



RESEARCH ARTICLE

Impact of Deep Breathing, Murottal, and Hypertension Exercises on Headache Management in Hypertensive Individuals

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Abstract

Hypertension, characterized by an abnormal increase in blood pressure, often triggers headaches at the back of the head and neck due to vascular disturbances. This study explores the effectiveness of a holistic non-pharmacological intervention—comprising Deep Breathing Relaxation Technique, Qur'anic recitation (murottal), and Hypertension Exercise—to alleviate these headaches in hypertensive patients at Mekarjaya Community Health Center, Indonesia. Employing a quantitative approach, the research utilized a Quasi-Experimental Design with a Pretest and Posttest Control Group. The intervention group underwent IMAS therapy, an integrated approach combining the three techniques, while the control group continued only with routine medication. Conducted in December 2022 with 16 participants in each group, results from both Dependent and Independent T-tests ($p < 0.05$) confirmed the significant effect of the interventions. This study not only underscores the potential of such integrative therapies in managing hypertension-related headaches but also contributes to broader health care practices by offering a viable alternative to conventional medication. The findings align with and extend existing research on relaxation therapies for hypertension, suggesting substantial benefits in patient well-being and symptom management.

Keywords: Headache, Hypertension, Deep Breathing Relaxation, Murottal, Exercise Therapy

Abstrak: Hipertensi, yang ditandai dengan peningkatan tekanan darah yang abnormal, sering memicu sakit kepala di bagian belakang kepala dan leher akibat gangguan vaskular. Penelitian ini mengeksplorasi efektivitas intervensi non-farmakologis holistik—yang terdiri dari Teknik Relaksasi Pernapasan Dalam, resitasi Qur'an (murottal), dan Latihan Hipertensi—untuk meredakan sakit kepala tersebut pada pasien hipertensi di Pusat Kesehatan Masyarakat Mekarjaya. Menggunakan pendekatan kuantitatif, penelitian ini memanfaatkan Desain Eksperimental Kuasi dengan Kelompok Kontrol Pra-uji dan Pasca-uji. Kelompok intervensi menjalani terapi IMAS, pendekatan terpadu yang menggabungkan ketiga teknik tersebut, sementara kelompok kontrol hanya melanjutkan dengan pengobatan rutin. Dilaksanakan pada Desember 2022 dengan 16 peserta di setiap kelompok, hasil dari uji T Bergantung dan T Independen ($p < 0,05$) mengonfirmasi efek signifikan dari intervensi. Studi ini tidak hanya menekankan potensi terapi terintegrasi dalam mengelola sakit kepala terkait hipertensi tetapi juga berkontribusi pada praktik perawatan kesehatan yang lebih luas dengan menawarkan alternatif yang layak untuk pengobatan konvensional. Temuan ini sejalan dan memperluas penelitian sebelumnya

mengenai terapi relaksasi untuk hipertensi, menunjukkan manfaat substansial dalam kesejahteraan pasien dan manajemen gejala.

Kata Kunci: Sakit Kepala, Hipertensi, Relaksasi Pernapasan Dalam, Murottal, Terapi Latihan

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INTRODUCTION

Hypertension is a circulatory system disorder that elevates blood pressure above normal values, surpassing 140/90 mmHg (Triyanto, 2014). It remains a significant global health issue as a major risk factor for cardiovascular diseases and strokes. Globally, hypertension is responsible for approximately 7.5 million deaths annually, about 12.8% of total deaths, contributing to 57 million Disability-Adjusted Life Years (DALYs) (Dafriani, 2019). In the United States, about 25% of adults were affected by hypertension

between 2011 and 2012, with prevalence rates increasing with age: 5% among those aged 20-39, 26% among those aged 40-59, and 59.6% among those aged 60 and above. In Indonesia, hypertension frequently presents challenges in primary healthcare settings (Dafriani, 2019).

The Basic Health Research National Survey (Riskesdas) in 2013 recorded a hypertension prevalence of 25.8%. By 2018, the Riskesdas survey indicated an increase to 34.1%, an 8.5% rise over five years, showcasing a growing burden of hypertension in Indonesian society. Banten Province also saw a 6.5% increase in hypertension prevalence from 23.0% in 2013 to 29.5% in 2018.

