



## BLOOD PRESSURE CONTROL WITH BENSON RELAXATION TECHNIQUE IN HYPERTENSIVE PATIENTS

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### Research Report

### ABSTRACT

**Introduction:** A person who has high blood pressure sometimes has difficulty controlling blood pressure. As a result of uncontrolled blood pressure will cause various complications. Efforts that may be made to control blood pressure and avoid depression can be done by using non-pharmacological techniques, one of which is by using relaxation techniques. To find out blood pressure before and after Benson's relaxation technique is carried out in patients with hypertension.

**Methods:** The research design used was quasy experimental, where there were 2 groups, namely the treatment group and the control group. The population of people with hypertension was 38 respondents and simple random sampling technique. Respondents were divided into 2 groups. Insresearch instruments used observation sheets and Geriatric Depression Scale (GDS). Statistical test used wilcoxon Signed Rank Test. **Results:** It was found that 19 respondents (100%) were found to have decreased blood pressure levels. In the control group or the group that did not do Benson relaxation technique, there was a decrease in blood pressure in as many as 9 respondents (47%). The Geriatric Depression Scale (GDS) value is known that as many as 34 people with hypertension (89%) fall into the category of mild depression with a score of 10-19, the intervention group is 18 people (95%) and 16 people (84%). Benson's relaxation technique on blood pressure obtained a value of  $p = 0.000$  which shows that the influence of Benson's relaxation technique with blood pressure in hypertensive patients. **Conclusions:** Benson's relaxation technique done regularly will help lower blood pressure and provide relaxation to the muscles so as to reduce muscle tension, reduce stress and calm mind.

### INTRODUCTION

Hypertension is a condition where blood vessels increase pressure continuously, so the higher the pressure, the harder the heart pumps, this can cause blood pressure increased high (WHO, 2015). It is said that high blood pressure when systolic is equal to or above 140 mmHg and or diastolic blood pressure is equal to or above 90 mmHg (WHO, 2015). Blood pressure is influenced by several actors, namely smoking habits, salt consumption, salt consumption, saturated fat consumption, used cooking oil, alcohol consumption habits, obesity, lack of fission activity, stress, and estrogen use in addition to factors that cannot be changed, namely age, ethnicity, gender (Manuntung, 2018; Zubaili et al., 2019).

People with hypertension are sometimes saturated with the treatment process that must be undertaken and it is difficult to control themselves to maintain a healthy lifestyle such as lack of physical activity, consumption of less food healthy, obese, excess salt consumption (Ramadhani et al., 2022; Zubaili et al., 2019). As a result of uncontrolled blood pressure, various complications will arise (Nuraini, 2015). Complications of hypertension can have an impact on physical and psychological, Psychological problems of people with hypertension

cause depression, which is influenced by the faktor environment, psychomotor changes, processes long, saturated treatment in medication and prolonged drug consumption (Khatami, 2018; Rohmah et al., 2012). There are fallow complications in low quality of life (Khatami, 2018).

World Health Organization (WHO) data in 2015 shows around 1.13 billion people in the world have hypertension, which means 1 in 3 people in the world diagnosed with hypertension and it is estimated that by 2025 there will be 1.5 billion people affected by hypertension and it is estimated that every year

10.44 million people die from hypertension and its complications (Direktorat P2PTM, 2019). Riskesdas data in 2018 obtained an estimate of the number of hypertension cases in Indonesia of 63,309,620 people and a death rate of 427,218 due to hypertension (Kementerian Kesehatan (Kemenkes) RI, 2019). Hypertension occurs in the age group of 31-44 years (31.6%), age 45-54 years (45.3%), age 55-64 years (55.2%). The prevalence of people with hypertension in East Java is 36.3% which is increasing with age (Dinas Kesehatan Provinsi Jawa Timur., 2021).

