

The Effectiveness of Slow Stroke Back Massage in Managing Chronic Pain Among Patients with Hypertension: Implications for Nursing Care

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ABSTRACT

Hypertension is when a person experiences an increase in blood pressure above normal, or systolic pressure higher than 140 mmHg and diastolic pressure above 90 mmHg. Hypertension can cause headaches. One of the management techniques for headaches is non-pharmacological techniques, with slow stroke back massage (SSBM) therapy. This therapy is a massage action on the back with slow strokes. The purpose of this study was to determine the effectiveness of the slow stroke back massage technique in reducing the level of head pain in hypertensive patients. This research uses a descriptive method with a case study approach during the slow stroke back massage (SSBM) technique to reduce headaches in hypertensive patients. After nursing care for 3 days, the results of the headache scale on the first day were 6-7, on the second day, the headache scale also decreased, and on the third day, it decreased to 2. The slow stroke back massage (SSBM) technique can reduce headache levels in patients with hypertension.

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1. INTRODUCTION

Hypertension in the elderly is a condition when someone experiences an increase in blood pressure above normal, specifically a systolic pressure higher than 140 mmHg and a diastolic pressure above 90 mmHg. The World Health Organization (WHO) states that the prevalence of hypertension is expected to continue to rise, with predictions indicating that by 2025, 29% of adults worldwide will suffer from hypertension [1,2]. Overall, WHO reports that high-income countries have a lower number of hypertension sufferers compared to low- and middle-income countries. The prevalence of hypertension in Indonesia ranked among the top 10 most common illnesses for the elderly in 2013, with 45.9% in the age group of 55-64 years, 57.6% in the age group of 65-74 years, and 63.8% in those aged 75 and older [3,4].

Hypertension is one of the most common cardiovascular diseases suffered by the public. Hypertension has now become a major problem, not only in Indonesia but in the world, because it is one of the gateways or risk factors for diseases such as kidney failure, diabetes, stroke, and heart disease [5]. According to the Basic Health Research (Risikesdas), in Indonesia, 34.1% of the population aged 18 years and older suffered from high blood pressure in 2018, the highest being in South Kalimantan (44.1%), followed by East Kalimantan (39.30%), Central Java (37.57%), West Kalimantan (36.99%), East Java (36.32%), and the lowest in Papua (22.2%) [3].

Based on data obtained from the Central Bureau of Statistics of South Sumatra, the incidence of hypertension has increased every year. In 2018, the number of hypertension sufferers was 217.052 million people, in 2019 it was 283.390 million people, and in 2020 it was 645.104 million people [6].

Based on the initial data collection at the Bhayangkara Mohamad Hasan Hospital in Palembang, the incidence of hypertension in the ward has increased every year. In 2021, there were 36 cases of hypertension, in 2022 there were 121 cases of hypertension, and in 2023 there was an increase to 261 cases of hypertension.

Hypertension treatment can be carried out pharmacologically and non-pharmacologically. Non-pharmacological treatments include herbal therapy, lifestyle changes, adherence to medication, stress management, and relaxation therapy[7]. Relaxation helps the body become relaxed and can be done through methods such as classical music therapy, yoga, deep breathing techniques, and massage therapy[8].

The research conducted by Istiyawati in 2020 states that there is an effect of providing SSBM on the reduction of pain scale in hypertensive patients. The study involving 18 respondents showed a mean score of 5.83 for the pain scale measurement before SSBM was administered, and after the SSBM technique was applied, the mean value decreased to 4.78. This indicates a decrease in the mean score of 1.056, which means there was a reduction in the pain scale level by 1 scale point as reported by the patients after the administration of SSBM [9].

