

Section: General Nursing

Benson relaxation technique to reduce pain in patient with congestive heart failure

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Abstract

Congestive Heart Failure (CHF) is a complex clinical syndrome characterized by the heart's inability to pump blood effectively, resulting in systemic fluid accumulation and pulmonary congestion. A primary and distressing symptom of CHF is chest pain, which necessitates a comprehensive management approach involving both pharmacological and non-pharmacological interventions. Among these, the Benson relaxation technique serves as a potent complementary therapy designed to modulate pain perception by inducing a relaxation response. This case study describes the clinical application of the Benson technique in alleviating pain for a CHF patient admitted to the Intensive Care Unit (ICU) at Harapan Hospital Magelang. Utilizing a descriptive case study design, the intervention was administered consistently over three consecutive days, with data triangulated through clinical interviews, direct observation, and medical record documentation. The results of the intervention demonstrated a significant clinical improvement, as the patient's pain intensity decreased from a scale of 6 to 3 on the Numeric Rating Scale. Beyond the reduction in physical pain, the patient exhibited marked improvements in emotional stability and reported a heightened sense of overall comfort. These findings suggest that the Benson relaxation technique effectively mitigates chest pain in the context of acute heart failure management. Consequently, this technique should be integrated into standard nursing care plans as a non-invasive, cost-effective complementary intervention. By addressing the psychophysiological aspects of pain, nurses can enhance the quality of life and recovery trajectory for patients transitioning through critical care environments.

Keywords: Benson relaxation technique, complementary therapy, heart failure, nursing care, pain management

Introduction

Congestive Heart Failure (CHF) remains one of the most formidable challenges in contemporary cardiovascular medicine, characterized by a complex clinical syndrome where the heart is physiologically incapable of pumping a sufficient volume of blood to satisfy the systemic metabolic demands of the body (Kumric et al., 2024; Harikrishnan et al., 2024). According to the World Health Organization, cardiovascular diseases, led by CHF, contribute to over 23 million deaths globally each year, with prevalence rates escalating sharply in correlation with an aging global population (Nawsherwan et al., 2022; Ramic-Catak et al., 2023). In the Indonesian context, data from the Basic Health Research indicates that the prevalence of heart failure has reached 1.5% of the total population. This statistical trend underscores an urgent need for optimized nursing care strategies that address both the physiological stability and the symptomatic burden of these patients, particularly as the chronicity of the condition often leads to frequent hospitalizations and a diminished quality of life (Garea & Díaz, 2025; Shan et al., 2023). A primary and debilitating symptom reported by patients with CHF is acute chest pain, which typically arises from a critical mismatch between myocardial oxygen supply and demand. This decreased myocardial perfusion triggers a cascade of cellular ischemia (Juricic et al., 2026; Kalogeris et al., 2012), which, if left unmanaged, can accelerate cardiac cell death and further compromise ventricular function.

The management of such pain in an intensive care or acute setting traditionally relies on pharmacological agents; however, relying solely on medication may not fully address the psychophysiological distress associated with chronic illness. Consequently, a comprehensive pain management protocol must integrate non-pharmacological approaches to provide holistic relief. These complementary therapies are essential for minimizing the side effects of polypharmacy and for addressing the sympathetic nervous system's overactivation, which is a hallmark of the heart failure state (Jacobs, 2014; Mussie et al., 2026). The Benson relaxation technique has emerged as a prominent non-pharmacological intervention that uniquely synthesizes deep breathing control, progressive muscle relaxation, and the internal recitation of spiritual affirmations (Bakhri et al., 2024). Unlike basic relaxation exercises, the Benson method targets the "relaxation response," a physical state of deep rest that changes the physical and emotional responses to stress. By engaging in this structured practice, patients can effectively suppress sympathetic nervous system activity, thereby lowering heart rate, reducing oxygen consumption, and decreasing systemic vascular resistance. This

physiological shift not only alleviates the intensity of chest pain but also enhances the patient's overall physical and psychological comfort. The present study, therefore, aims to implement and rigorously evaluate the effectiveness of the Benson relaxation technique as a specialized nursing intervention to mitigate chest pain and improve clinical outcomes in patients suffering from CHF.

