



## Case Report

# ALLEVIATING ACUTE PAIN TO RESTORE FUNCTION: A NURSING-LED GINGER OIL INTERVENTION FOR A FARMER WITH RHEUMATOID ARTHRITIS



Fitriah Effendy<sup>1</sup>, Bagus Dwi Cahyono<sup>1</sup>, Evy Aristawati<sup>1</sup>, Nurul Huda<sup>1</sup>, Apriana Rahmawati<sup>1</sup>, Ronal Surya Aditya<sup>1</sup>

<sup>1</sup>Associate Degree in Nursing Program, Faculty of Nursing, University of Jember, Pasuruan, Indonesia

### Article info

Received: November  
2<sup>nd</sup>, 2025

Revised: December  
10<sup>th</sup>, 2025

Accepted: December  
15<sup>th</sup>, 2025

<https://doi.org/10.32539/sccrj.v1i1.3>

### \*Corresponding author:

Name: Apriana Rahmawati  
Address: KH. Mansyur No.207  
E-mail: [apriana.rahmawati@un ej.ac.id](mailto:apriana.rahmawati@un ej.ac.id)

### Abstract

Rheumatoid arthritis is a chronic autoimmune disease causing persistent joint inflammation, pain, stiffness, and progressive functional decline, particularly exacerbated among farmers by repetitive non-ergonomic labor. This case involved a 74-year-old male farmer from Pasuruan Regency, Indonesia, who presented with severe functional limitations. Assessment revealed throbbing joint pain rated 7 out of 10 on the Numeric Rating Scale, prolonged morning stiffness, fatigue with minimal exertion, slow and assisted gait, and dependence on family for ambulation and self-care. The priority of nursing diagnosis was Acute Pain related to inflammatory joint process and mechanical stress, per the Standar Diagnosis Keperawatan Indonesia, as uncontrolled pain was the primary barrier to physical function; activity intolerance was identified as a secondary diagnosis. The purpose of this case report was to evaluate the effectiveness of a nursing-led, non-pharmacological intervention topical ginger (*Zingiber officinale*) extract oil combined with massage in reducing acute pain and thereby improving functional capacity in a rural rheumatoid arthritis patient with limited access to pharmacotherapy. The intervention plan consisted of twice-daily application of ginger oil to knees and ankles with 10-minute gentle massage over three consecutive days, integrated with health education on activity pacing and light stretching. Following the intervention, pain intensity decreased to 3/10, ambulation improved from assisted to independent, and the patient resumed light farming and self-care tasks without frequent rest. No adverse effects occurred. These outcomes suggest that targeted pain management using locally available ginger oil may rapidly enhance activity tolerance in resource-limited settings. Further research is warranted to confirm efficacy and safety in larger cohorts.

E-ISSN: xxxx-xxxx  
P-ISSN: xxxx-xxxx

**Keywords:** Arthritis Rheumatoid, Complementary Therapies, Ginger, Pain Management



This work is licensed under [Creative Commons Attribution-NonCommercial 4.0 International](https://creativecommons.org/licenses/by-nc/4.0/).

## Introduction

Rheumatoid arthritis is a chronic, systemic autoimmune disorder characterized by synovial inflammation, progressive joint destruction, and extra-articular manifestations. Globally, RA affects approximately 0.5–1% of the adult population, with women being disproportionately affected (Smolen et al., 2023). One of the cardinal symptoms is persistent joint pain, commonly described by the patient as throbbing, aching, or burning, resulting from inflammatory mediators (TNF- $\alpha$ , IL-6, and prostaglandins) that sensitize nociceptors and induce central sensitization. Pain that is not adequately managed not only reduces quality of life but also promotes functional decline, as patients often limit movement to avoid discomfort, leading to muscle atrophy, joint stiffness, and activity intolerance.

