

Providing Intervention *Slow Stroke Back Massage* to Reduce Headaches in Hypertension Patients

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Abstrac

Background: Hypertension is a disease with a high prevalence. Hypertension often occurs in people aged 40 – 69 years, characterized by an increase in blood pressure that exceeds 140/90mmHg. The elderly are the age most likely to experience hypertension because at this age the blood vessels will experience hardening, this will cause the heart to clot blood more strongly which ultimately results in hypertension in the elderly. Objective: Implementing the Slow Stroke Back Massage intervention to reduce hypertension pain in the elderly Method: Using experimental methods, interviews and physical examination, Results: This case description shows that after the slow stroke back massage technique intervention was carried out the level of headache in the patient's hypertension decreases. Conclusion: Based on the results of the case evaluation obtained in patients who were given Slow Stroke Back Massage therapy to the elderly Mrs. M has been implemented and proven to be effective in treating the problem of back headaches with hypertension).

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1. INTRODUCTION

Hypertension, often known as high blood pressure, is one of the main health problems in the world and often causes death. Hypertension often occurs in sufferers aged 40 – 69 years (Dwi Lestari Mukti Palupi, 2021). Hypertension is referred to as the *silent killer* because there are often no complaints, so sufferers do not know that they have hypertension and can only be detected after showing signs and symptoms of complications. Complications caused by hypertension can cause organ damage, where this damage depends on the magnitude of the increase in blood pressure and the duration of the state of undetected or untreated high blood pressure (Ministry of Health of the Republic of Indonesia, 2019).

The elderly are the age most likely to experience hypertension because at this age the blood vessels will experience hardening (stiffness) as a person ages. This will cause the heart to pump blood more strongly, ultimately resulting in hypertension in the elderly (Fadila, 2020).

The prevalence of hypertension in the world according to (WHO, 2018) is 26.4% or 972 million people affected by hypertension and it is estimated that 9.4 million people die every year as a result of hypertension complications. Based on the results of basic health research (Riskasdas, 2018) the prevalence of hypertension in East Java reaches 36.3%, the estimated number of sufferers is around 11,596,351 people. With this increase in hypertension, it is necessary to improve and increase healthy lifestyles so that it can emphasize reducing cases of hypertension. The symptoms of hypertension can cause headaches in the morning, nosebleeds, irregular heartbeat, decreased vision function and can cause ringing in the ears. More severe symptoms that sufferers may experience are fatigue, nausea, vomiting, feeling confused, experiencing anxiety, chest pain and even muscle tremors. If left untreated, these symptoms can cause ongoing pain (WHO, 2019). In people with hypertension, symptoms of headache usually appear accompanied by a feeling of heaviness in the nape of the neck. Headaches are caused by an increase in blood

pressure resulting in a decrease in oxygen to the brain which results in anaerobic metabolism and produces lactic acid and ultimately stimulates pain stimuli (Ngurah, 2020).

Hypertension is the main risk factor for stroke because hypertension can cause narrowing of blood vessels and rupture of blood vessels in the brain. This happens because hypertension causes thickening of the blood vessel walls which can block and damage the blood vessels which can then burst. Rupture of blood vessels in the brain will cause bleeding, which will then cause increased intracranial pressure, while narrowing of the blood vessels in the brain will cause death (Ningsih & Melinda, 2019).

In general, headache management consists of 2 categories, namely pharmacological and non-pharmacological. A pharmacological approach can be carried out using analgesic therapy, which is the most common method. However, this therapy will have side effects. Meanwhile, non-pharmacological approaches to reducing headaches can be treated using deep breathing therapy, providing a comfortable position, cold and hot compresses, massage, transcutaneous electrical nerve stimulation (TENS) and warm baths. is a simple step of stimulation in an effort to reduce pain (Siauta et al., 2020). The role of a nurse is very necessary to prevent complications in hypertension sufferers, one of which is using non-pharmacological therapy. Some massage therapy techniques that can be used are neck massage, head massage, and slow stroke back massage therapy (Afrilia et al., 2017).

Massage is a non-pharmacological therapy that is very effective in reducing systolic and diastolic blood pressure in hypertensive patients. Massage is a healing technique that is defined as direct touch with the sufferer's body to provide a relaxing effect through the body's mechanoreceptors which regulate warmth, pressure and touch into a relaxation mechanism, apart from that a relationship of mutual trust can occur between the patient and the nurse (Kusumoningtyas & Ratnawati, 2018). In research (Trisnadewi et al., 2018) the results showed that applying slow stroke back massage could reduce blood pressure, heart frequency and body temperature. The benefit of using the slow stroke back massage technique is that the patient can feel more comfortable, reduces tension which can reduce pain tolerance and can reduce anxiety.

