



Original Research

Implementation of Gerontological Nursing Care for Older Adults with Gout Arthritis: A Case Study

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ABSTRACT

Background: Gout arthritis is a metabolic inflammatory disease that commonly affects older adults and can cause severe joint pain, sleep disturbances, limited mobility, and an increased risk of falls. These problems may reduce functional independence and quality of life among older people. Comprehensive gerontological nursing care is therefore essential to address patients' physical needs and prevent complications. This study aimed to describe the implementation and outcomes of gerontological nursing care for an older adult with gout arthritis.

Methods : This study employed a descriptive case study design using the nursing process approach. The subject was one older adult with gout arthritis residing at PSTW Kasih Sayang Ibu, Batusangkar, Indonesia. Data were collected over six days through interviews, direct observation, physical examinations, and medical record reviews. Data analysis followed the nursing process, including assessment, nursing diagnosis, intervention planning, implementation, and evaluation, guided by Indonesian nursing standards.

Results: The assessment identified three primary nursing problems: acute pain, disturbed sleep patterns, and risk of falls. Nursing interventions included nonpharmacological pain management through deep-breathing relaxation and warm compresses, sleep support through environmental modification, and fall prevention through patient education and environmental arrangement. Following six days of nursing care, the patient's pain intensity decreased from 7 to 3 on a numerical rating scale. Sleep quality improved, and no falls occurred during the care period. These findings indicate positive changes in the patient's condition following the implementation of structured nursing interventions.

Conclusion: Systematic and comprehensive gerontological nursing care may help reduce pain, improve sleep, and support fall prevention in older adults with gout arthritis. Nurses should integrate individualized, evidence-based interventions with regular assessment, medication management in collaboration with healthcare professionals, and multidisciplinary care to optimize patient outcomes.

ARTICLE HISTORY

Submitted : 5-10-2026

Published : 15-10-2026

KEYWORDS

Gout arthritis; older adults; gerontological nursing care; case study.

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Cite this as: Syahrum, Abd. Gafar, Aini Yusra, Febri Aprilia (2026). Implementation of Gerontological Nursing Care for Older Adults with Gout Arthritis: A Case Study, 3(1). <https://doi.org/10.70920/jahns.v3i1.484>

INTRODUCTION

Gout arthritis is an inflammatory joint disease caused by the deposition of monosodium urate crystals in joints and surrounding tissues, commonly associated with elevated serum urate levels. The disease may present with acute episodes of severe pain, swelling, and restricted movement, which can interfere with daily activities and functional independence. The global burden of gout has increased over recent decades, and recent projections indicate that its prevalence will continue to rise, highlighting the importance of appropriate disease management and supportive care (Dalbeth et al., 2021; GBD 2021 Gout Collaborators, 2024). Older adults may experience additional challenges because age-related functional limitations and coexisting health conditions can complicate symptom management. Therefore, gerontological nursing care should address not only physical symptoms but also sleep, safety, and the maintenance of functional ability in older age (World Health Organization [WHO], 2021).

Evidence-based gout management emphasizes individualized treatment, patient education, and appropriate pharmacological interventions to control acute flares and reduce serum urate levels when indicated. The American College of Rheumatology guideline provides recommendations for managing gout flares, urate-lowering therapy, and associated lifestyle considerations (FitzGerald et al., 2020). Nevertheless, comprehensive care for older adults also requires attention to nursing problems that may accompany painful joint inflammation, including disturbed sleep and an increased risk of falls. Falls prevention research has demonstrated the importance of structured, multicomponent strategies and coordinated care for reducing fall-related risks among older people (Tricco et al., 2019). These findings support the need for nursing care that combines symptom management, environmental safety measures, patient education, and systematic evaluation of individual outcomes.

