

Original Article

Intervention of Combination of Swedish Massage Therapy with Lavender Aromatherapy in Reducing Stress and Blood Pressure in Hypertensive Patients

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ABSTRACT

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Background: Severe stress is one of the causes of hypertension, both the elderly, young adults and middle-aged people. Stress and increased blood pressure experienced by a person are the causative factors for hypertension. The purpose of this study is to analyze the effect of the combination of Swedish Massage Therapy with Lavender Aromatherapy on stress and blood pressure in hypertensive patients.


Methods: This study is a quantitative research that uses a quasi experiment research design with a pretest - posttest control group design approach. The population of all hypertension patients in the Working Area of the Karangany Health Center, Trenggalek Regency is 107 people. The sample size was 54 respondents. The sampling technique is purposive sampling. The independent variables of the study were the Combination of Swedish Massage Therapy with Lavender Aromatherapy and the dependent variables were stress and blood pressure. The analysis used the Mann Whitney test with a significant p value < 0.05. Result.


Results: of the study using the Mann Whitney test showed a p value of 0.000 or < 0.05 related to stress and blood pressure between the intervention group and the control group after the combination of Swedish Massage Therapy and Lavender Aromatherapy.

Conclusion: The combination of Swedish Massage Therapy with Lavender Aromatherapy is effective in reducing stress and blood pressure in hypertensive patients. This intervention is very easy to do, so it can be applied as a nursing intervention in the work area of the health center for the development of nursing science.

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Introduction

Hypertension is a group of non-communicable diseases that trigger health problems if not treated seriously

immediately. Hypertension occurs due to an increase in blood pressure values above normal. This increase is in the form of systolic and diastolic values which are at



least 140/90 mmHg. Severe stress is one of the causes of hypertension, both the elderly, young adults and middle-aged people. Stress and increased blood pressure experienced by a person are the causative factors for hypertension. Hypertension that is not unnoticed and not treated immediately can cause various complications that can end in death (Mahyuvi et al., 2023). Therefore, it is necessary to have non-pharmacological therapy to reduce stress and blood pressure in hypertensive patients so that it does not become the cause of death.

Based on WHO data in 2018, it was stated that 26.4% of the world's population suffers from hypertension, with a ratio of 26.6% of men and 26.1% of women (Nurkemala & Srifianti, 2019). The incidence of hypertension is expected to increase significantly by 2025 by 29% that people in the world experience hypertension. Hypertension annually has resulted in the deaths of 1.5 million people in Southeast Asia. The higher the Population of hypertension disease leads to an increase in the burden of health costs borne by the government (Leung et al., 2022).

Riskesdas data in 2018 states that as many as 60% of hypertension sufferers are in developing countries, one of which is the Republic of Indonesia. The prevalence of hypertension based on the results of measurements in the Indonesian population aged 18 years is highest in South Kalimantan Province (44.1%). Hypertension is one of the relatively high degenerative diseases in Indonesia (Kemenkes RI, 2019). It is predicted that by 2025 there will be 1.5 billion people who will suffer from hypertension and it is estimated that every year there will be 10.44 million people who will die from hypertension and its complications (Kemenkes RI, 2021). Data from health cadres in Karanganyar Village, Karanganyar

Health Center Area, Trenggalek Regency, hypertension is one of the 5 largest cases in the region (Primary Data, 2024).

Hypertension or so-called high blood pressure for a long time if not controlled and treated appropriately will be the cause of advanced diseases including stroke, heart attack, heart failure and can also cause chronic kidney failure (Mahyuvi et al., 2023). Hypertensive patients in general experience stress continuously will be the cause of increased sympathetic nerve activity which can then gradually increase blood pressure. This is supported by research (Tyas & Zulfikar, 2021) mentioned that there is a significant relationship between stress levels and blood pressure levels which means that the more severe a person's stress condition is, the higher the blood pressure. Stress can occur where the condition of the body is disturbed due to psychological pressure and stress can trigger hormones in the body that control the mind of a person who is experiencing stress so that it can increase blood pressure. The condition of the body that is stressed makes the body produce more adrenaline hormone, thereby increasing the heart's workload. Blood pressure will remain high and the person will experience hypertension if stress occurs continuously (Susanti et al., 2022). Increased stress will affect coping patterns both effective and ineffective. Coping is a person's way of finding solutions, getting problem solving, adapting to change, reacting to situations that pose a threat (Jubaedah & Pratiwi, 2021). Effective coping can result in adaptation and new knowledge. When coping is not effective, there is an increase in stress on physical, psychological and social functions that results in physical diseases and psychosocial disorders, including physical diseases caused by stress (psychosomatic) is an increase in high blood

pressure or called hypertension (Trihandini et al., 2018).

