

Case Report

Wet Cupping Therapy as a Complementary Nursing Intervention for Pain Management in a Patient with Hypercholesterolemia: A Case Report

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ABSTRACT

Background: Pain is a common and clinically significant problem in patients with metabolic disorders, including hypercholesterolemia. Metabolic imbalance and impaired circulation may contribute to persistent discomfort, reduced functional capacity, and decreased quality of life. In nursing practice, pain management is a priority problem that requires systematic assessment and appropriate interventions, including non-pharmacological approaches.

Methods: This case study employed a single-case design to document the nursing care provided to a 25 years old woman with hypercholesterolemia and intermittent pain, integrating wet cupping therapy as a complementary intervention within the standardized Indonesian nursing framework.

Case Presentation: A 25 year old woman presented with intermittent pain described as a heavy and uncomfortable sensation, with an initial pain intensity of 5/10 on the Numeric Rating Scale. Clinical assessment revealed elevated cholesterol levels measured using a portable point-of-care testing device with peripheral capillary blood samples. Nursing care was delivered based on Indonesian nursing standards, prioritizing acute pain management through wet cupping therapy combined with comprehensive assessment, monitoring, and patient education.

Conclusion: Following nursing intervention, pain intensity decreased, accompanied by improved comfort and behavioral responses. Changes in cholesterol levels were observed during monitoring and should be interpreted cautiously. This case highlights the role of wet cupping therapy as a complementary nursing intervention for pain management when integrated within a standardized nursing care framework.

Keywords: Acute Pain; Pain Management; Hypercholesterolemia; Wet Cupping Therapy; Nursing Case Report

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INTRODUCTION

Pain is a complex, subjective, and multidimensional experience that arises from the interaction of physiological, psychological, and environmental factors. It is commonly reported in individuals with chronic metabolic and circulatory disorders, where underlying pathophysiological changes may sensitize nociceptive pathways and prolong pain perception. Hypercholesterolemia, as a prevalent metabolic condition, has been increasingly associated with endothelial dysfunction, impaired microvascular circulation, and low-grade systemic

inflammation. These mechanisms may contribute not only to cardiovascular risk but also to recurrent or persistent pain through altered tissue perfusion and inflammatory signaling (Bakshi et al., 2021; Mi et al., 2024).

Emerging evidence suggests that chronic low-grade inflammation and vascular dysfunction in hypercholesterolemia can influence peripheral and central nociceptive processing, thereby increasing pain sensitivity and reducing pain thresholds. Persistent pain in this population may significantly impair comfort, disrupt sleep and daily activities, and ultimately reduce quality of life. Consequently, pain management represents a priority problem in nursing care, particularly in patients with metabolic disorders where pain may be underestimated or attributed solely to aging or lifestyle factors (AlGhamdi et al., 2025).

From a nursing perspective, unrelieved pain has broader implications beyond physical discomfort. Persistent pain may exacerbate fatigue, reduce activity tolerance, limit functional independence, and negatively affect psychosocial well-being. These consequences may hinder recovery, self-care capacity, and adherence to lifestyle modifications essential for metabolic control. Therefore, effective pain management requires a systematic and evidence-based nursing approach that includes comprehensive assessment, accurate nursing diagnosis, targeted interventions, and continuous evaluation of outcomes (Kadović et al., 2023).

The use of standardized nursing languages is fundamental to ensuring consistency, clinical reasoning, and accountability in nursing practice. In Indonesia, the application of the Indonesian Nursing Diagnosis Standards (SDKI), Nursing Outcomes Standards (SLKI), and Nursing Interventions Standards (SIKI) provides a structured framework for identifying nursing problems, planning interventions, and evaluating patient outcomes. Standardized documentation using SDKI–SLKI–SIKI not only enhances the quality of nursing care but also strengthens the scientific rigor and reproducibility of nursing case reports and clinical studies (Somantri et al., 2021).