Occupational biomechanical stressors, like sustained squatting, repetitive lifting, and non-ergonomic postures, exacerbate joint loading and inflammatory flares, thereby increasing pain and accelerating functional disability among agricultural communities. In Indonesia, this burden is accentuated: the 2018 Riset Kesehatan Dasar reported the national prevalence of rheumatic diseases at 7.3%, increasing to as high as 26.9% in East Java, where farming remains a dominant livelihood. As of 2024, a total of 103 cases of RA were recorded at the Community Health Center in Pasuruan Regency alone, underscoring the need for context-adapted.

While disease-modifying antirheumatic drugs (DMARDs) are first-line treatments, access remains limited in rural primary care setting. Thus, many patients rely on complementary approaches. Of these, *Zingiber officinale*, or ginger, has gained empirical and scientific traction. Its bioactive compounds, including gingerols and shogaols, inhibit COX-2, 5-LOX, and NF- $\kappa$ B pathways, thereby reducing the production of prostaglandin and cytokines (Grzegorzczak-Karolak et al., 2020). Recent randomized trials report significant pain reduction with topical ginger formulations in OA and RA (Arman et al., 2021; Supiawati et al., 2023), yet real-world evidence of nurse-led applications in rural agricultural populations remains scarce.

This case report describes a nursing-led, non-pharmacological intervention using topical ginger extract oil for the management of acute pain—the priority barrier to functional ability—in a

74-year-old farmer with RA in Pasuruan. Guided by the SDKI to guide the intervention, pain was identified as the primary driver to activity intolerance; thus, clinical action was taken to align with the patient-centered outcome in a resource-constrained setting.

## Presentation of the Case

### a. Patient Information

Mr. M is a 74-year-old Javanese farmer residing in rural Pasuruan, East Java. He presented with debilitating joint pain described as throbbing and pulsating, rated 7/10 on the Numeric Rating Scale. Pain was bilateral and localized to the knees and ankles, worsened with movement and peaking in the morning, with stiffness lasting more than 30 minutes despite rest. Accompanying symptoms include profound fatigue, a sensation of "heaviness" in the limbs, and marked functional dependence: he required assistance to stand, moved cautiously, and spent most of his day resting. Although the initial nursing focus was activity intolerance, deeper clinical analysis guided by SDKI has identified uncontrolled acute pain as the primary driver of his functional decline. His avoidance of movement due to pain led secondarily to deconditioning, fatigue, and loss of independence in farming and self-care. This supported Acute Pain related to inflammatory joint processes and biomechanical stress as the priority nursing diagnosis.

### b. Clinical Findings

Mr. M presented with severe acute pain, subjectively described as throbbing and pulsating, localized bilaterally to the knees and ankles. Pain intensity was rated 7/10 on the Numeric Rating Scale (NRS), worsened by movement such as standing, walking, and squatting, and was most severe after awakening, with morning stiffness lasting more than 30 minutes despite rest. He did not primarily report fatigue or a sensation of "heaviness"; these symptoms were interpreted as direct consequences of pain-avoidance behavior. He was objectively alert and oriented (*compos mentis*), with no evidence of systemic inflammation, such as fever, erythema, warmth, or visible joint swelling. However, he exhibited clear pain behaviors, including a guarding posture, cautious and slow gait, facial grimacing

during movement, and reliance on upper-body support to rise from a seated position. He required assistance for ambulation beyond five meters and frequently needed rest breaks during minimal exertion, such as walking to the yard. Morning joint stiffness was markedly pronounced, lasting more than 30 minutes; functional activities such as sweeping, self-toileting, and light gardening had been abandoned or delegated due to anticipation of pain.

No laboratory tests were conducted, including rheumatoid factor (RF), anti-cyclic citrullinated peptide (anti-CCP), erythrocyte sedimentation rate (ESR), or C-reactive protein (CRP), nor was imaging performed, such as X-ray or ultrasound. These diagnostic facilities were not available at the Community Health Center. Diagnosis and further evaluation were solely based on history taking, physical examination, and SDKI/SIKI, consistent with the scope of care at a primary health facility in rural Indonesia.

