



## **THE EFFECT OF BENSON RELAXATION AND PEPPERMINT AROMATHERAPY ON EMOTIONAL MENTAL DISORDERS IN HYPERTENSION PATIENTS**

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### **ABSTRACT**

Emotional mental disorders in individuals with hypertension can worsen their physical condition and reduce the success of their treatment. Effective interventions are needed to address emotional mental disorders in hypertension patients. One non-pharmacological method that has been studied is the combination of Benson relaxation techniques and peppermint aromatherapy. Objective: This study aims to evaluate the effects of Benson relaxation and peppermint aromatherapy on emotional and mental disorders in hypertension patients. Method: This research used a quasi-experimental design with a pre-test and post-test control group. A total of 30 hypertension patients with emotional mental disorders were selected through random sampling and divided into intervention and control groups. The intervention consisted of Benson relaxation techniques and peppermint aromatherapy. Measurements were conducted using the SRQ-20 questionnaire to evaluate emotional mental disorders before and after the intervention. Data analysis included paired-sample T-tests to compare pre-test and post-test results, as well as Mann-Whitney tests for comparisons between the intervention and control groups. Results: The study results showed that Benson relaxation and peppermint aromatherapy were significantly effective in reducing emotional mental disorders in hypertension patients, with a P value = 0.001 ( $P \leq 0.05$ ). There was a significant difference between the intervention and control groups, with the intervention group demonstrating better results in reducing emotional mental disorders. Conclusions: This study concludes that Benson relaxation and peppermint aromatherapy are significantly effective in reducing emotional mental disorders in hypertension patients. This intervention can serve as a potential non-pharmacological approach and complement conventional medical treatments, offering holistic benefits in hypertension management.

Keywords: benson relaxation; complementary therapy; emotional mental disorders; hypertension; peppermint aromatherapy

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## **INTRODUCTION**

Hypertension is a chronic disease with a globally increasing prevalence, including in Indonesia. According to the 2023 Indonesian Health Survey (SKI), the prevalence of hypertension among individuals aged  $\geq 18$  years reached 30.8%, showing a decrease from 34.1% in 2018. Despite the decline, this figure still indicates that nearly one-third of the adult population in Indonesia suffers from hypertension. In addition to physical impacts such as an increased risk of cardiovascular disease and stroke, hypertension also contributes to emotional mental disorders such as stress, anxiety, and depression. Untreated emotional mental disorders can worsen patients' health conditions, lower their quality of life, and hinder treatment effectiveness. Research by Idaiani & Wahyuni (2017) found a significant relationship between hypertension and emotional mental disorders among the Indonesian population.

Several factors can trigger hypertension, including stress, age, smoking habits, alcohol consumption, family history, and lack of physical exercise. In addition, it can increase the risk of coronary heart disease, stroke, and chronic kidney failure, even leading to death (Fildayanti

et al., 2020). Hypertension is referred to as the "Silent Killer" because it can kill individuals quietly without showing any symptoms, thus requiring appropriate management (Azizah et al., 2021). Therefore, it is essential to identify and manage emotional mental disorders in hypertension patients to improve treatment outcomes and their quality of life. A holistic approach that includes medical interventions and psychological support is necessary to address the complexities of the relationship between hypertension and mental health. Pharmacological therapy is defined as the treatment of hypertension using chemical agents such as diuretics, beta-blockers, and calcium channel blockers. In this treatment, doctors must identify signs of hypertension in patients and initiate pharmacological therapy to prevent the development of other complications. Common side effects experienced by hypertensive patients, especially those taking medications, include headaches, dizziness, weakness, and nausea, particularly in elderly individuals who have experienced functional decline. Additionally, there is a risk of complications caused by hypertension, and the treatment cost is relatively high. In the community, complementary therapy remains popular due to its affordability, reduced use of chemicals, and significant healing effects. One of the complementary therapies that can address hypertension is Benson Relaxation and Aromatherapy (Machsus, A. et. al., 2020).

