



APPLICATION OF ACUPRESSURE TECHNIQUE IN Mrs. M WITH GOUT ARTHRITIS

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ABSTRACT

Gout arthritis is an inflammatory joint disease caused by the deposition of monosodium urate crystals resulting from hyperuricemia. It is characterized by joint pain, swelling, redness, stiffness, and limited mobility, which may reduce patients' quality of life. In addition to pharmacological treatment, acupressure is a complementary non-pharmacological therapy that may help relieve pain through stimulation of specific acupressure points. This case study aimed to evaluate the effectiveness of acupressure therapy as a complementary nursing intervention in reducing pain among patients with gout arthritis within the context of family nursing care. This case study involved one family with a member diagnosed with gout arthritis. Acupressure therapy was administered over three sessions by stimulating the SP6 (Sanyinjiao), LV3 (Taichong), LI4 (Hegu), KI1 (Yongquan), and KI3 (Taixi) points. Data were collected through interviews, direct observation, physical assessment, pain measurement using the Numeric Rating Scale (NRS), and serum uric acid measurements. Family caregiving ability and independence in performing acupressure were assessed through direct observation. Data were analyzed descriptively by comparing changes across the three sessions. Pain intensity decreased from 5 (moderate pain) to 2 (mild pain), while serum uric acid levels decreased from 6.8 mg/dL to 3.5 mg/dL. Improvements were also observed in joint swelling, stiffness, mobility, comfort, treatment adherence, and family independence in performing acupressure and providing home-based care. Acupressure therapy may serve as a beneficial complementary nursing intervention for reducing pain, improving physical condition, and enhancing family independence in caring for patients with gout arthritis.

Keywords: acupressure; complementary therapy; family nursing; gout arthritis; pain

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INTRODUCTION

The aging process naturally leads to a decline in the functional capacity of the body at both cellular and organ levels, potentially increasing the risk of various degenerative diseases. These physiological changes affect not only physical appearance but also significantly influence organ function and the body's ability to respond to and perform daily activities (Mokambu, 2024). Gout arthritis is a form of inflammatory arthritis caused by disturbances in purine metabolism, resulting in elevated blood uric acid levels (hyperuricemia). Excess uric acid forms monosodium urate (MSU) crystals that accumulate within or around the joints. These crystal deposits trigger an inflammatory response, resulting in severe pain, swelling, redness, and limited movement of the affected joints (Nicola Dalbeth, 2021).

Gout arthritis, commonly known as gout, is a metabolic disorder with a relatively high prevalence, particularly among adults and older adults. Clinically, the condition is characterized by hyperuricemia, which leads to the accumulation of urate crystals in the joints. This accumulation triggers an inflammatory response manifested by acute pain, swelling, and reduced mobility (Desy & Apidianti, 2025). Gout arthritis is a health problem that continues to increase globally. According to a publication by the World Health Organization (WHO), the number of people affected increased from 41 million (prevalence 0.53%) in 2022 to 44 million (0.56%) in 2023. In Indonesia, the prevalence of gout arthritis ranges from 11.9% to 14%, indicating a substantial disease burden and

the need for prevention, risk-factor control, early detection, and improved healthcare services (Aulia & Dewi, 2026).

According to a 2019 report from the Ministry of Health of the Republic of Indonesia, the prevalence of gout varies across provinces, with the highest prevalence reported in East Java at 29.7%, followed by West Java at 27.1%, DKI Jakarta at 18.6%, and Gorontalo at 17.7%. Meanwhile, Central Sulawesi reported a prevalence of 6.5% (Triamanda, 2026). In Central Jakarta, 6,082 cases of gout arthritis were recorded, including 448 cases in Cempaka Putih District and 9 cases in Cempaka Putih Barat Urban Village. However, health cadres in RW 11 reported 68 individuals with gout arthritis within the service area of the Cempaka Putih Barat Community Health Center. These conditions indicate the need for promotive and preventive efforts as well as continuous disease management to prevent complications and improve patients' quality of life.

Gout arthritis exhibits differences in incidence according to age and sex. Onset generally occurs at approximately 40 years of age in men and 50 years in women. This difference is associated with the protective role of estrogen in promoting uric acid excretion, whereas declining estrogen levels after menopause may increase the risk of hyperuricemia in women (Indaryani & Iskandar, 2023). Management of gout arthritis includes both pharmacological and non-pharmacological therapies. In addition to the use of anti-inflammatory medications to control pain and inflammation, complementary therapies such as acupressure may serve as a non-pharmacological option. Acupressure involves applying pressure to specific points on the body and has the potential to help reduce pain symptoms in patients with gout arthritis (Mahmudi, Safitri et al., 2024).

