

Nursing Care For Patients With Second-Degree Decubitus Wounds in The Destructive Phase Using Wound Care with Honey Against The Problem of Tissue Damage Tissue Integrity in General Ahmad Yani Hospital Metro City

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ABSTRACT

Background & Objective: The purpose of this study was to determine the effectiveness of destructive phase II decubitus wound care using honey at Jendral Ahmad Yani Metro Hospital. **Method:** The method in this scientific work is a descriptive approach to nursing care involving 2 decubitus patients, the instruments used are assessment sheets, head to toe, and wound observation sheets, the application of wound care using honey is carried out for 4 days in patient 1 and 5 days in patient 2, with the intensity of giving honey once a day every day. **Result:** The results of this study found that the main problem that arose in both patients was damage to tissue integrity, the intervention was arranged by performing wound care using pure honey, the implementation was carried out for 4 days and 5 days in each patient, the wound nursing evaluation began to improve on day 3 of wound care using honey. **Conclusion:** The recommendation that the author can give is that honey can cure and accelerate wound healing, so it can be applied to other types of wounds not only decubitus wounds.

Introduction

A decubitus wound is a localized area of necrotizing tissue that usually occurs on the surface of a protruding bone, as a result of prolonged pressure that causes increased capillary pressure. Decubitus is damage to anatomical structures and normal skin function as a result of external pressure associated with bony prominences and does not heal in the usual order and time (Nurkhayati & Hasanah, 2020). Decubitus is a secondary health problem that occurs as a further impact on health problems that cause patients to experience immobilization. Decubitus can occur in all age groups, but will be a special problem when it occurs in an elderly

person. Its specificity lies in its incidence which is closely related to immobilization (Martono, 2020). Immobilization is the inability to transfer or move positions or bed rest for 3 days or more, with anatomic body movements disappearing due to changes in physiological function (Haili Jiang et al, 2021).

According to the World Health Organization (WHO, 2020), the prevalence of decubitus in the world is 21% or around 8.50 million cases. The prevalence of decubitus wounds varies from 5-11% in acute care settings, 15-25% in long term care settings, and 7-12% in home health care settings (WHO, 2020). The incidence of decubitus wounds is quite varied in several places, the incidence rate ranges from 0.4-38% in acute care units, 2.2-23.9% in long term care units, 0-7% in home care (the National Pressure Ulcer Advisory Panel (NPUAP), 2020).

Some hospitals in the US showed an estimated 4.7%-29.7%, the UK about 7.9%-32.1%. In acute care (nursing homes) in Europe it ranges from 3%-83.6%, in Singapore it ranges from 9%-14% (in acute care and rehabilitation) (NPUAP, 2020). The incidence of decubitus wounds in Indonesia reaches 33.3%, which is quite high compared to the prevalence of decubitus ulcers in Southeast Asia which only ranges from 2.1-31.3% (Krisnawati, 2023). According to the Ministry of Health, a decubitus ulcer is an injury or open wound (Lubis, Naziyah, & Helen, 2023). Meanwhile, the incidence of decubitus in Lampung Province is 20%, with an average time of decubitus occurrence of 11 days of care (Risksedas, 2023).

The effects of decubitus wounds are numerous, ranging from infection, tissue and skin damage and even death. A definite impact experienced by decubitus patients is damage to tissue and skin integrity. Damage to tissue and skin integrity is a condition where a person is at risk of damage to the epidermis and dermis tissue in the skin layer, called the risk of skin integrity disorders (Juliathu dkk, 2021). There are several factors that cause the risk of skin integrity disorders, namely changes in circulation, decreased mobility, mechanical factors (such as emphasis on bone protrusions, and friction), moisture, changes in pigmentation, and emphasis on bone protrusions (DPP PPNI Working Group Team, 2019). Patients with bed rest for a long period of time have a risk of impaired skin integrity due to prolonged pressure, skin irritation, or immobilization (bedrest) which ultimately results in the onset of decubitus wounds (Veibymiaty dkk, 2024).

Overcoming the impact that arises requires the role of nurses in providing comprehensive nursing care to patients who experience tissue and skin integrity disorders due to decubitus which includes assessment, diagnosis, planning, implementation, and evaluation, so as to prevent ongoing problems. Nursing care is carried out with the aim of believing that everyone has the ability to take care of themselves so as to help individuals meet the needs of life, maintain their health and well-being and can solve the problem of decubitus care, namely tissue integrity damage (Tahir, 2021).

