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Nursing Care in Mrs. P with Warm Water Footbath Technique at Wangon Public Health Center, Banyumas Regency

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ABSTRACT

Hypertension during pregnancy is a major cause of high maternal, fetal, and neonatal morbidity and mortality. One intervention to reduce high blood pressure is warm water footbath therapy. Soaking the feet in warm water provides a sense of comfort, where the warm sensation on the skin stimulates endorphin hormones, inducing relaxation and reducing stress. This case study was conducted to determine the effect of warm footbath therapy on lowering blood pressure in pregnant women with hypertension in the working area of the Wangon Public Health Center, Banyumas Regency. The method used was a descriptive case study. The subject was a pregnant woman with hypertension, gestational age ≥ 20 weeks, and blood pressure of 140/90 mmHg. The population in this study was 1 person, using a total sampling technique. The results showed changes in blood pressure in the pregnant woman with hypertension before and after receiving warm water footbath therapy.

Keywords: warm water foot soak, hypertension, pregnant women

1. PENDAHULUAN

Hypertension is an abnormal condition where systolic blood pressure is ± 140 mmHg and diastolic is ± 90 mmHg. It is a non-communicable disease with a very high incidence worldwide and is often called the "silent killer" as it frequently shows no signs or symptoms. This delays hypertension treatment and can increase mortality due to weakened organs, potentially leading to disability or even death (Sembiring & Sembiring, 2022).

The management of hypertension generally includes two types: pharmacological and non-pharmacological. Pharmacological management uses medications, while non-pharmacological approaches include warm water footbath therapy (Nazaruddin et al., 2021). Warm water footbath therapy has many benefits but has not been applied in health services. From interviews with village midwives and health workers, it was found that the treatment for pregnant women with hypertension only involves medication, and warm water footbath therapy has never been provided. Interviews were also conducted with postpartum mothers who previously suffered from hypertension. The results showed that when they sought care at health services, they only received medication and had never received information about non-pharmacological therapies such as warm water footbaths.

Hydrotherapy, often called warm water baths, is a therapeutic method that uses water externally or internally in the form of water or steam with varying temperatures and pressures. Warm water baths are usually used to treat or alleviate underlying diseases. Additional treatment involves soaking in warm water,

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where most procedures are performed on the soles of the feet. Treatment methods using warm water stimulate central reflexes on the soles of the feet, which can be used to treat and relieve pain and diseases, e.g., reducing ankle pain and lowering high blood pressure. This is due to the effect of hot water temperature directly on blood vessels (Yulianti et al., 2023).

Warm water footbath therapy is a form of therapy that uses water as a medium. The benefits of hydrotherapy include reducing pain and muscle stiffness, relaxing muscles, and accelerating healing (Inayah & Anonim, 2021).

Soaking the feet in warm water is part of relaxation therapy that eliminates physical and mental stress and tension. It provides a sense of comfort, where the warm sensation on the skin stimulates endorphin hormones, inducing relaxation and reducing stress. The working principle of warm water footbath therapy is based on the principles of conduction and convection, where both cause heat transfer from warm water to the body, resulting in dilated blood vessels and smooth blood circulation throughout the body (Natalina et al., 2022)..

The technique for soaking feet in warm water involves the following preparation steps: the client sits relaxed in a chair and leans back, then 2 liters of warm water at a temperature of 37º-39ºC is poured into a bucket/basin. Soak the feet up to the ankles in the bucket/basin for 15-20 minutes, then lift both feet, wash with cold water, and dry the feet with a towel. To keep the feet soft and not dry, apply a gentle cream (body cream) (Liszayanti & Rejeki, 2019).

Soaking feet in warm water is a relaxation therapy that relieves mental and physical stress and tension. A feeling of comfort arises when the feet are soaked in warm water, and the skin exposed to warmth can stimulate endorphin hormones, reducing stress and inducing relaxation (Burhan & Arofiati, 2021). This therapy has a theoretical working principle based on the principles of convection and conduction, both of which lead to heat transfer from warm water to the body, equalizing blood circulation throughout the body, and dilating blood vessels (Nurdiana & Safitri, 2023). The purpose of this study was to determine the effect of warm water footbath therapy on lowering blood pressure in patients with hypertension in the working area of the Wangon Public Health Center, Banyumas Regency.

2. RESEARCH METHODOLOGY

The design used was a descriptive case study method. The descriptive case study method presents problem-solving using data as an objective description. The steps involve collecting data, processing, drawing conclusions, and making reports (Ikhtiari & Widyastuti, 2021).

