

Case Report

Application of warm water foot bath therapy for stage two hypertension clients in the family context

Dely Maria*

Nursing Department, University Kristen, Indonesia

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*Correspondence:

Dr. Dely Maria,

E-mail: delymaria.panggabean@uki.ac.id

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ABSTRACT

Hypertension is often regarded as a silent killer because the disease often causes no symptoms in the sufferers. This disease does not only need treatment, but family support is required to prevent and treat family members who are suffering. The objective of the study is to analyze the application of warm water for foot bath therapy to lower blood pressure in people suffering from hypertension. The design used is descriptive with case studies, through family nursing process. Monitoring of warm water foot bath was carried out for 3 days, before and after measuring the blood pressure. Results: there was a decrease in blood pressure after 3 days of action. In family 1, the initial blood pressure was 160/90 mmHg, after 3 days of action it decreased to 145/85 mmHg. Family 2 before therapy 150/100 mmHg, decreased to 140/86 mmHg after soaking feet in warm water. The decrease in blood pressure observed in both families was more than 10 mmHg. The application of foot bath therapy using warm water which is carried out for 3 days, is effective in reducing blood pressure in hypertension cases. Suggestions are recommended for families and subjects to be able to apply independently warm water foot bath therapy and carry out routine blood pressure checks at the nearest healthcare facility.

Keywords: Hypertension, Blood pressure, Warm water foot soak

INTRODUCTION

Many people with hypertension are unaware that they are suffering from the disease, because they do not experience the symptoms of high blood pressure, meaning that they even underestimate the condition. In recent years, many young people suffer from hypertension due to unhealthy lifestyles. Paskariatne Probo, a hypertension expert in 2019 said the factors leading to hypertension were the result of their inappropriate lifestyle. The inappropriate lifestyle includes activities with less physical activity or sports, the habit of consuming fast food, and smoking, easily stressed, and be anxious.

This can lead to increase the causes of hypertension. Cardiovascular disease is a major health issue in both

developed and developing countries.¹ Cut Putri revealed in the East Java Government Official Gazette that Hypertension occurs not only in Indonesia, but also worldwide, because it can set off other health issue such as heart, kidney problems, diabetes, and stroke.² P2PTM of the Indonesian Ministry of Health in 2018 stated that hypertension is a silent killer because hypertension occurs without any symptoms, and people who suffer from it do not aware that they are suffering from the disease.³

In 2025, The World Health Organization reported that there were 1.13 billion people worldwide suffer from hypertension. Countries in Southeast have the highest cases of hypertension with 161,761,250 persons.⁴ The prevalence of hypertension in DKI Jakarta shows 27,195 persons.¹

The Indonesian government's efforts to overcome hypertension are by improving first-level health services by optimizing the accountability of healthcare centers system or referrals, improving healthcare facilities. The organized the PATUH program containing routine health checks and following doctor's directions, overcoming diseases through appropriate and obedient treatment methods, following a diet and paying attention to balanced nutrition, pursue safe exercise or physical activity based on ability, stop smoking, and do not consume alcohol.⁴

In addition to the PATUH program, the Prevention and Control of Non-Communicable Diseases carries out the CERDIK program, the program contains routine health checks, stop smoking, regularly doing exercise or physical activity, controlling diet or a balanced diet, sleep and rest adequately, avoid stress.

Hypertension must not be overlooked and must be treated properly, if not treated immediately it can lead to several complications. According to the Indonesian Ministry of Health in 2020, if hypertension is not immediately treated and monitored, it can cause complications such as stroke, coronary heart disease, kidney failure, and vision loss. Therefore, hypertension should not be underestimated and must be handled properly to prevent dangerous complications. Ashri et al in 2016 stated that the economic responsibility borne by people with hypertension can result in economic disturbances, either indirectly affecting the welfare of the family, regionally or nationally.

Besides the role of nurses, family support is also necessary to prevent and treat family members who suffer from hypertension.⁵ According to the Ministry of Health in 2017, the family function is essential for the implementation of a healthy program for Indonesia. Friedman claims that there are five functions in the family. The health care function is the most important function to be able to resolve things that are not good regarding health in the family because it is important to maintain the health conditions of the family members.

