

Application of Red Ginger Decorative Compress to Reduce Joint Pain in Osteoarthritis Patients in the Work Area Perumnas Public Health Center Lubuklinggau

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ABSTRACT

Osteoarthritis is one of the most common types of arthritis, this condition causes joints to feel sore and stiff. Swelling can also occur in these joints. To determine the application of red ginger boiled compresses to reduce joint pain in Osteoarthritis sufferers in the Work Area of the Public Health Center of Lubuklinggau City in 2021. Case study subjects used in family nursing case studies namely 2 families who experience osteoarthritis with knee pain problems on a scale of 4-5, female, 45-70 years old, have members who are more than 15 years old, can communicate well, do not suffer from complications of other diseases and do not take medication. Before the action is taken. Research results: during the application of red ginger decoction compresses are able to provide a comfortable effect and help in overcoming joint inflammation that occurs. The application of red ginger boiled compresses can reduce joint pain in osteoarthritis sufferers.

INTRODUCTION

The prevalence of Osteoarthritis in the world is in the high category of 2.3% to 11.3%, which is a musculoskeletal disease that often occurs, which is 12th among all existing diseases. It is estimated that the prevalence of Osteoarthritis will double by 2020 as the population ages. According to the World Health Organization (WHO) in (2016) osteoarthritis is the most common musculoskeletal disease. The prevalence of osteoarthritis in the world is 3.8% and hip osteoarthritis is 0.85%. Based on the results of the Basic Health Research (RISKESDAS, 2018) the highest prevalence of joint disease is in Aceh with a percentage of 13.3% and the lowest prevalence is in West Sulawesi with a percentage of 3.2%.

Data obtained from the Lubuklinggau City Health Office in 2018 found that the number of visits by patients suffering from Osteoarthritis in Lubuklinggau City was 644 people (Lubuklinggau City Health Office (2018)). The prevalence of visits with osteoarthritis sufferers at the Perumnas Public Health Center in 2018 reached 116 visits, in 2019 it reached 143 visits and in 2020 it reached 128. In the last 3 years, visits with osteoarthritis sufferers were in 2nd place in the 10 most visits (Perumnas Health Center, 2020) .

Osteoarthritis is one of the most common types of arthritis, this condition causes joints to feel sore and stiff. Swelling can also occur in these joints. The joints most commonly affected by this condition include the hands, knees, hips, and spine. However, it is possible that other joints can also be affected. (Anies, 2018). Osteoarthritis affects joints including the knees, hips, legs, shoulders, arms, and spine. Typical symptoms that arise in joints that experience osteoarthritis will experience pain (Wiarso, 2017).

According to the International Pain Association, pain is an unpleasant sensory and emotional experience that is associated with actual or potential tissue damage, or describes a state of damage as mentioned above (Tamsuri, in the journal of the world of health vol 5 no 2 yrs 2019). Red ginger compress is a combination of warm therapy and relaxation therapy that is beneficial for people with joint pain. Red ginger rhizome contains compounds zingiberin, kamfena, lemonin, zingiberen, zingiberol, gingeral and zhogool. Red ginger also contains resin oil, starch, organic acids, malic acid, axolic acid, gingerin, and oleoresin. Red ginger is efficacious as a laxative, rheumatism, joint pain, stamina enhancer and laxative of colds, appetite enhancer, and breast milk launcher (istianah, Scientific Journal of STIKES Yarsi Mataram, Vol 10 NO 2, July 2020)

THEORETICAL REVIEW

Osteoarthritis is one of the most common types of arthritis, this condition causes joints to feel sore and stiff. Swelling can also occur in these joints. The joints most commonly affected by this condition include the hands, knees, hips, and spine. However, it is possible that other joints can also be affected. (Anies, 2018). Osteoarthritis is a chronic joint disease characterized by abnormalities in the cartilage (cartilage) of the joints and nearby bones. Cartilage (cartilage) is part of the joints. Abnormalities in cartilage will result in bones rubbing against each other, resulting in symptoms of stiffness, pain and restriction of movement in the joints (Nur, 2009 in Wiarso, 2017). The conclusion from osteoarthritis is a

degenerative disease that affects the joints and has a characteristic pain in joints that have osteoarthritis. Osteoarthritis affects joints including the knees, hips, legs, shoulders, arms, and spine. Typical symptoms that arise in joints that experience osteoarthritis will experience pain (Wiarto, 2017).

