

The Effect of Head Massage Therapy on Blood Pressure in Hypertension Patients Pre Operations in The Home Outpatient Unit Eye Soreness Invitation Surabaya

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ABSTRACT

Hypertension is one of the main causes of mortality and morbidity in Indonesia, found at various levels of health facilities so that preventive and curative efforts are needed, one of which is the application of head massage therapy. The purpose of this study was to determine the effect of head massage therapy on patients with preoperative hypertension at the Undaan Eye Hospital, Surabaya. The research design used is Pre-Experimental Design One Group Pre – Post Test Design. The population of this study were 35 respondents. The Instruments used are SPO head massage, sphygmomanometer, and observation sheet. The analysis used the Paired Sample T Test statistical test with a significance level of 0.05. The results showed that the value of $p = 0.000 < 0.05$ so that H_0 was Rejected, meaning that there was an effect of Head Massage Therapy on the blood pressure of hypertensive patients. The results of blood pressure before treatment Were mostly grade 2 as many as 26 respondents (81%) while after treatment most Were grade 1 as many as 17 respondents (53%). With this research, it is hoped that head massage therapy can be applied to patients with hypertension in health services and it is hoped that further research can develop a better theory, duration of administration and design.

Keywords: Head Massage Therapy, Blood Pressure, Hypertension, Pre Surgery

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INTRODUCTION

Hypertension is one _ reason main mortality and morbidity in Indonesia, so handling disease This need noticed Because Lots Found in various level facility health . Hypertension is called the Silent killer because it often goes without complaints, so sufferers do not know they have hypertension and only find out after complications occur. Damage to target organs due to complications of hypertension will depend on the magnitude of the increase in blood pressure and the length of time the blood pressure condition is undiagnosed and untreated. The body organs that are targeted include the brain, eyes, heart, kidneys, and can also affect peripheral arteries. If prevention is not carried out, this disease can cause problems.

Institute for Health Metrics and Evaluation (IHME) in 2017, stated that of the 53.3 million deaths in the world, the cause of death was cardiovascular disease at 33.1%, cancer at 16.7%, DM and endocrine disorders at 6% and respiratory tract infections. down by 4.8%. Data on the causes of death in Indonesia in 2016 showed that the total number of deaths was 1.5 million, with the most common causes of death being cardiovascular disease at 36.9%, cancer at 9.7%, DM and endocrine diseases at 9.3% and tuberculosis at 5.9%. IHME also stated that of the total of 1.7 million deaths in Indonesia, the risk factors that caused death were blood pressure (hypertension) at 23.7%, hyperglycemia at 18.4%, smoking at 12.7% and obesity at 7.7%. % (P2PTM Ministry of Health of the Republic of Indonesia, 2019).

Meanwhile, data from the 2016 National Health Indicator Survey (Sirkesnas) shows an increase in the prevalence of hypertension in the population aged 18 years and over by 32.4%. Meanwhile, according to the Indonesian Ministry of Health (2017), hypertension often occurs from the age of 35-44 years (6.3%), less than those aged 45-54 years who account for (11.9%) of each incident of hypertension. Apart from that, according to BPJS Health data, the cost of hypertension services increases every year, namely Rp. 2.8 trillion in 2014, Rp. 3.8 trillion in 2015, and Rp. 4.2 trillion in 2016. Based on data from the Ministry of Health (2016), the percentage of hypertension in East Java Province is 13.47% or around 935,736 residents, with the proportion of men being 13.78% (387,913 people) and women being 13.25% (547,823 people) . According to the profile of the Surabaya City Health Service (2016), measuring blood pressure in patients at community health centers, it is known that there are 10.43% of hypertension sufferers out of 431,427 patients examined at community health centers. Based on a preliminary study conducted by researchers on January 27 2022 at the Undaan Eye Hospital Outpatient Unit, it was found that the prevalence of hypertension sufferers in the last 3 months was 340 patients, while the average number of control patients per month was 113 (33%) hypertensive patients. Then the researchers made observations regarding the use of Head Massage Therapy by 6 respondents suffering from hypertension. The results showed that all respondents had never carried out Head Massage Therapy when there were signs and symptoms of hypertension.

Hypertension can be triggered by various risk factors that can be modified such as stress, obesity, nutrition and lifestyle; as well as non-modifiable risk factors such as genetics, age, gender and ethnicity. This will affect the flow and structure of blood vessels. Structural and functional changes in the blood vessel system have an influence on changes in blood pressure. These changes include atherosclerosis, loss of connective tissue elasticity and a decrease in the ability to relax the smooth muscles of blood vessels which will reduce the distension ability and stretchability of blood vessels, thereby reducing the ability of the aorta and large arteries to accommodate the volume of blood pumped by the heart (stroke volume), resulting in a decrease in blood flow. heart and increased peripheral resistance (Saferi & Mariza, 2013).

