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Original Research

THE EFFECT OF BACK ACUPRESSURE THERAPY IN BLOOD PRESSURE WITH HYPERTENSION PATIENTS

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Abstract

Background

Hypertension occurred when there was an increase in blood pressure that exceeded the normal limit according to age. A person with hypertension was prone to blood pressure fluctuations, which risked causing complications in the body's organs. Therefore, people with hypertension require therapies to maintain blood pressure stability. The aim of the study was to identify blood pressure before and after therapy and to analyze blood pressure pre- and post-back acupressure therapy in hypertension sufferers.

Methods

This research used experimental method using one group pretest and posttest design. The sample of this study were 30 respondents who had hypertension, using total sampling technique. Back acupressure therapy was provided 8 times in March-April 2023 at the Malang Passionis Monastery Community. Data analysis used the paired T-test.

Results

Almost all respondents were female (90%), and the majority were aged between 45 and 59 years. Half of the respondents (46.7%) held a bachelor's degree. The research results indicated that the average blood pressure before receiving back acupressure therapy was 146.13/89.57 mmHg, while the average blood pressure after the therapy was 117.20/71.86 mmHg. The results of the paired T-test showed a p-value = 0.000.

Conclusion

This research found that there is a difference in blood pressure in hypertensive patients between after and before back acupressure therapy in the Passionist Monastery Community in Malang. Back acupressure therapy is useful for lowering blood pressure. Suggestions for hypertension sufferers need to do back acupressure therapy with a therapist at least twice a week to lower blood pressure.

Keywords: Hypertension; Complementary Medicine; Acupressure; Blood Pressure

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INTRODUCTION

Hypertension is a continuous abnormal increase in blood pressure in the arteries, which can cause disease complications (Yogiantoro, 2017). Hypertension is a disorder of the blood vessels which results in the supply of oxygen and nutrients carried by the blood being obstructed from reaching the body tissues that need them, resulting in an abnormal increase in blood pressure in the arteries continuously for more than one period. Untreated hypertension can cause dangerous complications (Fandinata, 2020). According to Laurensia et al. (2022), hypertension is a condition where a person's blood pressure is above 140/90 mmHg. Hypertension is a risk factor for damage to organs such as the brain, heart, kidneys, retina, large vessels (aorta) and peripheral blood vessels.

The global prevalence of hypertension sufferers according to the World Health Organization (WHO) in 2021 was around 1.28 billion adults aged 30-79 years, meaning that 1 in 3 people in the world are diagnosed with hypertension. Hypertension often occurs in countries with lower middle-class economies in Southeast Asia (World Hypertension League, 2021). The incidence of hypertension reached 39.9% in 2020. The country with the highest level of hypertension in the world is China with a total of 226 million cases, then India with a total of 12 200 million cases. The number of hypertension sufferers continues to increase every year; it is estimated that, by 2025, as many as 1.5 billion people will suffer from hypertension and it is estimated that every year 10.44 million people will die due to hypertension and its complications (Ministry of Health of the Republic of Indonesia, 2020). In Indonesia, based on the Indonesian Ministry of Health, in 2022 the prevalence of hypertension in Indonesia will be 34.1%. Hypertension is a non-communicable disease or commonly called a silent killer and is also a serious problem in Indonesia and the world (Haryani & Misniarti, 2020). According to the Malang City Health Service, hypertension cases in Malang City in 2020 were 35,641 cases. With this number of cases, hypertension was the number one disease suffered by the people of Malang City in 2020. In 2021, hypertension will increase to 40,129 cases in Malang City.

Solutions to reduce hypertension are using pharmacological (drug) and non-pharmacological therapy. One of the non-pharmacological therapies that has the potential to reduce hypertension is back acupressure therapy, known as acupressure (Suhartini & Mustayah, 2021). Back acupressure, abbreviated as Topung or known as acupressure, is actually a massage therapy method by massaging or pressing certain points on the back. The purpose of doing back acupressure is to launch vital energy (qhi) throughout the body. In this

way, various physical and mental complaints will be reduced. The way back acupressure therapy works is to relax tense nerves so that it can relieve headaches, tension, fatigue and stress (Maharani & Widodo, 2019).