The exact cause of cartilage damage is not known. However, there are several factors that are thought to trigger this condition, which are as follows:

a. Age factor

Osteoarthritis usually occurs in the elderly, rarely seen in patients with osteoarthritis under the age of 40 years. The average age of men who get osteoarthritis of the knee joint is at the age of 59 years for men with a peak at the age of 55-64 years, while women are 60 years with a peak at the age of 65-74 years.

b. Gender

Women experience osteoarthritis more often than men.

c. Injury

In joints that are injured, fall or have had surgery have a higher chance of osteoarthritis

d. Obesity

Excess body weight adds to the burden on the joints so that the risk of osteoarthritis becomes higher

e. heredity factor

The risk of osteoarthritis is thought to be genetically inherited

f. Have other arthritis conditions, gout or rheumatoid arthritis

Ginger (*Zingiber Officinale Rosc*) is one of the kitchen spices that is used as a medicinal plant. Red ginger is ginger that is very suitable for herbs with its volatile oil and oleoresin content which is higher than other ginger so it is effective in curing various diseases, the chemical content of gingerol in red ginger is able to block prostaglandins so that it can reduce joint pain in rheumatoid arthritis sufferers. (Lantern, health journal 2019). One of the benefits of a ginger compress is that it can reduce pain with a low risk and can be done independently. The main component of ginger is a homologous phenolic ketone compound known as gingerol. At high temperatures gingerol will turn into shogaol which has a hot and spicy effect compared to gingerol. This hot and spicy effect of ginger can relieve pain, stiffness and muscle spasms in rheumatoid arthritis. (Wahyuni, 2016).

Research according to Wahyuni (2016), showed that after applying ginger compresses there was a change in the perceived pain intensity from a pain scale of 6 to a pain scale of 4. Research according to Sunarti (2018), proves that there is an effect of red ginger compresses on reducing pain scale, with the result that there is a difference in pain scale before red ginger compresses are performed

and after red ginger compresses. Research according to Virgo (2019), proves that ginger compresses are effective against decrease in pain scale in patients with rheumatoid arthritis, before the ginger compress the average respondent with a severe pain scale and after ginger compress the average pain scale became a mild pain scale

METHODOLOGY

The type of research used is descriptive research. Descriptive research method is a research method that is carried out with the main aim of making an objective picture of a situation with a case study approach. Descriptive assessment method is used to answer the problems being faced in the current situation (Notoadmojo, 2010). This case study aims to analyze nursing interventions that have been carried out by applying red ginger decoction to reduce joint pain in osteoarthritis sufferers in the Work Area of the Perumnas Health Center, Lubuklinggau City in 2021.

The subjects in this study were two people in the family who were diagnosed with joint pain in osteoarthritis in the working area of the Lubuklinggau Public Health Center. Subjects were selected based on inclusion and exclusion criteria. Inclusion criteria are criteria that need to be met in every member of the population that can be taken as a sample. While the exclusion criteria are the characteristics of members of the population that cannot be sampled (Notoatmodjo, 2010). The case study subjects used in the family nursing case study were 2 families who experienced osteoarthritis with knee pain problems on a scale of 4-5, female, 45-70 years old, had members who were more than 15 years old, could communicate well, did not suffer from complications of other diseases and did not take medication before the procedure was carried out.

RESULTS

Subject I

Subject I with initial Mrs. H is 51 years old, Gender is Female, Muslim, last education is high school, housewife work, complaints of swollen feet, joints have calcification lumps, feels pain when brought to activity, pain is stated on a scale of 5, complaints have been felt since 5 months ago, BP: 120/70 mmHg, RR: 16 x/minute, Pulse: 92 x/minute, temp: 37.5 oc, Date of treatment at the Puskesmas 27 March 2021, and then reviewed on 29 March 2021.

