RESEARCH ARTICLE

Effect of Endorphin Massage on Colostrum Production in Post Sc Mothers in The Postpartum Room at Ratu Aji Putri Botung Hospital Penajam

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Abstract: Colostrum is a very important source of life for children where in breast milk there are many nutrients needed by children that support the growth and development of a child. Complex problems regarding the longer colostrum expulsion time in post-SC compared to normal postpartum mothers are caused by the effects of anesthesia and early ambulation. Expenditure of breast milk, especially colostrum in post SC, is often delayed 2-3 days and even 1 week after birth, so it is necessary to accelerate the release of colostrum, one of which is endorphin massage. Objective of this research is to determine the effect of Endorphin massage on the production of colostrum. This type of research is true experimental with a posttest-only control group design with a sample size of 36 where the endorphin massage group is 18 people and the control group is 18 people selected using accidental sampling. Observation sheet measuring instrument. Data analysis used paired t tests and independent t-tests. The time of the expulsion of colostrum in postpartum SC mothers in the experimental group who was given endorphin massage had an average time of the expulsion of colostrum of 9.227 hours. The time of the expulsion of colostrum in postpartum SC mothers in the control group who were not given endorphin massage had an average time of the expulsion of colostrum of 20.328 hours. There is an effect of endorphin massage on colostrum expenditure in postpartum SC mothers with a p-value of 0.000. the average time to expel colostrum with endorphin massage was 11.100 hours faster than post-SC mothers who did not receive endorphin massage. The conclusion is Endorphin massage is effective in accelerating the time of colostrum expulsion

Keywords: Endorphine massage, Colostrum Expenditure

Introduction

According to WHO the coverage of exclusive breastfeeding in the world is 52.4%, in some ASEAN countries it is also still quite low, including India (46%), the Philippines (34%), Vietnam (27%), Myanmar (24%). In Indonesia in 2020 the coverage of infants who are exclusively breastfed is 66.1%. (Kemenkes RI, 2017; 2020). Exclusive breastfeeding coverage in East Kalimantan in 2018 was 70.07%, an increase from the previous year 2017 of 58.06%. (Directorate General of Public Health, Ministry of Health, Republic of Indonesia, 2019). Exclusive breastfeeding coverage in North Penajam Paser Regency from 2021 to April is 31.8%(Dinkes PPU, 2021).

Colostrum is the first fluid secreted by the mammary glands. The highest content in colostrum is antibodies that are ready to protect the baby when the baby's condition is still very weak. The protein content in colostrum is higher than the protein content in mature milk. Early giving of colostrum to babies and continuous breastfeeding is the best protection for babies because babies can avoid disease and have anti-immune substances 10-17 times more than mature/matured milk. (Khosidah, 2018).

The factors that influence the giving of colostrum to postpartum mothers are influenced by various factors, both the mother's own factors and external factors. Maternal factors such as level of knowledge,

health conditions, attitudes, parity, post-SC and maternal perceptions, while external factors include support from the closest people, health workers, and culture in the mother's living environment. The factors that inhibit the provision of colostrum (ASI) are influenced by the mother's lack of knowledge about the advantages of colostrum (ASI) and lactation physiology, the lack of physical and mental preparation of the mother, the lack of family support and the lack of environmental support. (Maryunani, 2018).

Mothers giving birth by caesarean section experience problems in the timing of colostrum expulsion due to several things, in addition to levels of the hormones prolactin and oxytocin that can affect the release of colostrum in the mother is the use of drugs during cesarean surgery. (Desmawati, 2017). Drugs given at the time of SC surgery are used to reduce pain during surgery, but after the operation is finished the pain that arises due to the lost effects of the anesthetic can affect the mother in providing care to the baby, so that it can cause the mother to delay breastfeeding and cause complications. delay in the production of colostrum.

Endorphin Massage is a light touch method that was first developed by Constance Palinsky which is used to treat pain.

Some researchers state that this massage can reduce pain because it can increase the release of endorphine and oxytocin hormones (Khasanah and Sulistyawati, 2020). Endorphin massage brings the mother to be able to relax, will stimulate the brain to release endorphins so that breast milk becomes smooth, provide comfort for postpartum mothers and remove blockages so that barriers in breastfeeding the first week can be resolved properly so that colostrum comes out quickly. (Astutik, 2018).

A preliminary study conducted by researchers through interviews with 10 mothers who gave birth by caesarean section in the postpartum room, the results showed that the mother did not come out of her milk and felt anxious because she was afraid that her baby would not get breast milk, even though it was explained that the baby could still survive for up to 24 hours. keep worrying and try to give something to the baby such as giving honey to the baby to get food, this can lead to the failure of exclusive breastfeeding.