### ARTICLE INFO

Received February 27, 2023

Accepted May 2, 2023

Online May 31, 2023

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### Keywords:

Blood Pressure, Benson Relaxation, Hypertension

The initial survey conducted in October 2021, at the Kedung Cowek Elderly Posyandu on 10 people with hypertension aged 63-68 years, found that 6 people with hypertension had blood pressure in the category of hypertension stage 2 with systole blood pressure  $\geq 140$  mmHg and diastole  $> 90$  mmHg and 4 people had blood pressure in the category of hypertension stage 1 with systole blood pressure of 130 mmHg and diastole 90 mmHg, hypertensive patients who have complaints such as stiff neck, dizziness, tense neck and easily tired after doing activities as many as 6 people, while respondents who do not experience symptoms as many as 4 people, some always check their condition and routinely take antihypertensive drugs as many as 3 people, the remaining 7 people with hypertension never check their condition and never take the antihypertensive drug, The efforts made by 5 people with hypertension when they know their blood pressure is high, namely doing activities by walking in front of the house, 5 people with hypertension again just let it go because they do not know the impact of hypertension, some of the respondents feel uncomfortable with complaints that arise because it can interfere with daily activities as many as 4 people, the remaining 6 people experience fear and sadness with the disease they suffer.

The impact of hypertension causes morbidity that requires serious treatment and high mortality (Nuraini, 2015). Efforts that can be made to control blood pressure using non- pharmacological techniques, one of which is using the Benson relaxation technique (Pratiwi et al., 2021; Simandalahi et al., 2019;

Yulendasari & Djamaludin, 2021). The process of Benson's relaxation technique begins with the entry of oxygen through the respiratory tract, oxygen that is sufficient for the body's needs will cause a relaxed state so as to reduce anxiety and stress so that blood pressure decreases (Simandalahi et al., 2019; Yulendasari & Djamaludin, 2021). Benson's relaxation technique is a method of relaxation technique that focuses on expressions in the form of God's names or words that have a calming meaning for the patient certain that are said repeatedly using a regular rhythm accompanied by a resigned attitude (Atmojo et al., 2019).

Research conducted by (L. Pratiwi et al., 2016) obtained the results of statistical dependent tests obtained p value systole = 0.000 and p value diastole 0.001 which showed that there was an influence of relaxation techniques and murottal Al-Quran in lowering blood pressure in patients with primary hypertension. Likewise, (Atmojo et al., 2019) research statistical paired t-test results obtained p value 0.000 which shows there is an effect of Benson relaxation therapy on blood pressure in people with hypertension. (Mulianda & Umah, 2021) stated that the application of benson relaxation therapy and Qur'an murottal is quite effective in lowering blood pressure in people with hypertension. Based on the description above, the purpose of this

study was to analyze the effect of Benson's relaxation technique on blood pressure in hypertensive patients

## MATERIALS AND METHODS

The research design used was quasy experimental, where there were 2 groups, namely the treatment group and the control group which were both measured before and after treatment. The research was conducted in October 2021 – March 2022 at the Kedung Cowek Elderly Posyandu, RW 1, Kedung Cowek Village, Bulak District, Surabaya. The population is all hypertension sufferers at the Kedung Cowek Elderly Posyandu, which is 50 people, with a sample size of 44 people in accordance with the sample criteria willing to be respondents and follow research activities thoroughly. The sampling technique used is simple random sampling. Questionnaire research instruments for general data such as age, sex, history of other diseases, consumption of antihypertension drugs, levels of depression using the Geriatric Depression Scale (GDS) and Blood pressure observation sheet. Respondents were divided into 2 groups, namely the treatment group and the control group. The treatment group did Benson's relaxation technique for 2 weeks, which was done every day for 10 minutes. Previously, both groups measured blood pressure first after 2 weeks of being measured again. The data obtained will be tested for data normality and continued by conducting a statistical test of Wilcoxon Signed Rank. Before conducting the researcher asked for respondents' consent by filling out informed consent as evidence of willingness to be researched.

## RESULTS

General data describe the characteristics of respondents based on age, sex, education, occupation, history of disease, length of suffering from hypertension, consumption of antihypertensive drugs. The respondents who were planned to be studied were 44 people, but during the implementation of the study, 6 respondents dropped out because they did not follow the program that had been prepared by the researcher and when they resigned self during the study, so that the total respondents were 38 people, which were divided into 2 intervention and control groups of 19 people each.

