

Hydrotherapy Health Education to Reduce Blood Pressure in Hypertension

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Abstract

The causes of hypertension in general are divided into two groups, namely primary and secondary. Primary hypertension is hypertension with no known cause such as heredity, age, gender, psychological pressure, stress, obesity (obesity), lack of exercise, and high cholesterol . While secondary hypertension is hypertension caused by other diseases such as narrowing of the arteries that supply blood to the kidneys, and atherosclerosis (thickening of artery walls causing loss of elasticity of blood vessels). Foot soak hydrotherapy with warm water is one type of natural therapy that aims to increase blood circulation, reduce edema, increase muscle relaxation, nourish the heart, relax muscles, relieve stress, muscle aches, relieve pain, increase capillary permeability, provide warmth. on the body so that it is very useful for blood pressure reduction therapy in hypertension. This activity aims to increase people's knowledge about hydrotherapy health education on reducing blood pressure. The counseling method used leaflets and soaking the feet in warm water mixed with salt. After giving the material, participants know and understand the material that has been delivered by the speaker.

Keywords: Hypertension , Hydrotherapy , Blood pressure

INTRODUCTION

Hypertension as a non-communicable disease is a big and serious problem, because the prevalence of hypertension is high and tends to increase. Hypertension often has no symptoms so it becomes the silent killer of death and is the main cause of heart disease, stroke and kidney disease (Suiraoka, 2012).

The World Health Organization (WHO, 2013) estimates that 1 billion people in the world suffer from hypertension and two-thirds of them are in developing countries with low-medium income. The prevalence of hypertension is expected to continue to increase and it is predicted that in 2025 around 29% of adults worldwide suffer from hypertension, while in Indonesia the figure reaches 31.7% (Kemenkes RI, 2013). In Indonesia in 1995 one in ten people aged 18 years and over suffered from hypertension, then this condition increased to one in three people suffered from hypertension in 2007. The prevalence in Indonesia is 31.7 % or one in three adults has hypertension, and 76 ,1% of them are not aware that they have hypertension (Kemenkes RI, 2013).

The causes of hypertension in general are divided into two groups, namely primary and secondary. Primary hypertension is hypertension with no known cause such as heredity, age, gender, psychological pressure, stress, obesity (obesity), lack of exercise, and high cholesterol. While secondary hypertension is hypertension caused by other diseases such as narrowing of the arteries that supply blood to the kidneys, atherosclerosis (thickening of artery walls causing loss of elasticity of blood vessels) (Smeltzer & Bare, 2002 in Damayanti 2014). As a result of high blood pressure for a long time, of course, it will damage blood vessels throughout the body, kidneys, and brain. The consequences of long uncontrolled hypertension are visual disturbances, coronary grafting, kidney failure, and stroke. In addition, the heart also enlarges because it is forced to increase its workload when pumping against high blood pressure (Smeltzer & Bare, 2002 in Damayanti 2014).

One of the efforts that can be done to lower or control blood pressure is Hydrotherapy (*hydrotherapy*) which was previously known as hydropathy (hydropathy) is a treatment method using water to treat or relieve painful conditions and is a therapeutic method with a " low- tech " approach that relies on response. The body's response to water. Some of the benefits of water therapy include: to prevent flu/fever, improve fertility, cure fatigue, improve immune function,

increase body energy, and help smooth blood circulation. Warm water soaking hydrotherapy is one type of natural therapy that aims to increase blood circulation, reduce edema, increase muscle relaxation, nourish the heart, relax muscles, relieve stress, muscle pain, relieve pain, increase capillary permeability, provide warmth to the body. so it is very useful for blood pressure lowering therapy in hypertension, and the working principle of this hydrotherapy is to use warm water with a temperature of around 40.5-43°C by conduction where heat transfer occurs from warm water to the body so that it will cause dilation of blood vessels and can reduce muscle tension (Perry & Potter, in Dilianti, et al, 2017).

