

## The Effect of Benson and Autogenic Relaxation Therapy on Sleep Quality, Blood Pressure and Anxiety of Hypertension Patients

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### ABSTRACT

**Background:** Hypertension increases with age, and causes several signs and symptoms that can interfere with the patient's quality of life, including sleep quality and anxiety.

**Purpose:** This study aims to analyze the effect of Benson and Autogenic therapy on blood pressure, anxiety and sleep quality in patients with hypertension.

**Methods:** This study used Pre-experimental research design with one group pre-test and post-test design. This research was conducted in the working area of Pukesmas Balowerti, Kediri City, with a sample of 20 respondents determined by purposive sampling technique.

**Results:** Statistical test it is known that the P value  $0.000 < 0.05$  on blood pressure reduction, P value  $0.001 < 0.05$  on sleep quality, P value  $0.000 < 0.05$  on anxiety levels, it can be concluded that there is an effect of relaxation therapy benson and autogenic to decrease blood pressure, anxiety level and sleep quality of hypertensive patients.

**Conclusion:** Benson and deep autogenic relaxation techniques can be used by someone who is healthy or sick and is a non-pharmacological effort to help reduce muscle tension so that the body becomes comfortable, relaxed, reduces pain and stress intensity, increases pulmonary ventilation and increases blood oxygenation.

**Keywords:** anxiety, benson and autogenic therapy, hypertension, sleep quality

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## **BACKGROUND**

Hypertension is a non-communicable disease (NCD). Hypertension or known as the silent killer which attacks many people as the cause of death and causes the highest disease. The risk of developing hypertension increases with age, as a person ages, the incidence of hypertension increases. This was analyzed because of changes in cardiovascular structure and function, hypertension often occurs in the elderly (Bruner and Suddart, 2013). Hypertension is the main cause of premature death in the world. One of the global goals of NCD is to reduce the prevalence of hypertension by 25% by 2025. The number of adults aged 30-79 with high blood pressure (hypertension) is expected to nearly double to 1.28 billion between 1990 and 2019, mainly due to population growth and aging. There has been little change in the overall rate of hypertension globally, although the burden has been shifted from high to low and low states (WHO, 2022).

Riskesdas data (2018) shows a prevalence of hypertension of 34.11%. The prevalence of hypertension in women is 36.85%, higher than in men 31.34%. It is estimated that the number of cases of hypertension in Indonesia is 63,309,620, while the death rate due to hypertension in Indonesia is 427,218. Data from the East Java Health Service (Dinkes) stated that the total number of hypertension sufferers in East Java in 2017 was 335,524 patients. This data was taken from the Integrated Disease Surveillance of Community Health Centers in East Java. This amount is calculated from January to September. Data from the East Java Health Office stated that the number of hypertension sufferers in all East Java Health Centers in 2017 reached 15,321 visits. The results of observations on April 22, 2022 at the Balowarti Health Center found 36.3% with a total of 4789 male sufferers and 4868 female sufferers with 700 male and 1504 female sufferers and a total of 2204 (22.82), while the achievements on in 2021 the number of residents served at least once a year is 22.82% based on the services served at the Balowarti health center (pustu & fkt network). The results of interviews with 10 patients found that those with hypertension also had a high level of anxiety, with a percentage of 7 people (70%) and 3 people (30%) having moderate anxiety. Anxiety that arises can be due to fear of comorbidities that arise due to hypertension, thinking too much about the illness without any significant cause, lack of motivation or support from the family. In addition to anxiety and stress, there are sleep disturbances that are felt by some hypertensive patients, namely they find it difficult to get to sleep, 4 of the respondents cannot start sleeping within 30 minutes, sleep time is less than 7 hours and 1 of them even uses sleeping pills 2 times a week. Two respondents also admitted that they often experienced pain, even waking up at night.

This is in accordance with research by Suwartika and Cahyati (2015) that most respondents who suffer from heart disease have poor sleep quality. People with high blood pressure also experience symptoms such as dizziness, fatigue, dyspnea, sleep disturbances, and mild tiredness. These symptoms can cause sufferers to wake up from sleep, so it usually takes longer to fall asleep, sleep less, and affect activity (Potter & Perry, 2010).

