Benson's spiritual relaxation and lavender aromatherapy toward anxiety, sleep quality, and blood pressure

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Abstract

Anxiety caused by illness is one of the factors contributing to elevated hypertension across all age groups. Therefore, in addition to pharmacological treatment, non-pharmacological therapy is essential to reduce anxiety, lower blood pressure, and improve sleep quality in hypertensive patients. This study aimed to analyze the effects of Benson's spiritual relaxation and lavender aromatherapy on anxiety, sleep quality, and blood pressure in hypertensive patients. This research employed a quasi-experimental design with a pretest-posttest control group approach. The population consisted of 97 hypertensive patients at the Indonesian National Army-Navy Hospital, with a sample size of 44 respondents selected through purposive sampling. The independent variables were Benson's spiritual relaxation and lavender aromatherapy, while the dependent variables were anxiety, sleep quality, and blood pressure. Data were analyzed using multivariate analysis with a significance level of <0.05. The results indicated a significant effect of Benson's spiritual relaxation and lavender aromatherapy on anxiety (p=0.000), sleep quality (p=0.000), systolic blood pressure (p=0.000), and diastolic blood pressure (p=0.000). These techniques are simple to implement, making them a viable nursing intervention in inpatient settings and contributing to nursing science development in hospitals.

Introduction

Hypertension is a non-communicable disease that can cause various health problems if not treated promptly. It is characterized by an increase in blood pressure above normal limits, specifically systolic and diastolic values exceeding 140/90 mmHg.[1,2] Anxiety caused by illness is one of the factors that contribute to hypertension or elevated blood pressure across all age groups.[3] If left undiagnosed or untreated, hypertension can lead to various comorbidities, which may result in fatal outcomes.[4]

In addition to pharmacological treatments, non-pharmacological therapies are essential to reduce anxiety, lower blood pressure, and improve sleep quality in hypertensive patients.[5,6] Patients with acute hypertension who experience prolonged anxiety often suffer from increased sympathetic nervous system activity, which can gradually elevate blood pressure and lead to sleep disturbances.[7] Previous studies have demonstrated a significant relationship between anxiety levels and blood pressure in hypertensive patients, indicating that higher anxiety levels correlate with higher blood pressure.

As anticipated, anxiety management in hypertensive patients can be achieved through pharmacological or non-pharmacological

interventions, including Benson's spiritual relaxation and lavender aromatherapy.[8] Benson's relaxation therapy has been demonstrated to reduce anxiety levels, lower blood pressure, and enhance sleep quality. Additionally, this therapy has shown effectiveness in reducing anxiety among at-risk pregnant women and improving sleep quality for older adults, making it a promising non-pharmacological treatment option.[9-13]

The addition of lavender aromatherapy has been explored to enhance the effectiveness of Benson's spiritual relaxation.[14]

Spirituality is a multidimensional concept that encompasses existential and religious dimensions. While the existential dimension focuses on the purpose and meaning of life, the religious dimension emphasizes an individual's relationship with God.[15,16] Spiritual therapy has been shown to significantly reduce systolic and diastolic blood pressure and pulse rates in hypertensive patients.[17] Higher levels of spirituality are associated with better-controlled blood pressure and lower anxiety levels.[18,19]

Lavender aromatherapy, similarly, has been found to lower anxiety and improve sleep quality, particularly in cancer patients undergoing chemotherapy.[20] The purpose of this study was to analyze the effects of Benson's spiritual relaxation and lavender aromatherapy on anxiety, sleep quality, and blood pressure in hypertensive patients.