METHOD

This community service activity was carried out in 4 stages, namely the first stage of measuring blood pressure, the second stage of providing material, the third stage of hydrotherapy implementation, namely soaking the feet with warm water and salt, then the fourth stage measuring blood pressure again. At the counseling stage, the method of measuring blood pressure before and after, then lectures, discussions, and questions and answers. Participants were evaluated through questions to see the extent of understanding related to the material provided. The tools used in this activity are leaflets, warm water, basins and salt. The population and sample in this activity are Residents of Mutiara Sodong Housing, Tigaraksa District, Tangerang Regency. The place of implementation is in Mutiara Sodong Housing, Tigaraksa District, Tangerang Regency, in July 2022.

RESULTS

This community service activity was attended by 30 residents of Mutiara Sodong Housing, Tigaraksa District, Tangerang Regency. Counseling is carried out using lecture, discussion, and question and answer methods . The evaluation results obtained are almost 90%, participants can answer the questions given. This means that participants know and understand the material that has been delivered by the speaker.

DISCUSSION

Hypertension is a condition when a person's blood pressure exceeds 140 mmHg systolic and 90 mmHg diastolic. Blood pressure is the pressure of blood flow in the arteries (arteries), when our heart beats, generally 60-70 times in one minute at rest. Blood is pumped through the arteries on a blood pressure examination , two numbers will be obtained, namely the systolic and diastolic numbers. Blood pressure less than 120/80 mmHg is defined as normal. In high blood pressure, there is usually an increase in systolic and diastolic. Hypertension usually occurs at blood pressure of 140/90 mmHg and above, measured over a period of several weeks (Alfeus, 2019).

The symptoms in question are headache, bleeding from the nose, dizziness, facial flushing and fatigue, which can occur in both people with hypertension and people with normal blood pressure. If severe and chronic hypertension can cause symptoms: headache, fatigue, nausea, vomiting, shortness of breath and restlessness. Sometimes people with severe hypertension experience decreased consciousness and even coma due to brain swelling. This condition is called hypertensive encephalopathy.

Foot soak hydrotherapy with warm water is one type of natural therapy that aims to increase blood circulation, reduce edema, increase muscle relaxation, nourish the heart, relax muscles, relieve stress, muscle aches, relieve pain, increase capillary permeability, provide warmth. on the body so that it is very useful for blood pressure reduction therapy in hypertension, and the working principle of this hydrotherapy is to use warm water with a temperature of around 40.5-43°C by conduction where heat transfer occurs from warm water to the body so that it will cause dilation of blood vessels and can reduce muscle tension (Perry & Potter, in Dilianti, et al, 2017).

The working principle of warm soaking hydrotherapy using a pool of warm water or a bucket filled with warm water, namely by conduction where there is a transfer of heat or warm water from warm water into the body will cause dilation of blood vessels and decrease muscle tension so that it can improve blood circulation which will affect pressure. arteries by baroreceptors in the carotid sinus and aortic arch which will transmit impulses carried by nerve fibers that carry signals from all parts of the body to inform the brain about blood pressure, blood volume and special needs of

all organs to the sympathetic nerve center to the medulla so that it will stimulate systolic pressure i.e. ventricular muscle stretch will stimulate the ventricles to contract immediately.

CONCLUSIONS And RECOMMENDATIONS

The conclusion from the description of community service activities, among others, is by conducting counseling for participants to understand and realize the importance of preventing and treating hypertension by means of warm water soaking hydrotherapy. The optimal activity is to measure blood pressure regularly, be disciplined to take hypertension medication and consume nutritious food.

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REFERENCES

Agung, SD (2015). The Effect of Warm Water Foot Soak Therapy Working Upk Equator Health Center Pontianak City Dwi Agung Santoso Nursing Study Program.

Alfeus, M. (2019). Cognitive Therapy in Hypertensive Patients. Wineka Media 2019. Amanda, D., & Martini, S. (2018). The Relationship between Demographic Characteristic and Central Obesity with Hypertension. Periodic Journal Epidemiology, 6 (1), 43. <https://doi.org/10.20473/jbe.v6i12018.43-50>

Arum, YTG (2019). Hypertension in the Productive Age Population (15-64 Years). HIGEIA (Journal of Public Health Research and Development), 3(3), 345–356.

