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Original Article

EFFECTIVENESS OF MASSAGE WITH VIRGIN COCONUT OIL IN THE PREVENTION OF DECUBITUS ULCERS IN HIGH-CARE UNITS

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ABSTRACT

Background. Decubitus ulcers or pressure ulcers are wounds caused by prolonged pressure on the skin due to continuous lying down, which is one of the main causes of mortality and morbidity in patients in health services. Virgin Coconut Oil (VCO) is a method of preventing decubitus ulcers by means of massage which contains natural moisturizers, is easily absorbed by the skin, contains vitamin E and helps maintain skin moisture. This study aims to determine the effectiveness of massage with virgin coconut oil in preventing decubitus ulcers in high-care units. **Research Method.** Pre-test and Posttest-only with control group design was used as the design in this research. The population in this study was 30 respondents who were divided into two control and treatment groups using an incidental sampling technique. Data collection was carried out by observation during 7 days of treatment of treatment and control respondents in observation sheets according to the EPUAP Pressure Ulcer Classification. Test the hypothesis using the Independent t-test. **Findings.** The analysis results showed that the P value was $0.005 \leq 0.05$, and there was an influence of virgin coconut oil on the level of pressure ulcers. **Conclusion.** Early monitoring of symptoms and risks of pressure ulcers so that patients avoid symptoms of pressure ulcers and optimize the patient health status, especially in high-care units.

Keywords: Decubitus Ulcers, Massage, Virgin Coconut Oil.

BACKGROUND

Decubitus ulcers, also known as pressure ulcers, are wounds caused by prolonged pressure on the skin., which is one of the main causes of mortality and morbidity in patients in health services, the epidemiology of decubitus ulcers is still very limitedly reported in the world. Globally the incidence of decubitus ulcers reaches 33%. This causes decubitus ulcers to become a big problem in acute and chronic health care centers. The incidence of decubitus ulcers among hospitalized patients in the United States was found to range from 2.7 to 29 percent in 2020, with intensive care settings reporting an incidence as high as 33 percent [1].

The prevalence of decubitus ulcers has also been documented from various countries and continents, with figures of 49 percent in Europe, 8.3 percent to 22.9 percent in Western Europe, 22 percent in North America, and 50 percent in Australia. There is no definitive data regarding the incidence of pressure ulcers published yet. However, 33 percent of patients receiving care in the ICU unit experienced pressure ulcers, compared to the incidence of

pressure ulcers in Southeast Asia which ranges from 2.1 percent to 31.3 percent, the figure this is quite high [2]. This was confirmed by a single center study conducted by Suriadi et al. reported that the incidence of decubitus ulcers in the Pontianak area in 2003 was 33.3 percent. Another study involving 1,132 patients in 4 hospitals in Indonesia, found that the incidence of decubitus ulcers was 8%, with an increase in incidence of 44% before admission to hospital. It was also reported that 65,000 out of 1,000,000 people with decubitus ulcers experienced death due to complications caused by by the decubitus ulcer [1].

Decubitis ulcers usually develop on the skin and tissue around prominent bones, such as the elbows, sacrum, buttocks, heels, and ankles. This condition commonly occurs in high-risk patients with general medical conditions such as diabetes, stroke, malignancy/cancer, long-term surgery, and critical illnesses that require intensive care unit (ICU) treatment [3]. Decubitus ulcers themselves have consequences if they are not treated immediately, such as cellulitis, bone and joint infections, cancer and even lead to death due to infection which then spreads to sepsis [4].

From these results, data was obtained on the incidence of pressure ulcers in the last year in 2021 with the number of patients admitted in a year being 1208 patients, the incidence of pressure ulcers occurring in 72 patients with a presentation of 5.9%, this data is included in the incidence of pressure ulcers in Southeast Asia which has a prevalence ranges from 2.1 percent to 31.3 percent, therefore preventing decubitus ulcers is the best thing compared to treating them. The role of nurses here is very much needed in preventing the risk of decubitus ulcers, this is in accordance with the nursing model theory according to Jean Watson, "Human Science and Human Care" is a nursing publication. Watson thought that the components of care and attention to the sources of care from a humanistic perspective combined with the basis of science should be the main focus in nursing [5]. For this reason, things that need to be considered are preventive measures to reduce the risk, including changing body position periodically, adequate fluid and nutritional intake, and applying lotion to the skin [6]. Among the prevention of decubitus ulcers, we know the application of lotion to the skin, one of the functions of which is to maintain skin moisture. So the researchers intend to convey one of the preventions of decubitus ulcers, especially in terms of applying lotion through the use of Virgin Coconut Oil (VCO).

