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EFFLEURAGE MASSAGE WITH VIRGIN COCONUT OIL (VCO) TO PREVENT DECUBITUS ULCERS IN IMMOBILIZED PATIENTS: A CASE STUDY

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Case Study

A B S T R A C T

Introduction*:** *Some of the problems that arise due to incomplete mobilization, the most common are decubitus ulcers. Massage effleurage (ME) is used as a non-pharmacological intervention that can be given to patients who are immobilized, aiming to keep the skin moist. In the final scientific work of this nurse. The author purpose was to determine the effect of giving ME with Virgin Coconut Oil (VCO) in patients at risk of pressure sores.* ***Methods*: This case study uses a descriptive method with a nursing care approach. The case study will be carried out in December 2022, in the Rajawali Room 3A RSUP Dr. Kariadi Semarang on 2 respondents. The respondent's inclusion criteria were immobilized patients for more than 2 weeks with a risk of developing pressure sores. Giving massage with VCO is done 2 times a day for 5 days, on areas of pressure such as the sacrum, scapula, and heels with a total duration of 45 minutes. The instrument used in this case study is the Braden Scale to measure the risk of pressure sores, the fewer scores obtained, the higher the risk of decubitus.* ***Results****: After 5 days of intervention, first responders experienced a decrease from a score of 8 (very high risk) to a score of 13 (high risk), then for the second respondent from a total score of 7 (very high risk) to a score of 9 (very high risk), the higher the score obtained, the lower the risk of decubitus.* ***Conclusions****: Administering ME with VCO has a positive effect on reducing decubitus risk scores in immobilized patients.*

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INTRODUCTION

Physical mobilization is often associated with a situation or a person's ability to adapt to the physical conditions that a person is experiencing, referring to a person's ability to move or move his body (da Silveira et al., 2021; Pranata, 2021). Mobility is a basic human need that is needed by humans in carrying out their activities both in joint movement, attitude, being able to move freely, and gait. The inability to mobilize can have an impact on dependence to the point of requiring nursing action.(Nieman & Wentz, 2019) Mobilization gradually becomes what patients need to maintain balance in both physiological and psychological aspects. A person's condition where they cannot move themselves actively or freely can be caused by a condition that can hinder their activities, this condition is defined as immobilization or bed rest (Jacobson & Paul, 2016).

Some of the problems that arise as a result of inadequate mobilization include the possibility of pressure sores or pressure sores, tension to the stiffness of the movement muscles throughout the body, and impaired circulation, which can result in hemiparesis as well as paralysis. The most common negative impact is the occurrence of pressure sores or decubitus ulcers (Jacobson & Paul, 2016; Tahir & Sheeler, 1992). Damage to the integrity of the skin or decubitus ulcers is damage to the skin and underlying tissue, which is generally triggered by an ischemic process in the skin that is under pressure. The risk factors for this complication are high skin temperature, humidity, reduced ability to move in patients on bed rest, and also friction on the skin especially on skin or soft tissue compressed on protruding bones (Smeltzer et al., 2010).

The prevalence of pressure sores in Indonesia reaches 40%, this figure is the highest point among countries in ASEAN (Gerry et al., 2020). Research on 1132 respondents in 4 hospitals showed that there were 91 patients (8.03%) who experienced pressure sore problems while being treated at the hospital (Jacobson & Paul, 2016). Other research at the Moewardi General Hospital, Central Java, showed that 38.18% of inpatients had decubitus ulcers, patients who were immobilized for the last 3 months had an average of 52 patients who had pressure sores (Kemenkes, 2017; Kementerian kesehatan Republik Indonesia, 2021).

Decubitus ulcers can be prevented with various efforts, one of which is Massage Effleurage (ME) using Virgin Coconut Oil (VCO). Massage is a therapy that has various benefits for the body's organ systems, including

improving the function of the skin, muscle tissue, bone growth, and joint motion, and nerve tissue. If massage is done for a certain time, it will have a relaxing effect thereby reducing pressure on the body, one of which is using the effleurage technique. The effleurage technique is performed by wiping the body once or twice a day which is believed to minimize the occurrence of decubitus ulcers. Massage Effleurage implementation is often done using VCO or other terms using coconut oil. ME is believed to improve blood circulation and the use of VCO is considered to be able to protect the skin from free radicals (Arnoldi, 2004). The results of the study (Sari et al., 2018) showed that there was a difference in the incidence of pressure sores in the intervention group who were given VCO with massages for 3 days ($p = 0.03$). According to the results, there was an effect in giving VCO on the prevention of decubitus ulcers in respondents who were given VCO, while respondents who were not given VCO had signs of decubitus ulcers.

MATERIALS AND METHODS

The method used in this case study is descriptive which is carried out through a series of nursing care processes starting from assessment, formulation of nursing problems, planning nursing interventions, implementing interventions, and conducting nursing evaluations at the end. Respondents in this case study totaled 2 patients with inclusion criteria, namely patients with impaired physical mobility for more than 2 weeks, patients who were willing to participate in research activities according to the rules and at a predetermined time. The case study was carried out in Rajawali Room 3A, RSUP Dr. Kariadi Semarang in December 2022. The independent variable in this case study is massage effleurage using VCO, while the dependent variable is pressure sores. The risk of pressure sores was measured with the Braden Scale instrument, which is an instrument used to measure the risk scale of decubitus and evaluate the incidence of decubitus at the end of the intervention.

