



Original Research

The First 24 Hours Postpartum Mother's Breast Milk Production At Hospital

Menik Kustriyani¹, Priharyanti Wulandari¹

¹ Universitas Widya Husada Semarang, Indonesia

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Abstract

Breast milk is ideal baby food, various kinds of breast milk content are needed by the baby. Factors affecting breastmilk production among others: mother's food intake, mind, physiological anatomy, baby suction factors, rest factors and drug factors. The purpose of this study was to determine the production of postpartum mother milk in the first 24 hours. The research was conducted in descriptive quantitative with a time-series approach. The research subjects were obtained through consecutive sampling. Data were obtained at 2 hours postpartum, 16 hours postpartum and 24 hours postpartum using measuring cups and observation sheets. The subjects of this study were 21 normal postpartum mothers. The research data were analyzed using univariate analysis. The study was conducted in July 2020 at Ungaran Hospital. Respondents have explained the study. Researchers guarantee the confidentiality of respondents from the beginning to the end of the study. The results showed parity of postpartum multiparous mothers was 52.4%, primiparous 47.6%. Postpartum mothers with the early adult category were 66.7%. Postpartum mother breastmilk production at 2 hours with an average ± 0.155 cc, the mother experienced an increase in the amount of milk production at 16 hours postpartum by an average of ± 1.272 ml and at 24 hours postpartum experienced an increase in the amount of mother's milk production on average ± 1.369 ml. It can be concluded that physiologically normal post-partum mother milk production has increased gradually, the increase is because the more often the mother empties the breast, the more breast milk production.

INTRODUCTION

Breast milk (ASI) is the ideal food for babies, various kinds of breast milk are needed by babies. Breast milk contains protein, carbohydrates, vitamins, minerals, fat and water as the suitable component suitable the needs the baby. Breast milk begins to be produced by the breasts on the 16th week where the breasts begin to synthesize the components of milk by being influenced by human placenta lactogen so that the milk is

still retained. Colostrum will generally come out from the 3rd trimester or around 34-36 weeks.¹

Breastfeeding rates in Egypt vary due to several factors, such as social, economic, political and cultural factors.² Likewise in Indonesia, the Ministry of Health in Indonesia has a program of 10 steps towards successful breastfeeding, several ways that must be done as a health worker in the hospital to help mothers start

Corresponding author:

Menik Kustriyani

menikkustriyani@gmail.com

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breastfeeding their babies within 60 minutes after giving birth in the delivery room, helping mothers to understand how to breastfeed correctly and how to maintain breastfeeding even if the mother is separated from the baby on medical indications. Performing combined care by getting the mother to be with the baby 24 hours a day. Helping the mother to breastfeed as much as the baby wants, without restrictions on the length and frequency of breastfeeding. Optimal breastfeeding will reduce the risk of various baby health problems.³

Several factors affect the production of breastmilk, the mother's food intake, peace of mind and soul, physiological anatomy, baby suction factors, rest factors and drug factors.⁴ Previous research stated that 66,7 % of postpartum mothers breastfeed smoothly, 60,2% of postpartum mothers provide sufficient breast milk. The fluency of breastfeeding in postpartum mothers is influenced by the early initiation of breastfeeding and baby suction.^{4,5}

This study aims to determine the production of breast milk during the first 24 hours postpartum.

METHODS

This research used a descriptive quantitative method with a time-series approach. This study wanted to measure the amount of normal postpartum breast milk production at three measurements, at 2 hours postpartum, 16 hours postpartum and 24 hours postpartum (Wulandari et al., 2018). Respondents in this study were normal postpartum mothers with the inclusion criteria of 2 hours postpartum normal mothers, Primipara and multiparous postpartum mothers, normal nipple forms, normal postpartum mothers, postpartum mothers with no systemic disease, the mother that was not taking drugs to facilitate expulsion. Breastfeeding, baby weight \geq 2500 grams, respondent with a good psychological condition, mother and

baby were in joint care and mother was willing to be the respondent. Respondents were 21 postpartum mothers. The sampling technique used was consecutive sampling.

Breast milk production was measured using a measuring cup for three measurement periods, namely at 2 hours postpartum, 16 hours postpartum and 24 hours postpartum. Researchers provided explanations to respondents about the objectives and benefits of the study and its consequences. Respondents were asked to sign an informed consent before conducting the study. The researcher did not include the identity of the respondent in the study. This research has received approval from the ethics committee with number 20 / KEPK-RSUD / EC / VI 2020. The research data was presented using univariate analysis, the study was conducted in July 2020 at the Ungaran Hospital.

RESULTS

The research data were analyzed using univariate analysis, the study was conducted in July 2020, at the Ungaran Hospital.

