Research Article

NURSING INTERVENTION FOR MRS. S USING MASSAGE EFFLEURAGE TO REDUCE HYPERTENSION IN PREGNANCY

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ABSTRACT

Background: The increasing incidence of hypertension in pregnancy globally in the last 30 years, with a total increase of 10. 92% from 1990 to 2019 had also resulted in an increase in maternal mortality rates in indonesia and also south kalimantan. As many as 4 out of 15 pregnant women in Awang Bangkal Barat Village, Karang Intan district, experienced hypertension during pregnancy. This situation requires treatment so that the maternal mortality rate can be minimized. One of the treatments for hypertension in pregnancy was the efflurage massage method. **Objective:** To know the effect of giving efflurage massage therapy on reducing blood pressure to Mrs. S. **Methods:** This research was a case study to assess the differences before and after providing efflurage massage therapy to pregnant women with hypertension in pregnancy. Mrs. S was treated on both feet' soles for ten minutes within 7 days. **Results:** After efflurage massage therapy for 7 days, there was a decrease in blood pressure in Mrs. S with hypertension in pregnancy. A reduction in blood pressure could occur because efflurage massage could reduce tension in the blood vessels so that circulation becomes smooth, and ultimately, there is a decrease in blood pressure. **The conclusion:** Effleurage massage therapy was effective in reducing high blood pressure in pregnant women with hypertension during pregnancy.

Keywords: Massage, Effleurage, Hypertension, Pregnancy

INTRODUCTION

Hypertension in pregnancy (HDP) is hypertension that occurs in women after 20 weeks of gestation with a blood pressure of 140/90 mmHg or systolic pressure of 30 mmHg and a diastolic pressure of 15 mmHg above average values (Maslani et al., 2021). According to the National High Blood Pressure Education Program Working Group On High Blood Pressure In Pregnancy (NHBPEP), hypertension in pregnancy is classified into four categories: chronic hypertension, preeclampsia, eclampsia, and gestational hypertension (Maslani et al., 2021).

More than 27,000 mothers worldwide died due in 2019 (Wang et al., 2021). According to the Indonesian Ministry of Health's 2021 health profile data, HDP was included in the three leading causes of maternal death in Indonesia, amounting to 1,077 cases. Apart from that, according to data from the South Kalimantan Provincial Health Service in 2020, HDP was included in the three leading causes of maternal death, with a total of 27 cases. According to health profile data released by the Banjar District Health Service, maternal mortality tends to fluctuate every year. The most common AKI occurred in 2016, with a total of 11 cases consisting of bleeding (3 cases), hypertension (5 cases), and other causes (3 issues). The three leading causes of AKI in Banjar Regency every year were bleeding, hypertension, and other causes. Hypertension alone accounts for more than 50% of the total maternal mortality rate in Banjar Regency every year, and there has been no significant decrease in the number compared to the other two.

One of the villages in Karang Intan District, Banjar Regency, namely Awang Bangkal Barat Village, was known to have several pregnant women who experience HDP, where 4 out of 15 pregnant women share HDP. Awang Bangkal Barat Village was a wetland area crossed by the Riam Kanan reservoir. Health problems that commonly occur in wetland communities are obesity, diabetes, cancer, and heart and blood vessel diseases. Based on these characteristics, it was not surprising that there were many cases of hypertension in pregnancy because one of the factors causing HDK was pregnant women who had a previous history of hypertension.

Risk factors that could cause hypertension in pregnancy include age, parity, length of gestation, hyperplancentosis, low socioeconomic status, obesity, history of preeclampsia in previous pregnancies, type of pregnancy (single or multiple pregnancies), family history of hypertension (Prawirohardjo, 2016). Complications that could occur in the mother include preeclampsia, eclampsia, retinal detachment, subcapsular bleeding, heart failure, coagulation disorders (DIC), placental abruption, HELP syndrome (hemolysis, increased liver enzymes and decreased platelet count), shock and death and complications in the fetus in the form of preterm birth, birth induction, fetal growth disorders, respiratory stressed syndrome, fetal death (Inayah et al., 2021).