Virgin coconut oil (VCO) is a type of coconut oil made by processing coconut meat without heating it or heating it at a low temperature to avoid producing free radicals which would otherwise occur. VCO includes 92 percent saturated fatty acids, including 8 percent caprylic acid and 7 percent capric acid, 48 to 53 percent lauric acid, and 1.5 to 2.5 percent

oleic acid. And according to Siswono (2006) explains that because VCO is fast absorbed by the skin and contains vitamin E, considered beneficial for skin health. In accordance with Law Number 36 of 2009 Article 101, which states that "traditional medicinal sources that have been proven to be efficacious and safe to use in the prevention, treatment, maintenance and/or preservation of health are maintained." [3]. Various research findings, such as those conducted by Putri, Ni Luh Gede Wahyuni Giri (2021), who found a relationship between giving pure coconut oil and the risk of developing pressure ulcers in the intensive care unit at Mangusada RSD, support the use of VCO. The P value is equal to 0.001 [7]. And research results from A Adevia and NR Dewi (2021). The results of the application show that, after implementing massage efforts using VCO, subject I's Braden scale increased from 9 to 12 while subject II increased from 14 to 21 [8]. This study aims to determine the effectiveness of massage with virgin coconut oil in preventing decubitus ulcers in high-care units.

RESEARCH METHOD

This study used a research design with the design used being a pre-test and posttest design with a control group (pre-posttest with control group design) without a pretest because the cases in the experimental group and the control group were considered the same before treatment was carried out. The independent variable in this study was massage with virgin coconut oil, and the dependent variable was decubitus ulcers. The population in this study was 30 patients treated in the HCU ward of a private hospital, divided into 2 groups, namely a treatment group of 15 people and a control group of 15 people. The instrument used as a data collection tool in this research was an observation sheet with a rating scale using the International NPUAP/EPUAP Pressure Ulcer Classification System classification.

Data collection technique was research preparation. Determining the problem being studied in this stage, the researcher began by determining the phenomenon of the incidence of pressure ulcers in the HCU room of a private hospital. The implementation of the research includes the researcher requesting a letter of permission to conduct research and having passed the hospital ethics test number 438/Ethics/4.1/2021

The researcher met with the Nursing Manager to explain the aims and objectives, along with requesting research permission. Researchers conducted a preliminary study through interviews with the Head of the Hibh Care Unit to obtain initial data regarding the incidence of pressure ulcers in 2021. After obtaining permission for research, the researcher contacted the Head of the HCU Unit and the nursing department to observe patients in the HCU room.

After observation, the sample size of patients in the HCU room who then became respondents was 30 patients divided into 2 groups of respondents, namely 15 patients with control and 15 patients with treatment for data collection during 7 days of treatment. After the respondents were determined, the treatment group was given treatment which became routine / SOP plus massage with virgin coconut oil once every day, while the control group was given treatment which became routine / SOP in private hospitals. Evaluation of the condition of the ulcer level of respondents in the treatment and control groups was observed every day by researchers until 7 days of treatment. Each evaluation is documented in an observation sheet format to see whether there is an increase in the grade of the pressure ulcer according to the International NPUAP/EPUAP Pressure Ulcer Classification System classification. After the 7th day of treatment in the treatment group and control group, the evaluation data was documented and the effect of virgin coconut oil massage on preventing pressure ulcers was seen whether it was effective in preventing pressure ulcers.

FINDINGS

Table 1. Frequency distribution of decubitus ulcer levels among treatment respondents before and after being given virgin coconut oil massage

Grade Ulcus Pre-Test			Grade Ulcus Post-Test		
Grade	N	%	Grade	N	%
Grade 0	9	60	Grade 0	12	80
Grade 1	3	20	Grade 1	1	6.7
Grade 2	2	13.3	Grade 2	2	13.3
Grade 3	1	6.7	Grade 3	0	0
Grade 4	0	0	Grade 4	0	0
Total	15	100	Total	15	100

Based on the results of observations, the majority before and after treatment showed grade 0 diabetes ulcers, pre-test (60%) to post-test(80%). There were changes in all grades of decubitus ulcers after being given virgin coconut oil therapy.