The results showed that the respondents consisted of mothers who had given birth to a live baby for the first time (primipara) and mothers who had given birth two to four times (multiparous). The youngest was 18 years old and the oldest was 37 years old. There was an increase at 2 hours postpartum with a mean (\pm 0.155) ml, the increase also occurred at 16 hours postpartum with an average (\pm 1.272) ml, the increase at 24 hours postpartum with an average (\pm 1.369) ml.

Table 1
Respondent Characteristics (n=21)

Indicator	Normal post-partum mother	
	f	%
Parity		
Primipara	10	47,6
Multipara	11	52,4
Age		
Late teens	6	28,6
Early adulthood	14	66,7
Late adulthood	1	4,8

Table 2
Production of normal post-partum mother breastmilk (n=21)

Indicator	Breast Milk Production
Breast milk production at 2 hours post-partum	0,171 ($\pm 0,155$) ml
Breast milk production at 16 hours post-partum	0,662 ($\pm 1,272$) ml
Breast milk production at 24 hours post-partum	0,852 ($\pm 1,369$) ml

DISCUSSION

Respondent Characteristics

Age is one of the physiological factors that may affect milk production, mothers who are younger or less than 35 years of age will produce more milk than older mothers (Biancuzo, 2000). For some mothers who are over 35 years of age, their milk production is smooth⁶. Mothers who are younger or less than 35 years of age produce more than older mothers. Meanwhile, mothers aged 19-23 years can generally produce enough breast milk compared to those in their thirties because of their good physiology.⁷

The age of the breastfeeding mother affects milk production. Younger mothers produce more breast milk than older mothers. Mothers aged 19-23 years can generally produce enough breast milk compared to 30 years old mothers.⁸

The age of 35 is risky because it is closely related to nutritional anaemia that may affect milk production. In primiparous mother with 35 years of age, there is a decrease in hormone production so that it decreases the lactation process.⁴

Another thing that can affect breast milk production is parity, multiparous mothers show more milk production than primiparous in the first 24 hours postpartum. In the process of breastfeeding, many factors influence it, including parity. Meanwhile, for mothers who gave birth more than once, the milk production is more than the birth of their first child.^{9,10}

Several deliveries that have been experienced by mothers provides experience in giving breast milk and know how to increase milk production so that there are no problems for mothers in breastfeeding. Mothers who have given birth for the first time and mothers who have given birth more than two times often find problems in breastfeeding. Problems that often arise are sore nipples due to inexperience or not ready to breastfeed physiologically and changes in the shape and bad condition of the nipples.^{4,11}

Mothers who gave birth more than once can produce more milk than those who gave birth for the first time. A person who has given birth for the first time usually has less knowledge and experience in terms of breastfeeding, while a mother who has given birth more than once certainly has experience in breastfeeding so that lactation management will be carried out properly. Furthermore, the psychological preparedness between primiparous and multiparous is very different. A primiparous person feels anxious and psychologically unstable more easily, it will affect the production of hormones that play a role in breast milk production.⁴

At the time of the study, it was found that more successful multiparous parity in breastfeeding, due to previous experience

of breastfeeding with children, knowledge from family and the surrounding environment and sources of information. Primiparous parity that succeeds in breastfeeding is because the mother has received knowledge about breastfeeding from the family when the family is breastfeeding the mother is concerned about breastfeeding. Besides, successful primiparous mothers are mothers with a background in health education, so that they already know about the correct way of breastfeeding.¹²

In primiparous parity, there were more fail to breastfeed because the mother still lacks experience in breastfeeding, they experienced the mistake in breastfeeding techniques so that there is no proper attachment between mother and baby and causes the baby to not suckle properly.¹³

The mother failure to breastfeed her baby immediately after birth will affect the mother milk production because the first-time breastfeeding after birth will stimulate the pituitary to release oxytocin. Oxytocin works to stimulate the smooth muscle to express milk in the alveoli, lobes and ducts that contain milk that will be excreted through the nipples. This situation forces the prolactin hormone to continue producing breast milk. So that the more often the baby sucks the nipple, then breastfeeding will also be smoother.¹⁴ Normally the first day of breastfeeding comes out on the first day of birth until the third day.¹⁵

Production and discharge of breast milk occur after the baby born, it is followed by a decrease in estrogen levels which stimulate the increase in prolactin levels for milk production. Even if only a little milk comes out on the first day, the mother must continue to breastfeed. This action besides the provide nutrition to the baby teaches the baby to breastfeed or get used to sucking the mother nipple and supports milk production.¹⁶

During pregnancy and the first postpartum days, milk production is affected by the prolactin hormone (the breast milk-producing hormone) and other reproductive hormones. As long as these hormones are present and balanced, the mother will begin to produce colostrum / first milk from the second trimester of pregnancy (Lactogenesis I) that increases the numbers about 30-40 hours after delivery (Lactogenesis II).¹⁷⁻¹⁹