Research conducted by (Istyawati et al., 2020) stated that there was an effect of giving SSBM on reducing the pain scale in hypertensive patients with the results of a study of 18 respondents, which obtained a mean result of 5.83 for measuring the pain scale before being given SSBM, and after being given the SSBM technique. showed a decrease in the mean value of 4.78, this shows that there was a decrease in the mean value of 1.056 after giving SSBM, which means there was a decrease in the pain scale level by 1 scale reported by the patient after giving SSBM. This is in line with research conducted by (Surya & Yusri, 2022) After administering non-pharmacological back massage therapy (slow stroke back massage) it was effective in reducing headaches in hypertensive patients with the results obtained that the average headache scale for hypertensive patients before being given the SSBM intervention was 5.48 and the average headache scale for hypertensive patients after being given the SSBM intervention. was 2.24, some respondents experienced a decrease in the pain scale from severe and moderate pain to mild pain. Based on the description above, the author is interested in providing professional nursing care to patients as well as compiling a Final Scientific Work with the title "Application of Slow Stroke Back Massage Intervention to reduce Hypertension Pain in the Elderly".

2. RESEARCH METHOD

This research uses a descriptive approach. Namely analyzing the implementation of the intervention *Slow Stroke Back Massage* in nursing care for headaches in cases of hypertension. This research method involves collecting comprehensive data about disease history, main complaints, and factors that contribute to hypertension. The design of this

scientific paper uses a case study, namely by examining a problem through a case consisting of a single unit. The unit involved in the case is analyzed in depth both from aspects related to the circumstances of the case itself or from other factors that influence the case.

This study involved one patient with hypertension who was 69 years old. The subject criteria in this scientific paper are as follows: The patient is hypertensive, with blood pressure 180/100 and pulse 104x/min, compos mentis consciousness, and the patient complains of a back headache. The implementation of this intervention was carried out every morning for 3 days on the date 19 December s/d 22 December 2023 with a delivery time of 15-20 minutes. The instrument used in this case study is the implementation of Standard Operating Procedures (SOP). *Slow Stroke Back Massage*.

3. RESEARCH RESULTS AND DISCUSSION

3.1. Research result

This research was carried out comprehensively through an approach process and explains the author's intention, namely to carry out nursing care for patients so that patients are open, understanding and cooperative, and then conclusions and problem solving can be drawn. Therefore, the author will compare the theory and application of the results of the implementation of nursing care in the case of hypertension, Mrs. M with the use of techniques of *Slow Stroke Back Massage* (SSBM) in patients with headache.

The intervention given to patients with acute pain is pain management using technical therapy *Slow Stroke Back Massage* (SSBM). Pain management is carried out to monitor pain levels in patients with acute pain. Acute pain is pain that occurs suddenly, generally related to physical injury and brief occurrences, for example trauma pain. Biologically, there are changes in heart rate, respiratory frequency, blood pressure, peripheral blood flow, muscle tension, sweat on the palms, and changes in pupil size (Oktawati et al., 2017). The expected goal after nursing action is carried out for 3 x 24 hours is that the pain level is expected to decrease with the following criteria: decreased complaints of pain, decreased grimaces, decreased protective attitude, decreased anxiety, decreased difficulty sleeping, and improved pulse frequency by providing technical therapy. *Slow Stroke Back Massage*.

Slow Stroke Back Massage is a therapy carried out with gentle massage on the skin which can have a physiological effect, especially on the vascular, muscular and nervous systems of the body and can provide relaxation to the muscles (Ratnawati, 2023). Technique to perform *Slow Stroke Back Massage* (SSBM) This is done using several approaches, one of which is to rub the patient's skin slowly and rhythmically with the hand, at a speed of 60 calipers a minute. Both hands cover an area 5 cm wide on both sides of the spinal column. Back massage with slow strokes (*Slow Stroke Back Massage*) in patients with terminal illness has been shown to reduce systolic and diastolic pressure (Potter & Perry, 2005).

Benefits of Therapy *Slow Stroke Back Massage* for patients, it reduces muscle tension, increases blood circulation, lowers blood pressure, increases relaxation and reduces stress. Blood pressure lowering effect of *SSBM* obtained through increasing vasodilation of blood vessels and can reduce headaches due to hypertension, so that further complications can be prevented. Meanwhile, according to (Healey, 2018) *Slow Stroke Back Massage* can affect the reduction of sympathetic nerve activity which causes vasodilation of blood and lymph vessels and increases the baroreceptor reflex response. This mechanism influences a decrease in heart rate and cardiac output which ultimately results in changes in blood pressure, namely a decrease in blood pressure through systemic vasodilation and a decrease in heart muscle contractility. Therapy

Slow Stroke Back Massage shows that this therapy is able to provide relaxation to elderly patients with hypertension thereby increasing sympathetic activity to release the neurotransmitter acetylcholine to inhibit sympathetic nerve activity in the heart muscle which manifests in a decrease in blood pressure (Retno, 2019).

