

Treatment Of Early-Stage Bed-Sores By Using Olive Oil & Natural Honey

د. حسن خضر رجب عبد الله

Dr. Hassan Khader Rajab Abdoullah

جامعة تكريت – كلية الطب- فرع الادوية

**Tikrit university-College of medicine-Department of
Pharmacology**

Hassan1969tob@tu.edu.iq

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ABSTRACT:

Background: Bedsore (also called pressure ulcer) is one of the serious complications that may occur in a patient's immobilization, either due to using a wheelchair or bed rest for a long period, especially on the back.

Patients and methods: - A63 outpatients (41 females, and 22 males aged between 59-75 years) complaining of an early stage of bedsore were included in the current study, from 1st June 2018 t August 2019, The patients are treated using natural honey & olive oil in a special application for seven days-14 days, followed until healing improves. Chi-square as the statistical analysis was used, significance was determined as $P \text{ value} < 0.05$.

Aim of the study: - is the honey & olive oil get a role in the treatment of bedsore

Results: - A 56 (88.9%) patients show well response, but over a variant period range from 5-12 days, the average was seven days, while only 7 (11.1%) patients did not respond to treatment. Regarding sex, no significant difference was detected despite the high percentage of no response in males than females 22.7% & 4.8%, respectively. Regarding body weight, a significant difference was detected between obese & non-obese patients (12.9 % & 9.4%).

Discussion: - the preventive measure to prevent the disease by changing the patient's position in his bed every two hrs. Family education on dealing with the patient's condition to avoid carelessness due to lack of knowledge about the disease, the doctors should explain the condition to the relative, explaining how to examine the patient to detect the disease early.

Conclusion: A higher healing rate of the early-stage bedsore was achieved using a honey-olive oil mixture at a 1:1 ratio. Early detection and treatment decrease the seriousness, period & complication of bedsore.

Keywords: Bedsore, Honey, Olive oil, Immobility.

الملخص:

رحمة السرير (أيضا تسمى قرحة الضغط) إحدى المضاعفات الشديدة التي قد تحدث في المرضى الراقدين على الظهر أو اللذين يستخدمون الكرسي المتحرك لفترات طويلة، الأماكن الأكثر عرضة لحدوثها العجز والعصص والكعوب والورك. يمكن منع حدوثه المرض بتقليل المريض على الأقل كل ساعتين على جنب. وهذا المرض يمكن أن يؤدي إلى الموت، نسبة حدوث المرض في أوروبا (8.3-23) % بينما في كندا 26 %، كان المرض سببا لموت 29000 في 2013 مقارنة إلى 14000 في 1990 و أهم العوامل التي يمكن ان تتسبب بالمرض (ضغط خارجي والاحتكاك والرطوبة ومن أسبابها الأخرى أمراض الأوردة خارجية، سوء التغذية، وانخفاض ضغط الدم الوعائي. تم اختيار 63 مريضا مصابون بقرحة السرير في مرحلة المبكرة تمت معالجتهم باستعمال العسل الطبيعي وزيت الزيتون لمدة 7-14 يوم. فالغرض من الدراسة هو معرفة هل للعسل وزيت الزيتون دور في علاج قرحة الفراش ولأي درجة. أين أعطت النتائج نسبة الشفاء 56 (88.9 %) لفترة علاجية تتراوح من 5-12 أيام، وبمعدل 7 أيام، بينما فقط 7 (11.1 %) من المرضى لم يستجيبوا للمعالجة. باعتبار الجنس لا توجد اختلافات معنوية هامة بالرغم من أن النسبة عالية لعدم الاستجابة عند الذكور مقارنة بالإناث (22.7 % و 4.8 % ذكور إناث على التوالي). باعتبار وزن الجسم كانت هناك اختلافات معنوية هامة تم التوصل إليها بين المرضى البدنيين وغير البدنيين (12.9 % و 9.4 %) على التوالي. المناقشة: العديد من الخطوات ممكن اتباعها في قرحة السرير، الأكثر أهمية هو الإجراء الوقائي لمنع حدوثها بتقليل المريض في سريره كل ساعتان، لوحظ أهمل من قبل ذوي المرضى أو هم ليس لهم فكرة حول المرض، الأطباء يجب أن يوضحوا كيفية منع حدوث المرض لأقاربهم وهو إجراء ثاني وتعليمهم كيفية اكتشاف المرض مبكرا. ومنه نستنتج ان الكشف المبكر يقلل فترة العلاج والمضاعفات مع اتباع التعليمات الأطباء والتي يجب اتباعها من قبل المرضى لتقليل حدوث المرض.

الكلمات المفتاحية: قرحة سرير، عسل، زيت زيتون، رقود.