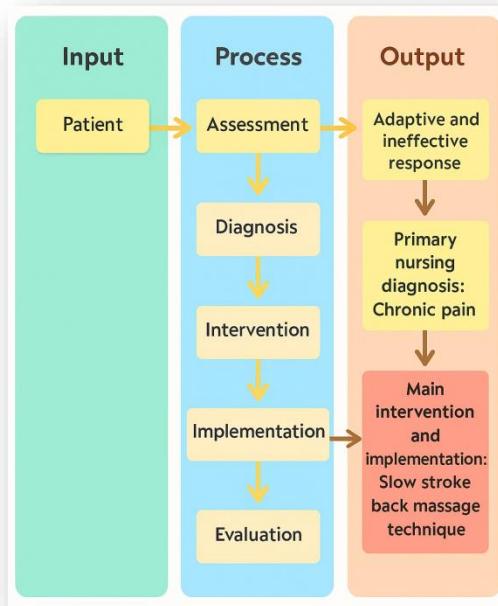
Researchers have conducted a survey at Bhayangkara Moh. Hasan Hospital in Palembang in 2024 that the actions taken to reduce headache pain in inpatient hypertensive patients are deep breathing techniques and medication administration. Meanwhile, the slow stroke back massage (SSBM) has not been performed in the inpatient setting. Based on the above description, the author is interested in conducting a case study that will be compiled into a scientific paper titled 'The Application of Slow Stroke Back Massage Intervention in Chronic Pain Nursing Care for Hypertensive Patients at Bhayangkara Moh. Hasan Hospital Palembang in 2024'.

2. METHOD

2.1. Study Design

The design of this research is descriptive in the form of a case study to explore nursing care issues in clients with hypertension at RS Bhayangkara M Hasan Palembang. The approach used is the nursing care approach which includes assessment, nursing diagnosis, planning, implementation, and evaluation.

The research framework is a description and visualization of the relationship or connection between one concept and another, or between one variable and another related to the problem being investigated. It is a framework for the relationships between the concepts that are intended to be observed or measured through the research conducted. The conceptual framework in this case study research can be seen as follows (8,9).



Picture 1. Concept Framework

The subjects of the research to be used in the case study are male/female clients aged 30 to 70 years, with cases of hypertension that are studied in detail and in depth through interview and observation methods. The objects of the research consist of two clients with hypertension at Bhayangkara Hospital M. Hasan Palembang. The subjects used in writing this case study adhere to the following inclusion and exclusion criteria:

Inclusion Criteria

- a. Willing to be a respondent
- b. Women aged 30-70 years
- c. Having the same comorbidities (Hypertension Nursing Care)
- d. Patients with moderate to severe pain in the neck to back
- e. In a conscious state
- f. Of the same gender
- g. Can communicate well
- h. Have good hearing
- i. Have good vision

Exclusion Criteria

- a. Patients who withdraw during the study
- b. Patients with infectious diseases
- c. Patients who do not have hypertension
- d. Patients who die before the study is completed.
- e. Patients who experience swelling or tumors in specific areas.

2.2. Location and Time of Research

This research was conducted in the Inpatient Room of Bhayangkara M. Hasan Hospital, Palembang. This case study of nursing care began with the proposal preparation activities, data collection, followed by data processing and report writing from February 19, 2024, to June 10, 2024.

2.3. Research Procedure

The research procedure is carried out through the following stages:

- a. The researcher prepares a scientific paper using a case study.
- b. Once the research proposal is approved, the research will continue with data collection activities.
- c. The researcher sends a research application letter to Bhayangkara M. Hasan Hospital Palembang.
- d. After the letter is received, the researcher can then conduct the case study.
- e. Together with the head of the room and the CI, the researcher selects the case study clients according to the inclusion criteria.
- f. Establishing a trusting relationship with the selected clients.
- g. After building a trusting relationship, the researcher conducts an assessment of the clients through filling out the assessment format, interviews, and observations.
- h. After the assessment, the researcher collects focused data to establish a diagnosis.
- i. The researcher creates a family nursing care plan according to the established plan.
- j. The researcher conducted family nursing care actions according to the prepared plan.
- k. The researcher conducted an evaluation of family nursing care according to the prepared plan.
- l. The researcher performed nursing documentation.

2.4. Data Collection Techniques

Data collection techniques are carried out in the initial stages of the nursing process and the information collected is used to determine nursing diagnoses, plan nursing care, and perform nursing actions to address the clients' problems [12]. This subsection explains the methods of data collection:

2.4.1. Interview

An interview is a data collection technique between the researcher and the patient, the purpose of the interview is to listen and enhance the patient's well-being through a trusting and supportive relationship. This technique is used to obtain the patient's main issues and current medical history [13].

