



The Effectiveness of Combined Benson Therapy and Warm Water Bath Therapy in Reducing High Blood Pressure in the Hamlet of Aik Ngempok, Pengadangan Village

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ABSTRACT

Hypertension is a condition characterized by an abnormal increase in blood pressure, indicated by systolic and diastolic blood pressure values exceeding 140/90 mmHg. Treatment for patients with hypertension can be carried out through two approaches: pharmacological and non-pharmacological therapies. Pharmacological treatment is commonly administered through the use of medications, such as diuretics. Meanwhile, non-pharmacological treatment can be implemented through methods such as combination of Benson relaxation therapy and warm water immersion therapy. This study aims to evaluate the effectiveness of combining Benson relaxation therapy and warm water immersion therapy in reducing blood pressure among patients with hypertension. This study employed a qualitative descriptive design using a case study approach in the nursing process, which included assessment, diagnosis, intervention/planning, implementation, and evaluation. Based on the evaluation conducted by the researcher on Mrs. N, the final assessment showed that the client's blood pressure had decreased after receiving Benson relaxation therapy and warm water immersion therapy for three consecutive days. Nursing care provided to a patient with hypertension, including Benson relaxation therapy for 3 × 24 hours, was found to reduce the patient's blood pressure and improve quality of life. Based on these findings, it can be concluded that the application of combining the Benson relaxation and warm water immersion therapy is effective in lowering blood pressure.

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I. INTRODUCTION

Hypertension is a condition characterized by an abnormal increase in blood pressure, defined as systolic and diastolic readings exceeding 140/90 mmHg, as detected in at least three separate measurements. Prolonged high blood pressure can cause damage to the blood vessels of vital organs such as the kidneys, heart, brain, and eyes. Therefore, hypertension is recognized as one of the leading causes of death worldwide and is often referred to as the "silent killer." One of the factors contributing to high rates of hypertension is an unhealthy lifestyle. Hypertension is a condition of persistently elevated blood pressure, defined as a systolic blood pressure of ≥ 140 mmHg and/or a diastolic blood pressure of ≥ 90 mmHg. Uncontrolled hypertension over the long term can cause damage to target organs such as the heart, kidneys, brain, and eyes. Therefore, hypertension is often called the "silent killer" because it can develop without obvious symptoms yet lead to serious complications. Risk factors for hypertension include age, family history, obesity, lack of physical activity, excessive salt intake, smoking, and stress.

According to data from the World Health Organization (WHO), approximately 1.13 billion people worldwide currently have hypertension. This means that one in three people in the world has been diagnosed with this

condition, yet only about 36.8% of them take medication regularly. The number of global hypertension cases continues to rise year after year. It is projected that by 2025, the number of people with hypertension will reach 1.5 billion, with annual deaths due to hypertension reaching approximately 9.4 million [1]. According to the WHO, approximately 1.28 billion adults aged 30–79 worldwide have hypertension, and the majority live in low- and middle-income countries. It is estimated that nearly half of those with hypertension are unaware of their condition, making hypertension one of the leading causes of death

According to data from the Ministry of Health (2019), the prevalence of hypertension among older adults in Indonesia is 45.9% for those aged 55–64, 57.6% for those aged 65–74, and 63.8% for those aged >75. Based on blood pressure measurements, the prevalence of hypertension in Indonesia among those aged ≥ 18 years is 25.8%. The highest prevalence is in Bangka Belitung Province at 30.9%, followed by South Kalimantan Province at 30.8%, and East Kalimantan Province at 29.6% [2].

High blood pressure can lead to an enlarged heart or blockages in the coronary arteries. If this condition is not promptly and properly treated, the risk of developing coronary heart disease increases significantly and can

ultimately lead to death. As the risk factors associated with hypertension continue to rise, the likelihood of developing heart problems also increases. Uncontrolled hypertension can lead to various complications such as coronary heart disease, heart failure, stroke, and kidney failure. The risk of complications increases when hypertension is accompanied by other risk factors such as diabetes mellitus, obesity, dyslipidemia, and smoking (WHO, 2023). According to data from the West Nusa Tenggara (NTB) Provincial Health Office, hypertension ranked second among diseases with the highest number of cases in the NTB region in 2020, with a total of 772,490 people aged 18 and older affected. Some of the regencies with the highest number of hypertension cases in NTB include East Lombok, Central Lombok, and West Lombok [3].

Hypertension can be caused by various factors, including age, genetic factors or family history, gender, lack of physical activity, obesity, smoking, unmanaged stress, and poor dietary habits such as consuming foods high in salt. Common symptoms often include headaches, weakness, shortness of breath, restlessness, nausea, and an irregular or pounding heartbeat. Furthermore, as blood pressure rises, changes occur in the elasticity of the aortic wall, a decline in heart valve function, thickening and stiffening of blood vessel walls, and a reduction in the heart's ability to pump blood all of which ultimately disrupt the volume of blood pumped per contraction. Reduced vascular elasticity also leads to decreased efficiency in oxygen delivery to peripheral tissues and increased resistance to blood flow in peripheral vessels (Aprillia, 2020). Hypertension is one of the leading causes of death, with high morbidity rates, and has the potential to cause cardiovascular diseases and serious complications such as heart disease, stroke, and kidney failure [4].

