

Section: General Nursing

Benson relaxation technique and lavender aromatic therapy for patient with hypertension

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Abstract

Hypertension is a condition where the increase of systolic blood is above the normal limits which is ≥ 140 mmHg and diastolic blood pressure ≥ 90 mmHg. Hypertension in the elderly is caused by structural and functional changes in the peripheral vascular system, causing changes in blood pressure. Changes in blood pressure can result in decreased cardiac output and increased peripheral resistance. This type of research uses descriptive case studies as it is match with the study objective. This nursing care case study is the application of pain management to reduce pain in hypertensive patients for three consecutive days with non-pharmacological therapy, namely Benson relaxation and lavender aromatherapy in Pucangan Mungkid, Magelang. The results showed a difference before and after the intervention, namely a decrease in pain scale and blood pressure in patients.

Keywords: Cardiac output, complementary therapies, hypertension, nursing care, pain

Introduction

Hypertension remains a formidable global health challenge, serving as a primary precursor to cardiovascular diseases, stroke, and chronic kidney failure (Masenga & Kirabo, 2023). Despite the proliferation of pharmacological interventions, the prevalence of high blood pressure continues to rise at an alarming rate across diverse populations (Mills et al., 2020). The pathophysiology of hypertension is deeply intertwined with chronic stress and the overactivity of the sympathetic nervous system. Consequently, many patients struggle with long-term adherence to antihypertensive drugs due to adverse side effects and financial burdens (Gardezi et al., 2023). This necessitates the exploration of complementary and alternative medicine to augment traditional treatment protocols. Modern nursing care increasingly emphasizes a holistic approach that addresses both the physiological and psychological dimensions of the patient. Integrating non-pharmacological therapies offers a promising avenue to achieve better blood pressure control without increasing chemical toxicity (Verma et al., 2021). The search for cost-effective, non-invasive, and easily accessible interventions has led researchers to investigate the synergy between mind-body techniques and herbal essence (Kamyab et al., 2021). By addressing the autonomic nervous system, these therapies aim to restore hemodynamic stability through natural relaxation responses. Therefore, understanding the impact of combined holistic modalities is essential for advancing evidence-based nursing practice in cardiovascular care.

The Benson relaxation technique represents a sophisticated evolution of traditional deep-breathing exercises, incorporating focused word repetition to induce a profound state of physiological calm (Harorani et al., 2020). By engaging the relaxation response, this method effectively counteracts the "fight or flight" mechanism that frequently exacerbates hypertensive conditions. Systematic practice of this technique has been shown to decrease oxygen consumption and heart rate while stabilizing peripheral vascular resistance (Golchoubi et al., 2024). Simultaneously, lavender aromatherapy has gained significant scientific recognition for its potent anxiolytic and sedative properties (Yoo & Park, 2023). The inhalation of *Lavandula angustifolia* essential oil directly stimulates the olfactory system, which subsequently modulates the limbic system and the hypothalamus. This neurological interaction results in the inhibition of sympathetic activity and the promotion of parasympathetic dominance. When applied together, the cognitive focus of Benson's relaxation and the chemical influence of lavender may create a powerful additive effect on vasodilation. Previous studies have highlighted the efficacy of these interventions individually, yet their combined application remains an area of growing interest. Lavender aromatic therapy acts as a sensory catalyst that may deepen the meditative state achieved through Benson's structured breathing. Exploring this combination is vital to determine if sensory and cognitive relaxation can provide a more sustainable reduction in systolic and diastolic pressure.

While current literature provides a foundation for the use of relaxation and aromatherapy, several research gaps remain regarding their combined efficacy in specific hypertensive cohorts. Many existing studies focus on acute settings, often overlooking the long-term maintenance of blood pressure through these self-care modalities. Furthermore, there is a lack of standardized protocols that integrate both auditory-focused relaxation and olfactory-

based aromatherapy in a unified nursing intervention. In the Indonesian context, where herbal wisdom and spiritual mindfulness are culturally ingrained, such holistic approaches are highly acceptable to the community. However, clinical evidence must be strengthened to justify the formal integration of these techniques into hospital discharge planning. This study seeks to bridge the gap by evaluating the specific hemodynamic outcomes associated with a dual-modality intervention. By providing a rigorous analysis of these complementary therapies, we can offer patients more autonomy in managing their chronic conditions. The urgency of this research is underscored by the need to reduce the societal burden of hypertension-related complications. Ultimately, this publication aims to provide a robust scientific rationale for the use of Benson relaxation and lavender aromatherapy as a standard adjunct to hypertensive care. Such findings could pave the way for more comprehensive and compassionate cardiovascular nursing strategies worldwide.