2.4.2. Observation

Observation is an activity that involves all the sensory strengths such as hearing, sight, taste, touch, and flavor

based on the facts of empirical events [14].

2.4.3. Physical Examination

A physical examination is the process of examining a patient's body to determine the presence or absence of physical problems. The purpose of a physical examination is to obtain valid information about the patient's health. A physical examination can be performed by observing (inspection), touching (palpation), tapping (percussion), and listening (auscultation) to the client's body systems.

2.4.4. Implementation of nursing actions

Data collection obtained from source books acquired from the library [10] related to the discussed issue, namely hypertension disease, through documentation study. Data collection was obtained from patient status and other records such as date notes, medications, time of action, patient condition, etc., at Bhayangkara M. Hasan Hospital Palembang.

2.4.5. Documentation Study

Documentary study is a technique for data collection by studying documents to obtain data or sources of information related to the [15,16]. The documentation study in this research involves examining the results of diagnostic examinations and other relevant data, such as laboratory results, radiology, or other physical examinations to identify abnormalities in patients [17,18]. Tools or instruments for data collection using the family nursing care format in accordance with the regulations in the DIII Nursing program at Stikes Pembina Palembang.

2.5. Data Validity Techniques and Data Analysis

The validity test of the data in this study is carried out through: prolonged observation, increasing diligence, triangulation, discussions with peers, and case analysis. Data analysis is conducted from the time the research is in the field, during data collection until all data is collected [19]. Data analysis is carried out by presenting facts, then comparing them with existing theories and expressing them in a discussion opinion. The analysis technique used is by narrating the answers from the research obtained from the results of in-depth interviews conducted to address the research problem formulation [20]. The analysis technique is used through observations by researchers and documentation studies that produce data to be interpreted by researchers compared to existing theories as material to provide recommendations in the intervention.

3. RESULTS AND DISCUSSION

3.1. Assessment

The initial stage of the nursing process and is a systematic process of collecting data from various data sources to evaluate and identify the health status of the client [21].

Patient 1 (NY)

The assessment of Mrs. 'Y' was conducted on June 7, 2024, where it was found that the patient arrived at the hospital complaining of a headache for approximately the last 2 days. Meanwhile, the nursing assessment from the patient's physical examination indicated that the pain scale data obtained was 6 (moderate).

Patient 2 (Ny.I)

The nursing assessment for patient 2, Ms. "I", was conducted on June 7, 2024. The assessment revealed that the patient came to the hospital with complaints of headache in the back, more precisely at the nape, accompanied by weakness. The nursing assessment from the patient's physical examination showed a pain scale of 7 (severe), accompanied by weakness. Based on the results of the study and the above theory, it can be assumed that the assessment of Acute Pain is mostly due to issues in the cardiovascular system.

3.2. Diagnosis

Nursing diagnosis is a clinical assessment regarding the client's response to health problems or life processes experienced, whether actual or potential. The purpose of nursing diagnosis is to identify the responses of individual clients, families, and communities to health-related situations [22].

Theoretically, the nursing diagnosis for hypertension patients obtained from SDKI, SLKI, and SIKI is: Acute Pain related to physiological injury (e.g., ischemia), Disturbance in Comfort, Risk of Decreased Cardiac Output related to increased afterload [23,24].

Based on the researchers' assumptions from the results of field assessments, researchers found the same diagnosis between patient 1 and patient 2. The same diagnosis consists of chronic pain related to physiological injury agents (e.g., ischemia). There is a difference between the theoretical diagnosis and the diagnosis found in

both patients because the data obtained from the assessment results on patient Ny 'Y' and patient Ny 'T' do not support establishing all the diagnoses present in the theory.

3.3. Intervention

The results of the nursing intervention research regarding actions to be taken based on the emerging diagnosis, which is Chronic Pain related to physiological injury agents (e.g., ischemia), interventions: identify the location, characteristics, duration, frequency, quality, and intensity of pain, identify the pain scale, provide non-pharmacological techniques to reduce pain, namely (slow stroke back massage therapy), facilitate rest and sleep, and collaborate for the administration of analgesics such as: Amlodipine 1 x 5 mg orally, KSR 2 x 1 mg orally, Aspilets 1 x 5 mg orally, Bisoprolol 1 x 2.5 mg orally.