This proves that action is needed to reduce blood pressure in the Malang Passionist Monastery Community, namely by providing back acupressure therapy. Based on this background, the researchers were interested in conducting research with the title "Differences in Blood Pressure in Hypertensive Patients Between After and Before Being Given Back Acupressure Therapy in the Malang Passionist Monastery Community".

METHODS

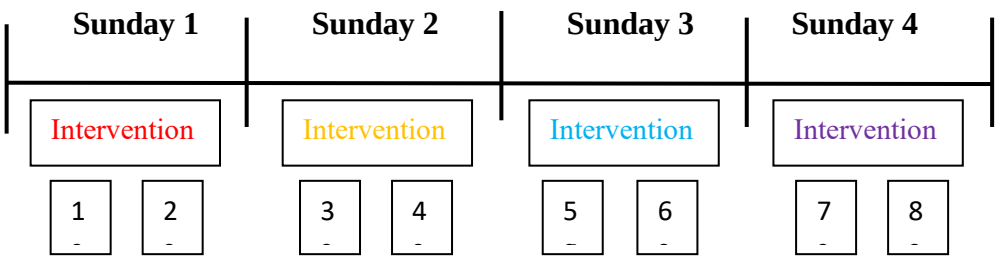
Research Design

This research is experimental research. Experimental research is research by conducting experiments or treatments that aim to compare before and after treatment (Vinsensius, 2023). The research design used in this research is "One Group Pretest and Posttest Design", namely a research design that contains a pretest before being given treatment and a posttest after being given treatment. In this way, it can be known more accurately, because it can be compared before and after treatment (Sugiyono, 2019).

This research activity aims to assess the differences between pre and post back acupressure therapy in reducing blood pressure in hypertension sufferers in the Passionist Monastery Community in Malang. Observational data collection involves making direct observations of the object under study and looking for the influence between variables. In this research, researchers will conduct research on differences in blood pressure in hypertensive patients between after and before back acupressure therapy in the Malang Passionist Monastery Community.

The research was conducted for four weeks with eight therapies/treatments a week; two treatments were carried out in the Passionist Monastery Community in Malang for 30 respondents who had hypertension. This research was conducted from March 4 to April 12 2023.

Research Overview and Research Period.



Sample

The population is all subjects or objects with certain characteristics that will be studied, not just the object or subject being studied but all the characteristics or traits possessed by the subject or object, or a group of people, individuals, or objects whose characteristics will be studied (Hidayat, 2018). The population in this study was 30 respondents in the Malang Passionist Monastery Community.

The sample is part of the population to be studied or a portion of the characteristics possessed by the population (Hidayat, 2018). In research in the health sector there is the term sample criteria including inclusion criteria and exclusion criteria, namely these criteria are used to determine whether or not they can be used as a sample as well as to limit the things to be researched (Hidayat, 2018). The sample in this study was 30 hypertension sufferers in the Malang Passionist Monastery Community.

Prosedure

Data collection techniques use intervention. Nursing intervention or planning is an initial decision that provides direction for the goals to be achieved, what will be done, including how, when and who will carry out nursing actions. In this study back acupressure means When conducting research on respondents, researchers must first have a research permit. With this research permit, the researcher will first establish good communication with the respondent, provide informed consent, a time contract with the respondent and take action in accordance with the Back Acupressure Therapy procedure. Researchers will measure blood pressure before and after masking. This research was carried out from March 4 to April 12 2023 with a duration of 30-60 minutes per procedure and carried out 8 treatments in 4 weeks, and 2 treatments a week. Researchers carried out blood pressure interventions before and after masking. Researchers recorded the results of systolic and diastolic blood pressure values each time before and after treatment for 8 times. Is there a significant difference in the value of the reduction in systolic and diastolic blood pressure from the treatment carried out. Systole is blood pressure when the heart pumps blood or contracts. Diastole is the blood pressure when the heart relaxes, to check systolic and diastolic blood pressure using a sphygmomanometer. Normal of systolic pressure is <120 - ≥ 180 mmHg while diastolic pressure is <80 - /≥ 110 mmHg

Data Analysis

The data collected from respondents are then processed using the following steps *Editing, Coding, Data entry, Data Cleaning* and *Processing*. Data analysis is a way of

processing data so that they can be concluded or interpreted into information. In carrying out data analysis, the data must first be processed with the aim of turning the data into information. In statistics, the information obtained is used for the decision-making process, especially in hypothesis testing. Univariate analysis used to describe the independent variable and dependent variable by presenting a frequency distribution systolic and diastolic pressure before and after back acupressure treatment, as well as the characteristics of the respondents. Bivariate Analysis used for analyzed of the data to find out the influence between the independent variable and the dependent variable uses the paired T test to determine the effect of two paired data (before and after).