In the final trimester of pregnancy, even though the breasts have produced colostrum, their secretion is inhibited by high levels of the hormone progesterone. During labor, the discharge of the placenta causes the levels of the hormones progesterone, estrogen, and human placental lactogen (HPL) to drop significantly. This condition is accompanied by high levels of the hormone prolactin marking the beginning of Lactogenesis II (production of large amounts of breast milk). Breastmilk production in the first 24 hours after delivery is usually not seen much. After 48-72 hours, the mother will feel a full sensation in the breast. It occurs when breast milk is produced a lot.⁹

Both of these processes are purely driven by hormones that come from the centre (glands in the brain) and still occur even if the mother does not breastfeed her baby. After Lactogenesis II, there is a shift in controlling milk production that is centred in the brain transferred to the breast. This stage is called Lactogenesis III. At this stage, the release of breast milk is the main control for milk production. Although hormonal disturbances can affect milk production, the role of hormones at this stage is much reduced. Under normal conditions, the breasts will continue to produce milk as long as the process of expressing milk continues.¹⁷

CONCLUSION

Based on the results of the study, there was an increase of breast milk production in

postpartum mothers at 2 hours as much as 0.171 ml, at 16 hours postpartum as much as 0.662 ml and 24 hours postpartum as much as 0.852 ml.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

REFERENCES

- Lawrence R, Lawrence R. Breastfeeding - 8th Edition. 8th ed. Philadelphia: Elsevier; 2016.
- Demir F, Ghosh P, Liu Z. Effects of motherhood timing, breastmilk substitutes and education on the duration of breastfeeding: Evidence from Egypt. *World Dev.* 2020 Sep;133:105014.
- Yanto A, Rochayati R, Wuryanto E. Decreased The Risk of Hyperbilirubinemia Incidence With The Initiation of Early Breastfeeding. *Media Keperawatan Indones [Internet]*. 2018 Jun 18;1(2):25. Available from: <https://jurnal.unimus.ac.id/index.php/MKI/article/view/3446>
- Pranajaya R, Rudiyananti N. Determinan Produksi ASI pada Ibu Menyusui. *J Ilm Keperawatan Sai Betik.* 2017 Jan;9(2):227-37.
- Yanti HF, Yohanna WS, Nurida E. Kelancaran Produksi ASI pada Ibu Post Partum Ditinjau dari Inisiasi Menyusu Dini dan Isapan Bayi. *J Aisyah J Ilmu Kesehat.* 2018 Jun;3(1):39-46.
- Budiati T, Setyowati S, CD NH. Peningkatan Produksi ASI Ibu Nifas Seksio Sesarea Melalui Pemberian Paket "Sukses ASI." *J Keperawatan Indones.* 2010 Jul;13(2):59-66.
- Firmansyah N. Pengaruh Karakteristik (Pendidikan, Pekerjaan), Pengetahuan dan Sikap Ibu Menyusui terhadap Pemberian Asi Eksklusif di Kabupaten Tuban. UNIVERSITAS AIRLANGGA; 2012.
- Pudjadi. *Keluarga dan Anak.* Jakarta: Kawan Pustaka.; 2005.
- Kari IK. *Seri Gizi Klinik, ASI ; Petunjuk untuk tenaga kesehatan.* Soetjningsih, editor. Jakarta: EGC; 1997.
- Bonuck KA, Trombley M, Freeman K, McKee D. Randomized, controlled trial of a prenatal and postnatal lactation consultant intervention on duration and intensity of breastfeeding up to 12 months. *Pediatrics.* 2005 Dec;116(6):1413-26.
- Impartina A. Hubungan Pengetahuan Ibu Nifas Tentang Teknik Menyusui Dengan Kejadian Bendungan ASI. *MEDISAINS.* 2017;15(3):156-60.
- Victora CG, Bahl R, Barros AJD, França GVA, Horton S, Krasevec J, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet.* 2016;387(10017):475-90.
- McFadden A, Gavine A, Renfrew MJ, Wade A, Buchanan P, Taylor JL, et al. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database Syst Rev.* 2017;(2).
- Nugroho T, Nurrezki, Warnaliza D, Wilis. *Buku Ajar Asuhan Kebidanan.* 3rd ed. Yogyakarta: Nuha Medika; 2014.
- Astuti I. Determinan pemberian ASI eksklusif pada ibu menyusui. *J Heal Qual.* 2013;4(1):1-76.
- Rahayu D, Yunarsih. Penerapan Pijat Oksitosin Dalam Meningkatkan Produksi Asi Pada Ibu Postpartum. *Journals Ners Community.* 2018;9(1):08-14.
- Mannel, R., Martens, PJ., Walker, M. M. *Core curriculum for lactation consultant Practice.* 2nd editio. Massachusetts: Jones and Barlett; 2012.
- Roesli U. *Panduan Konseling Menyusui. IV.* Jakarta: Pustaka Bunda; 2012.
- Ballestas HC, Caico C. *Pathophysiology of Nursing.* 2014.