contact with surfaces such as clothing or medical equipment (Nanda, 2022). Pressure sores can occur on the sacrum, heels, elbows, lateral malleolus, greater trochanter, and ischial tuberositis, Pokorna et al. (2019).Pressure ulcer rates between 5-11% occur in acute care, 15-25% in long-term care, and 7-12% in home care settings, with a fairly high incidence rate in neurological patients due to immobility and reduced sensory abilities (Widayanti, 2022). Prevention of pressure ulcers in patients with bed rest is done by reducing the risk of friction between the skin and clothing or the surface of objects (Budrujamaludin et al., 2022). Massage therapy is a safe and effective way of healing (Nisal et al., 2019). According to the National Pressure Ulcer Advisory Panel (NPUAP), one effort to prevent pressure ulcers is to carry out skin care through massage using various

methods or ingredients, such as virgin coconut oil (VCO). Massage aims to moisturize the skin so that if it experiences friction and pressure, it does not cause the skin to become injured.

The results of previous research show that massage with VCO can reduce the decline in the Braden scale. Virgin Coconut Oil (VCO) is pure coconut oil that contains 92% saturated fatty acids consisting of 48-53% lauric acid, 1.5-2.5% oleic acid, and other fatty acids such as 8% caprylic acid and 7% capric acid. Fatimah et al. (2022). Virgin Coconut Oil (VCO) has benefits in healing tissue repair, killing bacteria that cause ulcers (Sumah, 2020). In research by Rahayu et al., 2022, the results showed that the content of virgin coconut oil (VCO) was good for moisturizing the skin, reducing inflammation, and supporting tissue repair and healing. The aim of this research is to search for and analyze articles related to the effect of Virgin Coconut Oil massage on ICU patients with decubitus wounds.

METHOD

This research method uses a literature review method for articles published from 2019-2023. Literature review is a research method that reviews primary research results to produce more comprehensive and balanced facts (Anita, 2019). Data search base via search engines such as Biomedic Database (PubMed), Google Scholar, and ScienceDirect, with the selected keywords namely: "ICU Patients" OR "ICU Patients" AND "Virgin Coconut Oil" OR "VCO" OR "coconut oil" AND ""pressure ulcer" OR "pressure ound." The literature review was carried out by screening selected journals, namely checking the PICOS standards. The aim is to find out whether the journal is suitable as a basis for research. There are 5 points in the PICOS standard, namely: P (population), namely ICU patients; I (intervention): Virgin Coconut Oil (VCO); C (comparison), namely none; O (outcome); pressure ulcers; S (study design); a quasi-experiment with a pre-post test. Inclusion criteria include keywords, ICU patients, the form of intervention provided, namely Virgin Coconut Oil (VCO) massage, articles published in the 2019-2023 period, articles available in full text, and articles using the research method Quasy experiment with a pre-post test. A total of 37 articles were found from searches using predetermined keywords, then adjusted to the journal inclusion criteria, we found 6 journals that met the inclusion criteria and continued with review. The review process is carried out by analyzing the interventions carried out, the research methods used and the research results.