In addition to pharmacological approaches, non-pharmacological interventions play an important role in pain management, particularly in patients with chronic conditions or those who prefer holistic and complementary approaches. Complementary therapies are increasingly integrated into nursing care to address pain through physiological relaxation, modulation of circulation, and enhancement of patient comfort. Wet cupping therapy is one such complementary intervention that has been widely used in community and primary care settings. Previous studies suggest that wet cupping therapy may modulate pain perception through mechanisms involving improved local blood flow, reduction of inflammatory mediators, and activation of endogenous analgesic pathways (Al Jaouni et al., 2023).

Despite its widespread use in clinical practice, wet cupping therapy remains underreported within a standardized nursing framework in the scientific literature. Most existing publications focus primarily on therapeutic or biomedical outcomes, with limited integration of nursing diagnoses, outcomes, and interventions using standardized nursing languages. This gap limits the contribution of such reports to nursing knowledge development and evidence-based practice.

Therefore, this case report aims to describe nursing care focused on pain management using a standardized SDKI–SLKI–SIKI approach in a patient with hypercholesterolemia who received wet cupping therapy as a complementary intervention. In this report, cholesterol levels are presented solely as supporting clinical characteristics and monitoring parameters rather than as primary outcomes, in order to maintain methodological rigor and avoid causal overinterpretation.

METHODS

Study Design

This study employed a descriptive single-case study design to document the nursing process in a patient with hypercholesterolemia who received wet cupping therapy as a complementary intervention.

Setting

Nursing care was conducted at Holistic Care Health Center, Banyuwangi, Indonesia, in 2025.

Intervention Procedure

Wet cupping therapy was performed on selected anatomical points following established procedures. The treatment included preparation, disinfection, and post-treatment care. The procedure was conducted by a qualified practitioner, using appropriate equipment and ensuring safety protocols. The selected cupping points for therapy in this patient included Al-Kāhil, Bainalkatifain, and Al-Akhdā'ain, chosen based on the patient's complaint of pain in the nape of the neck and the goal of reducing muscle stiffness and improving mobility. Al-Kāhil, located on the upper back around C7 (upper thoracic spine), was used to relax the upper back and neck muscles, helping to relieve tension in the upper back muscles that are often involved in neck pain. Bainalkatifain, located between the two scapulae (shoulder blades), was chosen to reduce muscle tension in the upper back by enhancing blood circulation in this area, which directly contributes to pain reduction and increased comfort. Al-Akhdā'ain, located laterally on the neck near the sternocleidomastoid muscle, was used to address pain and stiffness in the neck, providing a relaxing effect on the tight neck muscles and improving flexibility, thus reducing pain and enhancing neck mobility.

Ethical Considerations

Informed written consent was obtained from the patient prior to the intervention and the publication of this case report. The patient's identity was kept confidential, and the case report adhered to the ethical guidelines set by the institution for single-case nursing reports.

CASE PRESENTATION

A 25-year-old woman (Ny. S) presented for complementary therapy with a primary complaint of intermittent pain that had been experienced over the preceding period. The patient described the pain as a heavy and uncomfortable sensation, located in the nape of the neck. The pain was provoked by daily activities such as standing or walking and aggravated by dietary factors, particularly foods high in fat. The pain intensity at the time of assessment was rated 5/10 on the Numeric Rating Scale. The pain episodes lasted for approximately 30–60 minutes and were reported to occur several times a day, with the patient expressing concern that her condition was worsening.

On clinical observation, the patient appeared uncomfortable, with facial grimacing, restlessness, and protective behavior. She was fully conscious, oriented, and cooperative during the assessment. Vital signs revealed blood pressure of 140/90 mmHg, pulse rate of 89 beats per minute, respiratory rate of 20 breaths per minute, and body temperature of 36.8°C. Peripheral capillary blood sampling obtained via finger prick was performed for clinical monitoring, and total cholesterol was analyzed using a portable point-of-care testing device (EasyTouch® GCU). The measurement was conducted in a non-fasting condition. The examination showed an elevated total cholesterol level of 280 mg/dL. This measurement was used for monitoring purposes and was not intended to replace standardized laboratory testing.