3.4. Implementation

Nursing actions are performed both independently and in collaboration with other medical teams. Reviewing the condition and needs of the client in relation to the nursing diagnosis is necessary before starting. When the author is not present in the client's room, the author monitors the client's progress using notes from the client, the room, the doctor, and the on-call massage nurse (SSBM).

Actions for the diagnosis of chronic pain related to physiological injury agents involve providing non-pharmacological techniques such as slow stroke back massage (SSBM) to reduce headache, then measuring the pain scale before and after performing slow stroke back massage, and measuring the client's blood pressure. Superficial nerve stimulation by SSBM.

First patient: Ms. 'Y' For the implementation on the first day, before performing the slow stroke back massage (SSBM), a pain scale measurement was conducted and a pain scale of 6 was obtained with a blood pressure of 170/90 mmHg. Then the slow stroke back massage (SSBM) was performed daily until the third day. Subsequently, on the third day in the morning, after performing the slow stroke back massage (SSBM), a pain scale measurement was conducted again, showing a reduction in pain scale. After the intervention, it was concluded that the slow stroke back massage (SSBM) effectively reduced headache pain.

Second patient: Ms. I On the first day of implementation, before performing the slow stroke back massage (SSBM), a pain scale measurement was taken, resulting in a pain scale of 7 with a blood pressure of 150/80 mmHg. Then, slow stroke back massage (SSBM) was performed daily until the third day. Subsequently, on the third day of implementation, in the morning, after performing the slow stroke back massage (SSBM), another pain scale measurement was taken for Ms. I, and it was found that the pain scale had decreased. After the actions were taken, it was concluded that slow stroke back massage (SSBM) is effective in reducing headache pain.

3.5. Evaluation

In this evaluation stage, the researcher uses the SOAP approach. On June 7-10, 2024, nursing actions can be carried out for 3 days with the management of 1 nursing diagnosis and 1 problem diagnosis. After conducting nursing evaluations on Mrs. 'Y' and Mrs. 'T' with hypertension, there was a resolved diagnosis, namely;

Chronic pain is associated with physiological injury agents with the client's subjective outcomes stating that pain complaints have decreased, moaning has decreased, restlessness has decreased, the ability to complete activities has increased, and the doctor has decided that the client is allowed to go home.

Analysis of the results of slow stroke back massage therapy on patient 'Y' dated June 7, 2024, before the intervention: BP: 170/80 mmHg, RR: 20 x/min, T: 40°C, P: 80 x/min, pain scale: 6. Then, slow stroke back massage therapy was given for 10-15 minutes, after which the pain decreased. On the second day, June 8, 2024, before the intervention: BP: 140/80 mmHg, RR: 20 x/min, T: 37°C, P: 80 x/min, pain scale: 3. Then, slow stroke back massage therapy was given for 10-15 minutes, and the patient reported that the pain decreased. On the third day, June 9, 2024, before the intervention: BP: 130/70 mmHg, RR: 21 x/min, T: 36°C, P: 80 x/min, pain scale: 2. Then, slow stroke back massage therapy was performed for 10-15 minutes, and the pain decreased to a pain scale of 0.

Meanwhile, in Ms. I's case, the analysis of the slow stroke back massage therapy result on June 8, 2024, before the procedure showed BP: 150/80 mmHg, HR: 81 x/minute, T: 36 °C, RR: 21 x/minute, pain scale: 7. After administering the slow stroke back massage therapy for 10-15 minutes, the pain decreased. On the second day, June 9, 2024, before the procedure, BP: 140/80 mmHg, HR: 81 x/minute, T: 36 °C, RR: 21 x/minute, pain scale: 4; then, the slow stroke back massage therapy was administered for 10-15 minutes, and the patient reported a reduction in pain, appeared to improve, and looked comfortable, although the client still seemed a bit weak. On the

third day, June 10, 2024, before the procedure, BP: HR: 81 x/minute, T: 36 °C, RR: 21 x/minute, pain scale: 2; then, the slow stroke back massage therapy was given for 10-15 minutes, resulting in a pain scale of 1.