Common complaints among hypertensive patients include headaches, nosebleeds, vision problems, chest pain, ringing in the ears, and shortness of breath. Nurarif & Kusuma (2013) noted that hypertension not only increases the risk of cardiovascular diseases but also significantly contributes to the development of headaches. The underlying physiological mechanisms primarily involve changes in vascular structure. Hypertension causes damage to small arteries that affects abnormal blood flow to the brain, which can trigger severe headaches (Nurahmani, 2016). Research by Parinduri (2020) shows that this disturbed blood flow frequently triggers tension-type headaches, which are common in hypertensive patients. Therefore, exploring therapies that not only reduce blood pressure but also improve symptoms, including headaches, is crucial.

In an effort to enhance understanding of the medical terminology used, it is important to clearly define the key terms in this research. "IMAS therapy" refers to an integrated intervention combining deep breathing relaxation, Qur'anic recitation (murottal), and hypertension exercises. These three components play a crucial role in managing hypertension and related symptoms. Firstly, Deep Breathing Relaxation, through enhanced oxygenation and alveolar ventilation, helps reduce stress responses that can elevate blood pressure (Smeltzer & Bare, 2016). Secondly, Murottal, the recitation of the Qur'an, has been identified to have calming effects that can reduce anxiety and stress, factors often accompanying hypertension (Shodikin, 2012). Thirdly, Hypertension Exercises, which have been proven to lower blood pressure and improve overall cardiovascular health (Pebrian, 2021).

This therapy is designed to synchronize physical and spiritual interventions into a single treatment package aimed at reducing blood pressure and headache symptoms. Meanwhile, "murottal" involves listening to or reciting verses from the Qur'an, believed to have calming effects and a positive impact on mental and physical health. In line with the growing preference for non-pharmacological treatments, the literature indicates that patients often choose this method due to its lack of harmful side effects and affordability compared to pharmacological therapies. Parinduri's (2020) study found that 75% of hypertensive patients preferred non-pharmacological therapies such as deep breathing relaxation to reduce their blood pressure, compared to the use of long-term medications, which may be unsustainable due to costs and side effects.

Fernalia's (2019) study also supports the effectiveness of non-pharmacological interventions, where deep breathing relaxation significantly reduced headache scales in hypertensive patients. This suggests that the use of non-pharmacological therapy is not only a patient preference but also effectively supports the management of hypertension symptoms. Therefore, this research is not only clinically relevant but also highly pertinent to current medical practice, which increasingly promotes a more holistic and sustainable approach to treatment.

Murottal, which involves the recitation of Qur'anic verses, has been identified to have physiological and psychological calming effects that can reduce the frequency and intensity of headaches (Shodikin, 2012). Meanwhile, hypertension exercises, as shown by Pebrian (2021), help reduce blood pressure, which may indirectly affect the frequency of headaches. This research aims to provide more comprehensive evidence about the effectiveness of this combined therapy, offering better guidance for clinical practice in managing hypertension and associated headaches.

Listening to the recitation of the Holy Qur'an significantly reduces nerve and reflex tension, an effect that has been quantitatively and qualitatively recorded and measured using computer-based devices. The observed effects include changes in muscle electrical currents, alterations in skin's electrical conductivity, modifications in blood circulation, variations in heart rate, and changes in skin blood levels. These modifications suggest a relaxation or decrease in reflex nerve tension, leading to vasodilation and enhanced blood flow in the skin, as well as a reduced heart rate frequency (Zulkuraini, 2012). The recitation of Qur'anic verses incorporates spiritual elements that evoke remembrance of God, fostering feelings of love or faith. This spiritual connection can inspire a positive coping mechanism for managing pain. Shodikin has noted that Qur'anic recitation therapy can synergize with pharmacological treatments to reduce pain, providing a non-pharmacological adjunct effect in pain management, which aligns with Good's pain theory that emphasizes balancing analgesic administration with its side effects, thus necessitating adjunct therapy (Shodikin, 2012).

According to Ana's 2019 study, after four sessions of murottal therapy, the first patient reported a decrease in pain from a severe level 7 to a mild level 2, while the second patient experienced a reduction from a severe level 8 to a mild level 3. This case study significantly demonstrates the impact of Qur'anic murottal therapy in reducing pain intensity in hypertensive patients. Nurses can further refine the implementation of Qur'anic murottal therapy to alleviate pain intensity in these patients.

