

## Pengaruh Pijat Swedia Terhadap Tekanan Darah Pada Pasien Hipertensi Di Puskesmas Citra Medika Kota Lubuklinggau

### The Effect Of Swedish Massage On Blood Pressure In Hypertensive Patients At Citra Medika Health Center Lubuklinggau City

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#### ABSTRAK

Swedish Maissaige dengan teknik effleurage, petrissage, taipotemen, friction dan vibrasi mempengaruhi sistem saraf parasimpatis yang diyakini dapat memberikan respon relaksasi, selain itu juga dapat menurunkan tekanan darah pada pasien hipertensi. Tujuan penelitian ini adalah untuk mengetahui pengaruh Swedish maissaige terhadap penurunan tekanan darah pada pasien hipertensi di Puskesmas Citra Medika Kota Lubuklinggau. Metode : Penelitian ini menggunakan desain pra-eksperimen. Populasi dalam penelitian ini berjumlah 719 orang dengan sampel sebanyak 12 orang. Jenis penelitian yang digunakan adalah penelitian eksperimen semu. Analisis data yang digunakan adalah analisis univariat dan bivariat, uji statistik yang digunakan adalah uji Wilcoxon. Hasil : Hasil penelitian menunjukkan bahwa rata-rata tekanan darah sistolik sebelum sebesar 152,50 dan rata-rata tekanan darah diastolik sebelum sebesar 96,67. Hasil penelitian menunjukkan bahwa rata-rata tekanan darah sistolik sesudah perlakuan adalah 126,67 dan rata-rata tekanan darah diastolik sesudah perlakuan adalah 85,83. Analisis bivariat dengan nilai p sebesar 0,002. Kesimpulan : Diharapkan perawat dapat menggunakan terapi maissaige Swedia sebagai salah satu intervensi keperawatan dalam melaksanakan asuhan keperawatan pada pasien hipertensi.

#### ABSTRACT

Swedish Maissaige with effleurage, petrissage, taipotemen, friction and vibration techniques affects the parasympathetic nervous system which is believed to be able to provide a relaxation response, besides it can also lower blood pressure on hypertensive patients. The purpose of the study was to determine the effect of Swedish maissaige on lowering blood pressure in hypertensive patients at the Citra Medika Health Center in Lubuklinggau City. Methods : This study used a pre-experimental design. The population in this study was 719 people and a sample of 12 people. The type of research design is primary data. Data analysis used univariate analysis and bivariate analysis, the statistical test used was the Wilcoxon test. Result : The results of the study showed that the average value of systolic blood pressure before was 152.50 and the average value of diastolic blood pressure before was 96.67. The results of the study showed that the average value of systolic blood pressure after was 126.67 and the average value of diastolic blood pressure after was 85.83. Bivariate analysis with p value of 0.002. Conclusion : It is hoped that nurses can use Swedish maissaige therapy as one of the nursing interventions in carrying out nursing care for hypertension patient.

## INTRODUCTION

Hypertension, or high blood pressure, is a condition in which a person's blood pressure exceeds the normal level, which can increase the risk of serious health problems such as the risk of morbidity (morbidity) and mortality (mortality) (Sumartini, 2019). WHO, (2021), Explains that about 1.13 billion people worldwide have hypertension, with one in every three people diagnosed with this disease, and the number of sufferers continues to increase every year. In the South East Asian region, the prevalence of hypertension is the third highest, reaching 25% of the total population in several countries in the region. Indonesia itself has a high prevalence of hypertension compared to other countries, which is 31.7% (KemenkesRI, 2019).

Hypertension has become a major problem in the world of health, not only in Indonesia but also throughout the world, because hypertension is one of the main risk factors for serious diseases such as diabetes, diabetics, and stroke and the risk of ineffective peripheral perfusion. Hypertension is the world's leading cause of mortality, the incidence of hypertension continues to rise, and contributes significantly to the global mortality frame. Hypertension is commonly found in many countries, both in developed and developing countries, including Indonesia.