To overcome hypertension requires good cooperation between the medical team, patients, as well as families and the environment. Educating patients and families about diseases and complications will help improve treatment outcomes, and is expected to help improve the quality of life of patients (Mahyuvi et al., 2022). There are two risk factors for hypertension, namely factors that cannot be modified, including genetic, age, gender, and ethnic factors and factors that can be modified include stress, obesity, and nutrition. Stress that cannot be reduced or managed properly will pose a risk, one of which is attacking physical problems. In healthy individuals, stress will be able to be managed well, this can be seen by their ability to outline the sources of stress and can mention ways to avoid such stress such as: learning what stress is, recognizing the symptoms of stress that occur in oneself, changing behavior patterns and utilizing a series of techniques and relaxation from stress management that is quick and simple. Stress management strategies in people with hypertension can be carried out by providing pharmacological therapy/drugs or non-pharmacological interventions (Nuraini et al., 2023).

Based on evidence based practice, there are many ways that we can do to reduce the level of hypertension, one of which is Swedish Massage and the administration of lavender aromatherapy. The combination of Swedish Massage Therapy with Lavender Aromatherapy is a combination of 2 therapies that are combined, namely a form of massage whose movement manipulation consists of effrage, friction, petrissage, tapotement which is carried out for 30 minutes while inhaling lavender aromatherapy which starts from the supine position of the face,

ends at the legs (Cornelia et al., 2023). The above evidence-based practice is supported by research (Kavitha et al., 2020) which states that Swedish Massage lowers stress. Research also (Seo et al., 2020) states that Swedish Massage therapy lowers stress. Research (Oktianingsih et al., 2022) stated that Swedish Massage therapy can lower high blood pressure in hypertensive patients. In addition, a narrative review (Nursiswati et al., 2023) states that Swedish Massage Therapy to lower high blood pressure in hypertensive patients. Research (Sulistiana, 2023) also stated that Swedish Massage is effective in lowering blood pressure in hypertensive patients. In addition to the above, the provision of lavender aromatherapy can help relaxation by conditioning brain waves as desired, one of which is alpha waves so that music therapy can reduce anxiety. The above is supported by (Taukhit & Haryono, 2018) which states that the administration of lavender aromatherapy can reduce stress in people with hypertension. As well as research (Rahmadhani, 2022) stated that lavender aromatherapy lowers blood pressure in hypertensive patients.

Methods

This study is a quantitative research that uses a true experiment research design with a pretest - posttest control group design approach which functions to find causal and causal relationships between independent variables and dependent variables in a certain period of time. In this research, a simple random sampling technique was used and the researcher selected respondents according to the inclusion criteria; clients aged 19 - 65 years, hypertensive clients without complications, clients with GCS: 456, hypertensive clients who could read and write. Number of samples 54. In the intervention group respondents, a

combination of Swedish Massage Therapy and Lavender Aromatherapy was given . The results were obtained to see changes in stress and blood pressure of hypertensive patients . Stress instruments were measured using the Perceived Stress Scale and blood pressure was measured with a tension meter. The research was

conducted in April 2024-May 2024 in the Working Area of the Karangany Health Center, Trenggalek Regency. Protocol ethics in this study was declared ethically feasible with the number: 001254/EC/KEPK/I/04/2024. The results of the analysis used the Mann Whitney test with $\alpha < 0.05$.

