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The effectiveness of acupressure in reducing headaches in patients with hypertension

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Abstract
Hypertension, commonly referred to as "high blood pressure," is characterized by elevated blood pressure levels. Blood pressure consists of two measurements: systolic pressure, which is the pressure in the blood vessels when the heart pumps blood, and diastolic pressure, which is the pressure in the blood vessels when the heart is at rest. The purpose of this study is to evaluate the effect of acupressure on reducing headache levels in patients with hypertension. The subject of this study, Mr. A, is a 52-year-old male who presented with headaches attributed to hypertension, with a recorded blood pressure of 160/80 mmHg. Based on the analysis of the data collected, it can be concluded that there is a significant difference in headache levels before and after the administration of acupressure therapy.

Keywords: Hypertension; acupressure; headache; nursing care; community nursing

Introduction
Hypertension is an abnormality of the heart and blood vessels characterized by consistently high or rising blood pressure. It manifests as a chronic condition (Insana, 2020). The onset of hypertension can be influenced by various mental or emotional factors affecting the individual. It can be categorized into two types: primary and secondary hypertension (Ratnasari et al., 2022). Primary hypertension is influenced by factors such as age, negative thoughts, genetics, psychological stress, obesity, alcohol consumption, smoking, blood abnormalities, and intracellular metabolic disorders. Secondary hypertension, on the other hand, is often linked to hormonal disorders, heart disease, and diabetes. Common symptoms of hypertension include headaches, heaviness in the nape of the neck, fatigue, palpitations, tinnitus, and nosebleeds. Complications from hypertension may lead to severe conditions such as stroke, coronary heart disease, and kidney failure. The extent of organ damage due to hypertensive complications largely depends on the severity of the blood pressure elevation and the duration of the untreated condition. The effectiveness of pharmacological treatment for hypertensive patients relies on various factors, including patient adherence, medication dosage, drug combinations, compliance with dietary restrictions, and potential side effects. Patients who do not adhere to prescribed treatments may develop resistant hypertension (Hibatullah et al., 2023). Non-pharmacological therapies, such as following a low-salt diet and maintaining a healthy lifestyle through regular meals, adequate rest, and acupressure therapy, are also effective. These non-pharmacological methods are often preferred because they can be performed independently and are cost-effective (Hibatullah et al., 2023).

Headaches, or cephalalgia, refer to pain or discomfort in the head region, including the face and neck. The International Association for the Study of Pain defines pain as an unpleasant sensory and emotional experience related to actual or potential tissue damage (Raja et al., 2020). There are four recognized pain scales: the verbal scale, Wong-Baker Faces Pain Rating Scale, Numerical Pain Rating Scale, and Visual Analog Scale. Acupressure is a traditional treatment method involving the application of pressure on specific points to promote home treatment, enhance health independence, lower blood pressure, and alleviate headaches. Acupressure typically involves applying pressure to each point for 30 counts, with a duration of 15-20 seconds per pressure (Suraya et al., 2022). Key acupressure points include Zusanli, Taichong, Jianjing, Fengchi, Hegu, and Baihui. The author chose the title "The Application of Acupressure Therapy to Mr. A to Reduce Headaches in Hypertensive Patients" because the prevalence of hypertension continues to rise annually, and headaches are a common complaint among these patients. If left untreated, headaches can lead to further complications, such as neck tension, blurred vision, or even paralysis. Non-pharmacological acupressure therapy has been shown to increase dopamine levels, enhancing the activity of the parasympathetic nervous system, which regulates bodily functions during relaxation. Consequently, hypertensive patients may perceive acupressure as a calming stimulus, promoting relaxation and ultimately leading to a reduction in blood pressure.

Acupressure has emerged as a promising complementary therapy for managing hypertension, offering a non-invasive approach to help regulate blood pressure levels. Applying pressure to specific acupoints on the body may stimulate the release of endorphins and promote relaxation, which can contribute to a reduction in stress and anxiety—two significant contributors to elevated blood pressure (Biçer et al., 2021). Research above indicates that acupressure can enhance blood circulation and improve overall cardiovascular health by influencing the autonomic nervous system, leading to a balance between sympathetic and parasympathetic activity. Additionally, certain acupoints, such as PC6 (Neiguan) and ST36 (Zusanli), have been specifically associated with lowering blood pressure and improving heart function. As a result, incorporating acupressure into a holistic management plan for hypertension may not only provide symptomatic relief but also empower patients to take an active role in their health. This integrative approach can complement conventional treatments, potentially leading to better adherence and improved outcomes in hypertension management. For this reason, the study was purposed to use acupressure to reduce hypertension.

