

## **Application of back massage with aromatherapy oil to reduce acute pain in hypertensive patients**

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### **ABSTRACT**

Hypertension is an increase in blood pressure within the arteries. Hypertension is an asymptomatic condition where abnormally high pressure in the arteries increases the risk of stroke, aneurysm, heart failure, heart attack, and kidney damage. The application of back massage is one of the complementary therapies that can help lower blood pressure. This study aims to identify the benefits of back massage in reducing pain levels in hypertensive patients and to compare pain levels before and after the application of back massage. This case study uses a descriptive case method with a nursing process approach, including assessment, nursing diagnosis, implementation, and evaluation. The case study subject was 1 elderly patient who met the inclusion criteria. The application of back massage therapy was conducted in 3 sessions, each lasting 10-15 minutes. There was a decrease in the patient's blood pressure, from 170/100 mmHg on the first day to 140/90 mmHg on the third day. From the research results, it can be concluded that the application of back massage can help lower blood pressure and reduce headaches in hypertensive patients. Back massage therapy can also be used as a form of complementary therapy that is inexpensive and easy to perform at home.

**Keywords: Application of Back Massage, Aromatherapy Oil, Hypertension**

### **INTRODUCTION**

High blood pressure (hypertension) is one of the main health issues in every country because it can lead to heart disease and fatal strokes. Hypertension is considered a serious health issue because its onset is often unnoticed, with few, if any, noticeable symptoms (Illahi, et al, 2022). Non-communicable diseases such as cardiovascular diseases, cancer, diabetes, hypertension, and chronic lung diseases have replaced infectious diseases as the leading causes of death worldwide (Zainaro, et al, 2021).

Hypertension is one of the main non-communicable diseases (NCDs) in the world that can significantly contribute to the burden of cardiovascular diseases (CVDs), stroke, kidney failure, disability, and premature death. As many as 49% of heart attack cases and 62% of stroke cases that occur each year are due to hypertension complications (A'udina Rosyada Ariani 2020). According to the results of the Basic Health Research (Riskesdas) 2018, the prevalence rate of hypertension among the population aged > 18 years in Indonesia is 34.1%. This prevalence was obtained by measuring blood pressure, specifically when the blood pressure is >140/90 mmHg. This prevalence rate is higher than in 2013, which was 25.8%. South Kalimantan Province has the highest prevalence rate at 44.13%, followed by West Java at 39.6% and East Kalimantan at 39.3%.

Treatment for managing hypertension includes: pharmacological and non-

pharmacological therapies that provide relaxation effects and lower blood pressure. Aromatherapy with lavender is one form of non-pharmacological therapy that can calm individuals. Lavender aromatherapy can increase nitric oxide, which acts as a natural vasodilator, capable of widening blood vessels and improving blood circulation, thereby ensuring smooth blood flow and reducing blood pressure (Rudi, et al, 2024). Lavender aromatherapy works by influencing not only physical aspects but also emotional ones. Lavender as an aromatherapy can produce calming and relaxing effects that can help lower high blood pressure. Lavender contains linalool, a derivative of linalyl acetate, ocimene, and natural antioxidant compounds that have various benefits in preventing diseases such as hypertension (Tiara Wahyuningsih & Maryatun 2023). Lavender aromatherapy has been proven to help hypertension sufferers (Puri et al,2022).

The review results show that back and foot massages can lower blood pressure in hypertensive patients. Back and foot massages can be performed using various techniques, such as effleurage, friction, vibration, and pressure on nerve points in the feet (Lofitania et al, 2022). Massage techniques influence the smooth flow of blood, balance the body's energy, and relax muscle tension. This is applied to hypertensive patients through foot and hand massage therapy using lavender essential oil to lower blood pressure (Ningtias et al, 2023). Foot massage is one of the non-pharmacological therapies that can reduce blood pressure. Massage can increase blood flow to the joints, provide oxygen, relax tense muscles, ease the workload on the heart, and help reduce the constriction of blood vessel walls, thereby lowering blood pressure (Ainun H. Herman & Agianto Agianto 2022).

Pain is an uncomfortable sensory and emotional experience resulting from subjective tissue damage. Pain also has the potential to vary from mild to severe, which can be predicted in three levels. The characteristics of pain include a painful neck, grimacing, appearing confused, restless, complaining, and showing vigilance in the area of the body that hurts. (Wati et al, 2022). Effective pain management, both medically and traditionally, is crucial for improving community well-being. However, some people still rely on self-medication or self-treatment without sufficient knowledge, which can potentially cause side effects or worsen the condition (Larasati et al, 2025).