The results of this research are supported by research conducted (Istyawati et al., 2020) with the results that there is an effect of giving *SSBM* on the headache scale for hypertensive patients with the average value of the respondent's headache range before administration *slow stroke back massage (SSBM)* of 5.83. 2) and after being given *slow stroke back massage (SSBM)* the average headache range of respondents fell to 4.78.

Other research results say therapy *slow stroke back massage* is effective in increasing relaxation in older adults in all environments (Harris & Richards, 2019). This research agrees with previous research regarding influence *slow stroke back massage (SSBM)* carried out (Priscilla & Afriyanti, 2017) where the results of the research obtained a difference in mean value of 1.67, in this study all 18 respondents experienced a decrease in the pain scale after being given *Slow Stroke Back Massage (SSBM)*. However, the reduction in the pain scale felt by each respondent is not the same, even when taking action *SSBM* using the same techniques and stimuli for each respondent.

According to (PPNI, 2017) the intervention carried out in hypertensive patients with a diagnosis of acute pain is identification of location, characteristics, duration, frequency, quality and intensity of pain. Identify the pain scale. Identify non-verbal pain responses. Identify factors that aggravate and relieve pain. Identify knowledge and beliefs about pain. Monitor the success of complementary therapies that have been given. Provide non-pharmacological techniques to reduce pain. Control environments that aggravate pain. Facilitate rest and sleep. Explain the causes, periods and triggers of pain, explain pain relief strategies. Encourage self-monitoring of pain. Teach non-pharmacological techniques to reduce pain. Collaborative administration of analgesics, if necessary.

Nursing actions that have been implemented in the diagnosis of acute pain related to physiological injuring agents are identifying the characteristics, duration, frequency, quality and intensity of pain, identifying the pain scale, and providing non-pharmacological techniques to reduce headaches. *Slow Stroke Back Massage (SSBM)* to reduce headaches, then measure the pain scale before and after the procedure *Slow Stroke Back Massage* and measure the patient's blood pressure. pathophysiological, this therapy also affects the contraction of the capillary walls, resulting in vasodilation of the capillary blood vessels, facilitating the flow of oxygen in the blood, smoother metabolic disposal which can stimulate endorphin hormones so as to provide a feeling of comfort, stimulate sensory nerve receptors leading to the central nervous system and convey them to the hypothalamus. , from the hypothalamus, through the descending nerves, endorphin hormones are released, causing a feeling of relaxation. When a person's heart feels calm, the body will feel relaxed, thus, relaxation will make a person's condition relaxed and calm. In the autoregulation mechanism, relaxation can stimulate endorphin hormones which can reduce blood pressure by reducing heart rate (Wibowo, 2020). Apart from that, therapy *Slow Stroke Back Massage* It can also cause the release of endorphins in the brain's hypothalamus. Endorphin chemicals have a calming effect that causes blood vessels to dilate, lowering blood pressure. In addition, dopamine is produced more actively due to endorphin stimulation, which results in an increase in sympathetic nerves. People with hypertension see touch as a cue for the relaxation response, which reduces headaches (Surya & Yusri, 2022).

The action taken by the author for the patient is action *slow stroke back massage* (SBBM). SBBM is a therapy carried out with gentle massage on the skin which can have a physiological effect, especially on the vascular, muscular and nervous systems of the body and can provide relaxation to the muscles (Ratnawati, 2023), which aims to reduce headaches in patients. In the implementation of therapy, the author did not find any obstacles, because the patient was conscious and good at carrying out the procedures. Action *slow stroke back massage* (SSBM) is implemented for 3 x 24 hours and is carried out every morning at 08.00 WIB. Action *slow stroke back massage* (SSBM) is carried out for approximately 15 minutes. For implementation on the first day before action is taken *slow stroke back massage* (SSBM) was carried out first by measuring the pain scale and obtained a pain scale of 5 in Mrs. M with blood pressure 180/100 mmHg. Then take action *slow stroke back massage* (SSBM) every morning until the 3rd day.

Furthermore, on the 3rd day of implementation in the morning after the action was carried out *slow stroke back massage* (SSBM) the pain scale was measured again on Mrs. M and the pain scale measurement results were obtained, namely 0 with blood pressure of 130/80 mmHg. After the action is carried out, it is concluded that the action *slow stroke back massage* (SSBM) was proven to be effective in reducing headaches in Mrs. M whose results are in accordance with the research journal conducted by Hidayat & Kurnia (2023) where technique *slow stroke back massage* (SSBM) can reduce headaches in hypertensive patients (Mahfuzah et al., 2023).