Case Description

Based on the results of a case study conducted on May 10, 2024, in Namengan Hamlet, Paremono Village, Mungkid District, Magelang Regency, assessment data were collected on a patient identified as Mr. A, a 52-year-old male. Mr. A has a history of hypertension that was diagnosed one year ago. He has been experiencing persistent headaches for the past week, which he attributes to his hypertension. Despite his symptoms, Mr. A has not sought medical attention at a hospital or health center, primarily due to his responsibilities as the primary breadwinner for his family. His commitment to work and fulfilling family needs has prevented him from prioritizing his health. Mr. A has completed only elementary school, which may limit his understanding of health issues and the importance of seeking timely medical care. His main complaint is a headache, which he rates as a 5 on a pain scale of 0 to 10, indicating moderate pain. This headache has significantly impacted his daily life, causing him to experience difficulty sleeping due to the continuous discomfort. The lack of sleep may further exacerbate his condition, potentially leading to increased stress and worsening hypertension. Given his situation, it is crucial to address not only Mr. A's physical symptoms but also the underlying factors contributing to his health issues. Education about hypertension and its complications, along with the importance of regular medical check-ups, could empower him to take proactive steps towards better health. Additionally, exploring stress management techniques and lifestyle modifications could be beneficial in managing his hypertension and alleviating his headache symptoms. Overall, a comprehensive approach that considers Mr. A's socio-economic context and personal circumstances will be essential in improving his health outcomes and quality of life.

Discussion

Based on the nursing review conducted on Mr. A on May 10, 2024, data were collected indicating that the patient was experiencing headaches, difficulty sleeping, and weakness. These findings align with the theory proposed of which states that common complaints among patients with hypertension include headaches, a heavy and stiff feeling in the nape of the neck, heart palpitations, and insomnia (Aminuddin et al., 2020). The headaches Mr. A is experiencing are likely due to the narrowing of blood vessels, which can lead to inadequate increases in cerebral vascular blood pressure. This increased pressure within the cerebral vessels can compress nerve fibers in the brain, resulting in headaches for hypertensive patients (Firman et al., 2021). Upon measuring Mr. A's blood pressure, it was recorded at 160/80 mmHg, with his pain level assessed at a 5, indicating moderate pain. The pain complaints he is experiencing are attributable to hypertension, as narrowed and blocked blood flow can cause discomfort. This is consistent with the theory of which asserts that arterial flow is disrupted when blood vessels narrow (Mahathir, 2018). The assessment indicates that Mr. A is experiencing acute pain related to physiological injury agents, specifically increased vascular pressure, along with discomfort associated with disease symptoms. Additionally, the patient reported difficulty sleeping, leading to a secondary diagnosis of Dysphoria due to symptoms of the disease (hypertension) (D.0074). This diagnosis aligns with the Indonesian Nursing Diagnosis Standard (SDKI), which defines comfort disorders as feelings of displeasure, relief, and fulfillment across physical, psychospiritual, environmental, and social dimensions. Given the results of the assessment, Mr. A's acute pain has significantly impacted his ability to perform daily activities.

To address Mr. A's pain, both pharmacological and non-pharmacological interventions were implemented. Pharmacological therapy involved the use of analgesics, while non-pharmacological approaches included deep breathing exercises, relaxation techniques, acupressure, music therapy, and early mobilization. Acupressure, a traditional treatment involving massage at specific points, was particularly notable as it can be performed at home, promoting patient autonomy, lowering blood pressure, and alleviating headaches. The importance of complementary therapies, such as autogenic relaxation and acupressure, lies in their ability to reduce blood pressure and relieve headaches without causing side effects. These techniques are easy to perform and accessible to the general public (Kim & Park, 2023). Throughout the three-day intervention period from May 10 to May 12, 2024, nearly all proposed interventions were implemented for Mr. A. The patient reported feeling more comfortable following the acupressure sessions, indicating the effectiveness of this technique in managing pain for hypertensive patients. The diagnosis of

acute pain related to physiological injury agents (increased vascular pressure) and discomfort due to disease symptoms guided the nursing interventions, which included pain management, blood pressure monitoring, sleep pattern support, and teaching acupressure techniques.

Pain assessments using the PQRST method were conducted to evaluate the impact of pain on Mr. A's daily activities. Over the three days of treatment, improvements in Mr. A's pain levels were observed. Specifically, his pain scale decreased from 5 to 2, attributed to the effects of acupressure therapy, which improved blood flow that had been obstructed due to narrowed blood vessels. This finding is consistent with Kurniyawan's theory (2016), which highlights acupressure's role in alleviating both acute and chronic pain by balancing the flow of "qi" energy in the body, thereby relieving pain and addressing underlying health issues (Firman et al., 2021). During the nursing evaluation, on the first day (May 10, 2024), the implementation of interventions had not yet resolved the identified problems, as significant changes in Mr. A's condition were not evident. However, by the second day (May 11, 2024), partial resolution of the issues was noted, with the patient's condition beginning to show positive changes. By the third day (May 12, 2024), the problems were considered resolved, as Mr. A reported minimal complaint, indicating a successful outcome from the implemented interventions.

Conclusion

Based on the results of the research and discussion regarding the application of acupressure therapy to reduce headache levels in patients with hypertension in Namengan Hamlet, Paremono Village, Mungkid District, Magelang Regency, it was observed that Mr. A's pain level prior to the implementation of acupressure therapy showed no significant difference. However, after the acupressure therapy was administered, a notable change in pain level was recorded. Data analysis indicates a significant difference in headache levels before and after the application of acupressure therapy. Therefore, it can be concluded that acupressure therapy effectively reduces headache intensity in individuals experiencing hypertension.

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