Various non-pharmacological approaches have been implemented to address emotional mental disorders in hypertension patients, one of which is the combination of Benson relaxation techniques and aromatherapy. Research by Qorahman et al., (2024) demonstrated that the combination of Benson relaxation and aromatherapy effectively reduced blood pressure in elderly hypertension patients in the Madurejo Community Health Center area, Pangkalan Bun, Central Borneo. This intervention not only helped lower blood pressure but also provided emotional and physical relaxation effects through deep breathing therapy mechanisms combined with soothing aromatherapy stimulation. Additionally, Dekawaty & Yelisni, (2023) found that Benson relaxation therapy can reduce anxiety in elderly hypertension patients. Research by Mousavi et al., (2024) showed that Benson relaxation techniques and lavender aromatherapy were effective in reducing anxiety and stabilizing hemodynamic indices in patients undergoing coronary artery bypass surgery. Research by Ibrahim et al., (2019) demonstrated that the Benson Relaxation Method (BRM) is effective in reducing anxiety levels in patients with emotional disorders treated in emergency units. Patients who participated in BRM sessions experienced a greater reduction in anxiety scores (HAD-A) compared to the control group. This research highlights that BRM is a safe, simple, and cost-effective non-pharmacological technique for managing anxiety, especially in emergency care situations.

Meanwhile, aromatherapy research by Soleimani et al., (2022) showed that aromatherapy with peppermint essential oil was effective in reducing anxiety in patients with acute coronary syndrome in emergency departments. After one hour of peppermint oil inhalation, patients demonstrated significant reductions in anxiety compared to the control group receiving a placebo. These findings indicate that peppermint essential oil can be used as a simple and effective non-pharmacological method for managing anxiety, especially in medical emergency conditions. Research by Lizarraga-Valderrama, (2021) in the review titled *Effects of Essential Oils on Central Nervous System: Focus on Mental Health* demonstrated that essential oils, including peppermint, have significant anxiolytic and antidepressant effects on the central nervous system. Some essential oils produce pharmacological responses through neurotransmitter pathways such as serotonergic and GABAergic systems, contributing to reduced anxiety and increased relaxation. Peppermint oil, as one type of essential oil, has been identified to influence serotonin and dopamine levels, offering benefits for individuals experiencing emotional mental disorders such as anxiety and depression.

Although specific research on the effects of the combination of Benson relaxation and peppermint aromatherapy on emotional mental disorders in hypertension patients is still limited, these findings indicate the potential of this intervention in reducing such symptoms. Therefore, the general objective of this study is to evaluate the effectiveness of the combination of Benson relaxation and peppermint aromatherapy in reducing symptoms of emotional mental disorders in hypertension patients. The specific objectives of this study are as follows: 1) To identify emotional mental disorders in hypertension patients before being given the intervention of Benson relaxation and peppermint aromatherapy. 2) To identify emotional mental disorders in hypertension patients after being given the intervention of Benson relaxation and peppermint aromatherapy. 3) To analyze the effects of the intervention of Benson relaxation and peppermint aromatherapy on emotional mental disorders in hypertension patients.

## **METHOD**

This study employed a quasi-experimental design with a control group pre-test and post-test. The research was conducted from October 11 to November 28, 2024, involving 30 respondents selected using random sampling techniques and divided into intervention and control groups. The respondents were hypertension patients with emotional mental disorders who met the inclusion criteria. The intervention provided included Benson relaxation techniques followed by peppermint aromatherapy. Data were collected using the SRQ-20 (Self-Reporting Questionnaire 20), which measures emotional mental disorders before and after the intervention. Based on the validity and reliability tests of the Indonesian version of the SRQ-20 questionnaire in the study by Prasetio et al., (2022), the Cronbach's Alpha value for the one-factor model was 0.84, indicating good internal consistency. For the five-factor model, Cronbach's Alpha values per factor ranged from 0.52 to 0.69, indicating moderate reliability, with the physiological factor having the lowest value. Composite Reliability (CR) for the five-factor model was above 0.70, indicating adequate reliability. In conclusion, the Indonesian version of the SRQ-20 questionnaire can be used to measure general mental disorders (one-factor model) or to identify more specific symptoms (five-factor model). Data analysis was performed using univariate statistical analysis to determine the characteristics of the respondents and bivariate analysis to compare the pre-test and post-test results using the paired samples t-test. The Mann-Whitney test was employed to compare the post-test results between the intervention and control groups. Data analysis was conducted using SPSS version 29 software. This study has been declared ethically approved by the Health Research Ethics Committee of Ngudia Husada Madura College of Health Sciences.

