

## Research Article

# Olive Oil as Treatment for Bedsores: a Randomized Clinical Trial

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## ABSTRACT

**Background and goal:** bedsores caused by long press. The aim of this study was to influence olive oil on the prevention of bedsores.

**Materials and Methods:** This randomized clinical trial in 1392 to 1394 in southern Iran on 70 people who targeted sampling and in the 2 intervention groups and 1 control group, was done. In the control group, the usual skin care samples include changing positions every two hours and mattresses rasing over a period of two weeks and in addition to usual care groups, once a day for 15 ml olive oil on areas of the body and massage gently rubbed. Data Pro SPSS20 chi-square test, Fisher exact test and t-test were analyzed.

**Results:** The results showed that 5 patients in the intervention group (14.2 percent) and 30 patients with bed sores (85.8 percent) had no bedsores. In the control group, 12 patients (34.2 percent) and 23 patients with bedsores (65.8 percent) were suffering from bedsores.

**Conclusion:** The findings of this study showed that topical application of olive oil could be effective in preventing bedsores. These results can be in the form of an independent intervention in the intensive care unit nurses help to prevent and reduce the incidence of bedsores.

**Keywords:** bedsores, olive oil, intensive care unit

## INTRODUCTION

Bedsores, a term used to describe disorders of the skin continuity after prolonged pressure (1). This damage can cause significant pain and suffering for their patients and disabling, the ability of individuals to participate in physical activities and social decline and eventually disrupt their mental health (2). Many factors are involved in the formation of bedsores; the main cause of severe long-term pressure is reduced or interrupted blood supply, tissue ischemia and

ultimately leads to cell death. The ability to withstand pressure from factors such as tissue fragility, friction and moisture is affected, as well as factors such as the ability to underlying structures such as blood vessels and collagen on the skin and can affect a patient susceptible to bedsores (2). Excessive dryness of the skin Risk Factors (3) and immobility is a major cause of bedsores (2). Critical care units (3) and the elderly are at high risk of exposure to such

damage (4). The prevalence of bedsores in intensive care unit between 10 to 41% has been reported (5). In studies that have been done in the incidence of bedsores in the inner ward 28.6 the general surgery ward 12.9% have been reported (4). Urgent Care Research Center (Emergency care research) Institute of England reported the risk of death in patients with bedsores 6-2 times as the other patients. (6) Injury prevention a priority in acute and long-term care is considered (7). By identifying patients at risk of bedsores, prevention begins (8). Although various treatment methods such as antibiotics stimulate circulation and exudates, absorbers for the treatment of bedsores applied (9). However, prevention is still considered a vital necessity (1). Herbal product used to control and treat the wounds (10). Some studies of the effectiveness of herbal products in wound healing and reduce complications have shown (11). Massage the skin with vegetable oils such important traditions in some countries. Every year more than three million newborns Bangladesh, based common method for topical mustard oil, olive and coconut are used. This is done to various reasons like prevention of infection, improve skin condition, regulate body temperature and to the child's general health (12).

Purba and 2001, consumption of edible olive oil protects the skin against damage from sunlight has been reported (13). Softening oil extracted from olive skin problems such as psoriasis can be used for topical treatment (14). The topical application of olive oil is reported to be effective in improving the skin of premature infants and their reduced risk of atopic dermatitis (15). By evidence-based nursing practices can be prevented from developing bedsores (16). Prevention of bedsores in nursing care is a priority and as a key indicator of quality of care is taken into account (17). Whereas the prevention of bedsores is very important, not only easy access to olive oil but also its use can be effective in reducing health care costs and pain. It also emphasized that this study is an important step in focusing on the prevention of the damage (instead of costly and risky) and health care burdens are removed, the present

research is required to appear. This study aimed to determine the effects of olive oil on the prevention of bedsores was done.

## MATERIALS AND METHODS

This study is a randomized, double-blind clinical trial that was conducted in 1392 to 1394 in intensive care. The study population included all patients admitted to the intensive care unit of a hospital ICU was covered by medical science. In the section above, most patients with multiple trauma patients were admitted Neurosurgery. The sample size was determined using statistical formulas.

$$n = \frac{1}{1-f} \times \frac{(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}) \times P \times (1-P)}{(P_1 - P_0)^2} = 69,$$

$$P_0 = 0.16, P_1 = 0.40, 1 - \alpha = 0.95, 1 - \beta = 0.80, f = 0.20$$

These 70 patients in over a year, based on sampling were selected based and then randomly divided into two groups of 35 persons. The samples randomly (by Block- randomized into two groups and one control group. In addition, the patients were assured that their information will remain confidential and the study will not be any problem for them. Inclusion criteria for the study included: lack of skin problems, no bedsores, no history of diabetes and olive and allergy history and products, and a Foley catheter was stable hemodynamic status (for matched samples, the document Foley was required). Exclusion criteria were use of any sensitive in the wake of the oil, dissatisfaction and the patient to continue participating in the study sample, sample transfer to another center outside the city of Yasouj, including fatal, skin symptoms caused by any drug allergy (rash, hives, redness, and swelling). Data collection included demographic data sheet and information on the incidence of bedsores. Five members of the faculty approved standardized questionnaire related to bedsores. Collection of data related to the wound bed was as every 24 hours, the skin care area observed by the researcher and the presence or absence of bedsores was recorded.

