

Management of Emergency Risk in Elderly with Hypertensive Emergency and Neck Pain Using Swedish Massage

Basid Noor Anugrah¹, Herry Wibowo²

^{1,2} Universitas Lambung Mangkurat

Abstract

Background Behind: Hypertension, often referred to as the "silent killer," is a significant emergency risk in the elderly. Hypertension and neck pain are two common health conditions in the elderly population that can influence each other. Non-pharmacological therapies, such as Swedish Massage, can help lower blood pressure and relieve pain in older people. **Objective:** To provide nursing care for a client with hypertension and neck pain through the intervention of Swedish massage therapy to reduce blood pressure in a client from Sungai Kitano Village, Martapura Timur District. **Method Study:** The method used was a case study of nursing care for a client, conducted over six consecutive days, with Swedish massage therapy administered during each session. **Results** The intervention results over six days for the client showed that the mean systolic blood pressure before treatment was 177.5 mmHg, which decreased to 164.5 mmHg. The mean diastolic blood pressure before therapy was 94 mmHg, which decreased to 93 mmHg. **Conclusion:** Swedish Massage was found to be effective as part of a non-pharmacological approach to managing hypertension, providing a relaxing effect that contributed to improved blood pressure.

Keyword: *Hypertension, Neck Pain, Swedish Massage.*

Introduction

"The silent killer" is one of the terms used for hypertension because of its asymptomatic nature, which often goes unrecognized and is usually only discovered after serious complications related to hypertension occur (Chang, 2024). Hypertension was a significant health challenge globally, as it could significantly diminish the quality of life and was one of the risk factors associated with cardiovascular diseases (muscle disorders) and premature death due to such diseases (WHO, 2023). According to the Ministry of Health, in 2020, hypertension was one of the non-communicable diseases (NCDs) that began to threaten the younger generation, with many factors contributing to the onset of hypertension, including lifestyle, social, and economic factors. Hypertension is a condition caused by a systolic blood pressure reading above the standard limit, exceeding 140 mmHg, and a diastolic blood pressure reading also exceeding the standard limit, surpassing 90 mmHg (RI, 2020).

According to the WHO, in 2021, it was stated that 22% of the global population, or 1.28 billion people, suffered from hypertension, with the age

range of 30-79 years (adults to elderly). The data obtained from the Global Status Report on NCD Risk Factor Collaboration (NCD-RisC) by the WHO in 2020, which was based on 1,201 studies with 104 billion participants from 184 countries, revealed that Paraguay held the highest position in terms of hypertension cases (51% in men and 62% in women). Southeast Asia ranked third in hypertension cases, with 25% of the population affected (Kemenkes, 2020).

According to Riskesdas (2020), the rate of hypertension in Indonesia itself was 34.1%, measured among the population aged ≥ 18 years. One of the three provinces with the highest hypertension rates in Indonesia was South Kalimantan, with a prevalence rate of 44.1% (Riskesdas, 2020). The highest number of both new and existing cases in 2021 was recorded in Banjar Regency, with 17,307 cases, followed by Tapin Regency, with 15,320 cases, and Banjarmasin City, with 14,396 cases (Dinkesprov Kalsel, 2021).

Based on the data above, we were interested in studying hypertension in the

Martapura Timur area, supported by the results of a community assessment conducted during the KKL B stage at Lambung Mangkurat University. In the village of Sungai Kitano, specifically in RT 01-03, Martapura Timur Subdistrict, Banjar Regency, South Kalimantan, the prevalence of hypertension was found to be 108 individuals suffering from the condition. A unique case was identified in RT 02, where the client, a 90-year-old elderly individual, had stopped taking medication because they felt no symptoms and rarely visited the nearest possesses. The client's daily activities included chewing betel leaves, and they complained of neck pain and occasional headaches. When a blood pressure measurement was taken, the result showed 190/100 (hypertensive emergency).

Hypertension in the elderly is caused by the ageing process, where there is a decrease in the elasticity of the aortic wall, thickening and stiffening of the heart valves, and a reduction in the heart's ability to pump blood (Isnaini, 2024). Hypertension often shows different signs and symptoms. The symptoms experienced were similar to those of other diseases, such as dizziness, headaches, and blurred vision. Other symptoms frequently reported included neck pain, dizziness, and swelling in the capillary blood vessels (Isnaini, 2024). Neck pain is one of the musculoskeletal disorders (MSD) affecting the human skeleton, characterized by pain in the neck area (Maulidya, 2023). Neck pain became a common complaint among individuals with hypertension (Nugraha & Nurwahida, 2021). This pain occurred due to issues with the peripheral nerve roots and/or the nerve roots at the cervical-thoracic (neck) area caused by trauma, incorrect posture, degeneration, emotions, tumours, and other diseases (Isnaini, 2024).