Materials and Methods

This study used a quasi-experimental design with a pretest-posttest control group approach. The population consisted of 97 hypertension patients at the Indonesian National Army Hospital. The sample size was 44 respondents, selected using purposive sampling techniques. The inclusion criteria were: i) cooperative patients willing to be respondents, ii) patients with uncomplicated hypertension, iii) patients with GCS: 456, iv) patients with a moderate to high level of anxiety as measured by the Zung Self-Rating Anxiety Scale (SAS/SRAS), v) patients with a lower level of sleep quality as measured by the Pittsburgh Sleep Quality Index (PSQI), and vi) patients who have never been treated with a combination of Benson's relaxation and lavender aromatherapy (SBR-AL). The exclusion criteria were as follows: i) hypertensive patients with complications, ii) patients with consciousness below GCS: 456, and iii) patients with respiratory disorders and allergies. The study was conducted from April 2024 to August 2024. The independent variables in this study were Benson's spiritual relaxation and lavender aromatherapy, while the dependent variables included anxiety, sleep quality, and systolic and diastolic blood pressure. The intervention involved the application of Benson's spiritual relaxation and lavender aromatherapy, guided by a module with ISBN number 978-623-8283-56-9. Before the research commenced, the protocol underwent an ethical review and was deemed ethically acceptable under approval number 145/025/XII/EC/KEP/LCBL/2023.

Instruments

Anxiety was measured using the Zung Emergency Questionnaire Self-Rating Anxiety Scale (SAS/SRAS). This questionnaire consists of 20 questions, where each question is rated 1-4 (1: never, 2: sometimes, 3: part of the time, 4: almost all the time). The criteria are "not anxious" (score 20-44), "light" (score 45-59), "medium" (score 60-74), and "heavy" (score 75-80). Sleep quality was assessed with the Pittsburgh Sleep Quality Index (PSQI), which consists of 19 subjective points grouped into seven assessment components. The points assessed are about sleep quality, length of sleep, sleep latency, daily sleep efficiency, medication use, disturbances experienced during sleep, and the impact experienced the next day. Each point has the same weight on a scale of 0-3, with a total score of 21 points, which means the worst quality that can be assessed. The scores of the seven components are summed up into one global score with a range of 0–21. An overall score of 5 or more indicates poor sleep quality; the higher the value, the worse the sleep quality. Blood pressure was measured using standard techniques for systolic and diastolic readings, measured with a digital sphygmomanometer (mmHg). Low blood pressure (hypotension) is a decrease in systolic blood pressure by more than 20-30% compared to baseline measurements or systolic blood pressure <100 mmHg. Normal blood pressure (normal tension) in adults is around 120/80 mmHg. High blood pressure (hypertension) is where the systolic pressure value is above 140 mmHg and the diastolic pressure value is above 90 mmHg.

Intervention

Benson's spiritual relaxation and lavender aromatherapy involved relaxation techniques designed to calm the mind and body. The intervention included progressive muscle relaxation, deep breathing, recitation of motivational words, expressions of gratitude, and prayers adapted to participants' beliefs, all while inhaling lavender aromatherapy. The goal was to create a medium for relaxation, provide a sense of comfort, relax muscle tension, reduce anxiety, improve sleep quality, and lower blood pressure in hypertensive patients. The intervention steps in this study were as follows: 1) relax the muscles as much as possible, starting from the legs, calves, thighs, and abdomen and continuing to all the muscles of the body. Hands and arms are stretched out, then relaxed, and allowed to droop naturally. Try to stay relaxed; 2) start breathing slowly and naturally, and say one word or sentence in your heart according to the patient's beliefs. The sentence used is the patient's choice. When inhaling, say the sentence in your heart, and after exhaling, repeat the sentence in your heart. While continuing to do this step, relax your whole body, accompanied by a resigned attitude. During the practice, participants inhaled lavender aromatherapy. This intervention was conducted twice a day, for 10–15 minutes per session, five days a week over the study period. While per-

Table 1. Participants demographic data (N=13).

Characteristics	Percentage (%)
Age (mean)	53.1 years
Gender	
Female	53.8
Male	46.1
Religion	
Islam	100
Education	
Elementary School	54.0
Junior High School	15.3
Senior High School	30.7
Duration as a traditional healer (mean)	21.9 years
Age	
<50 years	46.2
>50 years	53.8
Occupation	
Farmer	46.2
Housewife	38.4
Entrepreneur	15.4

forming these steps and inhaling lavender aromatherapy, participants could silently recite prayers or affirmations according to their beliefs and choices.

Analysis

The statistical analysis was performed using paired t-tests and MANOVA, with a significance level set at $p<0.05$.