Skin care control group and the wavy mattress received repositioning every 2 hours (the standard treatment, which included the centers only) in addition to repositioning the intervention group and the wavy mattress every

consciousness from deep coma to confusion was varied.

**Table A:** Distribution of bedsores between the two groups of patients in intensive care

Variable bedsores	Intervention group		Control groups		Whole	
	Number	Percent	Number	Percent	Number	Percent
With bedsores	5	14.2%	12	34.2 %	17	24.14%
Without bedsores	30	85.8%	23	65.8%	53	75.86%
whole	35	% 100	35	% 100	70	% 100
Fisher Exact Test		P-Value=0.04				

2 hours (standard treatment), receiving local olive oil. Mark Famyla has been prepared with good quality olive oil standard, once daily for 15 cc of the area's ear, shoulder, spine, Waist, Batks, iliac crest and sacrum, elbows, heels and ankles were rubbed gently without massage. Selected patients received topical olive oil for two weeks. Moreover, researcher evaluated every 24 hours for skin care areas and the presence or absence of bedsores grade 1-4 was recorded in these areas. It was decreed that the control group did not use cream or oil on the area. To analyze the data, chi-square test, Fisher exact test, t-test was used. The significance level of 5% was considered.

**Findings**

The study sample consisted of 26 men in the control group (74.3%) and 9 females (25.7 percent). In the experimental group 35 patients was 23 males (65.7 percent) and 12 women (34.3 percent).

The average age of patients in the intervention group was  $17.28 \pm 58.46$  control group mean age of  $20.38 \pm 50.36$ .

Another finding of this study was that the demographic characteristics including age, sex, body mass index, mobility and the head of the bed was a significant difference in both groups was found, so the two groups were similar. There was no significant association between any of the demographic variables were observed in patients with bedsores. In this study, patients were matched. The conscious state patients were in a different situation and level of

The data table shows a significant correlation between the frequency of bedsores to exist between the two groups, based on these findings, we can conclude that the use of olive oil locally to prevent bedsores disease ( $p < 0.05$ ). The average length of stay in the intensive care unit in days in the control group  $23.25 \pm 28.70$  and the study group was  $25.93 \pm 30.63$  that a significant relationship existed between two groups ( $p > 0 .05$ ). In this study of 35 patients in the intervention group, number one in the shoulder area, one around the waist, one in the area Batks, two bedsores in the sacral region were hospitalized and 30 people without bedsores. In the control group, one ear, two in the shoulder area, five in the area Batks, a person in the iliac region, and number 3 in the sacral region were hospitalized with bedsores were 23 people missing.

**DISCUSSION AND CONCLUSION**

This study aimed to investigate the effect of olive oil in the prevention of bedsores was done. In this study, the incidence of bedsores in the intervention and control groups was significantly different. The results of this study showed that the percentage of cases in the control group 34.2 a total of 65.7 percent without bedsores first and second degree wounds were hospitalized, while a total of 14.2% of the subjects in the intervention group suffered first and second degree decubitus ulcers and bedsores were no 85.7 percent. So using local olive oil reduces the incidence of bedsores in these samples.

In Shamim et al (2003) examined the effect of olive oil topically on the elderly's dry and itchy skin, the findings are significant differences in dry and itchy skin after topical application of olive oil expressed elderly and indicates a reduction or improvement of symptoms (16). In Dakhil et al (2014) that the use of coconut oil in India examined the risk of bedsores, the results showed that topical use of coconut oil significantly effective in reducing the risk of bedsores (18). The findings of the present study were consistent with the study. In a research Tavani et al (1388) to determine the effects of olive oil on the occurrence of Striae in the second trimester of pregnancy carried out in Tehran, significant differences between the groups that olive oil topically on the skin of the abdomen twice a day gently and without doing massage rubbed and there was no control group. The results of this study using local olive oil are not effective in reducing the severity of striae (15) that is at odds with the findings of this study.

The average amount of time without developing bedsores in the intervention group than in control group and the results show that using local olive oil can be effective in increasing the amount of time without the risk of bedsores. The findings also showed that the average length of stay in the intensive care unit in the intervention group was more than control group. In a study Dakhil et al (2014) the mean duration of hospitalization in the intervention group was more than control group (17) that is aligned with current research. It seems that the lack of bedsores can reduce hospitalization in the intensive care unit is also effective. Nassiri et al (2015) study entitled "The effect of olive oil topically on diabetic foot ulcer in patients with type II diabetes in Ahvaz" did. The results of this clinical trial demonstrated that olive oil significantly improves diabetic foot ulcers in these patients than in the control group (20). The findings of this study showed that the highest number of bedsores in the sacral region has already been updated. In Sozani et al (2011), the leading place of bedsores is the sacral region, which is consistent with a study (19).

## Conclusion

Using local olive oil can be effective in preventing bedsores. This method can be used routinely as an effective and easy way to prevent and reduce the incidence of bedsores done by nurses in the intensive care unit.

## Suggestions:

Similar studies done with current research on diabetes and studies such as this study using other herbal products like almond oil or aloe vera gel to be done to prevent bed sores.

Limitations: Due to the inclusion criteria, sampling was a long time (about a year).

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