

The Effect of Giving Olive Oil on the Risk of Pressure Wounds in Bedridden Patients

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Abstract

Introduction: Children who are hospitalized due to long bed rest, immobilization and attached medical devices are prone to pressure sores. Pressure sores are a problem with limited activity, these conditions can reduce the cure rate and increase the occurrence of complications and reduce the patient's quality of life.

Objective: To determine the effect of giving olive oil on the risk of pressure ulcers in bedridden patients.

Methods: The research design uses a quasi-experimental design. This type of research is pre-test and post-test. This research was conducted in the Children's ICU Room at Harapan Kita Cardiovascular Hospital. The time of research is June - July 2022. The sample in this study is 15 respondents with a sampling technique using Total Sampling. Data analysis with dependent T-test or Paired Sample T-test.

Results: The statistical test results show that a p-value of 0.000 means $P < 0.05$.

Conclusion: There is an effect of giving olive oil on the risk of pressure ulcers in bed rest patients.

Keywords: children, olives oil, pressure, wounds

Introduction

Pressure sores or what are usually known as decubitus sores, bed sores, pressure ulcers or pressure sores occur due to decreased blood supply and tissue malnutrition due to continuous pressure on the skin, muscles and bones.¹ This emphasis on the tissue will disrupt the blood supply. Impaired blood supply leads to insufficiency of blood flow, anoxia or tissue ischemia and can eventually result in cell death.² Pressure sores, also known as pressure injuries or Hospital Acquired Pressure Injuries (HAPI), are damage to the skin and/or soft tissue in local areas that tend to occur due to pressure between bony prominences and hard surface areas due to a combination of prolonged mechanical stress such as medical devices, frictional force, shear force, and humidity.³ Wounds can also be affected by microclimate, nutrition, perfusion, comorbidities and soft tissue conditions. The estimated time needed for the patient to experience decubitus ulcers is an interval of one to two hours.⁴

Children who are hospitalized due to prolonged bed rest, immobilization and attached medical devices are prone to developing pressure sores known as decubitus ulcers.⁵ Pressure sores are a very serious problem, especially in patients with limited activity or immobilization, these conditions can directly reduce the healing rate and increase the occurrence of complications and reduce the patient's quality of life.⁶

Almost all pressure sores occur in the treatment area. In acute care areas from 0.4% - 38%, long-term care from 2.2% - 39.4%, and home care from 0% - 17%. The incidence of pressure sores worldwide in the Intensive Care Unit (ICU) ranges from 1% - 56%. Furthermore, it was also reported the prevalence of pressure sores that occur in the ICU from other countries and continents, namely 49% in Europe, ranging from 8.3% - 22.9%, in Western Europe, 22% in North America, 50% in Australia and 29% in Jordan. The incidence of pressure sores in America, Canada and England is 5% - 32%. In Korea, especially in the ICU, the incidence of pressure sores has increased from 10.5% - 45%.⁷ In Indonesia, the incidence of pressure sores in patients treated in the ICU reaches 33%.⁶ This figure is very high when compared to the incidence of pressure sores in Southeast Asia, which ranges from 2.1% - 31.3%.⁶

Prevention and early treatment of pressure sores aim to identify the risk of pressure sores and create an environment that supports prevention. The incidence of pressure sores can be prevented by improving nutrition, assessing risk factors for pressure sores, surface support, position changes and prevention education.⁸ One of the main aspects of providing nursing care to patients is maintaining skin integrity. This can be achieved by providing planned and consistent skin care. Unplanned and consistent skin care can result in disruption of skin integrity. Therefore, nurses must develop appropriate nursing interventions to prevent decubitus ulcers from occurring. The initial step in preventing decubitus ulcers is identifying patients who are at risk for decubitus ulcers using the Norton, Braden or Gosnell measurement scale.⁹

The most important action in maintaining skin integrity is to maintain skin hydration within reasonable limits (not too moist or dry). One of the interventions in maintaining skin integrity is by providing lubricating moisturizers such as lotions, creams and low-alcohol ointments. Normal skin integrity can be maintained by giving olive oil. Olive oil contains fatty acids that can maintain skin moisture, flexibility, and smoothness. Olive oil with an oleic acid content of up to 80% can plump the skin and protect the skin's elasticity from damage.¹⁰ Damage to the integrity of the skin that usually occurs in patients with long bed rest, over time will cause pressure sores. To be able to maintain the integrity of the skin of patients with long bed rest, nursing actions can be given with olive oil.¹¹ Research that states that olive oil can affect pressure sores are based on Lestari's research which states the effect of massage with olive oil on grade 1 decubitus wounds. The results of this study show a p-value: of 0.002 (p-value <0.05) which indicates that there is an effect of massage with olive oil on pressure ulcers with grade 1.¹²

The purpose of this study was to determine the effect of giving olive oil on the risk of pressure ulcers in bedridden patients.