Table 2. Frequency distribution of decubitus ulcer levels among control respondents

Grade Ulcus Pre-Test			Grade Ulcus Post-Test		
Grade	N	%	Grade	N	%
Grade 0	8	53.3	Grade 0	10	66.7
Grade 1	6	40	Grade 1	3	20
Grade 2	1	6.7	Grade 2	2	13.3
Grade 3	0	0	Grade 3	0	0
Grade 4	0	0	Grade 4	0	0
Total	15	100	Total	15	100

Based on the results of observations, the majority before and after treatment showed grade 0 diabetes ulcers, pre-test (53.3%) to post-test(80%). There were changes in all grades of decubitus ulcers after treatment in usual standard operating procedures.

Table 3. Effectivity Virgin Coconut Oil

	Grade Ulcus Post			Total	P
	Grade 0	Grade 1	Grade 2		
Grade Ulcus (VCO)	12	1	2	15	0.005*
Grade Ulcus (SPO)	10	3	2	15	
Total	22	4	4	30	

*Independent t-test

Based on inferential test to hypothesis test was 0.005 <0.05, it means that there was an influence of virgin coconut oil on the level of pressure ulcers. After the treatment of each group there was decrease of diabetics ulcers.

DISCUSSIONS

From the explanation of the table of research results, the researcher drew conclusions from the results of data analysis regarding the effect of virgin coconut oil and without virgin coconut oil (control) on the level of pressure ulcers. Data obtained if using virgin coconut oil in preventing pressure ulcers obtained a percentage of (80%) and without using virgin coconut oil (control) obtained a percentage of (66.7%) from these results it can be concluded that the use of virgin coconut oil in preventing pressure ulcers is more influential and can be said to be more effective than without virgin coconut oil (control).

Based on table 3 above, the results of the analysis of the effect of massage with virgin coconut oil on the level of pressure ulcers were obtained, namely that there were 15 patients before being given virgin coconut oil at grade 0-4, and after giving it, 12 out of 15 patients had pressure ulcers at grade 0, there were 2 patients at grade 2. and 1 patient was grade 1. Besides that, based on the independent t-test statistical test, it was obtained that the P value was $0.00 \leq 0.05$, so Ho was accepted so that there was an influence of virgin coconut oil on the level of decubitus ulcers. This is supported by the findings of research conducted by Mrs. Ni Luh Gede Wahyuni Giri Putri (2021) regarding the effect of giving virgin coconut oil on the risk of pressure ulcers in the ICU room at Mangusada RSD[8].

Research supported by a theory that explains how giving VCO to treat rashes works gives credence to this theory. Because killing fungi and yeast that cause candida, jock itch,

ringworm, athlete's foot, sweat rashes and other diseases is one of the advantages of VCO. Lauric acid is a component of VCO. Breast milk also contains lauric acid (ASI). When this lauric acid is digested by the body, monolaurin is produced[9]. The immune system and the body's ability to repair injured tissue are both mediated by monolaurin, which is present in the blood. According to Dr. Enig, the pathogenic bacteria Listeria monocytogenes, Staphylococcus aureus, Streptococcus agalactiae, Streptococcus groups A, F, and G can all be made inactive by monolaurin. Additionally, coconut oil has anti-aging benefits[10].

Implications The results of this research can be useful and used for hospitals in improving health services and controlling the number of pressure ulcers through massage with virgin coconut oil to prevent pressure ulcers by nurses which will be carried out and become the leading source of pressure ulcer control for installations and can be used as SOPs (standards). operational procedures) of hospitals to further improve the quality of nursing services provided by nurses to patients. And for health workers who are directly involved in the process of nursing care for patients, they should increase their awareness of the factors that cause decubitus ulcers early in order to optimize the patient's health status, especially in the intensive care unit.

CONCLUSION

All respondents before being given virgin coconut oil massage had a decrease in the level of grade decubitus ulcers. All respondents before being given virgin coconut oil massage had a decrease in the level of grade decubitus ulcers. There is an effect of virgin coconut oil on the level of pressure ulcers, so it is more effective than without virgin coconut oil (control).

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Conflict of Interest

The authors declare no conflict of interest because of the release of this article.

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