Based on the foregoing, the researchers are interested in conducting a research, namely "The Effect of Endorphin Massage on Colostrum Expenditure in Post Partum SC Mothers in the Postpartum Room at Ratu Aji Putri Botung Penajam Hospital"..

Method

The research design was a true experimental posttest-only control group design. The population in this study were all post partum mothers who gave birth at Ratu Aji Putri Botung Hospital. The total population in this study from March to May 2021 was 128 postpartum. The number of samples in the experimental group was 18 people and the control group was 18 people, so the total sample size was 36 people. Instruments used are observation sheets, SOPs and hours. Independent t test data analysis.

Result and Discussion

Tabel 1
Karakteristik Responden Di Ruang Nifas RSUD Ratu Aji Putri BotungPenajam Paser Utara Tahun 2022

		Eksperimen		Kontrol	
Karakteristik		F	Persentase (%)	F	Persentase (%)
Umur Responden	< 20 Tahun	6	33,3	6	33,3
	20-35 Tahun	8	44,4	7	38,9
	> 35 Tahun	4	22,2	5	27,8
Pendidikan	SD	0	0	0	0
	SMP	3	16,7	4	22,2
	SMA	14	77,8	12	66,7
	Sl	1	5,5	2	11,1
Pekerjaan	IRT	10	55,6	11	61,1
	Honorer	1	5,5	2	11,1
	Karyawan Swasta	4	22,2	3	16,7
	Pedagang	3	16,7	2	11,1
Paritas	Primipara	8	44,4	7	38,9
	Multipara	9	50,0	9	50,0
	Grandemulti	1	5,6	2	11,1
Status Ekonomi	Mampu (penghasilan > Rp. 2.000.000)	12	66,7	10	55,6
	Tidak Mampu (penghasilan < Rp. 2.000.000)	6	33,3	8	44,4
	Jumlah	18	100	18	100

It can be seen that in the experimental group, most of those who were given endorphin massage were between the ages of 20-35 years, as many as 8 people (44.4%) as well as in the control group as many as 7 people (38.49). The education of the respondents in the experimental group was mostly high school, namely 14 people (77.8%) as well as in the control group, most of them were high school students, namely 12 people (66.7%). Most of the respondents' occupations were IRT in the experimental group, namely 10 people (55.6%) as well as the control group, most of the IRT were 11 people (61.1%). Most of the parity in the experimental group was multiparous as many as 9 people (50%) as well as the control group were mostly primiparous, namely 9 people (50%). The economic status of most of the respondents in the experimental group was able economic status as many as 12 people (66.7%) as well as in the control group most of the economic status was able as many as 10 people (55.6%).

Tabel 2.
Hasil Pengukuran Waktu Pengeluaran Kolostrum Antara Kelompok Eksperimen dan Kelompok Kontrol diRuang Nifas RSUD Ratu Aji Putri Botung Penajam Paser Utara

Waktu Pengeluaran Kolostrum	Rerata (SD)	Min-Max	95 % CI	
			Lower Upper	Lower Upper
Pijat Endorphin (Eksperimen)	9,227 (2,172)	6,52-14,30	8,147	10,307
Tanpa Pijat Endorphin (Kontrol)	20,328 (8,338)	7,63-32,088	16,181	24,471

Based on the length of time for colostrum expulsion, it can be seen that the average expulsion of colostrum in the experimental group that underwent endorphin massage was 9.227 hours with the fastest time being 6.52 hours and the longest time being 14.30 hours while in the control group without endorphin massage, the release time was Colostrum obtained an average of 20.328 hours with the fastest time is 7.63 hours and the longest time is 32.08 hours.

Tabel 3.
Pengaruh Pijat Endorphin Terhadap Pengeluaran Kolostrum pada Ibu Post Partum *SC* di Ruang Nifas RSUD Ratu Aji Putri Botung Penajam

Variabel	Pengukuran	Rerata (SD)	Beda Rerata (SD)	IK 95 %	*P value*
Pengeluaran Kolostrum	Pengeluaran Kolostrum Kelompok Eksperimen	9,227 (2,172)	11,100	6,853-15,346	0.000
	Pengeluaran Kolostrum Kelompok Kontrol	20,328 (8,338)			

The results of the independent t test obtained a P value of 0.000 < 0.005, then H0 is rejected and Ha is accepted, so it can be concluded that there is a difference in the time of colostrum expulsion between the group that received endorphins massage and the control group that did not do endorphin massage, which means that there is an effect of endorphin massage. on colostrum expenditure in post partum SC mothers in the postpartum room at Ratu Aji Putri Botung Penajam Hospital.

