http://ejournal.seaninstitute.or.id/index.php/healt
Jurnal Eduhealt, Volume 14, No. 04 2023
ISSN. 2808-4608

Relationship between type of delivery and colostrum production from postpartum mothers at Dr.H.Moch Ansari Saleh Hospital, Banjarmasin

Cantika Cantika[1], Fadhiyah Noor Anisa[2], Fitri Yuliana[3], Sarkiah Sarkiah[4]
[1,2,4]Midwifery Diploma Three Study Program, Faculty of Health, Sari Mulia University,
[3]Midwife Profession Study Program, Faculty of Health, Sari Mulia University

ARTICLE INFO

Keywords:
Types of Labor, Colostrum, Postpartum

ABSTRACT

Colostrum is a yellowish liquid that is produced from pregnancy to 4 days postpartum. However, colostrum cannot be secreted directly because levels of the hormone estrogen are still high. Delays in expressing colostrum can affect exclusive breastfeeding. The choice of type of delivery has an impact on the occurrence of colostrum production in postpartum mothers. Mothers who give birth normally have the opportunity to immediately give colostrum to their babies through the IMD process or early contact. This study aims to analyze the relationship between type of delivery and colostrum expenditure at RSUD Dr. H. Moch Ansari Saleh Banjarmasin. This type of research is quantitative with a cross sectional design. The respondents in this study were 108 postpartum mothers, taken using a purposive sampling technique as many as 37 people, then analyzed using the Chi-Square test. Data was obtained from 37 postpartum mothers based on the most age characteristics, namely <20 and >35 years (51%), multiparous parity 21 people (57%), nutritional status ≥23.5 cm (97%), basic level education as many as 25 people (67.6%), SC delivery (59.5%). The highest colostrum production is >120 minutes. The results of Chi-Square analysis obtained values*p value*0.000 (p<0.05)which means accepting the alternative hypothesis, meaning that there is a real relationship between the type of delivery and colostrum expenditure. It can be concluded that there is a relationship between the type of delivery and colostrum expenditure. This is because the SC type of delivery slows down the time of colostrum expulsion, occurring at >120 minutes.

Email :
Cannntikacannntika@gmail.com

Copyright © 2023 Journal Eduhealt. All rights reserved is Licensed under a Creative Commons Attribution- Non Commercial 4.0 International License (CC BY-NC 4.0)

1. INTRODUCTION

Colostrum is the first fluid that comes out of the breast glands, it is yellowish in color 2-4 days postpartum, different from transitional breast milk (ASI) and mature breast milk. Colostrum contains immune substances so it functions in forming antibodies, because it is high in protein which is a vitamin for the body's immune system and is useful for killing germs in high quantities. Colostrum in breast milk has benefits for the baby and colostrum is produced from the beginning of pregnancy and continues until the end of pregnancy. Even though it has been produced, colostrum cannot be immediately secreted because levels of the estrogen hormone are still high and a decrease occurs during labor (King et al, 2019 in Varney's book).

Based on the results of Basic Health Research (Rikesdas) in 2018, the tendency in Indonesia to give all colostrum was 85.4%, 6.9% to throw away some, and 3.7% to throw away all. From these results, it is known that 10.6% of babies do not get the maximum benefits of colostrum. In South Kalimantan alone, 87.0% of the colostum given was 6.2%, 6.2% was thrown away, and 3.0% was thrown away. It is known that 9.2% of babies did not benefit from colostrum. Babies aged 0-6 months are an age group that is vulnerable to various health problems.

Improving nutrition at the start of a baby's life will certainly have an impact on future life. The year's Strategic Plan (2019) explains that one of the indicators for achieving targets for coaching

activities in improving community nutrition is the percentage of newborns receiving colostrum obtained through Early Breastfeeding Initiation (IMD). Ministry of Health number 450/Menkes/SK/IV/2004 states that the ten steps towards successful breastfeeding (LMKM), one of which is breastfeeding the baby within the first 30 minutes after giving birth. In research (Desmawanti, 2013), it is said that during SC delivery, colostrum production is slower so that the baby can get colostrum 18-24 hours after birth. Breast milk is the gold standard (Ministry of Health, 2018).