Case Description

This case study highlights the clinical management of Mrs. M, a 57-year-old female admitted to the Intensive Care Unit (ICU) of Harapan Hospital Magelang, following a primary diagnosis of CHF. Upon admission, the patient reported significant distress characterized by left-sided chest pain, which she rated as a 6 on the Numeric Rating Scale (NRS). This pain was clinically described as a persistent, pressure-like sensation that occurred intermittently, reflecting the ischemic strain often associated with myocardial insufficiency. A comprehensive physical assessment revealed a hemodynamic profile marked by hypotension (90/63 mmHg) and bradycardia (56 bpm), accompanied by tachypnea (29 breaths/min), while her body temperature remained stable at 36.1°C. Supplemental diagnostic imaging further confirmed the severity of her condition, with an electrocardiogram (ECG) showing sinus rhythm and a chest X-ray revealing pronounced cardiomegaly alongside bilateral lung infiltrates, indicative of pulmonary congestion.

Based on these clinical findings, the nursing care plan prioritized three critical diagnoses: decreased cardiac output related to impaired ventricular contraction, acute pain secondary to myocardial ischemia, and impaired comfort. To address the patient's pain and psychological distress, a non-pharmacological intervention—the Benson relaxation technique—was integrated into the daily care protocol. This intervention was scheduled for three consecutive days, with each structured session lasting approximately 15 minutes. To optimize lung expansion and minimize cardiac workload, the patient was placed in a semi-Fowler's position. The procedure involved guiding Mrs. M through a rhythmic breathing exercise while she focused on reciting personally meaningful religious phrases, a core component of the Benson method designed to elicit a deep "relaxation response" by neutralizing the body's stress-induced sympathetic activity. The longitudinal evaluation of this intervention yielded highly favorable clinical outcomes. By the conclusion of the three-day period, Mrs. M's subjective pain intensity had decreased significantly from an NRS score of 6 to a 3. Beyond the quantitative reduction in pain, nursing observations noted a marked improvement in the patient's objective demeanour; she appeared visibly more relaxed, demonstrated reduced muscle tension, and reported a restored ability to achieve restorative sleep. This successful reduction in pain suggests that the Benson relaxation technique effectively lowered the patient's oxygen demand and eased the physiological burden of her heart failure. These results advocate for the broader adoption of spiritual-based relaxation therapies as an essential adjunct to pharmacological treatments in the ICU, particularly for elderly patients experiencing the multifaceted stressors of acute cardiac events.

Discussion

The results of this case study demonstrate that Benson's relaxation technique significantly reduces pain intensity in patients diagnosed with CHF. This non-pharmacological intervention functions by stimulating the parasympathetic nervous system, which effectively counters the sympathetic "fight-or-flight" response often triggered by chronic cardiac pain (Varzideh et al., 2026; Kurhaluk et al., 2025). As the patient engages in deep breathing and rhythmic repetition of a personally meaningful word or phrase, the body's physiological stress markers begin to stabilize. Specifically, the technique has been shown to lower oxygen consumption and decrease heart rate, which directly reduces the workload on a failing heart (Ibrahim et al., 2019; Golchoubi et al., 2024). By mitigating these physiological stressors, the patient experiences a shift from a state of acute distress to one of calm and comfort. Furthermore, the reduction in muscle tension helps to interrupt the pain-spasm-pain cycle that frequently exacerbates cardiac discomfort. The integration of the "faith factor" or personal belief system provides a psychological anchor that enhances the relaxation response beyond standard deep breathing (Agorastos et al., 2014; Grim & Grim, 2019). Ultimately, this case confirms that periodic application of the technique leads to a measurable decrease on the Numerical Rating Scale for pain.