Complications of hypertension into worse conditions can be done with prevention and treatment efforts to control blood pressure. The role of nurses in providing care can be carried out with promotive, preventive, curative and rehabilitative efforts. Curative efforts can be carried out by providing conventional or non-pharmacological therapy because it

has almost no negative impact than pharmacological therapy. The results of research by Ananto DP (2017) stated that giving efflurage massage techniques to the back and upper extremities in people with hypertension can reduce systolic blood pressure from 156 mmHg to 141 mmHg, and diastolic pressure from 87 mmHg to 81 mmHg.

By providing more effective massage therapy to reduce blood pressure, one massage that is easy to do and makes sufferers feel comfortable is Head Massage. According to research by Alikin and M Supriyono (2014), regarding the effect of back massage with lavender aromatherapy on reducing blood pressure in hypertensive elderly people. Showing changes in blood pressure after massage, massage movements are effective for relaxation and have a positive effect on cardiovascular parameters such as blood pressure. Meanwhile, Wahida & Khusniyah, (2012) stated that massage on the head will influence the work of the cerebral cortex, indirectly helping to balance the body's homeostasis through the HPA Axis, to produce Coticitropin Releasing Factor (CRF). Furthermore, CRF stimulates the pituitary gland to reduce ACTH production and increase endorphin production which then reduces the production of cortisol and other hormones. During the relaxation phase, the need for oxygen in the body will decrease followed by a decrease in body muscles, vascular circulation will be smooth, calming neurotransmitters will work well, giving rise to a feeling of calm and comfort. Massage movements will relax the sufferer and provide an opportunity for blood circulation to the brain to be smoother and fresher. As well as having a positive effect on cardiovascular parameters such as blood pressure.

Based on the description above, researchers are interested in conducting thesis research with the title "The Effect of Head Massage Therapy on the Blood Pressure of Hypertension Sufferers in the Outpatient Unit of the Undaan Eye Hospital, Surabaya".

METHOD

Research methods include research design, framework, population, sample and sampling techniques, research variables, operational definitions, data collection and research ethics.

1. Research Design The design used in this research is Pre-Experimental Design with a One Group Pre Test – Post Test Design research design. This type of preexperimental is carried out in a way that before the treatment is given, the variable is observed or measured first (pre test) after which the treatment is carried out and after the treatment the measurement/observation is carried out (post test) (Hidayat, 2012)

Subject	Pre-test	Treatment	Post-test
S	O1	P	O2
.	Time 1	Time 2	Time 3

Description:

S: Subject

O1O 2 : Observation treatment before and after providing head massage therapy

P : Intervention (Giving Head Massage)

The location of this research was in the Outpatient Unit of the Undaan Eye Hospital, Surabaya. The research time starts on January 27 2022 when conducting an initial survey to collect initial data. Research on providing head massage will be carried out for 7 days at the Outpatient Unit of the Undaan Eye Hospital, Surabaya.

RESULTS AND DISCUSSION

Table 5.3 Identification of Blood Pressure Before Head Massage Therapy

Degrees Blood pressure	Systole/Dyastole	Frequency (n)	Percentage (%)
Normal	$\leq 119/\leq 79$ mmHg	0	0
Pre Hypertension	120-139/89-89 mmHg	0	0
Degree 1	140-159/90-99 mmHg	6	19%
Degree 2	$\geq 160/\geq 100$ mmHg	26	81%
Total		32	100

Based on table 5.3 above, it shows that the blood pressure research of respondents before being given the head massage therapy intervention was mostly classified as grade 2 ($\geq 160/\geq 100$ mmHg), namely 26 respondents (81%), and a small number were classified as normal ($\leq 119/\leq 79$ mmHg) and pre-hypertension (120-139/89-89 mmHg), namely 0 respondents (0%).

Table 5.4 Identification of Blood Pressure After Head Massage Therapy

Degrees Blood pressure	Systole/Dystole	Frequency (n)	Percentage
Normal	$\leq 119/\leq 79$ mmHg	3	9%
Pre Hypertension	120-139/89-89 mmHg	7	22%
Degree 1	140-159/90-99 mmHg	17	53%
Degree 2	$\geq 160/\geq 100$ mmHg	5	16%
Total		32	100

Based on table 5.4 above, it shows that the research blood pressure of respondents after being given the head massage therapy intervention was mostly classified as grade 1 (140-159/90-99 mmHg), namely 17 respondents (53%), and a small number were classified as normal ($\leq 119/\leq 79$ mmHg), namely 3 respondents (9%).

Table 5.5 Analysis of the Effect of Head Massage Therapy on Blood Pressure of Preoperative Hypertension Sufferers in the Outpatient Unit of Undaan Eye Hospital, Surabaya.