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Based on the data from the Sumaiterai Selaitain Health Office, the number of people suffering from hypertension paid in 2023 increased to 14,97736 Caucasians (BPS, Sumaiterai Selaitain Province 2023). The number of people suffering from hypertension in Lubuklinggai City in 2022 was 42,061 Caucasians, and in 2023 it increased to 43,998 Caucasians. (Lubuklinggau City Health Office, 2023).

Based on the survey of patients diagnosed with hypertension at the Citrai Medical Center, the number of patients diagnosed with hypertension in the last three years paid in 2021 reached 650 patients with hypertension, in 2022 the number of patients with hypertension reached 714 patients. By 2023, the number of patients with hypertension will be 916. Government strategies for hypertension control are implemented in an integrated and sustainable manner through a hypertension control program consisting of health promotion and prevention activities including screening, early detection, medical treatment, and surveillance and prevention.

Promotion and prevention are carried out with the aim of increasing awareness about the importance of maintaining a normal lifestyle and adopting a healthy lifestyle to reduce the risk of hypertension by empowering the community to avoid the risk factors for hypertension and adopt a clean and healthy lifestyle. Prevention and early detection means finding hypertension cases as early as possible, especially in health facilities such as health centers, the control of hypertension involves managing conditions related to hypertension. Medical treatment for hypertension is divided into two categories: fairmaikology and non-fairmaikology therapies.

Fairmaikology therapies involve the provision of antihypertensive drugs, while non-fairmaikology therapies include counseling for the prevention of risk factors, such as changes in lifestyle and lifestyle patterns, rehabilitation through complementary and palliative therapies. (Indonesian Ministry of Health, 2024). Hypertension treatment methods can be divided into two types of fairmaikological therapies, namely medical treatment and therapeutic treatment, both of which have different effects. The use of medical treatment in the frame of painjaing can cause damage to the temple and ginjail, and potentially lead to complications. Due to this reason, it is better to switch to traditional surgical treatment. Different methods of traditional treatment can provide more alternative treatments and are often preferred to other popular pain management methods: herbal medicine consumption, music therapy, yoga, relaxation, imaigery, reflexology, neck maissaige, and various other techniques. (Intairi W et ail., 2018).

Research conducted by Widyaningrum (2020) shows that Swedish Massage Therapy (SMT) is effective in reducing blood pressure in mothers with hypertension, with a decrease in systolic blood pressure by 12 mmHg and diastolic blood pressure by 5 mmHg. Based on an interview with the implementing nurse, it is known that at Puskesmas Citra Medika, pharmacological therapy given to hypertensive patients includes antihypertensive drugs. However, for non-pharmacological management, the health center only provides education on the importance of getting plenty of rest and avoiding stress.

## RESEARCH METHODS

This study uses a quantitative method with a pre-test and post-test research design. In this design, the treatment group will be given Swedish massage therapy intervention twice a week for one month, then blood pressure measurements are taken using a sphygnomanometer then observation of blood pressure reduction pre and post test.

This study was conducted from June 17 to July 4, 2024 at Puskesmas Citra Medika, Lubuklinggau City. The population in this study consisted of 916 hypertensive patients at the Citra Medika Health Center. The study sample amounted to 12 hypertensive patients who met the criteria as research subjects. Inclusion criteria for this study were: Patients suffering from grade 1 hypertension (140-160) who have no complications, aged 50-60 years, and female gender.

## RESULTS

**Table. 1 The Following Table Shows The Average Blood Pressure Before Swedish Massage Therapy In Hypertensive Patients At The Citra Medika Health Center, Lubuklinggau City:**

Variable		Mean	Standard Deviation	95% Confidence Interval	Minimum Maximumm
Before	TD Sistole	152,50	7,538	147,71 – 157,29	140 – 160
	TD Diastole	96,67	4,924	93,54 – 99,80	90 - 100

Based on Table 1, the value of blood pressure in hypertensive patients before Swedish massage therapy has the following ranges: The lowest systolic blood pressure was 140 mmHg and the highest was 160 mmHg, while the lowest diastolic blood pressure was 90 mmHg and the highest was 100 mmHg. The mean value of systolic blood pressure before therapy was 152.50 mmHg with a confidence interval of 147.71 to 157.29 mmHg. Meanwhile, the mean value of diastolic blood pressure before therapy was 96.67 mmHg with a confidence interval of 93.54 to 99.80 mmHg.