The main intervention that nurses can do to overcome tissue and skin damage due to decubitus is to carry out wound care (SLKI, 2019). Wound care can be done by adding pharmacological and non-pharmacological therapies, Honey is one of the non-pharmacological therapies that can be given, honey has contents such as glucose, fructose, sucrose, water and several amino acid compounds, vitamins, and minerals that play a role in the wound healing process such as anti-inflammatory, anti-bacterial, and anti-oxidant (Agnes dkk, 2021).

In addition, honey also has a broad-spectrum bactericidal effect, accelerates epithelial proliferation, and absorbs edema around the ulcer (Wayan dkk, 2022) Several studies have been conducted previously on the effect of honey administration on wound care conducted by (Molly dkk, 2020). showed that there was an effect of honey administration on wound care for decubitus patients at Jombang Hospital with a p value of 0.000. The same research was conducted by Bima (2021) that honey has an effect in accelerating wound healing in patients with decubitus wounds in the Gombong Health Center area with a p value of 0.015. In addition, another similar study was also conducted by (Haryanti, 2021) where the results showed that there was an effect of honey administration in decubitus wound care.

Based on the results of the preliminary study conducted by the author during the practice of surgical medical nursing in the general surgical room of the General Hospital of Jend. Ahmad Yani Metro City and based on the search for medical record data according to the primary data of the PPI team of the General Hospital of Jend. Ahmad Yni Metro City, the average incidence rate (incident rate) of decubitus was 2.96 per mile during 2023 (January-September) based on the results of the author's preliminary study at Jend. Ahmad Yni Metro City, during 2023 patients who had a high risk of skin integrity disorders were usually treated in general surgery, internal medicine and neurological wards. The results of interviews with room nurses that the wound care methods that have been carried out have never combined non-pharmacological treatments, the use of honey in wound care is not carried out in the room. The use of honey is more often used by nurses when doing home care. Based on the existing phenomena, the authors are interested in making a final assignment report related to "nursing care for decubitus patients of degrees 1 and 2 using honey to overcome the problem of skin and tissue integrity disorders at Jend. Ahmad Yani Metro City Hospital in 2024".

Objective

The purpose of this study was to determine the effectiveness of destructive phase II decubitus wound care using honey at Jendral Ahmad Yani Metro Hospital.

Method

The method in this scientific work is a descriptive approach to nursing care involving 2 decubitus patients, the instruments used are assessment sheets, head to toe, and wound observation sheets, the application of wound care using honey is carried out for 4 days in patient 1 and 5 days in patient 2, with the intensity of giving honey once a day every day.

Results

Analysis of Patient Characteristics

In patient one, data was found on the name Mrs.T, female gender, age 62 years, last education elementary school, currently the patient is not working, while patient two, Mr.S, male gender, age 56 years, last education junior high school. According to the Indonesian Ministry of Health in 2019, the age range of 46 - 65 years is the elderly and the age of 65 years and over is included in the elderly category. Research by Widodo, 55 (2020), 62.5% of decubitus occurs at the age of 25-65 years. The physical condition has degenerated so that it does not function optimally to carry out daily activities and meet the body's metabolic needs. In particular, a decrease in skin

elasticity due to decreased collagen production and impaired circulation in the skin, both of which greatly support the occurrence of pressure ulcers. Factors that can cause decubitus include poor skin perfusion, prolonged pressure, anemia, immobility, elderly and lack of energy. (Krisillia et al, 2020).

According to research conducted by (Rohman & Walid, 2020) entitled factors affecting the occurrence of decubitus in patients hospitalized in the ICU room of Makassar Labuang Baji Hospital, said in the age range of 21-40 years, namely (55%) as many as 17 respondents, age <20 years, namely (19%) as many as 6 respondents, age 41-60 years (16%) as many as 5 respondents, age > 60 years, namely (10%) as many as 3 respondents, due to the increasing age the higher the risk, after the age of 55 the risk multiplies. According to research conducted by Ivana (2017) entitled an overview of the role of nurses in the prevention of decubitus in the wijaya kusuma ward of Wates Kulon Progo Hospital, said in the age range 26-35 years, namely (80.0%) as many as 12 respondents, aged 36-45 years, namely (6.7) as many as 2 respondents and aged 17-25 years, namely (6, 7%) as much as 1 respondent, according to researchers at this time decubitus there is a tendency to also suffer from ages under 50 years, caused by young people who trigger non-communicable diseases such as diabetes militus, strokes etc. are fast food, alcoholic beverages, excessive work, lack of exercise and stress, drugs or smoking habits.

