

## **The Effect Of Swedish Message Therapy On Blood Pressure In Primary Hypertension Patients**

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### **ARTICLE INFO**

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### **ABSTACT**

*Primary hypertension is one of the comorbidities in the transmission of the Sar-Cov virus. Relaxation therapy is needed in patients with hypertension in order to relax the blood vessels so that vasodilation will occur which causes blood pressure to return to normal. Swedish massage is a technique massage that focuses on relaxation and enhancing blood circulation by involving the muscles. The purpose of this study was giving a swedish message as an effort to lower blood pressure in patients with primary hypertension. This study used in a research quasi-experimental design : one group pre test and post test design. The population in this study amounted to 8 respondents. The result is an influence between Swedish massage for lowering blood pressure in primary hypertension patient. Swedish massage that is carried out regularly and consistently can be used to lower blood pressure in patients with primary hypertension*

### **INTRODUCTION**

Hypertension or high blood pressure is an increase in systolic blood pressure more than 140 mmHg and blood pressure diastolic more than 90 mmHg on two occasions measurements with an interval of five minutes in a state of sufficient rest / calm. Ongoing increase in blood pressure in the long term (persistent) can cause kidney damage (failure kidney), heart (coronary heart disease) and brain (causing stroke) if not detected early and receive appropriate treatment adequate.

often encountered in primary health services in the community, in addition

Many hypertensive patients with uncontrolled blood pressure and the amount continue to increase. Therefore, participation all parties, both doctors from various fields hypertension specialization, government, private and the community is needed so that hypertension can be controlled.

Hypertension is still a health problem that need attention in Indonesia. according to Pusat Data dan Informasi Kementerian Kesehatan RI (2014) hypertension is a condition that is based on data from Basic Health Research (2013) prevalence. Hypertension in

Indonesia is still high at around 25.8% in population aged 18 years and over and the prevalence of hypertension in West Java which is about 29.4% included in 4 major provinces with the highest prevalence of hypertension in Indonesia where 25.5% occurs in the community rural. In 2016 showed the prevalence hypertension by 32.4%. The number of occurrences of this disease in the community is estimated to exceed the recorded number, given the signs and symptoms of hypertension which is vague and will not be felt by the sufferer until complications occur.

Primary hypertension is essential hypertension of unknown cause. Factors that influence include age, gender and obesity (Ardiansyah, 2012). A person is diagnosed with hypertension if blood pressure over 140/100 mm Hg. While blood pressure is the pressure exerted by the blood on the arterial walls with units of millimeters of mercury (MmHg) and recorded in two numbers, namely pressure systole and diastole. Systolic blood pressure is the blood pressure when the heart pump blood into arteries (when the heart beats). Where as diastolic blood pressure is blood pressure when the heart expands and suck blood back (veins) deflate empty) (Intarti & Khoriah, 2018).

No age increase causes the heart to

shrink (atrophy) like any other organ, but instead hypertrophy occurs. At the age of 30-90 years increased heart mass ( $\pm 1$  gram/year in males and  $\pm 1.5$  g/year in woman). On the leaf and ring of the aortic valve. The main changes consist of a decrease in number of cell nuclei of stromal fibrous tissue valves, lipid buildup, degeneration collagen and fibrous tissue calcification the valve. The valve leaflets become stiff, This change causes sound ejection systolic murmur in the elderly.

General goals of hypertension treatment is to reduce mortality and morbidity associated with hypertension. Target lowering blood pressure based on JNC VIII divided into two groups, namely  $<150/90$  mmHg in the age group 60 years and  $<140/90$ mmHg in  $<60$  years age group. Treatment of primary hypertension is divided into: Two are non-pharmacological and pharmacological.

Hypertension can be fatal if you don't get proper management. Management of hypertension is not always using drugs. A number of research shows that the approach non-pharmacological can be performed on hypertensive patients, which include: weight loss techniques, restriction alcohol, sodium and tobacco, exercise or exercise that has the effect of increasing high-density lipoprotein, relaxation which

is a mandatory intervention that must be done in every therapy hypertension and massage (Rizal Muttaqin, 2016)

Hypertension healing techniques can go through two types, namely treatment medicine and traditional medicine. Each type of treatment has an impact different. Treatment use long term medical can cause liver damage and kidney which can lead to complications. Therefore, society is now turning on traditional medicine. Kind and Different types of traditional medicine include: consumption of herbs or frequent called herbal medicine, treatment through music, yoga, relaxation, imagery, massage reflexology, neck massage, and hypnotherapy (Intarti & Khoriah, 2018).

The results of research conducted by (Olney, 2015) get that result massage can lower blood pressure systolic and diastolic in patients hypertension. One of the massages that can done is Swedish massage that is massage with a classic form of massage technique west with the method of doing soft tissue manipulation with five movements include effleurage, petrissage, friction, tapotement and vibration.