Previous research has examined nursing interventions for older adults with gout arthritis, including the application of ergonomic exercises to reduce pain (Budiyari et al., 2021). However, the care needs of older adults extend beyond pain management and may involve interrelated problems affecting sleep and safety. Research has identified associations between sleep disturbances and pain outcomes (Saconi et al., 2021), while orthostatic hypotension has been examined as a risk factor for falls among older adults (Mol et al., 2019). In addition, evidence-based nonpharmacological approaches may complement comprehensive pain management (Tick et al., 2018). Although these studies provide relevant evidence concerning pain management, sleep disturbances, and fall-related risks, they do not directly establish the effectiveness of an integrated nursing care plan addressing all three problems in an older adult with gout arthritis. The present case study therefore documents the assessment, implementation, and evaluation of individualized nursing care addressing acute pain, disturbed sleep patterns, and risk of falls over a six-day care period.

A relevant gap, therefore, concerns the detailed documentation of integrated gerontological nursing care addressing acute pain, disturbed sleep patterns, and risk of falls within the same patient and care period. These problems are clinically interrelated: pain may interfere with sleep and movement, while impaired mobility may increase safety concerns. Research on falls prevention supports systematic risk identification and the implementation of appropriate preventive measures, although the absence of a fall during a short observation period does not independently establish intervention effectiveness (Tricco et al., 2019). The distinctive contribution of the present study is its contextual description of how these three nursing priorities were assessed, managed, and evaluated over six days in an older adult residing in a social care institution. Rather than testing causal relationships, this case study provides practical information about the application of individualized nursing care in a real-world setting.

Therefore, this study aimed to describe the implementation and outcomes of gerontological nursing care for an older adult with gout arthritis at PSTW Kasih Sayang Ibu, Batusangkar, Indonesia. A descriptive case study approach was used to document nursing assessment, diagnosis, intervention planning, implementation, and evaluation. The care plan focused on nonpharmacological pain management, sleep support through environmental modification, and fall prevention through education and environmental arrangement. The outcomes were evaluated by documenting changes in pain intensity, sleep condition, and the occurrence of falls during the six-day care period. The findings are expected to provide practical guidance for nurses in planning individualized care and to inform further research involving larger samples, standardized outcome measures, and longer follow-up periods.

MATERIALS AND METHOD

This study employed a descriptive case study design using a nursing process approach to describe the implementation of gerontological nursing care for an older adult with gout arthritis. The study was conducted at PSTW Kasih Sayang Ibu, Batusangkar, West Sumatra, Indonesia, in 2026. The study subject was one older adult diagnosed with gout arthritis who resided at the institution and received nursing care over a six-day period. Data were collected through interviews, direct observation, physical examinations, and medical record reviews. Interviews were conducted to obtain subjective information regarding pain, sleep patterns, activity limitations, and the patient's health concerns. Observations and physical examinations were used to assess the patient's general condition, mobility, and potential fall-related risks, while medical record reviews provided supplementary clinical information.

The collected data were analyzed using the nursing process, which included assessment, nursing diagnosis, intervention planning, implementation, and evaluation. Nursing diagnoses were formulated with reference to the Indonesian Nursing Diagnosis Standards (Standar Diagnosis Keperawatan Indonesia, SDKI), interventions were planned according to the Indonesian Nursing Intervention Standards (Standar Intervensi Keperawatan Indonesia, SIKI), and patient outcomes were evaluated with reference to the Indonesian Nursing Outcome Standards (Standar Luaran Keperawatan Indonesia, SLKI). The identified nursing problems were acute pain, disturbed sleep patterns, and risk of falls. The interventions included deep-breathing relaxation and warm compresses for nonpharmacological pain management, environmental modification to support sleep, and patient education and environmental arrangement to reduce fall risks. Pain intensity was assessed using a numerical scale ranging from 0 to 10, with higher scores indicating greater pain intensity. Sleep outcomes were assessed based on documented changes in the patient's ability to initiate and maintain sleep, while fall prevention outcomes were evaluated by recording the occurrence of falls during the care period. Data analysis was descriptive, comparing the initial assessment with the final evaluation after six days of nursing care. Changes in pain intensity, sleep condition, and the occurrence of falls were summarized without inferential statistical testing because the study involved a single patient and aimed to describe the nursing care process and observed outcomes.

