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ORIGINAL ARTICLE

Relaxation techniques using Quranic recitation (murotal) can reduce blood pressure in hypertensive patients.

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ABSTRACT

Introduction: *Hypertension is a major global health concern, significantly increasing the risk of cardiovascular diseases. Various non-pharmacological interventions, such as relaxation techniques, have been explored to manage hypertension effectively. Listening to Quranic verses has been suggested as a relaxation method that may contribute to lowering blood pressure. However, empirical studies examining its effectiveness remain limited.* ***Objectives:*** *This study aims to investigate the effect of listening to Quranic recitation as a relaxation technique on reducing blood pressure among hypertensive patients at Prajekan Public Health Center.* ***Methods:*** *A quasi-experimental study with a pretest-posttest control group design was conducted. A total of 60 hypertensive patients were selected using purposive sampling and divided equally into an intervention group (listening to Quranic recitation) and a control group (standard treatment without relaxation intervention). Blood pressure measurements were taken before and after the intervention. Data were analyzed using Wilcoxon signed-rank test .* ***Results:*** *The findings showed a significant reduction in systolic and diastolic blood pressure in the intervention group compared to the control group ($p < 0.05$). The mean reduction in systolic blood pressure was 10 mmHg, and the diastolic blood pressure reduced by an average of 7 mmHg. This suggests that listening to Quranic recitation has a beneficial effect on blood pressure reduction.* ***Conclusions:*** *Listening to Quranic recitation as a relaxation technique can be an effective complementary therapy for managing hypertension. Further research with larger sample sizes and different populations is recommended to confirm these findings.*

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A. Introduction

Cardiovascular system consists of the heart and blood vessels, playing a crucial role in maintaining bodily functions. One of the essential measurements in a physical examination is blood pressure, which reflects the force exerted by circulating blood on the walls of arteries. Blood pressure is categorized into two types: systolic pressure, which is the peak pressure occurring when the ventricles contract, and diastolic pressure, the lowest pressure when the heart relaxes. The average normal blood pressure for adults is 120/80 mmHg, whereas a higher reading is classified as hypertension. Hypertension remains a significant global health concern as it contributes to increased cardiovascular disease incidence and mortality rates (Palmer & Williams, 2007).

According to the World Health Organization (WHO) in 2010, approximately 15 million people worldwide suffer from hypertension each year. Among them, 5 million succumb to the disease, while another 5 million experience permanent disabilities. Hypertension ranks as the fourth leading cause of death after coronary heart disease and cancer in developing countries (Sugiono, 2010). Developing nations account for 85.5% of hypertension-related deaths globally, with two-thirds of hypertensive individuals residing in these regions. In Indonesia, the prevalence of hypertension is estimated at 6.3 per 1,000 individuals, with only 4 per 1,000 diagnosed by healthcare professionals. The 2013 Basic Health Research Report (RISKESDAS) indicated a national hypertension prevalence of 31.7%, with East Java reporting a slightly lower rate of 17.6%. Despite regional variations, effective management strategies, both pharmacological and non-pharmacological, remain essential to reducing hypertension rates (Notoadmodjo, 2007).

Medical records from the Prajekan Community Health Center indicate a rising trend in hypertension cases. In 2013, there were 104 reported cases, increasing to 132 cases in 2014. By September 2015, 104 cases had already been recorded, highlighting a significant upward trend over the years. The management of hypertension is generally divided into pharmacological and non-pharmacological approaches (Price, 2005). Pharmacological treatments typically involve diuretics such as hydrochlorothiazide, beta-blockers like propranolol, sympatholytic agents like methyldopa, and vasodilators such as hydralazine. While these medications are effective, long-term use can result in side effects such as increased uric acid levels, glucose imbalances, LDL cholesterol elevation, electrolyte disturbances, skin rashes, and even erectile dysfunction (Mansjoer, 2007).

Non-pharmacological interventions include various relaxation techniques, such as meditation, which have been shown to reduce stress and improve cardiovascular health (Udjianti, 2010). Relaxation techniques help individuals manage physical and emotional stress, ultimately contributing to decreased heart rate, blood pressure, and oxygen consumption. Additionally, certain lifestyle modifications, including regular physical activity, a balanced diet, smoking cessation, and stress management, play a vital role in hypertension prevention and control (Arikunto, 2006).

Several risk factors contribute to the onset of hypertension, including advanced age, obesity, cardiovascular diseases, smoking habits, and high cholesterol diets. Uncontrolled hypertension can lead to arterial wall thickening, which may cause vessel obstruction or rupture. Therefore, proactive management strategies are crucial for reducing complications associated with hypertension. Patients are encouraged to consult healthcare professionals to identify and mitigate their risk factors while adopting healthier lifestyle choices (Hawari, 2008).

Given the significance of hypertension as a public health issue and the need for effective management strategies, this study aims to explore the impact of relaxation techniques on blood pressure reduction among hypertensive patients at the Prajekan Community Health Center, Bondowoso Regency.

B. Methods

This study employs a quantitative research design using a quasi-experimental approach to analyze the effects of listening to Quranic recitations on blood pressure reduction among hypertensive patients. A pretest-posttest with control group design was applied. A total of 60 hypertensive inpatients were selected as participants. The subjects were divided into an experimental group (n=30), which received an intervention of listening to Quranic recitations, and a control group (n=30), which did not receive the intervention. Blood pressure measurements were taken before and after the intervention using a sphygmomanometer.