Results

Table 1 Data on the distribution of age, gender, education and occupation of respondents

Characteristic Data	Intervention		Control		Homogeneity Test
	Frequency	%	Frequency	%	
Age					
18-40 years old	6	22,2	6	22,2	1,000
41-60 years old	18	66,7	18	66,7	
> 60 years	3	11,1	3	11,1	
Total	27	100	27	100	
Gender					
Law Law	8	29,6	7	25,9	0,763
Woman	19	70,4	20	74,1	
Total	27	100	27	100	
Education					
No School	-	-	-	-	0,765
Primary school	3	11,1	-	-	
Junior High School	10	37,0	14	51,9	
High School Finals	11	40,7	9	33,3	
College	3	11,1	4	14,8	
Total	27	100	27	100	
Work					
Work	9	33,3	8	29,6	0,772
Not working	18	66,7	19	70,4	
Total	27	100	27	100	

Based on table 1, after the homogeneity test of age, sex, education and occupation characteristics, the p value was all above 0.05 which means that there was no difference between the intervention group and the control group. The age of respondents in the intervention group was mostly (66.7%) between 41-60 years and the control group was in accordance with the inclusion criteria mostly (66.7%) between 41-60. The respondents in the intervention group were mostly female (70.4%) and in the control group most (74.1%) were also female. The education level of respondents in the intervention group was almost half (40.7%) of them had a high school education and most of them (51.9%) were junior high school. In the intervention group, most (66.7%) of the respondents did not work and in the control group, most (70.4%) of the respondents also did not work.



Table 2 Distribution of stress analysis of hypertension patients before and after the combination of Swedish Massage Therapy with Lavender Aromatherapy in the intervention and control groups

Stress Levels	Intervention		Control		P value	Information
	Frequency (f)	%	Frequency (f)	%		
Stress (Pre)						
Light	-	-	-	-	0,785	Insignificant
Keep	16	59,3	15	56,6		
Heavy	11	40,7	12	44,4		
Total	27	100	27	100		
Stres (Post)						
Light	18	66,7	-	-	0,000	Significant
Keep	9	33,3	16	59,3		
Heavy	-	-	11	40,7		
Total	27	100	27	100		

Based on table 2 above, it shows that before being given the combination of Swedish Massage Therapy with Lavender Aromatherapy, most of the hypertensive patient respondents (59.3%) in the intervention group experienced moderate stress and after the intervention most (66.7%) experienced mild stress. In the control group, before the intervention, most of the respondents (56.6%) experienced moderate stress and after the intervention, moderate stress remained mostly (59.3%). Based on table 2 based on the Mann-Whitney test, a p value of 0.785 or > 0.05 related to stress between the intervention group and the control group before the treatment of the combination of Swedish Massage Therapy with Lavender Aromatherapy was given, meaning that

between the intervention group and the control group there was no significant difference in stress between the intervention group and the control group.

Based on table 5.2 based on the Mann-Whitney test, a p value of 0.000 or < 0.05 was obtained related to stress between the intervention group and the control group after the treatment of Combination Swedish Massage Therapy with Lavender Aromatherapy, meaning that between the intervention group and the control group after the treatment there was a significant difference in stress. So that the combination of Swedish Massage Therapy with Lavender Aromatherapy significantly reduces the Stress of Hypertensive Patients in the Working Area of the Karangany Health Center, Trenggalek Regency



Table 3 Distribution of blood pressure analysis of hypertension patients before and after the combination of Swedish Massage Therapy with Lavender Aromatherapy in the intervention and control groups

Blood pressure	Intervention		Control		P value	Information
	Frequency (f)	%	Frequency (f)	%		
Systole (Pre)						
Normal	-	-	-	-	0,303	Insignificant
Pre Hypertension	11	40,7	13	48,1		
Stage 1 hypertension	11	40,7	13	48,1		
Stage 2 hypertension	5	18,5	1	3,7		
Total	27	100	27	100		
Systole (Post)						
Normal	12	44,4	-	-	0,000	Significant
Pre Hypertension	13	48,1	12	44,4		
Stage 1 hypertension	2	7,4	14	51,9		
Stage 2 hypertension	-	-	1	3,7		
Total	27	100	27	100		
Diastole (Pre)						
Normal	-	-	-	-	0,687	Insignificant
Pre Hypertension	13	48,1	13	48,1		
Stage 1 hypertension	10	37,0	13	48,1		
Stage 2 hypertension	4	14,8	1	3,7		
Total	27	100	27	100		
Diastole (Post)						
Normal	15	55,6	-	-	0,000	Significant
Pre Hypertension	10	37,0	12	44,4		
Stage 1 hypertension	2	7,4	14	51,9		
Stage 2 hypertension	-	-	1	3,7		
Total	27	100	27	100		