Subject II

Subject II with initial Mrs. M. 50 years old, Gender Female, Muslim, last high school education, Trader job, pain in feet and joints, pain when brought to work, both feet are red and slightly swollen, pain scale is rated on a scale of 5, uric acid test results are 9 mg/dl, BP: 120/70 mmHg, RR: 16 x/min, Pulse: 76 x/min, Temp: 37 oc, Date of treatment at the Puskesmas 28 March 2021, and then reviewed on 29 March 2021.

Based on the assessment data, it was found that the nursing problems of subject 1 i were complaints of swollen feet, joints with calcification lumps, pain when brought to activities, pain expressed on a scale of 5, complaints felt since 5

months ago BP: 120 / 70 mmHg, RR: 16 x / minute, pulse: 92 x / minute, temp: 37.5 o c, and subject 2 is a complaint of pain in the legs and joints, pain when brought to work, both feet are red and slightly swollen, the results of the uric acid examination are 9 mg/minute. dl, td : 120 / 70 mmhg, rr : 16 x / min, pulse : 76 x / min, temp : 37.5 o c.

According to the priority of nursing diagnoses found in subject I, based on the results of the assessment, acute pain is related to the inability of the family to care for sick family members and impaired physical mobility related to the inability of the family to care for sick family members. And the nursing diagnosis in subject II is acute pain related to the inability of the family to take care of sick family members and impaired physical mobility related to the inability of the family to take care of sick family members. Both research subjects have nursing problems with two nursing diagnoses, namely:

- a. Acute pain related to family's inability to care for sick family members
- b. Impaired physical mobility related to family inability to care for family members

DISCUSSIONS

The discussion of this research includes assessment, nursing diagnosis, intervention, implementation and evaluation by comparing theory with real facts when the application of self-therapy compresses boiled red ginger to reduce joint pain in patients with osteoarthritis.

Assessment

In the assessment of the two subjects, the results of the assessment were in the form of general data and data on the main complaint, namely in the form of pain problems and damage to the body's physical mobility. Complaints Pain and damage to physical mobility that arise as a physiological reaction to the effects of inflammation that occur in the joints of both legs. The appearance of pain is closely related to receptors and the presence of stimulation. Pain receptors in question are nociceptors, which are very free nerve endings that have little or no myelin that are scattered in the skin and mucosa, especially in viscera, joints, artery walls, liver and gallbladder. Pain receptors can respond to stimulation or stimulation. The stimulation can be in the form of chemicals such as histamine, bradykinin, prostaglandins and various acids which are released when there is damage to the tissue due to lack of oxygenation.

Then, pain impulses cross the spinal cord on interneurons and are connected to the main ascending spinal pathways, namely the spinothalamic tract (STT) pathway or spinothalamic pathway and spinoreticular tract (SRT) which carry information about the nature and location of pain (Hidayat, 2014). The existing complaints are in line with the concept of rheumatoid arthritis disease which is characterized by the presence of symmetric erosive synovitis that affects joint tissue and can also be in other body organs as well as inflammatory symptoms

Diagnosis

Nursing diagnoses with Osteoarthritis conceptually there are 4 nursing diagnoses, while the nursing diagnoses are:

- a. Acute / Chronic Pain related to the inability of the family to provide care for sick family members
- b. Impaired Physical Mobility related to the inability of the family to recognize family health problems
- c. Disturbed body image related to the family's ignorance of caring for sick family members
- d. Self-care deficit related to the inability of the family to provide care for sick family members due to synovitis activity (Sudoyo, 2002).

While the family nursing diagnoses were obtained in the assessment of subject I and Subject II, based on the complaints submitted there were 2 diagnoses in cases with this osteoarthritis disease, namely

- a. Acute / Chronic Pain related to the inability of the family to provide care for sick family members.
- b. Impaired Physical Mobility related to the inability of the family to recognize family health problems. However, the focus of the discussion in this case is focused on the diagnosis of Acute / Chronic Pain related to the inability of the family to provide care for sick family members

Planning (intervention)

Based on the SIKI (2018) reference, nursing interventions carried out to treat acute pain include relaxation and distraction measures that aim to reduce pain. In this study, interventions were arranged according to the patient's condition and existing facilities. So that the nursing plan can be implemented and implemented according to the purpose. The author prepares a nursing plan of 6 x 30 minutes in 3 days, because the problem of acute pain cannot be overcome in a short time. The intervention carried out was applying a deep red ginger decoction compress. In this study, the interventions carried out were in line with the existing theoretical concepts, so that there was no gap between the theory and the interventions given to subject I and subject II.

