INDOGENIUS

ISSN 2828-1365

Special Issue (2025) : 146 – 150

The Application of Deep Breathing Relaxation Therapy to Control Blood Pressure in Hypertensive Patients in RT 01 RW 05 Kedung Kresik Utara, Argasunya Harjamukti Village, Cirebon City

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Article Info

Keywords :
Deep Breathing Relaxation, Hypertension

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ABSTRACT

Background & Objective: Hypertension is one of the chronic diseases whose prevalence continues to increase globally. In addition to pharmacological therapy, non-pharmacological interventions such as deep breathing relaxation have been shown to contribute to lowering blood pressure through their effects on the autonomic nervous system and stress response. **Method:** This study employed a descriptive method with a case study approach on one patient meeting the criteria for hypertension, who underwent deep breathing relaxation 15 times, divided into 3 cycles. In each cycle, the patient was instructed to take 5 deep breaths with one rest period. **Result:** The results of this study showed that after three days of deep breathing relaxation intervention, the patient reported feeling more relaxed, and blood pressure improved from 158/118 mmHg to 126/108 mmHg. **Conclusion:** Deep breathing relaxation can be an effective management strategy for controlling blood pressure in conjunction with medication.

DOI: https://doi.org/10.56359/igj.v4i2A.690

Introduction

As the elderly population ages, the problems they face also increase. Common issues experienced by the elderly include disrupted sleep quality, changes in eating patterns, lack of exercise, and stress, which can lead to various health problems such as hypertension. Poor sleep quality in the elderly can significantly impact blood pressure, potentially leading to hypertension, which in turn can trigger various health issues (Amanda, Hafiez., et al., 2017).

The elderly are prone to health issues caused by the decline in bodily functions due to the aging process. Aging is a process that brings about changes, including

physical, psychological, social, and spiritual changes. In terms of physiological changes, there is a decline in the immune system's ability to cope with internal and external disturbances. One of the most common health issues faced by the elderly is related to the cardiovascular system. Naturally, the elderly experience a decline in organ function and blood pressure instability. Therefore, the elderly are advised to regularly monitor their blood pressure to prevent cardiovascular diseases, particularly hypertension (Astari, Putu Diah., et al., 2012).

According to WHO data (2010), 27.6% of the global population, or 985 million people, suffer from hypertension, with a ratio of 50.64% among men and 49.36% among women. Of the 985 million people with hypertension, 34.15% are in developed countries, and the remaining 65.85% are in developing countries. Hypertension increases the risk of stroke by 12 times, heart attack by 6 times, and death from heart failure by 5 times (Arneliwati., Bayhakki., et al., 2015).

According to the 2018 Riskesdas survey, the prevalence of hypertension among those aged 18 years and older reached 34.1% of the total Indonesian population. In 2007, the prevalence was 31.7%, and in 2013, it was 25.8%. In 2018, the prevalence increased to 34.1%. This indicates that the number of hypertensive patients continues to rise because many hypertensive patients do not follow the treatment recommendations of healthcare professionals. This has led to hypertension becoming one of the leading causes of death in Indonesia.

To date, various efforts have been made to address hypertension, including blood pressure control through lifestyle modifications and the administration of antihypertensive medications, either as monotherapy or in combination. The use of more than one type of medication and long-term medication use increase the risk of *Drug-Related Problems. Drug-Related Problems* refer to any undesirable conditions experienced by patients that are caused by or suspected to be related to the medication therapy administered to them, which may actually or potentially affect the patient's condition, such as non-compliance, drug interactions, or allergies to prescribed medications. Additionally, long-term treatment may result in drug side effects that cause organ damage (Cipolle, 1998).

Given the above facts, it suggests that drug therapy is not the only treatment option available. A complementary therapy is needed to reduce dependence on medication while maintaining the quality of life of hypertensive patients. In this study, the researchers attempted to offer an alternative therapy in the form of relaxation training. The relaxation therapy here is not intended to replace the medication therapy currently used by hypertensive patients; this therapy only helps to induce a sense of comfort or relaxation. In a relaxed state, the body, through the brain, produces endorphins, which function as the body's natural analgesics and can alleviate pain (physical complaints). Additionally, in a relaxed state, the body activates the parasympathetic nervous system, which functions to lower heart rate, breathing rate, and blood pressure (Poppen, 1998).

Relaxation is a procedure and technique aimed at reducing tension and anxiety by training patients to intentionally relax their body muscles at any time according to their desire. From a scientific perspective, relaxation is a technique for reducing stress and tension by stretching the entire body to achieve a healthy mental state (Varvogli & Darvivi, 2011). Relaxation is divided into two categories: physical relaxation, such as yoga, progressive muscle relaxation, and breathing exercises; Meanwhile, the type

of relaxation that emphasizes the mental/psychological aspect is *autogenic suggestion, imagery, relaxing self-talk,* and *meditation*.