Meanwhile, for Mrs. I, the analysis of the results of the slow stroke back massage therapy on June 8, 2024, showed that before the intervention her blood pressure (BP) was 150/80 mmHg, pulse (P) 81 beats/minute, temperature (T) 36°C, respiratory rate (RR) 21 breaths/minute, and pain scale was 7. After receiving the slow stroke back massage therapy for 10–15 minutes, her pain decreased. On the second day, June 9, 2024, before the intervention, her BP was 140/80 mmHg, P 81 beats/minute, T 36°C, RR 21 breaths/minute, and pain scale was 4. After 10–15 minutes of slow stroke back massage therapy, the patient reported reduced pain, showed improvement, appeared more comfortable, although still slightly weak. On the third day, June 10, 2024, before the intervention, her P was 81 beats/minute, T 36°C, RR 21 breaths/minute, and pain scale was 2. After 10–15 minutes of slow stroke back massage therapy, the pain decreased further, with the pain scale reducing to 1.

4. STRENGTHS AND LIMITATIONS

This review study presents a comprehensive synthesis of the latest empirical evidence on the application of Slow Stroke Back Massage (SSBM) interventions in managing chronic pain in nursing care for hypertensive patients, highlighting its strengths and weaknesses. One of the main strengths of this study is that SSBM is a safe, non-pharmacological intervention that is easy to perform and can provide a relaxing effect that may help address pain issues. Another strength of this study is that SSBM is a non-invasive procedure, making it relatively safe for patients with hypertension who may have other medical conditions; this SSBM intervention can help reduce muscle tension and provide a relaxation effect that may lessen pain perception. Additionally, the implementation of SSBM interventions is very easy to do and can be applied by nurses or even by family members of the patient.

However, this study also has several limitations that must be acknowledged. First, this study is limited to articles published in Indonesian and English, which may potentially exclude relevant studies in other languages. Second, the effects of SSBM can vary among individuals; some respond well while others may not experience significant benefits. Third, in cases of severe chronic pain, SSBM may not be effective enough as the sole intervention. Finally, although relatively easy, SSBM still requires the proper skills and techniques to provide optimal benefits.

5. CONCLUSION

Research on the application of Slow Stroke Back Massage (SSBM) intervention in chronic pain within nursing care for patients with hypertension can be conducted to explore its potential benefits and limitations. [25], [26]. With a better understanding of the effectiveness of SSBM and the factors that influence it, this intervention can be effectively integrated into nursing care to improve the quality of life of patients including;

5.1. In the assessment, complaints of headache were found, with a pain scale of 6 for Mrs. 'Y' and a pain scale of 7 for Mrs. 'T'. The patient appeared weak and restless.

5.2. Nursing Diagnosis

The diagnoses that appeared for Ms. 'Y' and Ms. 'T' are: Chronic pain related to physiological injury agents.

5.3. Intervention

In nursing interventions regarding actions to be taken based on the emerging diagnosis of chronic pain related to physiological injury agents, the interventions include: identifying the location, characteristics, duration, frequency, quality, and intensity of pain, identifying the pain scale, facilitating rest and sleep, providing non-pharmacological techniques to reduce pain such as slow stroke back massage (SSBM), and collaborating in the administration of analgesics.

5.4. Nursing Implementation

In the stage of implementing nursing actions, the expected outcome is the achievement of the action goals which can be carried out by monitoring vital signs, identifying the location, duration, and intensity of pain, assessing the pain scale, facilitating rest and sleep, providing non-pharmacological techniques to reduce pain such as the slow stroke back massage (SSBM) technique, and collaborating in the administration of analgesics namely: Amlodipine 1 x 5 mg orally, KSR 2 x 1 mg orally, Aspilets 1 x 5 mg orally, Bisoprolol 1 x 2.5 mg orally.

5.5. Nursing Evaluation

After three days of nursing care for Mrs. Y and Mrs. I, the patients have shown improvement and demonstrated progressive changes. In the diagnosis of chronic pain, after undergoing slow stroke back

massage therapy for three days, the patients experienced a decrease in pain scale, reduced moaning complaints, decreased restlessness, and improved ability to complete activities.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

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