Blood Pressure Degrees	Systole/Dystole	Pre-test		Post-test	
		N	%	N	%
Normal	$\leq 119/\leq 79$ mmHg	0	0	3	9
Pre hypertension	120-139/89-89 mmHg	0	0	7	22
Degree 1	140-159/90-99 mmHg	6	19	17	53
Degree 2	$\geq 160/\geq 100$ mmHg	26	81	5	16
Total		32	100	32	100

Sample T Test
Results Sig Value
(0.000) $p < a(0.05)$

Based on table 5.5 above show Paired Sample statistical test results

T Test for know difference degrees hypertension before and after performed head massage therapy shows results with significance $p = 0.000$ with degrees meaning is $a < 0.05$, so H_0 is rejected, meaning There is the influence of Head Massage Therapy on pressure blood sufferer Hypertension in the Outpatient Unit of Undaan Eye Hospital, Surabaya. There is a relationship between blood pressure before and after giving Head Massage Therapy. The level of relationship/correlation is quite large, namely 0.724.

CONCLUSION

Identification of Blood Pressure Before Head Massage Therapy is carried out. Based on table 5.3 above, it shows that the blood pressure research of respondents before being given head massage therapy intervention was mostly classified as grade 2, namely 26 respondents (81%), and a small portion was classified as normal and pre-hypertensive, namely 0 respondents. (0%). Blood pressure is one of the hemodynamic parameters that is quite simple and easy to measure. Blood pressure describes how a person's hemodynamic situation is at that time. Hemodynamics is a condition where pressure and blood flow can maintain perfusion or exchange of substances in tissues (Muttaqin, 2014). In hypertensive sufferers there is an increase in cardiac work which can trigger clinical manifestations in patients. According to the Indonesian Ministry of Health (2019), Hypertension or high blood pressure is a condition where the systolic blood pressure is ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg, often called the silent killer because there are almost no complaints. The research results are in line with Mirna's (2021) opinion, namely that a

person is said to have high blood pressure if in a sitting position the systolic pressure reaches 140 mmHg or more, also if the diastolic pressure reaches 90 mmHg or more, or both. According to Kowalk, Jennifer P (2012) Risk factors for hypertension can be divided into 2, namely primary factors including family history (hereditary), age, sleep apnea, race, obesity, habits.

Identification of Blood Pressure After Head Massage Therapy. Based on table 5.4, it shows that the blood pressure research of respondents after being given head massage therapy intervention was mostly classified as grade 1, namely 17 respondents (53%), and a small portion was classified as normal, namely 3 respondents (9%). The research results are in line with Marty Morales (2022), who stated that head massage is a good way to relax, because it can help release tension. A study conducted by In-Hong Kim et al (2016), on 34 respondents, showed significant results from applying head massage to female office workers for 10-15 minutes. It had a positive effect on stress hormones, blood pressure and heart rate.

Analysis of the Effect of Head Massage Therapy on the Blood Pressure of Hypertension Sufferers in the Outpatient Unit of the Undaan Eye Hospital, Surabaya. Based on table 5.5, it shows the results of the Paired Sample T Test statistical test. To determine the difference in the degree of hypertension before and after the Head Massage Therapy treatment, the results show a significance of $p = 0.000$ with The degree of significance is $\alpha < 0.05$, so H_0 is rejected, meaning that there is an influence of Head Massage Therapy on the blood pressure of Hypertension sufferers in the Outpatient Unit of the Undaan Eye Hospital, Surabaya. There is a relationship between blood pressure before and after giving Head Massage Therapy with a fairly large level of relationship/correlation, namely 0.724. The research results are in line with research by In-Hong Kim et al (2016) regarding giving head massage on blood pressure. There are two different neuroendocrine systems associated with stress: one is the sympathetic system – the adrenal medullary axis involved in the secretion of epinephrine and norepinephrine and the other is the hypothalamic-pituitary-adrenal medullary (HPA) axis involved in the secretion of cortisol. The physiological effects of massage can generally be divided into relaxation effects and stimulation effects. The relaxing effect involves a hypothalamic reaction associated with a decrease in the activity of the sympathetic and parasympathetic systems. There are two types of stimulating effects: one reflexive and the other mechanical. The reflex effect is refreshing and relaxing because it stimulates the peripheral nerves of the skin to the cerebrum. Peripheral skin stimulation improves circulation through stimulation of parasympathetic nerves, relaxation of muscles and capillaries. Ultimately, massage reduces sympathetic nerve activity while increasing parasympathetic nerve activity. Scalp massage for 15 minutes and 25 minutes has a significant effect on norepinephrine and cortisol. The results of other research conducted by Ananto DP (2017) stated that giving massage to the back and upper extremities in people with hypertension can reduce systolic blood pressure

from 156 mmHg to 141 mmHg, and diastolic pressure from 87 mmHg to 81 mmHg. Strengthened by research conducted by Lukman et al (2018), the results of the study involved 18 respondents who provided massage therapy for blood pressure. There is a difference in blood pressure before and after massage therapy in both systolic and diastolic blood pressure

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