

THE EFFECT OF GIVING WARM WATER FOOT BATH MIXED WITH SALT ON BLOOD PRESSURE IN ELDERLY PEOPLE WITH HYPERTENSION

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ABSTRACT

The definition of hypertension is an increase in systolic blood pressure greater than 140 mmHg and diastolic blood pressure greater than 90 mmHg when tested twice every minute with sufficient rest time or in a calm state. Pharmacological and non-pharmacological therapy are two elements of hypertension management. Pharmacological therapy often involves antihypertensive drugs, while non-pharmacological therapy includes traditional or complementary alternative medicine. One of them is soaking feet using salt. The purpose of this study was to determine the effect of soaking feet using salt water in lowering blood pressure values. Methods: This is an experimental study with a one group preposttest design. Results: The average value of the respondent's blood pressure before the intervention was around 160/100 mmHg, after the intervention the blood pressure value decreased on average around 145/90 mmHg. Conclusion: Soaking feet in salt water has a large impact on blood pressure before and after the intervention is given, with a p value of 0.000.

Keywords: blood pressure; elderly; hypertension; salt foot bath therapy

INTRODUCTION

A person is said to be elderly (elderly) if he is 65 years old and above. Elderly is not a disease, but an advanced stage of a life process characterized by a decrease in the body's ability to adapt to environmental stress. Elderly is a condition characterized by a person's failure to maintain balance against physiological stress conditions (A.A & Boy, 2020). Based on the 2018 Riskerdas results, hypertension ranks eighth in the non-communicable disease (NCD) group caused by cardiovascular disease. The prevalence of hypertension in Indonesia at the age of 18 years is 34.1%, and West Kalimantan has the highest prevalence of 44.1%. The prevalence of hypertension in women is generally higher than in men, 36.9% in women and 31.3% in men, and the prevalence of hypertension is higher in urban than rural areas, 34.4% in urban areas and 33.7% in rural areas. Southeast Sulawesi was in 29th place, viz. 25.8% (Fildayanti et al., 2020).

The method of soaking feet in warm water mixed with salt has physiological effects on some parts of the human body, such as the heart. The hydrostatic pressure of water in the body increases blood flow from the legs to the chest cavity and blood will accumulate in the large blood vessels of the heart. This effect occurs quickly after warm bath therapy is administered. The working principle of this therapy also causes dilation of blood vessels and a decrease in muscle tension so as to facilitate blood circulation in blood vessels (Azwardi et al., 2021). Salt water conducts electricity more strongly than fresh water, and reduces the water and salt elements to negative ions. The compound will enter the body from the feet through the meridian network that crosses the skin tissue of the feet. The positive ions are toxins and free radicals. These negative ions also permeate and cause the recovery of the body's cells. When the cells reach equilibrium, they will get rid of the toxins and excrete them through the pores.

Definition of elderly Elderly is someone who has entered the age of 60 years and above. The elderly are an age group in humans who have entered the final stage of their life phase. The group categorized as elderly will occur a process called the Aging Process or the aging process. As age increases, changes occur in the structure and function of cells, tissues, and organ systems. These changes generally affect the deterioration of physical and psychological health which will ultimately affect the economy and social of the elderly (Wati et al., 2021). Definition of Hypertension Hypertension is abnormally high blood pressure with systolic and diastolic numbers showing numbers higher than 140/90mmHg and measured on at least three different occasions. Increased and prolonged blood pressure can damage blood vessels in target organs such as the kidneys, heart, brain and eyes so that hypertension becomes one of the main factors as the number one cause of death in the world or known as the silent killer (Putra & Susilawati, 2022). Etiology of Hypertension Hypertensive disease is characterized by blood pressure readings that exceed values of more than 140 mmHg (systolic) and 90 mmHg (diastolic). Hypertension is divided into two based on its cause, namely: Secondary hypertension is the presence of comorbid diseases or the use of certain drugs. Either directly or indirectly, it can cause hypertension.

Table 1.
Blood Pressure Classification

Category	Systolic (mmHg)	Diastolic (mmHg)
Normal	<120	<80
Pre Hypertension	120 – 139	80 - 89
Stage 1 Hypertension	140 – 159	90 - 99
Stage 2 Hypertension	>160	>100

METHOD

This study used a pre experimental research design with a one group pretest and posttest design because this study aims to compare the results of the intervention group pretest and the intervention group posttest (Anjani et al., 2021). Pre-experimental design is a form of experimental research that can manipulate independent variables, where the selection of subjects in this study is carried out randomly, and does not have a control group.

RESULTS AND DISCUSSION

This study used a pre experimental research design with a one group pretest and posttest design because this study aims to compare the results of the intervention group pretest and the intervention group posttest (Anjani et al., 2021). Pre-experimental design is a form of experimental research that can manipulate independent variables, where the selection of subjects in this study is carried out randomly, and does not have a control group.

Interpretation and discussion of results

Age Characteristics of Respondents

Based on the results of the study above, it explains that the average age of respondents with hypertension is mostly 65 years old with a percentage of 33.3%. While the youngest age is 62 years with a percentage of 9.5% and the oldest age is 68 years with a percentage of 9.5%. The majority of respondents were female, totaling 18 people (85.7%).

Gender Characteristics of Respondents

Based on table 4.2 above, it is found that the male respondents were 3 people (14.3%) and the majority of respondents were female, totaling 18 people (85.7%). Research (Falah, 2019) shows that male respondents experienced hypertension as many as 15 people (25%) and those who did not experience hypertension were 45 people (75%). Meanwhile, female respondents who experienced hypertension were more than men, namely 27 people (45%) and those who did not experience hypertension were 33 people (55%). Women who experience menopause are one of the factors that cause women to have a tendency to have a higher incidence of hypertension than men. Women who have experienced menopause have low estrogen levels. This estrogen functions to increase High Density Lipoprotein (HDL) levels which are very instrumental in maintaining vascular health. In line with research (Azhari, 2017), based on the results of bivariate analysis obtained p value = 0.026 with a value of $\alpha = 0.05$, $p < \alpha$ (H_0 is rejected) means indicating that there is a relationship between gender and the incidence of hypertension with an Odds ratio (OR) value = 2.708, meaning that respondents who are female have a chance of 2.7 times to get hypertension disease compared to respondents who are male. compared to respondents who are male with a confidence level (95% CI) = 1,197 - 6,126.

CONCLUSION

The average blood pressure value before giving the intervention of warm water foot bath mixed with salt, the average pretest systolic blood pressure value was 168.05 and the average pretest diastolic blood pressure was 102.38. Entered in the HT stage 2 category, namely >160/100 mmHg. The average blood pressure after giving the intervention of warm water foot bath mixed with salt on day 3 respondents experienced a decrease in blood pressure with an average posttest systolic blood pressure of 145.43 and posttest diastolic blood pressure of 91.43 in the HT stage 1 category, namely 140-159/90-99 mmHg. There is a significant effect on blood pressure before and after the foot soak intervention using warm water mixed with salt with a P value (0.000). The results of the data analysis test using the Wilcoxon Signed Rank Test.

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