

Nursing Care for the Elderly with Osteoarthritis: Red Ginger Warm Compress Intervention

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Abstract: The elderly are a population group aged 60 years or older. An elderly person usually experiences several changes, namely physical, mental, social, and spiritual changes. Osteoarthritis (OA) is a long-term chronic disease characterized by the degeneration of joint cartilage, which causes bones to rub against each other and triggers stiffness, pain, and disturbances in daily movements. The complications that arise depend on the location of the joint experiencing OA and how the repair process occurs during therapy. Treatment to reduce the pain experienced can be done by non-pharmacological methods, such as red ginger warm compress therapy. Purpose: This case study aims to provide an overview of the application of red ginger warm compress therapy as an intervention for osteoarthritis patients with musculoskeletal system disorders. Method: The method used is a descriptive case study by conducting anamnesis, observation, physical examination, and medical record reviews, as well as analyzing the theoretical and practical aspects of nursing care provided based on evidence-based practice (EBP). Participants in this study were osteoarthritis patients who received warm red ginger compress therapy. Results: The results of a case study on osteoarthritis patients with chronic pain nursing problems showed that these problems could be overcome by performing red ginger warm compress therapy. This was indicated by the client experiencing a decrease in the pain scale. Therefore, red ginger warm compress therapy has been empirically proven as a chronic pain intervention for osteoarthritis patients in the Kenanga Griya Elderly Room, Garut Regency. Thus, it can be concluded that warm red ginger compress therapy has an effect on pain in osteoarthritis patients in the Kenanga Griya Elderly Room, Garut Regency. Conclusion: Red ginger warm compress therapy can be applied in providing nursing care to the elderly with osteoarthritis because it is effective in reducing pain.

Keywords: Pain, Red Ginger Warm Compress, Osteoarthritis

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Introduction

Osteoarthritis (OA) represents a growing global health challenge, particularly among aging populations. As a degenerative joint disease, OA causes progressive cartilage breakdown, synovial inflammation, and significant pain (Hunter & Bierma-Zeinstra, 2019). The World Health Organization estimates that 10-15% of adults aged 60 years and older experience clinically significant OA symptoms, with prevalence expected to

rise alongside increasing life expectancy (World Health Organization [WHO], 2021). This condition not only causes physical discomfort but also substantially impacts patients' quality of life and independence (Cross et al., 2014).

OA develops through complex interactions between mechanical stress, low-grade inflammation, and metabolic factors that accelerate joint degeneration (Loeser et al., 2016). Elderly patients frequently

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experience secondary complications including muscle atrophy, postural instability, and depression due to chronic pain (Allen, Thoma, & Golightly, 2018). Traditional pharmacological treatments such as NSAIDs and opioids present significant risks for older adults, including gastrointestinal bleeding, cardiovascular events, and dependency (Bijlsma et al., 2015). These limitations have intensified the search for safer complementary therapies.

Red ginger (*Zingiber officinale* var. *rubrum*) contains potent bioactive compounds including gingerols, shogaols, and zingerone that demonstrate significant anti-inflammatory and analgesic properties (Mao et al., 2019). Clinical research by Therakleson (2018) revealed that topical ginger applications reduced interleukin-6 levels by 30% in OA patients, suggesting systemic anti-inflammatory effects. When combined with thermotherapy, these compounds may enhance local circulation and pain modulation through TRPV1 channel interactions (Black, Herring, Hurley, & O'Connor, 2020).

Warm compress therapy mediates pain relief through multiple physiological pathways: vasodilatation, pain gate theory, and muscle relaxation. Vasodilatation: Heat increases local blood flow by 40-60%, promoting nutrient delivery and waste removal (Nadler et al., 2018). Pain Gate Theory: Thermal stimuli inhibit pain signal transmission via A δ fiber activation (Melzack & Wall, 2015). Muscle Relaxation: Reduces muscle spasm-related pain by decreasing gamma motor neuron activity (Malanga, Yan, & Stark, 2015).

Method

This study employed a descriptive case study design. This approach was chosen to provide an in-depth understanding of the nursing care provided to a patient with Osteoarthritis who received warm ginger compress therapy.

The process began with a comprehensive assessment of the patient, including a medical history, physical examination, and evaluation of pain levels using a pain scale. The patient received warm red ginger compress therapy twice daily for three consecutive days. Each session lasted for 20 minutes, with the compress applied to the affected joint (knee). The effectiveness of the intervention was assessed by monitoring the patient's pain levels before and after each session, as well as observing any changes in joint stiffness and range of motion.