Treatment for patients with hypertension can be approached in two ways: pharmacological and non-pharmacological. Pharmacological treatment typically involves the administration of diuretics, while non-pharmacological treatments may include Benson's relaxation therapy and complementary therapies such as warm water soaks. Benson relaxation is a breathing exercise technique. Through regular and proper breathing, the body becomes calmer, helping to relieve stress-induced tension and reduce anxiety. This state of relaxation is then transmitted to the hypothalamus, which in turn stimulates the release of Corticotropin-Releasing Factor (CRF). CRF subsequently stimulates the pituitary gland to increase the production of Pro-opioid Melanocortin (POMC), which plays a role in increasing the production of enkephalins by the adrenal medulla. In addition, the pituitary gland also produces endorphins, which function as neurotransmitters. This increase in enkephalin and β -endorphin levels makes patients feel calmer and more comfortable [5].

In addition, a non-pharmacological therapy that can be used involves applying warm water to dilate blood vessels and relax the muscles that carry blood throughout the body. This improves blood circulation and helps patients relax. Every morning, this treatment for hypertension is administered for 15–30 minutes at a temperature of 38°C–40°C. Benson relaxation is a relaxation technique that combines deep breathing with the repetition of soothing words or phrases to induce a relaxation response. This technique can reduce sympathetic nervous system activity, alleviate stress, enhance a sense of well-being, and help lower blood pressure in patients with hypertension [6][7].

Warm water has a physiological effect on the body because it improves blood circulation. People with hypertension can treat themselves using non-pharmacological alternatives, such as soaking their feet in warm water, which is simple to do at home (Lestari et al., 2023). In addition to Benson relaxation, warm-water foot soaks can also be used as a complementary therapy for people with hypertension. Warm water can cause vasodilation of peripheral blood vessels, thereby improving blood circulation, reducing muscle tension, providing a relaxing effect, and helping to lower blood pressure. This therapy is generally performed for 15–30 minutes with water temperatures ranging from 38°C to 40°C [8][9].

II. RESEARCH METHODOLOGY

The design of this study employed a qualitative descriptive approach using a case study methodology to examine the nursing process, which includes assessment, diagnosis, intervention/planning, implementation, and evaluation. The study was conducted in June 2026 in Pengadangan Village, Pringgasea Subdistrict. The research instrument used was a blood pressure monitor to measure the respondents' blood pressure.

Data collection took place over three days: the first day focused on the nursing assessment, establishing priority nursing diagnoses, developing a nursing care plan, implementing nursing care, and conducting a nursing evaluation.

The second and third days focused on the implementation and evaluation of nursing care. The main focus of the nursing assessment was to measure blood pressure in patients with a history of hypertension. The nursing care plan was developed based on priority nursing diagnoses, incorporating both independent and collaborative interventions. Implementation was carried out based on the planned interventions. The nursing evaluation was conducted by compiling the results of the nursing care provided.

III. RESEARCH RESULTS

1. Assessment

Mrs. N, 62 years old, has had hypertension since she was 40. She complains of frequent dizziness, stiffness in the back of her head, easily getting tired, and pain

throughout her body. She also reports that the pain comes and goes, and often feels more severe when her blood pressure is rising. Examination findings: General condition is good; the patient is alert and oriented; skin turgor is dry; eyes are icteric; blood pressure is 170/90 mmHg; pulse is 90 beats per minute; temperature is 36.0°C; respiratory rate is 20 breaths per minute. The patient is a homemaker and reports a family history of hypertension from her father, who also has a history of hypertension.

2. Problem Diagnosis

Based on the nursing issues mentioned above, the nursing problem identified according to the SDKI (2018) is acute pain related to increased cerebral blood flow.

Subjective Data

Mrs. N has a headache and feels easily fatigued

P : Pain when blood pressure rises

Q : Feels like being stabbed repeatedly

R : Pain throughout the body; feels heavy at the back of the head

S : Scale of 7

T : Pain comes and goes

O : Appears to be grimacing

Vital Signs

BP : 170/90

Pulse : 80 beats/minute

Temperature : 36.4°C,

Respiratory Rate : 20 breaths/minute

A : The problem has not yet been resolved

P : The intervention continued with Benson relaxation therapy and warm water soaks

Objective Data

The client appears to be grimacing; BP 170/90 mmHg, pulse 80 beats per minute, temperature 36.4°C, respiratory rate 20 breaths per minute

3. Intervention

The outcome label used, based on the case and diagnosis, is "decreased pain" (L.08066) (SDKI, 2018). After nursing interventions were carried out for 3 x 24 hours, the client's pain level decreased. The nursing intervention code applied was pain management (I.08238); one of the interventions performed by the researcher based on the Nursing Intervention Standards (SIKI) was Benson therapy and complementary therapy (warm water soak).