Based on table 3 above, it shows that before being given the combination of Swedish Massage Therapy with Lavender Aromatherapy, the respondents of hypertension patients almost half (40.7%) in the intervention group in the systole blood pressure experienced stage I hypertension and after the intervention almost half (48.1%) of the respondents in the systole blood pressure experienced prehypertension and almost half (44.4%) of the systole blood pressure was normal. In the control group, before the intervention, half of the respondents (48.1%) experienced prehypertension in systole blood pressure and after being given the systole blood pressure intervention, most of the

respondents (51.9%) experienced stage I hypertension.

Based on table 3 above, it shows that before being given the combination of Swedish Massage Therapy with Lavender Aromatherapy, the respondents of hypertension patients almost half (48.1%) in the intervention group on distole blood pressure experienced stage I hypertension and after being given the intervention half of the respondents (55.6%) on normal distole blood pressure. In the control group, before the intervention, almost half of the respondents (48.1%) experienced prehypertension in distole blood pressure and after being given the distole blood pressure intervention, most of the respondents (51.9%) experienced stage I hypertension.



Based on table 3 based on the Mann-Whitney test, a p value of > 0.05 was obtained related to systole and diastole blood pressure between the intervention group and the control group before the treatment of giving a combination of Swedish Massage Therapy with Lavender Aromatherapy, meaning that between the intervention group and the control group there was no significant difference in blood pressure between the intervention group and the control group.

Based on table 3 based on the Mann-Whitney test, a p value of 0.000 or < 0.05 related to systole and diastole blood pressure between the intervention group and the control group after the treatment of Combination Swedish Massage Therapy with Lavender Aromatherapy, meaning that between the intervention group and the control group after the treatment there was a significant difference in systole and diastole blood pressure. So that the combination of Swedish Massage Therapy with Lavender Aromatherapy significantly lowers the blood pressure of Hypertensive Patients in the Working Area of the Karangan Health Center, Trenggalek Regency.

Discussion

Differences in stress of hypertensive patients before and after being given Swedish Massage Therapy with Lavender Aromatherapy

The results of the study based on the Mann-Whitney test obtained a p value of > 0.05 related to stress between the intervention group and the control group before the treatment of giving a combination of Swedish Massage Therapy with Lavender Aromatherapy, meaning that between the intervention group and the control group there was no significant difference in stress between the intervention group and the control group.

The results of the study based on the Mann-Whitney test obtained a p value of 0.000 or < 0.05 related to stress between the intervention group and the control group after the treatment of Combination Swedish Massage Therapy with Lavender Aromatherapy, meaning that between the intervention group and the control group after the treatment there was a significant difference in stress. So that the combination of Swedish Massage Therapy with Lavender Aromatherapy significantly reduces the Stress of Hypertensive Patients in the Working Area of the Karangan Health Center, Trenggalek Regency.

This is supported by research (Seo et al., 2020) which states that Swedish Massage Therapy can reduce stress. Research by (Ghavami et al., 2022; Kianpour et al., 2016; Toda & Matsuse, 2020) stated that lavender aromatherapy also lowers stress. Hypertension or high blood pressure is a common condition in which blood pressure against the artery walls rises high enough that it can lead to health problems such as heart disease. Stress is known to be one of the triggering factors for hypertension, and stress management is an important part of managing this condition.