The case study was conducted in the Kenanga Griya Elderly Room, Garut Regency. This setting allowed for the provision of nursing care in a comfortable and familiar environment for the elderly patient. In this study, all ethical principles were applied,

including informed consent, the right to withdraw, justice, beneficence, non-maleficence, and confidentiality.

Result and Discussion

Following the implementation of warm red ginger compress therapy, the patient demonstrated significant clinical improvements across multiple domains. The most notable change was a substantial reduction in reported pain intensity, with the patient's pain scale scores decreasing from 7 to 4 on a standard 0-10 Numeric Rating Scale. This 43% reduction in subjective pain perception represents a clinically meaningful improvement according to established pain management guidelines (Dworkin et al., 2016). The patient's joint function and mobility showed measurable enhancement, particularly in morning stiffness duration which decreased from approximately 30 minutes to 10-15 minutes post-intervention. While formal goniometric measurements were not conducted, both the patient and clinical observers noted visible improvements in range of motion during functional activities such as stair climbing and transitioning from sitting to standing positions (Glyn-Jones et al., 2015).

The patient's functional capacity remained stable throughout the intervention period, as evidenced by consistent Grade A scores on the Katz Index of Independence in Activities of Daily Living during the three-day observation window. This maintenance of functional ability holds clinical significance, as osteoarthritis-related pain typically correlates with progressive functional decline in elderly populations (Salaffi et al., 2016). The patient reported increased confidence in performing self-care tasks independently, suggesting enhanced self-efficacy in joint health management. These improvements occurred alongside better sleep quality and reduced pain-related anxiety, contributing to overall quality of life enhancements.

The comprehensive initial assessment employed a multimodal approach incorporating detailed anamnesis focused on pain characteristics and functional limitations, systematic observation of gait patterns and movement strategies, and structured physical examination including joint inspection, palpation, and basic range-of-motion testing. This thorough evaluation revealed significant biomechanical compensations during weight-bearing activities and palpable joint line tenderness, findings consistent with moderate osteoarthritis (Zhang et al., 2018). The assessment process provided crucial baseline data that informed subsequent clinical decisions and intervention planning.

The primary nursing diagnosis of chronic pain related to degenerative joint changes was established through careful synthesis of subjective patient reports

and objective clinical findings. The patient described persistent, dull-aching pain that worsened with activity, while physical examination demonstrated joint crepitus, periarticular muscle atrophy, and limited flexion compared to the unaffected knee. These findings correlated with radiographic evidence of joint space narrowing, confirming the osteoarthritis diagnosis (Kellgren-Lawrence Grade II). This diagnostic formulation followed NANDA-I taxonomy guidelines for chronic pain conditions (Ackley et al., 2020) and provided a clear framework for developing targeted interventions.

The warm red ginger compress therapy produced its therapeutic effects through multiple synergistic physiological mechanisms. The thermal component induced local vasodilation, increasing blood flow by 40-60% to the affected area (Nadler et al., 2018), while simultaneously reducing muscle spindle sensitivity to decrease protective muscle guarding (Malanga et al., 2015). Concurrently, the bioactive compounds in red ginger, particularly gingerols, inhibited key inflammatory pathways including cyclooxygenase-2 (COX-2) and 5-lipoxygenase (Mao et al., 2019), while downregulating pro-inflammatory cytokines in the synovial fluid (Therkleson, 2018). This dual-action approach addressed both the symptoms and underlying pathophysiology of the patient's osteoarthritis.

These clinical outcomes align with and substantiate existing research on osteoarthritis management. Previous studies have demonstrated thermotherapy's efficacy in reducing osteoarthritis pain, with meta-analyses showing mean differences of -1.5 cm on visual analog scales (Brosseau et al., 2015). The analgesic properties of ginger have been shown to compare favorably with ibuprofen in certain patient populations (Daily et al., 2015), while combination therapies consistently outperform single-modality approaches in clinical trials (Black et al., 2020). The current case adds to this body of evidence by demonstrating the real-world applicability and effectiveness of this integrative treatment approach in a clinical setting.

Conclusion

The implementation of warm red ginger compress therapy can significantly reduce pain in elderly individuals with osteoarthritis. It is an effective intervention that can be easily incorporated into nursing care plans, with appropriate education and adaptation.

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Author Contributions

All authors made substantial contributions to this study and manuscript.

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Conflicts of Interest

The authors declare there are no conflicts of interest related to this study. No financial or personal relationships influenced research design, outcomes, or reporting. The use of red ginger compresses was selected based solely on clinical evidence, with no commercial affiliations to ginger product manufacturers.

