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THE EFFECT OF WARM GINGER WATER FOOT SOAKING THERAPY ON REDUCING BLOOD PRESSURE IN PREGNANT WOMEN WITH HYPERTENSION AT ALISAH CLINIC TREISYA MEDAN CITY IN 2024

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Abstract

A pregnant woman is someone carrying a developing fetus from conception to birth. Hypertension, or high blood pressure, occurs when the blood vessels consistently experience elevated pressure. To help lower blood pressure in pregnant women, a non-pharmacological method involving soaking the feet in warm ginger water is used. This study, conducted at the Alisah Treisya Clinic in Medan City, employed a pre-experimental design with a one-group pretest-posttest format. The sample consisted of 15 pregnant women, selected through purposive sampling. Data analysis was performed using the Wilcoxon test. The results showed that warm ginger water foot soak therapy significantly reduced blood pressure in pregnant women with hypertension, with a p-value of 0.01 (p < 0.05), indicating a significant effect.

Keywords: *Foot Soak Therapy, Ginger Decoction, Hypertension*

1. INTRODUCTION

Pregnant women are women who carry a baby from conception to the birth of the fetus. According to WHO, pregnancy is a process of nine months or more in which women carry a balanced embryo and fetus in the womb. Pregnant women tend to have unstable emotions due to increased estrogen and progesterone hormones, causing anxiety and other psychological problems. Research shows that high anxiety in pregnant women increases the risk of hypertensive disorders (Potteir & Peirry, 2020).

Hypertension, or high blood pressure, is a condition in which blood vessels experience increased pressure, with systolic pressure of more than 140 mmHg and diastolic pressure of more than 90 mmHg. According to the Indonesian Ministry of Health, unchangeable risk factors for hypertension include age, gender, and family history, while modifiable factors include low fiber diet, lack of exercise, and high blood pressure.

increased salt, increased body weight, increased alcohol consumption, smoking and stress. Knowing these risk factors makes it easier to prevent hypertension (WHO, 2021).

According to WHO 2023 data, around 1.13 billion people in the world suffer from hypertension, which means that one-third of the

world's population experiences high blood pressure. In Indonesia, hypertension is a major health problem with a prevalence of 25.8% in 2019 and increasing to 34.1% in 2018. South Kalimantan Province has the highest prevalence (44.1%), while Papua is the lowest (22.2%). West Jakarta is in fifth place with a prevalence of 26.29% (Kemenkes RI, 2021).

According to the Directorate of Public Health of the Republic of Indonesia's Ministry of Health, the prevalence of maternal death due to hypertension during pregnancy was 21.5% in 2017, increasing to 24.7% in 2018, 26.9% in 2019, and 27.1% in 2020 (Kemenkes, 2021).

The National Center for Complementary and Alternative Medicine (NCCAM) defines complementary medicine as medicine based on social or cultural practices, theories, and beliefs to prevent or treat disease and promote health. Complementary services include herbal medicine, aromatherapy, and foot hydrotherapy (warm water foot soaks) (Ningsih, 2021).

Non-pharmacological therapy to lower blood pressure is considered safer because it has no side effects. One method that can be done alone is foot hydrotherapy or foot soaks, which can be modified with ginger. Ginger contains essential oils that provide warm effects and help smooth blood flow (Pratiwi, 2020). Ginger is easy to find in Indonesia and is often used in foot soaks because many people plant it in their yards. Red ginger has the highest essential oil content, which is 2.58 - 3.90% (Prananda, Yahya, 2021).

Research shows that warm water and ginger effectively lower blood pressure in hypertensive patients. In North Sumatra, there were 554,771 cases of hypertensive disease until 2021, including preeclampsia. In Meidan City, many pregnant women experience hypertensive disease but ignore it. They know that ginger is easy to get and can be grown by themselves, but they do not know its benefits.

At the Alisah Treiisya Clinic in Meidan City, out of 110 pregnant women, 40 experienced hyperthermia(April-May). They complained of headaches, restlessness, and insomnia, and sought solutions at the clinic.

2. METHOD

This study uses a Quasi Experiment or Semi-Experimental design to assess the effect of manipulation on respondents. The design used is Preliminary and Post-test.