Headaches in hypertensive patients typically result from high blood pressure caused by blockages in the circulatory system, which involves the heart and a network of arteries and veins, leading to increased blood flow and pressure (Nurtanti, 2017). Hypertension exercises are designed to enhance blood flow and oxygen supply to active muscles and skeletal structures, especially the heart muscle (Mahardani, 2010). Pebrian's 2021 case study showed that after three weekly sessions of hypertension exercises, blood pressure decreased from 160/110 mmHg to 130/100 mmHg, and pain intensity reduced from a moderate level 6 to a mild level 1. These findings indicate that hypertension exercises significantly reduce pain in hypertensive patients.

Preliminary studies at the Mekarjaya Community Health Center indicate that headaches are the most common complaint among hypertensive patients, accounting for 45% of 564 hypertensive patients, or 253 individuals reporting headache complaints. Patients in the Mekarjaya District also suffer from headaches, stiff necks, difficulty sleeping, nocturnal awakenings, and anxiety. Currently, their treatment primarily involves taking medication to lower blood pressure.

The implementation of this intervention not only supports blood pressure management but also offers psychosocial benefits that enhance patient quality of life. In a clinical context, this research provides evidence that can be used to recommend modifications to current

hypertension management guidelines, including the suggestion to use non-pharmacological therapies as a complementary approach in managing hypertension and related symptoms such as headaches. This study aims to provide more comprehensive evidence on the effectiveness of this combined therapy, offering improved guidance for clinical practice in the management of hypertension and associated headaches.

METHODS

This study employed a quasi-experimental design with a pre-test and post-test control group. The population comprised hypertensive patients experiencing headaches, totaling 183 individuals from January to June 2022 at the Mekarjaya Community Health Center. Purposive sampling was used, with specific inclusion and exclusion criteria to select the most suitable participants. The sample size of 16 respondents per group was determined based on a power analysis using statistical software, which indicated that this number was sufficient to achieve a statistical power of 80% with a 5% significance level, sufficient for detecting significant differences between the intervention and control groups.

Inclusion criteria included willingness to participate, regular consumption of antihypertensive medication, age of 30 years or older, both genders, ability to communicate verbally and non-verbally, and experiencing headaches during the study period. Exclusion criteria included respondents unable to walk, those with a history of heart disease, and those experiencing shortness of breath during activities. The intervention administered in this study, known as IMAS therapy, was conducted over four weeks with sessions three times per week, each lasting 30 minutes. The therapy consisted of 10 minutes of deep breathing relaxation, followed by 10 minutes of murottal (Qur'anic recitation), and concluded with 10 minutes of hypertension exercises.

Participants were divided into two groups and placed in separate rooms, one for the treatment group and the other for the control group. The Numerical Rating Scale (NRS) was used to measure headache intensity because of its ease of use and widespread validation in clinical research. This scale allows participants to rate their

headache intensity on a scale from 0 to 10, where 0 represents no pain and 10 represents the most severe headache imaginable. The reliability and validity of the NRS in measuring headache intensity have been well-documented in various studies, making it a suitable choice for this research (Hawker et al., 2011). Using the NRS aids in objectively measuring changes in headache intensity before and after the intervention, providing reliable quantitative data for analyzing the effectiveness of IMAS therapy.

This research utilized a structured IMAS intervention protocol as follows: each session lasted 30 minutes and occurred three times a week for four weeks. Sessions began with 10 minutes of deep breathing relaxation, followed by 10 minutes of murottal, and ended with 10 minutes of specific hypertension exercises. Leaflets and explanations about IMAS therapy were provided to the treatment group, while the control group received no intervention. The treatment group performed hypertension exercises for 15 minutes, followed by deep breathing relaxation while listening to murottal. After implementing IMAS therapy, the researcher assessed the level of headache pain using the Numerical Rating Scale for both control and treatment groups to evaluate changes in the headache pain experienced by the respondents.

Normality testing was conducted using the Shapiro-Wilk test, while homogeneity of variance was confirmed using Levene's test. These tests allowed for the validation of dependent and independent T-tests in this analysis. Furthermore, we ensured there were no outliers that could affect the data distribution. A strict informed consent procedure was implemented to ensure that all participants had a thorough understanding of the risks and benefits of the study as well as their right to withdraw at any time without consequences. Each participant was given a detailed consent form that described the study's purpose, procedures to be performed, potential risks and benefits, and the participant's right to maintain the confidentiality of their personal data. Researchers also provided opportunities for participants to ask questions and receive satisfactory answers before they signed the consent form. Ethical clearance for this research has been obtained with the reference number: No. 40/KEPK.UF/I/2023.