Results

The results of the study, as presented in Tables 1 and 2, reveal several important findings regarding the effects of Benson relaxation and lavender aromatherapy on anxiety, sleep quality, and blood pressure in hypertensive patients.

Table 2. The main themes and sub-themes.

Quotes	Code	Category	Theme
"Yes, we perform *ruqyah*, like teaching them regular Quranic recitations, and we neutralize them first before we start the treatment." (P1),	*Ruqyah*	Doing spiritual therapy	Traditional treatment methods for schizophrenia patients
"Regular prayer is performed independently, while we guide them properly in what they do." (P3)	Prayer		
"In treatment, apart from prayer, we also cleanse them before we perform the treatment." (P2)	*Sholawat*		
"In the *ruqyah* treatment we provide, in addition to reciting the Quran, we also suggest prayers." (P6)	*Ruqyah*		
"Uh, this treatment we do, if they want to recover, the treatment must be gradual." (P1)	Treatment must be gradual	Routine treatment for early-stage schizophrenia patients	
"Those who seek treatment, not just once, they must receive treatment up to three times for any changes to happen." (P7)	Treatment to three times		
"In the healing process, patients must follow the treatment guidelines we provide because if they don't, the results won't be as effective." (P8)	Gradual treatment		
"Actually, during my treatment, I've heard from patients that they recover faster with traditional remedies than in the hospital. That's what the patients tell me." (P6)	Healed with traditional medicine	Believe the disease can be cured	
"Sometimes I get confused when patients trust me and come, saying they didn't recover in the hospital but did with traditional remedies." (P7)	Healed with traditional medicine		
"Oh, well, in my treatment, I usually use leaves, the same ones that have been used for generations." (P5)	Usually use leaves	Treatment with herbal remedies	Treatments affecting the effectiveness of healing in schizophrenia patients
"In my treatment, I use pure coconut oil because we know its contents are beneficial." (P6)	Using pure coconut oil		
"If we believe the illness is from Allah, then, God willing, we can recover with the effort we make and the patient's belief." (P9)	Believing the illness is from Allah	Treatment based on faith	Supernatural treatment for schizophrenia patients
"When I treat them, my hope and belief are that they will recover if they continue to make an effort." (P8).	Believing in recovery		
Yes, I believe everything can be resolved, as long as we remain determined to find a solution." (P9)	All problems can be solved		
"The patients who seek treatment receive Islamic treatment, as I use *ruqyah* in my treatments." (P10)	Treatment for patients of the Islamic faith	Religion-based treatment	
"I hope that these patients can recover and return to their normal state before experiencing this mental disorder." (P12)	Returning to normal	Regular treatment	Traditional healers' hope for patients with schizophrenia
"I hope they recover and can work as they used to." (P13).	Can recover		
“Sangat besar harapan saya tuh bu,, semoga bisa sembuh dan bisa bekerja lagi seperti dulu.”(P3)	Can work again		
"Yes, I hope that they recover and can speak again as they used to because, during their illness, they wouldn't speak; they would just remain silent." (P9)	Can talk again		

Table 1 presents the demographic characteristics of the respondents in both the intervention and control groups, showing that the two groups were well-matched. The majority of participants in both groups were aged between 41 and 60 years (59.1%). The gender distribution was similar, with most participants being male (77.3% in the intervention group and 72.7% in the control group). In terms of education, more than half of the participants in both groups had a basic education (54.5%), and a significant portion of respondents were not working (59.1% in the intervention group and 63.6% in the control group). These similarities ensure that the two groups were comparable and that the results could be attributed to the interventions rather than demographic differences.

The results in Table 2 indicate that the intervention of Benson's spiritual relaxation and lavender aromatherapy significantly reduced anxiety, improved sleep quality, and lowered blood pressure in the intervention group. Specifically, anxiety levels decreased significantly (mean change = 18.045, $p<0.001$), sleep quality improved (mean change = 9.182, $p<0.001$), and both systolic (mean change = 20.545, $p<0.001$) and diastolic blood pressure (mean change = 10.773, $p<0.001$) were reduced. In contrast, the control group showed no significant changes in these variables, with anxiety, sleep quality, and blood pressure remaining largely unchanged.