**c. Timeline**

The clinical course and response to the intervention were monitored over three days (27–29 April 2025), reflecting the short-term outcomes of nursing-led ginger oil therapy. On Day 1 (27 April), baseline assessment confirmed Acute Pain (NRS 7/10), pronounced morning stiffness lasting more than 30 minutes, guarded movement, and dependence on family members for ambulation, consistent with pain-driven activity limitation. Topical ginger extract oil application combined with 10-minute gentle massage was initiated twice daily. By Day 2 (28 April), the patient reported reduced pain intensity (NRS 5/10), diminished morning stiffness, and improved joint comfort; he independently swept the yard with brief rest periods and walked to the front gate, indicating early functional gains secondary to pain relief. On Day 3 (April 29), pain intensity decreased further to 3/10, morning stiffness was minimal, and the patient performed light gardening activities such as watering plants, ambulated independently to the bathroom, and showed greater confidence in self-mobility. No adverse reactions were observed throughout the three-day intervention. These short-term outcomes reflect a rapid and clinically meaningful reduction in acute pain, accompanied by corresponding improvements in mobility and self-care,

supporting the therapeutic potential of ginger oil for immediate symptom relief in rural RA care.

**d. Diagnostic Assessment**

The diagnosis of rheumatoid arthritis, and consequently the nursing diagnoses, was determined solely through clinical evaluation, in accordance with primary care practice standards in rural Indonesian settings. The presence of persistent bilateral joint pain with morning stiffness lasting more than 30 minutes, symmetric involvement of the knees and ankles, functional impairment, and occupational risk factors such as repetitive non-ergonomic farming activities fit the clinical picture of rheumatoid arthritis according to World Health Organization (WHO) and Ministry of Health guidelines. Based on SDKI issues by DPP PPNI 2018, the priority nursing diagnosis was determined to be Acute Pain related to an inflammatory joint process and biomechanical stress. The diagnosis was supported by a pain intensity score of 7/10, guarding behavior, restriction movement, and avoidance of activity. Activity Intolerance was identified as a secondary nursing diagnosis arising directly from uncontrolled pain and subsequent functional disuse. This diagnostic hierarchy reflects both clinical severity of the patient's condition and the therapeutic priority of care. Accordingly, nursing interventions were directed toward addressing the root cause of functional decline in this patient.

**e. Therapeutic Intervention**

This case report details a nursing-led, non-pharmacological intervention. To the best of the clinical team's knowledge and based on patient disclosure during history taking, Mr. M was not receiving any pharmacological treatment for rheumatoid arthritis at the time of the intervention due to limited access to specialist care and a personal preference for natural remedies. Consequently, the observed outcomes can be reasonably attributed to the implemented nursing actions; however, the absence of concurrent pharmacotherapy also reflects the real-world constraints of rural primary care. Each session was followed by a 10-minute gentle massage to enhance percutaneous absorption, optimize analgesic effects (primarily mediated by gingerols and shogaols), and support cultural acceptability.

**Table 1**

*Timeline of The Patient Clinical Course*

| Date           | Clinical Event                                                                                                                                                                                            |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 27, 2025 | Pain intensity 7/10, severe morning stiffness (>30 min); request assistance to stand and walk; unable to perform farming or self-care tasks; reported fatigue and “heaviness” in limbs                    |
| April 28, 2025 | Pain intensity 5/10, reduced morning stiffness; walked independently to the front gate; swept the yard with brief rest; described joints as “more comfortable” and facial expression more relaxed         |
| April 29, 2025 | Pain intensity reduced to 3/10; minimal morning stiffness; independently watered plants, walked to bathroom, and performed light self-care; expressed increased confidence and reduced reliance on family |

Complementary supportive measures included: (1) individualized health education on activity pacing (breaking tasks into shorter segments with rest intervals), (2) instruction in self-administered light stretching exercises to maintain joint mobility, and (3) nutritional counselling that emphasized balanced intake to support musculoskeletal health. Motivational support was incorporated throughout to enhance self-efficacy and adherence. During this short-term nursing intervention, no pharmacologic agents were initiated, adjusted, or co-administered.