Method

The research design uses a quasi-experimental design. This type of research is pre-test and post-test.¹³ This research was conducted in the Children's ICU Room at Harapan Kita Cardiovascular Hospital. The time of research is June - July 2022. The sample in this study is 15 respondents with a sampling technique using Total Sampling. Data analysis with dependent T-test or Paired Sample T-test. This research has passed the ethical test at the UIMA ethical commission with Number: /Sket/Ka-Dept/RE/UIMA/VII/2022.

Results

Table 1. Characteristics of Respondents based on Age, Gender, Length of Treatment and Nutritional Status (N=15)

Characteristics	Frequency (f)	Percentage (%)
Age		
< 1 year	4	26,7
1 year	3	20,0
2 years	2	13,3
3 years	2	13,3
4 years	1	6,7
8 years	1	6,7
9 years	1	6,7
11 years old	1	6,7
Gender		
Man	10	66,7
Woman	5	33,3
Length of Treatment		
3 days	7	46,7
4 days	4	26,7
5 days	4	26,7
Nutritional status		
Bad	2	13,3
Not enough	4	26,7
More	2	13,3
Normal	5	33,3
Obesity	2	13,3

Based on table 1 Characteristics of Respondents based on age in bed rest patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital. Based on the age of the respondents, it was known that the age of the children was more than 1 year old, namely 4 respondents (26.7%). Characteristics of Respondents based on gender in bed rest patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital Based on the age of the respondents, it was found that there was more male sex, namely 10 respondents (66.7%). Characteristics of Respondents based on length of stay in bedridden patients in Children's ICU at Harapan Kita Cardiovascular Hospital Based on the length of stay, it was found that there were more treatments for 3 days, namely 7 respondents (46.7%). Characteristics of Respondents based on nutritional status in bed rest patients in the Children's ICU Room of Harapan Kita Cardiovascular Hospital based on nutritional status of children found that there was more normal nutritional status, namely as many as 5 respondents (33.3%).

Table 2. Description of the risk of pressure sores before giving olive oil to bedridden patients (N = 15)

Risk of Pressure Sores	Frequency (f)	Percentage (%)
Before Applying Olive Oil		
Low risk of pressure sores	0	0%
Moderate risk of pressure sores	1	6,7%
High risk of pressure sores	13	86,7%
Very high risk of pressure sores	1	6,7%
After Giving Olive Oil		
Low risk of pressure sores	10	66,7

Moderate risk of pressure sores	5	33,3
High risk of pressure sores	0	0
Very high risk of pressure sores	0	0

Based on table 2 of the risk of developing pressure sores in bed rest patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital, it is known that before giving olive oil there were more people at high risk of pressure ulcers, namely as many as 13 respondents (86.7%). Based on table 2 of the risk of pressure sores in bed rest patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital, it is known that after giving olive oil there is a lower risk of pressure ulcers, namely as many as 10 respondents (66.7%).

Table 3. The effect of giving olive oil on the risk of pressure sores in bedridden patients (N=15)

Risk of Pressure Sores	N	Mean	Mean Differences	P-value
Pre-test	15	10,7333	-5,800	0,000
Post-test		16,5333		

Based on table 3, the effect of giving olive oil on the risk of developing pressure sores in bed rest patients in the Children's ICU at Harapan Cardiovascular Hospital. the incidence of pressure sores is getting better or lower after giving olive oil. The statistical test results revealed that the p-value of 0.000 means $P < 0.05$, so it can be concluded that there is an effect of giving olive oil on the risk of pressure sores in bed rest patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital.

