



The Effect of Warm Water Foot Bath Therapy in Reducing Blood Pressure in Elderly People with Hypertension in Pandansari Village, Banyumas

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ABSTRACT

As a person ages, various types of changes and non-communicable diseases often occur due to decreased biological function due to the aging process. The disease that often occurs is hypertension. If not treated properly, hypertension will cause complications. Preventing hypertension can be done with non-pharmacological therapy, namely by soaking the feet in warm water. The aim of this study was to see whether there was an effect of soaking the feet in warm water on reducing blood pressure in people with hypertension. This research is qualitative research using the nursing process approach method. The subjects used were elderly people with hypertension problems in Pandansari Village, Kab. Banyumas. The research instrument used was the nursing care format. Research data collection techniques are observation, interviews, physical examination and documentation studies. Blood pressure measurements were taken after and before the feet were soaked. The results of implementing foot soak therapy using warm water on the elderly showed that the patient's blood pressure decreased from the first day of implementation to the third day of implementation, so it can be concluded that the technique of soaking feet in warm water was able to provide good results. Lowering blood pressure in the elderly.

Keywords: *Elderly, Hypertension, Soak feet in warm water*

1. INTRODUCTION

Elderly is a term for individuals whose age is above 60 years. As individuals age, changes and non-communicable diseases often appear due to biological functions that decrease due to the aging process. Diseases that commonly occur in the elderly are hypertension, osteoarthritis, osteoporosis, DM, CVD, CHD, impaired vision and hearing and infections, dementia and depression (Siregar et al., 2024).

Hypertension is a condition of systolic pressure of more than 140 mmHg and diastolic pressure of more than 90 mmHg, which is a

measure in blood pressure carried out continuously. This causes the heart to work hard in pumping blood to provide nutrients and oxygen in the body (Marlina, 2023).

The prevalence of elderly hypertension in the world from WHO data is approximately 972 million people or 26.4% of people affected by hypertension, which may increase in 2025 to 29.2%. 972 million cases of hypertension, 639 in developing countries and 333 million in developed countries. The prevalence of elderly hypertension in Indonesia from these years has fluctuated with the prevalence of elderly aged 60 years in 2018 totaling 9,221 cases, in 2019

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totaling 8,861 cases and in 2020 totaling 9441 cases (Marlina, 2023).

One of the causes of hypertension is the appearance of a condition where the walls of the blood vessels harden due to atherosclerosis, which in this case is the accumulation of fat, cholesterol, and other substances and in the walls of the arteries (Marlina, 2023). Signs and symptoms of hypertension, namely difficulty sleeping, ringing in the ears, headache, easy fatigue, blurred eyes, which are felt by people with hypertension are often ignored because they are considered not too heavy and do not hinder work. As a result, if not treated properly, it can have an impact, namely complications including coronary heart disease, retinopathy, ruptured blood vessels, material can make someone die suddenly (Avisya et al., 2024).

Management of hypertension can be carried out with 2 therapies, namely pharmacological and non-pharmacological therapies. This case study uses warm water immersion therapy. Warm water immersion therapy is a nonpharmacological therapy that can minimize blood pressure. The benefits of this therapy are that it can prevent fever, improve fertility, prevent pain, relieve fatigue, increase immunity and have benefits for smooth blood circulation (Astutik & Mariyam, 2021). This is in accordance with what is presented by (Nopriani, 2019) which shows the results of the study show that foot soaking with warm water can minimize the blood pressure of people with hypertension.

The method of soaking feet using warm water has a physiological effect on body parts such as the heart. Hydrostatic pressure of water on the body drains blood from the feet to the chest cavity and blood will accumulate in large blood vessels in the heart. Warm water will facilitate enlarged blood vessels and increase the heart rate, this effect runs quickly after foot soaking therapy with warm water. Improving blood circulation makes lymph circulation smooth which makes the body avoid toxins (Azwardi et al., 2021).

Various kinds of discomfort felt by the elderly. Therefore, as a nurse, it is necessary to provide implementation to reduce the symptoms that occur by providing non-

pharmacological therapy to the elderly. This case study uses warm water foot soaking therapy. This therapy was chosen because it is easy to apply. From the description above, the authors are interested in providing the implementation of foot soaks using warm water on Mrs. J in Pandansari Village, Banyumas Regency.

2. METHODS

This study uses a descriptive research design through a nursing process approach. The descriptive case study method presents in solving problems using data that is used as an objective picture. The steps include the stages of collecting data, processing, drawing conclusions, and preparing reports. The subject used was one elderly patient with hypertension problem, Mrs. J aged 61 years.