Stress affects many aspects of human life, especially people with hypertension. In the cognitive aspect, stress causes impairment in cognitive function by lowering or increasing attention to something. In the emotional aspect, stress can cause a sense of fear which is a common reaction when individuals feel threatened, give rise to feelings of sadness or depression, and trigger anger especially when individuals experience dangerous or frustrating situations (Sumarsih et al., 2019). Stress is a phenomenon that affects all dimensions of a person's life, both physical, emotional, intellectual, social and spiritual (Yunitasari et al., 2020). People who experience stress will undergo muscle

tension, decreased immunity, nervousness, difficulty sleeping, nausea and so on. This will indirectly affect a person's life satisfaction which will also have an impact on the person's quality of life (Alves da Silva et al., 2017)

Some people with hypertension experience moderate to severe stress. Hypertensive patients experience various problems and if the patient's coping mechanism is not good in responding to stressors, it will have an impact on the patient's stress level. Stress arises when a person adjusts themselves to an event or situation. There are two factors that cause stressful situations or events, namely those related to the individual himself and those related to the situation experienced by the individual. Situations or events related to an individual can be a specific condition in the environment that damages tissues in the body, such as excessive heat/cold, injuries or illness. The state of illness causes demands on the biological and psychological system of the individual, where the degree of stress that will arise because of these demands depends on the seriousness of the disease and the age of the individual. Meanwhile, those related to the situation experienced by the individual can be in the form of an increase in family members, divorce, death in the family, work and environmental circumstances (Seo et al., 2020).

The combination of Swedish Massage Therapy with Lavender Aromatherapy is a combination of 2 therapies that are combined, namely a form of massage whose movement manipulation consists of effrage, friction, petrissage, tapotement which is carried out for 30 minutes while inhaling lavender aromatherapy which starts from the supine position of the face, ending at the legs. The combination of Swedish Massage Therapy with Lavender Aromatherapy is given to hypertensive

patients with a duration of 30 minutes a day and 2x a week for 1 month (Kavitha et al., 2020).

The combination of Swedish Massage Therapy with Lavender Aromatherapy improves blood and lymph circulation, reduces muscle tension, and activates the parasympathetic nervous system responsible for the "rest and digest" response. This causes a decrease in stress hormone levels. Inhaling the scent of lavender can affect the limbic system in the brain, specifically the amygdala and hippocampus, which play a role in the regulation of emotions and memory (Intarti & Savitri, 2021). Aktivasi sistem limbik ini dapat menginduksi keadaan tenang dan rileks, mengurangi kecemasan dan stres (Ghavami et al., 2022).

Activation of this limbic system can induce a state of calm and relaxation, reducing anxiety and stress and increasing the activity of the parasympathetic nervous system. It helps lower heart rate and blood pressure. This combination of therapies can lower stress hormone levels. High stressful states are associated with increased blood pressure and insulin resistance. Reducing stress can help manage hypertension more effectively (Toda & Matsuse, 2020). The combination of Swedish Massage Therapy with Lavender Aromatherapy will stimulate the brain area, namely the prefrontal cortex which is the center of emotional regulation and judgment to instruct emotional reactions which then the body will respond in the way of feelings of acceptance and non-judgment, while in the hippocampus and amygdala in addition to the area for regulating emotions is also an area of openness, blackout, and reinforcement that will give instructions to open up more so that the individual is able to release himself in consciousness, refrain from internal reactivity and be able to increase self-acceptance so that it can reduce stress, not

only physical, psychological, social health but also spiritually healthy (Habibi Nezhad et al., 2024). Humans as whole creatures respond to situations that occur due to health disorders, and have a coping mechanism to adapt to environmental changes, so that individuals always interact by using positive and negative coping (Savitri & Intarti, 2021).

The combination of Swedish massage therapy with lavender aromatherapy can provide a synergistic effect in reducing stress in hypertensive patients. The main mechanisms involve physical and mental relaxation, influence on the autonomic nervous system, reduction of stress hormones, and improvement of sleep quality. By managing stress effectively, blood pressure can be lowered, helping hypertensive people in managing their condition (Ghavami et al., 2022).

Blood Pressure Differences in Hypertensive Patients Before and After Combination of Swedish Massage Therapy and Lavender Aromatherapy

The results of the study based on the Mann-Whitney test obtained a p value of > 0.05 related to systole and diastole blood pressure between the intervention group and the control group before the treatment of giving a combination of Swedish Massage Therapy with Lavender Aromatherapy, meaning that between the intervention group and the control group there was no significant difference in blood pressure between the intervention group and the control group. The results of the study based on the Mann-Whitney test obtained a p value of 0.000 or < 0.05 related to systole and diastole blood pressure between the intervention group and the control group after the treatment of giving a combination of Swedish Massage Therapy with Lavender Aromatherapy, meaning that between the intervention group and the control group

after the treatment there was a significant difference in systole and diastole blood pressure. So that the Combination of Swedish Massage Therapy with Lavender Aromatherapy significantly lowers the blood pressure of Hypertensive Patients in the Working Area of the Karangany Health Center, Trenggalek Regency.