## **RESULT**

Table 1, it was found that the majority of respondents in the intervention group were aged 46-55 years, with 7 respondents (46.7%). Most respondents were female, with 9 individuals (60%), and the majority did not use pharmacological therapy, with 10 respondents (46.7%). Regarding the duration of hypertension, most respondents had been suffering from the condition for 2-5 years, with 10 individuals (66.7%). In contrast, the majority of respondents in the control group were aged >56 years, with 7 individuals (46.7%). Most respondents in this group were female, with 10 individuals (66.7%). Nearly all respondents in the control group did not use pharmacological therapy, with 13 individuals (86.7%). Regarding the duration of hypertension, nearly half of the respondents had been suffering from the condition for 2-5 years, with 8 individuals (53.3%).

Table 1.  
Frequency Distribution of Respondents' Characteristics (n= 30)

Respondent characteristics	Intervention Group		Control Group	
	f	%	f	%
Age				
26-35 Year	2	13.3	2	13.3
36-45 Year	2	13.3	1	6.7
46-55 Year	7	46.7	5	33.3
56 >	4	26.7	7	46.7
Gender				
Male	6	40	5	33.3
Female	9	60	10	46.7
Pharmacological Therapy				
Yes	5	33.3	2	13.3
No	10	46.7	13	86.7
Duration of Illness				
< 1 Year	1	6.7		
2-5 Year	10	66.7	8	53.3
6-10 Year	4	26.7	7	46.7

Table 2.  
Characteristics of respondents based on the effects of Benson relaxation and peppermint aromatherapy on emotional mental disorders in hypertension patients in the intervention group using the Paired-Samples T-Test (as all four data sets were normally distributed).

Pre-test of the Intervention Group	Emotional Mental Disorders	Post-test of the Intervention Group		N	P
		No	Emotional Mental Disorders		
		15	1	15	0.001
	No	0	14		

Table 2, the results show a P value of 0.001, which means  $P \text{ value} \leq \alpha (0.05)$ , indicating that the Benson relaxation and peppermint aromatherapy intervention has a significant effect in reducing emotional mental disorders in the intervention group.

Table 3.  
Characteristics of respondents in the control group without intervention on emotional mental disorders in hypertension patients using the Paired-Samples T-Test (as all four data sets were normally distributed).

Pre-test of the Control Group	Emotional Mental Disorders	Post-test of the Control Group		N	P
		No	Emotional Mental Disorders		
		15	15	15	0.054
	No	0	0		

Table 3, the results show a P value of 0.054, which means  $P \text{ value} \geq \alpha (0.05)$ , indicating that the control group without intervention does not have a significant effect in reducing emotional mental disorders.

Table 4.  
Comparison test between the intervention group and the control group using the Mann-Whitney test.

Group	Emotional Mental Disorders	Sig
Intervention Group	1	
Control Group	15	0,001

Table 4, the results show a P value of 0.001, which means  $P \text{ value} \leq \alpha (0.05)$ , indicating a statistically significant difference between the intervention group and the control group. The intervention provided has been proven to have a significant effect in reducing emotional mental disorders compared to the control group.

## **DISCUSSION**

### **The Effect of Benson Relaxation and Peppermint Aromatherapy on Emotional Mental Disorders**

Based on Table 2, the results show a P-value of 0.001, meaning  $P\text{-value} \leq \alpha (0.05)$ . This indicates that the Benson relaxation and peppermint aromatherapy interventions have a significant effect in reducing emotional mental disorders in the intervention group. The Benson relaxation and peppermint aromatherapy interventions have proven effective in reducing emotional mental disorders in hypertensive patients, as evidenced by the significant P-value (0.001). This finding suggests that this method can be used as a potential non-pharmacological approach in managing emotional mental disorders in hypertensive patients. The results of this study are consistent with the findings of Dekawaty & Yelisni, (2023), who discovered that Benson relaxation therapy significantly reduces anxiety levels in elderly hypertensive patients, with a p-value of 0.000, demonstrating the effectiveness of this intervention in alleviating emotional disorders. Additionally, a literature review by Sundara et al., (2022) highlights that aromatherapy, including the use of peppermint essential oil, can serve as an alternative to reduce stress and anxiety levels in various patient conditions.