Based on comprehensive assessment data, the priority nursing diagnosis established was Acute Pain (D.0077) related to a physiological injury agent associated with metabolic disturbance, as evidenced by verbal reports of pain, pain intensity of 5/10, facial grimacing, restlessness, and protective behavior. A secondary diagnosis of activity intolerance was identified but was not the primary focus of care in this case. The expected nursing outcome

was improvement in Pain Level (L.08066), indicated by decreased pain intensity, reduced nonverbal expressions of pain, improved comfort, and stabilization of physiological responses.

Nursing care was delivered during a single episode lasting approximately three hours and focused on Pain Management (I.08238) as the primary intervention. Nursing actions included comprehensive pain assessment, monitoring of pain intensity and behavioral responses, identification of aggravating factors, and patient education regarding rest and lifestyle modification. As part of non-pharmacological pain management, wet cupping therapy was administered according to standard procedures after appropriate preparation and assessment. To support recovery and reduce fatigue, energy management strategies were also provided as a complementary intervention.

Evaluation following the nursing intervention showed a reduction in pain intensity from 5/10 to 2/10, accompanied by improved comfort and reduced restlessness. The patient appeared more relaxed, and vital signs stabilized after the intervention. A follow-up point-of-care cholesterol measurement showed a value of 255 mg/dL, which was documented as a supporting clinical observation rather than a definitive therapeutic effect. Overall, the nursing outcome related to pain reduction was partially achieved within the observed care period.

DISCUSSION

The patient presented with intermittent pain of moderate intensity, initially rated at 5/10 on the Numeric Rating Scale (NRS), accompanied by observable nonverbal pain behaviors such as facial grimacing, restlessness, and protective movements. The pain was described as a heavy and uncomfortable sensation located in the nape of the neck, and it was provoked by daily activities like standing and walking, as well as aggravated by dietary factors, particularly fatty foods. These findings were consistent across patient self-report and clinical observation, indicating that pain was the dominant problem affecting comfort and daily functioning. The presence of hypercholesterolemia, identified through peripheral capillary blood testing using a point-of-care device, provided additional clinical context but did not overshadow pain as the primary reason for seeking care.

Pain occurring in individuals with metabolic conditions such as hypercholesterolemia has been linked to endothelial dysfunction, impaired microcirculation, and low-grade inflammatory activity, all of which may heighten nociceptive sensitivity (Bakshi et al., 2021; Mi et al., 2024). In such cases, pain often presents as recurrent, non-specific, and influenced by physical activity and lifestyle factors. From a nursing standpoint, comprehensive pain assessment including intensity, quality, aggravating factors, and behavioral responses is essential to establish an accurate clinical picture and guide appropriate care planning (Xu et al., 2025).

The assessment process in this case was clinically sound, integrating subjective pain reports with objective behavioral indicators and physiological context. This balanced approach prioritized pain as the main nursing problem while minimizing reliance on supplementary laboratory findings. The patient's pain was likely influenced by multiple factors, including hypercholesterolemia as a comorbid condition, but also musculoskeletal tension, digestive issues, stress, and activity-related factors. Therefore, the observed pain reduction is more likely a result of the comprehensive nursing intervention rather than a direct effect of cholesterol reduction.

Based on the assessment data, the nursing diagnosis of Acute Pain (D.0077) was established in accordance with the Indonesian Nursing Diagnosis Standards. The diagnosis was clearly supported by defining characteristics, including patient-reported pain, moderate pain intensity, and observable pain behaviors. Although a secondary diagnosis related to activity intolerance was identified, it was not emphasized in this report, as it did not represent the patient's primary concern at the time of care.

