TERAPY FOOT MASSAGE WITH OLIVE OIL ON HYPERTENSION PATIENTS WITH INEFFECTIVE PERIPHERAL PERFUSION

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Abstract

Hypertension is a non-communicable disease with a high prevalence that can cause serious complications such as stroke and kidney failure if not treated properly. Hypertension management is not only done with pharmacological therapy, but can also be supported through non-pharmacological therapies such as foot massage. This study aims to determine the effectiveness of foot massage using olive oil on improving peripheral perfusion in hypertensive patients in the Mawar Room of RSUD Arifin Achmad, Riau Province. The research method used a case study approach with two hypertension patients undergoing antihypertensive therapy. The intervention was carried out for three consecutive days with a massage duration of 15 minutes per session. Blood pressure measurements were taken before and after the intervention. The results showed a decrease in systolic and diastolic blood pressure and an improvement in peripheral perfusion signs in the form of increased peripheral pulse, brighter skin color, and better skin turgor after foot massage. The conclusion of this study is that foot massage using olive oil is effective as a non-pharmacological nursing intervention in lowering blood pressure and improving peripheral perfusion in hypertension patients. Recommendation for future research is needed to evaluate the long-term effects of nursing interventions on blood pressure stability, quality of life, and the risk of vascular complications in hypertension patients.

Keywords: Hypertension; Foot massage; Olive oil.

INTRODUCTION

Changes in modern lifestyles have increased the prevalence of non-communicable diseases, one of which is hypertension. Hypertension is a condition in which systolic blood pressure is above 140 mmHg and diastolic blood pressure is above 90 mmHg (WHO, 2023). This disease is known as a silent killer because it often has no symptoms but has the potential to cause serious complications such as stroke, kidney failure, and coronary heart disease (Indonesian Ministry of Health, 2023; PERKI, 2020). According to the Indonesian Health Survey (2023), the number of hypertension patients in Indonesia reached 566,883, with the highest number of cases in West Java Province and Riau Province, which recorded 12,802 cases.

The management of hypertension is generally carried out through pharmacological and nonpharmacological therapies. Pharmacological therapy with antihypertensive drugs such as diuretics, ACE inhibitors, and beta-blockers is effective in lowering blood pressure, but can cause side effects that affect patient compliance (Whelton et al., 2018). Therefore, non-pharmacological interventions such as lifestyle changes, relaxation, and complementary therapies are useful alternatives in blood pressure management.

One form of complementary therapy that is widely used is foot massage. This therapy involves manipulating the soft tissues of the feet to improve blood circulation, reduce stress, and induce relaxation, which can help lower blood pressure (Niswah et al., 2022; Patria, 2019; Putri et al., 2020). Research by Oktaviani et al. (2022) shows that foot massage can improve peripheral perfusion through mechanical stimulation of the soles of the feet. The use of olive

oil (Olea europaea) as a massage medium also provides additional effects through its polyphenol and vitamin E content, which act as antioxidants and vasodilators, thereby helping to improve blood vessel elasticity and lower blood pressure (Covas, 2008).

A preliminary study in the Mawar Room of Arifin Achmad Provincial Hospital in Riau Province showed that there were several hypertensive patients with peripheral perfusion disorders. Based on this, the author was interested in researching "The Application of Foot Massage in Hypertension Patients with Ineffective Peripheral Perfusion Nursing Problems in the Mawar Room of RSUD Arifin Achmad, Riau Province" as a non-pharmacological nursing intervention that is expected to support the effectiveness of blood pressure control.

METHODS

This study used a case study approach with the aim of determining the effectiveness of foot massage on improving peripheral perfusion in hypertension patients. The intervention was carried out for three days on two respondents with hypertension who were undergoing antihypertensive drug therapy in the Mawar Room of RSUD Arifin Achmad in Riau.