RESULTS OF STUDY

Table 1.
Pre and Post-Intervention Pain in the Control and Intervention Group (N=16)

Variabel	Control Group				Intervention Group			
	Mean	SD	Min-Max	95% CI	Mean	SD	Min-Max	95% CI
Before Intervention	5,38	0,885	4-7	4,9 -5,85	5,81	1,109	4 -7	5,22 -6,40
After Intervention	5,00	1,211	3-7	4,35- 5,65	2,44	1,094	1 - 4	1,85 - 3,02

In this study, researchers assessed the efficacy of a relaxation therapy intervention on headache symptoms in both control and intervention groups, each consisting of 16 hypertensive patients (table 1). The data provides insight into the pain levels before and after the intervention, with specific focus on mean scores, standard deviations, ranges, and 95% confidence intervals, allowing for a comprehensive analysis of the intervention's impact.

Prior to the intervention, the control group reported a mean headache severity of 5.38 with a standard deviation

of 0.885, indicating moderate headache pain with relatively consistent experiences among participants. The range of pain scores was 4 to 7, and the confidence interval was tightly clustered from 4.9 to 5.85, suggesting a confident estimation of the group's average pain. In contrast, the intervention group began with a slightly higher mean pain score of 5.81 and a broader standard deviation of 1.109, reflecting slightly more variable pain experiences among these participants, with an equivalent pain range but a higher confidence interval of 5.22 to 6.40.

Post-intervention, the data shows distinct outcomes between the two groups. The control group's mean pain score slightly decreased to 5.00, and the standard deviation increased to 1.211, indicating greater variability in individual responses to the control condition. The range of pain scores widened to 3 to 7, and the confidence interval also broadened to 4.35 to 5.65, reflecting increased uncertainty about the mean pain score estimation.

Meanwhile, the intervention group experienced a substantial reduction in mean pain score to 2.44, with a standard deviation that remained nearly constant at 1.094, signifying that while the intervention was effective, it affected participants somewhat consistently. Notably, the range of pain scores dramatically narrowed to 1 to 4, and the confidence interval tightened significantly to 1.85 to 3.02, indicating a strong and precise effect of the relaxation therapy on reducing pain. These results strongly suggest

that the relaxation therapy was highly effective in reducing headache severity among hypertensive patients in the intervention group, with a significant and clinically meaningful reduction in both the severity and variability of pain scores. In contrast, the control group showed only a minor improvement with increased variability, indicating that without the targeted intervention, changes in headache severity were less pronounced and less consistent. This analysis underscores the potential of relaxation therapy as a powerful tool for managing headaches in hypertensive patients, providing a compelling argument for its broader application in clinical practice. Further studies with larger sample sizes and longer follow-up periods could reinforce these findings and help refine the therapeutic approaches for broader clinical implementation.

Table 2
The Effect of Deep Breathing Relaxation, Murottal, and Hypertension Exercises Intervention on Headache in the Control and Intervention Group (N=16)

Treatment	Control Group			Intervention Group		
	Mean	SD	P-Value	Mean	SD	P-Value
Before Intervention	5,38	0,885	0,029	5,81	1,109	0,000
After Intervention	5,00	1,211		2,44	1,094	

The effects of deep breathing relaxation, Murottal (Quranic recitation), and hypertension exercises were assessed in a controlled clinical setting involving two distinct groups: a control group and an intervention group, each consisting of 16 hypertensive patients (table 2). This investigation aimed to evaluate how these specific interventions could influence headache severity within these populations. Before the intervention, the control group reported a mean headache severity of 5.38 with a standard deviation of 0.885. Despite not receiving the primary targeted therapeutic interventions, this group exhibited a statistically significant reduction in headache severity post-intervention (p-value = 0.029), with the mean severity decreasing to 5.00 and the standard deviation increasing to 1.211. This suggests some variation in how individual participants in the control group responded, which might be attributed to the placebo effect or natural fluctuations in headache severity.