Novansyah Ukhron et al., 2022 in his research, he explained that there were differences in colostrum production between postpartum mothers and post-Section Caesarea mothers. research from(Wardani Kusuma Endah, 2019) also explains that the type of delivery is a factor in colostrum expenditure. The production of breast milk (ASI) is influenced by several factors, namely due to the mother's psychology which results in changes in the hormonal system after giving birth, factors such as type of delivery, anesthesia, age, parity and suckling of the baby, while the mother's nutrition influences the quality of breast milk (Zuly Daima Ulfa, 2020; Varney, 2019; Ana Pujianti Harahap, 2021; Ayu Devita, 2019).

Varney, 2019 stated that the process of colostrum formation by the hormone prolactin starts from the beginning of pregnancy and continues until the end of pregnancy. Even though it has been produced, colostrum cannot be directly secreted. This is due to the still high levels of the Estrogen Hormone and there will be a decrease during childbirth. When the baby sucks the nipple (let down reflex), the hormone prolactin in the posterior pituitary is stimulated by the baby's sucking and will secrete oxytocin. Mothers with normal delivery, colostrum usually comes out and will experience an increase in volume after two days post partum. Meanwhile, delivery with Sectio Caesarea, a surgical procedure on the abdominal wall, will result in pain which will cause various problems and affect lactation. Apart from that, SC delivery also results in reduced stimulation of the let down reflex from the baby's sucking during the first feeding, as well as less than optimal prolactin levels.(Indrayati Novi et al., 2018)

Ahmad et al., 2021 in his research stated that the implementation of Early Breastfeeding Initiation (IMD) based on the type of birth in Indonesia with a sample of 14,341 respondents, in giving colostrum in the first 30 minutes after giving birth, in mothers who gave birth by Sectio Caesarea giving colostrum immediately after birth was 39.4%, this figure is far from lower compared to mothers who gave birth vaginally at 65.1%. In Indonesia, the data on when to release colostrum has not yet been fully studied, however, the success of postpartum IMD can indicate that efforts have been made to provide colostrum within the first 30 minutes. In Indonesia, the national Early Breastfeeding Initiation (IMD) figure in 2021 is 48.6%, this figure is still far from the 2020-2024 Strategic Plan target of 70%. Colostrum that does not come out immediately after delivery will certainly disrupt the IMD process which will later have an impact on exclusive breastfeeding. South Kalimantan exclusive breastfeeding coverage is 67.9%. In the city of Banjarmasin itself, exclusive breastfeeding coverage is the fourth lowest in South Kalimantan, namely (58.7%). Banjarbaru (41.4%), Hulu Sungai Selatan (55.1%), Banjar Regency (56.5%), and Banjarmasin City (58.7%) (South Kalimantan Health Office, 2021). Providing colostrum as soon as possible after birth will influence the success of exclusive breastfeeding in the first 6 months of life(Suwardi et al., 2018).

The prevalence of delivery by Caesarean section (SC) in Cambodia, China, Nepal, the Philippines, Sri Lanka, Thailand and Vietnam is around (27.3%). Considering the many effects of caesarean section delivery, it is only carried out because of medical indications(Dila et al., 2022).In Indonesia, the Indonesian department stated that the rate of cesarean deliveries is increasing by 20% of all births, this data exceeds the WHO standard of 15%. Data from government hospitals shows that the percentage of caesarean sections is 20-25%, while private hospitals account for 30-80% of total deliveries.(Suryadi Aris, 2020).The background above explains that the research problem is the low coverage of exclusive breastfeeding in Banjarmasin City. Health Journal by(Yani Lamani et al., 2021) said that the time of giving colostrum less than 120 minutes after delivery will affect the success of exclusive breastfeeding. The choice of type of delivery has an impact on the production of colostrum in postpartum mothers. Mothers who give birth using SC surgery have more problems expelling colostrum than mothers who give birth vaginally(Pratini et al., 2019).