This is supported by research (Cornelia et al., 2023; Nuraini et al., 2023; Oktianingsih et al., 2022; Widyaningrum, 2020) which states that Swedish massage therapy is effective in lowering blood pressure in hypertensive patients. As well as providing lavender therapeutic scents based on research (Gultom et al., 2016; Noviana et al., 2022; Rahmadhani, 2022) Effective in lowering blood pressure in hypertensive patients.

Hypertension is a condition of a person characterized by high blood pressure, which can increase the risk of cardiovascular disease (Mahyuni et al., 2023). Treatment of hypertension includes lifestyle changes, diet, and relaxation therapy. The combination of Swedish massage therapy and lavender aromatherapy has attracted attention as an effective non-pharmacological approach in lowering blood pressure. The combination of Swedish massage therapy and lavender aromatherapy can improve blood circulation and reduce muscle tension to help lower blood pressure. Activation of the parasympathetic nervous system reduces heart rate and vasodilation (dilation of blood vessels), which contributes to a decrease in blood pressure. The effects of relaxation and stress reduction contribute to a decrease in the activity of the sympathetic nervous system and an increase in the activity of the parasympathetic nervous system, which can lower blood pressure. Muscle relaxation and the calming effect of lavender leads to vasodilation, which reduces peripheral

resistance and lowers blood pressure (Noviana et al., 2022).

Activation of the parasympathetic nervous system and a decrease in sympathetic activity directly lowers blood pressure and heart rate, creating a more stable and less stressful state on the cardiovascular system (Cornelia et al., 2023). The combination of Swedish massage therapy with lavender aromatherapy has a strong mechanism and has been empirically proven in lowering blood pressure in hypertensive patients. This mechanism involves stress reduction, decreased levels of stress hormones, vasodilation, and increased activity of the parasympathetic nervous system. As such, this combination therapy can be an important part of a non-pharmacological approach to hypertension management, especially for those seeking a more natural and holistic treatment method (Cornelia et al., 2023; Sitorus, 2023).

Conclusion

There was no significant difference in the stress of Hypertension Patients in the Working Area of the Karangany Health Center, Trenggalek Regency before being given a combination of Swedish Massage Therapy in the intervention group and the control group. There was a significant difference in the stress of Hypertensive Patients in the Working Area of the Karangany Health Center in Trenggalek Regency after being given a combination of Swedish Massage Therapy in the intervention group and the control group. There was no significant difference in systole and diastole blood pressure in patients with hypertension in the Working Area of the Karangany Health Center, Trenggalek Regency before being given a combination of Swedish Massage Therapy in the intervention group and the control group. There was a significant difference in

systole and diastole blood pressure in patients with hypertension in the Working Area of the Karangany Health Center, Trenggalek Regency after being given a combination of Swedish Massage Therapy in the intervention group and the control group. The combination of Swedish Massage Therapy with Lavender Aromatherapy is effective in reducing stress and blood pressure in hypertensive patients in the Working Area of the Karangany Health Center, Trenggalek Regency.

Authors Contributions

The contributions of the authors to this manuscript were complementary, with one member leading study conceptualization and design, another member conducting data analysis and interpretation, and a third member assisting with literature review and manuscript preparation. All authors have endorsed the final version of the manuscript for publication.

Conflicts of Interest

All researchers expressed their gratitude to the Institute of Health Sciences STRADA Indonesia and the Karangany Health Center of Trenggalek Regency for supporting the implementation of this research.

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In completing this research there is no conflict of interest.

References

- Alves da Silva, T., Stripari Schujmann, D., Yamada da Silveira, L. T., Caromano, F. A., & Fu, C. (2017). Effect of therapeutic Swedish massage on anxiety level and vital signs of Intensive Care Unit patients. *Journal of Bodywork and Movement Therapies*, 21(3), 565–568.