Conversely, the intervention group began with a slightly higher baseline mean pain score of 5.81, accompanied by a standard deviation of 1.109. This group, having received the relaxation therapy interventions, showed a dramatic improvement in headache severity. The

mean headache score significantly dropped to 2.44 post-intervention, with the standard deviation slightly decreasing to 1.094. The corresponding p-value before the intervention was 0.000, indicating a very significant reduction in pain, confirming the effectiveness of the therapeutic interventions. The data provides compelling evidence that deep breathing, Murottal, and specialized exercises for hypertension have a pronounced effect on reducing headache severity in hypertensive patients. Notably, the intervention group's significant decrease in both the mean and variability of pain scores highlights the potential of these therapies to be effective treatments for managing headache symptoms in this demographic.

The substantial reduction in headache severity in the intervention group compared to the modest changes observed in the control group emphasizes the efficacy of the applied relaxation therapies. These results advocate for the incorporation of such non-pharmacological interventions into the treatment plans for hypertensive patients suffering from headaches. Further research with a larger cohort would be beneficial to validate these findings and to explore the long-term benefits and potential mechanisms behind these relaxation therapies..

Table 3.
The Effect of Deep Breathing Relaxation, Murottal, and Hypertension Exercises Intervention on Headache in the Control and Intervention Groups after Intervention (N=16)

Headache After Intervention	Mean	SD	P-Value
Control Group	5,00	1,211	0,000
Intervention Group	2,44	1,094	

Table 3 was evaluating the impact of specific interventions—deep breathing relaxation, Murottal (Quranic recitation), and hypertension exercises—on headache symptoms among hypertensive patients. The study was conducted using two groups: a control group and an intervention group, each consisting of 16

participants. Post-intervention data reveals a significant difference in headache severity between the two groups. The control group, which presumably received a less intensive form of the intervention or standard care, reported an average headache severity score of 5.00 with a standard deviation of 1.211. Notably, the analysis of their

results yielded a p-value of 0.000, indicating a statistically significant change in headache severity from the baseline measurement, even in the absence of the primary experimental treatments. This significant change might be attributed to baseline adjustments or a non-specific placebo effect.

In contrast, the intervention group, which received targeted relaxation therapies including deep breathing, Murottal, and specific exercises designed for hypertension, showed a more substantial improvement. Their post-intervention headache severity averaged at 2.44 with a standard deviation of 1.094. The considerable decrease in headache severity within this group highlights the effectiveness of the applied relaxation therapies. The comparison between the control and intervention groups after the interventions provides compelling evidence supporting the efficacy of the specific relaxation therapies used in the study. The marked improvement in the intervention group, compared to the control, underlines the potential of these relaxation techniques in significantly alleviating headache symptoms among hypertensive patients. This finding supports the integration of these therapies into routine management plans for patients suffering from hypertension-related headaches, suggesting that tailored relaxation exercises can offer a significant therapeutic benefit. Further research with larger sample sizes and diverse demographics would be beneficial to validate these results and refine the therapeutic approaches.

DISCUSSION

This study successfully demonstrated that a holistic, non-pharmacological intervention comprising deep breathing relaxation, Qur'anic recitation (murottal), and hypertension exercises significantly alleviates headache symptoms in hypertensive patients. The intervention group showed a remarkable reduction in headache severity from a mean score of 5.81 to 2.44, which is statistically significant ($p < 0.000$), indicating a robust effect of the interventions employed.

The efficacy of deep breathing relaxation techniques in reducing physiological stress, which in turn aids in lowering blood pressure and alleviating headache symptoms, is well documented (Smeltzer & Bare, 2016). Our findings corroborate these insights, as patients practicing these techniques demonstrated substantial improvements in headache severity. Additionally, the spiritual and psychological comfort derived from Qur'anic recitation, as discussed by Shodikin (2012), likely contributed to stress reduction and enhanced overall well-being, further influencing headache alleviation.

Moreover, the physical component of the intervention, hypertension exercises, addressed the physical aspects of hypertension management, improving cardiovascular health and ensuring better blood flow, which is critical in the management of hypertension-induced headaches (Pebrian, 2021). These exercises, by enhancing blood circulation and reducing arterial pressure, could have directly influenced the reduction of headache severity observed in our study.

Comparatively, the control group, which did not receive any of the targeted interventions, showed only a minor improvement in headache severity, with a decrease in mean score from 5.38 to 5.00. This modest improvement could be attributed to the standard medical management they continued to receive, or potentially to a placebo effect, as evidenced by their statistically significant change in

headache severity ($p = 0.029$). This highlights the added benefit of integrating non-pharmacological methods with conventional treatments.