The results of a preliminary study at the Dr.H.Moch Ansari Saleh General Hospital, Banjarmasin, showed that the total number of births in 2022 from January to December was 426, with the number of vaginal deliveries being 364 (85.4%), and SC deliveries being 62 (14). .5%). The results of observations in the first 120 minutes of 10 people, including 5 mothers who gave birth normally, on average experienced expulsion on the first day of birth and 5 women who gave birth during SC, expelled colostrum on the second day. with CS delivery.

2. METHOD

The research method used in this research is the Observational Analytical method with a Cross Sectional design. This research was conducted at Dr.H.Moch Ansari Saleh Hospital, Banjarmasin. The population used in this study was postpartum mothers in the last 3 months with a total of 108 people. The sample used in this research was 37 respondents, this sampling was in accordance with the inclusion and exclusion criteria determined by the researcher. The data collection instrument used in this research was a checklist for respondents and direct questions to determine the relationship between type of delivery and postpartum mother's colostrum output. This can be determined by measuring the results of the respondents' answers.

3. RESULTS AND DISCUSSION

Table 1. Relationship between type of delivery and colostrum production by postpartum mothers at RSUD Dr. H. Moch Ansari Saleh Banjarmasin in 2023.

Labor	Colostrum Excretion				Total		*p value*
	≤120 Minutes		> 120 Minutes				
	N	%	N	%	N	%	
Normal	14	93.3%	1	7%	15	100%	
S.C	0	0%	22	100%	22	100%	0,000
Total	14	38%	23	62%	37	100%	

In terms of type of delivery, 15 people (40.5%) were known to have vaginal births and 22 people (59.5%) were known to have had SC births. This delivery is a spontaneous birth or with the help of an instrument and also a birth with certain indications. In terms of age based on type of delivery, it was found that 7 people (46.6%) were 20-35 years old and 7 people (46.6%) aged <20 and >35 years. In the type of SC delivery, 10 people (45.4%) were aged 20-35 years and 6 people aged <20 and >35 years (27.2%).Masruroh et al., 2018 explained that of the 60 respondents obtained, the majority experienced colostrum discharge at the age of 20-35 years. The age of 20-35 years is included in the healthy reproductive age for women. Mothers who are less than 35 years old will produce more breast milk than mothers who are more than 35 years old.

In terms of parity based on type of delivery, it was found that 4 people (33.3%) were primiparas and 11 people were multiparas (33.7%). In SC deliveries, 8 people (32%) were known to be primipara and 14 people (56%) were multipara. According to(Hastuti et al., 2017) Mothers who give birth more than once have higher breast milk production compared to mothers who give birth for the first time. The number of births a mother has experienced provides experience in providing breast milk to her baby. The more parity a mother has, the more experienced she is and knows more about how to increase breast milk production. Women who give birth for the first time will have less experience than mothers who have given birth more than once or are multiparous and grandemultiparous (Noor Anisa et al., 2021). This is different from research (Soetjiningsih, 2013) in (Muti'ati Farhatu, 2017)believes that by increasing the number of parities there is a slight change in breast milk production, although it is not significant, where the amount of breast milk produced at the birth of the first child was 580 ml/24 hours, in the second child the amount of breast milk produced was 654 ml/24 hours, in the third child the amount of breast milk produced was 602 ml/24 hours. hours, in the fourth child the amount of breast milk produced was 600ml/24 hours, in the fifth child the amount of breast milk produced was 506ml/24 hours, and in the sixth child the amount of breast milk produced was 524ml/24 hours. So it can be seen that the amount of parity breast milk produced is decreasing.