Analysis of Major Nursing Problems

Nursing diagnosis is a clinical assessment of individuals, families or communities against actual or potential health problems or life processes as the basis for selecting nursing interventions to achieve the desired results (Rohman and Walid, 2020).

The results of nursing care in two patients obtained data on the main problem that arose, namely damage to tissue integrity, where the signs and symptoms of data found in patient one, Mrs. T, subjective data. T, the subjective data of the patient said it hurt in the back, the patient said the pain felt like a slash, the patient said the pain was persistent, the patient said the pain increased when moving, the patient said the pain radiated to the leg, the objective data found pain scale 5, the patient seemed to often frown and grimace with pain, blood pressure 150/90 mmHg, pulse 110 x/minute, the patient was overprotective of the lower abdomen. While the data found in Mr.s are as follows, subjective data, the patient said it hurt in the back, the patient said the pain felt like being stabbed by an object, hot and sore, the patient said the pain was persistent, the patient said the pain increased when moving, and objective data pain scale 6, the patient looked grimacing with pain, the patient was overprotective of the painful part, blood pressure 130/80 mmHg, pulse : 105 x/min.

The next nursing diagnosis that appears in both patients is acute pain, but in the third diagnosis the two patients have different nursing diagnoses, where Mrs. T's third diagnosis is activity intolerance and Mr. S's physical mobility disorder.

Nursing diagnosis is a clinical assessment of the experience / response of individuals, families, or communities to health problems / risks of health problems or to the life process (SDKI Working Group Team DPP PPNI, 2019). One of the causes of clients experiencing decubitus ulcers is pressure, moisture, and friction, therefore with bed rest for a long period of time there is a risk of disruption of skin integrity due to prolonged pressure, skin irritation, (Sari, 2020) Skin integrity disorders are damage to the skin (dermis and / or epidermis) or tissues (mucous membranes, cornea, fascia,

muscles, tendons, bones, cartilage, joint capsules and / or ligaments) (SDKI Working Team DPP PPNI, 2019).

Researchers prioritize diagnoses of tissue integrity damage. Pressure sores or decubitus ulcers which are localized damage to the skin and or underlying soft tissue usually over bony prominences, as a result of strong and prolonged pressure, or a combination of pressure and friction, and are also influenced by climate, nutrition, perfusion, underlying disease, and the condition of the skin or soft tissue (National Pressure Ulcer Advisory Panel (NPUAP), 2019).

According to the authors, damage to tissue integrity caused by decubitus results from pressure that restricts blood flow to the skin. Restricted movement makes the skin vulnerable to damage and leads to wound development.

Nursing Action Analysis Based on Nursing Diagnosis

Nursing interventions are all care actions that nurses take on behalf of clients. These actions include interventions initiated by nurses, doctors or collaborative interventions. Nursing interventions that can be used based on theory, namely, nonpharmacological therapy by giving honey during wound care. (Sulaminingsih, 2018) After determining nursing then the author compiles plans and actions according to theory.

Interventions carried out in patients 1 and 2 are in accordance with the diagnoses that are established. For the main nursing diagnosis, namely damage to tissue integrity, nursing care planning will be carried out on both clients with nursing problems of tissue integrity damage based on the outcome criteria, namely After taking nursing care actions for 3x24 hours, it is hoped that tissue and skin integrity will improve with the Outcome Criteria: Increased elasticity, increased hydration, increased tissue perfusion, decreased tissue damage, decreased skin layer damage, decreased pain, decreased bleeding, decreased redness, decreased necrosis. At the time of the nursing evaluation, the patient's wound began to improve on day 3 where there was no push out and no new wounds.