The management of gout arthritis can be classified into two categories: medical (pharmacological) therapy and alternative or non-pharmacological therapy. Medical management commonly involves medications such as nonsteroidal anti-inflammatory drugs (NSAIDs) to reduce inflammation and control pain. Meanwhile, as a form of non-pharmacological care, complementary therapies such as acupressure may be used as an intervention. Acupressure involves applying physical pressure to specific areas of the skin that, according to traditional therapeutic principles, correspond to pathways of energy flow within the body. This approach has been reported to be beneficial in reducing pain manifestations in affected individuals (Mahmudi, Safitri et al., 2024).

Acupressure is a complementary therapy with the potential to reduce pain intensity and uric acid levels in patients with gout arthritis. Imani and Waladani (2022) reported that acupressure can reduce pain intensity as well as uric acid levels. Consistent with these findings, Yudiatma et al. (2021) reported that acupressure was effective in reducing pain and uric acid levels. This therapy is non-invasive, safe, practical, and easy to implement. In addition, stimulation of the KI3 acupressure point has been reported to have the potential to reduce pain and help control uric acid levels in patients with gout arthritis (Mahmudi, Safitri et al., 2024). This study aimed to determine the effect of acupressure therapy on pain intensity and uric acid levels in patients with gout arthritis. Specifically, this study aimed to evaluate changes in pain intensity, uric acid levels, comfort, and mobility following the implementation of acupressure therapy, as well as to assess the family's ability to perform acupressure therapy independently as part of home-based care for patients with gout arthritis.

METHOD

This study employed a case study design using a family nursing care approach for a family with a member experiencing gout arthritis. The case study was conducted in the service area of the Cempaka Putih Barat Community Health Center, Central Jakarta. The subject of this case study was Mrs. M, who had gout arthritis, with the primary problems of joint pain and suboptimal family capacity in managing the disease. The implementation of nursing care began with an assessment of Mrs. M and her family, including identification of health problems, medical history, pain

complaints, the family's ability to recognize health problems, decision-making ability, ability to care for an ill family member, ability to modify the environment, and ability to utilize healthcare services. Based on the assessment and data analysis, the primary nursing problem was Ineffective Family Health Management, accompanied by Risk-Prone Health Behavior and Impaired Comfort. Nursing interventions were implemented based on the five family health tasks, namely the family's ability to recognize health problems, make decisions regarding care, care for an ill family member, modify the environment, and utilize healthcare services. The interventions included health education regarding gout arthritis, disease management, medication adherence, a low-purine diet, regular monitoring of uric acid levels, and non-pharmacological therapy in the form of acupressure as a complementary therapy to help reduce pain.

Acupressure therapy was implemented over three sessions, from June 29 to July 1, 2026. During the intervention, the nurse first assessed the family's ability to provide care and provided an explanation of the objectives, benefits, and procedures of acupressure therapy. The nurse then demonstrated the technique and the specific acupressure points used. Subsequently, the family was guided in practicing acupressure on Mrs. M and was gradually encouraged to perform the procedure independently. The acupressure points applied included SP6 (Sanyinjiao), LV3 (Taichong), LI4 (Hegu), KI1 (Yongquan), and KI3 (Taixi).

Data were collected through interviews, observation, physical examination, and measurement of pain intensity and uric acid levels. Pain intensity was assessed using the Numeric Rating Scale (NRS) by comparing the patient's condition before and after the intervention. Uric acid levels were measured to assess changes during the intervention period. In addition, observations were made of Mrs. M's physical condition, including pain expression, comfort level, walking ability, and ability to perform daily activities. The family's ability to perform acupressure therapy was also evaluated based on their ability to identify the appropriate acupressure points, perform the technique correctly, and explain the benefits and procedures of the therapy.

Evaluation was conducted during each session to assess Mrs. M's response to acupressure therapy and the development of the family's caregiving abilities. The evaluation included changes in pain intensity, changes in uric acid levels, improvements in Mrs. M's comfort and activity levels, and improvements in the family's ability to independently perform acupressure therapy.

The collected data were analyzed descriptively by comparing the patient's condition before and after the intervention across the three sessions.

RESULT

The implementation of acupressure therapy for Mrs. M with gout arthritis was conducted over three sessions, from June 29 to July 1, 2026. The intervention involved both Mrs. M and her family. During the initial stage, the nurse assessed the family's ability to provide care, provided education regarding acupressure therapy, demonstrated the techniques and acupressure points to be used, and subsequently guided the family in performing the therapy independently. Acupressure therapy was administered at the SP6 (Sanyinjiao), LV3 (Taichong), LI4 (Hegu), KI1 (Yongquan), and KI3 (Taixi) points.