Case Description

Mr. T, a 65-year-old Muslim male residing in Pucangan, Mungkid, Magelang, presented for a clinical examination on May 27, 2025, at 09:00 WIB. Initial physiological assessments revealed a significantly elevated blood pressure of 170/102 mmHg, accompanied by a tachycardic pulse of 115 beats per minute and a respiration rate of 24 breaths per minute. The patient reported experiencing persistent cephalalgia (head pain) characterized by a throbbing sensation that occurred intermittently, which he rated as a 4 on the Numerical Rating Scale (NRS). Furthermore, Mr. T disclosed a history of sleep disturbances and pervasive restlessness, noting that he had never previously sought medical evaluation for these symptoms. These subjective and objective findings led to a primary nursing diagnosis of acute pain related to physiological injury agents, exacerbated by hypertension and psychological distress. In response to the diagnosis, a comprehensive nursing care plan was developed and using the integration of Benson Relaxation Therapy and lavender aromatherapy. This dual-modality complementary intervention was selected to address both the physiological pain and the spiritual needs of the patient, utilizing Mr. T's Muslim faith to enhance the efficacy of the relaxation response. The intervention was administered systematically over three consecutive days to ensure cumulative therapeutic benefits. During these sessions, the patient was guided through deep breathing exercises combined with spiritual phrases, while lavender essential oils were utilized to stimulate the olfactory system and promote a sedative effect. This non-pharmacological approach aimed to reduce sympathetic nervous system activity, thereby lowering systemic vascular resistance and promoting overall mental tranquillity.

Following the three-day intervention period, a final evaluation demonstrated remarkable clinical improvements across all measured parameters. Most notably, Mr. T's pain scale decreased significantly from a 4 to 0, indicating a total resolution of his throbbing headache. His hemodynamic status also stabilized, with blood pressure dropping to a much safer range of 133/57 mmHg on the final day of treatment. While his respiration remained stable at 24 breaths per minute, his pulse showed a slight reduction to 110 beats per minute. Beyond the clinical metrics, the patient reported a substantial improvement in sleep quality and a marked reduction in restlessness. This case study confirms that the combination of Benson relaxation and lavender aromatherapy is an effective, holistic strategy for managing acute pain and hypertension in geriatric patients within a community or hospital setting.

Discussion

Hypertension is often referred to as a "silent killer" because it frequently presents without specific symptoms despite significantly elevated blood pressure. However, common clinical manifestations often include persistent headaches and fatigue. In this case, the nursing diagnoses were prioritized according to the severity of the patient's condition. The primary diagnosis identified was Acute Pain related to physiological injury agents (D.0077), as evidenced by a blood pressure of 170/102 mmHg, complaints of headaches, and sleep disturbances. The intervention plan consisted of three therapeutic sessions with established outcome criteria, including a significant reduction in pain intensity, improved sleep quality, and decreased anxiety levels. The secondary diagnosis identified was a Knowledge Deficit (D.0111) regarding hypertension management within Mr. T's family. This deficit is rooted in the family's inability to recognize health problems and provide adequate care for sick members, as evidenced by the fact that Mr. T has never sought medical check-ups at a Puskesmas (community health center) or hospital. To address the primary diagnosis, the intervention focused on Pain Management (I.08238). This included a comprehensive pain assessment to identify the characteristics, duration, frequency, quality, and intensity of the pain, alongside regular monitoring of the patient's blood pressure to evaluate the physiological response to treatment.