Prioritizing acute pain as the central diagnosis reflects appropriate clinical reasoning and aligns with standardized nursing taxonomy. The use of SDKI facilitates clarity and consistency in diagnostic decision-making, while providing a structured foundation for selecting relevant outcomes and interventions (PPNI, 2017; Somantri et al., 2021). In the context of a case report, narrowing the diagnostic focus also enhances conceptual coherence and allows for a more meaningful discussion of nursing care.

The expected outcome of care was improvement in Pain Level (L.08066), reflected by reduced pain intensity, diminished nonverbal pain responses, and improved comfort. To achieve this outcome, Pain Management (I.08238) was implemented as the primary nursing intervention. This intervention included ongoing pain assessment, patient education, and the use of a non-pharmacological modality wet cupping therapy as part of therapeutic nursing actions.

Within the SIKI framework, pain management emphasizes a multimodal approach that combines careful assessment, therapeutic intervention, and patient involvement. Non-pharmacological strategies are widely recognized as valuable components of pain management, particularly because they can reduce pain perception without the risks associated with pharmacological treatment (Santoso et al., 2025; Wang et al., 2025). Wet cupping therapy has been reported to influence pain through improved local circulation, modulation of inflammatory mediators, and activation of endogenous analgesic mechanisms such as endorphin release (Al Jaouni et al., 2023).

Importantly, in this case, wet cupping therapy was not positioned as an isolated or alternative treatment, but rather as an integrated element of structured nursing care. Framing the intervention within the Pain Management domain preserves professional accountability and avoids overstating its therapeutic effects beyond the nursing scope of practice.

Following a single episode of nursing care, the patient reported a reduction in pain intensity from 5/10 to 2/10, accompanied by improved comfort and fewer observable pain behaviors. These findings suggest a positive short-term response to the implemented intervention. Monitoring of cholesterol levels using a point-of-care device also showed a change in measured values after the intervention; however, this finding was documented as an observational parameter rather than a treatment outcome.

From a theoretical perspective, evaluation serves to determine whether nursing interventions have achieved their intended outcomes and to inform subsequent care decisions. While short-term pain reduction may indicate intervention effectiveness, sustained outcomes require continued monitoring. Moreover, cholesterol measurements obtained through point-of-care testing using peripheral blood samples are subject to variability related to device performance and physiological conditions, and short-term changes should not be interpreted as definitive metabolic effects (Yoon et al., 2021).

Taken together, the evaluation findings support the achievement of nursing outcomes related to pain reduction, while underscoring the need for caution in interpreting ancillary physiological data. By reporting cholesterol values as supportive monitoring information rather than primary outcomes, this case adopts a methodologically responsible and scientifically defensible position. Overall, the case illustrates that the application of a standardized nursing process, combined with a complementary intervention, can lead to meaningful improvements in pain while maintaining academic and clinical integrity.

While this case study offers insights into the role of wet cupping therapy in pain management, several limitations must be noted. The single-case design limits generalizability, and the lack of a control group and short follow-up period restrict conclusions about the therapy's effectiveness. Pain measurement is subjective and can be influenced by psychological factors, while cholesterol changes measured with point-of-care testing should be interpreted

cautiously. These findings are preliminary and require further research with larger samples and longer follow-up to better understand the long-term effects of wet cupping therapy.

CONCLUSION

This case report demonstrates the use of a standardized nursing process to manage acute pain in a patient with hypercholesterolemia. Guided by the SDKI–SLKI–SIKI framework, pain management incorporating wet cupping therapy as a complementary intervention resulted in a meaningful reduction in pain intensity and improved patient comfort within a single episode of care. Changes in cholesterol levels were observed as part of clinical monitoring but should be interpreted cautiously. Overall, this case supports the integration of complementary interventions within structured, patient-centered nursing pain management.