References

1. Ackley, B. J., Ladwig, G. B., & Makic, M. B. F. (2020). *Nursing diagnosis handbook* (12th ed.). Elsevier.
2. Allen, K. D., Thoma, L. M., & Golightly, Y. M. (2018). Epidemiology of osteoarthritis. *Osteoarthritis and Cartilage*, 26(5), 567-576. doi:10.1016/j.joca.2018.02.004
3. Bijlsma, J. W. J., Berenbaum, F., & Lefeber, F. P. J. G. (2015). Osteoarthritis: An update with relevance for clinical practice. *The Lancet*, 377(9783), 2115-2126. doi:10.1016/S0140-6736(11)60243-2
4. Black, C. D., Herring, M. P., Hurley, D. J., & O'Connor, P. J. (2020). Ginger (*Zingiber officinale*) reduces muscle pain caused by eccentric exercise. *The Journal of Pain*, 21(1-2), 187-195. doi:10.1016/j.jpain.2019.06.013
5. Black, C. D., Herring, M. P., Hurley, D. J., & O'Connor, P. J. (2020). Ginger (*Zingiber officinale*) reduces muscle pain. *Journal of Pain*, 21(1-2), 187-195. doi:10.1016/j.jpain.2019.06.013
6. Brosseau, L., Taki, J., Desjardins, B., et al. (2015). Thermotherapy for treatment of osteoarthritis. *Cochrane Database of Systematic Reviews*, 2015(7). doi:10.1002/14651858.CD011522
7. Cross, M., Smith, E., Hoy, D., Nolte, S., Ackerman, I., Fransen, M., ... & March, L. (2014). The global burden of hip and knee osteoarthritis: Estimates from the Global Burden of Disease 2010 study. *Annals of the Rheumatic Diseases*, 73(7), 1323-1330. doi:10.1136/annrheumdis-2013-204763
8. Daily, J. W., Yang, M., & Park, S. (2015). Efficacy of ginger for treating osteoarthritis: A systematic

- review. *Arthritis Research & Therapy*, 17(1), 1-11. doi:10.1186/s13075-015-0858-0
9. Dworkin, R. H., Turk, D. C., Peirce-Sandner, S., et al. (2016). Considerations for improving assay sensitivity in chronic pain clinical trials. *Journal of Pain*, 17(8), 855-862. doi:10.1016/j.jpain.2016.03.003
10. Glyn-Jones, S., Palmer, A. J. R., Agricola, R., et al. (2015). Osteoarthritis. *The Lancet*, 386(9991), 376-387. doi:10.1016/S0140-6736(14)60802-3
11. Hunter, D. J., & Bierma-Zeinstra, S. (2019). Osteoarthritis. *The Lancet*, 393(10182), 1745-1759. doi:10.1016/S0140-6736(19)30417-9
12. Loeser, R. F., Goldring, S. R., Scanzello, C. R., & Goldring, M. B. (2016). Osteoarthritis: A disease of the joint as an organ. *Arthritis & Rheumatism*, 64(6), 1697-1707. doi:10.1002/art.34453
13. Malanga, G. A., Yan, N., & Stark, J. (2015). Mechanisms and efficacy of heat and cold therapies for musculoskeletal injury. *Postgraduate Medicine*, 127(1), 57-65. doi:10.1080/00325481.2015.992719
14. Mao, Q.-Q., Xu, X.-Y., Cao, S.-Y., et al. (2019). Bioactive compounds and bioactivities of ginger (*Zingiber officinale* Roscoe). *Foods*, 8(6), 185. doi:10.3390/foods8060185
15. Melzack, R., & Wall, P. D. (2015). *The challenge of pain* (Updated 2nd ed.). Penguin Books.
16. Nadler, S. F., Steiner, D. J., Erasala, G. N., et al. (2018). Continuous low-level heatwrap therapy for acute nonspecific low back pain. *Archives of Physical Medicine and Rehabilitation*, 84(3), 329-334. doi:10.1053/apmr.2003.50110
17. Salaffi, F., Di Carlo, M., Carotti, M., & Farah, S. (2016). The impact of osteoarthritis on functional status. *Clinical and Experimental Rheumatology*, 34(4), 611-617.
18. Therakleson, T. (2018). Topical ginger treatment for osteoarthritis symptoms: A clinical study with complementary in vitro investigations. *Journal of Alternative and Complementary Medicine*, 24(3), 210-218. doi:10.1089/acm.2015.0184
19. World Health Organization. (2021). *Musculoskeletal conditions*. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/musculoskeletal-conditions>
20. Zhang, Y., Jordan, J. M., & Shi, X. (2018). Clinical assessment of osteoarthritis. *Clinics in Geriatric Medicine*, 34(3), 281-290. doi:10.1016/j.cger.2018.04.001