RESULT

This study was analyzed respondent consist gender, age, work, and education. The following table were the results of data that has been grouped based on criteria.

Based on Table 1 it shows from a total of 30 (100%) respondents, almost all, 27 (90.0 %), were female, it shows that a total of 30 (100%) respondents were obtained and almost all, 27 (90.0 %), respondents were aged 45 - 59 years (middle age), it shows that a total of 30 (100%) respondents were obtained almost all, 24 (80.0 %), respondents were a nun, it shows that a total of 30 (100%) respondents were obtained and almost half, 14 (46.7 %) had a bachelor's degree.

Table 1 Frequency Distribution Based on Respondents' Gender in Malang Passionist Monastery Community

Gender	Frequency	Percentage (%)
Man	3	10.0
Woman	27	90.0
Age		
45 - 59 years old	27	90.0
60 – 68 years old	3	10.0
Work		
Monk	2	6,7
Nun	24	80.0
Lecturer	1	3.3
Housewife	3	10.0
Education		
Senior High School	8	26.7
D2	1	3.3
S1	14	46.7
S2	5	16.7
S3	2	6.7
Total	30	100

Based on Table 2, it is known that before back acupressure therapy treatment, the average blood pressure of respondents was 146.13/89.57 mmHg or they were experiencing stage 1 hypertension.

Table 2 Frequency Distribution of Blood Pressure Levels Before Giving Back Acupressure Therapy Intervention 1 to Hypertension Patients in the Passionist Monastery Community in Malang

Blood Pressure (*Pre-Test*)	**N**	*Mean (Minimum – Maximum)*
Systolic	30	146.13 (140.00-168.00)
Diastolic	30	89.56 (78.00-99.00)

Based on Table 3, it was discovered that, after back acupressure therapy treatment, the average blood pressure of the respondents was 117.20 / 71.86 mmHg or they had normal blood pressure.

Table 3 Frequency Distribution Blood Pressure Levels After Being Given the 8th Interventional Back Acupressure Therapy in Hypertension Patients in the Passionist Monastery Community in Malang

Blood Pressure (*Post-Test*)	**N**	*Mean (Minimum – Maximum)*
Systolic	30	117.20 (109.00-138.00)
Diastolic	30	71.86 (67.00-80.00)

Figure 1 Blood Pressure Graph Pre-Test (1st Treatment) and Post-Test (8th Treatment) Back Acupressure Therapy

