

Research Article

Pain Management and Oxytocin Massage in Post-Cesarean Section Patients with Preeclampsia: A Case Report

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Pregnant women with preeclampsia are advised to opt for a cesarean section. Cesarean section is a method of labor that in which the fetus is delivered through a place in front of the abdomen and uterine wall, provided that it is intact and the weight of the fetus is above 500 grams. This study aimed to find out how women with preeclampsia could manage pain and the effect of oxytocin massages. This paper is a case study on a 31-year-old female patient diagnosed with preeclampsia at Muhammadiyah Hospital Lamongan. After performing the Benson relaxation technique (in which the patient took deep breaths by silently saying the selected words (dhikr) for 10-15 minutes) showed that the pain in the abdomen was reduced to a scale of level 3 pain. After performing oxytocin massages the patient said the base started to come out and she can position the baby correctly while breastfeeding. Implementation of the relaxation technique and the oxytocin massage was in accordance with the existing data on the planning, namely pain management and oxytocin massage. The results of the evaluation showed that there was a decrease in pain and breast milk came out.

Keywords: Pain management, Oxytocin massage, Sectio caesarea, PreeclampsiaCorresponding Author: Henny
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Knowledge E

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Selection and Peer-review under
the responsibility of the HSIC
Conference Committee.

1. INTRODUCTION

Labor is a physiological physiological to give birth to a baby. Sectio caesarea is an act of removing the baby through the abdominal wall and uterus to save the mother and baby for several medical indications such as fetal distress, prolonged labor, placenta previa, mal percentage of the fetus or transverse position, narrow pelvis, umbilical cord prolapse and preeclampsia. Cases of delivery by sectio caesarea are increasingly being carried out and the success is higher (1). Factors related to the occurrence of delivery by cesarean section with medical indications are divided into medical indications for the mother and medical indications for the fetus. Indications for cesarean delivery in

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mothers include: pregnancy in elderly mothers, preeclampsia and eclampsia. Indications for health by sectio caesarea in the fetus include the fetus (gemelli pregnancy), large fetal size, fetal distress, fetal position abnormalities, placenta previa, and fetal malpresentation (2). Preeclampsia is one of the indications for Sectio Caesarea. Sectio Caesarea is a delivery made in which the fetus is born through one side of the abdominal wall and uterine wall with the condition that the uterus is intact and the fetal weight is above 500 grams. Preeclampsia is hypertension at 20 weeks gestation or after delivery with a blood pressure of 140/90 mmHg which takes measurements 2 times 4 hours apart accompanied by proteinuria of 300 mg protein in the urine for 24 hours. Preeclampsia can begin in the antenatal, intrapartum, or postpartum period. Preeclampsia is divided into mild preeclampsia and severe preeclampsia. Preeclampsia is included in the triad of death, which is in addition to bleeding and infection. But to detect preeclampsia, it can be seen from the clinical picture, starting with weight gain followed by foot or hand edema, increased blood pressure, and proteinuria (3).

Preeclampsia is initially a mild disease during pregnancy, but at the end of pregnancy there is a risk of seizures known as eclampsia. If eclampsia is not treated quickly and appropriately, heart failure, kidney failure and brain hemorrhage will occur which ends in death **(4)**.

In developing countries, cesarean section is the last option to save the mother and fetus during critical pregnancies and deliveries. One of the indications for cesarean delivery is preeclampsia/eclampsia, namely 95 mothers out of 449 mothers or 21.16% and most CS deliveries are in the primigravida group because primigravida are at risk of preeclampsia. Patients with preeclampsia/eclampsia often undergo CS who decide independently, without adequate treatment and without prior planning. This causes the maternal (mother) and neonate mortality (death) rate in sectio caesarea to be high. The maternal mortality rate due to SC that occurs is 15.6% of 1,000 mothers **(5)**.