The sample of this study was 1 person, using a total sampling technique. The inclusion criteria were patients who came for check-ups at the Wangon Public Health Center with blood pressure above 140/90 mmHg. The subject of this case study was a pregnant woman with hypertension, gestational age ≥ 20 weeks, and blood pressure of 140/90 mmHg, with measurements taken twice per visit. The pregnant woman with hypertension was not taking antihypertensive drugs, and the proteinuria results were negative. The pregnant woman undergoing therapy was not in an emergency condition, could read and write, and was willing to be a respondent.

The blood pressure of the pregnant woman was measured using a digital sphygmomanometer. Blood pressure measurements were taken twice, pre and post. Warm water footbath therapy involves soaking the feet in warm water at a temperature of 37˚C until the woman feels comfortable. The therapy was performed 3 times a week for 15 minutes between 08.00 and 11.00 WIB. This study was conducted from November 27 to December 1, 2023, in the working area of the Wangon Public Health Center. The instrument used in this case study was a blood pressure observation sheet.

3. RESULTS AND DISCUSSION

Table 1. Results of applying warm water footbath therapy

Name	Visit 1
Ny. P	Pre BP: 140/98 mmHg Post BP: 137/95 mmHg
	• Strength: Patient appears cooperative • Obstacles: No obstacles • Response: Patient reports feeling relaxed
	Visit 2

Pre BP: 137/90 mmHg Post BP : 130/85 mmHg
• Strength: Patient appears cooperative • Obstacles: No obstacles • Response: Patient reports feeling relaxed
Visit 3
Pre BP: 128/85 mmHg Post BP : 120/80 mmHg
• Strength: Patient appears cooperative • Obstacles: No obstacles • Response: Patient reports feeling relaxed

The results of applying warm water footbath therapy to a pregnant woman with hypertension showed that the patient experienced a decrease in blood pressure from the first to the third treatment. This demonstrates the effectiveness of warm water footbath therapy according to research showing a decrease in blood pressure in pregnant women with hypertension after one week of therapy (Ikhtiari & Widyastuti, 2021).

The results of this study are in line with research conducted by Ummiyati & Asrofin (2019), which found that routinely providing warm water footbath therapy to pregnant women can reduce their average blood pressure by 3.429 mmHg after the first therapy session. A highly significant decrease in blood pressure occurred after the fourth warm water footbath therapy session, with an average reduction of 11.667 mmHg two weeks later.

The decrease in the patient's blood pressure is caused by the effect of the warm water on her. The heat transfer from the warm water to the body influences the pressure on the arteries through the cortical sinuses and baroreceptors in the aortic arch, followed by the transfer of impulses carried by nerve fibers that transmit signals from all parts of the body to inform the brain. Increased blood pressure stimulates systolic pressure, which is the stretching of the ventricular muscles to contract immediately. Ventricular contraction causes blood vessels to dilate, making blood flow even and easy to reach the heart, thus lowering systolic pressure. Similarly, with diastolic pressure, the ventricles relax, causing blood vessels to dilate, blood flow to stabilize, and diastolic pressure to decrease (Ummiyati & Asrofin, 2019).

The factor influencing the patient's response to warm water bath therapy is the feeling of comfort and calmness during the therapy. The warm water transferred into the body through the patient's soles can increase cell activity by channeling energy that makes the patient feel comfortable and calm, resulting in dilated blood vessels, which cause blood flow to become smooth and blood pressure to decrease (Dilianti et al., 2019).

The final evaluation was conducted after performing three warm water footbath therapy sessions and showed a decrease in the patient's blood pressure. These results indicate that warm water footbath therapy can reduce blood pressure in pregnant women with hypertension. The patient's blood pressure decreased due to the transfer of heat energy from the warm water entering the body, making blood circulation smooth and stabilizing blood flow, thus lowering blood pressure (Rottie, 2019).

CONCLUSION

Based on the results of the case study conducted on the patient, there were changes in blood pressure in the pregnant woman with hypertension before and after receiving warm water footbath therapy. Providing warm water footbath therapy for one week to a pregnant woman with hypertension can reduce blood pressure.

RECOMMENDATION

It is suggested that the Public Health Center use warm water footbath therapy as an alternative to lower blood pressure in pregnant women. Health education should be provided, leaflets should be created and distributed to pregnant women with hypertension, and routine blood pressure checks should be conducted for pregnant women.

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