This study utilized a methodology with a control group to ensure that the observed effects were truly attributable to the intervention provided. Objective measurements were conducted using the Self-Reporting Questionnaire (SRQ-20), a standardized tool for detecting emotional mental disorders. The study lasted for one month, with a one-month interval between the pretest and posttest. During this period, the intervention, consisting of Benson relaxation and peppermint aromatherapy, was administered three times to the intervention group. This approach was designed to systematically and measurably assess significant changes in emotional mental disorders, providing strong validity to the study results.

Benson relaxation, known as the relaxation response, is a technique designed to activate the parasympathetic nervous system, which helps calm the body after a stress response. This technique involves simple meditation that can trigger a state of deep relaxation, helping to reduce stress, lower blood pressure, and calm the mind (Moura, S. R., 2018). Benson relaxation is a straightforward technique that includes several steps to achieve a state of tranquility and deep relaxation. The process begins with selecting a quiet environment to minimize distractions and enhance focus. Next, the technique employs the repetition of specific words or phrases to help direct attention and prevent wandering thoughts. A passive attitude is crucial during this process, where individuals are encouraged to accept the emergence of thoughts without emotional engagement, then gently redirect their focus to the repetition. A comfortable position, such as sitting relaxed, is recommended to reduce physical tension and support full relaxation (Benson et al., 1974).

Based on the study by Cholifah et al., (2023) on Benson relaxation, the results show that Benson relaxation therapy significantly reduces the activity of the Hypothalamic-Pituitary-Adrenal (HPA) axis. The reduction in HPA axis activity leads to decreased levels of cortisol, epinephrine, and norepinephrine in the body. This effect reduces blood vessel vasoconstriction, thereby helping to lower blood pressure, heart rate, and stress hormones such as cortisol. These reductions contribute to an increased sense of calm and relaxation, benefiting not only blood pressure but also the mental well-being of patients.

Based on the research by Rokhman, (2021) on the effects of Benson relaxation on stress in the elderly, the study employed a quasi-experimental design with 30 elderly individuals as samples. The results showed that after the intervention, the stress scores of the elderly significantly decreased from a median of 20 to 16 ( $p = 0.000$ ). The study concluded that Benson relaxation is effective in reducing stress in the elderly. These findings are relevant to my research, where the majority of respondents are within the age range of 46–55 years (46.7%). This age group often faces stress stemming from various factors, such as work responsibilities, family burdens, or biological changes marking the transition to older age. Therefore, the effectiveness of Benson relaxation in reducing stress levels within this age group is highly significant. This technique can help them manage stress better, improve mental well-being, and prevent the risk of more severe psychological complications in the future.

Ased on the research by Krismiadi et al., (2023) on the Differences in the Effects of Benson Relaxation Techniques and Deep Breathing on Anxiety, Sleep Quality, and Fatigue, the study used a quasi-experimental design with 52 hemodialysis patients randomly divided into two groups: one group applied Benson relaxation techniques, while the other performed deep breathing exercises. Both interventions significantly reduced anxiety levels. However, the group using Benson relaxation techniques showed a greater reduction, with a higher mean difference (37.96) compared to the deep breathing group. The use of Benson relaxation techniques as part of the routine care for hemodialysis patients can provide greater benefits for their psychological and physical well-being. In this hemodialysis study, Benson relaxation demonstrated superior effectiveness in reducing anxiety compared to deep breathing in chronic diseases. Anxiety is one of the emotional mental disorders that is also commonly experienced by hypertensive patients. This technique helps patients relax by lowering stress hormones such as cortisol and epinephrine, which is relevant for reducing negative emotional responses in hypertensive patients. Benson relaxation techniques are not only effective in reducing anxiety and improving emotional well-being but are also relevant for application in chronic hypertensive patients to alleviate their emotional mental disorders.

Peppermint aromatherapy affects the nervous system through several mechanisms that help reduce emotional mental disorders such as stress, anxiety, and tension. When peppermint aroma molecules are inhaled, the scent stimulates olfactory receptors in the nose, which are directly connected to the limbic system in the brain. The limbic system is the area that regulates emotions, mood, and memory. Activation of the limbic system can trigger a relaxation response and enhance a sense of calm (Liu, 2013). Peppermint contains menthol, which provides a natural cooling effect. This effect stimulates thermal receptors on the skin and airways, which then send signals to the brain to relieve tension. Menthol can also reduce sympathetic nervous system activity, which is typically heightened during stress (Yamamoto, T., & Hatano, 2015). Additionally, peppermint aromatherapy can reduce stress due to its anxiolytic (anxiety-reducing) effects, which help alleviate stress in chronic illnesses (Sari et al., 2023).

