



# Effectiveness of Combination Acupressure Therapy and Murotal Al-Qur'an to Reduce Blood Pressure of the Elderly

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**Abstract:** Hypertension is blood pressure that increases beyond normal limits. In the elderly, the type of hypertension that is often encountered is isolated systolic hypertension (ISH), which is high systolic pressure above 140 mmHg, but diastolic pressure remains at average numbers below 90 mmHg. One of the complementary therapies that can be used by the elderly who have hypertension is acupressure and murottal therapy of the Quran. This study aims to determine the effectiveness of acupressure and murottal combination therapy of the Qur'an on blood pressure in elderly people with hypertension. The research design used was quasi-experimental with two group pretest and posttest design with a control group. The population in this study were elderly with hypertension. The sampling technique used total sampling, namely 36 hypertensive elderly and divided into 18 intervention groups and 18 control groups. During 6 days, they are given intervention combination acupressure and murottal combination therapy of the Qur'an. The analysis of this study used univariate, bivariate analysis with paired sample T-Test and independent T-Test, and multivariate analysis with GLM. Data processing in this study used SPSS version 26.0. The findings showed that the systolic and diastolic, in elderly people with hypertension decreased after being given combined therapy with acupressure and murottal therapy of the Quran therapy (p value = 0.000). doing a combination of acupressure and murottal treatment of the Qur'an can provide a mental calm effect on the elderly and improve blood flow, to reduce blood pressure in the elderly who have hypertension. It is hoped that this research can be a reference and can be used as one of the non-pharmacological therapeutic interventions using acupressure and murottal combination therapy of the Qur'an in providing nursing care, especially for the elderly who have hypertension.

**Keywords:** Acupressure therapy; Blood pressure; Elderly; Murotal Al-Qur'an therapy

## Introduction

The aging process is long and continuous, starting from birth to death. The aging process will occur with increasing age and be called older people. The risks that can arise in decreased function in the elderly include circulatory disorders such as hypertension, blood vessel disorders, and disorders of the joints such as

osteoporosis (Sari et al., 2014). According to the World Health Organization (WHO), in 2019, the prevalence of hypertension globally is 22% of the total world population, and of the number of sufferers, only less than one-fifth who make efforts to control blood pressure suffered in the Southeast Asia region is in the third highest position with a prevalence of 25%. The prevalence of hypertension in Indonesia increased based

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on age at the age of 45-54, with a prevalence of 45.3% who have hypertension aged 55-64 prevalence of 55.3%; aged 65-74 the prevalence of 63.74%. At the age of 75 and above, the prevalence is 69.5% of those who have hypertension. In the elderly group, the prevalence of all non-communicable diseases experienced by the elderly is highest in the first place is hypertension, which is 32.5% (Kemenkes, 2019).

Hypertension is blood pressure that increases beyond normal limits. Normal blood pressure limits vary according to age. In the elderly, the type of hypertension that is often encountered is isolated systolic hypertension (ISH), which is high systolic pressure above 140 mmHg, but diastolic pressure remains at average numbers below 90 mmHg (Hastuti, 2021). Hypertension in the elderly can be caused by the elasticity of the aortic wall decreasing and the heart valve thickening and becoming stiff. The occurrence of elastic loss in blood vessels due to lack of effectiveness in peripheral blood vessels for oxygenation (Adriani et al., 2023). High blood pressure can be controlled until it reaches normal or stable values through the management of hypertension, namely by pharmacological and non-pharmacological means (Rohmawati, 2020). Pharmacological therapy can be done by administering antihypertensive drugs, while non-pharmacological therapy can be done by reducing body weight for obese individuals through a healthy lifestyle, exercise, and a low-salt diet (Gani et al., 2022). Complementary therapy can also be used in the treatment or effort to lower blood pressure (Taslim & Astuti, 2021). Complementary therapy is an alternative form of healing sourced from health systems, modalities, and practices supported by theory and belief (Martini, 2022).