1- Introduction:

Bedsore (also called pressure ulcer) is one of the serious complications that may occur in a patient's immobilization either due to using a wheelchair or bed rest for a long period over bony prominences, especially on the back, so most common its site is sacrum, coccyx, heels & hip (Harrison T, Kasper D, 2015). (Jessica Halim & Noto Dwimartutie, 2020). It is a preventable disease by turning the patient every at least two hours on each side. Its serious complication can result in death, its prevalence in Europe (8.3-23)% while in Canadian up to 26%, its caused death in about 29000 in 2013 compared to 14000 in 1990. its causes external pressure, friction, shearing & moisture. its causes rather than immobility include DM, peripheral vascular diseases, malnutrition, cerebral vascular accident & hypotension, risk factors like loss of movement, loss of sensation, and others. (1-5). The incidence of bedsore ulcers depends on the quality of nursing care. It was in Europe 22.7%, in England 22%. . (Chitambira, B., Evan, S, 2018). Ulcer in immobilization patients occurs after 3 days of hospitalization (Tarihoran, D.E et al, 2010).

Healing properties of honey: - honey get healing properties in the wound and bed for ulcers, so many researchers report using honey for the treatment of wounds since honey has proven with antibacterial activities by provides a moisture healing environment, reduce inflammation, edema & exudation, it increases or stimulate healing by stimulation of angiogenesis, granulation & epithelialization epithelialization (Molan PC, 2006) Moghazy, A. M et al, 2010) Misirlioglu A et al, 2003), (Khanal B, et al 2010).

Olive oil appears to improve the wound and ulcer and prevent pressure ulcers (Siti Cahaya Meliza, 2020). Skin products containing olive oil are given to prevent the occurrence of bedsore ulcers and inflammation. The wound healing process is due to fatty acids, vitamin E, Phenolic containing in olive oil. Fatty acid such as triglycerols or triglycerides that are saturated and non-saturated acid consists of two variants, namely oleic acid and linoleic acid, which could be liquid at normal temperature. There are two kinds of Saturated fatty acids, namely Palmitic acid and Stearic acid, and these two acids could be solidified at normal temperature. The fatty acid in olive oil could inhibit leukocytes and the activity of platelets to proliferate blood vessel muscles muscles

(Valenzuela A.D, et al ,2019). Vitamin E in Olive Oil functions as an antioxidant and stimulates immunological response to improve the immune system and reduce infection. Vitamin E plays an important role in maintaining skin (Momdal ,S.C , et al, 2015).Phenolic, which functions as an antioxidant (such as hydroxytyrosol and tyrosol), has high power on oxidative that can reduce inflammation. Phenolic function as antimicrobial, which could stunt bacteria species, fungi, & viruses that can inhibit wound tissue healing (Lanza ,B., & Ninfali P ,2019) .The olive oil intervention for 7 days in the morning & afternoon on skin surface could prevent skin damage, keep skin moist, blood circulation, anti-inflammatory, & maintain skin elasticity (prevent the occurrence of ulcer)) (Miraj ,S et al ,2020).

The current study aimed to determine the role of honey & olive oil in treating bedsore and their effectiveness.

Patients and Methods

This is a randomized non controlled clinical study. Of 63 outpatients, 41 were females, and 22 were males aged between 59-75 years. Those patients complaining of an early stage of bedsore are included in our study, from 1st June 2018 to August 2019. A surgeon confirmed the diagnosis of bedsores. The patient's consent was obtained, and they informed their relatives about using herbal medicine. Questioners include age, sex, weight, education state. All the patients were treated using honey- olive oil mixture in a special application for 7 -14 days, followed until healing improves. Honey- Olive oil Mixture Preparation: The mixture was prepared in a ratio of 1:1. For this study, fifty ml of olive oil) was mixed thoroughly with 50 ml of pure honey . Then the mixture was transferred into a clean, aseptic container and handled to the patients, where they were instructed on how to use it.

Dosage, Interval, and Duration

The honey-olive oil mixture was intended for topical application. Patients were instructed to apply a thin layer on the affected area 3-4 times a day using a clean woody spatula, Treatment lasts for

7 days-14 days, and the patient's relatives were instructed to report any unwanted effect directly. No other medication or application was used during the treatment course.

Ethical approval: For the study, conduction was obtained from the College of Medicine, Tikrit University. Further, all patient's records are kept confidential.

Statistical analysis: Data were collected and analyzed using the program. Chi-square was applied, a value of < 0.05 was considered significant.

Results :

Out of 63 patients included in the current study, 56 patients (88.9%) showed a good response, but over a variant period range from 5-12 days, the average was 7 days, while only 7 (11.1%) patients did not respond to treatment. In regard to sex, 5 out of 41(12.19%) females show no response while 2 out of 22(10%) males show no response, no significant difference was detected according to sex as shown in Table 1. Regarding body weight, 4 out of 31 (12.9%) in obese patients show no responses. In comparison, only 3 out of 32 (9.37%) in non-obese patients show no responses. A significant difference was detected between obese & non-obese patients (12.9 % & 9.4%), respectively, as shown in Table 2.