The importance of therapy aimed at lowering blood pressure in pregnant women to prevent complications. Treatment that could reduce high blood pressure in pregnant women could be done with pharmacological therapy by administering diuretics, beta-blockers, ACE inhibitors, ARBs, CCBs, alpha-blockers and alpha-2 receptor agonists, and non-pharmacological treatment. Non-pharmacological therapy, such as aerobic exercise, foot massage, progressive muscle relaxation and breathing-controlled techniques, autogenic exercise, and hydrotherapy, could also be therapeutic options (Hidayati et al., 2021).

Previous research shows that therapy that used effleurage massaged on the feet for pregnant women was one of the most effective massaged treatments for lowering or stabilizing blood pressure because rubbing on the soles of the feet had the effect of improving blood circulation, balancing energy flowing in the body and relaxing muscle tension and did not require extraordinary cost to did so (Ardiansyah et al., 2019). Effleurage massage therapy is a deep or shallow stroking movement carried out gently, stimulating endorphin hormones, which causes relaxation (Saribu and Pujiati, 2022). The peace resulting from effleurage massage relieved pressure on the arteries and veins, increasing blood flow and strengthening the heart rate. Still, the speed and anxiety were reduced so that the heart's workload was lighter and helped pregnant women's blood pressure become normal (Handayani, 2016).

Previous research conducted by Andansari and Ariyanti in 2022 proved that there was a decrease in blood pressure in pregnant women with average systole of 10 mmHg and diastole of 7 mmHg after being given effleurage massaged therapy and researched by Afni and Ristica in 2022 also proved that there was a decrease in blood pressure in pregnant women with an average reduction in systole of 6 mmHg and diastole of 5 mmHg after therapy.

Based on the above phenomenon, researchers were interested in conducting research titled " Nursing Intervention For Mrs. S Using Massage Efflurage To Reduce Hypertension In Pregnancy. "

METHODS

This research used a case study in providing nursing care, which aims to assess the differences before and after giving efflurage massage therapy to pregnant women with hypertension in pregnancy. Data collection was carried out for 7 days at 17. 00 with. This therapy was carried out on Mrs. S, 35 years old, G3P2A0, at 14 weeks' gestation. Mrs. S previously had a history of hypertension, and in her second pregnancy, she experienced preeclampsia. A few days ago, Mrs. S's blood pressure reached 170/100 mmHg, and when the blood pressure was measured on the first day, it was found to have been 152/85 mmHg, and no food restrictions were carried out either before or after pregnancy.

Previously, Mrs. S and her family were given health education. They first used booklets regarding diet changes for hypertensive patients and how to do effleurage massage so they could do it independently in the future.

The tools and materials used for effleurage massage were a digital blood pressure monitor to measure blood pressure before and after therapy and body lotion, which was used as a lubricant during the massage so that Mrs. S's skin was not irritated due to friction caused by the effleurage movement. Effleurage massage therapy was carried out by relaxing the mother's toes forward and backward, doing effleurage massage/ uninterrupted circular motions starting from the heel to the tips of the fingers. At each point, the effleurage massage was done approximately 15 times, so each foot took about 10 minutes.

RESULTS AND DISCUSSION

Based on the data found in Mrs. S, the nursing diagnosis that could have been made was ineffective peripheral tissue perfusion related to lack of oxygen supply to the tissue, with the intervention being effleurage massaged therapy. There was a diagnosis of readiness to increase health literacy b. d the desire to improve and understand health information and health behavior tends to be at risk related to choosing an unhealthy lifestyle with health education interventions with booklet media on how to do effleurage massaged so that you could do it independently in the future and changes in diet for hypertension patients.

Table 1. Blood Pressure Result

Dates	Before	After
17-11-23	152/85 mmHg	141/83 mmHg
18-11-23	147/92 mmHg	127/91 mmHg
19-11-23	130/83 mmHg	120/79 mmHg
20-11-23	139/92 mmHg	126/90 mmHg
21-11-23	136/97 mmHg	127/89 mmHg
22-11-23	131/78 mmHg	128/64 mmHg
21-11-23	131/87 mmHg	126/84 mmHg

Based on Table 1, it was known that the results of Mrs. S's blood pressure measurements showed a significant decrease in systole of 3 to 20 mmHg and diastole of 1 to 14 mmHg before and after therapy every day and a permanent and stable reduction in the first to the seventh day of effleurage massaged therapy.