Based on research Regarding The Prevention of Pressure Sores Through Massage Using Virgin Coconut Oil (Handayani et al., 2011), the application of this case study was carried out by cleaning the area to be given massage intervention, namely including the scapula, sacrum, heels and elbows, using the effleurage technique combined with VCO . The application of ME using VCO to the two respondents was carried out for 5 days with a frequency of 2 times a day for each session for 45 minutes. Decubitus risk score measurements were carried out before and after the 5-day intervention using the decubitus risk scale, namely the Braden Scale, the fewer scores obtained, the higher the risk obtained.

Research ethics is still considered in applying applications to patients, the research has obtained ethical approval from Universitas Muhmmadiyah Semarang (Number: 22044). Respondents were explained standard operating procedures and signed an informed consent form before being given the intervention. Interventions were carried out according to procedures for respondents who met the inclusion criteria. The patient's identity is kept confidential by only writing the patient's initials in reports and scientific publication articles. The results of the analysis of case study data are presented and analyzed to determine whether there is a decrease in the risk score for developing decubitus in immobilized patients in tabular form.

RESULTS

Assesment

Respondents were patients with impaired immobilization who were treated for more than 2 weeks in Rajawali Room 3A RSUP Dr. Kariadi Semarang. Respondents in case 1 were a 56 year old female with a medical diagnosis of infarction stroke and experiencing right hemiparesis, who had a history of diabetes mellitus and hypertension in the past 5 years ago. Assessment of muscle strength on the right side of the body 1, and extra muscle strength results 4, namely the patient is still fighting light resistance. Characteristics of the patient's skin is dry, sometimes moist with sweat, there is redness in the back, sacrum, and heels, visible in the layers of the skin. Assessment of the risk of pressure sores on the Braden Scale, the score obtained is a score of 8 (very high risk of decubitus. The nutritional status of the respondent is poor, due to the inability to chew food so that a Nasogastric Tube (NGT) is attached). Laboratory data shows Hb: 88 g/dL, Hematocrit 27.5%, Erythrocytes 3.2 10'6/uL, MCH 26.7 pg, Leukocytes 1.5, Platelets 181, albumin 25.9. Radiological results showed infarction in the contrical, sub contrical matter of the left frontal-parietal lobe, left centrum semiovale lacunar infarction, visible bleeding, intracranial SOL, and right ethmoiditis.

The second respondent is a 50 year old woman with a medical diagnosis of hemiparesis and decreased consciousness (GCS E4M1V-motor aphasia). Respondents were treated for 2 weeks in the ICU, and had a history of type 2 DM and hypertension but were not controlled. Characteristics of the patient's skin are moist with sweat, there is redness around the left back, sacrum, elbows, heels, and the skin is slightly peeling on the right back (grade I decubitus). The Braden Scale score after the review was 7 (Very high risk of decubitus), the nutritional status of respondent 2 was poor due to decreased consciousness so that it could not be consumed orally,

an NGT was installed. Motoric movement (-/+-/+) increased tone, and MCST results showed intracerebral hemorrhage accompanied by perifocal, intracranial pressure was seen. Lab results 11/29/2022: Hemoglobin 11g/dL, hematocrit 32.8, erythrocytes 3.52, MCH 93.2, MCV 93.2, MCHC 33.5, Leukocytes 7.7, Platelets 613, albumin 29.2.

Nursing Diagnose

The nursing diagnoses given by the researchers in the 2 cases were risk of pressure sores (D.0144) associated with decreased mobility and risk of Impaired Skin/Tissue Integrity. (D.0139) associated with circulation changes.

Intervention

The nursing intervention given to the two respondents was Skin Integrity Care Intervention (I.11353) (PPNI, 2018). Planned skin integrity treatments include Observations: Identifying causes of skin integrity including changes in circulation, changes in nutritional status, decreased humidity, extreme environmental temperatures, and decreased mobility. Therapeutic: Change positions every 2 hours, recommend drinking enough water, and massage the areas of bony prominences using VCO. Education: Explains the benefits of massage with VCO, and recommends continuing the intervention independently 2 times in 1 day. Implementation was carried out by researchers at the first meeting until day 5, and then the application was independently carried out by the patient's family because giving massage with VCO was done 2 times a day. Giving effleurage massage with VCO is done 2x a day after bathing/sibin in the morning and evening. The effleurage technique massage was carried out for 45 minutes. The massage procedure begins with an assessment of the risk of decubitus, washing hands, using gloves, cleaning the patient's skin who will be given a massage, applying VCO to areas at risk of developing decubitus, and doing massage for 5 minutes at each location suspected of having a risk, educating the application to be carried out 2 times a day for 5 days (as a monitoring period). If there are no complaints or side effects, the VCO application can be continued.