One of the non-pharmacological therapies in lowering blood pressure is relaxation techniques. The Benson relaxation method can control the nervous system which is useful for lowering blood pressure (Suirakoa, 2016). The basic concept of relaxation techniques is essentially a way of relaxation that is needed to reduce tension in the muscles which can improve pulse, blood pressure and breathing (Aspiani, 2015). Relaxation therapy can help individuals develop cognitive skills to reduce negative energy and respond according to the surrounding environment (Perry & Potter, 2010).

Benson Relaxation is a method of relaxation techniques created by Herbert Benson, a medical researcher from the Harvard Medical School who examines some of the health benefits of prayer and meditation. This relaxation is a combination of relaxation response techniques

with individual belief systems or faith factors. The focus of this relaxation is on certain phrases that are repeated using a regular rhythm accompanied by a resigned attitude. The expressions used can be in the form of God's names or words that have a calming meaning for the patient himself. The Benson relaxation is done by doing a long inspiration which will slowly stimulate the lung stretch receptors due to lung inflammation. This situation provides a signal which is then sent to the medulla oblongata which will provide information about increased blood flow. This information will be forwarded to the brainstem, as a result the parasympathetic nerves experience increased activity and the sympathetic nerves experience decreased activity on the chemoreceptors, so that an increase in blood pressure and lung inflammation will reduce the heart rate and cause vasodilation in a number of blood vessels (Atmojo et al., 2019).

In addition to the Benson relaxation, there are also the Autogenic relaxation techniques. The Autogenic relaxation is relaxation that seems to put oneself into a mild hypnotic state. This therapy orders the legs and arms to feel heavy and warm, the heart rate and breathing rate are stable, the stomach is relaxed, and the forehead is clean and cold. Then you repeat the easiest and most relevant command to deal with stress symptoms, for example ordering the forehead to feel cool and to relieve headaches, while repeating it by bringing your fingers together (Kanji et al, 2006). The Autogenic relaxation will help the body carry out orders through autosuggestion to relax so that it can control breathing, blood pressure, heart rate and body temperature. Visual imagination and verbal mantras that make the body feel warm, heavy and relaxed are standard autogenic relaxation exercises (Lutfi, 2019). This study aims to analyze the effect of the Benson and Autogenic therapy on blood pressure, anxiety and sleep quality in hypertensive patients.

## METHODS

Pre-Experimental research design with one group pre-test and post-test design. This research was conducted in the working area of the Balowerti Community Health Center, Kediri City, with a sample size of 20 respondents determined by purposive sampling technique. The instruments used were the HARS (Hamilton Anxiety Rating Scale) questionnaire to measure anxiety levels which contained 14 assessment indicators, a digital tensimeter and the PSQI (The Pittsburgh Sleep Quality Index) questionnaire to measure sleep quality levels which contained 7 assessment indicators. The analytical test used is the Wilcoxon test.

## RESULTS

The results showed that the characteristics of the respondents were the majority of women 12 respondents (66.7%), the age of the majority was more than 60 years as many as 10 respondents (55.6%), the occupation of the majority of housewives was 9 respondents (50%). Table 1. Characteristics of variables based on anxiety levels before and after being given therapy

Category anxiety	Pre		Post	
	Frequency	Percent	Frequency	Percent
Mild			5	25%
Moderate	7	35%	12	60%
Severe	13	65%	3	15%
Total	20	100%	20	100%

Based on table 1, it was found that the level of anxiety before the intervention was mostly in the severe category, 13 respondents (65%), while after the intervention, most of the 12 respondents (60%) were in the moderate category.

Table 2. Characteristics of variables based on the level of sleep quality before and after being

given therapy

Categori sleep quality	Pre		Post	
	Frequency	Percent	Frequency	Percent
Bad	16	80%	4	20%
Good	4	20%	16	80%
Total	20	100%	20	100%

Based on table 2, it shows the quality of sleep before the intervention. Most were in the bad category, 16 respondents (80%), while after the intervention, most respondents were in the good category, 16 respondents (80%).