Based on the results of the study, the most age groups were <20 years of age, both for mothers who received endorphin massage and those who did not receive endorphin massage. This explains that most of the respondents are in the healthy reproductive age range as stated by Manuaba (2018) that the healthy age range for pregnancy and lactation is the age of 20-35 years.

Pranajaya & Novia (2019) explains that the age of an individual is calculated from the time of birth to the last birthday. A healthy reproductive age range is at the age of 20-35 years. This period is the best

period for pregnancy, childbirth and breastfeeding. During a healthy reproductive period, breast milk production will be sufficient because the function of the reproductive organs can still work optimally.

In addition, researchers Nursari Abdul Syukur (2020) states that age <16 years or above>35 years will make pregnant women vulnerable to a number of complications. Age is one of the factors that affect the production of breast milk in mothers. Mothers who are less than 35 years old produce more milk than mothers who are older. However, mothers who are very young (less than 20 years old) produce less breast milk because of the level of maturity. The age range of respondents from 20-35 years is the ideal age to go through the period of pregnancy, childbirth and breastfeeding so that they can optimally care for their babies.

According to the researcher, most of the respondents are between 20-35 years old, so that the respondents are of reproductive age so that this research is easy to do.

Based on the results of the research, the most education was high school education, both for mothers who received endorphin massage and those who did not receive endorphin massage. This explains that most of the respondents are in the secondary education group.

Acoroding to Notoatmodjo (2017), Education is a process of developing all abilities and human behavior through knowledge. A high level of education also allows a person to be more open, because the knowledge and level of intelligence possessed is one of the success factors for a person in understanding information, especially in this case information about breastfeeding.

In addition, researchers Wahyutri (2019) Knowledge is a supporting framework for successful breastfeeding, education about breastfeeding is given to pregnant women and their families in order to gain knowledge, skills and positive attitudes towards breastfeeding.

Based on the results of the study, the most parity was multiparity, both in mothers who received endorphin massage or groups without endorphin massage. This explains that most of the respondents are in the parity group that is not at risk as stated in Manuaba (2018) good parity for pregnancy and childbirth and breastfeeding is parity 2 to 3.

Expenditure of colostrum in postpartum mothers is faster in mothers who give birth more than once. This is because they have more knowledge and experience about the breastfeeding process so that lactation management will be carried out properly. According to Soetjiningsih (2017) psychological readiness between primiparas and multiparas is very different. A primipara is easier to feel anxious and his psychological condition is unstable, this will affect the release of hormones that play a role in milk production (Pranajaya & Novia, 2019).

Research by Frieska & Windhu (2018) which explains that parity is associated with early lactation. The beginning of this lactation will determine the success of the next breastfeeding (Frieska & Windhu, 2018).

According to the researcher, most of the respondents have multiparity parity age and many are primiparous. Endorphin massage can accelerate the release of colostrum in both multiparity and primiparity.

The results showed that the group of postpartum mothers who received endorphin massage had an average colostrum expulsion time of 9.227 hours, this explains that colostrum expenditure is fast because it is still under 12 hours. The results of the experiment in the experimental group that the fastest colostrum expulsion time was 6.52 hours and the longest colostrum expulsion time was 14.30 hours, while in the group that did not do endorphin massage, the colostrum expulsion time was 7.63 and the longest colostrum expulsion time was 32. ,08 hours. The study showed that in the group without endorphin massage, there were also mothers with faster colostrum expulsion, this could be influenced by the mother's age. The age factor is also one of the factors that influence where the average post partum mother is of productive age, namely the age of 20-35 years which is a period of healthy reproduction. Age 20-35 years is a woman's healthy reproductive age, at that age a woman is physically, emotionally, psychologically, socially and economically ready to get pregnant. One of the factors that influence the production of breast milk is the mother's physical factor, namely the mother's age. Mothers who are younger or less than 35 years produce more breast milk than mothers who are older.

In the research Khabibah and Mukhoirotin (2019) with the title of research on the effect of endorphin

massage on the timing of milk expulsion, it can be seen that the time of expulsion of breast milk in mothers who are given endorphin massage has an average of 8.16 hours and is included in the fast category. According to the researcher's assumption, post SC mothers after 24 hours post SC colostrum has not come out because mothers still feel anxious and are still afraid to move and feel post SC pain, this causes breast milk to not come out because some mothers have not breastfed their babies because they have not been able to mobilize.