RESULTS

The nursing assessment revealed that the patient experienced severe joint pain, with an initial pain intensity score of 7 on a numerical rating scale. The pain was particularly pronounced at night and during physical activities, limiting the patient's ability to perform daily activities. These findings indicated that pain was a major nursing concern requiring appropriate management.

In addition to pain, the patient experienced disturbed sleep patterns, characterized by difficulty initiating sleep and frequent awakenings during the night. The sleep disturbance

was associated with the discomfort experienced by the patient and affected the patient's rest. Furthermore, pain-related mobility limitations increased the patient's risk of falls, making safety and environmental management important components of the nursing care plan.

Based on the assessment findings, three nursing diagnoses were established: acute pain, disturbed sleep patterns, and risk of falls. The nursing interventions focused on nonpharmacological pain management using deep-breathing relaxation and warm compresses, sleep support through environmental modification, and fall prevention through patient education and environmental arrangement.

Following six days of nursing care, the patient's pain intensity decreased from 7 to 3 on the numerical rating scale. The patient's sleep condition also improved, although the original report did not provide a standardized sleep score or quantitative measurement of this improvement. No falls were reported during the six-day care period. Overall, the findings documented improvements in pain intensity and sleep condition, together with the absence of falls during the observation period.

DISCUSSION

The reduction in pain intensity from 7 to 3 following six days of nursing care indicates an improvement in the patient's reported pain condition. Nonpharmacological interventions may serve as complementary approaches to pain management in older adults, although their effects depend on the intervention type, clinical context, and individual characteristics. A systematic review by He et al. (2024) identified several nonpharmacological approaches that may help alleviate pain in older populations. In the context of gout arthritis, nursing care should also include patient education, support for treatment adherence, and collaboration with healthcare professionals, as highlighted by Tsiamalou et al. (2023). Nevertheless, because this study involved only one patient without a comparison group, the observed reduction in pain cannot be attributed exclusively to the nursing interventions.

The improvement in sleep condition suggests that sleep support should be considered alongside pain management in older adults with gout arthritis. Chang et al. (2024) reported that nonpharmacological interventions can improve sleep quality among older adults, supporting the relevance of structured sleep-management strategies in gerontological care. However, the present study did not employ a standardized sleep assessment instrument, limiting the precision with which the observed improvement could be evaluated. Future studies should use validated sleep measures and document relevant outcomes, including sleep duration and nighttime awakenings, to provide more objective evidence of intervention-related changes.

No falls were reported during the six-day observation period following patient education and environmental modification. Although this finding is encouraging, the absence of falls over a short period does not establish that the interventions reduced the patient's underlying fall risk. Lektip et al. (2023) examined environmental hazard modification as a fall-prevention strategy, while Pillay et al. (2024) synthesized evidence on the benefits and potential harms of fall-prevention interventions in community-dwelling older adults. Together, these studies support the importance of individualized safety measures and systematic evaluation. In the present case, a more comprehensive assessment of mobility, balance, previous falls, and environmental hazards, combined with longer follow-up, would strengthen the evaluation of fall-prevention outcomes.

CONCLUSION

The implementation of gerontological nursing care for an older adult with gout arthritis over six days was associated with a reduction in pain intensity from 7 to 3 on the numerical rating scale, improvement in the reported sleep condition, and no falls during the observation period. The nursing interventions included deep-breathing relaxation, warm compresses, environmental modification to support sleep, and fall-prevention education. However, because this study involved only one patient without a comparison group, the observed changes cannot be attributed solely to the interventions, and the findings cannot be generalized to other older adults with gout arthritis. Further studies involving more participants, longer observation periods, and standardized instruments to assess pain, sleep quality, and fall risk are recommended to provide more objective evidence of nursing care outcomes in older adults with gout arthritis.

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