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Hypertension Control Education through Warm-Water Foot Soak Therapy with Salt

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ABSTRACT

Background: *Hypertension is a major health problem requiring continuous pharmacological and non-pharmacological management. Community education is important to improve understanding of hypertension control and appropriate self-care. This community service activity aimed to provide education on hypertension control and introduce warm-water foot soak therapy with salt as a supportive non-pharmacological approach.* ***Methods:*** *The activity was conducted through health education, discussion, and demonstration of warm-water foot soak therapy with salt among community members at risk of or experiencing hypertension. The educational materials included hypertension, risk factors, prevention, blood pressure control, healthy lifestyle, and non-pharmacological management. The therapy used warm water at 38–40°C with three teaspoons of salt for 20 minutes. Evaluation was conducted through oral questions before and after the educational session.* ***Results:*** *The activity provided participants with information and practical guidance on hypertension control and warm-water foot soak therapy with salt. The demonstration introduced the preparation, procedure, duration, and safety considerations of the therapy. However, quantitative data from the pre-test, post-test, and blood pressure measurements were not documented; therefore, changes in participants' knowledge and blood pressure could not be quantitatively assessed.* ***Conclusion:*** *Health education accompanied by a demonstration of warm-water foot soak therapy with salt can serve as an educational approach to introduce hypertension self-management and supportive non-pharmacological care in the community. Future activities should use standardized evaluation instruments and systematically document outcomes to objectively assess intervention effects.*

KEYWORDS
hypertension; health education; foot soak therapy; warm water; community service

INTRODUCTION

Hypertension remains a prevalent health issue in the community and serves as a risk factor for various cardiovascular complications. Often asymptomatic, the condition is frequently referred to as a "silent killer." Uncontrolled hypertension over the long term increases the risk of damage to target organs, such as the heart, kidneys, brain, and eyes (World Health Organization, 2021). Consequently, blood pressure control requires attention not only through medical treatment but also through health promotion, preventive measures, and the adoption of healthy lifestyle habits within the community (Isnaini et al., 2025).

Hypertension control is closely linked to lifestyle and health behaviors. Factors contributing to elevated blood pressure include high sodium intake, consumption of fast food, physical inactivity, and excess body weight (Sapartinah & Sundari, 2023). These factors highlight the importance of educating the public on hypertension control and the use of non-pharmacological interventions as part of hypertension management (Zhang, Xianghui; Yuan, Yifang; Li, 2024).

One non-pharmacological intervention introduced during this community service activity was a warm water and salt foot soak. Warm water foot soaks can induce relaxation and peripheral vasodilation, thereby improving blood circulation. In this activity, the water temperature was maintained at 38–40°C with the addition of three teaspoons of salt. The therapy involved soaking the feet for 20 minutes, with blood pressure measurements taken both before and after the procedure. The initiative was prompted by the limited knowledge among community members and families regarding hypertension control and the application of simple non-pharmacological therapies. This situation provided the rationale for conducting education on hypertension, blood pressure control, and lifestyle changes, as well as demonstrating the salt-water foot soak a therapy that individuals can perform independently while adhering to proper procedures and safety guideline (Librianty et al., 2025).

This community service activity aimed to provide education on hypertension control and to equip the community with the understanding and skills to perform salt-water foot soaks as a non-pharmacological measure to support blood pressure management.

MATERIALS AND METHOD

This community service activity employed an approach combining health education with demonstrations of non-pharmacological therapy for individuals or communities at risk of, or suffering from, hypertension. The process began with identifying issues within the target population, selecting the community, assessing the participants' condition, determining potential solutions, securing necessary permissions, and preparing educational materials and activity plans. The educational content covered the definition of hypertension, risk factors, signs and symptoms, prevention and control strategies, healthy lifestyle practices, and non-pharmacological interventions specifically, warm water and salt foot baths.

The activity was conducted in person through health education sessions, discussions, and demonstrations of the warm water and salt foot bath therapy. Prior to the educational session, participants answered oral pre-test questions to gauge their existing knowledge of hypertension and foot bath therapy. Subsequently, they received education on hypertension control and a demonstration of the correct therapy procedure. Following the education and demonstration, participants answered oral post-test questions to evaluate their understanding of the material presented.

The foot bath therapy utilized warm water at a temperature of 38–40°C, with three teaspoons of salt added. Equipment included a digital blood pressure monitor, a basin, warm water, salt, a small towel, and writing materials for documentation. Before the therapy began, participants' blood pressure was measured using the digital monitor. Participants were then seated comfortably, and their feet were soaked in the basin for 20 minutes. The therapy was administered once daily for three days. After the session, participants' feet were dried, and their blood pressure was measured again after a 10-minute interval.

Throughout the therapy, participants were informed about the objectives, procedures, and schedule, and were given the opportunity to ask questions before the intervention began. Participant readiness was also confirmed prior to starting the therapy. The procedure was carried out with a focus on participant comfort and safety. Evaluation was conducted through observation during the education and demonstration phases, as well as through the oral pre-test and post-test questions. The activity report does not include documentation of scores or quantitative results from the evaluation; consequently, the activity outcomes are presented descriptively based on the documented implementation of the activities.

RESULTS

The community service activity was conducted through education on hypertension control and a demonstration of a warm water and salt foot soak therapy. The educational material covered the definition of hypertension, risk factors, signs and symptoms, prevention, blood pressure control, and the adoption of a healthy lifestyle. In addition to the educational content, participants were introduced to a non-pharmacological therapy a warm water and salt foot soak as a supportive measure for managing hypertension.