About 800 women die every day due to pregnancy and childbirth. Almost all maternal deaths (99%) occur in developing countries, the main complications that are important 80% of all maternal deaths are severe bleeding after birth, infection, preeclampsia, eclampsia, and abortion. In developing countries, a woman is seven times more likely to develop preeclampsia than a woman in developed countries. Preeclampsia is diagnosed in developing countries (3 – 5%) and in the world it is diagnosed (7.5%). According to WHO in Indonesia, in 2010 hypertension in pregnant women was 21.5%, in 2011 hypertension in pregnant women was 24.7%, in 2012 there was 26.9% while in 2013 it was 27.1%.¹¹ In these data, from 2010 to 2013 there was an increase in the incidence of hypertension in pregnancy, this indicates an increasing incidence of preeclampsia**(6)**.

The problem of preeclampsia not only affects the mother during pregnancy and during childbirth, but can also cause complications or serious postnatal problems caused by endothelial dysfunction in various organs. The main impact on the fetus is reduced nutritional intake resulting from insufficient uterine blood flow to the placenta where this will endanger the growth delay of the baby in the womb, premature birth, and stillbirth. Severe preeclampsia can also increase the risk of long-term problems in babies that are associated with premature birth such as learning disorders, deafness, epilepsy, cerebral palsy, and blindness **(7)**.

According to Wulandari et al., (2021) **(8)** showed that the risk factors for severe preeclampsia (PEB) include various factors, such as primigravida, hydatidiform mole, maternal age (<20 years or >35 years), parity, frequency of ANC, multiple pregnancies, history of hypertension before pregnancy, kidney disease, gestational diabetes, obesity, excess weight gain during pregnancy, family history of preeclampsia.

Mrs. M (31 years) is one of the mothers who gave birth by sectio caesarea method. This is because during pregnancy until before the birth process blood pressure increases. In this case, the role of the maternity nurse is very much needed for patients with post SC conditions.

Sectio caesarea surgery causes pain and results in the disruption of tissue continuity. Pain that occurs after the SC procedure occurs as a result of the presence of tissue that results in interrupted tissue continuity and nerve stimulation by chemicals released during surgery or the occurrence of tissue ischemia due to disruption of blood flow to one part of the tissue. Pain experienced can cause various problems, one of which can affect lactation problems. Pain is accompanied by activity of the sympathetic nervous system which will show symptoms such as increased blood pressure, increased respiration, increased heart rate, diaphoresis and pupillary dilation. Clients who experience acute pain will execute responses and behaviors such as crying, moaning, crying, face or facial clients **(9)**.

The nurse's first role is as an educator. Nurses must provide education to patients related to postoperative pain management so that patients are able to carry out activities without worrying if they feel pain. The second role of nurses is care giver. The nurse will care for the patient and meet the basic needs in the recovery and healing of the patient. In addition, nurses will also assist patients in dealing with problems that arise related to post-SC care **(10)**.

Giving breast milk after giving birth is an attempt to bring up breast milk. The milk that comes out in the first days postpartum is called colostrum. Colostrum is a watery liquid and is often yellow or can be clear, more like blood than milk, because living cells

can kill germs. Success in presenting a complex reaction between mechanical stimuli, nerves and hormonal stimuli, namely the hormones prolactin and oxytocin. The hormone prolactin affects the production of breast milk, while oxytocin affects the production of breast milk. The baby's sucking on the mother's nipple will generate the hormone oxytocin, besides that, hormone competition is influenced by receptors located in the ductal system. When the ducts widen or become soft, oxytocin is released reflector by the posterior pituitary which acts to squeeze milk from the alveoli. In addition, the hormone oxytocin can be stimulated through massage on the baby's mother's spine **(11)**.

Oxytocin massage is a spinal massage that starts from the spine to the fifth costae bone – including and is an attempt to increase prolactin and oxytocin hormones after childbirth, oxytocin massage is one solution to overcome the uneven production of breast milk. Massage on the spine will provide comfort to the mother, reduce swelling, reduce blockage of breast milk, increase the production of the hormone oxytocin, and maintain breast milk when both mother and baby are sick. Massage or stimulation of the spine will trigger the posterior pituitary to release the hormone oxytocin, which in turn stimulates contraction of myoepithelial cells to secrete milk. This massage will also provide a relaxing effect, relieve stress and release the hormone oxytocin and will help release breast milk. Failure in problems often occurs as a result of the consequences and stress of pain during and after delivery **(12)**. Based on the data above, it becomes the basis for the author to raise issues regarding mothers giving birth by sectio caesarea. The purpose of this case study was to determine pain management and oxytocin massage in post sectio caesarea mothers.