The community often considered hypertension in the elderly as a normal condition that did not require treatment. This assumption was incorrect because untreated hypertension could lead to various complications, including heart disease, stroke, and even a decrease in consciousness or coma, which would make treatment more difficult. However, hypertension in the elderly was more straightforward to treat if it was not accompanied by complications or comorbid conditions (Haryadi et al., 2021).

Hypertension could be fatal if not appropriately managed. It occurred due to an increase in heart rate and stroke volume caused by the sympathetic nervous system, leading to

increased contractility of the heart muscle fibres through selective vasoconstriction in peripheral organs. If this condition persists, the heart muscle will thicken (hypertrophy), which would interfere with the heart's ability to function as a pump.

The management of hypertension could be approached through two main methods: non-pharmacological and pharmacological approaches, involving the use of medications (Ervina, Nur Fitriana, and Nasrul Sani, 2020). An alternative non-pharmacological therapy that had been studied was Swedish massage therapy, aimed at relaxing the muscles to promote smooth blood circulation.

Swedish massage therapy was designed to relax tense muscles, thereby boosting energy and promoting relaxation. Swedish Massage was a complementary therapy believed to induce a relaxation response and was also capable of lowering blood pressure caused by stress. The technique of Swedish Massage involves five basic techniques, including effleurage (gentle touch), petrissage (kneading the muscles), friction (circular rubbing movements), tapotement (percussive movements), and vibration (shaking) (R. Adawiyah et al., 2021). When the body experiences relaxation, it indicates a reduction in cortisol levels, a hormone involved in stress, which also affects blood circulation (Braun & Simonson, 2021). Based on research, the use of Swedish massage therapy has been proven to lower blood pressure and relax blood circulation (Fahriyah et al., 2021).

Therefore, Swedish Massage was chosen as the intervention because of the many benefits it offered, such as lowering blood pressure, improving blood circulation, and being practical with relatively low costs. Based on this background, it was considered very important to provide nursing care to reduce Mrs. M's blood pressure in the village of Sungai Kitano, RT. 02, Martapura Timur Subdistrict, Banjar Regency, South Kalimantan.

Method

The research method used was a descriptive case study design on hypertensive patients in Sungai Kitano Village, East Martapura District, Banjar Regency. Data collection was conducted using Gordon's pattern assessment forms through interviews,

observation, and physical examination. The assessment results were analyzed for data, diagnoses were established, planning was carried out, and implementation and evaluation of Swedish Massage therapy were performed.

The activities are carried out in several stages, with the following details:

1. Stage 1: Pre-Preparation

The service team collected data and discussed the location of the study. The review team obtained permission from the RT head of the Kitano River Village to conduct the research and observations before the survey took place to find out the location of the activity. The review team and the RT head of the Kitano River Village agreed to determine the date and time.

2. Stage 2: Preparation

The service team discussed and agreed that the service theme to be given was Assessing the patient with tools that have to be prepared. Then, the service team looked for literature reviews from various scientific sources and prepared each service team. Furthermore, the service team created activity materials by preparing tools and materials, determining the readiness of the place, and determining the readiness of the target.

3. Stage 3: Implementation

- a. Explaining the purpose of the activity
- b. Explaining the definition of hypertension
- c. Questions and answers using the pengkajian pola gordon dan pemeriksaan fisik head to toe, serta menambahkan skrining menggunakan kuesioner Short Portable Mental Status Questionnaire (SPMSQ), Indeks Barthel, Apgar Keluarga Dengan Lansia, Geriatric Depression Scale (GDS), Kuesioner Kesepian Diadopsi Dari The UCLA Loneliness Scale.
- d. After the data was collected, data analysis and diagnosis were conducted, followed by the development of a nursing care plan containing outcome targets and planned interventions.
- e. Swedish Massage was implemented on

the patient, and the results were documented in the SOAP evaluation sheet.

4. Stage 4: Closing

The activity will end with a photo of the patient.