Table 3. Characteristics of variables based on the level of hypertension before and after being given therapy

Category level of hypertension	Pre		Post	
	Frequency	Percent	Frequency	Percent
Pre Hypertension			9	45%
Mild hypertension	12	60%	10	50%
Moderate hypertension	8	40%	1	5%
Total	20	100%	20	100%

Based on table 3, it shows that most of the hypertension before being given therapy was in the mild hypertension category, 12 respondents (60%), while the category after being given the intervention, the majority of mild hypertension were 10 respondents (50%).

Statistical test results showed that the P value is 0.000 <0.05 for decreased blood pressure, the P Value is 0.001 <0.05 for sleep quality, the P Value P value is 0.000 <0.05 for anxiety levels, so it can be concluded that there is an effect of therapy benson and autogenic relaxation to decrease blood pressure, anxiety level and quality of sleep in hypertensive patients.

**DISCUSSION**

The results showed that the characteristics of the respondents were the majority of women, 12 respondents (66.7%), the age of the majority were more than 60 years, 10 respondents (55.6%), the occupation of the majority of housewives was 9 respondents (50%). This is in accordance with the theory which states that as get older, the risk of developing hypertension and heart disease increases and the increased age factor also indicates the menopause phase in women, this increases the risk of hypertension and heart disease. Menopausal conditions cause a decrease in the hormone estrogen in women, this is what is considered to cause an increased risk of developing hypertension or heart disease (Prince and Wilson, 2012).

The results of the study were also related to the level of anxiety before the intervention, namely the majority were in the severe category, 13 respondents (65%), while after the intervention, most were in the moderate category, 12 respondents (60%). Meanwhile, the respondents' hypertension level was mostly hypertension before being given therapy in the mild hypertension category, 12 respondents (60%), while the majority after intervention was given the mild hypertension category, 10 respondents (50%). The quality of sleep before the intervention was mostly in the bad category, 16 respondents (80%), while after the intervention, the majority were in the good category, 16 respondents (80%). Statistical test results show that the P value is 0.000 <0.05 for decreased blood pressure, the P Value is 0.001 <0.05 for sleep quality, the P Value P value is 0.000 <0.05 for anxiety levels, it can be concluded that there is an effect of therapy benson and autogenic relaxation to decrease blood pressure, anxiety level and quality of sleep in hypertensive patients.

Based on the results of the sleep quality measurement (PSQI) study after relaxation therapy, it was shown that the majority of respondents had good sleep quality, as many as 16 respondents (80%). This means that the sleep quality of hypertensive patients after being treated experienced an increase in sleep quality with a good category. The quality of a person's sleep is said to be good if it is marked by a calm sleep, feeling fresh in the morning, and feeling enthusiastic about doing activities, showing no signs of sleep deprivation and not having problems sleeping. The results of this study are in line with research conducted by Indah Maulinda (2017) on "The Influence of Benson Relaxation Therapy on the Sleep Quality of Elderly at Posyandu Permadi Tlogomas Malang City" which is known that the quality of sleep in the elderly at Posyandu Permadi Tlogomas Malang City that performs Benson relaxation is partly categorized as good, as many as 7 people (70.0%). Sleep quality was categorized as good in the group that did Benson relaxation because there was an increase in sleep quality in the elderly, where previously it was not good enough in this case. These results are supported by research conducted by Dewi (2021) which shows that the average score for sleep quality in pre-test patients was 15.21, with the majority of bad categories experiencing a decrease in score to 7.18 with the majority of good categories. This means that there is an increase in the quality of the respondent's sleep after the therapy is better.