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Evaluation

First respondent, the score obtained was 8, while the second respondent had a score of 7. Giving massage effleurage using VCO gave a change to the Braden Scale decubitus risk score for the two respondents. The first respondent decreased from a score of 8 (very high) to a scale of 13 (high), then for the second respondent from a total score of 7 (very high) to a scale of 9 (very high). The increase in the total value of the Braden Scale and the decrease in the risk of pressure sores for the two respondents can be seen in table 1.

Table 1. Evaluation of the risk of pressure sores with the Braden Scale score pre and post intervention

Variabel	Score Respondent 1			Score Respondent 2		
	Day 1	Day 5	Score	Day 1	Day 5	Score
Sensory Preception	2	3	1	1	1	0
Moisture	1	3	2	2	3	1
Activity	1	1	0	1	1	0
Mobility	1	1	0	1	1	0
Nutrition	2	3	1	1	1	0
Friction and Shear	1	2	1	1	2	1
Score Total	**8**	**13**	**5**	**7**	**9**	**2**

The evaluation results in table 1 show that the subject of study 1 experienced an overall increase in the Braden Scale score by 5 points, and the respondents experienced an increase in score by 2 points.

Responden 1 Pre Intervensi

Responden 1 Post Intervensi

Responden 2 Pre Intervensi

Responden 2 Post Intervensi

DISCUSSION

After the intervention was carried out for 5 days, both respondents showed an increase in the Braden Scale score, besides that, an evaluation of the presence of impaired skin/tissue integrity and the risk of pressure sores can be seen from several signs, namely redness, increased skin temperature, changes in texture, and usually the patient complains the pain in the pressured area begins to subside. Giving ME using VCO is effective in reducing the risk score for pressure sores in immobilized patients (Sya'bani et al., 2020).

Massage is a therapy that has various benefits for the body's organ systems, including improving the function of the skin, muscle tissue, bone growth, joint motion, and nerve tissue. If massage is done for a certain time, it will have a relaxing effect thereby reducing pressure on the body, one of which is using the effleurage technique (Darmareja et al., 2020; Trisnaningtyas et al., 2021). The effleurage technique is performed by wiping the body once or twice a day which is believed to minimize the occurrence of decubitus ulcers (Phasar, Imran. Armiaty Yuni, Pranata, 2018; Pranata, Satriya; Wulandari, 2021). The implementation of effleurage massage that is often done is to use VCO or other terms using coconut oil. Effleurage massage is believed to improve blood circulation, Massage has an effect on local blood circulation and throughout the body. The act of massage has an effect on the parasympathetic nervous system which allows relaxation. Relaxation conditions allow blood circulation to run smoothly in the delivery of oxygen and metabolic products to the central nervous system. The effleurage movement has an effect on increasing venous blood flow which can reduce venous pressure and increase arterial circulation., and the use of VCO can protect the skin from free radicals (Riduansyah, 2020). Both of these actions aim to prevent the skin from drying out so that if the patient is on bed rest for too long, damage to the integrity of the skin can be overcome.

The choice of Virgin Coconut Oil (VCO) in this case study is the content of VCO, easy to reach, and minimal side effects. VCO is believed to improve skin health because it is easily absorbed and protects the skin from excessive evaporation. VCO has a significant moisturizing component, which can soften the skin and protect it from damage. In addition, VCO also contains antioxidants as well as antimicrobial and antifungal agents which can protect the skin from free radicals and tissue degeneration. VCO is easily absorbed by the skin, contains vitamin E, and has a pH close to that of normal skin moisturizers, so it is safe to use as a moisturizer. Vitamin E can function as a stabilizer of cell membranes and protect skin cells from damage caused by free radicals and fat deposits in organelles (Darmareja et al., 2020; Sya'bani et al., 2020). Several other studies that also used VCO as a topical agent for the prevention of pressure sores explained that there was an effect of changing position and VCO massage on the prevention

of decubitus ulcers in bedridden patients at Tangerang District General Hospital. The risk of decubitus ulcers after changing position and VCO massage decreased compared to before changing position and VCO massage (Demir & Kasapoğlu, 2008; Trisnaningtyas et al., 2021).

In this case the researcher carried out an innovation that was carried out on immobilized patients by applying nursing actions regarding giving Message Effleurage with VCO pure coconut oil in accordance with existing theories and journals. The use of VCO oil that is rubbed on the patient's skin which is reddened regularly and continuously. It is carried out for 5 consecutive days, 2 times a day according to the shift schedule where the researcher is on duty. During the implementation process, researchers did not find any obstacles and got the expected results. These results are supported by other supporting factors such as improved awareness and fulfilled nutrition.

CONCLUSIONS

Giving massage effleurage with virgin coconut oil 2 times a day for 5 days positively reduces the risk of decubitus scores in immobilized patients. Effleurage massage is believed to improve blood circulation and VCO can protect the skin from free radicals. Giving massage effleurage with virgin coconut oil as a complement to topical medication in patients with immobilization can be done in the practice of nursing interventions.

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