Inclusion criteria are elderly hypertension whose blood pressure is above 140/90 mmHg. The subjects of this case study were pregnant women with hypertension, pregnant age ≥ 20 weeks, and blood pressure 140/90 mmHg, with measurements taken 2 times at each visit.

Blood pressure measurements were carried out twice, namely before and after the warm water foot bath technique. Warm water foot bath therapy was carried out by immersing the feet in warm water with a temperature of 39°C - 40°C until the subject felt comfortable. The therapy is done 1x a day for 20 minutes. This research was conducted for 3 days in Pandansari Village, Banyumas Regency. This research instrument is a blood pressure observation leaflet.

3. RESULT AND DISCUSSION

The methods used in this study are interviews and observations. The results of the analysis of Mrs. J aged 61 years with complaints showing frequent headaches and insomnia. Pain assessment was obtained, P: dizziness is often felt when feeling tired, Q: dizziness like gripping, R: dizziness in the head area radiating to the nape of the neck, S: pain scale 5 (moderate pain), T: dizziness that feels lost appears. While the objective data obtained Mrs. J looks grimacing BP 157/104 mmHg, N: 100x/m, Rr: 18x / m.

Nursing diagnoses according to the review obtained the focus of Acute Pain diagnoses (D0077) related to physiological agents. Acute pain is a sensory experience associated with actual damaged tissue, with sudden or slow onset and mild to severe intensity that lasts no more than 3 months (PPNI, 2017).

After knowing the correct nursing diagnosis for the patient, the next nurse determines and develops a nurse plan. The care plan made by the nurse must be equalized with the patient's condition according to the study and nursing diagnosis (Simanullang, 2019).

Determination of the objectives and criteria for the outcome of Mrs. J's patient in accordance with SLKI, namely after being given nursing care in three visits, the expectation is that the level of pain (L.08066) will decrease, the results of which complaints of pain will decrease, difficulty sleeping will decrease, blood pressure will improve. The case study client's nursing intervention is pain management (I.08238) with the implementation of nonpharmacology using warm water foot soaking therapy (DPP PPNI, 2018).

Table 1. Blood pressure results after and before the implementation of warm water foot bath

	Day 1	Day 2	Day 3
Pre	160/100	150/85	140/90
Post	155/95	140/80	130/80

The results after treatment for 3 days using EBNP show that foot soaking therapy with warm water is good for minimizing blood pressure to Mrs. J. The above research is in line with the research of Biahimmo et al (2020) which shows the results there is an effect of this therapy using warm water on blood pressure p value = 0.001. Another direct research is research from (Nopriani, 2019) which shows the results that warm water foot soaking is good for minimizing the blood pressure of people with hypertension means p value = 0.000 where p value <0.05.

Decreased blood pressure is due to increased blood circulation which widens blood vessels which makes more oxygen supplied to tissues that narrow blood vessels (Nurapiani & Mubin, 2021). This therapy has an impact on blood

vessels where the warmth of water causes blood to flow smoothly and causes ligament muscles to undergo changes that affect the body's joints (Arafah, 2019).

Water therapy is a treatment on the body that uses water as a healing agent, water is used as a trigger to improve strength levels and immunity to disease. The effect of body circulation using warm water can cure various diseases such as pneumonia, fever, headache and hypertension. Water therapy is an effective way to increase endurance, improve blood flow and eliminate toxins (Putri, 2019).

The supporting factor in the application of this bath is someone who takes anti-hypertensive drugs, this factor encourages severe blood pressure in people with hypertension to decrease after soaking the feet that have been checked for hypertension control. While the inhibiting factor is someone who likes to eat junkfood with ana and likes to eat salty ones. Blood pressure will rise if you are accustomed to eating unhealthy foods such as eating sodium salt. Blood volume will rise and water can be retained due to eating a lot of sodium and high salt content foods. Makes blood pressure rise because when pumping blood, the heart has to work hard. Foods that cause hypertension are foods that contain fat, sweet and salty (Arifin & Mustofa, 2021).

CONCLUSION

The implementation of this therapy is carried out 3 times in 3 days, each session is carried out for 20 minutes with a water temperature of 39-40 Celsius. This study shows that the blood pressure of people with hypertension who carry out foot soaking therapy with warm water decreases. For the development of nursing science and technology, it is hoped that the warm water foot soak technique will be applied in clinical practice to improve the quality of pain management nursing implementation in the elderly with hypertension who have acute pain problems. The limitation in this study is the very small number of respondents so that it does not strengthen the results because there is no comparison.

ADVISE

Nurses and other health workers can provide understanding or provide explanations and apply progressive muscle relaxation therapy and warm foot soaks to minimize blood pressure to patients affected by hypertension. For future research, it should be further developed regarding other relaxation exercises to minimize blood pressure.

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