Objective

Based on this, the researcher was interested in conducting this study with the aim of analyzing the application of deep breathing therapy in controlling blood pressure in patients with hypertension.

Method

This study used a descriptive method with a case study approach, involving 15 deep breathing relaxation sessions divided into 3 cycles. In each cycle, patients were asked to take five deep breaths with one rest period per patient with hypertension. The study was conducted in April 2025.

The data collection techniques used were interviews, observations, and physical examinations of the patients' bodies using inspection, palpation, percussion, and auscultation methods. The documentation study consisted of data from the patients' diagnostic examinations.

Data analysis was conducted by the author in the field at dirt 01 rw 05 Kedung Kersik Utara, Argasunya Harjamukti Village, Cirebon City, from the data collection process until all data was collected using the technique of presenting facts obtained from interviews, observations, and physical examinations, as well as documentation studies, and narrated to answer the research questions in the final scientific paper. The data was then analyzed by comparing the results obtained with the theories discussed in the literature review.

Results

During the assessment, it was found that the client complained of a headache at the back of the head that radiated to the neck, with a pain scale of 5 and a throbbing sensation, and the headache was intermittent. The patient also complained of sudden blurred vision, and the client's family said they did not know the cause of Mrs. A's frequent relapses. Blood pressure readings were 158/118 mmHg, heart rate: 88 beats per minute, respiratory rate: 20 breaths per minute, temperature: 36°C. Based on the assessment findings, the diagnosis was acute pain, with the intervention being pain management, specifically deep breathing relaxation to reduce pain and help the patient relax, thereby lowering blood pressure.

Discussion

High blood pressure or hypertension is defined as an increase in systolic blood pressure above 140 mmHg and diastolic blood pressure above 90 mmHg during two examinations with a five-minute rest period (Indonesian Ministry of Health, 2019). Typically, symptoms can be diagnosed after complications arise in target organs such as the heart, kidneys, eyes, or brain (Ratnawati & Aswad, 2019). In this case, Mrs. A has hypertension because her blood pressure is 158/118. Mrs. A also complained of frequent headaches in the back of her head that radiated to the neck with a pain scale of 5, as well as blurred vision. These are common symptoms experienced by hypertensive patients, as stated by (Susiani et al., 2019) that chronic hypertension can cause symptoms such as severe neck pain, headaches in the back of the head, and back pain. During the assessment, it was found that the patient was 85 years old, so age is believed to be one of the causes of hypertension, as stated by (Syaidah Marhabatsar &

Aisyah Sijid, 2021) that age is a factor causing hypertension, and if it continues, it will cause some bodily organ functions to deteriorate, resulting in the arteries in the heart losing flexibility and causing blood vessels to harden and narrow, thereby reducing the sensitivity of blood pressure regulators and baroreceptor responses.

The primary diagnosis in this case is acute pain, evidenced by pain in the back of the head radiating to the neck with a severity of 5, This aligns with the definition in the SDKI textbook by (PPNI, 2021), which defines acute pain as actual or functional tissue damage with sudden or gradual onset and mild to severe intensity, constituting a sensory or emotional experience lasting less than three months.

After undergoing deep breathing relaxation intervention for 3 days, totaling 15 sessions divided into 3 cycles, with each cycle requiring the patient to take 5 deep breaths followed by one rest period, the patient reported feeling more relaxed, and blood pressure gradually improved from 158/118 mmHg to 126/108 mmHg. This indicates that deep relaxation can lower blood pressure in hypertensive patients, consistent with the findings of (Ningrum & Dolifah, 2023), who reported that deep breathing relaxation intervention accompanied by the recitation of the Quran in the nahawand rhythm was effective in lowering blood pressure in elderly hypertensive patients (p-value = 0.000). This is also in line with the research by (Minasari et al., 2025), which found a decrease in blood pressure in the group of patients who received the intervention compared to the control group without intervention, indicating the effect of deep breathing relaxation techniques for hypertensive patients.

Conclusion

The client's condition in this case is hypertension due to blood pressure of 158/118. The client complains of frequent headaches in the back of the head that radiate to the neck, with a pain scale of 5, as well as blurred vision. After three days of intervention with a frequency of 15 sessions conducted in three cycles per day, the patient reported feeling more relaxed, and blood pressure gradually improved from 158/118 mmHg to 126/108 mmHg. This demonstrates that deep breathing relaxation can reduce hypertension when combined with antihypertensive medication.

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