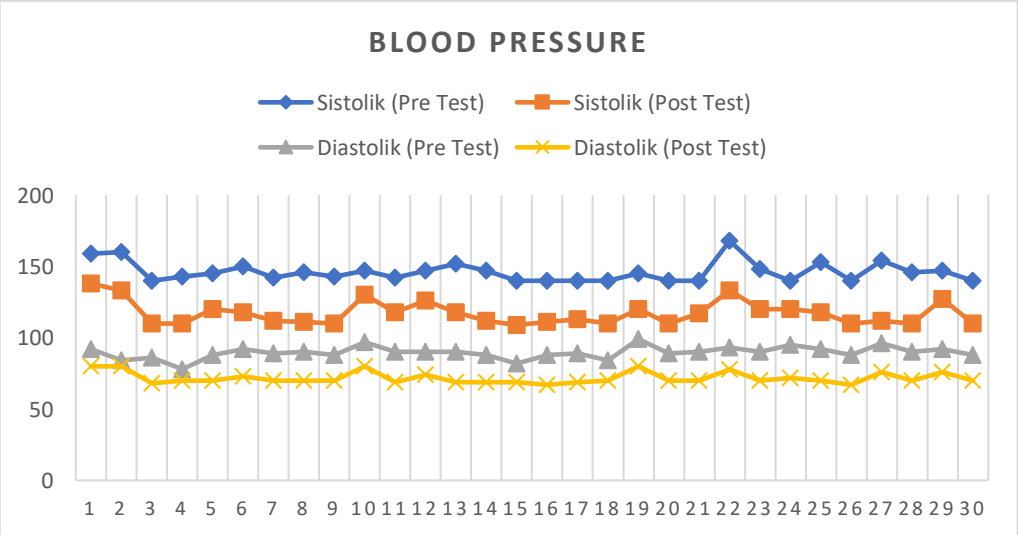
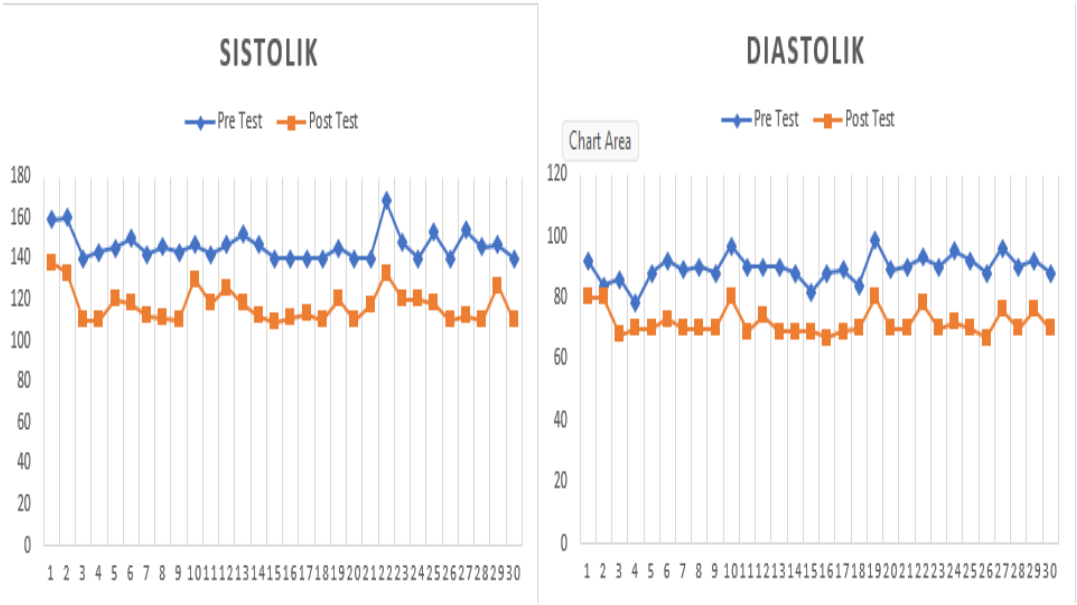


Figure 2 Systolic Blood Pressure Graph Pre-Test and Post-Test



Source: Processed Primary Data (2023)

For the results of the analysis obtained from blood pressure data before and after back acupressure therapy, a normality test was carried out to prove that the data used were normally distributed so that the analysis used the paired T test.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Systolic (Pre-Test)	146.1333	30	7.03064	1.28361
	Systolic (Post-Test)	117.2000	30	8.22276	1.50126
Pair 2	Diastolic (Pre-Test)	89.5667	30	4.28858	.78298
	Diastolic (Post-Test)	71.8667	30	4.09990	.74854

Data analysis in this study was to determine the difference between back acupressure therapy in reducing blood pressure in hypertension sufferers in the Passionist Monastery Community in Malang. Data from the paired T test results are presented based on the following.

Based on Table 6, the results of the paired T test analysis obtained p value = 0.000 so that H_1 is accepted, meaning there is a difference in blood pressure reduction before and after back acupressure therapy in hypertension sufferers in the Malang Passionist Monastery Community starting from the 1st to the 8th treatment.

Table 6 Analysis of differences in blood pressure in hypertensive patients between after and before receiving back acupressure therapy in the Malang Passionist Monastery Community

Blood pressure	N	*Mean* (Systolic/ Diastolic)	p-value
Pre-Test	30	146.13/89.57 mmHg	0,000
Post Test	30	117.20 /71.86 mmHg	
Difference = 28.93/17.71 mmHg			

It is known that blood pressure before the back acupressure therapy treatment was 146.13/89.57 mmHg and after the 8th treatment it was 117.20 /71.86 mmHg, or a decrease after treatment of 28.93/17.71 mmHg.