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CONFLICT OF INTEREST STATEMENT

The authors declare that there are no conflicts of interest related to this case report.

AUTHOR CONTRIBUTION

YWA contributed to the study conception, manuscript drafting, and critical revision of the manuscript. NRF contributed to data collection, clinical assessment, nursing care implementation, and clinical documentation. NH contributed to data analysis, interpretation of findings, and critical review of the manuscript. All authors read and approved the final version of the manuscript.

REFERENCES

- Al Jaouni, S. K., Rohaiem, S. M., Almuhayawi, M. S., Godugu, K., Almughales, J., Kholi, S. M., Al-Raddadi, R., Bukhari, M., & Mousa, S. A. (2023). Wet cupping therapy in the modulation of inflammation in patients with pain. *RPS Pharmacy and Pharmacology Reports*, 2(2). <https://doi.org/10.1093/rpsppr/rqad004>
- AlGhamdi, S. S., Aljohani, D. M., Adam, R., & Forget, P. (2025). Acute Pain Management at the Intersection of Primary and Secondary Care: Insights from Recent Literature. In *Journal of Clinical Medicine* (Vol. 14, Number 21). <https://doi.org/10.3390/jcm14217732>
- Bakshi, R., Stansel, B., Strath, L., Quinn, T., Sorge, R., & Goodin, B. (2021). Dietary Cholesterol is Associated with Increased Pain Sensitivity in Individuals with Chronic Low Back Pain. *The Journal of Pain*, 22(5). <https://doi.org/10.1016/j.jpain.2021.03.044>
- Kadović, M., Čorluka, S., & Dokuzović, S. (2023). Nurses' Assessments Versus Patients' Self-Assessments of Postoperative Pain: Knowledge and Skills of Nurses for Effective Pain Management. *International Journal of Environmental Research and Public Health*, 20(9). <https://doi.org/10.3390/ijerph20095678>
- Mi, P., Dong, H., Chen, S., Gao, X., Cao, X., Liu, Y., Wang, H., & Fan, G. (2024). Association between HDL-C and chronic pain: data from the NHANES database 2003–2004. *Frontiers in Medicine*, 11. <https://doi.org/10.3389/fmed.2024.1340037>
- PPNI. (2017). (Tim Pokja SDKI DPP PPNI, 2017). In *Paper Knowledge . Toward a Media History of Documents*.
- Santoso, A. B., Yuantari, M. C., & Asfawi, S. (2025). Mapping the Effect of Cupping Therapy on Body Health: A Bibliometric Analysis. *Jurnal Ners*, 9(2). <https://doi.org/10.31004/jn.v9i2.43614>
- Somantri, I., Sekarwana, N., Mediawati, A. S., Ramoo, V., Yahaya, N. A., & Yudianto, K. (2021). Analysis of standardized nursing languages application in the context of nursing diagnosis in hospital in indonesia. *Open Access Macedonian Journal of Medical Sciences*, 9(T6). <https://doi.org/10.3889/oamjms.2021.7307>

- Wang, Y., Aaron, R., Attal, N., & Colloca, L. (2025). An update on non-pharmacological interventions for pain relief. In *Cell Reports Medicine* (Vol. 6, Number 2). <https://doi.org/10.1016/j.xcrm.2025.101940>
- Xu, X., Chen, H., Xu, J., Zhang, Y., Gong, R., & Hu, X. (2025). The Status and Challenges of Pain Assessment in Hospitalized Patients: A Cross-Sectional Study. *Pain Management Nursing*, 26(2). <https://doi.org/10.1016/j.pmn.2024.11.003>
- Yoon, Y. A., Lee, Y. W., Kim, S., Lee, K., Park, H. D., Chun, S., & Min, W. K. (2021). Standardization status of total cholesterol concentration measurement: Analysis of Korean external quality assessment data. *Annals of Laboratory Medicine*, 41(4). <https://doi.org/10.3343/ALM.2021.41.4.366>