

Application of Warm Lemongrass Compress Therapy on Mr. D with Gout Arthritis

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ABSTRACT

Background & Objective: Gout arthritis is a joint condition caused by elevated blood uric acid levels. One non-pharmacological therapy that can be administered is the application of warm compresses made from boiled lemongrass to alleviate pain. This study aims to determine the effect of applying warm compresses made from boiled lemongrass on Mrs. R, who has gout arthritis. **Method:** A case study was used, with the subject being a family that includes a member with gout arthritis. Data collection was conducted by first identifying nursing care needs. Data collection instruments included a family nursing care assessment form and the Standard Operating Procedure (SOP) for warm compress therapy using boiled lemongrass. The warm compress therapy using boiled lemongrass was administered for 20 minutes over three days. **Result:** The case study results showed that the warm compress therapy using boiled lemongrass was effective in reducing chronic pain in Mrs. R, who has gout arthritis. **Conclusion:** The warm compress therapy using boiled lemongrass was effective in reducing pain in Mrs. R, who has gout arthritis.

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Introduction

One of the many dangerous diseases is gout, which can cause physical disability and health problems such as general body weakness (Haryani & Misniarti, 2020). The normal uric acid level for men is between 3 and 7 mg/dl, while for women it is between 2.6 and 6 mg/dl (Hasana, 2022). Gout arthritis is a type of joint disease caused by an increase in uric acid levels in the blood, usually above the normal value. The accumulation of uric acid in the joints and other body organs causes pain and

discomfort in the joints, leading to inflammation, discomfort, and pain (Putri & Mentari, 2022).

Globally, the prevalence of gout arthritis continues to rise each year. According to WHO data, gout arthritis affects 1% to 4% of the general population, but in Western countries, men are more likely to develop gout than women, with a prevalence of 3% to 6%. In certain countries, the prevalence can reach up to 6% for women over 80 years old and 10% for men. Gout affects approximately 2.68 out of every 100 people annually. Globally, uric acid levels are increasing due to poor dietary habits, lack of physical activity, obesity, and metabolic syndrome (Hermansyah et al., 2025). In Indonesia, the percentage of people suffering from gout arthritis in 2018 varied, from 11.9% to 18.3% in Aceh, 17.5% in West Java, and 15.4% in Papua. According to Lindawati R. Yasin et al. (2023), the prevalence of gout arthritis was 33.1% in East Nusa Tenggara, 32.1% in West Java, and 30% in Bali.

Avoiding foods high in purine is one way to prevent gout arthritis. The role of nurses is to educate families about gout arthritis and non-pharmacological therapy using warm compresses made from lemongrass decoction. This enables families to care for themselves and consume a low-purine diet. Families have five health responsibilities that must be understood and fulfilled: recognizing family health problems, making appropriate decisions, caring for sick family members, creating a healthy home environment, and utilizing available healthcare services in the community (Friedman & Bowden, 2010, in Salamung, N., et al., 2021). For family members with gout arthritis, it is important to monitor uric acid levels through regular check-ups at healthcare centers or other facilities.

Methods to reduce gout pain include both pharmacological and non-pharmacological therapies. Pharmacological therapy involves administering analgesic medications, such as anti-inflammatory drugs and nonsteroidal anti-inflammatory drugs (NSAIDs), to reduce pain. Effective non-pharmacological therapies include warm compresses and herbal treatments. Herbal therapy, which utilizes Indonesian medicinal plants to manage uric acid levels, is practiced because people believe herbal medicine is more practical, affordable, and can be regularly applied independently. The purpose of this non-pharmacological therapy is to open the pores and dilate blood vessels, thereby improving blood circulation to the painful area and reducing muscle tension that causes pain.

For greater benefits, warm compresses combined with herbal plants can also be used. One example is lemongrass (*Cymbopogon citratus*), a grass-like plant containing essential oils rich in citronellal (antioxidant) 32–45%, geraniol (antioxidant) 12–18%, citronellyl acetate 2–4%, citral, cavitcol eugenol, elemol, sesquiterpenes 2–5%, elemene, cadinene 2–5%, kadinol, vanillin, limonene, and camphene. Lemongrass water has chemical properties and pharmacological effects with a spicy-warm taste, acting as an anti-inflammatory, analgesic, and blood circulation enhancer, which is expected to reduce muscle and joint pain caused by arthritis, body aches, and headaches (Yanti et al., 2018).

Objective

In this case study, the research focuses on one individual, beginning with the identification of family nursing care, followed by the administration of warm compress therapy using lemongrass decoction as a method to reduce pain caused by gout arthritis. Based on the above description, the purpose of this case study is to provide one form of non-pharmacological management for gout arthritis, namely warm compress therapy with lemongrass decoction for Mrs. R.