**Table 1.** Frequency distribution of characteristics of respondents suffering from hypertension at the Kedung Cowek RW -1 Elderly Posyandu Kedung Cowek Village in March 2022 (n=38)

Characteristics	Intervention		Control	
	F	%	F	%
<b>Age</b>				
50-60 years	15	79	9	47
61-70 years old	3	16	10	53
71-80 years	1	5	0	0
<b>Gender</b>				
Man	0	0%	3	16%
Woman	19	100%	16	84%
<b>Level Peducation</b>				
SD	12	63%	11	58%
JUNIOR	3	16%	6	32%
SMA	4	21%	2	10%
<b>Work</b>				
IRT	17	89%	14	74%
Pensioner	0	0%	1	5%
Etc	2	11%	4	21%
<b>Taking hypertension drugs</b>				
Yes	8	42%	5	26%
Not	11	58%	14	74%
<b>Long suffering from hypertension</b>				
<5 years	16	84%	16	84%
>5 years	3	16%	3	16%
<b>History of other diseases</b>				
Yes	10	53%	6	32%
Not	9	47%	13	68%
<b>Depression Levels</b>				
Usual	1	5%	3	16%
Light	18	95%	16	84%

Table 1 shows that the majority of respondents at the Kedung Cowek RW 01 Elderly Posyandu Kedung Cowek Surabaya Village, aged 50-70 years amounted to 25 respondents (66%), the majority were female totaling 35 respondents with a percentage (92%), most of whom had suffered from hypertension for <5 years amounted to 32 respondents with a percentage (84%), most respondents had no history of other diseases totaling 22 respondents with a percentage (58%), The most elementary school education amounted to 23 respondents with a percentage (61%), the majority of respondents did not take hypertension drugs amounting to 25 respondents with a percentage (66%) and most respondents working as IRT amounted to 31 respondents with a percentage (82%). Most depression rates in both the intervention and control groups were mild (95%) and (84%) respectively.

**Table 2.** Depression Levels in the Intervention Group and Control Group Before and After do Benson's Relaxation Technique

Hypertension Classification	Intervention Group				Control Group			
	Before	the inter- vention	After	the intervention	Before	the inter- vention	After	the inter- vention
	F	%	F	%	F	%	F	%
Normal : 0-9	1	5%	1	5%	3	16%	3	16%
Mild Depression:10-19	18	95%	18	95%	16	84%	16	84%
<b>Sum</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>

Table 2 obtained the results of data before and after the Benson Relaxation Technique was carried out on respondents of the intervention group and control group at the Kedung Cowek Elderly Posyandu Surabaya in the initial measurement of the Geriatric Depression Scale (GDS) value it was known that as many as 34 people with hypertension (89%) fell into the category of mild depression with a score of 10-19, the intervention group of 18 people (95%) and 16 people (84%). However, after the Benson Relaxation Technique, there was no difference in decreasing or increasing levels of depression.

**Table 3.** Systolic Blood Pressure Intervention Group and Control Group Before and After do Benson Relaxation Technique

Blood pressure	Intervention Group				Control Group			
	Systolic Before		Systolic After		Systolic Before		Systolic After	
	F	%	F	%	F	%	F	%
Usual	0	0%	1	5%	0	0%	0	0%
Stage 1 hypertension	0	0%	2	11%	0	0%	1	5%
Stage 2 hypertension	19	100%	16	84%	19	100%	18	95%
<b>Sum</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>

Table 3 obtained data before and after the Benson relaxation technique was carried out on intervention and control group respondents at the Kedung Cowek Surabaya Elderly Posyandu on blood pressure measurement, it was found that as many as 19 people with hypertension (100%) were included in the category of stage 2 hypertension. However, after Benson's relaxation technique 19 respondents (100%) were found to have decreased blood pressure levels.

**Table 4.** Changes in Blood Pressure in the Intervention and Control Groups after do the Benson Relaxation Technique

Blood pressure	Intervention Group		Control Group	
	F	%	F	%
Settled	0	0%	8	42%
Decreased	19	100%	9	47%
Increase	0	0%	2	11%
<b>Sum</b>	<b>19</b>	<b>100%</b>	<b>19</b>	<b>100%</b>

Table 4 shows that after Benson's relaxation technique, 19 respondents (100%) were found to have decreased blood pressure levels. In the control group or group that did not perform Benson relaxation technique, there was a decrease in blood pressure in as many as 9 respondents (47%) but not as significant as the intervention group carried out the Benson relaxation technique.