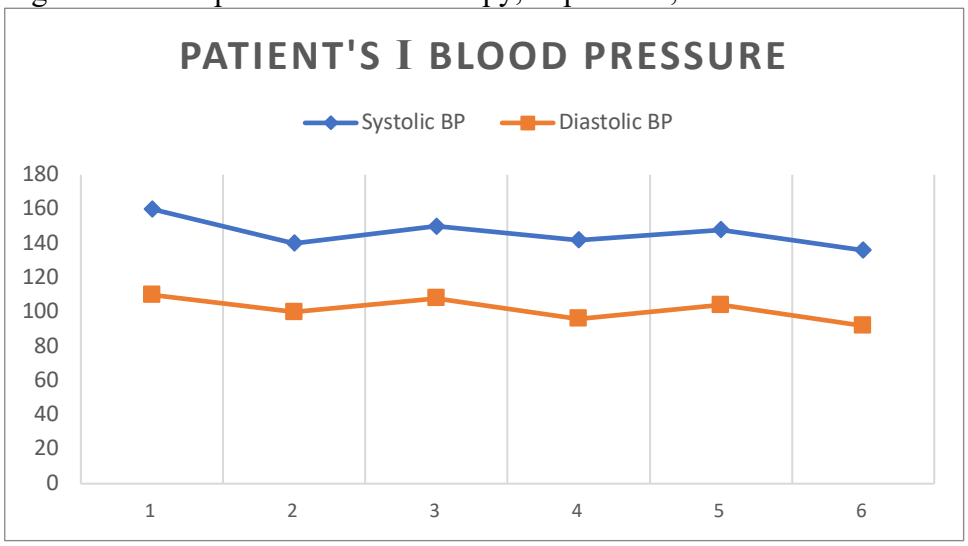
The foot massage was performed for 15 minutes per session, with blood pressure measurements taken before and after the intervention. Data were collected using a blood pressure observation sheet, which recorded changes in systolic and diastolic pressure.

Indicators of successful intervention include a decrease in blood pressure and an improvement in peripheral perfusion status based on the Indonesian Nursing Outcomes Standards (SLKI) – Peripheral Perfusion (L.02011), with outcome criteria including: an increase in peripheral pulse, a decrease in pale skin color, improved skin turgor, and improved systolic and diastolic blood pressure.

RESULTS

The results of the evaluation of two hypertension patients with ineffective peripheral perfusion showed a decrease in blood pressure after receiving foot massage intervention using olive oil for three consecutive days.

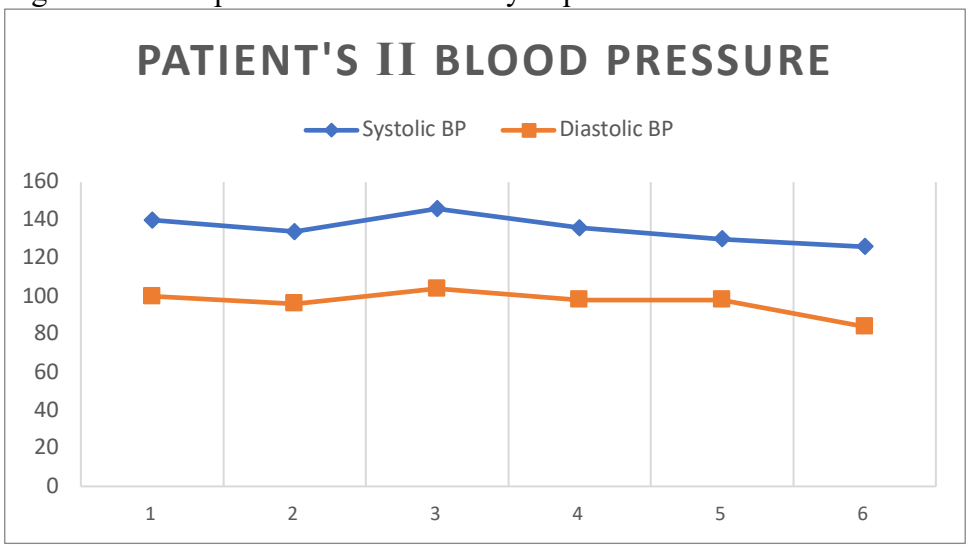
Figure 1. Blood pressure before therapy, in patient I,



Source: primary data

In patient I, blood pressure before therapy on the first day was 160/110 mmHg, decreasing to 140/100 mmHg. On the second day, blood pressure dropped from 150/108 mmHg to 142/96 mmHg, and on the third day from 148/104 mmHg to 136/92 mmHg.