Method

The research design used in this study is a case study design with a nursing process approach. A case study is a series of intensive, detailed, and in-depth scientific activities concerning a program, event, or activity – whether at the individual, group, institutional, or organizational level – to gain comprehensive knowledge about the phenomenon (Rahardjo, 2017). This research was conducted in Kampung Munjul, Pabuaran Village, Pabuaran District, Subang Regency, from May 20 to 22, 2025. The subjects in this study were families with a member diagnosed with gout arthritis, with the criteria that the family member was diagnosed with gout arthritis, was not using other herbal therapies for joint pain, and was under family home care.

The initial step in the data collection process was the identification of family nursing care. The Standard Operating Procedure (SOP) for warm compress intervention using lemongrass decoction and a family nursing care assessment form were used as data collection instruments. Using the nursing process approach, the data collection procedure included gathering information from the family, identifying family problems through nursing diagnosis, planning interventions to address the problems, implementing the prepared nursing interventions, and evaluating the effectiveness of the interventions. Written informed consent, confidentiality, anonymity, fairness, and the principle of beneficence were among the research ethics applied in this case study.

Results

Assessment

From the assessment results, it was found that Mrs. R's family resides in Kampung Munjul, Desa Pabuaran, Kecamatan Pabuaran, Kabupaten Subang. The family consists of two members: Mrs. R (56 years old, head of the family) and her daughter, Ms. W (25 years old). The family type is a single-parent family, headed by one parent due to divorce or death, with children still dependent on them. They follow Sundanese culture and have a middle socioeconomic status. The family is at stage VI of the family life cycle (family with adult children). Daily needs are met with support from her working daughter. Environmental assessment revealed a permanent self-owned house measuring 8x15 m² with brick and cement walls, a tiled floor, and a clean,

well-ventilated environment. The bathroom is clean with a goose-neck toilet, waste disposal is located in front of the house, water is clean but stored in an open container without mosquito larvae. The family has no pets or livestock.

Health Problems and Family Function

Mrs. R has a history of gout arthritis for the past two years, with pain in both knees every morning, during activities, and after consuming high-purine foods such as nuts, organ meats, and leafy greens. She reported stabbing pain (scale 6/10), intermittent for about 5 minutes, and has been irregular in medical check-ups or taking uric acid-lowering medication. She lacks knowledge of a healthy lifestyle for gout arthritis and only uses over-the-counter paracetamol for pain relief. Vital signs: BP 135/80 mmHg, pulse 67 bpm, respiration 22/min, temperature 36.5°C. Family functions are generally good: affectionate relationships, adherence to norms, social interaction with neighbors, and participation in community activities. However, in health care, Mrs. R lacks adequate knowledge of gout arthritis management. In coping, she often prays, discusses problems with her daughter, and expresses anxiety about her own health and her daughter's workload.

Nursing Diagnoses, Interventions, and Implementation

Two nursing diagnoses were identified: (1) chronic pain related to chronic musculoskeletal conditions and (2) ineffective health management related to the family's inability to recognize behaviors affecting gout arthritis. For the first diagnosis, interventions included pain management (vital signs observation, pain assessment, and non-pharmacological techniques such as warm compresses with lemongrass infusion) and education on pain causes and triggers. For the second diagnosis, interventions included health education on a healthy lifestyle for gout arthritis using leaflets covering definitions, causes, symptoms, prevention, complementary therapy, and self-administered warm compresses. Implementation was carried out over three days (May 20–22, 2025), with gradual reduction in pain scores (from 6 to 2) and improved understanding of healthy lifestyle practices.

Evaluation

On Day 1, chronic pain persisted (scale 6), but the patient and family were attentive to education. Ineffective health management was not yet resolved. On Day 2, pain decreased to scale 4, with improved activity performance, but health management was still in progress, and education was scheduled for the following day. On Day 3, pain was reduced to scale 2, and the patient appeared comfortable without holding the painful area. The health management problem was resolved; Mrs. R and her family could identify and explain healthy lifestyle behaviors for gout arthritis and committed to maintaining them. Both nursing interventions were discontinued after achieving goals.

Discussion

A. Assessment

The assessment revealed that Mrs. R's family resides in Kampung Munjul, Desa Pabuaran, Kecamatan Pabuaran, Kabupaten Subang. The family consists of two members: Mrs. R (56 years old, head of the household) and her daughter, Ms. W (25 years old). This family falls under the single-parent category, headed by one parent due to divorce or death, with children still dependent on them. They practice Sundanese culture and have a middle socioeconomic status. The family is currently at stage VI of the family life cycle (family with adult children). Mrs. R stated that daily needs are met with the help of her working daughter. Her uric acid level at the time of assessment was 7.9 mg/dl, which is higher than normal (normal uric acid levels for men are 3–7 mg/dl, and for women 2.6–6 mg/dl) (Hasana, 2022). Joint pain is one of the primary symptoms in gout arthritis, often accompanied by stiffness, tingling, swelling, and redness around the affected joint (Kusambarwati, 2019). This aligns with the findings that Mrs. R experienced pain, swelling, and heat in her knees. Her vital signs were: BP 130/85 mmHg, pulse 90 bpm, RR 22 breaths/min. She reported pain in both knees, especially upon waking and during activity, and stated that although she knows some signs of gout arthritis, she needs further education on the disease. She no longer takes uric acid-lowering medication but frequently consumes over-the-counter paracetamol for pain relief.