Based on the research by Khoiriah, (2022) on the Effect of Aromatherapy on Stress in Hypertensive Patients, peppermint aroma helps stimulate the parasympathetic nervous system, resulting in a calming effect and reducing the activity of the sympathetic nervous system that triggers stress. Peppermint aromatherapy contributes to the reduction of stress hormones such as cortisol. Before the Intervention: Most respondents showed high levels of stress with an average score ranging between 70–80 on the stress scale used. After the Intervention: Following the administration of peppermint aromatherapy, stress levels significantly decreased, with the average score dropping to 40–50, indicating a shift from high

stress to moderate or low stress categories. Peppermint aromatherapy has consistently proven to reduce stress levels in hypertensive patients. The relaxation effect achieved through the stimulation of the parasympathetic nervous system and the reduction of stress hormones like cortisol makes this therapy an effective complementary intervention.

In addition to its relaxing effects, peppermint contains bioactive compounds such as flavonoids and phenolic acids, which possess anti-inflammatory and antioxidant properties. These mechanisms help combat oxidative stress, which often increases in hypertension and other chronic disorders (Singh, R., 2016). Menthol in peppermint can enhance vasodilation (widening of blood vessels), which helps lower blood pressure. This is particularly relevant for hypertensive patients experiencing elevated blood pressure due to stress (McKay, D. L., & Blumberg, 2006). The active molecules in peppermint modulate the release of neurotransmitters such as serotonin and GABA (gamma-aminobutyric acid), which are crucial in regulating mood and reducing anxiety (Hosseini, S. E., n.d., 2017). Regular administration of peppermint aromatherapy can strengthen the body's stress adaptation system. The significant reduction in cortisol levels indicates that repeated use can improve stress hormone regulation and provide protective effects against complications of hypertension caused by chronic stress (Khoiriah, 2022).

Based on the findings of this study, the combination of Benson Relaxation and Peppermint Aromatherapy is a highly effective non-pharmacological approach for reducing emotional mental disorders in hypertensive patients. This combination not only helps manage emotional conditions such as stress and anxiety but also supports blood pressure management, providing more holistic benefits for patients. The routine implementation of this combination can become an integral part of comprehensive hypertension management. The combination of Benson Relaxation and Peppermint Aromatherapy has proven effective in addressing emotional mental disorders in hypertensive patients. Benson Relaxation reduces sympathetic nervous system activity, while peppermint aromatherapy provides a calming effect on the brain's limbic system. Significant reductions in stress hormones such as cortisol and epinephrine, accompanied by improved sleep quality and mood, demonstrate the holistic benefits of these two methods in supporting overall hypertension management.

## **CONCLUSION**

This study demonstrates that Benson relaxation and peppermint aromatherapy have significant effects in reducing emotional mental disorders in hypertension patients, as indicated by a P value = 0.001 ( $P \leq 0.05$ ). These two interventions work synergistically: Benson relaxation triggers the relaxation response through the activation of the parasympathetic nervous system, while peppermint aromatherapy helps alleviate stress and anxiety through stimulation of the limbic system and the calming effects of menthol. The findings of this study are supported by previous research, including Dekawaty & Yelisni, (2023), which found that Benson relaxation therapy significantly reduced anxiety, as well as a literature review by Sundara et al., (2022), which showed that peppermint aromatherapy is effective in reducing stress and anxiety levels. With a robust methodology involving a control group and objective measurements using the SRQ-20, this study provides valid evidence that Benson relaxation and peppermint aromatherapy interventions can be effective non-pharmacological approaches. Additionally, these methods can be used as complementary treatments to conventional medical therapy in hypertension management, offering holistic benefits for patients with emotional mental disorders associated with hypertension. This approach has significant potential to be integrated into clinical practice, providing a safe and accessible alternative to enhance patients' quality of life. Further research with longer duration and broader scope is recommended to strengthen these findings.

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