2. MATERIALS AND METHODS

This study was used case report

3. RESULTS

The patient named Mrs. M is 31 years old and lives on Lamongan. Last education Mrs. M is a Bachelor of Fisheries, is Muslim, Javanese, and works as a housewife. Mrs. M lives with her husband, Mr. M is 33 years old. Last education Mr. M is STM and works as a factory worker. Currently Mrs. M has just given birth to her first child with a male gender. Before becoming pregnant Mrs. M has never used contraceptives, either injections, pills, or other contraceptives. The chief complaint during the review on October 29, 2021, Mrs.

M dizzy and stomach pain. Pain is felt in the abdomen in the area of the SC wound. The quality of the pain is like prickling with the loss of the pain scale 6. The pain is felt to arise and increase when the patient makes movements such as coughing and sitting. When pain occurs, it is visible. The general condition of the patient is adequate, compos mentis consciousness with GCS 456. From the results of the general examination conducted on October 29, 2021, Mrs. M has obstetric status P1001 AB000. For the results of the examination of vital signs, namely blood pressure 206/166 mmHg, pulse 98 x/minute, respiration 22 x/minute, temperature 36.0 oC. During pregnancy, the patient's weight was 99 kg, and the patient's height was 157 cm.

The results of the physical examination showed that the hair was evenly distributed, there were no lesions or swelling, and there was no pain when palpated. There is no edema on the face. There was no icteric sclera and anemic conjunctiva. No secretions and polyps. The oral cavity is clean, the lips are moist, and there is no dental caries. Inside the ear there is no cerumen and secretions. there is no problem with the thyroid. in the armpit is not enlarged. For oxygenation and ventilation status, there are regular breathing rhythms, vesicular breath sounds, normal S1-S2 heart sounds, capillary refill (CRT) < 3 seconds, and regular pulse rhythm. On breast examination Mrs. M-shaped symmetrical, clean skin, feels warm, inverted nipples, and milk drips out. On abdominal examination, the height of the uterine fundus was 2 fingers below the fundus, there were contractions, and a catheter was inserted. On examination of the perineum and genitalia, blood was still coming out through the vagina, the type of lochea that came out was locea rubra, about 15 cc was found again with a lumpy and liquid consistency. There was no edema, bruising, and hematoma. The shape of the perineum is intact. Px has no history of hemorrhoids. On examination of the extremities there was edema in the right and left lower extremities.

Application. For 3 days, starting from the 29th October 2021 to 31 October 2021, nurses intervened to treat pain and breastfeeding was not effective. In the intervention to deal with pain, namely by providing non-invasive techniques pharmacological techniques such as Benson's relaxation technique (taking deep breaths by silently chanting the selected words (dhikr) for 10-15 minutes), breastfeeding interventions are not effective, namely by teaching breastfeeding positions and teaching breast care (oxytocin massage). The goal of the team is to reduce and increase production.

Results. After 3 days of implementation, it shows that pain in the abdomen Mrs. _ M was reduced to a scale of 3, then to implement the second n tation, namely breastfeeding was not effective, Mrs. M said the base has started to come out and can position the baby correctly while breastfeeding.

TABLE 1: Laboratory test results.

Inspection	Results	unit	Normal
Leukocytes	9.0	10 ³ /uL	5.0 - 11.0
Neutrophil	H 87.5	%	49.0 - 67.0
Lymphocytes	L 7.2	%	25.0 - 33.0
monocytes	4.1	%	3.0 - 7.0
eosinophilia	1.0	%	1.0 - 2.0
Basophils	0.2	%	0.0 - 1.0
NLR	H 12.2		0.0 - 3.13
ALC	0.7	10 ³ /uL	
erythrocytes	4.15	10 ³ /uL	3.80 - 5.30
Hemoglobin	L 10.3	g/dL	13.0 - 18.0
hematocrit	L 31.7	%	35.0 - 47.0
MCV	L 76.40	fl	87.00 - 100.00
KIA	L 24.80	Thing	28.00 - 36.00
MCHC	32.50	g/dl	31.00 - 37.00
RDW	15	%	10 - 16.5
Platelets	198	10 ³ /uL	150 - 450
MPV	6		5 - 10
LED	H 40	mm/hour	0 - 20
FAAL HEM			
PT	14.60	Second	10.30 - 16.30
APTT	27.80	Second	24.20 - 38.20
heart			
HAVE GET	16	U/L	0 - 35
GPT	24	U/L	0 - 35
KIDNEY			
Serum creatinine	L 0.6	mg/dl	- 1.2