Implementation (Implementation)

In implementation activities, nurses need to carry out a previous contract (when disseminating nursing diagnoses) for implementation which includes when it is carried out, how long it will take, materials/topics discussed, who is implementing it, family members who need information (direct targets for implementation), and equipment that the family needs to prepare. This activity aims to make families and nurses physically and psychologically prepared at the time of implementation. At the nursing implementation stage, it is carried out according to priority interventions so that all subject needs are optimally met and produce effective results (Gusti, 2013).

Evaluation Results

The evaluation results obtained are based on formative evaluation, the authors use the SOAP approach in evaluating the implementation of the actions that have been taken. evaluation that can be carried out by nurses, namely formative evaluation which aims to assess the results of implementation gradually in accordance with the activities carried out according to the implementation contract and summative evaluation which aims to assess the overall achievement of nursing diagnoses whether the plan is continued, partially forwarded, forwarded to changes in intervention, or discontinued (Gusti, 2013).

After implementing nursing for 6 days, the author can state that nursing problems can be fully resolved and the final evaluation obtained is as follows:

- a. In the study of Subject I and Subject II, that there was a decrease in pain scale with the application of red ginger decoction compresses in patients with osteoarthritis.
- b. This study strengthens the research that has been done by Yohana (2017), saying that warm compresses can have an effective impact for the elderly who feel pain, where when the compress is placed in a painful place, the heat will move to the body or skin, so that the process occurs. conduction that occurs in the body causing vasodilation of blood vessels and reducing tense muscles so that the muscles become relaxed and the pain will relax so that the muscles become relaxed and the pain will decrease.

CONCLUSIONS

The provision of nursing care carried out directly on subject I (Mrs. H) and Subject II (Mrs. M) with Osteoarthritis conditions in the working area of the Perumnas Public Health Center Lubuklinggau, where the focus of this research is related to the application of red ginger decoction compresses in reducing pain joints, which include assessment, problem formulation, intervention, implementation and evaluation, it can be concluded as follows :

1. Based on the results obtained in the assessment, by means of interviews and observations, the main problem. Pain that occurs is due to a joint inflammatory reaction, symmetric erosive synovitis that affects the joint tissue.
2. Actual nursing diagnoses that arise based on existing complaints are acute pain and impaired physical mobility.
3. Interventions and implementations that can be done based on the diagnosis that arise are relaxation, distraction. Giving Deep Breathing Relaxation is able to provide a comfortable effect and help in overcoming joint inflammation that occurs.
4. Evaluation of the application of Deep Breathing Relaxation which was carried out in a study of two subjects, which was carried out for 6 days, turned out to have a good effect on controlling joint pain problems that occurred.

RECOMMENDATIONS

1. For Lubuklinggau Nursing Study Program

This research can be used as basic data and a source of information for further research, and the results of this study can be carried out as an independent nursing action.

2. For Students

The data and research results can be used as a reference and development of further research, and the results of this study can inspire students to explore more about the concept of family care and some independent actions that can be developed to improve the knowledge and skills of future nurses.

3. Public Health Center

Health centers are expected to have standard operating procedures in the management of family nursing care, so that family nursing problems can be carried out optimally, it is also hoped that the health center can facilitate research for nursing staff at the Perumnas Public Health Center, and it is hoped that the Perumnas Public Health Center can provide education and guidance to Osteoarthritis sufferers. red ginger decoction compresses as an independent treatment if you experience Osteoarthritis pain problems.