DISCUSSION

Based on the research results, the average blood pressure before back acupressure therapy treatment was 146.13 /89.57 mmHg, meaning that the respondent experienced stage 1 hypertension. Many things can influence hypertension, as discussed at the beginning, such as due to aging and a decline in physical condition as you get older (Armilawaty, 2018). Hypertension is a serious medical condition which can significantly increase the risk of liver, brain, kidney, heart disease and other diseases. Hypertension can occur if blood pressure is greater than the walls of the arteries and blood vessels (WHO, 2019). Factors that influence hypertension according to Hidayat (2018) include genetics, age, gender, lifestyle, diet such as consumption of foods containing high sodium, consumption of foods containing fat, body weight, smoking, alcohol, caffeine, stress, and lack of exercise. Stage 1 hypertension that is not resolved can cause complications of diseases dangerous for health such as heart disease, stroke, kidney damage and vision damage (Fandinata, 2020).

Based on the research results, it is known that the reason respondents experienced stage 1 hypertension was due to several factors, namely age and gender. A person between the ages of 45-59 years begins to experience natural changes in the body that affect the heart, vessels and adrenaline hormones, making them prone to hypertension. Someone who enters pre-adolescence is more susceptible to hypertension because the blood vessels begin to harden (stiffen) and cause the heart to pump faster, resulting in an increase in high blood pressure. Respondents who are female easily experience hypertension because they experience

menopause and an increase in the hormone adrenaline, where decreasing estrogen levels during menopause is the main trigger for hypertension in women.

Based on the research results listed in Table 6, it shows the average blood pressure after back acupressure therapy treatment on the 8th treatment was 117.20/71.86 mmHg or normal blood pressure. According to Hidayat (2018), the benefits of back acupressure are as follows: improving blood circulation, lowering blood pressure, relaxing muscle spasms, positive cardiovascular effects, stimulating the release of endorphins, eliminating tension, fatigue, stress and so on. Suryawan et al. (2022) said that back acupressure therapy has an effect on blood pressure in people with hypertension. Back acupressure therapy showed differences in blood pressure (systole and diastole) in respondents before and after acupressure in the treatment group. There was a significant difference in the intervention group between the results of systolic and diastolic measurements before and after acupressure.

After doing back acupressure therapy eight times for one month, the patient's blood pressure becomes normal; each patient is different, some after doing back acupressure therapy in the first week have shown significant results, there are also those in the second, third week and for some it was only in the fourth week that blood pressure became stable, but the results were consistent in decreasing blood pressure with each therapy. Pressure decreases after back acupressure treatment; what you need to know is that every time the treatment is carried out the patient feels fresher, more relaxed, all complaints disappear, the patient can sleep soundly, wake up refreshed, and muscles become less stiff. In this way blood pressure improves, and physical and psychological complaints improve. The benefits of back acupressure therapy that can be felt by respondents include: the body feels healthier, can sleep well, physical complaints are reduced or disappeared, blood pressure becomes normal; some say that after taking back acupressure therapy they can become blood donors, the body feels relaxed and not stiff.

Based on data analysis using the paired T test, it was found that p-value = 0.000 so that H_1 was accepted, meaning there is a difference in blood pressure before and after back acupressure therapy in hypertension sufferers in the Malang Passionist Monastery Community. This is proven by a decrease in blood pressure after back acupressure therapy treatment of 28.93/17.71 mmHg. Back acupressure therapy is a complementary therapy that can be used to improve blood flow and relax patients, relieve tension, fatigue, stress, and stimulate the release of endorphin hormones (Hidayat, 2018), so this research needs to be carried out to reduce blood pressure and relax patients. Results prove that providing back

acupressure therapy is effective in lowering blood pressure, so it is recommended for hypertension sufferers to carry out back acupressure therapy at least twice a week on an ongoing basis.

CONCLUSION

This research found that difference in blood pressure in hypertensive patients between after and before being given back acupressure therapy in the Malang Passionist Monastery Community. Back acupressure therapy is useful for lowering blood pressure. Society and health professionals can implementation this therapy as an option in addition to pharmacological therapy to maintain the stability of blood pressure of hypertensive patients. Suggestions for hypertension sufferers need to do back acupressure therapy with a therapist at least twice a week to lower blood pressure.

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CONFLICT OF INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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