The study applied consecutive sampling, selecting patients meeting the inclusion criteria until the required sample size was reached. Inclusion criteria included a diagnosis of primary hypertension (systolic >140 mmHg, diastolic >90 mmHg), being conscious and cooperative, able to communicate well, and providing informed consent with no hearing impairments. Patients who missed the intervention or withdrew from participation were excluded from the study. Data were collected through direct blood pressure measurement, and the experimental group listened to Surah Al-Fatihah for 5-10 minutes using MP3 players and headphones to ensure an immersive experience.

The Wilcoxon signed-rank test was used to determine the pretest-posttest differences within the experimental group, with a significance level of 0.05. Statistical analyses were conducted using SPSS version 17.0. Ethical approval was obtained from Prajekan Public Health Center, and all participants signed an informed consent form. Confidentiality and anonymity were maintained throughout the study.

C. Results and Discussion

The findings of this study are based on the collected data and subsequent statistical analysis. The results demonstrate significant effects of the intervention on blood pressure reduction among hypertensive patients. The key results are presented in the following tables and descriptions:

Table 1. Descriptive Statistics of Blood Pressure Measurements

Group	Mean Systolic (mmHg)	Mean Diastolic (mmHg)	Standard Deviation
Pre-Intervention (Experimental)	150.3	92.1	8.2
Post-Intervention (Experimental)	138.7	86.4	6.5
Pre-Intervention (Control)	149.5	91.8	7.9
Post-Intervention (Control)	147.8	90.9	7.4

Table 2. Wilcoxon Signed-Rank Test Results

Group	Z-Value	p-Value
Experimental Group	-3.21	0.001
Control Group	-1.45	0.147

Descriptive statistics indicate a significant reduction in both systolic and diastolic blood pressure levels in the experimental group after listening to Quranic recitations. In contrast, the control group showed minimal changes in blood pressure levels.

Results indicate that listening to Quranic recitations has a statistically significant impact on reducing blood pressure among hypertensive patients. The p-value of 0.001 in the experimental group confirms that the intervention effectively contributes to blood pressure reduction. These findings align with previous research indicating that relaxation techniques and auditory stimulation can lower stress levels and enhance cardiovascular health (Palmer & Williams, 2007).

One of the mechanisms explaining this effect is the ability of Quranic recitations to induce a state of relaxation, leading to reduced heart rate and improved autonomic nervous system function. This aligns with studies suggesting that spiritual and meditative practices have physiological benefits, including lower cortisol levels and improved arterial compliance (Udjianti, 2010). The recitation of Quranic verses has been found to enhance emotional and psychological well-being, reducing anxiety and stress, which are known contributors to hypertension (Hawari, 2008).

From a theoretical perspective, the Gate Control Theory of Pain suggests that the brain can modulate pain perception and stress levels through sensory inputs (Melzack & Wall, 1965). Quranic recitations may function similarly by providing a soothing auditory input that helps block stress responses. Similarly, the Relaxation Response Theory (Benson, 1975) posits that exposure to calming stimuli, such as meditative prayers and rhythmic recitations, activates the parasympathetic nervous system, leading to reduced heart rate and blood pressure.

Empirical evidence also supports the role of music therapy and sound-based interventions in cardiovascular health. A study by Bernardi et al. (2006) found that listening to slow-tempo music can significantly lower heart rate and blood pressure. Quranic recitations, with their rhythmic and harmonic properties, may function similarly by slowing breathing patterns and inducing a state of calmness.

The study also highlights the importance of non-pharmacological interventions in hypertension management. While antihypertensive drugs are commonly prescribed, their long-term use is associated with side effects such as dizziness, fatigue, and metabolic disturbances (Mansjoer, 2007). Complementary approaches, including Quranic recitation, meditation, and relaxation therapy, can serve as effective adjunct therapies, potentially improving patient adherence and overall treatment outcomes (Notoadmodjo, 2007).

Furthermore, the minimal changes observed in the control group emphasize the necessity of active interventions in blood pressure management. The significant reduction in blood pressure among participants who listened to Quranic recitations supports the theory that

calming auditory stimuli contribute to improved cardiovascular function (Price, 2005). This aligns with findings from previous studies indicating that exposure to soothing sounds and rhythmic recitations can modulate autonomic nervous system activity, leading to lowered blood pressure (Sugiono, 2010).

Despite these promising findings, certain limitations should be acknowledged. The sample size was relatively small, and the study was conducted in a single healthcare setting, limiting the generalizability of the results. Future research should involve larger, multi-center trials to validate these findings further. Additionally, variations in individual responses to Quranic recitation should be explored, considering factors such as religious belief, baseline stress levels, and cultural influences.

From an application standpoint, integrating Quranic recitations into clinical practice could provide an alternative or complementary therapy for hypertension patients. Future studies should examine the long-term effects of continuous Quranic recitation therapy and explore its potential benefits in other medical conditions, such as anxiety disorders, insomnia, and chronic pain management.

Overall, this study supports the integration of Quranic recitations as a complementary therapy for hypertension management. It provides a foundation for further investigations into the role of spiritual interventions in improving cardiovascular health and emphasizes the need for a holistic approach in managing chronic diseases.

D. Conclusion

This study concludes that listening to Quranic recitations has a significant positive impact on reducing blood pressure among hypertensive patients, supporting the role of spiritual and non-pharmacological interventions in hypertension management. The results indicate that auditory relaxation through Quranic recitations can activate the parasympathetic nervous system, lower stress levels, and enhance cardiovascular health. While these findings provide strong evidence for the therapeutic potential of Quranic recitations, further research is needed with larger sample sizes and more diverse populations to confirm their long-term effects and applicability across different medical conditions. Integrating Quranic recitations as a complementary therapy alongside conventional hypertension treatments may enhance patient well-being and adherence to treatment regimens, offering a holistic approach to managing cardiovascular health.

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