4. Implementation

Measures taken by the researcher to reduce the pain experienced by clients included monitoring pain indicators by assessing the location, nature, duration, frequency, quality, and severity of pain, as well as pain triggers; In addition, the researcher also applied the Benson relaxation technique to the client. Benson relaxation is a form of meditation that involves deep breathing and muscle stretching, incorporating elements of personal belief or spirituality. The researcher and the patient agreed on a schedule for

administering Benson relaxation therapy and warm water soaks for 3 days. During the learning process, the patient was very cooperative and able to perform the Benson relaxation therapy and warm water soaks independently, so there were no obstacles in carrying out the interventions.

5. Evaluation

Based on the results of the intervention conducted by the researcher on Mrs. N over a period of 3 days, the following evaluation can be made:

Day 1

Mrs. N had a headache and felt easily fatigued

P : Pain when blood pressure rises

Q : Feels like being stabbed repeatedly

R : Pain throughout the body; a heavy sensation at the back of the head

S : Scale of 7

T : Intermittent pain

O : Appeared to wince

TTV

TD : 165/90 mmhg

Nadi : 83 x/minute

Suhu : 36.5°C,

RR : 21 x/minute

A : The problem has not been resolved.

P : The intervention continued with the administration of Benson relaxation therapy and a warm water soak.

Day II

S : Ms. M Reporting that there is still pain, but it has started to subside.

P : Pain when blood pressure rises

Q : It feels like being repeatedly stabbed.

R : Generalized body pain, a sensation of heaviness at the back of the head.

S : Scale 4

T : Intermittent pain

O : Appeared to wince

TTV

TD : 130/70 mmhg

Nadi : 80 x/minute

Suhu : 36.7°C,

RR : 20 x/minute

A : The problem has not been resolved.

P : The intervention continued with the administration of Benson relaxation therapy.

Day III

S : Mrs. N reported reduced pain

P : Pain when blood pressure rises

Q : Feels like being stabbed

R : Pain throughout the body, heaviness at the back of the head

S : Scale 3

T : Pain comes and goes

O : Appears to be grimacing

Vital Signs

BP : 120/80 mmHg

Pulse : 80 beats/minute

Temperature : 36.60°C,
 Respiratory Rate : 20 breaths/minute
 A : Issue resolved
 P : Continue Benson relaxation
 therapy and warm water soaks
 if blood pressure rises.

Based on the evaluation conducted by the researcher on Mrs. N, the final evaluation revealed that the client's blood pressure had decreased after undergoing Benson relaxation therapy and warm water soaks for 3 consecutive days. The follow-up nursing plan to address this issue is to recommend that the client get plenty of rest and make it a habit to practice relaxation techniques and take warm water soaks.

IV. DISCUSSION

Based on the results of the nursing care provided over the course of one week, it was found that the use of the Benson relaxation technique and warm water soaks can lower blood pressure in older adults with hypertension.

These findings are consistent with a study conducted by [11], which showed that after five sessions of Benson relaxation and warm water soaks lasting 10–15 minutes per session, older adults experienced a decrease in both systolic and diastolic blood pressure. Another study by [12] also stated that Benson relaxation therapy combined with progressive muscle relaxation was able to significantly lower blood pressure, from an average systolic pressure of 147.68 mmHg to 137.81 mmHg, and diastolic pressure from 92.45 mmHg to 87.95 mmHg ($p < 0.001$).

These results are supported by [13]. The study findings showed that the average blood pressure before treatment was 154.18/91.09 mmHg and after treatment was 141.43/88.30 mmHg. Data analysis used a paired t-test with a significance level of $p = 0.005$. Based on the results, the statistical tests for pre-post systolic and pre-post diastolic blood pressure showed a significance level of $p = 0.000$ ($p < 0.005$), indicating that the combination therapy of foot soaking and Benson relaxation therapy had an effect on lowering blood pressure and mean arterial pressure Blood pressure in patients with hypertension in the service area of the Tikung Lamongan Community Health Center.

Blood pressure is the force exerted by blood flow against the walls of arteries, which is influenced by cardiac output and vascular resistance (World Health Organization, 2025). In patients with hypertension, high blood pressure occurs due to vasoconstriction caused by excessive sympathetic activity. Through the application of Benson relaxation and warm water soaks, the parasympathetic nervous system becomes more dominant, the body enters a relaxed state, blood circulation improves, and blood pressure can return to normal levels. Based on the findings of previous studies that support these results, it can be concluded that Benson relaxation and warm water soaks are effective, safe, easy-to-practice, and affordable non-pharmacological interventions that can be performed

independently by older adults. This makes Benson relaxation an important alternative for supporting blood pressure control in older adults with hypertension, especially when practiced routinely, diligently, consistently, and continuously.

V. CONCLUSION

Nursing care for patients with hypertension who underwent the Benson relaxation intervention for 3×24 hours can lower blood pressure and improve their quality of life. Based on these results, it can be concluded that the application of the Benson relaxation technique is effective in lowering blood pressure.

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