One of the complementary therapies that can be used by the elderly who have hypertension is acupressure and murottal therapy of the Quran. Acupressure therapy is an action that involves massage and stimulation at specific points in the body area. Acupressure therapy is done by pressing the acupuncture point method without using acupuncture needles and using a blunt object or finger that can give the effect of emphasis (Ashriady et al., 2022). Qur'an murottal therapy is a sound recording sung by a qori' (Qur'an reader). This Qur'an chant contains the holy verses of the Qur'an that are recorded and listened to at a slow and harmonious tempo, one of which is Surat Ar-rahman. Studies have shown that Listening to the Qur'an has many virtues, namely as medicine, and the chanting of the holy verses of the Qur'an physically contains elements of the human voice, which is an instrument of healing (Syamsuriyati, 2022). Additionally, studies have shown that murottal al-Qur'an can provide a calm effect on the body because

there is an element of relaxation contained in the holy verses of the Qur'an. Someone who listens to Qur'anic murottal therapy can also provide a positive perception and peace of mind. In terms of health, this Qur'an chant can activate endorphin hormones naturally so that it can make feelings relax (Oktalina et al., 2020).

Acupressure therapy can improve blood flow, and Qur'anic murottal therapy can provide a mental tranquility effect. Combining acupressure therapy and Qur'an murottal therapy can provide better results for a person's physiological and psychological recovery. The purpose of this study is to determine the effect of acupressure and murottal combination therapy of the Quran on blood pressure in the hypertensive elderly.

## Method

The current study used a quasi-experimental with a pretest-posttest design and a control group design (Dede et al., 2023; Drennan, 2013). It involves one treated group (experimental or treatment group) and one control group (no treatment). This research was conducted at the Tresna Werdha Elderly Social Institution, Natar District, South Lampung Regency. The population in this study used all elderly people who had hypertension. The sampling technique used in this study was total sampling. The samples taken in this study were all elderly with hypertension problems. Namely, there were 36 elderly people who had hypertension, 18 intervention group samples, and 18 control group samples.

This research instrument used a sphygmomanometer blood pressure measuring device. Combination therapy of acupressure and Qur'anic murottal therapy is carried out according to Standard operational procedures. Data collection procedures are carried out by administrative processes, technical procedures, and instrument preparation. Respondents who meet the inclusion and exclusion criteria are given a research explanation, and if respondents agree, they sign an informed consent sheet. Before the intervention was given, respondents were checked for blood pressure, then given a combination therapy of acupressure and Qur'an murottal for 15 minutes, and after the intervention was given, respondents were measured for blood pressure. The study was conducted for 6 days. In the control group, respondents only rested for 15 minutes.

Statistical analysis uses univariate, bivariate, and multivariate analyses. Univariate analysis to see the respondent characteristics, namely age and sex. The analysis was done by using SPSS version 26.0. the preliminary test and normality test were done using Shapiro-Wilk. Bivariate analysis uses the T-test to see the effect of a treatment. Multivariate analysis using

GLM-RM was used to determine the effectiveness of combination acupressure and murotal Qur'an therapy on blood pressure in hypertensive elderly people. Ethics approval this research has permission from the institute for research universitas muhammadiyah jakarta with number 1108/F.9-UMJ/VII/2023. In carrying out this research, ethical principles were fulfilled, such as explaining the research objectives, maintaining the confidentiality of respondents, providing sufficient time for data collection. Apart from that, this research provides direct benefits, namely reducing blood pressure in the elderly. This research also applies the principle of justice by providing the same treatment to

respondents, both the control group and the intervention group, regardless of gender, ethnicity, religion, before, during and after the study ended.

### Result and Discussion

The results in this study consist of univariate, bivariate and multivariate analyses. Table 1 describes the characteristics of respondents based on age. The average age of elderly hypertensive patients in the intervention group and control group was an average age of 69.56, ranging from the age of 61 years to the age of 88 years as shown in Table 1.

**Table 1.** Distribution of Respondent Characteristics by Age

Variable	Intervention group				Control group			
	Mean	Median	Std.dev	Min-Max	Mean	Median	Std.dev	Min-Max
Age	69.56	69.00	7.20	61-88	69.56	69.00	7.20	61-88

Table 2 describe the characteristics of respondents based on gender, the majority of them were female, with as many as 10 people (44.4%) in the intervention group and 11 people (38.9%) in the control group.

The bivariate results analysis of this study is in Table 3. It shows there are differences in blood pressure in the hypertension elderly before and after the intervention. Before giving the intervention, the mean systolic and diastolic blood pressure 176.72/91.33mmHg, and the after mean systolic and diastolic blood pressure 156.50/85.67mmHg, and there

was no difference in blood pressure in the elderly with hypertension before and after in the control group.