**Table. 2 The Following Table Shows The Average Blood Pressure After Swedish Massage Therapy In Hypertensive Patients At The Citra Medika Health Center, Lubuklinggau City.**

Variable		Mean	Standard Deviation	95% Confidence Interval	Minimum Maximumm
After	TD Sistole	126,67	4,924	123,54 – 129,80	120 – 130
	TD Diastole	85,83	5,149	82,56 – 89,11	80 - 90

Based on Table 2, blood pressure values in hypertensive patients after Swedish massage therapy have the following ranges: The lowest systolic blood pressure was 120 mmHg and the highest was 130 mmHg, while the lowest diastolic blood pressure was 80 mmHg and the highest was 90 mmHg. The mean value of systolic blood pressure after therapy was 126.67 mmHg with a confidence interval of 123.54 to 129.80 mmHg. Meanwhile, the mean value of diastolic blood pressure after therapy was 85.83 mmHg with a confidence interval of 82.56 to 89.11 mmHg.

**Table 3 Below Is A Table Of The Effect Of Swedish Massage Therapy On Reducing Blood Pressure In Hypertensive Patients At The Citra Medika Health Center, Lubuklinggau City:**

Variable	N	Mean Rank	p value
TD Systole before and after Swedish massage therapy	12	6,50	0,002
TD Diastole before and after Swedish massage therapy	12	6,00	0,002

Based on Table 3, the Wilcoxon test results show that the p value for systolic blood pressure before and after Swedish massage therapy is 0.002, which means  $p < 0.05$  ( $\alpha$ ). Likewise, the p value for diastolic blood pressure before and after the therapy was 0.002, which also means  $p < 0.05$  ( $\alpha$ ). Thus, it can be concluded that Swedish massage therapy has a significant effect on lowering blood pressure in hypertensive patients at CitraMedika Health Center in Lubuklinggau City.

## DISCUSSION

### Blood Pressure Before Swedish Massage Therapy in Hypertensive Patients at Citra Medika Health Center, Lubuklinggau City

Univariate analysis results showed that the average systolic blood pressure in hypertensive patients before undergoing Swedish massage therapy was 152.50 mmHg, while the average diastolic blood pressure before therapy was 96.67 mmHg. The researcher stated that blood pressure in

respondents was influenced by a lack of physical activity, excessive salt consumption, and stress, which contribute to high blood pressure.

The study also found that aging leads to a loss of arterial elasticity, resulting in disrupted blood flow. Additionally, the aging process affects calcium metabolism, causing more calcium to circulate in the blood, making it thicker. This condition can lead to increased blood pressure in elderly individuals. The rise in blood pressure with age is influenced by several factors, including increased arterial pressure, aortic regurgitation, and degenerative processes that commonly occur in old age.

### **Blood Pressure After Swedish Massage Therapy in Hypertensive Patients at Citra Medika Health Center, Lubuklinggau City**

The research findings indicated that the average systolic blood pressure in hypertensive patients after undergoing Swedish massage therapy was 126.67 mmHg, and the average diastolic blood pressure was 85.83 mmHg. The researcher revealed that there was a decrease in blood pressure among respondents after therapy, demonstrating that Swedish massage is an effective complementary therapy for lowering blood pressure. The relaxation effect induced by this therapy has a positive impact on the heart and blood vessels. However, this therapy should not be used as the sole method and needs to be combined with other therapies for more effective results.

After implementing Swedish massage therapy, blood pressure measurements showed that both respondents were categorized as prehypertensive. Hypertension is a non-communicable disease that poses a major problem due to its increasing prevalence. This condition often presents no symptoms, earning it the name "silent killer," and is a leading cause of heart disease, stroke, and kidney disorders (Arianto, 2018).