Results And Discussion

Pre-Preparation

Hypertension, or high blood pressure, is defined as an increase in systolic blood pressure exceeding 140 mmHg and diastolic blood pressure exceeding 90 mmHg in two measurements taken five minutes apart under a sufficiently rested/calm condition (Ministry of Health, 2021). Hypertension is a significant risk factor for neurological diseases and has become a primary risk factor for chronic diseases and mortality (Kilic et al., 2016).

Neck pain is a musculoskeletal condition characterized by stiffness and pain in the neck due to prolonged static loads, poor posture, or excessive and repetitive muscle use. It can cause mechanical stress on muscles, ligaments, and tendons, leading to localized or radiating pain from the neck to the arms and fingers. Common causes include trauma, improper posture, degeneration, emotional factors, or diseases (Trisnowiyanto, 2017). Symptoms often include stiffness, muscle spasms, joint noises, radiating pain, and sensory disturbances in the neck area.

Sungai Kitano Village is located in East Martapura District, South Kalimantan Province, covering an area of 1,150 hectares and consisting of three neighbourhoods (RT). This village is classified as a wetland area, with most of its territory comprising rivers, rice fields, and swamps. Sungai Kitano is part of the wetland region situated along the riverbanks and directly connected to the Martapura River. The extensive river flow supports the livelihoods of the local population, primarily fish pond farmers and fishing enthusiasts.

Preparation

Entering older people there are several problems experienced by older people, including hypertension and neck pain. Hypertension assessment can be conducted by directly measuring the patient's blood pressure

using either a digital or conventional sphygmomanometer.

Implementation

Based on the assessment, Mrs M had a habit of consuming coffee daily, which is a risk factor for hypertension due to its caffeine content. Caffeine increases blood pressure by narrowing blood vessels and stimulating stress hormones such as cortisol and adrenaline. Studies indicated that excessive caffeine intake of more than two cups per day (200-250 mg) could raise systolic blood pressure by 3-14 mmHg and diastolic blood pressure by 4-13 mmHg. To prevent hypertension, it was recommended to limit coffee consumption to no more than two cups per day.

In addition, Mrs M did not adhere to her prescribed antihypertensive medication (Amlodipine 5 mg) because she no longer experienced symptoms such as dizziness or headaches. Non-adherence to medication posed a risk of increased complications from hypertension. Adherence was crucial to maintaining blood pressure control and preventing organ damage caused by chronic hypertension.

Mrs M also complained of neck pain, characterized by a throbbing sensation with intermittent pain rated at a level of 6 (moderate pain). This pain was caused by increased vascular pressure to the brain, which compressed the nerve fibres in the neck muscles. The tension was accompanied by impaired blood flow and increased lactic acid levels due to anaerobic metabolism, which triggered heightened pain sensitivity in the affected area.

The intervention provided was Swedish massage therapy, which aimed to reduce pain by improving blood flow, reducing stress hormones, increasing endorphin levels, and enhancing lymphatic circulation. The results showed a reduction in pain level from 6 to 4 on the second day and to 0 (no pain) on the fourth day of intervention. This demonstrated that Swedish massage therapy was effective in alleviating Mrs M's neck pain.

Based on the examination conducted on Mrs M on Tuesday, December 3, 2024, her blood pressure was recorded at 190/80 mmHg. Mrs M complained of occasional dizziness caused by her elevated blood pressure. She also stated her

reluctance to take antihypertensive medication regularly. Hypertension is a condition where a person's blood pressure increases, either gradually or suddenly, because the heart has to work harder to pump blood to meet the body's oxygen and nutrient needs. If left untreated, hypertension could damage vital organs such as the heart and kidneys (Hasiando et al., 2019).

Several methods to control blood pressure include pharmacological therapy using medications and non-pharmacological treatments, such as herbal remedies, lifestyle changes, medication adherence, stress management, and relaxation therapy. One of the recommended interventions to help reduce Mrs. M's blood pressure was Swedish massage therapy conducted for six days between 10:00 AM and 12:00 PM (Adawiyah et al., 2020).