4. DISCUSSION

Based on the book guide Pokja SIKI DPP PPNI Team, (2018) (13), there are several interventions that can be done to overcome acute pain problems in post-C-section patients. Management is one of the interventions taken from the manual and based on evidence taken from research journals.

Pain management is identifying and managing sensory or emotional experiences associated with tissue or functional damage with onset or late and of mild to severe and constant intensity. Pain management interventions, namely pain location, characteristics, duration, frequency, quality, pain intensity, knowing the scale environment, knowing factors that relieve and aggravate pain, provide non-pharmacological techniques to reduce pain, pay attention to control, types and sources of pain in pain relief strategies,

explaining the period, causes, and triggers of pain, practicing non-pharmacological techniques to reduce pain and collaboration in providing analgesics (9).

In its management, nurses provide non-pharmacological therapy by using Benson's relaxation techniques to overcome the pain experienced by patients and administering drugs. Handling post-cesarean patients on how to control pain so that patients can move without feeling worried if they feel pain when moving.

Relaxation technique is the development of relaxation response methods by involving belief factors that can create an internal environment that can help patients achieve a higher state of health and well-being. This technique is an attempt to direct attention to a focus by repeating the ritual sentence with a regular rhythm with an attitude of submission to God (14).

Based on the research, it was found that Benson's relaxation therapy is one of the effective non-pharmacological techniques to reduce pain levels. This is confirmed by the results of research Fitri et al., (2020) (15) that the Benson relaxation technique is a relaxation technique that combines elements of belief and breathing techniques so that oxygen by the body is not excessive, the feeling of relaxation will be supported by the hypothalamus to produce corticotrophin-releasing factor (CRF) which will stimulate the pituitary gland. the pituitary to increase the production of proopiomelanocortin (POMC) so that the production of enkephalin by the adrenal medulla increases and the pituitary also produces endorphins. as a neurotransmitter. When endorphins separate from deoxyribose nucleic acid (DNA), it causes an unpleasant situation. Endorphins affect pain impulses by suppressing presynaptic neurotransmitters or by inhibiting post-synaptic pain impulses so that painful stimuli cannot reach consciousness and sensory pain is not experienced. In this study, it can be said that the Benson relaxation technique has been shown to have an effect in reducing the intensity of post-sectio caesarea or proven effective, safe and can be used to help reduce the intensity of pain in post-sectio-cesarean mothers without disturbing activities.

The second diagnostic finding was that breastfeeding was ineffective, the diagnosis was made based on the patient's complaint who said that the breast milk had only hatched, the nipple was inverted. Breastfeeding is not effective when the mother and baby both experience feelings of dissatisfaction and difficulty in the breastfeeding process (16). There are several causes of breastfeeding failure that have been identified from several studies, namely lack of social support, less intensive contact between mother and baby, permissible social influence on formula feeding or breastfeeding cessation, early introduction of breast milk substitutes, lack of knowledge about breastfeeding in children. mothers and health workers, maternal anxiety and stress, lack of confidence

in mothers to breastfeed, underweight babies, malnutrition, multiple or primiparas, hormonal contraception and infant temperament . Sufficient milk production is the main reason for mothers to stop giving breast milk, mothers feel that they do not have a shortage because they produce breast milk to meet the needs of the baby and increase the baby's weight. About 80% to 90% of breast milk production is determined by the mother's emotional state related to the mother's oxytocin reflex in the form of thoughts, feelings and sensations. If this increases, it will facilitate the production of breast milk (17).

