

THE EFFECTIVENESS OF SLOW STROKE BACK MASSAGE (SSBM) THERAPY AS A NURSING INTERVENTION TO REDUCE HYPERTENSION IN POSTPARTUM MOTHERS: CASE REPORT

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ABSTRACT

Background: The postpartum period begins after the placenta is delivered and ends when the reproductive organs return to their pre-pregnancy state. One of the most common causes of postpartum maternal mortality is hypertension. Hypertension is a cardiovascular disease that often occurs in the community. This disease is one of the risk factors for other diseases such as kidney failure, diabetes, heart disease, and stroke. Thus, interventions are needed to reduce hypertension in postpartum mothers. A non-pharmacological technique that can be an intervention is Slow Stroke Back Massage, a form of gentle massage manipulation on the tissue that aims to produce a relaxing effect on physiological functions, especially on the body's vascular, muscular, and nervous systems. **Objective:** To determine the application of nursing care to Mrs.S through the intervention of Slow Stroke Back Massage to reduce blood pressure in postpartum mothers in Sungai Rantas Hambuku Village, West Martapura District. **Metode:** The method used in the research was a case study research plan on Mrs. S, which used the Slow Stroke Back Massage therapy hypertension protocol to reduce blood pressure. Bleeding care for Mrs. S is carried out for 7 days, once daily for 15-20 minutes, using the standard operational procedure Slow Stroke Back Massage. **Results and Discussion:** The results of the assessment carried out have established the main nursing diagnosis of ineffective peripheral perfusion risk with the intervention of providing Slow Stroke Back Massage therapy for 7 days, a decrease in systolic blood pressure by 33 mmHg and diastolic pressure by 12 mmHg. **Conclusion:** The Slow Stroke Back Massage method effectively reduces blood pressure in postpartum mothers with hypertension.

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INTRODUCTION

The postpartum period is a critical period that requires the support of health workers because continuous monitoring is needed to prevent complications and problems that can lead to death (Febriani and Oktaviani, 2020). According to the Indonesian Ministry of Health (2017), the rate of handling complications of postpartum mothers is 73%. One of the causes of these complications is high blood pressure (hypertension) in mothers after childbirth. Postpartum maternal hypertension causes 27% of maternal deaths each year. According to the Indonesian Ministry of Health (2024), the maternal mortality rate (MMR) in 2020 will be approximately 189 per 100,000 live births, according to the Maternal Perinatal Death Notification (MPDN). The MMR will reach 4,005 in 2022 and increase to 4,129 in 2023.

MMR is calculated from pregnant, intrapartum, and postpartum deaths. One of the most common causes of maternal mortality is high blood pressure. According to the South Kalimantan Provincial Health Office, the maternal mortality rate (MMR) in 2022 reached 136 deaths per 100,000 live births, which is around 1,972 deaths. This figure has decreased from the previous year, 2020, to around 2,053 people, but the figure is still high. Based on the MMR of districts/cities in South Kalimantan Province in 2022, Tapin Regency has the highest MMR compared to other districts/cities, with 303 people, followed by Banjar Regency, with 199 people. The high maternal mortality rate (MMR) in South Kalimantan Province was caused by bleeding by 36 people and hypertension by 34 people (Dinkes Prov. Kalsel, 2022, 2023).

Hypertension is a condition where blood pressure is abnormally elevated (Singh, Shankar, and Singh, 2017). Hypertension is a condition where the systolic blood pressure in a person's body is more than or equal to 140 mmHg, and diastolic blood pressure is more than 90 mmHg. Hypertension or high blood pressure is referred to as a "*silent killer*" or hidden killer because people with hypertension often do not feel any symptoms (P2PTM Kemenkes RI, 2016). Hypertension is one of the most common cardiovascular diseases in the community (Kemenkes RI, 2019). World Health Organization (WHO, 2022) states that an estimated 1.28 billion adults aged 30-79 years worldwide suffer from hypertension. The risk factors that cause many deaths and disability in Indonesia based on the three highest risk factors are high blood pressure, tobacco, and dietary risk (IHME, 2019). The prevalence of hypertension in South Kalimantan in the population over 18 years is 44.1%; South Kalimantan is ranked first and has a prevalence higher than the national figure of 34.1% (Kemenkes RI, 2018b). Based on the number of people with hypertension aged ≥ 15 years in South Kalimantan Province amounted to 34,061 patients (Dinkes Prov. Kalsel, 2021).