In nutritional status measured through Lila based on the type of delivery, it was found that 1 person (7%) had a vaginal delivery of Lila <23.5 cm, and 14 people (93.3%) of Lila ≥23.5 cm. In SC

deliveries, 0 people (0%) had a Lila <23.5 cm or none at all, and 22 people (100%) had a Lila ≥23.5 cm.Nutritional status is considered one of the factors that influences the lactation processincludingby releasing the colostrum that the baby needs as soon as possible for early life nutrition and passive immunity. Consuming nutritious food as early as possible can increase breast milk production (Sunarni, 2021).

Regarding educational status based on the type of vaginal delivery, it was found that 11 people had primary education (44%), 4 people had secondary level education (27%), 0 people had higher level education (0%) or none at all. In SC deliveries, it is known that the basic level is 10 people (40%), the middle level is 0 people (0%) or none at all, the high level is 5 people (23%). level of education, where a person's educational status influences the breastfeeding period. The higher a person's education, the more knowledge they have and the more easily they can accept the information conveyed(Budianti Ita, 2017).

Colostrum is the first fluid that comes out of the breast glands, is yellowish in color 2-4 days postpartum, different from transitional breast milk and mature breast milk.(Fitri & Shofiya, 2020).The hormones that play a role in colostrum are the hormones prolactin and oxytocin. prolactin plays a role in the formation of milk and oxytocin plays a role in secreting milk. The process of colostrum formation by the hormone prolactin starts from the beginning of pregnancy and continues until the end of pregnancy. Even though it has been produced, colostrum cannot be directly secreted. This is due to the still high levels of the Estrogen Hormone and there will be a decrease during childbirth. When a baby sucks on the nipple (let down reflex), the hormone prolactin in the posterior pituitary is stimulated by the baby's sucking and will secrete oxytocin (Varney, 2019).

Based on the research results, respondents who experienced colostrum discharge (≤120 minutes) out of 37 respondents, namely 14 people, amounted to (38%) in normal delivery, 0 people in SC delivery amounted to (0%). There was 1 mother who expelled colostrum (>120 minutes) from normal delivery and 22 from SC delivery (62%). In normal childbirth, there is generally a rapid decrease in the levels of the hormone estrogen and progesterone immediately after birth, which triggers the release of colostrum. Mother's contact with the baby (skin to skin) influences the mother's psychology in breastfeeding her baby. In this case it is not carried out in SC deliveries (Varney, 2019).

In SC births, the stress experienced by the mother is due to the pain felt after the SC after the anesthetic effect wears off. The effect of stress on mothers after CS results in blockade of the letdown reflex, caused by the release of epinephrine which will cause vasoconstriction of alveolar blood vessels which can inhibit oxytocin from reaching target organs in the myoepithelium. If this happens continuously it can reduce breast milk production (Baskara, 2015).(Dina Azifah Almas, 2017).

Providing anesthesia during SC delivery has a negative impact on the lactation process. Each anesthesia situation has its own influence according to the patient's condition. Anesthesia during SC delivery causes the baby to tend to be sleepy and have difficulty breastfeeding (Tarvaldsen, 2006) quoted in(Dina Azifah Almas, 2017). This is in accordance with previous research by (Nakao, 2008) explaining that the delivery method used can inhibit the production of colostrum. (Enda Kusuma Wardani, 2019) in his research entitled "The Relationship between Type of Labor and Time of Colostrum Expenditure at Al-Rohman Hospital" explained,Many mothers who give birth through CS feel pain and fatigue after the anesthesia wears off, and even refuse to have IMD. The relationship between type of delivery and colostrum production in postpartum mothers at Dr. The results of this research are also supported by previous researchers (Dina Azifah Almas, 2017).

4. CONCLUSION

It can be concluded that the type of delivery and colostrum production by postpartum mothers at the Dr.