Central Java Provincial Health Office. (2019). Central Java Province Health Profile In 2019. Central Java Provincial Health Office, 3511351(24), 273–275.

Efendi, H., & Larasati, T. (2017). Family Support in Disease Management Hypertension. Majority Journal, 6(1), 34–40.

Ermawati. (2020). Reference book: adherence to medication consumption of hypertension patients: measurement and ways to improve compliance. Granite Publisher.

Fildayanti, Tuti Dharmawati, LARP (2020). The Effect of Water Foot Soak with Warm Salt Mixed Water on Lowering Blood Pressure in Hypertensive Patients. Scientific Journal of Health Work, 1(1), 70–76. <https://stikesks-kendari.e-journal.id/jikk>

Hariawan, H., & Tatisina, CM (2020). Implementation of Family Empowerment and Hypertension Gymnastics as Self-Management Efforts for Hypertension Patients. Sasambo Community Service Journal, 1(2), 75. <https://doi.org/10.32807/jpms.v1i2.478>

Hasbullah, M, A., & DS, H. (2017). Journal of Nursing Media: Makassar Health Polytechnic Journal of Nursing Media: Makassar Health Polytechnic. The Effect of Soaking Feet Using Warm Water on Blood Pressure Reduction in Hypertension in the Work Area of the Pattallassang Community Health Center, Kab. Takalar, 08(02), 39–45.

Herdman T. Heather, SK (2018). Nanda International Diagnosis Nursing:Definitions and Classifications 2018-2020 (11th Edition) (EGC). Indah, PY (2014). Hypertension is not something to be afraid of. FMmedia. Indonesian Ministry of Health. (2019). Hypertension Leaflet. 1–10.

Komariyah, S. (2017). Qualitative Research Methodology. Bandung: Alphabeta.

Liszayanti. (2019). Effect of Foot Soak Therapy with Warm Water and Lemongrass on Blood Pressure of Pregnant Women with Pre-Eclampsia. Proceedings of the Faculty of Health Sciences, University of Muhammadiyah Semarang, 2, 299–309.

Meikha, BT (2015). The Effect of Warm Water Foot Soak on Blood Pressure Reduction in Elderly Patients with Hypertension in the Work Area of the Kebon Jeruk District Health Center, West Jakarta. Thesis of Esa Unggul University, West Jakarta.

Ngomane AY et al. "Hypotensive Effect of Heated Water-based Exercise in Older". *Int J Sports Med* : Apr;40(4):283-291: (2019)

Nuraini, B. (2015). Risk factors of hypertension (Vol. 4).

Nurul, R., Putra, Y., & Amir, A. (2016). Research article on the relationship between body mass index (BMI) and age of menarche in SMP Negeri 1 Padang students. 5(3), 551–557.

PPNI. (2018). Indonesian Nursing Diagnosis Standards (IDHS). DPP PPNI. Prasetya, KS, & Chanif, C. (2020). Risk Management

Puji, HA (2020). Hypertension. Lekeisha.

Riskesdas, K. (2018). Main Results of Basic Health Research (RISKESDAS). *Journal of Physics A: Mathematical and Theoretical*, 44(8), 1–200. <https://doi.org/10.1088/1751-8113/44/8/085201>

Sataloff, RT, Johns, MM, & Kost, KM (2018). *HEALTH RESEARCH METHODOLOGY*.

Suddarth, B. &. (2017). *Medical-Surgical Nursing* 12th Edition (EGC). Sumiyati. (2021). *Anatomy Physiology*. Our Writing Foundation.

Uliya, A. (2020). Foot Soak Therapy Using Warm Water With A Mixture Of Salt And Lemongrass To Lower Blood Pressure In Patients With Hypertension. 7(2), 88–102.

Wulandari, P., Arifianto, & Sekarningrum, D. (2016). The Effect of Foot Soak Using Warm Water with a Mixture of Salt and Lemongrass on Blood Pressure Reduction in Hypertension Patients in the Podorejo Region, RW 8 Ngaliyan. *Nursing*, 7 (2009), 43–47. <http://ejournal.umm.ac.id/index.php/keperawatan/article/viewFile/3918/4397>

APPENDIX



Figure 1. Documentation of community service