- <https://doi.org/10.1016/j.jbmt.2016.08.009>
- Cornelia, T. U., Noorratri, E. D., & Sutarto, A. (2023). Swedish Massage Menurunkan Tekanan Darah Lansia Hipertensi. *Jurnal Imliah Ilmu Kesehatan*, 1(3).
- Ghavami, T., Kazemina, M., & Rajati, F. (2022). The effect of lavender on stress in individuals: A systematic review and meta-analysis. *Complementary Therapies in Medicine*, 68, 102832. <https://doi.org/10.1016/j.ctim.2022.102832>
- Gultom, A. B., Ginting, S., & Silalahi, E. L. (2016). The Influence of Lavender Aroma Therapy on Decreasing Blood Pressure in Hypertension Patients. *International Journal of Public Health Science (IJPHS)*, 5(4), 470–478.
- Habibi Nezhad, M., Sadeghi, N. K., & Yaghoubinia, F. (2024). Comparison of the Effect of Swedish Massage and Earplugs/Eye Masks on Sleep Quality of Patients Admitted to ICUs. *Medical-Surgical Nursing Journal*, 12(2). <https://doi.org/10.5812/msnj-144370>
- Intarti, W. D., & Savitri, N. P. H. (2021). Manfaat Relaksasi Yoga Dan Swedish Massage Terhadap Stress Lansia Saat Pandemi Covid-19. *Jurnal Bina Cipta Husada*.
- Jubaedah, & Pratiwi, A. (2021). Kemampuan Koping Dengan Tingkat Kecemasan Klien Hipertensi. *Adi Husada Nursing Journal*, 7(2), 99–106.
- Kavitha, M., Sreelekha, B., & Sujitha, E. (2020). Effectiveness of Swedish Massage Therapy on Stress and Blood Pressure Among Patients with Hypertension. *International Journal of Science and Research*, 4, 2319–7064. www.ijsr.net
- Kemenkes RI. (2019). *Hasil Utama Riset Kesehatan Dasar Tahun 2018*. Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan.
- Kemenkes RI. (2021). *Profil Kesehatan Indonesia 2021*. Kementerian Kesehatan Republik Indonesia.
- Kianpour, M., Mansouri, A., Mehrabi, T., & Asghari, G. (2016). Effect of lavender scent inhalation on prevention of stress, anxiety and depression in the postpartum period. *Iranian Journal of Nursing and Midwifery Research*, 21(2), 197. <https://doi.org/10.4103/1735-9066.178248>
- Leung, A. A., Williams, J. V. A., Tran, K. C., & Padwal, R. S. (2022). Epidemiology of Resistant Hypertension in Canada. *Canadian Journal of Cardiology*, 38(5), 681–687. <https://doi.org/10.1016/j.cjca.2022.01.029>
- Mahyuvi, T., Fanani, M., Indasah, Prasetyo, J., & Peristiowati, Y. (2022). Pentingnya Menjaga Kestabilan Tekanan Darah pada Penderita Hipertensi untuk Mencegah Terjadinya Stroke di Masyarakat. *Tata Mutiara Hidup Indonesia*.
- Mahyuvi, T., Pradana, A. F., Indasah, & Prasetyo, J. (2023). *Recognizing and Preventing Hypertension in the Community*. Tata Mutiara Hidup Indonesia.
- Noviana, E., Runjati, & Santoso, B. (2022). The Effect of Acupressure and Lavender Aromatherapy Combination on Blood Pressure and Anxiety in Postpartum Women. *International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)*, 10(1). www.ijamscr.com
- Nuraini, O. I. A., Prajayanti, E. D., & Sutarwi. (2023). Application of Swedish Massage for Blood Pressure in Elderly