Swedish massage is a therapy that can significantly reduce systolic blood pressure by 12 mmHg and decrease

diastolic blood pressure by 5 mmHg (Supa'at et al, 2013). Research conducted by Ritanti et al (2020) showed that there was a significant decrease in the elderly with hypertension after Swedish message therapy for 20-30 minutes for 12 times. Swedish massage refers to a technique specifically designed to relax muscles through massage or pressure on the muscles and bones, as well as rubbing from the toe to help flow blood back to the heart and facilitate the flow of oxygen in the blood and release toxins that are not good from the muscles.

Based on the current condition, namely the COVID-19 outbreak that hit, it is not possible for researchers to go directly to the field. Data collection for the preliminary study was constrained by this outbreak due to the need to maintain social distancing. The results of interviews conducted through social media in Pucangsawit Village, in 12 residents who had hypertension there were 9 people who said they went to the Puskesmas to get hypertension medicine but if the symptoms had disappeared then the drug was not taken again, then 3 residents experienced hypertension with blood pressure of 150/90 mmHg how to overcome it by eating low-salt foods. Residents also said that during the pandemic if there were symptoms, they

only bought medicine for fear of having to check with health services. The preliminary study conducted, the researchers were interested in examining the effect of the Swedish message on reducing blood pressure in patients with primary hypertension.

## METHODS AND MATERIALS

This research uses a research quasi-experimental design : one group pre test and post test design. Due to the Covid-19 outbreak, which requires social distancing, the researchers used social media for data collection. The independent variable was Swedish Message Therapy and the dependent variable was changes in blood pressure. In this group, initial observations (pre-test) were carried out before being given the intervention and final observations (post-test) after being given the intervention. The sample in this study is the elderly who suffer from hypertension. The sample in this study will be taken according to the inclusion and exclusion criteria that have been set by the previous researcher. The number of samples in this study were 8 people. The inclusion criteria in this study were the age of the respondent 45-60 years old, able to participate in Swedish message therapy in full or until it was completed, did not have activity disorders.

## RESULTS AND DISCUSSION

The results of the Swedish Massage intervention in primary hypertension patients as many as 8 people in the Pucangsawit Village area, the following results were obtained:

**Table 1. Result of The Systolic and Diastolic Blood Pressure Measurement Results Before and After Swedish Massage Therapy**

Measurement	Mean	Median	Min-Maks	Std Deviasi
Systolic Before Therapy	143.91	145.00	142-147	1.175
Systolic After Therapy	124.45	126.00	122-131	0.865
Diastolic Before Therapy	95.41	96.00	94-98	1.455
Diastolic After Therapy	82.80	84.00	79-85	1.530

The results of measurement of systolic and diastolic blood pressure before and after Swedish Massage therapy. The table shows that the mean (mean) of systolic BP before Swedish massage therapy is 143.91 with a standard deviation of 1.175, the mean (mean) of systolic BP after Swedish massage therapy is 124.45 with a standard deviation of 0.865. Meanwhile, the mean (mean) of diastolic BP before Swedish Massage therapy was 95.41 with a standard deviation of 1.455, the mean (mean) of Diastolic BP after Swedish Massage therapy was 82.80 with a standard deviation of 1.530.

Primary hypertension is essential hypertension or hypertension of which 90%

has no known cause. Several factors that are thought to be related to the development of primary hypertension are the age factor where men aged 35-50 years and women who have menopause are at high risk of developing hypertension (Ardiansyah M., 2012).

Increased blood pressure can be caused by internal and external stimuli as well as the level of adaptation (focal, contestual and residual) that affect individual coping mechanisms as regulators and cognators that play a role in the limbic system so that it affects the autonomic nervous system, namely the sympathetic nerves.

This is in accordance with the theory put forward by Muttaqin (2009) that as a result of the activation of the sympathetic nervous system results in an increase in the contractility of cardiac muscle fibers by selective vasoconstriction in peripheral organs. The sympathetic nervous system can respond to nerve impulses from the hypothalamus by activating various organs and smooth muscles under its control, one of which increases heart rate. The sympathetic nervous system also signals the adrenal medulla to release epinephrine and noepinephrine into the bloodstream. Stimulation of sympathetic nerve activation

will increase peripheral vascular resistance and cardiac output so that it will have an impact on increasing blood pressure intermittently or erratically.

Increased blood pressure can be caused by increased activation of the sympathetic nerves which can cause vasoconstriction in blood vessels so that the pressure in the blood vessels increases which in turn can lead to hypertension.

The results showed that there was a decrease in the mean value of systolic and diastolic pressure in primary hypertension after treatment for 8 times within 2 weeks according to the schedule. This is in accordance with the theory of Rowe and Alfred (1999) quoted from Barbara & Kozier (2010) saying that massage can improve circulation and produce a relaxation response so that it has a positive effect on cardiovascular parameters such as blood pressure and heart rate.

