



THE DIFFERENCE IN BLOOD PRESSURE BEFORE AND AFTER THE APPLICATION OF RELAXATION TECHNIQUES IN HYPERTENSIVE PATIENTS

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ABSTRACT	Keywords
<p>Hypertension is an increase in high blood pressure above normal. Finger grip relaxation is a simple relaxation technique with the touch of a hand which involves breathing to balance the energy in the body, so as to be able to control emotions which will make the body relax. This study aims to determine the effect of finger grip therapy on changes in blood pressure in hypertensive patients at the Indonesian Workers' Imelda Hospital This study uses quantitative research methods with Quasy experimental design with the Pre Test-Post Test One Group approach. The number of respondents in this study were 30 respondents who were taken by accidental sampling. The instrument used is an observation sheet to find out how blood pressure changes before and after being given therapy. The intervention was in the form of an independent act of holding fingers for 3-5 minutes. The research tool used was a sphygmomanometer to measure blood pressure. The results of the analysis with the comparative test obtained a p-value of 0.000 ($p < 0.05$) on systolic and diastolic blood pressure, so that there was an effect of finger grip therapy on blood pressure in hypertension sufferers at the Indonesian Workers' Imelda Hospital (IPI) Medan.</p>	<p><i>Finger Grip, Hypertension, Blood Pressure</i></p>

INTRODUCTION

Blood pressure is one of the forces or force that blood exerts against the walls of the arteries and can be measured using millimeters of mercury (mmHg). Blood pressure is assessed in two forms, namely systolic and diastolic. Systolic blood pressure is the value when the heart is contracting, while diastolic is the blood pressure value when the heart is relaxing (Prasetyaningrum, 2014). Normal blood pressure 120/80 mmHg, Hypertension

140/90 mmHg, Stage I 160/90 mmHg, Stage II $\geq 160/100$ mmHg.

The World Health Organizaatin (WHO) said the number of people with hypertension will continue to increase in 2025 (Handayani, 2020). Hypertension is only realized when it has caused organ disorders, such as impaired heart, coronary, kidney function, impaired cognitive function, or stroke. Basically hypertension will reduce life expectancy in sufferers (Sunaryati, n.d.)

The American Heart Association (AHA) says that there are 75.5 million people with hypertension in America, but 90-95% of cases have no known cause (Rizky, 2022). The cause of hypertension is caused by genetic and environmental factors, including salt intake, obesity, occupation, lack of exercise, alcohol intake, psychosocial stress, gender, and age. Symptoms found in people with hypertension include dizziness, red face, headache, sudden bleeding from the nose, sore neck, muscle weakness, nausea, vomiting, shortness of breath, blurred vision which occurs due to damage to the brain eyes, heart and kidneys.

Changing blood pressure can be done by holding finger therapy to manage stress by involving breathing. Grasping the fingers on the hands can warm the points of entry and exit of energy on the meridians located on the fingers when accompanied by deep breathing can reduce the work of the sympathetic nerves, causing blood pressure to decrease. The meridian points on the hands will provide spontaneous stimulation in the form of electrical waves to the brain. These waves are received by the brain and processed quickly to the nerves in the affected organ, so that the energy pathway becomes smooth (Sulistiani, 2020).

To do the finger grip technique can be done as follows:

1. Position the patient in a lying position, and instruct the patient to catch his breath and relax all muscles.
2. The nurse sits beside the patient, relaxation begins by holding the patient's thumb with gentle pressure, holding it until the patient's pulse is throbbing.
3. Instruct the patient to adjust the pattern of breathing with a regular count.
4. Hold the thumb for about 3-5 minutes with additional deep breaths then proceed

to the other fingers one by one for the same duration

5. After about 15 minutes, do a finger grip relaxation on the other finger (Agustin et al., 2019)

The aim of this study was to perform relaxation techniques to change blood pressure in hypertension sufferers according to (SOP).

METHOD

The type of research used in this research is quantitative research with *Quasy experimental design* to test by examining the variables before and after treatment. By using the Pre Test-Post Test One Group approach. This research was conducted at the Medan Indonesian Worker Imelda Hospital from May to August 2023. The number of respondents in this study were 30 respondents who were taken by accidental sampling. The instrument used is an observation sheet to find out how changes in blood pressure before and after therapy are given. The intervention carried out was in the form of an independent act of holding finger for 3-5 minutes. The research instrument used was a sphygmomanometer to measure blood pressure. The results of the analysis using the comparative test (Noor, Juliansyah.,2022).

RESULTS

Based on the results of this study it was found that most of the respondents were based on type

Table 1. Characteristics of respondents

Characteristics	N	%
Gender		
Man	1	43,
Woman	3	3
	1	56,
	7	7
Education		
SD	1	40.
Junior High School	2	0
Senior High School	1	33,
	0	3
	8	26,
		7
Profession		
Self-employed	1	53,
Laborer	6	3
Doesn't work	1	40.
	2	0
	2	6,7
Age		
Early Adult (36-45 years)	4	13,
	1	3
Early Elderly (46-55 years)	8	60.
	8	0
Late Elderly (56-65 years)		26,7
Total	30	100
	0	.0

Based on the table above it can be seen that characteristics of respondents based on gender the majority were female as many as 17 people (56.7%) and the minority of respondents were male as many as 13 people (43.3%). Characteristics of respondents based on education, the majority had elementary school education as many as 12 (40.0%), and a minority of high school students were 8 (26.7%). The majority of respondents based on occupational characteristics worked as entrepreneurs as many as 16 people (53.3%), and a minority of laborers as many as 2 people (6.7%). Respondent characteristics based on the age of the majority were early elderly (46-55 years) as many as 18 people (60.0%), and a minority of early adults (36-45 years) were 4 people (13.3%).