Based on data obtained from the Martapura Barat Health Center in 2024. The health problem that ranks first is hypertension. Based on interviews and observations during the KKLb stage, an assessment was carried out on all residents of Sungai Rangas Hambuku village. There were 5 pregnant women and 1 postpartum mother. The results obtained were 1 postpartum mother who experienced hypertension. When a blood pressure check was carried out during the assessment, the client's blood pressure was 190/115 mmHg, with complaints of dizziness and insomnia. The client and her husband expressed a desire to learn more about hypertension and nursing care independently, which can be applied easily at home. By providing an intervention in the form of Slow Stroke Back Massage for hypertensive patients, is hoped that it will reduce the high blood pressure rate in Mrs. S within one week. Non-pharmacological therapy is an option because it is cheaper and more effective than pharmacological therapy. In contrast, pharmacological therapy can cause side effects such as dizziness, hypotension, respiratory

distress, and disease recurrence after drug withdrawal. One form of non-pharmacological therapy is complementary therapy. Complementary therapy is an additional therapy that supports conventional therapy. Complementary therapy is divided into 5: herbs, mind-body techniques (meditation), massage, magnetic field therapy, and ancient medical systems (Wijaya *et al.*, 2022). The non-pharmacological treatment that people with hypertension often choose is massage. In research, Febriani and Oktaviani (2020) revealed that slow stroke back massage therapy lowers blood pressure in postpartum mothers.

Unlike the usual massage, this massage uses a technique characterized by an elongated massage, slow, gliding movements, and stroking movements using two hands simultaneously and repeatedly from the sacral region to the cervical region of the spine. A slow-stroke back massage is very beneficial for lowering blood pressure and improving fitness. Slow Stroke Back Massage is a manipulation therapy with a gentle massage on the tissue to affect the body's physiological, especially vascular, muscular, and nervous systems (Ningrum and Widyastuti, 2022). Slow Stroke Back Massage lasts 3-10 minutes (Samosir and Triyulianti, 2021). The blood pressure-lowering effect of Slow Stroke Back Massage is obtained through increased vasodilation of blood vessels. It can reduce head pain due to hypertension so that further complications can be prevented (Marhamah and Rahani, 2023). One of the benefits of slow-stroke back massage is that it can be carried out at home, so patients or families can do it. Slow Stroke Back Massage treatment, so far from many studies, has no side effects, is a safe therapy for people with hypertension, and is recommended by several researchers as a therapy to reduce blood pressure. Based on the phenomenon of the problems that have been described in the paragraphs above, the researchers are interested in conducting nursing care research on Mrs.S through the intervention of slow stroke back massage to reduce postpartum blood pressure in Sungai Rangas Hambuku Village, West Martapura District.

METHODS

This research method uses a case study approach to apply maternity nursing care.

Located in Sungai Rangas Hambuku Village, West Martapura District, Banjar Regency, South Kalimantan Province. The research subject is one client, namely the third-week postpartum mother, who has a diagnosis of hypertension with the nursing problem of ineffective peripheral perfusion risk. Data collection with nursing assessment sheets will be done by conducting observations, interviews, and physical examinations. Followed by data analysis, diagnosis determination, intervention

RESULTS AND DISCUSSION

Table 1.1 Blood Pressure Measurement Results from Pre-test and Post-test Slow Stroke Back Massage Therapy

No	Day/Date	Blood pressure before intervention	Blood pressure after intervention
1.	Monday, May 06, 2024	190 / 115 mmHg	190 / 100 mmHg
2.	Tuesday, May 07, 2024	189 / 116 mmHg	182 / 98 mmHg
3.	Wednesday, May 08, 2024	181 / 112 mmHg	165 / 107 mmHg
4.	Thursday, May 09, 2024	185 / 100 mmHg	165 / 97 mmHg
5.	Friday, May 10, 2024	165 / 115 mmHg	164 / 98 mmHg
6.	Saturday, May 11, 2024	163 / 105 mmHg	159 / 106 mmHg
7.	Sunday, May 12, 2024	163 / 113 mmHg	157 / 97 mmHg