**f. Follow-up and Outcomes**

The short-term effects of topical ginger extract oil therapy were documented by monitoring the patient’s response to the nursing-led intervention over three consecutive days (27–29 April 2025). During this period, Mr. M was not receiving any pharmacological treatment for rheumatoid arthritis; therefore, the observed changes can reasonably be attributed to the non-pharmacological intervention.

On Day 1 (27 April), baseline assessment identified Acute Pain as the primary issue, evidenced by guarded and assisted movement, morning stiffness lasting more than 30 minutes, and a pain intensity score of 7/10. The patient reported no immediate pain relief following the initial application of ginger oil combined with a 10-minute massage administered twice daily; however, he expressed willingness to continue the intervention.

By Day 2 (28 April), the patient reported that his joints felt “warmer” and “more comfortable,” pain intensity had decreased

to 5/10, and morning stiffness was markedly reduced. He was able to walk independently to the front gate and sweep the front yard with one short rest break, indicating that pain relief preceded measurable improvements in mobility.

By Day 3 (29 April), morning stiffness was minimal, and pain intensity had further decreased to 3/10. He resumed basic self-care activities, walked to the bathroom without assistance, and performed light gardening tasks such as watering plants, reflecting functional gains associated with pain reduction. No systemic or local adverse effects were observed, including erythema, itching, or gastrointestinal distress. “My knees no longer hold me back,” the patient stated, demonstrating increased self-confidence and confirming his intention to continue self-application at home.

Collectively, these short-term findings indicate that, even in the absence of pharmacological therapy, targeted pain management using culturally accessible ginger oil can rapidly reduce acute pain and secondarily restore functional capacity in rural patients with RA.

**Discussion**

This case indicates that in a rural, resource-limited setting, a 74-year-old farmer with rheumatoid arthritis can regain functional capacity through targeted acute pain management rather than by addressing activity intolerance as the primary problem. Although Mr. M initially presented with severe mobility limitations, further clinical assessment revealed that the principal cause of his functional decline was uncontrolled inflammatory joint pain, with a

pain intensity of 7/10. This finding aligns with the Indonesian Nursing Diagnosis Standards (SDKI, DPP PPNI, 2018), which designate Acute Pain as a priority diagnosis when pain intensity directly interferes with activity performance. Correctly prioritizing this diagnosis is crucial because, in this case, activity intolerance was a consequence rather than the cause of functional impairment. Consequently, when pain was addressed first, improvements in mobility, endurance, and self-care followed progressively.

The decision to use topical ginger (*Zingiber officinale*) extract oil as a standalone, non-pharmacological intervention was clinically appropriate and contextually justified. Mr. M was not receiving standard rheumatoid arthritis treatments such as NSAIDs or DMARDs, reflecting limited access to specialist care in rural primary health settings. Therefore, the short-term outcomes (reduction in pain intensity from 7/10 to 3/10 within 72 hours, decreased morning stiffness, and regained independence in walking and light farming activities) can reasonably be attributed to the nursing-led intervention. Bioactive compounds in ginger, including gingerols and shogaols, have been shown to inhibit key inflammatory pathways such as COX-2, TNF- $\alpha$ , and IL-6, resulting in analgesic and anti-edematous effects (Grzegorzczak-Karolak et al., 2020; Arman et al., 2021). Importantly, functional improvement followed pain reduction: when pain was severe on Day 1, mobility required assistance, whereas reduced pain on Day 3 (3/10) enabled independent gardening and self-toileting. This temporal pattern supports a causal, pain-first pathway toward improved activity tolerance.

These findings are consistent with evidence from low-resource settings. Supiawati et al. (2023) reported significant pain reduction in RA patients after five days of ginger oil application combined with exercise, while Furqoni et al. (2022) observed improved activity tolerance in older adults. However, neither study clearly isolated pain as the primary determinant of functional recovery. This case strengthens the argument that pain should be the primary nursing target in rheumatoid arthritis, particularly when access to pharmacological therapy is limited.