Blood pressure before (Pre) given the hand-held technique to hypertensive patients at the Imleda Indonesian Workers' Hospital in Medan

The results of the blood pressure study before (Pre) being given the finger holding technique at the Medan Indonesian Worker Imelda Hospital found blood pressure 140/90 – 159/99 in 20 (66.7%) and blood pressure > 160/100 in 10 (33.3) %

Table 2. Blood Pressure before (Pre) given the finger holding technique to hypertension sufferers at the Imleda Indonesian Workers Hospital in Medan

Pretest TD	N	%
140/90 – 159/99	20	66,7
>160/100	10	33,3
Total	30	100.0

Blood Pressure After (Post) given the hand-held technique to hypertensive patients at the Imleda Indonesian Workers' Hospital in Medan

The results of the blood pressure study before (Pre) being given the finger holding technique at the Medan Indonesian Workers Imelda Hospital found blood pressure <120/80 in 3 (10.0%) and blood pressure 120/80-139/89 in 21 (70.0) % 140/90 – 159/99 as much as 6 (20.0%).

Table 3. Blood Pressure After (Post) given the finger holding technique to hypertensive patients at the Indonesian Workers' Imleda Hospital in Medan

TD posttest	N	%
<120/80	3	10.0
120/80 - 139/89	21	70.0
140/90–159/99	6	20.0
Total	30	100.0

Based on research, the effect of finger hold therapy on changes in blood pressure in hypertensive patients can be seen in the test results table *Comparative* below this :

Table 4. The Effect of Finger Grip Therapy on Changes in Blood Pressure in Hypertension Patients

TD	Means	P,Values
Pre	156.23	0.000
	97.73	
Post	147.20	0.000
	89.33	

DISCUSSION

Based on the Sig table. (2-tailed)/value in the Comparative test is 0.000. These results when compared with a significance level of 5% (0.05) then the value of Sig. (2-tailed) <0.05, meaning that there is a difference between before and after giving the finger grip technique to changes in blood pressure. In other words, it can be said that there is an effect of finger grip therapy on changes in blood pressure at the Indonesian Workers' Imelda Hospital (IPI) Medan.

This research is in line with research conducted by Rahmawati I and Suryandari D (2020) which said that there were changes before and after being given finger grip therapy. In relaxed conditions can reduce heart contractions and heart rate. The size of blood vessels widens the diameter of blood vessels resulting in a decrease in blood pressure by reducing preload and reducing afterload (Sulistyarini, 2013). Blood pressure is influenced by heart rate, stroke volume and total peripheral resistance (TPR). Therefore, if there is an increase in one of them, it can cause hypertension (Rahmawati, 2020).

According to Liana (2008) in Pinandita (2012) holding fingers while taking deep breaths can reduce and heal physical and emotional tension, because holding fingers warms the points of entry and exit of energy located on our fingers. Relaxed muscles will spread the stimulus to the hypothalamus so that the human soul and internal organs feel calm and comfortable. This situation will suppress the sympathetic nervous system so that the production of the hormones epinephrine and norepinephrine in the blood decreases. Decreased levels of epinephrine and norepinephrine in the blood will cause the heart's work to pump blood to decrease so that blood pressure also decreases (Rofacky & Aini, 2015).

Changes in structure and function in the peripheral vascular system are the basis for changes in blood pressure that occur in people with hypertension. These changes include the appearance of atherosclerosis, decreased vasoconstriction and relaxation of vascular smooth muscle, and loss of connective tissue elasticity will reduce the ability to distend and stretch blood vessels. As a result, the aorta and large arteries experience a decreased ability to accommodate the volume of blood pumped by the heart (stroke volume), resulting in decreased cardiac output and increased peripheral resistance. A simple relaxation technique with a touch of the hand that involves breathing to balance the energy in the body, so as to be able to control emotions which will relax the body (Upoyo, 2019). Finger held relaxation therapy can calm the soul and body so that it can have a relaxing effect on the body (Agustin et al., 2019). Relax breathing on the abdomen with a slow and slow frequency, rhythmic and comfortable by closing your eyes when you inhale. The effect of this therapy is distraction or diversion (Hartanti et al., 2016). Patients with high blood pressure

need blood pressure management to keep blood pressure stable (Setyawan & Ismahmudi, 2018)

CONCLUSIONS

Based on the results of research that has been conducted at the Medan Indonesian Worker Imelda Hospital for hypertension sufferers, it can be concluded:

The results showed that before (Pre) being given the finger holding technique at the Medan Indonesian Workers Imelda Hospital, blood pressure was found 140/90 – 159/99 in 20 (66.7%) and blood pressure > 160/100 in 10 (33.3) %.

The results of the blood pressure study after (Post) were given the finger-holding technique at the Medan Indonesian Worker Imelda Hospital found blood pressure <120/80 in 3 (10.0%) and blood pressure 120/80-139/89 in 21 (70.0) % 140/90 – 159/99 as much as 6 (20.0%).

There is an effect of finger grip therapy on changes in blood pressure in hypertensive patients at the Indonesian Workers' Imelda Hospital (IPI) Medan. With the results of the comparative test showing a significant value (p) of 0.000. the significant value is below 0.05.

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