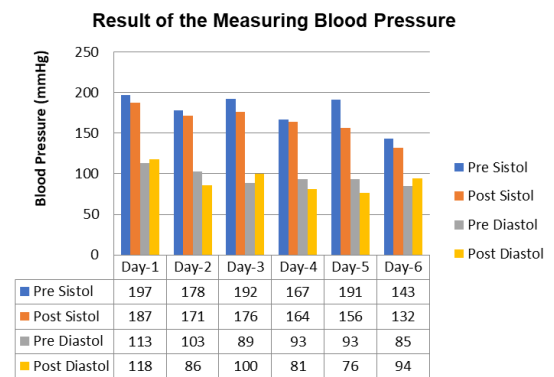


Figure. 1 Result of the Measuring Blood Pressure

Based on Figure. 1. Mrs. M experienced a significant decrease in blood pressure before and after Swedish massage therapy. Despite fluctuations in her blood pressure readings, the treatment showed an ability to promote relaxation and control blood pressure. Over the six-day intervention, the mean systolic pressure decreased from 177.5 mmHg to 164.5 mmHg, and the mean diastolic pressure slightly reduced from 94 mmHg to 93 mmHg.

These findings aligned with the study by Ritanti and Sari (2020), which showed a significant difference in systolic and diastolic blood pressure before and after Swedish massage therapy conducted three times weekly. In that study, the mean systolic pressure dropped from 144.83 mmHg to 135.83 mmHg, and the mean diastolic pressure decreased from 92.67 mmHg to 84.83 mmHg. Similarly, Adawiyah et al. (2020) reported positive effects

of Swedish massage therapy on blood pressure in elderly patients with hypertension after three sessions.

Benefits and Techniques of Swedish Massage

Massage techniques benefit soft tissue manipulation, enhancing blood circulation, stimulating parasympathetic activity, and increasing endorphin release. These processes reduce heart rate, blood pressure, respiratory rate, and stress. Swedish Massage, a relaxation-focused technique, has been effective in lowering systemic blood pressure, making it a viable non-pharmacological intervention for hypertension management (Ermawati et al., 2023).

Swedish massage techniques involve five main movements: petrissage, effleurage, friction, vibration, and tapotement. Each movement offers specific benefits. Effleurage relaxed the nervous system, friction realigned muscle fibres and improved circulation, petrissage relaxed muscles, vibration dispersed clumped cells, and tapotement alleviated muscle pain (Ermawati et al., 2023).

During the intervention for Mrs. M, these five massage steps were performed for approximately 30 minutes. Light pressure was applied to her body, causing vasodilation in capillary vessels and increasing blood flow, which helped supply oxygen and nutrients to the tissues. On the fifth day, her systolic blood pressure dropped significantly from 191 mmHg before the Massage to 156 mmHg afterwards, attributed to the prone position during the session. This demonstrated that positioning during Massage greatly influenced relaxation.

Massage effects included relaxation and stress management, contributing to blood pressure reduction, enhanced circulation, and better oxygen and nutrient delivery to body cells. These outcomes reduced the risk of ischemia (Goldstein & Casanelia, 2019).

The evaluation revealed that the issue of ineffective peripheral tissue perfusion remained unresolved, as the blood pressure readings on the sixth day had not reached normal levels (120/90 mmHg). However, Mrs. M reported no further complaints of headaches, difficulty sleeping, or other symptoms.

Conclusion

Based on the implementation of Swedish Massage therapy for Mrs M, a 90-year-old female

with a medical diagnosis of hypertensive emergency, the following conclusions were drawn. The assessment conducted on December 2, 2024, revealed complaints of headaches, nighttime awakenings, and neck pain, with a blood pressure reading of 190/110 mmHg. The client attributed her condition to dietary factors and non-adherence to antihypertensive medication. Two nursing diagnoses were identified: Ineffective Peripheral Tissue Perfusion and Acute Pain. Interventions included teaching peripheral perfusion and pain management, with the primary implementation being Swedish Massage therapy over six days (December 3–8, 2024). While blood pressure fluctuations were observed, the client reported improvements, including reduced symptoms such as headaches, neck pain, and sleep disturbances. This indicates that Swedish Massage therapy effectively alleviated symptoms and enhanced the client's well-being.

Suggestion

Recommendations emphasize the importance of routine Swedish Massage therapy and healthy lifestyle changes for patients to prevent hypertension complications, with family support playing a vital role in ensuring adherence to treatment. Healthcare providers are encouraged to optimize hypertension-related health promotion and integrate Swedish Massage as a complementary intervention to control blood pressure. Educational institutions are urged to explore and develop the use of Swedish Massage further in managing hypertension and pain. Future researchers should study other massage techniques, conduct consistent and longer-term observations, and evaluate the sustained effects of Swedish Massage on blood pressure management.

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Zhafirah, N., Aprilia, T., n.d. PENYESUAIAN DIRI PADA LANSIA AWAL PASCA PENSIUN.

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