Several limitations must be acknowledged. This is a single-case, short-term observation; long-term effectiveness, optimal dosing, and sustainability remain unknown. The absence of laboratory markers or imaging limits objective confirmation of disease activity, although

clinical diagnosis is standard practice in rural Indonesian primary care. Placebo effects cannot be excluded; however, the culturally familiar use of ginger and the progressive, dose-responsive improvement observed from Day 1 to Day 3 support biological plausibility.

In conclusion, this case demonstrates that nursing care for rheumatoid arthritis in rural communities should prioritize acute pain management using safe, locally available, and evidence-informed modalities such as ginger oil. When pain is effectively controlled, functional recovery can occur rapidly, even among elderly agricultural workers. Future controlled studies are needed to evaluate standardized protocols combining ginger oil with structured pacing and strengthening to determine whether these functional gains can be sustained over time.

### Patient perspective

Mr. M emphasized that pain rather than fatigue or weakness was the most excruciating and debilitating aspect of his condition. He stated, "The throbbing pain in my knees and ankles, especially in the morning, makes me feel trapped in my own body. I cannot even bring myself to wash my face without feeling afraid." He further described how persistent pain gradually eroded his sense of purpose as a farmer and family breadwinner, leading to frustration and social withdrawal.

After the first day of ginger oil application, he reported a sensation of warmth and comfort. He explained, "The pain did not go away immediately, but the oil provided soothing warmth, like sunshine on stiff joints." By Day 2, as pain intensity decreased, he remarked, "For the first time in months, I swept the yard without stopping to rest, not because I had more energy, but because my knees were no longer screaming as I moved."

On Day 3, with pain reduced to 3 out of 10, functional recovery became clearly evident. He reported, "I walked to the garden alone, knelt down to water the chili plants, and stood back up without holding onto the wall or calling my son. The cracking sound also subsided." He attributed the intervention not only to physical pain relief but also to a renewed sense of independence and self worth. He stated, "It is not just about the oil. It is about hope. I remember that I am still a farmer." Mr. M expressed a strong intention to continue applying this method independently and to share it with fellow farmers, highlighting the

cultural acceptability, affordability, and perceived usefulness of the intervention.

### Informed Consent

Written informed consent was obtained from the patient prior to the initiation of the nursing intervention and the preparation of this case report. The patient was informed about the purpose of the report, the procedures involved, and the use of de identified clinical information for publication. Confidentiality was assured, and no identifying information, including images, was included in the manuscript. The patient understood that participation was voluntary and that consent could be withdrawn at any time without any impact on the quality or continuity of care.

### Conclusion

This case demonstrates that ginger extract oil therapy, when applied systematically as a non pharmacological nursing intervention, can effectively reduce pain and improve activity tolerance in an elderly farmer with activity intolerance related to rheumatoid arthritis. Over a three day intervention period, Mr. M showed progressive improvement in mobility, improved endurance, and greater independence in performing daily activities. These outcomes are consistent with the known anti inflammatory and analgesic properties of gingerols and shogaols. Although findings from a single case cannot be generalized to broad clinical practice, this report highlights the potential role of locally available and culturally congruent complementary therapies in enhancing quality of life in resource limited rural settings. Nurses working in community health centers may consider integrating such evidence informed and low risk interventions into holistic care plans for patients with chronic musculoskeletal conditions, while advocating for further research to establish efficacy, safety, and long term outcomes through larger controlled studies.

### Consent for publication

Written informed consent was obtained from the patient for the publication of this case report and any accompanying clinical information. The patient was informed that all identifying details (including name, photographs, and precise location) would be removed or de-identified to protect his privacy.

### Declarations

This case report was conducted in accordance with the ethical standards laid out in the Declaration of Helsinki. All appropriate patient consent procedures were followed. The patient provided voluntary, written informed consent for both the nursing interventions and the use of de-identified clinical data for educational and publication purposes. The patient and his family were assured that participation would not affect the quality of care received, and that anonymity would be maintained to the greatest extent possible.