REFERENCES

[1] Ahmad, F., Utomo, B., & Aulia Ramadhan, N. (2021). Research Article on the Implementation of Early Breastfeeding Initiation Based on Type of Childbirth in Indonesia: Analysis of Sdki 2017. Journal of Reproductive Health, 8(2), 108–113.https://Doi.Org/10.22146/Jkr.52540

[2] Akifa Sudirman, A., Supriaty, I., & Mansoer Pateda East Pentadio Village, J. (2018). Lactation Management on the Success of Exclusive Breastfeeding.
[3] Aprilia, D., & Krisnawati, AM (2017). Factors that influence the smooth production of breast milk in post-partum mothers.
[4] Budianti Ita. (2017). The relationship between the level of education and knowledge of postpartum mothers about colostrum and the provision of colostrum to babies aged 0-3 days in the postpartum room at Kendari City Hospital.
[5] Deliani Rahmawati, S., Saidah, H., Dharmas Husada Bandung, S., & Kadiri, U. (2021). The Relationship Between Nutritional Status and Parity and the Smoothness of Breast Milk Production in Post Partum Mothers in the Working Area of the Cipanas Health Center, Garut Regency.
[6] Diana Sulis, MK, Mail Erfiani, MK, & Rufaida Zulfa, S. Keb. Bd. , M. S. (2019). Textbook of Midwifery Care for Childbirth and Newborns (1st Ed.). CV Oase Group.
[7] Dila, W., Nadapda, TP, Sibero, JT, Sylvana, F., Harahap, D., & Marsaulina, I. (2022). Factors Associated with Sectio Caesarea Delivery Period 1 January-December. In Journal Of Healthcare Technology And Medicine (Vol. 8, Issue 1).
[8] Dina Azifah Almas. (2017). Relationship between type of delivery and time of colostrum production among mothers giving birth during the fourth period in Yogyakarta City, 2016.
[9] Eka Sapitri Ni Luh. (2018). The relationship between giving exclusive breast milk (ASI) and baby's weight on the 10th day in Denpasar City.
[10] Fitri, D., & Shofiya, D. (2020). Correlation Between Exclusive Breastfeeding And The Frequency Of Illness Among Infants In West Surabaya. https://Doi.Org/10.2473/Amnt.V4i1.2020.30-35
[11] Hastuti, P., Tri Wijayanti, I., & Bakti Utama Pati, A. (2017). Descriptive Analysis of Factors That Influence Breast Milk Expenditures for Postpartum Mothers in Sumber Village, Sumber District, Rembang Regency.
[12] Hipson Meita, & Anggraini Kusmira Erik. (2021). Analysis of Factors Associated with Normal Childbirth. 13.
[13] Indrayati Novi, Nurwijayanti Mustika Andriyani, & Latifah Mia Eva. (2018). Differences in Breast Milk Production in Mothers with Normal Delivery and Sectio Caesarea. Community Of Publishing In Nursing, 6.
[14] Irawati, Muliani, & Arsyad, G. (2019). The Effect of Giving Warm Compresses on Reducing the Intensity of Labor Pain in Inpartum Women in the First Stage of the Active Phase. Http://Jurnal.Poltekkespalu.Ac.Id/Index.Php/Jbc/
[15] King, & Et Al. (2019). Varney's Midwifery. Jones & Bartlett Learning, Llc, An Ascend Learning Company.
[16] Masruroh, N., Ariesta, R., & Andriani, D. (2018). Hypnolactation Influences the Onset of Colostrum Ejection in Primiparous Postpartum Mothers.
[17] Muti'ati Farhatu. (2017). Relationship between nutritional status and timing of colostrum production among postpartum women in Yogyakarta City Hospital in 2016.
[18] Novansyah Ukhron, Zuraida Reni, & Sutyarso. (2022). Factors Associated With Colostrum Shedding. Professional Nursing Research, 4.
[19] Noor Anisa, F., Sarkiah, & Hidayat, A. (2021). Detection of Post-Partum Depression Events with the Naïve Bayes Algorithm. Health Dynamics Journal of Midwifery and Nursing, 12(1), 2549–4058.https://doi.org/10.33859/dksm.v12i1
[20] Oktafia, R., Deviana, R., Studi, P., Nursing, I., Yogyakarta, UM, Brawijaya, J., Kasihan, T., & Yogyakarta, B. (2021). The Relationship between Postpartum Fatigue in Primiparous Mothers and Motivation for Breastfeeding. Mercusual Health, 4(2). Http://Jurnal.Mercubaktijaya.Ac.Id/Index.Php/Mercusuar
[21] Pratini, W., Wahyutri, E., Prodi, M., Nursing, ST, Kaltim, P., Lecturer,), & Nursing, J. (2019). Analysis of differences in types of delivery on breast milk production on days 0-3 at Dirgahayu Hospital, Samarinda.