The importance of using a non-pharmacological approach like Benson's relaxation in CHF care cannot be overstated due to the high risks associated with polypharmacy in cardiac patients. Conventional pain medications, such as NSAIDs or opioids, can often interfere with CHF management by causing fluid retention or respiratory depression. In contrast, Benson's relaxation is cost-free, simple to implement at the bedside, and carries no known adverse side effects. This study highlights how the technique serves as an essential nursing tool to improve the patient's quality of life by addressing both physical pain and the accompanying anxiety. By teaching patients this self-management skill, nurses empower them to take an active role in their own symptom control. The calm internal environment created by the therapy not only alleviates pain but also improves sleep quality, which is vital for cardiac recovery. Consistent practice, such as 20-minute sessions twice daily, appears to yield the most sustainable results in reducing chronic fatigue and pain. The patient in this study showed improved tolerance for light activities, suggesting that better pain control translates to improved functional status. For future studies, it is highly recommended that researchers conduct large-scale, longitudinal randomized controlled trials to establish standardized clinical protocols for CHF patients. While this case study provides strong preliminary evidence, more data is needed to determine the

long-term impact of the technique on hospitalization rates and overall mortality. Future research should also explore the optimal frequency and duration of sessions specifically tailored to various stages of heart failure. Investigating the synergy between Benson's relaxation and specific pharmacological treatments could lead to more effective "multimodal" pain management strategies. There is also a need to evaluate how different cultural or spiritual adaptations of the "faith factor" influence the depth of the relaxation response. Additionally, objective physiological monitoring—such as measuring cortisol levels or using heart rate variability (HRV) analysis—could provide deeper insights into the biological mechanisms at play. Encouraging nursing education to include formal training in this technique will ensure it becomes a standard of care in cardiac wards. Finally, assessing the technique's effectiveness in outpatient settings could help prevent the re-exacerbation of symptoms post-discharge.

Conclusion

The clinical findings of this case study reinforce the premise that the Benson relaxation technique serves as a highly effective non-pharmacological intervention for reducing the intensity of chest pain among patients diagnosed with CHF. By systematically integrating rhythmic breathing with the silent repetition of religious or meaningful phrases, this technique facilitates a profound "relaxation response" that counters the sympathetic nervous system's "fight or flight" activity. This physiological shift is particularly critical in CHF management, as it helps to lower myocardial oxygen demand, reduce heart rate, and stabilize blood pressure, thereby alleviating the ischemic pain scale from a moderate-severe level to a more manageable baseline. Unlike many pharmacological analgesics that carry risks of respiratory depression or hypotension—concerns that are amplified in an ICU setting—the Benson technique offers a safe, non-invasive, and cost-effective alternative. Its lack of adverse side effects makes it an ideal complementary therapy for patients who may already be hemodynamically unstable or sensitive to polypharmacy.