On the third day, there was a significant decrease in blood pressure compared to the previous day. This was because Mrs. S did additional effleurage massage therapy before going to bed, so that on the second day Mrs. S did it twice, increasing the effectiveness of the blood pressure-lowering therapy.

In normal pregnancy, blood pressure did not rise quickly because the blood vessels were not sensitive to stimulation by vasopressor agents (refractory). On the other hand, in pregnancy hypertension, blood vessels become more susceptible to vasoconstrictor substances (loss of refractoriness), which causes vasoconstriction so that blood pressure increases more quickly.

Massage is a sensory integration technique that affects the function of the autonomic nervous system. A relaxation response occurs When a person perceives touch as a relaxation stimulus. Blood pressure was regulated by a series of autonomic nerves and hormones controlling blood flow, blood vessel diameter, and heart contractions. All of these factors were closely related to regulating intravascular blood pressure. The size of the blood vessels depends on the strength of heart contractions, the diameter of the blood vessels, and the amount of blood circulating. (Mawarti and Zaidah, 2019)

Based on previous research, the effleurage massage method on the feet for pregnant women was one of the most effective massage therapies for lowering or stabilizing blood pressure (Ardiansyah et al., 2019). Massaging the soles of the feet could increase blood circulation, balance energy flowing in the body, and relax tense muscles. The massaged movement chosen was the effleurage movement because the effleurage movement carried out in the leg area could shrink peripheral blood vessels and strengthen the heart rate. Still, the speed and pressure were also reduced. A smooth blood circulation system could reduce the heart's workload and help pregnant women's blood pressure become normal (Handayani, 2016).

This research and theory were also in line with the results of Andansari and Ariyanti's study in 2022 by carrying out massage therapy for 7 days for pregnant women. They found a reduction in blood pressure with an average systolic rate of 10 mmHg and a diastolic rate of 7 mmHg. As other research belonging to Afni and Ristica in 2022, giving pregnant women a massage for 30 minutes once also proved a decrease in blood pressure in pregnant women with an average reduction in systole of 6 mmHg and diastole of 5 mmHg. Therefore, based on the research results that had been carried out, it could be stated that effleurage massage therapy affected reducing blood pressure.

Treatment for hypertension in pregnancy was not only limited to effleurage massaged therapy but also requires pharmacological therapy as the primary therapy so that blood pressure reduction in pregnant women could be optimal. Apart from treatment using effleurage massages and medication, pregnant women with hypertension during pregnancy must also limit foods that contain high sodium to prevent high blood pressure.

Consuming too much sodium could increase antidiuretic hormone (ADH) production, which causes thirst. ADH was

produced in the hypothalamus (pituitary gland) and acted on the kidneys to regulate urine osmolarity and volume. When ADH increases, less urine is excreted from the body (antidiuretic effect), making the urine more concentrated and osmotic. The extracellular fluid volume increased by withdrawing fluid from the intracellular part to dilute it. As a result, blood volume and blood pressure increase (LeMone, 2016).

Mrs. S carried out health education to change her diet and limit foods that contain high sodium for 3 days after the diet change. This was accompanied by effleurage massage therapy, which was carried out at least once a day. Mrs. S's blood pressure experienced a significant decrease compared to the previous day and, on the following day, experienced a stable and permanent reduction.

A limitation of this study was that blood pressure measurements could not be carried out according to the best time to measure blood pressure in patients with hypertension. According to the Consensus On Hypertension Management in 2019, blood pressure should be measured in the morning and evening. Measurements were taken in the morning 1 hour after waking up, urinating, not having breakfast, but taking medication. Measurements at night were taken before going to bed. Students could not do this because the patient had limited time because he had to work and only had time to meet in the afternoon.

CONCLUSION

The conclusion that could be drawn from this research was that there was a difference before and after giving effleurage massage therapy in reducing Mrs. S's blood pressure. During 7 days, there was a decrease in systolic blood pressure of 3 to 20 mmHg and diastole of 1 to 14 mmHg, with the result that blood pressure at the first meeting was 151/85 mmHg and at the last meeting was 126/84 mmHg. Suggestions for future researchers were that they hoped to have been able to carry out effleurage massage therapy and blood pressure measurements at the ideal time, namely before going to bed. It could be done during any sleep, one of which was before taking a nap so that the benefits of the therapy provided were maximized.

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