The demonstration involved using warm water at a temperature of 38–40°C mixed with three teaspoons of salt. Participants sat comfortably while soaking their feet for 20 minutes. The procedure began with a blood pressure measurement and concluded with a follow-up measurement 10 minutes after the soak. The therapy was scheduled to be performed once daily for three consecutive days.

During the activity, participants received explanations regarding the therapy's purpose, benefits, procedure, timing, and important precautions. They were also given the opportunity to ask questions prior to the therapy session. Evaluation was conducted through oral questioning before and after the educational session to assess the participants' understanding of hypertension and the foot soak therapy.

To provide the community with knowledge and practical guidance regarding hypertension control and the method for performing the warm water and salt foot soak therapy. However, the activity report did not include quantitative data such as pre-test and post-test scores or specific blood pressure readings taken before and after the therapy. Consequently, the results presented in this article are descriptive, based on the documented implementation of the activity, and are not used to draw conclusions regarding the therapy's effectiveness in lowering blood pressure.

DISCUSSION

Hypertension is a health issue requiring ongoing management through a combination of pharmacological therapy and lifestyle changes. Controlling hypertension focuses not only on lowering blood pressure but also on managing modifiable risk factors, such as high salt intake, physical inactivity, excess weight, smoking, and a lack of attention to blood pressure monitoring (Duus et al., 2024). The World Health Organization emphasizes that lifestyle changes including adopting a healthy diet, reducing salt intake, increasing physical activity, managing weight, and quitting smoking are crucial components of hypertension management (Sapartinah & Sundari, 2023).

This community service activity provided education on hypertension control while introducing warm water and salt foot soak therapy as a supportive non-pharmacological approach. Health education within a community context is vital because managing hypertension requires active community involvement in monitoring blood pressure and

consistently practicing healthy behaviors (Elvira et al., 2023). A community-based approach also helps foster the understanding that controlling hypertension does not rely solely on medication but requires support through lifestyle changes and appropriate self-care (Nyame & Klipstein-grobusch, 2024).

In this activity, the warm water foot soak therapy was administered at a temperature of 38–40°C for 20 minutes. Immersing the feet in warm water can induce relaxation and promote peripheral vasodilation. Studies on warm water foot bath therapy indicate that this intervention has the potential to help lower blood pressure in individuals with hypertension. In a narrative review of previous research, (Elvira et al., 2023) reported a trend toward reduced blood pressure following warm water foot soak therapy. Other studies on warm water foot soak therapy have also reported changes in blood pressure among hypertensive patients following the intervention.

Theoretically, this effect is linked to heat exposure on the extremities, which can cause peripheral blood vessels to dilate and increase blood flow to the tissues. This process can help reduce peripheral vascular resistance and induce relaxation. Consequently, foot soak therapy can be considered a simple supportive measure that is relatively easy to implement within the community. However, this therapy must be positioned as part of comprehensive hypertension management and should not replace antihypertensive therapy prescribed by healthcare professionals. Managing hypertension still requires regular blood pressure monitoring, the adoption of a healthy lifestyle, and adherence to medical treatment when necessary (Yudanari et al., 2024).

Providing education accompanied by demonstrations offers practical value, as the community not only gains information about hypertension but also sees firsthand how to perform the therapy. During the activity, participants receive explanations regarding the objectives, procedures, duration, and important considerations for the therapy. This approach aims to help the community understand that non-pharmacological therapies must be implemented using correct procedures and with due regard for each individual's health status.

Safety is also a crucial aspect of implementing foot-soak therapy. Based on the procedures used in the activity, participants must be prepared and comfortable before the therapy begins. Water temperature requires careful attention to prevent skin injury. Caution is necessary when administering the therapy to individuals with sensory impairments, foot wounds or infections, severe peripheral circulation disorders, or other conditions that could increase risk during immersion. Therefore, public education should not only explain the therapy's benefits but also cover indications, contraindications, and conditions requiring consultation with healthcare professionals.

Although the activity included evaluations via pre and post education questions, the activity report does not provide quantitative data on pre and post test scores or blood pressure measurements taken before and after the therapy. Consequently, the activity cannot be used to draw conclusions regarding statistically significant increases in knowledge or the effectiveness of foot-soak therapy in lowering blood pressure. The results are best viewed as an overview of how education and demonstrations regarding non-pharmacological therapy were delivered to the community. More structured documentation of results in future activities such as recording knowledge scores and changes in blood pressure is necessary to allow for a proper evaluation of the activity's impact (Riskya et al., 2025; Sapartinah & Sundari, 2023).

CONCLUSION

A community service initiative featuring education on hypertension control and a demonstration of warm water and salt foot-soak therapy was conducted to equip the community with the understanding and skills needed for the non-pharmacological management of hypertension. The program included education on hypertension, blood pressure control, and healthy lifestyle practices, alongside a demonstration of the warm water and salt foot-soak procedure. This therapy serves as a simple, community based supportive measure for managing hypertension, provided that proper procedures and safety protocols are observed. Although pre and post session questions were used to evaluate the activity, the lack of quantitative documentation regarding the results makes it impossible to objectively determine the impact on knowledge levels or blood pressure changes. For future initiatives of this kind, it is recommended to use documented evaluation instruments and systematically record blood pressure measurements to allow for a more effective assessment of the intervention's impact.

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