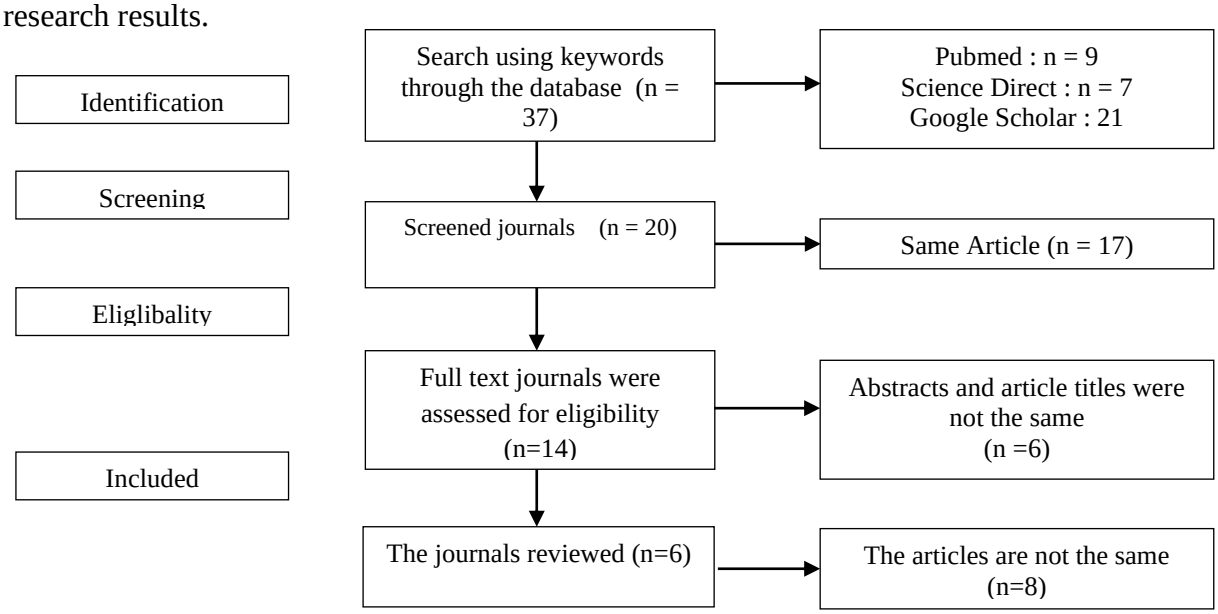

Figure 1. PRISMA Flow Diagram

RESULTS

Search results using three data bases resulted in a total of 37 articles. The number of included articles was 6 and continued with a careful selection process because there were still articles that did not meet the criteria desired by the researchers. The careful article selection process resulted in 12 excluded articles, then a feasibility assessment was carried out using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) method with the final result being 6 articles that were suitable for review.

Sample Characteristics

The articles analyzed were 6 articles with a total of 97 patients aged 26 to 60 years. Gender was mentioned in all articles, with male patients outnumbering female. The subjects of this research were patients with pressure ulcers. The intervention carried out on patients is massage. A summary of patient characteristics can be seen in table 1.

Table 1.
Data Extraction

Results Study	Number Respondents	Age Range	Exercise Type
Astuti, G. P et al, (2023)	2 respondents 1 man 1 woman	>60	Massage
Nisak et al, (2019)	12 respondents 8 man 4 woman	>60	Massage
Tri Rahmawati et al, (2023)	2 respondents 1 man 1 woman	<60	Massage
Cipta Catur Ri Rahayu et al, (2022)	13 respondents 7 woman 6 man	26-35	Massage
Santiko et al, (2020)	23 respondents 10 man 13 woman	>60	Massage
Az Zahra, A. A et al, (2023)	15 respondents 11 man 4 woman	>50	Massage

Interventions provided

The type of intervention carried out to reduce pressure sores in bed-clothed patients in the Intensive Care Unit (ICU) is massage. The results of the measurements and research findings are in table 2.

Table 2.
Summary of Interventions, Measurement Results, and Research Results

No	Research	Country	Research Design	Type of Intervention	Duration	Frequency of Intervention	Results Measurement	Research Findings
1	Astuti, G. P et al(2023)	Indonesia	Pre post test one grup study design	Massage *virgin coconut oil* (VCO)	5 menit	2x a day for 2 days	pressure sores	Shows changes after giving Virgin Coconut Oil (VCO) via massage for 5 minutes within a period of 2 days showing changes in the Braden scale score of the first respondent with very high risk and after being given it became high risk, while the second respondent with results before high risk and after giving be low risk.
2	Nisak et al, (2019)	Indonesia	Pre post test one grup study design	*Massage* using *olive oil*	5-10 minutes	1x a day for 5 days	Decubitus wounds	Patients who received massage using olive oil showed a p-value of 0.04 (<0.05), which means that olive oil massage was significant in preventing pressure ulcers.
3	Tri Rahmawati et al, (2023)	Indonesia	*Quaisy Eksperimental Design*	Massage Effleurage with Virgin Coconut Oil(VCO)	4 minutes	2x a day for 3 days	prevention of decubitus	The risk of decubitus before effleurage massage with virgin coconut oil for respondents is included in the very high risk and high risk categories. The risk of pressure ulcers after effleurage massage with virgin coconut oil is in respondents in the high risk and low risk categories. There is a difference in the development of the risk of pressure ulcers in bed rest patients before and after the massage effleurage intervention with virgin coconut oil
4	Cipta Catur Ri Rahayu et al, (2022)	Indonesia	pretest–posttest control	Massage withVirgin	-	1x a day for 3 days	Decubitus wounds	Respondents had signs and symptoms of