Sri Wahyuni in 2018 in Jember Regency stated that family support is important in hypertension management, showing that most families have good encouragement or assistance to help sufferer of the hypertension, such as taking care of their members who suffer from depression and afraid because of hypertension that is being experienced, assisting family members in implementing a healthy diet as a non-pharmacological management of hypertension, rearrange to monitor the picture in the family to help manage high blood pressure in families suffering from the disease. Treating hypertension can be done with non-pharmacological treatments, one of which is warm water foot bath therapy.

In addition, the government's efforts to deal with complications, one of which is the importance of the role of nurses in the family. According to Friedman, the Ministry of Health in 2017 states that the function and role

of nurses in the family is as actors to provide care or assistance by using a nursing process approach, nurses as teachers or nurse educators provide knowledge and health education for families, as counselors nurses are required to provide guidance to families. In dealing with and caring for sick families, nurses are able to empower families using new and beneficial knowledge for the family.

Warm water foot bath therapy is one of the hydrotherapy techniques. Hydrotherapy itself is divided into 3, namely bathing, compressing or soaking the feet with warm water, this technique has been known since the Greek era and can reduce high blood pressure for those who suffer hypertension. The benefits of bathing the feet using warm water are that it can improve blood circulation, develop or enlarge the blood vessels, and trigger the nerves of the soles of the feet.⁶ Nerves situated on the soles of the feet and can go to several organs such as the heart, kidneys, lungs, stomach, and pancreas.⁷ Warm water foot bath therapy can have a therapeutic effect.

Based on the results of research in 2020, they found the differences in blood pressure after the warm water foot bath therapy was carried out.⁸ Supported by research conducted in 2019 found a decrease in blood pressure of 10 mmHg after warm water foot bath therapy.⁹ It is also supported by research conducted, that warm water foot bath therapy is more effective in lowering blood pressure for someone who suffers from hypertension.¹⁰

The treatment plan for the warm water foot bath modality was carried out on both clients with stage 2 hypertension and did not consume antihypertensive drugs. The warm water foot bath is carried out in the afternoon for 3 that blood pressure has a tendency to increase in the morning.¹¹ In addition, the warm water foot bath therapy is effective in the afternoon, and the clients tend to have completed their activities or have completed their work in the afternoon.

CASE REPORTS

The research was conducted using the case study method. This case study used two participants who had stage 2 hypertension. The inclusion criteria were both female subjects, aged 49-60 years, systolic blood pressure >140 mmHg, diastolic blood pressure >90 mmHg, the clients did not know about warm water foot bath therapy, did not have disease complications, and did not take anti-hypertensive drugs. Before the action was taken, both participants were given the explanation about the background of the research, the purpose of nursing care, especially the application of the warm water foot bath. After being given the explanation, both participants were given an informed consent form to be signed as evidence of their willingness.

Table 1 shows the condition of the subjects' blood pressure before and after the action for three days (Figure 1).

Table 1: Blood pressure (mmHg) monitoring against warm water foot soak.

Subject	Day 1		Day 2		Day 3		Explanation
	Pre	Post	Pre	Post	Pre	Post	
Subject 1	160/90	158/88	155/90	150/88	150/88	145/85	Decrease in blood pressure for 3 three days
Subject 2	150/100	150/100	150/90	145/90	145/90	140/86	

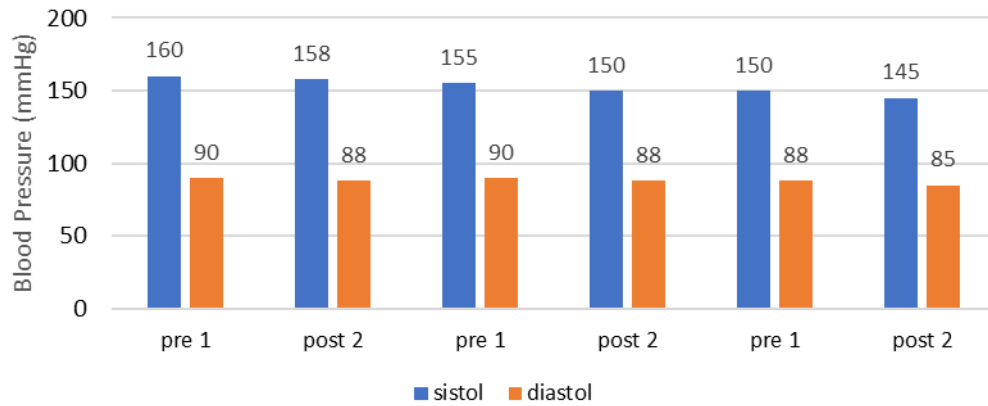


Figure 1: Blood pressure chart subject 1.