The results showed that the group of post partum mothers who were not given the intervention averaged 20.328 hours of colostrum expulsion where the fastest time to expel colostrum was 7.63 hours and the colostrum expulsion time was 32.08 hours.

At the time of the research, it can be seen that the time of colostrum expulsion in post partum mothers who are not given endorphin massage is more slow to release colostrum, namely > 12 hours with an average colostrum expulsion time of 20.328 hours. This explains that in the unintervened group, it is proven that the time of discharge is slower, this can be due to the fact that colostrum expenditure can be influenced by several other factors such as the frequency and correct way of breastfeeding. Yusari (2016) explained that the expenditure of colostrum in postpartum mothers is influenced by the smoothness and frequency of breastfeeding their babies. Failure to breastfeed can be caused by a lack of information about the frequency and correct way of breastfeeding. The frequency of breastfeeding is related to the stimulation of suckling in the breast with the production of oxytocin and prolactin to produce milk (Angriani et al., 2018). There are two reflexes in the mother that are very important in the lactation process, namely the prolactin reflex and the flow reflex (let down reflex) (Walyani dan Purwoastuti, 2017). If there is little oxytocin, then the let down reflex will be inhibited so that milk cannot come out of the breast.

In post SC mothers, there are still many mothers who feel anxious and afraid to move, even though mobilization is needed to help speed up the expulsion of colostrum, but there are still many post SC mothers who are afraid to move for fear of the stitches coming off, even though the midwife has provided an understanding of the post SC problem and the importance of it. mobilization but the mother is still afraid to move. This is what causes the inhibition of colostrum expenditure in post-SC mothers.

The results showed that there was a significant difference in colostrum expulsion time between post-SC mothers who received endorphin massage and mothers who did not receive endorphin massage with a p value of 0.000 < 0.05 where post-SC mothers who received endorphin massage had an average colostrum expulsion time of 11.100. hours faster than mothers who did not receive endorphin massage.

Endorphin Massage is a light touch method that was first developed by Constance Palinsky which is used to treat pain. This massage is usually performed on mothers giving birth or for post-SC mothers, research shows that this technique increases the release of the hormone endorphine (provides a sense of comfort and calm) and the hormone oxytocin. So when endorphin massage is given to postpartum mothers, it can provide a sense of calm and comfort during lactation, thereby increasing the posterior pituitary response to produce the hormone oxytocin which can increase the let down reflex. (Khasanah dan Sulistyawati, 2020).

Endorphin massage brings the mother to be able to relax, will stimulate the brain to release endorphins so that breast milk becomes smooth, provide comfort for postpartum mothers and remove blockages so that barriers in breastfeeding the first week can be resolved properly so that colostrum comes out quickly. (Astutik, 2018).

This study supports the research of Rahayu and Yunarsih (2018) regarding the effect of endorphin massage on colostrum expenditure, the results obtained p value = 0.026 <0.05, which means that Ho is rejected and Hı is accepted so that there is an effect of oxytocin massage on early milk production. Most of the postpartum mothers who were given endorphin massage treatment showed that the initial milk production <24 hours was 5 people (50%). Massage or stimulation of the spine, will release neurotransmitters that cause the breast to release milk faster.

The research Arsy (2021) with the title Endorphin, Oxytocin, And Suggestive Massage Stimulation (SPEOS) Methods In Increasing Breast Milk Production In Postpartum Mothers where the research results are endorphin massage increases milk production in postpartum mothers.

Research conducted by Pertami, Budiono, and Rahmawati (2020) Optimizing the Endorphin and Oxytocin Massage to Increase Breast Milk Production among Postpartum Mothers in Indonesia where the research results show that a combination of endorphin and oxytocin massage is the most effective technique to increase breast milk production in postpartum mothers and therefore facilitates baby weight gain in the first six months his life.

According to researchers, the success of accelerating colostrum expulsion time is due to the intervention carried out with the right procedure according to the SOP and the implementation of the intervention is carried out with good cooperation between the researcher and postpartum mothers as respondents, this study provides comfort and relaxation through endorphin massage which has very good efficacy. to help speed up the production of colostrum.

Conclusion

There is an effect of endorphin massage on colostrum expenditure in post partum SC mothers in the postpartum room at Ratu Aji Putri Botung Penajam Hospital with a p value of 0.000. the average time to expel colostrum with endorphin massage was 11.100 hours faster than post-SC mothers who did not receive endorphin massage

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