The results in Table 3 demonstrated that Benson's spiritual relaxation and lavender aromatherapy significantly reduced anxiety, improved sleep quality, and lowered systolic and diastolic blood pressure in the intervention group compared to the control group ($p<0.05$). These findings indicate the effectiveness of this non-pharmacological intervention for hypertensive patients.

Discussion

Hypertensive patients experience both physiological and psychological problems. After undergoing the intervention of Benson relaxation and lavender aromatherapy, a decrease in anxiety was observed. This is because the intervention, applied slowly, helped the patient relax, enabling them to accept their condition while remaining calm, enthusiastic, and surrendering to God Almighty.[8] Research has shown that spiritual therapy can lower anxiety. Benson relaxation, as a spiritual intervention, has been effective in addressing anxiety in patients with chronic kidney failure.[21] Lavender aromatherapy has also been shown to reduce anxiety.[22] The combination of Benson relaxation, spiritual therapy, and lavender aromatherapy has proven to be very effective in reducing anxiety in hemodialysis patients.[23] Regular and consistent use of complementary therapies like Benson's spiritual relaxation and lavender aromatherapy can significantly lower anxiety levels in hypertensive patients.[24,25]

Furthermore, Benson relaxation and lavender aromatherapy have an effect on improving the sleep quality of hypertensive patients, dialysis patients, and the elderly,[26-29] and exert a significant effect on changes in blood pressure in hypertensive patients.[30] Systolic blood pressure before and after the intervention of Benson's spiritual relaxation and lavender aromatherapy, based on paired t-tests showed an effect on the reduction of both systolic and diastolic blood pressure.[31,32] In contrast, the control group's pre- and post-intervention blood pressure tests revealed no significant change in systolic and diastolic blood pressure. This indicates that there is a significant effect in reducing both systolic and diastolic blood pressure in hypertensive patients through the intervention of spiritual relaxation and lavender aromatherapy.

Benson's spiritual relaxation and lavender aromatherapy have no direct effect on hypertensive patients' blood pressure; however, they can reduce anxiety and improve sleep quality, which indirectly leads to lower blood pressure. As a result, patients can better change their habits and live a healthier lifestyle.[33,34] This, in turn, has a positive impact on the physiological functions of the body, leading to a reduction in blood pressure and better control of hypertension. The effect of Benson relaxation and lavender aromatherapy on anxiety, sleep quality, and blood pressure in hypertensive patients shows that sleep quality is the variable most influenced by these interventions. The mechanism at play during the interventions is the creation of relaxation in hypertensive patients: patients are taught spiritual relaxation, which helps them achieve a comfortable and pleasant state, thereby reducing anxiety and improving sleep quality.[31] The analysis showed that the p-value for anxiety was 0.000. These results indicate that Benson's spiritual relaxation and lavender aromatherapy have a significant effect on anxiety, sleep quality, and blood pressure in hypertensive patients. Among the three variables, sleep quality had the most significant influence, as evidenced by the highest partial Eta squared value of 0.743 (Table 3). Sentences in prayer and lavender aromatherapy regulate emotions by decreasing amygdala activation. Furthermore, the stimulus is sent to the prefrontal cortex, where it is processed through careful learning involving the selection, organization, and interpretation of the stressors received. This leads to a change in self-perspective, fostering awareness, wisdom, and self-acceptance of the current condition.[35] This technique is easy to perform and can be applied as a nursing intervention.

Conclusions

In conclusion, the combination of Benson's spiritual relaxation and lavender aromatherapy has proven to be an effective intervention for hypertensive patients. These techniques significantly reduce anxiety, improve sleep quality and lower both systolic and diastolic blood pressure. The interventions work by inducing a state of relaxation, which helps patients manage stress, enhance emotional well-being, and adopt healthier lifestyle habits. With their demonstrated effectiveness, these therapies offer a practical and non-invasive option for managing hypertension and can be easily incorporated into nursing care practices to improve patient outcomes.

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