The results of the study also showed a decrease in the respondent's level of anxiety and blood pressure, this is because the Benson Relaxation technique is a religious therapy that involves religious belief factors. In the elderly, they tend to improve their spirituality and get closer to God so that the right relaxation technique to do in dealing with discomfort is the Benson relaxation technique (Novitasari, 2014). The goal is to increase alveoli ventilation, maintain gas exchange, prevent lung atelectasis, increase cough efficiency, reduce stress both physical and emotional stress, namely reducing pain intensity and reducing anxiety and reducing systolic and diastolic blood pressure (Soeharto, 2009). While the Autogenic relaxation techniques have the benefit of increasing concentration and increasing a sense of well-being in the body and providing a sense of comfort and not causing any side effects. Besides that, Autogenic relaxation can reduce heart rate, blood pressure, and respiratory rate, and reduce oxygen demand, feelings of peace, and reduce muscle tension and metabolic rate (Aji & Armiyati, 2017). The relaxation techniques have benefits for our minds, one of which is to increase alpha ( $\alpha$ ) waves in the brain so that a relaxed state is achieved, increased concentration and increased sense of well-being in the body (Potter & Perry, 2010).

The Benson relaxation is also the development of a breathing relaxation response method by involving the patient's belief factor that can create an internal environment so that it can help patients achieve a higher state of health and well-being. The Benson relaxation has several advantages, namely the method is simple because it relies on deep breathing efforts interspersed with prayers to God Almighty, this technique can also be done anytime and anywhere without the need for a very special room. The Benson's relaxation will produce an alpha wave frequency in the brain which can cause feelings of happiness, joy, excitement and confidence so that it can suppress the release of the hormones cortisol, epinephrine and norepinephrine which are strong vasoconstrictors in blood vessels. Suppression of these hormones can result in dilation of blood vessels which results in a decrease in vascular resistance so that the end result is a decrease in blood pressure (Price and Wilson, 2012). While the Autogenic relaxation can be said to be a technique that can reduce hypertension because relaxation is expected to eliminate tension where the person imagines a quiet place and then focuses on different physical sensations from the feet to the head, while progressive muscle relaxation is a deep muscle relaxation technique. Which does not require imagination, persistence, or suggestion, this relaxation technique focuses attention on a muscle activity by



identifying tense muscles and then reducing tension by performing relaxation techniques to get a relaxed feeling. Relaxation is essentially a way of being treated to reduce muscle tension which can improve pulse rate, hypertension and respiratory rates. The response from relaxation will return the body to a state of balance. Pupils, hearing, blood pressure, heart rate, breathing and circulation will return to normal and muscles will relax (Dewi, 2017).

This research is also in line with research conducted by Vera, et al (2021), which shows the results of a bivariate test using the Wilcoxon test. The results showed a p-value of  $0.000 < 0.05$ . It was concluded that autogenic relaxation techniques could significantly affect anxiety levels in Primigravid pregnant women. Another study by Mardiani (2014), the results showed that there were differences in anxiety levels before and after being given the Benson relaxation technique and deep breathing (p-value= 0.000). This research is in line with research conducted by Ismasyah (2021), showing the results of statistical tests using the paired T test obtained a P value=  $0.000 < 0.05$ . The conclusion of the research results is that there is a significant difference in pain scores between before and after being given interventions, both Autogenic relaxation and Benson relaxation interventions, with a P value=  $0.000 < 0.05$ . These results indicate that there is a difference in the pain scores of fracture patients between those who were given Autogenic relaxation interventions and Benson relaxation, where Benson relaxation was more effective in reducing fracture patient pain.

Researcher argue that the Benson and Autogenic relaxation therapy can be used as a way to reduce anxiety levels, improve sleep quality and help hypertensive patients control blood pressure so that they can be used as psychotherapy methods, because it will make the heart peaceful, calm and peaceful. Based on this, it is proven that the level of anxiety, sleep quality and blood pressure in hypertensive patients can be reduced through the Benson and Autogenic relaxation therapy. These changes also show that researchers have received positive responses from patients in the working area of the Balowerti Health Center in Kediri City and provided changes in the form of changes in anxiety levels, sleep quality and blood pressure in hypertensive patients.

## CONCLUSION

The Benson and deep Autogenic relaxation techniques can be used by someone in a healthy or sick condition and are a non-pharmacological effort to help reduce muscle tension so that the body becomes comfortable, relaxed, reduces pain and stress intensity, increases lung ventilation and increases blood oxygenation. These techniques can reduce anxiety, improve sleep quality and lower blood pressure in hypertensive patients.

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