FURTHER STUDY

The prevalence of Osteoarthritis in the world is in the high category of 2.3% to 11.3%, which is a musculoskeletal disease that often occurs, which is 12th among all existing diseases. It is estimated that the prevalence of Osteoarthritis will double by 2020 as the population ages. Data obtained from the Lubuklinggau City Health Office in 2018 found that the number of visits by patients suffering from Osteoarthritis in Lubuklinggau City was 644 people (Lubuklinggau City Health Office (2018)). The prevalence of visits with osteoarthritis sufferers at the Perumnas Public Health Center in 2018 reached 116 visits, in 2019 it reached 143 visits and in 2020 it reached 128.

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REFERENCES

- Alimul, HA & Uliyah, M. (2014). Basic Human Needs. Jakarta: Salemba Medika
- Arman, Yanti, Mimitri & Nofia.(2017). Effect of Red Ginger Warm Compress
- Bahrudin, M. (2018) 'Patophysiology of Pain (Pain)', Saintika Medika, 13(1), p. 7. doi:10.22219/sm.v13i1.5449.
- Felson, D.T., (2008). Osteoarthritis. In: Fauci, A., Hauser, L.S., Jameson, J.L., Ed. Principles of Internal Medicine Seventeenth Edition. New York, United States of America. McGraw-Hill Companies Inc.,2158- 2165.reda st. Theresia dharma bhakti love Surakarta. 34-36
- Hasim, R. Ambar, R. (2017). Differences in Red Ginger Compress Activity and Ordinary Warm Compress on Pain Scale Reduction in Gout Arthritis Patients. University of Muhammadiyah Yogyakarta.
- Hidayat, A. (2009). Basic human needs. Jakarta: Salemba Medika
- Beautiful, Nurhayati & Setiyajati. (2013). Ginger compress therapy and massage for osteoarthritis in the nursing home
- Indah, Nurhayati & Setiyajati. (2013). Ginger compress therapy and massage on osteoarthritis at the nursing home st. Theresia dharma bhakti love Surakarta. 34-36
- Istianah, U. (2017). Nursing Care of Clients with Musculoskeletal System Disorders. Yogyakarta: New Library Press
- Notoadmojo. 2012. Health Research Methodology. Jakarta: Rineka Cipta
- Nyoman, Nastiti & Dewa. (2011). Effect of the combination of extracts of ginger, ginger, soybean and shrimp shells on liver and kidney function compared with diclofenac sodium in patients with osteoarthritis, 52-53.
- Padila (2013) Textbook of Gerontic Nursing, Jakarta: Nuha Medika
- Potter, P. A., & Perry, A. G. (2005). Fundamentals of Nursing 7th Edition Book 3. Jakarta: Salemba Medika.
- Prihandhani, I. G. A. A (2016). The Effect of Giving Hot Compress Grated Ginger Stew on Pain in Elderly with Osteoarthritis in Pejeng Kangin, Gianyar Regency. World Journal of Health, 5(2).

- Samsudin, A. R., Kundre, R., & Onibala, F (2016). Effect of giving warm ginger compresses using grated red ginger (*Zingiber Officinale Roscoe Var Rubrum*) on reducing pain scale in patients with gout arthritis in Tateli Dua Village, Mendolang District, Minahasa Regency. *JOURNAL OF NURSING*, 4(1).
- Tamsuri, A. (2012). *Pain Concepts and Management*, Jakarta, EGC Medical Book
- DPP PPNI SDKI Pokja Team. 2017. *Indonesian Nursing Diagnosis Standards*. Jakarta: DPP PPNI.
- Pokja SIKI DPP PPNI Team. 2018. *Indonesian Nursing Intervention Standards*. Jakarta: DPP PPNI.
- Pokja SLKI DPP PPNI Team. 2019. *Indonesian Nursing Outcome Standards*. Jakarta: DPP PPNI.
- Virgo, S. & Sopiando.(2019). The Effectiveness of Red Ginger Compresses on Reducing Pain Scale in the Elderly Suffering from Rheumatoid Arthritis at the Aceh Mangrove Supporting Health Center in the Working Area of the Batang Tumu Health Center. *Journal of Ners*, 3 (1)
- Wiarso, G. (2017). *Bone and Joint Pain*. Yogyakarta: Gosyen Publishing
- Zakiah, A. (2015). *Pain, concepts and management in evidence-based nursing practice*. Jakarta: Salemba Medika