In accordance with the research of the results of research on 4 cases whose measurements were taken before treatment as a control of relatively unequal wound conditions for 7 days, especially for wounds in case 4 with a fairly extensive wound condition and a lot of necrotizing tissue, the final result was only a slight change from a score of 25 to 18 on day three, while in cases 1-3 the wound condition was relatively mild so that at the end of treatment there was a significant change and improvement in the wound with an average score of 19 to 8 on day 3 of treatment.

In the nursing intervention, the author combined wound care with the use of honey. For a long time, honey has been used to treat acute and chronic wounds. This includes decubitus wounds. Many studies have been published regarding its properties in accelerating healing rates and preventing infection. It provides a moist wound environment, promotes tissue growth and epithelialization with little inflammatory changes and has a debridement action.

Honey consists mainly of fructose and glucose but also contains fructo-oligosaccharides and many amino acids, vitamins, minerals and enzymes. Almost all natural honey contains flavonoides (apigenin, pinocembrin, kaempferol, quercetin, galangin, chrysin and hesperetin), phenolic acids, ascorbic acid, tocopherols, catalase (CAT), superoxide dismutase (SOD), reduced glutathione (GSH), and peptides. Most of these compounds work together to provide synergistic antioxidant effects. It is believed that the high osmolarity of wound care agents can prevent infection and

promote healing. Honey has high osmolarity, and also has antibacterial properties, namely hydrogen peroxide. Other honey content is composed of 17.1% water, 82.4% total carbohydrates and 0.5% protein, amino acids, vitamins and minerals Tamsuri (2020), with this content honey has the ability to clean wounds, absorb edema fluid, and trigger tissue granulation, epithelialization and improve nutrition (Rahman & Rahmayani, 2019).

The world of medicine today has proven honey to be a superior medicine. A report showed that honey is very effective as a topical therapy on wounds by increasing granulation tissue and collagen and epithelialization period significantly, wounds dressed with honey closed in 90% of cases. Yapucu et al (2024). stated that the healing time of wounds treated with honey is about four times faster than the healing time of wounds treated with other drugs. In addition, the price of honey itself is still quite cheap compared to standard decubitus medications. However, the use of honey is still not widely used in a professional setting (Bulechek, 2023).

According to Prof. Dr. Ridzwan Hashim from the University of Kebangsaan Malaysia. Stating "Sea cucumbers contain about 86.8% protein, sea cucumber protein is easily broken down by the enzyme pepsin. Of that amount, about 80.0% is collagen which is useful as a tissue binder in bone and skin growth. In bone growth, calcium alone is not enough, bones consist of calcium phosphate and collagen without collagen bones become brittle and break easily. Conversely, without calcium, bones will be rubbery so a balanced composition is needed. Skin damage in decubitus can be treated with topical application of gamat oil or honey. Topical gamat oil functions as a traditional antiseptic, stops bleeding in women giving birth, accelerates wound healing, both external and internal wounds. It has antibacterial effects, has fatty acid content including arachidonic acid (AA), (EPA), (DHA), which has a potential role in tissue repair and wound healing (Rohman and Walid, 2020).

Honey functions as a broad spectrum antibiotic that can remove bacteria from wounds, contains components that can suppress free radicals and works as an anti-inflammatory. Honey can overcome fast-type damage to skin tissue exposed to radiation, honey can increase the process of granulation and tissue epithelialization in the proliferation phase, and reduce the time required for wound healing. Given that there have been many studies on the benefits and content of honey and gamat as a treatment, the author is interested in developing the effect of topical administration of honey and gamat on the process of reepithelialization in decubitus. The author hopes that by conducting this case study, it can prevent infection or prevent complications and accelerate wound healing.

Analysis of Nursing Actions According to Research Results

The results of nursing evaluation in both patients after nursing care using honey, patient 1 experienced an increase in skin and tissue integrity on day 4 while patient 2 experienced an increase in tissue integrity on day 5, both patients had differences because patient 5 experienced other problems, namely the presence of stroke and diabetes militus he suffered so that the wound care process tended to be longer than patient 1.