Hypertension can occur in postpartum mothers, where the mother is undergoing a critical period that requires assistance from health workers because this period requires continuous monitoring so that complications and problems that result in death do not occur. The postpartum period is also a transition period for mothers, babies, and their families physiologically, emotionally, and socially (Febiani and Oktaviani, 2019). According to the Indonesian Ministry of Health (2017), the handling of complications in postpartum mothers is 73%. One of the causes of these complications is hypertension in postpartum mothers. Hypertension in postpartum mothers causes maternal mortality of 27% per year. Based on interviews, observations, and disc examinations during the KKLBB stage, an assessment was carried out on all residents of Sungai Rangas Hambuku village, and there were 5 pregnant women and 1 postpartum mother. The results obtained were 1 postpartum mother who had hypertension.

The assessment was conducted on April 23, 2024, at 11.00 WITA at the client's house,

planning, implementation, and evaluation of results. Interventions given to clients using the application of Slow Stroke Back Massage therapy with massage techniques in the form of alternating hands, squeezing, friction, filtration, petriation, and brushing pressure carried out for 15-20 minutes 1x a day following standard operating procedures Slow Stroke Back Massage. Nursing care for Mrs. S was carried out from May 06-12, 2024.

Mrs. S, a 38-year-old postpartum mother (P5A3). Her blood pressure was 190/119 mmHg. High blood pressure can persist in a person's body for years, and without realizing the disease can damage vital organs. Therefore, hypertension must be treated immediately to avoid complications of other diseases such as stroke, heart disease, kidney disease, retinopathy, and even high blood pressure in postpartum mothers, which can cause death (Febiani and Oktaviani, 2019). In addition, psychological impacts such as stress, anxiety, depression, fear, and anxiety can also occur due to symptoms that cannot be cured quickly (Candra et al., 2017).

Based on the assessment of Mrs. S, it was found that the client suffered from high blood pressure for 10 years. Factors causing hypertension in Mrs. S are heredity, problematic sleep patterns, fatigue, unhealthy lifestyles (rarely exercise), and liking to eat salty foods such as fermented fish. These results are supported by several sources which state that the factors that cause hypertension include an unhealthy lifestyle, poor sleep patterns, fatigue,

eating foods that are high in salt intake, and hormonal changes. In postpartum mothers, sleep disorders can occur. Sleep disorders can cause problems with sleep patterns, such as being unable to sleep, waking up frequently at night, or not being able to sleep again after waking up. This sleep disturbance can be caused by several factors, including pain due to perineal sutures, bladder discomfort, and restless / crying babies (Pacitasari et al., 2023).

Decreased sleep quality can cause changes in the hormone cortisol and changes in the autonomic nervous system with decreased sympathetic or parasympathetic activation, causing an increase in blood pressure (Nugroho et al., 2019). Physiological, psychological, and situational factors cause postpartum fatigue. Fatigue is caused by high levels of lactic acid in the body. Lactic acid is the end product formed from pyruvate during anaerobic glycolysis. The accumulation of lactic acid inhibits glycolysis and causes fatigue (Riana, Yanti, and Purwaningsih, 2022). Fatigue can cause high blood pressure because the work of the heart becomes more assertive, so the heart enlarges. When the heart cannot push blood to circulate throughout the body, some will accumulate in tissues such as the legs and lungs (Nisya and Susilawati, 2023). Hormonal changes can also affect the blood pressure of postpartum women; stress in postpartum women will produce the hormone adrenaline and release the hormone cortisol. The release of several hormones increases, causing blood vessels to narrow and making mothers susceptible to hypertension (Pusparini, Kurniawati, and Kurniyawan, 2021). Lifestyles such as lack of exercise and unhealthy diets, for example, high salt consumption or consumption of foods with high-fat content, are also directly related to the development of hypertension (Nugroho, Sanubari, and Rumondor, 2019).