Table 1: Shows the response & non-response to the honey-olive oil mixture in the patients with an early stage of bed sore regarding sex.

| | Respon | No respon | Total | Chi squar |
|--------|--------|--------------|-------|-----------|
| Female | 36 | 5 | 41 | 0.1397** |
| Male | 20 | 2 | 22 | |
| Total | 56 | 7 | 63 | |

** no significant difference

Table 2: Shows the response & non-response to the honey-olive oil mixture in the patients with an early stage of bedsores regarding body weight.

| | Respons | No respons | Total | Chi squar |
|----------|---------|---------------|-------|-----------|
| Obes | 27 | 4 | 31 | 0.1985** |
| Non-obes | 29 | 3 | 32 | |
| Total | 56 | 7 | 63 | |

** no significant difference

Discussion :

Many roles may be followed in the management of bed sore the most important one is the preventive measure to prevent the occurrence of the disease by change patients position in his bed every two, all including patients we feel they neglected by their relative or their relative careless or they have no idea about the disease. The doctors should explain the condition to the relative, which considers the second rule also explains how to examine the patient to detect the disease early(Harrison T, Kasper D, 2015). By this study we obtain a good outcome by using olive oil and natural honey mixture in treating early stage of bed sore especially among those used medical preparation but they get a poor outcome , so by starting treatment as soon as possible directly related with the results .The mixture used its not a medication so no limitations by using it many times daily and for how long period of time . The mixture can easily done and easily apply even by patients himself ..

Honey is a sweet and viscous fluid produced by bees from the nectar of flowers. It is composed mainly of a variety of sugars, traces of pollen, and water. Honey was used to treat infected wounds for as long as years before bacteria were discovered to cause infection. It has been reported to have

an inhibitory action on species of bacteria and fungi (aspergillus, penicillium). The prevalence of antibiotic-resistant microbial species has led to a re-evaluation of the therapeutic use of herbal medicine, including honey. Honey rapidly clears infection from wounds, with no adverse effects to slow the healing process. Honey may actively promote healing. Several studies have shown that honey can be used as a supplementary material which takes a much shorter time for healing, control of infection, use of antibiotics, and hospital stay([Aramita Saha](#) et al , 2012). Swabbing of wounds dressed with honey has shown that infecting bacteria are rapidly cleared. Honey's antibacterial activity is probably attributed to its osmotic effect, oxidizing effect, acidity, phytochemical factor, and intrinsic antibacterial potency. The major antibacterial activity of honey is due to hydrogen peroxide produced enzymatically in the honey([Aramita Saha](#) et al , 2012). The honey is effective in wound healing by improving granulation and epithelialization stages, improvement of debridement, and reduction of wound malodor. (samarghandian S, et al 2017) (Zeina B, Zohra BI, al-assad S. ,1997).

, The easy availability and cost-effectiveness of honey influenced the effectiveness of bed sore healing in cancer patients' hospitals. The application of honey dressing provides better wound healing, rapid pain relief in cancer patients with bedsores in palliative settings. These findings may help incorporate honey as a safe, satisfying, cost-effective topical dressing material for bed sore wounds for patients in palliative settings (Ingle R et al ,2006),(Khan FR et al 2007),(Topham J, 2002),(Dunford CE& Hanano R. 2004.), (Moore OA et al 2001) ,(Lusby PE et al ,2005) ., (Aramita Saha,2012)..

Olive oil has a long history of being used as a home remedy for skincare. Olive oil was used during massage to prevent sports injuries, relieve muscle fatigue, and eliminate lactic acid buildup. Olive oil may be used as ingestion and topical application for skin and health) . olive oil can be considered a safe alternative to sunflower, grapeseed, and fractionated coconut oils. Another trial stated that olive oil lowered the risk of dermatitis for infants in all gestational stages compared with emollient cream. However, yet another study on adults found that topical treatment with olive oil "significantly damages the skin barrier" when compared to sunflower oil and that it may make

existing atopic dermatitis worse. The researchers concluded that due to the negative outcome in adults, they do not recommend using olive oil for the treatment of dry skin and infant massage. Applying olive oil to the skin does not help prevent or reduce stretch marks (Moore J et al, 2012),(Carpenter, P.& Richards, K. ,2011),(Shoji, K, 2013),(Danby, S. G. Et al , 2013)(Kiechl-Kohlendorfer, et al , 2008)(Grossman, A. J, 2007) ,(Nomikos NN, Nomikos GN, Kores DS ,2010)

In obese patients, a significant difference is explained by more restriction in movement with more moisture & friction than in non-obese ones, so preventive measures should be applied more in obese patients & more care should be attended(Sood A,2014),(National guideline, 2014) ,(Morris C, 2010)..

Conclusion:

A higher healing rate of the early stage of bed sore was achieved in our study. Early detection of bed sores and treatment attributes to decrease the period required for treatment & complications.

The doctor's instruction, accompanied by good hygiene, should be followed by patients or their relatives to decrease the incidence of bed sores, accelerate the healing process and minimize complications.

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