## **METHOD**

The research method used in this writing is a descriptive method with a case study approach in nursing care. A descriptive method is a research method conducted by examining a problem that is currently occurring. The respondents in this case study are elderly patients with headaches due to hypertension. The total research population consisted of 85 hypertensive patients. 1 respondent is included in the research sample. data collection technique using observation sheets. the steps of data collection are as follows: Preparation Stage, Implementation Stage.

**RESULT****Changes in Blood Pressure Before and After Receiving Back Massage Therapy**

| <b>Initial</b> | <b>Age</b>   | <b>Day 1</b>    |                 | <b>Day 2</b>    |                 | <b>Day 3</b>    |                |
|----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|
|                |              | Pre             | Post            | Pre             | Post            | Pre             | Post           |
| Tn. S          | 64 Years Old | 170/100<br>mmHg | 160/100<br>mmhg | 160/100<br>mmHg | 150/100<br>mmhg | 150/100<br>mmHg | 140/90<br>mmhg |

**Changes in Pain Scale before and after receiving Back Massage Therapy:**

| <b>Initial</b> | <b>Age</b>   | <b>Day 1</b> |      | <b>Day 2</b> |      | <b>Day 3</b> |      |
|----------------|--------------|--------------|------|--------------|------|--------------|------|
|                |              | Pre          | Post | Pre          | Post | Pre          | Post |
| Tn. S          | 64 Years Old | 6            | 5    | 5            | 4    | 4            | 3    |

**DISCUSSION**

In this case, it discusses nursing issues in Mr. S with an acute pain scale related to increased blood pressure. One of the non-pharmacological methods or actions that can be taken by hypertension sufferers is the application of back massage; the application of back massage can provide quite a few benefits. Like relaxing the body after a massage, it can reduce pain, create a much calmer feeling, eliminate stress, and boost our immune system. So that the amount or something that can cause anterior disturbances and increase blood pressure, basically balance will be created in the elements within the immune system. High blood pressure can decrease by having a back massage. Because after a massage, blood flow and oxygen in the blood will increase, which can help with breathing.

After undergoing back massage therapy for 3 days, it was concluded that back massage therapy is capable of lowering blood pressure in grade 1 hypertension and can reduce the pain experienced by Mr. S. His blood pressure decreased from 170/100 mmHg to 140/90 mmHg. With the patient appearing calm, blood pressure improved, and he was more cheerful and smiling again.

**CONCLUSION**

By conducting an assessment, establishing a nursing diagnosis, formulating and implementing interventions, and obtaining results through a 3-day evaluation, the researcher developed nursing care by applying back massage therapy to lower blood pressure in hypertensive patients. The results obtained at the beginning of the examination for Tn.S were 170/100 mmHg, and after performing back massage therapy, Tn.S blood pressure was 140/90 mmHg, which was conducted over a 3-day period.

Based on the researchers' findings over 3 days regarding the use of back massage therapy to lower blood pressure in hypertensive patients, it can be concluded that back massage therapy has both positive and negative impacts. Back massage therapy has various benefits.

## LIMITATIONS

This study has several limitations that need to be considered when interpreting the results: single case study design: This study was conducted on only one patient (Mr. S) with hypertension. These limitations include the lack of control over the effects of unscented massage, the small sample size, and the lack of assessment of objective variables such as stress hormone measurement or autonomic function testing. Additionally, this study only evaluates the direct effects, without considering long-term or short-term effects. This case study only involves a few patients (for example, 2 or 3 patients). The small sample size limits the generalisation of the research results to a broader population. Although some studies show a decrease in blood pressure after lavender massage, the results may not be consistent across all individuals. Some patients may not show a significant response, or even experience an increase in blood pressure. Some people may be allergic to lavender oil or experience skin irritation when exposed to the oil. This allergic reaction can worsen the condition of hypertensive patients. Lavender essential oil can interact with certain medications that hypertensive patients may be taking. This interaction can reduce the effectiveness of the medication or even cause unwanted side effects. High-quality lavender essential oil may not always be available in all hospitals, or its price may be too expensive for all patients to afford. Before applying lavender massage to hypertensive patients, it is important to consult with a doctor or qualified medical personnel to ensure that this therapy is safe and appropriate for the patient's condition. Doctors can provide more detailed information about the benefits and risks of lavender massage therapy, as well as help patients determine whether this therapy is right for them.

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