Another excellent intervention offered to Mrs. S is a slow-stroke back massage, a massage on the back with slow movements to reduce high blood pressure. Slow stroke back massage therapy is a complementary therapy that can improve blood circulation, relieve muscle tension, relieve pain, and increase physical and psychological relaxation. Slow stroke back will increase relaxation by decreasing sympathetic nerve activity and increasing parasympathetic nerve activity, resulting in vasodilation of

arteriole diameter. This mechanism results in systemic vasodilation and decreased myocardial contractility, which causes a decrease in heart rate, cardiac output, and shock volume and ultimately causes changes in blood pressure, namely a decrease in blood pressure (Afifah Nurlathifah dkk, 2022).

The slow stroke back massage intervention was provided to Mrs. S on May 06-12, 2024, and carried out routinely for 7 days. Before performing a slow stroke back massage, the researcher took blood pressure measurements on Mrs. S and 5 minutes after giving therapy.

Analysis Intervention of Slow Stroke Back Massage as a Complementary Therapy for Hypertension

After giving Slow Stroke Back Massage therapy, which is done regularly once a day for 7 days with a duration of 15-20 minutes, there is a decrease in blood pressure. The decrease in blood pressure was seen on the second day of therapy, where the systole value decreased by 8 mmHg and diastole decreased by 17 mmHg. A significant decrease in blood pressure began on the third day after the intervention, where the systole value decreased by 25 mmHg and diastole by 8 mmHg.

On the fourth day, there was a significant spike in blood pressure of 185/100 mmHg and 165/107 mmHg on the third day. Based on the researcher's evaluation, this can occur due to lack of sleep. On the fourth day, the patient said that last night, she could not sleep well because the baby was awake for a long time. This aligns with the theory that poor sleep quality can change the hormone cortisol and changes in the autonomic nervous system with increased sympathetic or decreased parasympathetic activation, resulting in increased blood pressure (Nugroho, Sanubari, and Rumondor, 2019). Blood pressure is considered relatively stable from day five to seven of implementation. This is evidenced by the change in blood pressure reduction from the first day of administration to the last, with the client's blood pressure results from 190/115 mmHg to 157/97 mmHg. There was a decrease in systolic pressure by 33 mmHg and a decrease in diastolic pressure by 18 mmHg. These results align with research conducted by Erlin Febiani and Anisa Sevi Oktaviani, who provided Slow Stroke Back

Massage therapy performed for 20 minutes for 3 days and obtained the results of Slow Stroke Back Massage effective for reducing hypertension in postpartum mothers. This is indicated by a decrease in systole blood pressure of 5-10 mmHg in the three participants after providing care during three consecutive days of monitoring. (Febiani and Oktaviani, 2019). Although during the 3 days of implementation carried out to Mrs. S, the results of a significant decrease in blood pressure were obtained, the patient's blood pressure was still in the high category, so the researcher continued the intervention until the seventh day. The time of giving Slow Stroke Back Massage intervention for 7 days is also in line with Afifah Nurlathifah's research, the results of which show that the provision of slow stroke back massage given for 1 week has proven to be effective in overcoming hypertension (Afifah Nurlathifah *et al.*, 2022).

CONCLUSION

From the results of the above research, implementation was carried out on Mrs. S, namely slow stroke back massage, which was carried out for 7 days on May 06-12, 2024, and carried out for 15-20 minutes. Obtained the final results of the slow stroke back massage therapy meeting Mrs. S said she was happy every time the nurse came to visit to provide therapy, she felt more comfortable and would do slow stroke back massage therapy by the patient's husband, Mrs. S's blood pressure on slow stroke back massage from day 1 on the results before intervention was 190/115 mmHg and on day 7 after intervention was 157/97 mmHg.

The following indicates that slow stroke back massage therapy effectively lowers blood pressure. Slow Stroke Back Massage therapy is continuous, so educating and compiling with clients and families is necessary to continue the continuity of therapy. In nursing care, nurses are expected to involve the family as a support system for clients because support from family members can motivate clients to control their hypertension. Health services are also expected to introduce and promote slow stroke back

massage therapy to reduce blood pressure in postpartum mothers, live a healthy lifestyle, and take medication.

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