Swedish massage, as part of complementary therapy, plays an important role in promoting relaxation, regulating heart rhythm, reducing excessive metabolism and oxygen consumption, and improving blood circulation. This therapy also contributes to lowering both systolic and diastolic blood pressure. The goal of Swedish massage techniques is to enhance blood circulation, stimulate the parasympathetic nervous system, decrease heart rate and blood pressure through the release of endorphins, reduce stress, and improve the respiratory system (Arianty, 2023).

According to research by Ulkhasanah (2023), Swedish massage can induce changes in blood pressure among elderly individuals with hypertension. As a massage therapy focused on body relaxation, Swedish massage effectively lowers systemic blood pressure. Therefore, Swedish massage can be integrated into non-pharmacological management for hypertensive patients, aiming to provide relaxation effects that contribute to improved blood pressure regulation.

### **The Effect of Swedish Massage Therapy on Blood Pressure Reduction in Hypertensive Patients at Citra Medika Health Center, Lubuklinggau City**

The research findings using the Wilcoxon test showed that the p-value for systolic blood pressure before and after Swedish massage therapy was 0.002, meaning  $p < 0.05$  ( $\alpha$ ). Similarly, the p-value for diastolic blood pressure before and after therapy was also 0.002, indicating  $p < 0.05$  ( $\alpha$ ). Based on these results, it can be concluded that Swedish massage therapy has a significant effect on lowering blood pressure in hypertensive patients at Citra Medika Health Center, Lubuklinggau City. A study by Ritainti (2020) demonstrated that Swedish massage techniques provide benefits as a therapy for lowering blood pressure.

In this study, respondents with hypertension who did not take antihypertensive medication underwent Swedish massage for 20-30 minutes per session. Before therapy, their blood pressure was 144/92 mmHg, while after therapy, systolic blood pressure decreased to 135/84 mmHg, indicating a reduction in both systolic and diastolic blood pressure after therapy.

This finding is consistent with research by Widyaningrum (2020), which reported that after Swedish massage therapy, systolic blood pressure, initially at 169.83 mmHg, decreased to 153.97 mmHg. The difference in measurement results before and after therapy was 15.86 mmHg, demonstrating a significant reduction in systolic blood pressure.

Widyaningrum's (2020) research findings indicated that before the massage, systolic blood pressure was 169.8 mmHg, which decreased to 153.7 mmHg after therapy, while diastolic blood pressure dropped from 93.4 mmHg to 83.5 mmHg. Research by Nur Riski, Kairina, and Sheiva (2021), which reviewed five articles with a quasi-experimental design, found that Swedish massage therapy is frequently applied and has been proven effective in reducing systolic and diastolic blood pressure. This study suggests that Swedish massage is an easy-to-implement and effective method for managing blood pressure.

Additionally, research by Alfiyanti Rudi Adiningsih, Isnayati, and Buntar Handayani (2023) showed that Swedish massage therapy could lower blood pressure. Their study recorded a decrease in average systolic blood pressure from 141.8 mmHg to 138 mmHg and a reduction in diastolic blood pressure from 90.2 mmHg to 87 mmHg after the intervention.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

The average systolic blood pressure before undergoing Swedish massage therapy was 152.50 mmHg, and the average diastolic blood pressure in hypertensive patients before undergoing Swedish massage therapy was 96.67 mmHg. The average systolic blood pressure in hypertensive patients after undergoing Swedish massage therapy was 126.67 mmHg, and the average diastolic blood pressure in hypertensive patients after undergoing Swedish massage therapy was 85.83 mmHg. There is an effect of Swedish massage therapy on reducing blood pressure in hypertensive patients at Citra Medika Health Center, Lubuklinggau City, with a p-value of 0.002.

### Recommendation

#### 1. Theoretical

This study can serve as a scientific reference for future research focusing on the development of Swedish massage therapy as a method for reducing blood pressure.

#### 2. Practical

Swedish massage therapy is recommended to be routinely and systematically applied by nurses and healthcare professionals in accordance with the Standard Operating Procedure (SOP) for Swedish massage therapy, emphasizing its role in lowering blood pressure.

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