During the first session, Mrs. M complained of pain and aching sensations in her knees, ankles, and big toes, particularly upon waking and while walking. Her pain score before the intervention was 5 and decreased to 4 after acupressure therapy. Mrs. M reported that her legs felt lighter after the therapy and appeared more relaxed, with reduced facial grimacing. Her uric acid level was 6.5 mg/dL. At this stage, the family began to understand the benefits of acupressure therapy and was able to demonstrate some of the techniques with guidance from the nurse.

During the second session on June 30, 2026, Mrs. M reported that her legs felt more comfortable than on the previous day, although she still experienced aching sensations when performing extensive physical activities. She also reported improved comfort during nighttime sleep. Her pain score decreased to 3, with pain occurring only occasionally, particularly during strenuous activities. Objectively, the family was able to perform acupressure therapy independently using the correct technique and accurately identify the appropriate acupressure points. Mrs. M appeared to walk more easily, was more relaxed, and showed no facial grimacing when changing positions.

During the third session on July 1, 2026, Mrs. M reported that her legs felt considerably more comfortable and that the remaining aching sensation was mild and did not interfere with her daily activities. She also stated that she was able to walk more comfortably after waking up. Her pain score decreased to 2 and occurred only occasionally during excessive physical activity. Objectively, Mrs. M demonstrated a more stable gait and appeared calm and relaxed, with no facial grimacing observed during light activities. Her uric acid level on the third day had decreased to 3.5 mg/dL.

Over the three sessions, a gradual reduction in pain intensity was observed, from a pain score of 5 to 4 on the first day, 3 on the second day, and 2 on the third day. In addition to reduced pain intensity, improvements were observed in Mrs. M's comfort and mobility. The family's ability to perform acupressure therapy also improved, progressing from being able to demonstrate only part of the technique with guidance from the nurse during the first session to independently performing the entire procedure by the third session.

The evaluation results also demonstrated an improvement in the family's ability to provide care for Mrs. M. At the end of the intervention, the family was able to explain the benefits of acupressure therapy, a low-purine diet, medication adherence, and the importance of regular health examinations. The family stated that they would continue acupressure therapy at home if pain occurred and were committed to supporting Mrs. M in managing her gout arthritis. Therefore, the intervention objectives related to improving the family's ability to care for a family member with gout arthritis were achieved.

DISCUSSION

The application of acupressure therapy to Mrs. M over three sessions demonstrated a gradual reduction in pain intensity, from a score of 5 before the first intervention to 4 after the first session, 3 on the second day, and 2 on the third day. The reduction in pain was accompanied by improvements in comfort, relaxation, and mobility. These findings are consistent with Indaryani and Iskandar (2023), who reported that acupressure therapy was effective in reducing joint pain in patients with hyperuricemia. Similarly, Alfionita et al. (2024) found that the application of acupressure therapy in patients with gout arthritis could help reduce pain intensity.

The reduction in pain intensity observed in Mrs. M may indicate that stimulation of the acupressure points used, namely SP6 (Sanyinjiao), LV3 (Taichong), LI4 (Hegu), KI1 (Yongquan), and KI3 (Taixi), may provide therapeutic effects for pain management. Mahmudi et al. (2024) reported that acupressure therapy, particularly stimulation of the Taixi (KI3) point, could help reduce pain and uric acid levels in patients with gout arthritis. This finding supports the results observed in Mrs. M, who experienced an improvement in pain during the intervention period.

In addition to the reduction in pain intensity, a change in uric acid level was also observed in Mrs. M, from 6.5 mg/dL at the initial assessment to 3.5 mg/dL on the third day. This finding is consistent with Mahmudi et al. (2024), who reported a reduction in uric acid levels following acupressure therapy in patients with gout arthritis. Mokambu (2024) also reported the potential of acupressure massage techniques to help reduce uric acid levels in patients with gout arthritis. Thus, the findings of this case study suggest that acupressure may not only help reduce pain but may also be

accompanied by changes in uric acid levels during the intervention period.

However, the change in uric acid level in Mrs. M should be interpreted cautiously. The decrease from 6.5 mg/dL to 3.5 mg/dL occurred within a relatively short observation period; therefore, it cannot be concluded that the change was solely caused by acupressure therapy. Uric acid levels may be influenced by various factors, including adherence to pharmacological therapy, dietary intake, consumption of purine-rich foods, physical activity, hydration, and overall health status. Therefore, the findings in this case study should be considered as changes observed during the intervention period rather than evidence of a causal relationship.

Improvement in Mrs. M's ability to perform activities was also observed. At the beginning of the intervention, Mrs. M experienced pain and aching in the knees, ankles, and great toes, particularly when getting up in the morning and walking. After three intervention sessions, she reported that her legs felt more comfortable and that the aching was minimal and no longer interfered with her activities. Objectively, Mrs. M appeared more stable, calm, and relaxed and did not demonstrate grimacing during light activities. These findings are consistent with Alfionita et al. (2024) and Indaryani and Iskandar (2023), which demonstrated the benefits of acupressure in reducing pain among patients with gout arthritis or hyperuricemia.

