

Analysis of Nursing Practice in NSTEMI Patients: The Effect of Autogenic Relaxation Combined with Nature Sound Music Therapy on Blood Pressure Stabilization in the ICCU

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ABSTRACT

Non-ST elevation myocardial infarction (NSTEMI) is often accompanied by increased blood pressure due to pain and anxiety, which trigger activation of the sympathetic nervous system, thereby increasing cardiac workload and worsening myocardial ischemia. In addition to pharmacological therapy, non-pharmacological interventions are needed to help stabilize patients' hemodynamic status. This study aimed to analyze the implementation of autogenic relaxation combined with nature sound music therapy on blood pressure in patients with NSTEMI. A case study was conducted on one NSTEMI patient in the intensive cardiac care unit (ICCU), where blood pressure was measured before and after the intervention. The findings showed that the patient who received autogenic relaxation combined with nature sound music therapy experienced a decrease in both systolic and diastolic blood pressure and a more relaxed condition. In conclusion, autogenic relaxation combined with nature sound music therapy is an effective a supportive non-pharmacological intervention for on stabilizing blood pressure in patients with NSTEMI.

Keywords: Autogenic, Nature Sound, NSTEMI

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1. INTRODUCTION

Non-ST-segment elevation myocardial infarction (NSTEMI) is widely recognized as a prevalent manifestation of acute coronary syndrome and contributes significantly to global cardiovascular morbidity and mortality (World Health Organization, 2023; Collet et al., 2021). Psychological distress, anxiety, and chest discomfort in patients with NSTEMI often stimulate the sympathetic nervous system. Consequently, increases in blood pressure, heart rate, and cardiac workload occur, thereby intensifying myocardial ischemia due to disproportionate oxygen supply and demand (Guyton & Hall, 2021; Zipes et al., 2022).

Blood pressure control in NSTEMI patients is a crucial aspect of nursing care, particularly during the acute phase in the Intensive Cardiac Care Unit (ICCU). Uncontrolled blood pressure can increase vascular resistance and exacerbate tissue perfusion disturbances, thereby raising the risk of cardiovascular complications (American Heart Association, 2022; Braunwald et al., 2022). Although pharmacological therapy remains the primary approach in NSTEMI management, it often does not fully address patients' stress and anxiety responses. Therefore, non-pharmacological nursing interventions are needed as safe and effective complementary therapies (Potter & Perry, 2021).

Autogenic relaxation is a self-suggestion-based relaxation technique that has been shown to reduce sympathetic nervous system activity and enhance parasympathetic dominance. Parasympathetic activation plays a role in lowering blood pressure, heart rate, and anxiety levels, thereby reducing the cardiac workload (Kanji et al., 2016; Varvogli & Darviri, 2011; Stetter & Kupper, 2022). In addition, nature sound music therapy is known to produce calming effects through auditory stimulation that influences the limbic system, the center for emotional regulation and

autonomic responses, thus contributing to stress reduction and blood pressure control (Bernardi et al., 2006; McCaffrey & Locsin, 2020; Loomba et al., 2012).

The combination of autogenic relaxation and nature sound music therapy is considered to have a synergistic effect in creating a more optimal relaxation response compared to a single intervention. Several studies have shown that relaxation and music interventions significantly reduce blood pressure and improve comfort in patients with cardiovascular disease (Loomba et al., 2012; Putri, 2025). However, studies that specifically examine the combined application of autogenic relaxation and nature sound music therapy in patients with NSTEMI remain limited. Therefore, this study was conducted to determine how blood pressure in patients with NSTEMI in the ICCU responds to the combination of autogenic relaxation and nature sound music therapy.

2. METHOD

This study employed a case study design with a descriptive analytical approach to analyze the implementation of a non-pharmacological nursing intervention in the form of autogenic relaxation combined with nature sound music therapy in a patient with NSTEMI. The study was conducted in Intensive Cardiac Care Unit (ICCU) of Aji Muhammad Parikesit Regional Hospital, Tenggara, from December 2025 to January 2026.

The study subject consisted of one patient with NSTEMI who met the inclusion criteria, including having a medical diagnosis of NSTEMI, experiencing increased blood pressure during hospitalization, being fully conscious, and willing to participate in the study. The patient underwent autogenic relaxation combined with nature sound music therapy. Patients with hearing impairment, decreased levels of consciousness, or unstable hemodynamic conditions were excluded from the study.

Autogenic relaxation intervention was conducted by providing structured verbal autosuggestion guidance accompanied by nature sound music delivered through audio media for approximately 10 min. The intervention was administered once daily according to the patient's clinical condition. Blood pressure was measured using a calibrated bedside monitor before and after the intervention. A comparison between the pre- and post-intervention systolic and diastolic blood pressure served as the basis for the descriptive analysis of the collected data.

3. RESULTS AND DISCUSSION

Table 1. Pre- and Post-Intervention Blood Pressure Following Innovation Therapy

Day of Intervention	Pre-Intervention Blood Pressure (mmHg)	Post-Intervention Blood Pressure (mmHg)
Hari ke-1 (31 Desember 2025)	165/90	160/89
Hari ke-2 (1 Januari 2026)	158/88	150/85
Hari ke-3 (2 Januari 2026)	147/85	142/81

Overall, the results demonstrated a consistent decrease in blood pressure from day to day, both in systolic and diastolic values, with a trend toward greater stability following the intervention. These findings indicate that the implementation of autogenic relaxation combined with nature sound music therapy has a positive impact on blood pressure stabilization in patients with NSTEMI. The gradual reduction in blood pressure observed over three consecutive days suggests an increasingly optimal physiological relaxation response with repeated intervention. Autogenic relaxation works through structured autosuggestion, which reduces sympathetic nervous system activity and enhances parasympathetic dominance, leading to decreased heart rate, vasodilation, and reduced blood pressure. In addition, nature sound music therapy acts as an auditory stimulus that influences the limbic system, thereby reducing stress responses and enhancing relaxation. The combination of these two interventions creates a synergistic effect that supports blood pressure stabilization in patients with cardiovascular disease. These findings are consistent with previous studies, indicating that relaxation techniques and music therapy are effective in lowering blood pressure and reducing cardiac workload in patients with cardiovascular disorders. Sustained reductions in blood pressure may also contribute to decreased myocardial oxygen demand and help prevent the worsening of myocardial ischemia in NSTEMI patients.

Therefore, the combination of autogenic relaxation and nature sound music therapy can be considered a safe and effective complementary non-pharmacological nursing intervention to support blood pressure stabilization in patients with NSTEMI in the ICCU.

4. CONCLUSION

The implementation of autogenic relaxation combined with nature sound music therapy demonstrated positive effects on blood pressure stabilization in patients with NSTEMI. Over three consecutive days of intervention, a gradual reduction in both systolic and diastolic blood pressure was observed, with a trend toward improved stability. These findings suggest that the combination of autogenic relaxation and nature sound music therapy can be utilized as a supportive non-pharmacological nursing intervention to help reduce cardiac workload and promote hemodynamic stability in patients with NSTEMI, particularly in the ICCU.

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