The population of this study was 40 pregnant women with hypertension at the Alisah Treiisya Clinic, Meidan City. This location is suitable to meet the selection criteria and is already known to the researcher, thus facilitating the research process. The author used the Purposive Sampling technique to select 15 pregnant women with hypersensitivity at the Alisah Treiisya Meidan City Clinic in 2024. This study uses a non-probability technique with Purposive Sampling, namely determining the sample based on certain considerations to make it easier for researchers to

determine the nature and characteristics of the sample.

3. RESULTS

A. Respondent Characteristic

Table 1. Respondent Characteristics Based on Age, Gestational Age, and Occupation.

Usia	Frekuensi (F)	Presentase (%)
25 - 29 tahun	7	46,7
30 - 35 tahun	8	53,3
Total	15	100,0
Usia kehamilan	**Frekuensi (F)**	**Presentase (%)**
36 Minggu	6	57,6
37 Minggu	2	26,7
38 Minggu	4	26,7
39 Minggu	3	20,0
Total	15	100,0
Pekerjaan	**Frekuensi (F)**	**Presentase (%)**
Irt	8	53,3
Wiraswasta	4	26,7
Pns	3	20,3
Total	15	100,0

From Table 1, there were 7 respondents aged 25-29 years (46.7%) and 8 respondents aged 30-35 years (53.3%). From the table, 6 respondents (56.7%) were at 36 weeks of gestation, 4 respondents (26.7%) at 38 weeks, and 3 respondents (20.0%) at 39 weeks. The table shows that 8 respondents (53.3%) worked as housewives, 4 respondents (26.7%) as self-employed, and 3 respondents (20.0%) as civil servants.

B. Data Analysis

A. Univariate Data

Univariate analysis was used to analyze the frequency distribution and research variables, namely blood pressure of pregnant women before (pre-) and after (post-) warm ginger water foot soak therapy.

Table 2. Distribution of Response Based on Blood Pressure Before and After Intravenous Insemination in Pregnant Women at the Alisah Treiisya Clinic, Meidan City in 2024

No	Tekanan Darah Sebelum Diberikan Intervensi	(F)	(%)	Mean	Std, Daviation	Min	Max
1	140/90 mmHg	3	20,0	3.13	9.460	90	160
2	150/100 mmHg	7	46,7				
3	160/100 mmHg	5	33,3				
	Total	15	100,0				
No	Tekanan Darah Sesudah Diberikan Intervensi	(F)	(%)				
1	110/80 mmHg	2	13,3	2.13	7.342	80	110
2	120/80 mmHg	9	60,0				
3	130/80 mmHg	4	26,7				
	Total	15	100,0				

From Table 2, besides the venous system, out of 15 respondents, 3 experienced hypertension 140/90 mmHg (20.0%), 7 hypertension 150/100 mmHg (46.7%), and 5 hypertension 160/100 mmHg (33.3%). The mean blood pressure value was 2.13 with a standard deviation of 7.342, a minimum value of 85 and a maximum of 100.

After the vein was soaked in warm ginger water, out of 15 respondents, 2 experienced a decrease in blood pressure to 110/80 mmHg (13.3%), 9 to 120/80 mmHg (60.0%), and 4 to 130/80 mmHg (26.7%). The average blood pressure value was 3.13 with a standard deviation of 9.460, a minimum value of 95 and a maximum of 130.

B. Bivariate Data

Bivariate analysis was used to determine the effect of independent variables on dependent variables. In this study, bivariate analysis was used to measure the effect of warm ginger foot soak therapy on reducing blood pressure in pregnant women with hypertension at the Alisah Treiisya Meidan City Clinic in 2024.

This study was tested using the Wilcoxon test.

Table 3. Effect of Warm Ginger Water Foot Soak Therapy on Lowering Blood Pressure in Pregnant Women with Hypertension

Ranks

		N	Mean Rank	Sum of Ranks	Z	Sig
Tekanan_Darah _Pretest_ Tekanna_Darah_Postetes -	Negative Ranks	13[a]	7.00	91.00		
	Positive Ranks	0[b]	00	00		
	Ties	2[c]			3.419[a]	0,01
	Total	15				

From Table 3, the results of the Wilcoxon Signeid Ranks Theist test analysis show that there is a difference in the average systolic blood pressure before and after warm ginger water foot soak therapy with a p value = 0.01 <α = 0.05. This means that Ha is accepted, indicating the effect of warm ginger water foot soak therapy on reducing blood pressure in pregnant women with hypertension at the Alisah Treiisya Meidan City Clinic in 2024.