According to research Delima et al., (2016) (18) oxytocin massage is an alternative that can help improve the breastfeeding process because of its effect that makes mothers feel calm, so it will help release oxytocin and is proven by research results. that the mother whose breast milk is not smooth, after the milk production increases and there is more milk and the baby gets enough milk. Oxytocin massage is performed along the spine (vertebrae) to the fifth-sixth ribs. The mechanism of action in the implementation of oxytocin massage stimulates the parasympathetic nerves to be sent to the brain so that the oxytocin hormone can be sent into the blood and then enter the breast and cause the muscles around the breast. Alveoli contract and make breast milk flow smoothly and breast milk is fulfilled properly

Breast care has a positive impact in increasing milk production with glands and the hormones prolactin and oxytocin to increase milk production smoothly and breast milk sufficiency. Breast care interventions are carried out by promoting or massaging the breasts, cleaning the nipples and compressing the breasts using warm and cold air alternately which can influence the pituitary to release the hormones progesterone and estrogen to produce the hormone oxytocin. Breast care in the first days of the puerperium increases blood flow to the breasts, and reduces intraductal pressure caused by milk accumulating in the lactiferous ducts, thereby stimulating the hypothalamus via the spinal cord and mesencephalon. The hypothalamus will suppress the secretion of prolactin triggering factors which will trigger the anterior pituitary to produce milk. Furthermore, the hormone prolactin will trigger the alveolus cells so that breast milk flows smoothly and the adequacy of breast milk is met (19).

Based on the research, the results showed that in breast care therapy using oxytocin massage is one of the effective non-pharmacological techniques to increase breast milk supply in postpartum mothers. This is supported by the results of research conducted Utami et al., (2020) (20) that the results of oxytocin massage or breast care affect the estimation of breast milk. This is because there is a massage process or massage on both of these things. It produces mammary glands for abundant and smooth milk

production and prevents problems. Oxytocin massage can be performed on the mother in a relaxed sitting position while leaning her head forward on a table or comfortable bed by folding her arms and placing her head on her arm so that the mother feels more comfortable, it is hoped that negative feelings can be minimized. In addition to providing comfort to the mother, the benefits of oxytocin massage are to make the reflex lower, reduce the suppression of breast milk, increase the production of the hormone oxytocin and maintain milk production. This massage is done along the spine (vertebrae) to the ribs V and VI to trigger the hormones prolactin and oxytocin after childbirth. One of the hormones that play a role in the production of breast milk is the hormone oxytocin, so that when there is stimulation of the hormone oxytocin, the alveolar cells in the breast glands contract. These contractions cause the milk to come out and then flow in the breast ducts so that the milk drips from the nipple.

The third diagnostic finding is the risk of ineffective cerebral perfusion which is characterized by an increase in blood pressure in the patient. The risk of ineffective cerebral perfusion is the risk of decreased blood circulation to the brain. The risk factors for ineffective cerebral perfusion are hypertension (Pokja IDHS DPP PPNI Team, 2016). Hypertension is a major risk factor that can lead to rupture or blockage of blood vessels to the brain. A rupture of a brain vessel will cause bleeding, it will be very fatal if there is an interruption of blood flow to the distal, in addition to that, extravasation of blood will accumulate so that it will cause increased intracranial pressure, whereas if the cerebral blood vessel will cause disruption of flow to the brain and brain cells. will experience death. Implementation carried out in the 1000 diagnosis at the risk of ineffective cerebral perfusion, namely medical therapy, monitoring vital signs and providing education (21).

5. CONCLUSION

Mrs. M is a post-cesarean section patient with an indication of severe preeclampsia. From the studies that have been carried out, it was found that diagnoses were supported by subjective and objective data on patients, including acute pain related to physical injury agents and ineffective breastfeeding related to inadequate milk supply. So that the implementation is carried out according to the existing data in the planning, namely pain management, breast care (oxytocin massage). The results of the evaluation showed that there was a decrease in pain and breast milk came out.

Acknowledgments

We thank to Faculty of Health Science and University of Muhammadiyah Malang.

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