### Funding

This case report received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. The authors declare that the preparation and publication of this manuscript were conducted without external financial support.

### References

- Arman, F., Sari, D. P., & Wijaya, A. (2021). Efektivitas pemberian minyak jahe terhadap penurunan nyeri pada pasien artritis reumatoid di wilayah kerja Puskesmas Kecamatan X. *Jurnal Keperawatan Komunitas Indonesia*, 5(2), 112–120. <https://doi.org/10.20473/jkki.v5i2.112-120>
- DPP PPNI. (2018). *Standar diagnosis keperawatan Indonesia (SDKI)* (Edisi 1). Dewan Pengurus Pusat Persatuan Perawat Nasional Indonesia.
- DPP PPNI. (2019). *Standar intervensi keperawatan Indonesia (SIKI)*. Dewan Pengurus Pusat Persatuan Perawat Nasional Indonesia.
- Fitzgerald, J. D., Daluiski, A., & Finocchio, L. (2021). The impact of joint pain on physical function in rheumatoid arthritis: A longitudinal cohort study. *Arthritis Care & Research*, 73(8), 1120–1128. <https://doi.org/10.1002/acr.24291>
- Furqoni, A., Rahman, F., & Susanti, D. (2022). Efektivitas ekstrak jahe terhadap peningkatan toleransi aktivitas pada lansia dengan artritis. *Jurnal Keperawatan Gerontik*, 6(1), 22–30. <https://doi.org/10.20473/jkg.v6i1.22-30>
- Grzegorzczak-Karolak, I., Wysokińska, H., & Matławska, I. (2020). Anti-inflammatory and antioxidant properties of *Zingiber officinale* Roscoe and its active compounds: A review. *Phytomedicine*, 79, 153348. <https://doi.org/10.1016/j.phymed.2020.153348>
- Kustin, E., & Mella, R. (2021). Beban penyakit reumatik di Indonesia: Analisis data Riskesdas 2018. *Jurnal Reumatologi Indonesia*, 7(2), 89–97.
- Lee, Y. Y., Lin, C. H., & Hsieh, C. L. (2022). Central and peripheral mechanisms of pain in rheumatoid arthritis: Implications for

- management. *Nature Reviews Rheumatology*, 18(5), 277–290. <https://doi.org/10.1038/s41584-022-00759-1>
- Puspitasari, R., Hidayat, A., & Lestari, S. (2025). Risiko kesehatan pada petani padi di daerah irigasi: Studi eksploratif di Jawa Timur. *Jurnal Kesehatan Lingkungan Indonesia*, 14(1), 45–53.
- Rustiah, N., Fitriani, Y., & Prasetyo, B. (2024). Hubungan postur kerja dengan kejadian artritis pada petani usia lanjut. *Jurnal Ilmu Keperawatan dan Kesehatan Masyarakat*, 12(1), 78–86. <https://doi.org/10.25278/jikk.v12i1.1234>
- Smolen, J. S., Aletaha, D., Barton, A., Burmester, G. R., Dougados, M., Emery, P., ... & McInnes, I. B. (2023). Rheumatoid arthritis. *The Lancet*, 401(10377), 691–705. [https://doi.org/10.1016/S0140-6736\(22\)01722-7](https://doi.org/10.1016/S0140-6736(22)01722-7)
- Supiawati, I. K., Dewi, N. L. P. M., & Putra, I. G. A. M. (2023). Pengaruh kombinasi terapi minyak jahe dan senam reumatik terhadap intensitas nyeri pasien artritis reumatoid. *Jurnal Terapi Komplementer dan Tradisional Indonesia*, 3(1), 33–40. <https://doi.org/10.37771/jtktr.v3i1.215>
- World Health Organization. (2023). *Rheumatoid arthritis: Key facts*. <https://www.who.int/news-room/fact-sheets/detail/rheumatoid-arthritis>