The effectiveness of acupressure in reducing pain is also supported by Putra et al. (2025), who reported the effectiveness of a combination of acupressure and warm red ginger compresses in reducing joint pain among older adults with gout arthritis. In addition, Rajin et al. (2024) reported that stimulation of the SP6 (Sanyinjiao) point could be used as an approach to help reduce joint pain in older adults. This finding is relevant to the intervention provided to Mrs. M because SP6 was one of the acupressure points used during the therapy.

Another important finding in this case study was the involvement of the family. During the first session, the family still required guidance from the nurse to perform the acupressure technique. By the second session, the family was able to perform the therapy independently using the correct technique and accurately identify the acupressure points. This improvement indicates that health education and guided practice provided by the nurse may enhance the family's ability to provide care at home. This approach is important in family nursing because the management of gout arthritis requires continuity of care after the patient resumes daily activities.

Family involvement is also important in supporting health behavior changes, including medication adherence and a low-purine diet. Septiani et al. (2025) demonstrated an association between knowledge and family support and medication adherence among patients with gout. In addition, Faradilla et al. (2024) highlighted the importance of family support in the management of a low-purine diet among patients with gout arthritis. Therefore, improving the family's ability to care for Mrs. M was important not only for implementing acupressure but also for supporting comprehensive disease management.

Within the context of family nursing, these findings indicate that interventions should not focus solely on reducing patients' symptoms but should also strengthen the family's ability to care for family members with gout arthritis. At the end of the intervention, the family was able to explain the benefits of acupressure therapy, a low-purine diet, medication adherence, and the importance of regular health monitoring. The family also expressed willingness to continue acupressure therapy at home when pain occurs. Therefore, the intervention contributed to improving the family's capacity to provide continuous care.

However, this case study has several limitations that should be considered. First, the study used a case study design involving only one subject; therefore, the findings cannot be generalized to all

patients with gout arthritis. Second, the intervention was conducted over only three sessions, making it impossible to determine the sustainability of the effects of acupressure in the long term. Third, changes in pain and uric acid levels cannot be completely separated from other factors, such as medication use, dietary patterns, physical activity, and Mrs. M's overall health condition. Fourth, uric acid measurements were obtained within a limited observation period and therefore could not demonstrate the long-term pattern of changes in uric acid levels.

Considering these limitations, the reduction in pain from a score of 5 to 2 and the reduction in uric acid from 6.5 mg/dL to 3.5 mg/dL should be interpreted as descriptive findings from the application of the intervention in a single case, rather than definitive evidence of the effectiveness of acupressure. Future studies are recommended to involve larger numbers of participants, longer intervention and follow-up periods, and greater control of other factors that may influence pain and uric acid levels.

Overall, the application of acupressure therapy to Mrs. M demonstrated positive outcomes, including reduced pain intensity, improved comfort and mobility, and increased family ability to perform the therapy independently. These findings are consistent with previous studies demonstrating the potential of acupressure as a complementary therapy for reducing pain in patients with gout arthritis (Indaryani & Iskandar, 2023; Alfionita et al., 2024; Mahmudi et al., 2024). Therefore, acupressure may be considered a complementary non-pharmacological intervention in family nursing care, while recognizing that it should be used as a complementary therapy rather than a substitute for medical treatment.

CONCLUSION

Based on the implementation of family nursing care for Mrs. M with gout arthritis, it can be concluded that problems were identified in disease management, particularly regarding the family's knowledge of gout arthritis, medication adherence, dietary management, and non-pharmacological pain management. Based on data analysis according to the Indonesian Nursing Diagnosis Standards (SDKI), three nursing diagnoses were identified: Ineffective Family Health Management, Health Behavior Tendency at Risk, and Impaired Comfort, with Ineffective Family Health Management identified as the primary problem. Nursing interventions were implemented based on the five family health tasks (TUK 1–5), with acupressure therapy as the main complementary intervention, accompanied by education regarding a low-purine diet, medication adherence, and regular uric acid monitoring. Following three days of acupressure therapy, the family was able to perform the acupressure technique independently, while Mrs. M's pain intensity gradually decreased from a score of 5 to 4 on the first day, 3 on the second day, and 2 on the third day, accompanied by improved comfort and ability to perform activities. Uric acid levels also changed from 6.5 mg/dL to 3.5 mg/dL. Overall, TUK 1–5 were achieved, as indicated by improvements in the family's knowledge, decision-making ability, ability to care for Mrs. M, ability to modify the environment, and ability to utilize healthcare services, as well as the family's commitment to continue gout arthritis management and acupressure therapy independently at home.

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