



THE EFFECT OF COMPLEMENTARY FOOT SOAK THERAPY USING RED GINGER BOILED WATER TO LOWER BLOOD PRESSURE IN THE ELDERLY: CASE STUDY



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ABSTRACT

Introduction: Hypertension is a condition where humans experience an increase in blood pressure above normal, namely 140/90 mmHg. Based on data from the World Health Organization (WHO), it shows that around 1.28 billion adults suffer from hypertension aged 30-79 years worldwide. Hypertension in the elderly is caused by decreased elasticity of the oral walls, thickening of the heart valves which makes the valves stiff, decreased pumping ability of the heart, decreased elasticity of peripheral blood vessels, increased resistance of peripheral blood vessels, and decreased function of blood vessels. **Purpose:** Foot soak therapy using warm ginger water aims to improve blood circulation, reduce edema and improve muscle circulation. **Methods:** The research method used is the case study method. This intervention was given to 2 elderly people with hypertension, intervention was carried out 3 times a week with a duration of 15-20 minutes per meeting. Data analysis used in this research was by using the Wilcoxon test. **Discussion:** The client's blood pressure after being given the intervention decreased with an average blood pressure for the two elderly people of 143 mmHg (systolic) and 84 mmHg (diastolic). The Wilcoxon test results showed that the Sig (2-tailed) value for systolic and diastolic pressure was 0.027 (<0.05) **Conclusion:** There is a significant effect of providing foot soak therapy using boiled red ginger water on blood pressure in elderly people with hypertension.

Keywords: elderly, foot soak, Hypertension, red ginger

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INTRODUCTION

Hypertension is a condition where humans experience an increase in blood pressure above normal, namely 140/90 mmHg (Sitorus et al., 2024). Hypertension is one of the main contributors to morbidity and mortality in the world. In Indonesia, the prevalence of hypertension based on age has increased significantly from 31.6% in the 35-44-year age range, increasing by 13.7% to 45.3% in the 45-54-year age range, so that as age increases, the incidence of hypertension continues to increase. (Indonesian Ministry of Health, 2018 in Oktaria et al., 2023). Hypertension is asymptomatic so it can cause

other diseases such as stroke, heart and blood vessel problems, kidney problems, and even vision problems. Therefore, this blood pressure disorder is chronic and often occurs in the elderly (Istiqomah et al., 2022).

Hypertension in the elderly is caused by decreased elasticity in the oral walls, thickening of the heart valves which makes the valves stiff, reduced pumping ability of the heart, reduced elasticity of peripheral blood vessels, increased resistance of peripheral blood vessels, and reduced function of blood vessels. This is because as the elderly age, the elasticity of the skin and blood vessels decreases, causing disorders

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such as joint stiffness and abnormal blood flow to the brain, and as we get older this will cause hypertension (Tanjung et al., 2023). Therefore, it is necessary to carry out interventions to lower blood pressure that can be done independently in daily life, and as a form of reminder to the elderly that it is important to pay attention to health conditions, one of which is foot soak therapy using warm red ginger water. Foot soak therapy using warm ginger water aims to improve blood circulation, reduce edema, and improve muscle circulation. Soaking your feet in warm ginger water will cause a systemic response through a vasodilation response (widening of blood vessels). The warm feeling in ginger can widen blood vessels so that it can improve blood flow. Warm water has a physiological impact on the body to improve blood circulation (Sriyatna & Rahayu, 2022).

METHOD

This research uses a case study approach method on two elderly people with hypertension in the form of implementing Evidence Based Practice (EBP) in nursing care for gerontic clients. The EBP used by the author in this paper is foot soak therapy using boiled red ginger water to lower blood pressure in the elderly. Below are presented the results of the case study. Respondents were given therapy 3 times a week with a duration of 15-20 minutes each time. Data collection was carried out 3 times a week (every 2 days) by carrying out blood tests before therapy was given (pre-test) and blood pressure checks after therapy (post-test). The data analysis used was the Wilcoxon test using computer software.