**Table 5.** Blood Pressure Analysis in the Intervention Group and Control Group

Respondent Group	Mean	Std	t	P*
Intervention Group	7.421	2.388	13.547	0,000
Control Group	.683	1.336	13.328	0,038

Table 5 shows that based on statistical tests,  $p = 0.000$  ( $p < 0.05$ ) was obtained in the intervention group so that it can be concluded that there were significant changes in respondents' blood pressure before and after the intervention. So the results stated that the intervention group experienced a greater decrease in blood pressure than the control group marked with a t-count value of 13,547.

## DISCUSSION

The results showed that Benson's relaxation technique had an effect on lowering systolic blood pressure in hypertensive patients at the Kedung Cowek Elderly Posyandu. The same results were also shown from the results of (Simandalahi et al., 2019) study where the p value of the control group was 0.026 and the intervention group was 0.023. In addition, the results of the case study (K. A. Pratiwi et al., 2021) were obtained by hypertensive patients before the action had a blood pressure of 180/90 mmHg and after the Benson relaxation technique, blood pressure dropped to 110/90 mmHg. Likewise, the results of the study (Yulendasari & Djamaludin, 2021) found a decrease in blood pressure in hypertensive patients with the average difference in systolic blood pressure between the intervention group and the control group is 8.063 (p value 0.000) and diastolic is 4.188 (p value 0.003). In addition, the results of (Febriyanti et al., 2021) study, showed a p value of 0.00 which showed that there was an effect of beson relaxation techniques on reducing blood pressure in hypertensive elderly.

Most respondents before being given Benson therapy had blood pressure above 140 mmHg and most respondents did not routinely take hypertension medication because they felt that their bodies had no complaints. Respondents were mostly aged 50-70 years. Increasing age with a history of chronic diseases sometimes experience saturation in treatment, forget the schedule of control to health services, forget to take medicine and sometimes not Obey the diet and feel that there are no complaints so do not carry out therapy.

Doing this Benson Implementation technique is expected to help control blood pressure in people with hypertension. Benson's relaxation technique is a method of relaxation techniques created by Herbert Benson, examining some of the health benefits of prayer and meditation. The focus of this relaxation is on certain phrases that are spoken repeatedly using a regular rhythm accompanied by an attitude of resignation. The expressions used can be in the form of names of God or words that have a calming meaning for the patient himself (Atmojo et al., 2019). The advantage of relaxation techniques is that relaxation is easier to do even in any condition and does not have any side effects. In addition, the advantages of relaxation techniques are easier to do, can reduce medical costs, and can be used to prevent stress (Sandi, 2016).

Benson therapy is given for 2 weeks, with a method carried out 1 day 2x in each meeting, in each session it takes 10 minutes to do the Benson relaxation technique (Atmojo et al., 2019).

The results of the study in getting blood pressure measurements during pre and post tests some respondents experienced very significant changes after the Benson relaxation technique. The decrease in blood pressure that occurs after the Benson relaxation technique is done regularly because it will help relax the tension in the muscles in the body so that it can help normalize

the pulse, and lower blood pressure (Aspiani, 2014; Atmojo et al., 2019). Hypertensive patients who have done Benson's relaxation technique have a mild depression category, this may happen because depression is not only influenced by chronic disease factors, But it can also be affected by his personal life such as economic problems. In accordance with (Dirgayunita, 2016) depression is also influenced by social factors, namely financial problems, age and gender factors in addition to the impact of daily life situations. Respondents can still do beson relaxation techniques regularly while to control blood pressure and relax tension in the muscles so that the mind becomes calm and stress is reduced.

## CONCLUSIONS

Benson's relaxation technique is one of the non-pharmacological therapies that can be used to help control blood pressure and also reduce tension in the muscles so that it can also relieve stress in the Hypertensive patients and avoid depression.

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