[22] Safitri Mekania. (2020). Indications for Sectio Caesarea Delivery and Complications after Sectio Caesarea Delivery: Narrative Review.
[23] Sulfianti, Indryani, Purba Handayani Deasy, Yuliani Meda Sitorus Samsider, Haslan Hasliana, Sari Nurmalita Happy Marlynda Ismawati, Pulungan Warita Pebri, Hutabarat Julieta Wahyuni, Purba Venansius Mahardika Agung, Anggraini Dewi Dina, & Aini Nur Fajaria. (2020). Midwifery Care in Childbirth (1st Ed.). We Write Foundation.
[24] Sunarni, MS Pd. Ss. MK, & Arfiana, S. Kep. NS. MK (2021). Relationship between nutritional status (BMI) and the time of colostrum production in postpartum women. Http://Repository.PoltekkesSmg.Ac.Id/Index.Php?P=Show_Detail&Id=26636&Keywords=
[25] Suryadi Aris. (2020). Nursing Care for Clients with a Postoperative Diagnosis of Sectio Caesarea in the Rr Room of the Central Surgery Installation at Mardi Waluyo Blitar Hospital.
[26] Sutanto, & Vita Andina. (2019). Postpartum and Breastfeeding Midwifery Care: Theory in Professional Midwifery Practice.
[27] Suwardi, S., Pratiwi, D., Sembiring, JB, Midwifery, DD, Pharmacy, F., Health, D., & Helvetia Health, I. (2018). The Related Factors To The Giving Of Colostrum On Neonatal At Syamsiah Maternity Practical South Tapanuli District In 2018.
[28] Wahyuningsih Sri, & D3 Nursing student. (2019). Post Partum Nursing Care. Budi Utama CV Publishing Group.
[29] Wardani Kusuma Endah. (2019). Relationship between type of delivery and time of colostrum production at Al-Rohman Hospital. Healthy, 7.
[30] Wijaya, F.A. (2019). Continuing Medical Education Accreditation Pb Idi-2 Skp Exclusive Breast Milk: Ideal Nutrition for Babies 0-6 Months (Vol. 46, Issue 4).
[31] Yani Lamani, SA, Syarief Kasim, I., Pratiwi, H., Midwifery, P., Nursing and Midwifery, F., Megarezky, U., Nursing, P., & Gizi, P. (2021). Correlation Between Nutrition Status And Timing Of Colostrum Discharge On Postpartum Mothers In Regional General Hospital Of Makassar In Ghizai: Journal of Nutrition and Family (Vol. 1).
[32] Yusi, D., Pramesi, A., Toyibah, A., & Wahyu, R. (2021). Factors That Influence the Onset of Lactation in Post Partum Mothers at Puri Bunda Malang Mother and Child Hospital Factors That Influence Onset Of Lactation In Post Partum Mother At Mother And Child Hospital Puri Bunda Malang. In October (Vol. 10, Issue 2).