B. Nursing Diagnosis

Based on the Indonesian Nursing Diagnosis Standards (SDKI, 2017) and data analysis from the assessment, two nursing diagnoses were established using a scoring method to determine priorities. The primary diagnosis was chronic pain related to chronic musculoskeletal conditions, supported by findings of bilateral knee joint pain on waking, during activities, and after eating high-purine foods (e.g., nuts, organ meats, green leafy vegetables). The pain characteristics were: P – caused by uric acid, Q – stabbing sensation, R – knees (bilateral), S – pain scale 6, T – intermittent, lasting about 5 minutes. The second diagnosis was ineffective health management related to the family's inability to recognize behaviors affecting gout arthritis, indicated by Mrs. R's irregular medical follow-ups, discontinuation of uric acid-lowering drugs, lack of knowledge on healthy lifestyles for gout arthritis, and limited understanding of non-pharmacological pain management. Chronic pain was attributed to elevated uric acid levels, age above 40, and an unhealthy diet high in purines (e.g., spinach, water spinach) (Welkriana, Baruara, & Rahmawati, 2022).

C. Interventions

According to the Indonesian Nursing Intervention Standards (SIKI, 2018), interventions must align with the established diagnoses. For the diagnosis of chronic pain (D.0078), pain management (I.08238) was implemented, including: observation (vital signs, pain location, duration, characteristics, frequency, quality, intensity, and scale), therapeutic actions (non-pharmacological methods such as warm lemongrass compresses), and education (explanation of pain causes, periods, triggers, and

instructions for applying a warm lemongrass compress). Arif et al. (2023) found that daily application of warm lemongrass compresses for three days significantly reduced pain intensity in gout arthritis patients. For the diagnosis of ineffective health management (D.0116), health education (I.12383) on a healthy lifestyle for gout arthritis patients was provided, using leaflets containing information on the disease, causes, symptoms, prevention, complementary therapies, and self-application of warm lemongrass compresses (Kurniawati et al., 2019).

D. Implementation

Nursing implementation is the stage where planned actions are carried out to achieve the desired outcomes (Cahyani, 2020). This intervention was performed over 3×24 hours. For chronic pain management, the implementation included observing vital signs, identifying pain characteristics and scale, and recommending non-pharmacological pain relief through warm lemongrass compresses. The compress was applied using a cloth or towel soaked in warm lemongrass infusion, wrung out, and placed on the painful knee area for 20 minutes. For ineffective health management, the implementation involved delivering health education with a leaflet on a healthy lifestyle for gout arthritis patients. The leaflet contained definitions, causes, signs and symptoms, prevention, complementary therapies, and instructions for applying warm lemongrass compresses independently.

E. Evaluation

Evaluation is the final stage of the nursing process to determine whether the goals have been achieved or if further interventions are needed (Suwignjo et al., 2022). After three days of warm lemongrass compress interventions, Mrs. R reported reduced pain; her pain scale decreased from 6 to 2, and her ability to complete activities improved. The case study supports findings from Arif et al. (2023), showing that daily 20-minute warm lemongrass compresses for three consecutive days significantly reduce pain in gout arthritis patients. Similar results were reported by Oktavianti & Anzani (2021) and by Riranto & Kurniawan (2022), who applied ginger and lemongrass compresses for two days to an elderly patient with rheumatoid arthritis, reducing pain from scale 4 to 2. Evaluation of the second diagnosis showed that Mrs. R and her family understood healthy lifestyle practices for gout arthritis and expressed readiness to apply them consistently.

Conclusion

The management of gouty arthritis involves pharmacological therapy using nonsteroidal anti-inflammatory drugs (NSAIDs), colchicine, corticosteroids, probenecid, allopurinol, and uricosuric agents, or non-pharmacological therapy such as applying warm compresses with boiled lemongrass. The results of the therapy showed that the joint pain in both knees of Mrs. R had decreased. This case study indicates that the application of warm compresses with lemongrass decoction on Mrs.

R has the potential to reduce joint pain issues. Mrs. R appeared calm and was able to engage in activities comfortably. Mrs. R reported that the pain she felt decreased from a scale of 6 (1-10) to a scale of 2 (1-10). This therapy is expected to become a habit practiced by the family. The family can actively participate in providing warm compresses with boiled lemongrass and monitoring the client's condition to reduce pain and uric acid levels.

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