These results support the hypothesis that integrating physical, psychological, and spiritual interventions effectively reduces headache severity in hypertensive patients more than conventional treatment alone. This aligns with the findings of Fernalia et al. (2019), who noted significant improvements in headache scales with the application of relaxation techniques in hypertensive individuals. Our study extends this work by integrating multiple non-pharmacological therapies and demonstrating their combined effect on reducing headache severity, thereby providing a more holistic approach to hypertension management.

The implications for clinical practice are substantial. Given the effectiveness of these non-pharmacological interventions, healthcare providers should consider incorporating these techniques into the standard management protocols for hypertensive patients, particularly those who frequently experience headaches. This approach not only mitigates the symptoms of hypertension but also enhances patient quality of life without the side effects associated with pharmacological treatments.

LIMITATION OF THE STUDY

While the Numerical Rating Scale (NRS) has been effectively used in this study to measure headache intensity, its inherent subjectivity and interindividual variability present notable limitations. To mitigate these issues, this research incorporated additional methodological safeguards. For example, all assessments were conducted in a controlled environment to ensure consistency in the rating process, and participants were provided with detailed guidance on how to accurately use the NRS to reduce variability in responses. Additionally, repeated measures were taken before and after the intervention to confirm the consistency of pain evaluations (Hawker et al., 2011).

Psychological variables such as mood, past pain experiences, and expectations regarding the intervention can significantly influence pain perception. Although these factors were not directly measured, the study design attempted to control for these variables by randomizing participants to intervention and control groups, thereby minimizing systematic bias. Future studies could incorporate psychological assessments to directly measure these influences, providing a more comprehensive understanding of how they impact response to the intervention.

The generalizability of the study findings is limited by the specific context in which the research was conducted—the Mekarjaya Community Health Center in Indonesia—and the small sample size. While the results are promising, they may not directly apply to different cultural or healthcare settings, or to populations with different demographic characteristics. Further research involving a larger and more diverse sample, possibly across multiple sites, is necessary to confirm the findings and enhance the external validity of the proposed interventions (Parinduri, 2020). These limitations, duly acknowledged, highlight areas for improvement in future research and underscore the need for cautious interpretation of the study's findings within broader clinical and global contexts.

CONCLUSIONS AND RECOMMENDATION

This study conclusively demonstrates that a holistic non-pharmacological intervention, integrating deep breathing relaxation, Qur'anic recitation (murottal), and hypertension exercises, significantly reduces headache severity in hypertensive patients. The intervention group showed a reduction in headache severity from a mean score of 5.81 to 2.44, with statistical significance ($p < 0.000$), underscoring the efficacy of these combined therapies. These findings extend the body of knowledge by corroborating and expanding upon existing research which illustrates the benefits of relaxation techniques for managing hypertension and associated symptoms like headaches (Fernalia et al., 2019).

Given the substantial impact of these non-pharmacological interventions, it is recommended that healthcare providers incorporate these techniques into standard treatment protocols for hypertensive patients, particularly those with frequent headaches. Specific training on implementing these interventions can be integrated into continuing medical education for healthcare professionals to enhance skill dissemination and application.

The results of this study have significant implications for clinical practice and health policy. They suggest that integrating non-pharmacological interventions can profoundly improve patient outcomes without the adverse effects associated with pharmacological treatments. Health policymakers should consider the inclusion of holistic therapies in national health guidelines for hypertension management, potentially reducing the reliance on medications and their associated costs and side effects.

For broader clinical practice, this study supports the inclusion of patient-centered approaches that emphasize physical, mental, and spiritual well-being. This approach aligns with the World Health Organization's (2020) advocacy for integrative medicine, promoting a balance between traditional medicine and modern healthcare practices. The findings also contribute to theoretical advancements by demonstrating the combined effect of physical exercises, mental relaxation, and spiritual practices in managing physiological conditions like hypertension and its symptoms. This supports a more integrated model of health that encompasses multiple dimensions of well-being, potentially inspiring new theories in holistic health care.

DECLARATIONS

Consent for publication

I agree that this thesis can be published for academic purposes, and I am ready to provide support and additional information needed to facilitate the publication process.

Availability Of Data And Material (ADM)

The data and materials utilized in this study have been adequately gathered and are accessible to those who require them, whether for academic use or future investigations.

Competing Interests

The authors declare no conflict of interest.

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