Figure 2. Blood pressure on the first day in patient II



Source: primary data

In patient II, blood pressure on the first day dropped from 140/100 mmHg to 134/96 mmHg. On the second day, it dropped from 146/104 mmHg to 136/98 mmHg, and on the third day, it dropped from 130/98 mmHg to 126/84 mmHg.

DISCUSSION

The results of this study indicate that foot massage with olive oil significantly reduces systolic and diastolic blood pressure and improves peripheral perfusion indicators (increased peripheral pulse, pale skin color, improved skin turgor). These findings are consistent with previous studies investigating the effects of massage on hypertension and blood perfusion.

A randomized clinical trial in patients with stage-2 hypertension reported that foot reflexology caused an average decrease in systolic blood pressure of approximately 3.29 mmHg and diastolic blood pressure of approximately 1.71 mmHg within 15 minutes after the intervention compared to baseline (Kotruchin, P., et al., 2021). This supports the notion that brief but intensive interventions can have a significant physiological effect on blood pressure.

In addition, a meta-analysis comparing massage as an adjunct to antihypertensive treatment noted that massage combined with medication can lower systolic and diastolic blood pressure more than medication alone (Xiong, X.J., et al., 2015). This is consistent with the findings of the current study, in which respondents also took antihypertensive medication and obtained additional benefits from foot massage.

Foot massage therapy using olive oil can improve peripheral blood circulation, including in the dorsalis pedis artery, in patients with hypertension. Stimulation of reflex points on the feet can improve blood flow to the lower extremities, which has the potential to improve the quality of peripheral arteries such as the dorsalis pedis.

Foot massage therapy with olive oil can help reduce muscle cramps in patients with hypertension. Olive oil has anti-inflammatory properties that can relieve inflammation and muscle pain.

Massage therapy combined with olive oil can provide significant benefits for acral conditions in hypertensive patients. Olive oil, which is rich in monounsaturated fatty acids and antioxidants, has anti-inflammatory properties and can improve peripheral blood circulation. This combination helps reduce vascular resistance and improve blood flow to the lower extremities, contributing to the improvement of acral conditions such as dry, pale, or cold skin in hypertensive patients.

The results of this study are in line with the findings of Arifah et al. (2024), who reported that foot reflexology massage therapy is effective in lowering blood pressure in hypertension patients through improved blood circulation and muscle relaxation. Therefore, the application of foot massage using olive oil can be used as a safe, inexpensive, and effective non-pharmacological nursing intervention to help lower blood pressure and improve peripheral perfusion in hypertension patients.

CONCLUSION

The results of the study show that foot massage using olive oil is effective in lowering systolic and diastolic blood pressure and improving peripheral perfusion in hypertensive patients. This therapy provides physiological effects in the form of increased blood circulation, muscle relaxation, and vasodilation of blood vessels, which contribute to lowering blood pressure. In addition, the polyphenol and vitamin E content in olive oil acts as a natural antioxidant that helps increase blood vessel elasticity and improve peripheral blood flow. Thus, foot massage can be used as a safe, inexpensive, and effective non-pharmacological nursing intervention to support blood pressure control and improve peripheral perfusion status in hypertensive patients.

Recommendation for future research is needed to evaluate the long-term effects of nursing interventions on blood pressure stability, quality of life, and the risk of vascular complications in hypertensive patients

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