The antioxidant potential of honey is thought to be closely related to its anti-inflammatory potential. Free radicals formed from oxygen, known as reactive oxygen species (ROS), are produced in the mitochondrial respiration chain and by leukocytes during inflammation (Gunawan, 2020). ROS act as messengers that deliver positive

feedback when inflammation occurs and this process can be inhibited by antioxidants.⁷ Various types of antioxidant compounds in honey include flavonoids, monophenols, polyphenols, and vitamin C.¹³ Vitamin C can suppress the production of peroxides (one class of ROS) and plays an important role as an antioxidant. Manuka honey, a type of honey that has been registered as a wound care product, contains a high amount of methyl syringate (a class of phenols) which is considered to have the potential to interfere with the amplification of inflammation by ROS.

Both patients were given honey to improve tissue damage due to decubitus. According to (Sari & Sari, 2020) honey is used topically because it is proven to destroy various kinds of bacteria, reducing necrotic tissue in diabetic foot ulcers. According to (Imran et al., 2019), topical honey is an effective treatment because it reduces wound healing time compared to using film or gauze dressings on wounds. The other 6 journals did not specify whether the honey used for wound care was topical or oral. According to researchers, honey given topically to diabetic foot ulcers can accelerate wound healing because it can moisturize the wound area, is easily absorbed by the skin, as an anti-bacterial, reduces necrotic tissue, reduces wound healing time. Honey has antibacterial effects, has anti-inflammatory effects, increases fibroblasts and hemangioblasts. Analysis of honey content mentioned that the largest ingredient of honey is glucose with the highest fructose content (76.8%) in addition to minerals and vitamins (Rahman & Rahmayani, 2019).

In the journal "Test of antibacterial activity of forest honey solution against *Escherichia coli* growth in vitro", the advantages of this study are that researchers used several concentrations, namely 10%, 20%, 40%, 60%, 80%, and 100% to see the most effective concentration in inhibiting the growth of *Escherichia coli* bacteria. Researchers also used positive control and negative control, namely streptomycin and distilled water. The disadvantage of this journal is that researchers only use one type of honey so that it cannot be known which type of honey is most effective in inhibiting bacterial growth. Researchers also only used *Escherichia coli* bacteria to see the antibacterial effectiveness of honey. The results based on the journal 40% concentration is the minimum inhibitory concentration with an average inhibition zone formed of 6.7 mm. While the 100% concentration is the concentration with the largest average inhibition zone of 20.4 mm (Gunawan, 2020).

The antibacterial potential of honey and its relevance in wound care has been proven in various studies.⁴⁻⁸ The antibacterial potential of honey is obtained through:⁸ 1. The high osmolarity of honey due to its high sugar content⁶ will attract bacterial intracellular fluid, resulting in plasmolysis.^{4,8} (Anshori et al., 2019). The content of hydrogen peroxide, a chemical compound formed slowly by glucose oxidase that is naturally added by bees during honey making.^{4,6,8} (Fauziyah Sundari, 2021). The content of certain chemical compounds (phytochemicals) from the nectar of certain plants.

Honey has antibacterial and anti-inflammatory effects, and increases fibroblasts and blood vessel cells, and has a low water content that can accelerate the wound healing process. The low moisture content and high osmotic pressure of wound care ingredients are believed to prevent infection and accelerate wound healing. This osmosis process absorbs water from bacteria in the wound, which can inhibit bacterial growth caused by lack of water and dry out bacteria, making it difficult for bacteria to grow and eventually die (Rahman & Rahmayani, 2023). The research is in line with research by Fauziyah Sundari, Hendro Djoko 2019 honey can also increase growth in

addition to accelerating new tissue honey also reduces the morbidity of scars or scars on the skin. Treating diabetic wounds with honey is designed to kill bacteria (Antibacterial), reduce inflammation (Anti-inflammatory), as well as irritation and accelerate wound healing (Fauziyah Sundari, 2021).

Other research supports and shows that honey aids the wound debridement process and prevents scarring or thickening of the tissue around the wound. Honey is believed to increase the time for the wound to shrink, if the necrotic tissue around the wound is reduced, indirectly the wound bed will soon become more parallel to the skin around the wound. The growth of granulation tissue and epithelium causes the wound bed to increase, thus reducing wound depth (Awaluddin et al., 2019).