In addition, the theory from Basford (2006) that massage can increase circulation, and reflex activity in the central and autonomic nervous systems has psychological benefits, which are related to reciprocal touch and the relaxation process. The impact of the relaxation response caused will lengthen muscle fibers, reduce the reduction of neural impulses to the brain, and further reduce the activity of the

brain and other body systems. Decreased heart rate and respiratory rate, blood pressure, and oxygen consumption as well as increased alpha brain activity and peripheral skin temperature (Perry & Potter, 2010).

The results of another study by Mohebbi et al., (2014) and Givi (2016) where Swedish Massage proved to be significant in reducing systolic and diastolic blood pressure with p value < 0.001. Another study by Adawiyah, et al (2017) showed that after Swedish massage therapy from 20 respondents there were 10 respondents experiencing mild hypertension, 6 respondents experiencing high normal blood pressure, 2 respondents experiencing moderate hypertension, and 2 respondents experiencing normal blood pressure. Where the average change in blood pressure in each respondent after being given Swedish massage therapy is 5 mmHg.

Swedish massage therapy is a movement that functions to manipulate soft tissues and muscles in the hands or feet so that it will increase blood circulation to be adequate, stimulate parasympathetic activation and increase the release of hormones, endorphins, causing a decrease in heart rate, blood pressure, and breathing. decreased stress levels. (Mina Jouzi, 2016),

and (Khaledifar, Nasiri, Khaledifar, & Khaledifar, 2017). Several other studies have shown that Swedish massage is effective in lowering blood pressure including Supa'at, et al (2013), showing a significant decrease in systolic blood pressure (TDS) with a total reduction of 12 mmHg and a significant decrease in diastolic blood pressure (TDD) with a reduction in blood pressure 5 mm Hg.

Existing research and literature mention the change in pressure blood, is the result of the process relaxation caused by massage. (Cowen, et al, 2015) stated that massage can causes vascular vasodilation blood due to decreased sympathetic nervous system and improve nerve work parasympathetic so that massage can reduce vascular vasoconstriction blood. In addition, massage will stimulate for release histamine which plays a role in vasodilation of blood vessels. This matter supported by the nature of blood vessels which has the ability to stretch and affects the systolic pressure and diastolic (Sherwood, 2011).

**Table 2. Result of Analyzed with Paired T-Test**

No	Indikator	Mean	95%CI	T	P Value
1	Tekanan Sistolik sebelum – setelah terapi	8.766	8.000-9.933	24.512	0.000

2	Tekanan diastolik sebelum – sesudah terapi	7.211	6.899-7.888	25.233	0.000
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Frequency Distribution of Systolic and Diastolic Blood Pressure Before and After at (n=8). Based on the table above, the results of data analysis show that the p value is 0.000. These results indicate that there is a significant difference between the results of the measurement of systolic and diastolic blood pressure before and after the Swedish massage therapy. These results indicate that there is an effect on blood pressure before and after Swedish Massage therapy, both on systolic pressure and diastolic pressure.

This study shows that there is an effect of Swedish massage therapy on reducing systolic and diastolic blood pressure in patients with primary hypertension, as evidenced by the pired sample t-test data analysis test with a p value of 0.000.

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This is in accordance with the theory of Rowe and Alfred (1999) quoted from Barbara & Kozier (2010) saying that massage can improve circulation and produce a relaxation response so that it has a positive effect on cardiovascular parameters such as blood pressure and heart rate. One of the effects of slow stroke back massage is to increase blood circulation and lymph nodes, release nervous responses, release body chemicals so that a relaxation response occurs in increasing the activity of the parasympathetic nervous system which releases the neurotransmitter acetylcholine which can inhibit the depolarization of the SA node and AV node due to activity. The sympathetic nervous system releases the neurotransmitter norepinephrine, this causes systemic vasodilation and decreased contractility, resulting in a decrease in

heart rate, cardiac output, and stroke volume, resulting in changes in blood pressure, namely a decrease in blood pressure.

The results of another study by Mohebbi et al., (2014) and Givi (2016) where Swedish Massage proved to be significant in reducing systolic and diastolic blood pressure with p value < 0.001. Another study by Adawiyah, et al (2017) showed that after Swedish massage therapy from 20 respondents there were 10 respondents experiencing mild hypertension, 6 respondents experiencing high normal blood pressure, 2 respondents experiencing moderate hypertension, and 2 respondents experiencing normal blood pressure. Where the average change in blood pressure in each respondent after being given Swedish massage therapy is 5 mmHg. Based on the analysis described above, it can be shown that the Swedish massage therapy nursing intervention is a

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complementary therapy that is considered effective, easy to apply, and safe to reduce the risk of damage to the function of the cardiovascular system where hypertension is one of the triggers. This therapy certainly cannot achieve optimal results when it stands alone, so it is necessary to modify and add other nursing interventions.

#### CONCLUSIONS AND SUGGESTIONS

The results of giving swedish messages to patients with primary hypertension that are carried out routinely are proven to reduce blood pressure. Swedish Massage is able to relax the muscles in the body of people with hypertension so that it can improve blood circulation. Suggestions do this Swedish message regularly in order to get maximum results. Swedish message can be used as a nursing intervention in nursing care.

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