**Table 2.** Percentage Distribution of Respondent Characteristics Based on Gender

Variable	Intervention Group		Control Group	
	F	%	F	%
Gender				
Female	10	44.4%	11	38.9%
Male	8	55.6%	7	61.1%

**Table 3.** The Results of Paired t-Test Analysis

Variable	Intervention group				Control group			
	F	Mean	Std.dev	p-value	F	Mean	Std.dev	p-value
Pre systolic	18	176.72	7.086	0.000	18	161.39	8.154	0.096
Post systolic	18	156.50	6.526		18	161.67	8.232	
Pre diastolic	18	91.33	3.447	0.000	18	94.17	4.148	0.845
Post diastolic	18	85.67	3.049		18	94.22	3.574	

The multivariate results analysis of this study table 4. It shows the mean the combination therapy of acupressure and murotal Qur'an is effective in lowering blood pressure on the third to sixth day with a P-value of 0.000.

**Table 4.** The Results of GLM Analysis

Variable	Measurement	P-value
Systolic and diastolic measurement	Day 1 - Day 2	0.065
	Day 1 - Day 3	0.000
	Day 1 - Day 4	0.000
	Day 1 - Day 5	0.000
	Day 1 - Day 6	0.000

The study's results based on age showed that the average age of 69.56 years old, with a minimum age of 61 years old and a maximum of 88 years. This is

supported by risked data, which shows that hypertension increases with age. At the age of 60 years and over to the age of 75 and over, increases by 69.5% (BPS, 2022). The prevalence of hypertension increases with age, and the increase in the occurrence of hypertension in the age group over 60 years, hypertension occurs mostly among the elderly. Several epidemiological surveys conducted in the US and Europe concluded that hypertension among the elderly was 53% and 72%, respectively (Mitra & Wulandari, 2019). Physiological changes that occur in the elderly are associated with hypertension, namely problems in the cardiovascular system, which will appear with age (Gemini et al., 2021). The most age group with hypertension is at the age of 60-69 with increasing age, there will be changes in the condition of blood vessels

caused by the aging process. This is due to disruption of the blood vessel system, which results in the thickening of the blood vessel walls and reduced elastic blood vessels, which can cause hypertension (Simorangkir et al., 2022).

The study's results based on gender showed that the majority of elderly people who experience hypertension are women. According to research Seo et al. (2022), Compared to men, women experience higher rates of hypertension after the age of 60, as well as more problems from the condition and poorer rates of control. The proportion of the elderly population 65 years of age or older who have hypertension increased by sex, with women having a greater prevalence (61% to 65%) and men having a higher prevalence (49.0% to 59.4%). According to Prasetyaningrum et al. (2014), at the age of 65 years and over, women are more at risk of hypertension compared to men, and hormones can influence this condition. Women who have entered menopause will be at risk for obesity, which will increase the risk for hypertension. In this study, women were found to be higher for hypertension compared to men. Women will experience a higher risk of developing hypertension after menopause at the age of over 45 years (Falah, 2019). Women who have experienced menopause will have low estrogen levels, while estrogen serves to increase high-density lipoprotein (HDL) levels, which plays a role in maintaining health in blood vessels. In menopausal women, estrogen levels decrease, followed by a decrease in HDL levels. When HDL is low, atherosclerosis will occur, so blood pressure will be high (Kusumawaty, 2018)

Based on the research results in the intervention group, there was a difference in blood pressure before and after therapy. The control group's blood pressure did not change before or after rest. It can be concluded that there is an effect of acupressure and murotal combination therapy of the Qur'an on blood pressure. This research is supported by Biçer (2021) that there was an average blood pressure before and after the intervention, namely before the acupressure intervention at systole blood pressure of 151.00 mmHg and after the intervention of 136.66 in diastole blood pressure before the intervention of 87.42mmHg after the intervention of 73.00 mmHg with a p-value of < 0.05.