C. Normality Test

The Shapiro-Wilk Normality Test is used to evaluate the distribution of random data in small samples. Shapiro and Wilk (1958) and Shapiro, Wilk, Chein (1968) recommend this test for data samples less than 50. If the p-value > 0.05, the data is normally distributed.

Table 4. Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pretest	.238	15	.000	.250	15	.000
Postest	.316	15	.000	.430	15	.000

a. Lilliefors Significance Correction

From table 4 of the Shapiro-Wilk normality test above, the p-value was obtained for before the warm ginger water foot soak therapy (pretest) p-value 0.000 and after the warm ginger water foot soak therapy (posttest) p-value 0.000. It can be concluded that the p-value <α (0.05) means that all measurement data are not normally distributed.

4. DISCUSSION

A. Respondent Characteristic

From Table 1, 7 respondents were aged 25-29 years (60.5%) and 8 respondents were aged 30-35 years (70.5%). Research by Indrawati (2021) shows a relationship between maternal age and the occurrence of hyperreactivity in pregnant women. Silvia (2022) added that a healthy reproductive age is 20-35 years, while pregnancy over 35 years increases the risk due to decreased reproductive function and endurance (Mona 2021).

From Table 1, there were 4 respondents (26.7%) with a gestational age of 36 weeks, 4 respondents (26.7%) with a gestational age of 38 weeks, and 3 respondents (20.0%) with a gestational age of 37 weeks and 39 weeks.

From Table 1, there are 8 respondents (53.3%) working as housewives, 4 respondents (26.7%) as entrepreneurs, and 3 respondents (20.0%) as civil servants. This study is supported by the finding that mothers who work tend to have better knowledge because they interact more and get information (Liawati et al., 2018).

B. Data Analysis

1. Univariate Data

From Table 4.2, before the vein, 3 respondents (20%) had blood pressure of 140/90 mmHg, 7 respondents (46.7%) 150/100 mmHg, and 5 respondents (33.3%) 160/90 mmHg. Research by Nurahmandani et al. (2020) showed that ginger water foot soak therapy was effective in lowering blood pressure with a p-value of 0.000. This therapy stimulates vasodilation and decreases heart rate through the warm effect and spicy aroma of ginger. Similar research by Muhammad Bayu Sucipto (2021) showed significant results in 19 respondents after 3 days of ginger foot soak therapy. Yahya Prananda & Rita Hafizah (2020) also found a decrease in blood pressure in 28 elderly people with a p-value of 0.003 for systolic pressure and 0.004 for diastolic pressure after 7 times of therapy.

2. Bivariate Data

From Table 4.2, after the vein reinsertion of warm ginger water feet, blood pressure in pregnant women showed a decrease: 2 respondents (13.3%) reached 110/80 mmHg, 9 respondents (60.0%) 120/80 mmHg, and 4 respondents (26.7%) 130/80 mmHg. Research by Yahya Prananda & Anna R. (2016) also showed a positive effect of this therapy in the elderly with hypertension, with a p-value of 0.003 for systolic and 0.004 for diastolic. Nopriani (2022) also supports these results, finding the effectiveness of warm water foot soak with a p-value of 0.000 in 56 hypertensive respondents. The results of the analysis using the Wilcoxon test showed a p-value of 0.01, indicating that warm ginger water therapy was effective in lowering blood pressure in pregnant women at the Alisah Treiisya Meidan City Clinic in 2024.

5. CONCLUSION

There were 7 respondents aged 25-29 years (46.7%) and 8 respondents aged 30-35 years (53.3%).

The gestational age of 36 weeks was 4 respondents (26.7%), 37 and 38 weeks each had 4 respondents (26.7%), and 39 weeks had 3 respondents (20.0%).

The occupation of housewives was 8 respondents (53.3%), self-employed 4 respondents (26.7%), and civil servants 3 respondents (20.0%). Before the venous system, blood pressure was 140/90 mmHg in 3 respondents (20.0%), 150/100 mmHg in 7 respondents (46.7%), and 160/100 mmHg in 5 respondents (33.3%). After the vein, blood pressure was 110/80 mmHg in 2 respondents (13.3%), 120/80 mmHg in 9 respondents (60.0%), and 130/80 mmHg in 4 respondents (26.7%). The results showed that warm ginger water foot soak therapy had a significant effect on decreasing blood pressure with p value = 0.01 < 0.05 (Ha accepted).

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