- Hypertension at Karanganyar Regional Hospital. *Jurnal Kegawatdaruratan Medis Indonesia*, 2(2), 152–165. <https://doi.org/10.58545/jkmi.v2i2.174>
- Nurkemala, S., & Srifianti. (2019). Pengaruh Progressive Muscle Relaxation Training Terhadap Taraf Kecemasan Dan Tekanan Darah Tinggi pada Penderita Hipertensi Primer. *Jurnal Psikologi: Media Ilmiah Psikologi*.
- Nursiswati, N., Sugiharto, F., & Maniatunufus, M. (2023). Pengaruh Terapi Swedish Massage dalam Menurunkan Tekanan Darah pada Pasien Hipertensi: Sebuah Narrative Review. *Malahayati Nursing Journal*, 5(4), 1234–1252. <https://doi.org/10.33024/mnj.v5i4.8346>
- Oktianingsih, T., Anwar, S., & Khasanah, U. (2022). The Effectiveness of Progressive Muscle Relaxation Techniques and Swedish Massage Techniques on Hypertension. *Jurnal Keperawatan*. <http://journal.stikeskendal.ac.id/index.php/Keperawatan>
- Rahmadhani, D. Y. (2022). The Effectiveness of Lavender Aromatherapy on Blood Pressure among Elderly with Essential Hypertension. *The Journal of Palembang Nursing Studies*, 1(1), 1–8. <https://doi.org/10.55048/jpns.v1i1.8>
- Savitri, N. P. H., & Intarti, W. D. (2021). Manfaat Asuhan Swedish Massage Pada Lansia Yang Mengonsumsi Olahan Toga Di Saat Pandemi Covid-19 Terhadap Stres Lansia. *Jurnal Ilmiah Ilmu Kebidanan Dan Kesehatan*, 12(2), 39–48.
- Seo, J.-G., Choi, S.-H., & Lee, D.-Y. (2020). The Study of Swedish Massage on Anxiety Situation and PPT in Stressed Office Workers. *Medico-Legal Update*, 20(1). <https://doi.org/10.37506/v20/i1/2020/mlu/194605>
- Sitorus, J. (2023). Nurse Knowledge About Complementary Therapy Lavender Aromatherapy in Hypertension Patients. *Jurnal Eduhealth*.
- Sulistiana, A. (2023). *Efektifitas Intervensi Swedish Massage dan Akupresur terhadap Pasien Hipertensi Grade I* [Tesis]. Politeknik Kesehatan Kemenkes Semarang.
- Sumarsih, T., Wahyuningsih, T., & Sawiji. (2019). Pengaruh Relaksasi Spiritual terhadap Perubahan Tingkat Ansietas dan Stres Pasien Tuberkulosis Paru di RS PKU Muhammadiyah Sruweng. *Sekolah Tinggi Ilmu Kesehatan Muhammadiyah Gombong*, 645–653.
- Susanti, N. K. M., Ayubbana, S., & HS, S. A. S. (2022). Application Of Guided Imagery Relaxation Therapy On Blood Pressure Of Hypertension Patients. *Jurnal Cendikia Muda*, 2.
- Taukhit, & Haryono, R. (2018). Pengaruh Terapi Kombinasi Aromaterapi Lavender Dan Dzikir Terhadap Penurunan Stres Dan Tekanan Darah Pada Penderita Hipertensi. *Jurnal Keperawatan Notokusumo*, 1.
- Toda, M., & Matsuse, R. (2020). Endocrinological effect of lavender aromatherapy on stressful visual stimuli. *Contemporary Clinical Trials Communications*, 17, 100547. <https://doi.org/10.1016/j.conctc.2020.100547>
- Trihandini, B., Fatmasari, D., Hartati YK, L. E., & Sudirman, S. (2018). Effect of Spiritual Nursing Care on the Level of Anxiety in Patients With Stroke. *Belitung Nursing Journal*, 4(1), 98–103. <https://doi.org/10.33546/bnj.346>

- Tyas, S. A. C., & Zulfikar, M. (2021). Hubungan Tingkat Stres Dengan Tingkat Tekanan Darah Pada Lansia. *Jurnal Penelitian Keperawatan Kontemporer*, 75–82.
- Widyaningrum, T. (2020). Pengaruh Swedish Massage Terhadap Penurunan Tekanan Darah Pada Pasien HT. *Jurnal Health Sains*.
- Yunitasari, E., Sutrisno, I. T., & Santoso, B. (2020). The effects of spiritual caring with murottal on stress anxiety, and depression among cervical cancer patients undergoing chemotherapy. *EurAsian Journal of BioSciences*, 14(June), 1663–1668.