No	Research	Country	Research Design	Type of Intervention	Duration	Frequency of Intervention	Results Measurement	Research Findings
			group design	Coconut Oil				developing pressure ulcers such as persistent redness of the skin. After the intervention was given, they had a mild risk of developing pressure sores and did not appear reddish, the skin became moist, soft and not dry. There is an effect of massage with virgin coconut oil in bed rest patients on the incidence of decubitus wounds
5	Santiko et al, (2020)	Indonesia	pretest–posttest control group design	Massage With Virgin Coconut Oil	4-5 minutes	1x a day for 3 days	Pressure sores	Results before high risk and after administration become low risk. There is a reduction in the risk of pressure ulcers after applying mobilization and massage to patients on bed rest in the ICU.
6	Az Zahra, A. A et al, (2023)	Indonesia	*Quasy eksperiment design*	Virgin Coconut Oil	-	1-2x day for 7 days	Decubitus wounds	The application of effleurage massage using VCO (Virgin Coconut Oil) for 3 days experienced an increase, namely in subject I from 9 to 11 while subject II from 15 to 21. There was a difference in the Braden scale score before and after the application of effleurage massage using VCO (Virgin Coconut Oil).) in stroke patients with prolonged bed rest.

Table 3.
Measurement Results After Massage

No.	Study	Braden Scale
1	Astuti, G. P et al (2023)	↓
2	Nisak et al, (2019)	↓
3	Tri Rahmawati et al, (2023)	↓
4	Cipta Catur Ri Rahayu et al, (2022)	↓
5	Santiko et al, (2020)	↓
6	Az Zahra, A. A et al, (2023)	↓

DISCUSSION

The results of the journal that have been reviewed are 6 articles (6 national articles), all of which evaluate the results of massage in patients on bed rest in the ICU who have pressure sores. The six articles show that after massage there tends to be a decrease in branden scores.
Tabel.3 Measurement Results After MassageThe results of the literature review found six articles that could be analyzed. The author concluded that these 6 articles were successful in providing intervention in the form of massage using virgin coconut oil (VCO) so that pressure sores in ICU patients decreased. This has similarities as proven in research results by Astuti, G. P. et al. (2023), Santiko et al. (2020), Cipta Catur Ri Rahayu et al. (2022), Nisak et al. (2019), Tri Rahmawati et al. (2023), Az Zahra, A. A. et al. (2023) that there is an effect in implementing massage with Virgin Coconut Oil (VCO) with the results of the Braden scale decreasing before and after giving the massage.The difference in these 6 articles lies in the research design used by Astuti, G. P. et al. (2023), Santiko et al. (2020), Cipta Catur Ri Rahayu et al. (2022), Nisak et al. (2019), used a pre-posttest one-group study design research design, while Tri Rahmawati et al. (2023), Az Zahra, A. A. et al. (2023), used the Quasy experimental design research method.

The conclusions in these 6 articles use a quasi-experimental design research design, a pretest-posttest control group design, and a pre-posttest one-group study design. This is in line with research conducted by (Putri Astuti et al., 2023) after the implementation of giving Virgin Coconut Oil (VCO) through massage to two patients, an increase in the Braden scale was obtained, so that giving VCO can be an intervention that can be carried out to prevent pressure sores.In the article, giving massage with virgin coconut oil has an effect on preventing pressure sores. Virgin coconut oil contains antioxidants and vitamin E, which can be used as a skin protector and soften the skin, as well as a topical ingredient for moisturizing and preventing dry skin. Giving VCO massage is done by cleaning areas that are often stressed so that there is not a lot of sweat, which causes irritation to the skin.Virgin Coconut Oil (VCO) is a processed vegetable oil from the coconut plant. VCO is produced from fresh coconut meat, the processing of which does not go through a chemical process and does not use high heat, so that the characteristics of the oil produced are clear in color and have a distinctive coconut aroma (Melati Ananda Kusuma et al., 2020). Virgin coconut oil (Virgin Coconut Oil) contains short- and medium-chain fatty acids (caprylic, capric, and lauric), which are known to have certain biological functions for the human body.

CONCLUSION

The conclusions that can be drawn based on the results of the analysis of six articles selected according to the inclusion criteria from 2019-2023 show that massage using Virgin Coconut Oil (VCO) can prevent pressure sores before and after massage. Apart from this, it can also be concluded that the content in virgin coconut oil can be a therapy to prevent dryness and dampness.

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