In the opinion of researchers, technique *slow stroke back massage* (SSBM) can reduce high blood pressure and acute pain in patients. The intervention given to Mrs. M with hypertension is in accordance with the theory, namely providing techniques for *slow stroke back massage* (SSBM) every day for 5-10 minutes. This therapy is also quite effective and easy to use to reduce pain in hypertensive patients because the steps are easy to apply and can be done independently if high blood pressure appears again.

3.2. Discussion

From the evaluation that has been carried out for 3 days, it can be concluded that the acute pain nursing problem (D.0077) has been resolved, which is indicated by the patient saying there is no pain anymore and the patient is no longer seen grimacing. After being given non-pharmacological techniques the patient's blood pressure on the 3rd day had decreased with compos mentis awareness, GCS 4.5.6, blood pressure 130/80 mmHg, respiration 20x/min, pulse: 86x/min.

The evaluation results were obtained before non-pharmacological therapy was carried out using techniques *Slow Stroke Back Massage* Mrs. M felt pain in the back of the head with a pain scale of 5 and obtained a blood pressure value of 180/100 mmHg. Then after therapy, a *slow stroke back massage* on the 3rd day Mrs. M said there was no pain anymore and the blood pressure measurement results were 130/80 mmHg. From these results, the average blood pressure for Mrs. M has decreased. So, it can be concluded that there is a significant difference in pain and blood pressure before and after being given non-pharmacological intervention with techniques of *slow stroke back massage* Pada Ny. M.

The criteria for the results to be achieved in acute pain are decreased pain complaints, decreased grimaces, decreased protective attitudes, decreased anxiety, decreased difficulty sleeping and improved pulse frequency (PPNI, 2018).

According to research conducted by (Mahfuzah et al., 2023) shows that there is an influence of technique *slow stroke back massage* (SSBM) on reducing headaches and

blood pressure in the elderly, with an average reduction in headaches of 2.34 and systolic pressure of 30.84 and diastolic pressure of 12.5.

The results of this study are supported by research conducted (Istyawati et al., 2020) with the results that there was an effect of giving SSBM on the headache scale of hypertensive patients with the average value of the respondents' headache range before giving it. *slow stroke back massage* (SSBM) of 5.83. 2) and after being given *slow stroke back massage* (SSBM) the average headache range of respondents fell to 4.78.

The results of this research are in line with the results of research conducted by (Takhani & Riniasih, 2022) which shows that after being given intervention *Slow Stroke Back Massage* Within approximately 10 minutes Mr. R experienced a decrease of 1 scale, and there was also a decrease in Mr.'s blood pressure. R.

Other research is in line with the results of implementing the intervention *Slow Stroke Back Massage* influence was found *slow stroke back massage* in dealing with headaches and blood pressure in the elderly, from this research it is hoped that nurses and the elderly can deal with hypertension independently by applying therapy *slow stroke back massage* (Kusumoningtyas & Ratnawati, 2018).

In the opinion of researchers, increased blood pressure has an impact on the pain felt. Thus, providing intervention *Slow Stroke Back Massage* can be an integrated service for hypertension patients because after intervention *Slow Stroke Back Massage* Changes were obtained before and after therapy.

4. CONCLUSION

Based on the research results and discussions presented in the previous chapters regarding "Providing Interventions *Slow Stroke Back Massage* to Reduce Headaches in Hypertension Patients", researchers can draw conclusions including the following:

1. Headaches in the elderly before intervention is given *Slow Stroke Back Massage* Based on the results of the assessment, the patient complained of pain in the head since yesterday afternoon, the pain was felt to disappear and appear, headache in the back to the nape of the neck, the pain scale was 5. On examination of vital signs, Blood Pressure was found: 180/100mmHg, Pulse: 104x/minute. Researchers raised the nursing diagnosis of Acute Pain related to a physical injuring agent characterized by major signs of grimacing, difficulty sleeping and restlessness while minor signs of increased blood pressure (D.0077). Nursing planning for acute pain by providing interventions *Slow Stroke Back Massage* carried out for 3 x 24 hours.
2. Headache in the Elderly After Intervention *Slow Stroke Back Massage* quite significant results were obtained, proven by the data of Mrs. M said there was no pain anymore and Mrs. M is normal, namely 130/80 mmHg.
3. Evaluation results were obtained before non-pharmacological therapy was carried out using techniques of *slow stroke back massage* Mrs. M felt pain in the back of the head with a pain scale of 5 and obtained a blood pressure value of 180/100 mmHg. After therapy, a *slow stroke back massage* on the 3rd day Mrs. M said that he no longer had pain, and the blood pressure measurement results were 130/80 mmHg.

So, it can be concluded that there are quite significant changes in headaches and blood pressure before and after being given non-pharmacological intervention using techniques *Slow Stroke Back Massage* to Mrs. M, which means *Slow Stroke Back Massage* can be used as a fairly effective service to reduce headaches in hypertensive patients.

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