Honey is a nonpharmacological therapy, usually used to treat diabetic wounds. Research by Rahman & Rahmayani, 2016 mixed honey used must have relatively the same content or composition, which contains amino acids, total carbohydrates, protein, vitamin A, vitamin C, calcium, iron, sodium, total fat and cholesterol, but the difference is the composition here mixing water with honey. Mixed honey contains about 20 grams of water due to its low water content and high permeability in wound care ingredients, it is believed to prevent infection and accelerate the wound healing process. This infiltration process absorbs water from bacteria in the wound, which can inhibit the growth of bacteria caused by lack of water and dry the bacteria, making it difficult for bacteria to grow and eventually die.

Iron can help the formation of red blood cells. The role of red blood cells is to provide nutrients and oxygen supply to the wound area, so this supply is very helpful in stimulating new tissue growth in diabetic foot wounds. Honey is a non-pharmacological therapy commonly given in the treatment of Diabetes Mellitus wounds. The antibacterial properties of honey help to overcome infection in the wound and its anti-inflammatory action can reduce pain and improve circulation which affects the healing process. Honey also stimulates the growth of new tissue, so that in addition to accelerating healing it also reduces the appearance of scarring or scars on the skin (Anshori et al., 2019).

The research is in line with research (Fauziyah Sundari, 2020) honey contains antibiotics as antibacterial and antiseptic to protect wounds, while helping to overcome infection in wounds and even anti-inflammation can reduce pain and increase circulation which contributes to the healing process. Honey also stimulates the growth of new tissue, thereby reducing the incidence of scarring or scars on the skin. In line with the application of Kolcaba's theory, the three types of comfort are related to four contexts, one of which is physical comfort, related to physical sensations because honey greatly helps the wound debridement process and prevents the formation of scar tissue or thickening of the tissue around the wound Honey also has antimicrobial effects, honey also has anti-inflammatory and increases fibroblastic and angioblastic. The role of nurses in the application of the middle range theory is to focus on comfort because this goal is highly expected by DFU patients and therefore presents an important goal for nursing services.

Discussion

This intervention using honey is more relative because the price tends to be cheaper than the price of sofratulle, so honey is more economical to use as a wound care agent in the community and in health care clinics. The use of honey is also relatively easier to use by the community compared to the use of sofratulle. Honey

can be directly applied to the wound, while sofratulle must be measured according to the size of the wound because it can cause maceration when it hits normal skin. According to researchers, the most effective honey for decubitus healing is real honey or natural honey. Natural honey is the right liquid to be used as an infectious wound treatment because natural honey has a water content of less than 18% (radiant eka pramana w, maria suryani, 2022). The water content of real honey is 17.10 grams, low water content activity and high osmotic pressure in wound care ingredients are believed to prevent infection and accelerate the wound healing process (Pangalila et al., 2024).

According to researchers, the moisture in honey will provide moisture to the wound and make the wound granulation grow well. A moist environment is the most important for wound healing, as a moist environment affects the speed of epithelial formation and provides the best conditions to accelerate the healing process. Another component of the honey mixture that affects wound granulation is the presence of iron and sodium solution (NaCl).

Conclusion

Assessment

The assessment found in the two patients has some of the same data but there are also different data, where patient 1 with a medical diagnosis of decubitus with diabetes militius, while patient 2's medical diagnosis of decubitus with a history of stroke, patients both have 2nd degree decubitus wounds on their backs, both complain of pain in the back with a pain scale of patient one 6 and patient two 5.

Nursing Diagnosis

As stated by several experts previously, the list of nursing diagnoses in chapter two found similarities with the real cases obtained in the two clients with decubitus. The similarity is damage to the integrity of the jadinga and acute pain.

Nursing Intervention

The planning used in the case of both clients is adjusted to the nursing problems that are established based on the criteria for major, minor signs and symptoms and the client's current condition with the addition of wound care interventions using honey in the diagnosis of tissue integrity damage for 5 days of treatment by giving honey once a day during the wound cleaning process.

Nursing Implementation

Nursing implementation is adjusted to the action plan that the researcher has compiled. Nursing implementation carried out on client 1 and client 2 is in accordance with the planned interventions based on existing theories and according to the needs of clients who experience damage to tissue integrity, namely by applying wound care measures with honey.

Nursing Evaluation

The end of the nursing process is an evaluation of the nursing care provided. In the evaluation that researchers conducted on client 1 based on the criteria that researchers compiled against 3 diagnoses. The resolved diagnoses are tissue integrity damage, acute pain, activity intolerance and physical mobility disorders.

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