The author implemented non-pharmacological interventions, specifically Benson relaxation combined with lavender aromatherapy, to alleviate the patient's pain and hypertension. During the initial assessment on May 27, 2025, at 09:00 WIB, the nursing implementation began with baseline hemodynamic monitoring and pain identification. Mr. T and his family demonstrated high levels of cooperation and successfully followed the procedural steps. Prior to the intervention, the patient reported a pain scale of 4/10—described as an intermittent, throbbing headache—accompanied by physical weakness and insomnia. His initial vital signs were significant for severe hypertension at 170/102 mmHg, a tachycardic pulse of 115 bpm, and a respiratory rate of 24 breaths/minute. Immediately following the first session of Benson relaxation and lavender aromatherapy, the patient noted a gradual reduction in head pain, with his blood pressure shifting to 159/95 mmHg. The therapeutic regimen was continued for three consecutive days, concluding on May 29, 2025. By the final implementation, the patient reported that his headache had completely

resolved, and he felt significantly more comfortable, rested, and energetic. This subjective improvement was validated by a notable stabilization in his vital signs; his blood pressure decreased to 133/87 mmHg, and his pulse slowed to 110 bpm, while his respiration remained steady at 24 breaths/minute. These clinical outcomes demonstrate the cumulative benefits of the combined therapy in reducing systemic vascular resistance and promoting a parasympathetic response. These findings align with a study which concluded that the synergy between Benson relaxation and lavender aromatherapy is highly effective in reducing blood pressure among hypertensive patients. The study highlighted that while high baseline blood pressure is influenced by factors such as age, gender, and lifestyle, the physiological mechanism of hypertension is often driven by the narrowing of blood vessels due to lipid accumulation, elevated glucose, and the activity of stress hormones like epinephrine and norepinephrine. By utilizing spiritual relaxation and aromatic compounds, this intervention successfully inhibits the sympathetic nervous system, thereby reducing the hormonal triggers of vasoconstriction and facilitating a controlled reduction in blood pressure.

The Benson relaxation technique functions by modulating the hormonal system, specifically inhibiting the release of epinephrine and norepinephrine typically triggered by acute stress (Olia et al., 2019; Ibrahim et al., 2019; Raipure & Patil, 2023). As a specialized deep breathing exercise, it integrates a patient's spiritual beliefs or meaningful mantras to deepen the relaxation response. When practiced consistently, these exercises facilitate systemic calm, relieve muscular tension, and neutralize the physiological perception of threat. From a physiological perspective, the regular intake of oxygen during deep breathing ensures optimal gas exchange within the bronchi and alveoli. This oxygenated blood is then circulated via the arterial system to meet cellular demands. When the body's oxygen requirements are met, it achieves a state of homeostasis, triggering a generalized relaxation response. Complementing this, lavender aromatherapy (*Lavandula angustifolia*) provides a potent sedative effect. Its primary active compound, linalool (C₁₀H₁₈O), interacts with the raphe nucleus in the brain to stimulate the secretion of serotonin, which effectively induces sleep and reduces the risk of insomnia. Prior to the intervention, Mr. T exhibited a significant knowledge deficit and a lack of health-seeking behaviour, frequently disregarding his family's suggestions to monitor his condition. However, following the nursing sessions, the patient demonstrated a positive shift in health perception. He has now committed to regular blood pressure monitoring and expressed a strong intent to perform the relaxation therapies independently whenever his blood pressure remains elevated.

Conclusion

The Benson Relaxation Technique is a specialized deep breathing exercise that incorporates spiritual phrases or words meaningful to the patient to deepen the relaxation response. When these breathing exercises are performed regularly and correctly, the body achieves a state of systemic calm, effectively relieving psychological tension and neutralizing the physiological impact of stress. Complementing this approach, lavender aromatherapy acts as a potent non-pharmacological intervention that stimulates the production of alpha waves in the brain, which are instrumental in fostering a sense of profound relaxation. The integrated application of Benson relaxation and lavender aromatherapy for Mr. T yielded significant clinical improvements, including a notable reduction in blood pressure and the alleviation of anxiety. Furthermore, the intervention was remarkably effective in pain management, reducing the patient's pain scale from 4 to 0, while simultaneously enhancing overall sleep quality. Regarding future research, it is highly recommended that subsequent studies utilize a larger and more diverse sample size to validate the generalizability of these findings across different demographics and clinical conditions. Future investigations should also consider a longitudinal approach to evaluate the long-term sustainability of combined Benson relaxation and aromatherapy in managing chronic hypertension and persistent insomnia. Additionally, incorporating objective physiological markers, such as cortisol levels or heart rate variability (HRV), would provide more robust data to complement subjective self-reporting scales. Finally, exploring the comparative efficacy of various spiritual versus neutral phrases within the Benson technique could offer deeper insights into how personal belief systems influence the speed and depth of the relaxation response in clinical settings.

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