This study is also in line with research conducted by Draman et al. (2023) that there was an average blood pressure before and after the intervention, namely before the intervention on systole blood pressure 154.7 mmHg, diastole 93.6 mmHg and after the intervention there was a change in systole blood pressure 148.8 mmHg, diastole 89.8 mmHg with a p-value of 0.001, so it can be concluded that there is an effect of Qur'anic murotal therapy on blood pressure. According to Hajiri et al. (2019), the combination of acupressure therapy and

murotal al-Qur'an can show a relationship between the concept of recovery physiological and psychological person, where acupressure therapy can improve blood flow while Qur'anic murotal therapy can provide mental calm and relaxation effect on a person.

According to Amalia et al. (2023) murotal therapy using Surat Ar-Rahman is a religious music therapy that provides a relaxing effect, this letter is a reference for Muslim doctors for the healing process (Draman et al., 2023). According to Mehta et al. (2017), Acupressure therapy is non-invasive because it does not use needles. Acupressure is very suitable for pharmacotherapy because of its ease of administration and is an intervention for recovery, Acupressure therapy will be more effective when combined with other complementary therapies (Patemah et al., 2022). According to Yuningsih et al. (2023), The application of this therapy will be more optimal if done in combination with other complementary therapies by being done continuously and correctly. According to Saputra et al. (2023), acupressure therapy can stimulate mast cells to release histamine as a mediator of vasodilation of blood vessels, resulting in increased blood circulation, which makes the body more comfortable and relaxed.

This research is supported by (Lin et al., 2016) that there are differences in systolic and diastolic blood pressure between the intervention and control groups. The intervention group experienced a decrease after acupressure therapy with a p-value <0.005. Acupressure points performed in hypertensive elderly are Lr3, Sp6, Ki3, Li4, GB20, and Pc6 points providing stimulus at that point can stimulate the nerves in the superficial skin, Which will then be sent to the mesencephalon, hypothalamic-pituitary complex, and spinal cord, all stimulated to release endorphin chemicals (Saputra et al., 2023). Dopamine hormone production will rise in response to increased endorphin levels. The parasympathetic nervous system will become more active when these hormone levels rise. Increased activity in the parasympathetic nervous system controls the activity that occurs and works when the body relaxes so that a person with hypertension will perceive touch as the stimulus of the relaxation response or calm the mood, which can cause a decrease in hypertension (Patemah et al., 2022).

Qur'anic murotal therapy is also able to stimulate the hypothalamus to release endorphins as autonomic nerve activation to control epinephrine and non-epinephrine hormones that inhibit angiotensin so that this can decrease blood pressure (Transyah, 2019). Murotal therapy that is heard with full concentration can affect variations in the skin's blood levels, heart rate, blood circulation, and muscle electrical currents. These changes indicate relaxation, which results in the dilation of blood vessels so that it will cause a decrease in blood

pressure. Qur'anic murotal therapy stimulates sympathetic and parasympathetic nerves that can relax listeners. The body's response to feeling relaxed will cause a decrease in heart rate, breathing rate, and muscle relaxation, which can make blood pressure drop (Yuningsih et al., 2023).

Based on the results of systolic and diastolic blood pressure measurements, after being given a combination of acupressure and murotal therapy, blood pressure effectively reduces on the third to the sixth day and has decreased significantly. To get maximum results, complementary therapy can be given correctly and routinely (Yuningsih et al., 2023). The combination of Qur'anic murotal and acupressure shows a relationship between physiological and psychological (Hajiri et al., 2019).

Based on the analysis of researchers looking at the results of research and theories that support that acupressure therapy combined with Qur'anic murotal therapy will have a positive effect on psychology and physiology in the elderly who have hypertension, doing a combination of acupressure and murotal treatment of the Qur'an can provide a mental calm effect on the elderly and improve blood flow, to reduce blood pressure in the elderly who have hypertension.

## Conclusion

The combination of acupressure and murotal therapy of the Qur'an effectively reduce blood pressure in the elderly who have hypertension, this therapy is effective in lowering systolic and diastolic blood pressure on the third to the sixth day. Suggestions for future research are expected that this research can be used as an addition to information and become a reference. For service institutions, it is hoped that this research can be used as one of the non-pharmacological therapeutic interventions using acupressure and murotal combination therapy of the Qur'an in providing nursing care, especially for the elderly who have hypertension.

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## Conflicts of Interest

The author publishes this article for research and publication purposes. There are no conflicts or other interests in writing this article.

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