Discussion

Based on the risk of pressure sores in bedridden patients in the Children's ICU Room at Harapan Cardiovascular Hospital, we know that before giving olive oil there is a high risk of pressure sores and after giving olive oil there is a low risk of pressure sores. the Mean Differences value is -5,800 which means it is negative, so there is a tendency to increase the number of pressure sores incident scores meaning the risk of pressure sores is getting better or lower after giving olive oil. Based on the statistical test results it is known that the p-value is 0.000 which means $P < 0.05$, and the mean value means that it can be concluded that there is an effect of giving olive oil on the risk of pressure sores in bed rest patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital.

Characteristics of Respondents in bed rest patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital, based on the age of the respondents, it was known that the age of the children was more than 1 year old, namely 4 respondents (26.7%). Characteristics of Respondents based on Gender It is known that there is more male sex, namely as many as 10 respondents (66.7%). Based on the length of treatment, it was found that there were more treatments for 3 days, namely 7 respondents (46.7%) and based on the nutritional status of children, it was known that there was more normal nutritional status, namely 5 respondents (33.3%).

In line with previous research by Anugrah (2022) that there were differences in the degree of decubitus ulcers in the intervention group (given olive oil) compared to the degree of decubitus ulcers in the control group at Murni Teguh Memorial Hospital Medan, t-count value (23.827) > t-table (1.7 01) and a significant value (0.000 <0.05).¹⁴ In line with Lestari's research which stated that this study aims to determine the effect of massage with olive oil on grade 1 decubitus ulcers in the elderly. The results of the study before the massage were done, the average score was 3 and after the massage was done, the average score was 1.81. The results of this study show a p-value: of 0.002 (P-value <0.05) which indicates that there is an effect of massage with olive oil on pressure ulcers with grade 1.¹²

The risk of developing pressure sores in bedridden patients in the Children's ICU Room at Harapan Kita Cardiovascular Hospital is known that before giving olive oil there was a higher risk of pressure sores, namely 13 respondents (86.7%) Children treated in the ICU at Harapan Kita Heart Hospital There are several factors that will experience a high risk of pressure sores, among others, because of long bed rest, immobilization and being attached to medical devices that are prone to pressure sores or known as decubitus ulcers. Before the olive oil was administered, the patient's skin was dry, the patient used a lot of invasive tools, lying in bed. So the risk of pressure sores is a very serious problem, especially in patients with limited activity or immobilization, these conditions can directly reduce the cure rate and increase the occurrence of complications and reduce the patient's quality of life.

The number of respondents after giving olive oil was more at low risk of pressure sores, namely as many as 10 respondents (66.7%). Prevention and early treatment of pressure sores aim to identify the risk of pressure sores and create an environment that supports prevention. The incidence of pressure sores can be prevented by improving nutrition, assessing the risk factors for pressure sores, surface support such as the patient being given a decubitus mattress, position changes can be made by giving the head a 30-degree position to prevent the patient from slumping which can result in tissue tears, the patient's position is tilted to the right and left oblique can also be done every 2 hours and preventive education. One of the main aspects of providing nursing care to patients is maintaining skin integrity. This can be achieved by providing planned and consistent skin care. Unplanned and consistent skin care can result in disruption of skin integrity. Therefore, nurses must develop appropriate nursing interventions to prevent pressure sores from occurring.

The most important action in maintaining skin integrity is to maintain skin hydration within reasonable limits (not too moist or dry). One of the interventions in maintaining skin integrity is by providing lubricating moisturizers such as lotions, creams and low-alcohol ointments. Normal skin integrity can be maintained by giving olive oil. Olive oil contains fatty acids that can maintain skin moisture, flexibility, and smoothness. Olive oil with an oleic acid content of up to 80% can plump the skin and protect the skin's elasticity from damage.¹⁵

According to the researcher's assumption that damage to the integrity of the skin which usually occurs in patients with long bed rest, over time will cause pressure sores. To be able to maintain the integrity of the skin of patients with long bed rest, it can be recommended to be given nursing actions with olive oil, so that this can be a consideration for nurses to improve the quality of care.

Conclusion

Based on the research that has been done about the effect of giving olive oil on the risk of pressure ulcers in bedridden patients, it can be concluded. There is an effect of olive oil on the risk of pressure ulcers in bed rest patients.

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