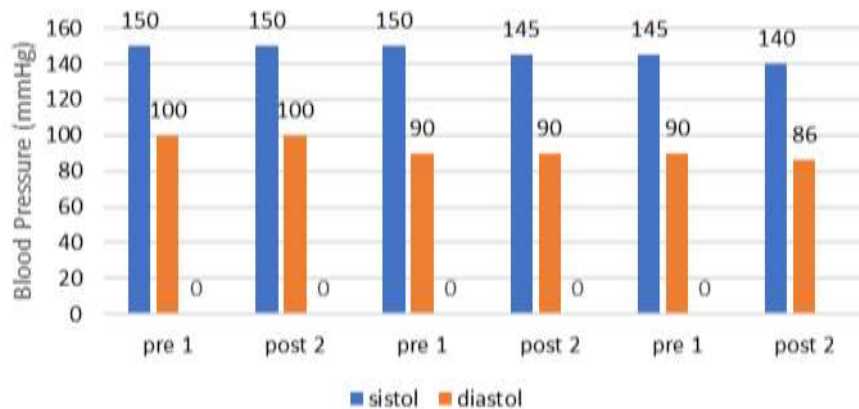


Figure 2: Pressure chart subject 2.

An overview of the results of blood pressure measurements on the first subject for 3 days of warm water foot bath (Figure 2).

DISCUSSION

The cause of the first family hypertension is due to an unhealthy diet such as consuming salty food, because salty foods contain (Na), which binds a lot of water, high intake of sodium may result in increased blood volume, the occurrence of hypertension.¹² The hypertension in family 2 is caused by hypertension record of the father as well as his unhealthy diet, sometimes he still consumes salty food. This is in accordance with the theory.¹³

There are discrepancies between the two families, the second family of Mrs. L has sleeping difficulties, while the first family has no problems. This can happen because poor

sleep habits may lead to physiological imbalances. Sleep deprivation leads to structural adaptations in the cardiovascular system, and this makes blood pressure high.¹⁴

The author found differences in the two families, family one almost never did routine checks for blood pressure checks carried out by the Cawang Health Center. This may have an effect because by routinely check the blood pressure they can figure out the condition of the blood pressure they can also handle the problem either with drugs or not, so that the problem of hypertension can be handled by the family by doing regular blood pressure checks. Subject 1 has been advised to follow the prolines by the local community but they are too lazy, it may mean that family 1 does not carry out government programs to overcome hypertension.³

There are gaps between family one and family two, according to Friedman family one does not maximize family functions, namely health care, where the child and her husband do not remind subject 1 to reduce salt intake, and persuade the mother to take medicine and do regular blood pressure checks because family members consider the disease experienced by subject 1 is not severe. Family one does not carry out the health care function properly.

The author assesses the nursing actions that have been determined, whether or not the actions given to the family are successful. There was a difference between the two families after the warm water foot bath, there was no decrease in blood pressure in subject 2. Because subject 2 was not relaxed and talked a lot to the author. This is in line with the journal compiled, warm water foot bath therapy will be more effective in combination with deep breathing relaxation, because relaxation techniques will make the body experience less emotional stimulation and reduce stress, so the body becomes more relaxed and comfortable.¹⁵ This proves that when the foot bath therapy is carried out with warm water in a relaxed and comfortable state, it will be more effective in lowering blood pressure.

According to the measures that have been taken for both families for three days, there is a decrease in blood pressure of the family. In the first family there was a decrease in blood pressure from 160/90 mmHg to 145/85 mmHg. In the second family there was a decrease in blood pressure after 3 days of warm water foot bath therapy, a change from 150/100 mmHg to 140/86 mmHg. This is in line with research which showed changes in blood pressure before and after warm water foot bath therapy, the average value obtained by pretest systole was 145.33 and posttest average value was 128.67, for the average pretest diastolic value of 94.00 and posttest value of 82.00.¹⁵ Supported by research, the average difference in blood pressure reduction is 10 mmHg after the warm water foot.¹⁶

CONCLUSION

Decrease in blood pressure can occur with the support of various factors. One of the main factors is family support, it can be achieved if the family can effectively maintain its function, namely the healthcare function is fulfilled. Family support in carrying out treatments such as a hypertension diet, and when using warm water foot bath therapy requires a relaxed and comfortable condition, which could be more effective in lowering blood pressure.

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