RESULT

Table 4.1 Results of client blood pressure monitoring (n=2)

Meet	Name	Sys		Dis		Decline	
		Pre	Post	Pre	Post	Sys	Dis
1	Mrs. N	163	160	90	88	3	2
	Mrs. m	154	143	88	83	11	5
2	Mrs. N	154	153	91	818	1	3
	Mrs. m	146	132	93	83	14	10
3	Mrs. N	152	150	98	91	2	7
	Mrs. m	138	136	79	77	2	2

Average Decrease in Blood Pressure	5.5	4.83
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Table 4.1 shows the average decrease in clients' blood pressure before and after administering foot soak therapy using boiled red ginger water 3 times a week, namely, the average decrease in systolic blood pressure was 5.5 mmHg and diastolic blood pressure decreased by 4.83 mmHg. . The average blood pressure of the two elderly people before the intervention was given was 158.5 mmHg (systolic) and 89 mmHg (diastolic). After being given a foot soak therapy intervention using boiled red ginger water 3 times a week, the average blood pressure of the two elderly people decreased to 143 mmHg (systolic) and 84 mmHg (diastolic). This shows that foot soak therapy using boiled red ginger water is effective in lowering blood pressure in elderly people with hypertension.

Table 4.2 The Effect of Foot Soak Therapy Using Boiled Red Ginger Water on the Blood Pressure of the Elderly

TD	Variable	N	Z	Sig.(2 tailed)
Sys	Pre-test	2	-2,207	0.027
	Post-test	2		
Dis	Pre-test	2	-2,207	0.027
	Post-test	2		

Table 4.2 shows the results of the analysis using the Wilcoxon test, which obtained a Sig (2-tailed) value for systolic and diastolic pressure, namely 0.027, where this value is <0.05, so it can be interpreted that there is a significant effect of giving foot soak therapy using boiled red ginger water on prenatal blood pressure. and post therapy in elderly with hypertension

DISCUSSION

Hypertension in the elderly is caused by decreased elasticity in the oral walls, thickening of the heart valves which makes the valves stiff, decreased pumping ability of the heart, decreased elasticity of peripheral blood vessels, increased resistance of peripheral blood vessels, and decreased function of blood vessels. This is because as the elderly age, the elasticity of the skin and blood vessels decreases, causing disorders such as joint stiffness and abnormal blood flow to the brain, and as we get older this will cause hypertension.(Tanjung et al., 2023).

Several risk factors that can cause high blood pressure are old age and a family history of high blood pressure, obesity, high salt levels, and lifestyle habits such as smoking and drinking alcoholic beverages. Apart from that, there are also factors that can cause hypertension, namely

being overweight followed by a lack of exercise, and consuming foods that are fatty and high in salt. (Akbar et al., 2020).

Foot soak therapy using boiled red ginger water can reduce high blood pressure in the elderly, this is supported by research Sriyatna & Rahayu (2022) which showed that there was a decrease in blood pressure in the subjects with an average decrease in systolic and diastolic pressure of 10 mmHg after administering warm red ginger water foot soak therapy. Research conducted by Safitri et al. (2023) The results showed that after applying warm red ginger water foot soak therapy, systolic pressure was reduced, namely from 200/100 mmHg to 190/100 mmHg in Mrs. K and 160/100 mmHg became 150/100 mmHg in Mrs. S. Results of other research conducted by Gea et al. (2023) The results showed that there was a significant difference between the blood pressure of respondents before and after the warm red ginger water foot soak therapy with the Sig value. (2-tailed) of 0.000 (<0.05).

Foot soak therapy is a foot hydrotherapy therapy (warm water foot soak) which can be done independently and is natural. Soaking the feet in a warm solution can increase muscle circulation and cause a systemic response to occur through vasodilation (widening of blood vessels). Red ginger itself contains essential oils (volatile) which give it a warm taste and spicy aroma. The warm feeling from the essential oil (volatile) content can help widen blood vessels (vasodilation) so that blood flow becomes smooth, thereby lowering blood pressure. (Safitri et al., 2023).

Foot soak therapy using boiled red ginger water is a practical and efficient method for lowering blood pressure in the elderly because the ingredients are easy to find and the procedure is simple so it can be done independently. One of the complementary intervention therapies that can be done independently and is natural is foot hydrotherapy (warm water foot soak). (Sriyatna & Rahayu, 2022).

CONCLUSION

There is a significant effect of providing foot soak therapy using boiled red ginger water on blood pressure in the elderly, as evidenced by the results of a Sig (2-tailed) value of 0.027 (<0.05) for systolic and diastolic blood pressure. From the results of this research, it

is hoped that foot soak therapy using boiled red ginger water can be used as a complementary therapy for hypertension patients. Apart from that, nurses are expected to be able to educate patients regarding routine antihypertensive treatment at the nearest health facility.

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