References

- Agorastos, A., Demiralay, C., & Huber, C. G. (2014). Influence of religious aspects and personal beliefs on psychological behavior: focus on anxiety disorders. *Psychology research and behavior management*, 7, 93–101. <https://doi.org/10.2147/PRBM.S43666>
- Bakhri, M. M., Maryati, I., & Koeryaman, M. T. (2024). Penerapan metode relaksasi benson terhadap nyeri dan kecemasan pada pasien pre operasi kista ovarium di ruangan marjan bawah rsud dr slamet garut: A case report. *SENTRI: Jurnal Riset Ilmiah*, 3(8), 3969–3982. Retrieved from <https://ejournal.nusantaraglobal.or.id/index.php/sentri/article/view/3288>
- Garea, S. C., & Díaz, M. J. F. (2025). Nursing interventions for cardiovascular disease prevention: a narrative review of evidence-based strategies. *BMC nursing*, 24(1), 1269. <https://doi.org/10.1186/s12912-025-03885-1>
- Golchoubi, A., Miri, K., Vagheei, S., Hajiabadi, F., Kahrom, M., & Behnam Vashani, H. R. (2024). Evaluating the impact of Benson's relaxation technique on anxiety and delirium among coronary artery bypass graft surgery patients. *Journal of cardiothoracic surgery*, 19(1), 657. <https://doi.org/10.1186/s13019-024-03186-9>
- Grim, B. J., & Grim, M. E. (2019). Belief, Behavior, and Belonging: How Faith is Indispensable in Preventing and Recovering from Substance Abuse. *Journal of religion and health*, 58(5), 1713–1750. <https://doi.org/10.1007/s10943-019-00876-w>
- Harikrishnan, S., Rath, P. C., Bang, V., McDonagh, T., Ogola, E., Silva, H., Rajbanshi, B. G., Pathirana, A., Ng, G. A., Biga, C., Lüscher, T. F., Daggubati, R., Adivi, S., Roy, D., Banerjee, P. S., & Das, M. K. (2024). Heart failure, the global pandemic: A call to action consensus statement from the global presidential conclave at the platinum jubilee conference of cardiological society of India 2023. *Indian heart journal*, 76(3), 147–153. <https://doi.org/10.1016/j.ihj.2024.04.004>
- Ibrahim, A., Koyuncu, G., Koyuncu, N., Suzer, N. E., Cakir, O. D., & Karcioglu, O. (2019). The effect of Benson relaxation method on anxiety in the emergency care. *Medicine*, 98(21), e15452. <https://doi.org/10.1097/MD.00000000000015452>
- Jacobs, S. S. (2014). Integrative Therapy Use for Management of Side Effects and Toxicities Experienced by Pediatric Oncology Patients. *Children (Basel, Switzerland)*, 1(3), 424–440. <https://doi.org/10.3390/children1030424>
- Juricic, S., Klac, J., Stojkovic, S., Beleslin, B., Tesic, M., Jovanovic, I., Banovic, M., Petrovic, O., Aleksandric, S., Vasic, N., Simeunovic, F., Lazovic, D., Stojkovic, M., Nikolov, S., & Simeunovic, D. (2026). Molecular and Cellular Mechanisms of Myocardial Ischemia and Reperfusion Injury: A Narrative Review. *Cells*, 15(3), 265. <https://doi.org/10.3390/cells15030265>
- Kalogeris, T., Baines, C. P., Krenz, M., & Korthuis, R. J. (2012). Cell biology of ischemia/reperfusion injury. *International review of cell and molecular biology*, 298, 229–317. <https://doi.org/10.1016/B978-0-12-394309-5.00006-7>
- Kumric, M., Kurir, T. T., Bozic, J., Slujko, A. B., Glavas, D., Miric, D., Lozo, M., Zanchi, J., & Borovac, J. A. (2024). Pathophysiology of Congestion in Heart Failure: A Contemporary Review. *Cardiac failure review*, 10, e13. <https://doi.org/10.15420/cfr.2024.07>
- Kurhaluk, N., Kołodziejska, R., Kamiński, P., & Tkaczenko, H. (2025). Integrative Neuroimmune Role of the Parasympathetic Nervous System, Vagus Nerve and Gut Microbiota in Stress Modulation: A Narrative Review. *International journal of molecular sciences*, 26(23), 11706. <https://doi.org/10.3390/ijms262311706>

- Mussie, D. A., Dagnew, S. B., Zerihun, T. E., Kassaw, A. T., Zewdu, W. S., Bekalu, A. F., Moges, T. A., Tamene, F. B., Wondm, S. A., & Tarekegn, G. Y. (2026). Coping strategies for managing medication side effects among patients with chronic diseases in Northwest Ethiopia: An interpretive phenomenological study. *Exploratory research in clinical and social pharmacy*, 21, 100712. <https://doi.org/10.1016/j.rcsop.2026.100712>
- Nawsherwan, Bin, W., Le, Z., Mubarik, S., Fu, G., & Wang, Y. (2022). Prediction of cardiovascular diseases mortality- and disability-adjusted life-years attributed to modifiable dietary risk factors from 1990 to 2030 among East Asian countries and the world. *Frontiers in nutrition*, 9, 898978. <https://doi.org/10.3389/fnut.2022.898978>
- Ramic-Catak, A., Mesihović-Dinarevic, S., & Prnjavorac, B. (2023). Public Health Dimensions of CVD Prevention and Control - Global Perspectives and Current Situation in the Federation of BiH. *Materia socio-medica*, 35(2), 88–93. <https://doi.org/10.5455/msm.2023.35.88-93>
- Shan, Y., Chen, J., Zhou, S., & Wen, G. (2023). Nursing Interventions and Care Strategies for Patients with Coronary Heart Disease: A Comprehensive Review. *Galen medical journal*, 12, e2994. <https://doi.org/10.31661/gmj.v12i0.2994>
- Varzideh, F., Jankauskas, S. S., Mone, P., Kansakar, U., & Santulli, G. (2026). Autonomic neurotransmission in cardiovascular regulation and pathophysiology. *Frontiers in neuroscience*, 19, 1739330. <https://doi.org/10.3389/fnins.2025.1739330>