The Southeast Asian Journal of Midwifery Vol. 8, No.2, Oktober 2022, p: 62-66
E-ISSN: 2476-972X P-ISSN: 2476-9738

ADEQUACY OF BREAST MILK AND THE DEVELOPMENT OF BABIES AGED 1-6 MONTHS

Juhrotun Nisa[1], Umriaty[2], Meyliya Qudriani[3]
[1,2,3] *Midwifery Diploma Program, Politeknik Harapan Bersama, 9th Mataram Street, Pesurungan Lor, Tegal City, Indonesia*

ARTICLE INFORMATION

Article History:
Accepted date: September 2022
Revision date: September 2022
Publication date: Oktober 2022

Key Word : Adequacy of breast milk; Infant development.

A B S T R A C T

Background: The age of 0-24 months is a period of rapid growth and development, so it is often termed a golden period as well as a critical period. Breast milk (breast milk) is milk produced by the mother and contains the nutrients needed by the baby for the needs and development of the baby. Purpose: This study was conducted with the aim of knowing the relationship between the adequacy of breastfeeding and the development of infants aged 1-6 months. Methode: This research is an analytic survey with a quantitative approach and cross sectional design. The population in this study were mothers and infants aged 1-6 months and received exclusive breastfeeding. The sampling technique used was accidental sampling. The study was conducted at one of Health Center in June to July 2020. Data collection techniques used questionnaires, and filling out the KPSP. Result: The results showed that 72.7% of infants with sufficient breast milk and 51.5% of infants had appropriate development. 62.5% of infants with sufficient breast milk have appropriate development. There is a relationship between the adequacy of breast milk and the development of infants aged 0-6 months who receive exclusive breastfeeding..

INTRODUCTION

The age of 0-24 months is a period of rapid growth and development, so it is often termed the golden period as well as a critical period. The golden period can be realized if at this time, infants and children receive appropriate nutritional intake for optimal growth and development. Conversely, if infants and children at this time do not get food according to their nutritional needs, the golden period will turn into a critical period that will disrupt the growth and development of infants and children, both now and in the future (Kemenkes, 2016).

ASI (breast milk) is milk produced by the mother and contains nutrients needed by the baby for the needs and development of the baby, while exclusive breastfeeding means that the baby is only given breast milk, without the addition of other fluids such as formula milk, orange juice, honey, tea water, plain water and without the addition of solid foods such as bananas, papaya, porridge, milk, biscuits, rice porridge and the team for 6 months (Mufdlilah, 2017).

In Indonesia alone, the coverage of infants receiving exclusive breastfeeding in 2019 was 67.74% (Kemenkes, 2020). Meanwhile, in Central Java, exclusive breastfeeding in 2019 experienced a slight increase from 65.6% in 2018 to 66%. Tegal City is included in the Regency/City with the 2nd lowest achievement of exclusive breastfeeding in Central Java, which is only 45.4% in 2019 (Dinkes, 2020).

Constraints on exclusive breastfeeding are mainly caused by the lack of understanding of mothers and the skills of health workers about the adequacy of breastfeeding, especially in the first week of breastfeeding. Growth retardation at the age of less than 3 months is mostly caused by breastfeeding. Improper attachment and breastfeeding position will

*correspondence: *nisa.jn20@gmail.com*

cause problems such as sore nipples and engorgement, as well as reduce milk production and cause malnutrition in infants (IDAI, 2013).

Research conducted by Wahyuni, Lestari and Anam showed that the adequacy of breast milk production in postpartum mothers was 72% sufficient, and 28% less. The growth and development of infants is largely determined by the breast milk obtained including energy and other nutrients contained in the breast milk (Wahyuni, Lestari, & Anam, 2018).

Growth can be interpreted as an increase in the size and number of cells in all parts of the body which can be measured quantitatively such as height, weight and head circumference, while development is an increase in the function of body organs that can be achieved through learning, consisting of the ability to move gross and fine, hearing , vision, communication, speech, social-emotional, independence, intelligence and moral development (Muslihatun, 2011).

Research conducted by Rachmadani, Rusli and Agustina on exclusive breastfeeding with the development of infants aged 6 months stated that 66.6% of infants given exclusive breastfeeding were appropriate, 26.7% doubted and 6.6% had deviations (Rachmadani, Rusli, & Agustina, 2016)

Based on previous research which states that there are still mothers whose milk production is lacking and has an impact on insufficient breast milk to meet the needs of the baby, in addition to the development of infants who are exclusively breastfed, there are also dubious and deviant developments so that this study was conducted with the aim of knowing the relationship between Adequacy of breastfeeding for the development of infants aged 1-6 months.

METHOD

This research is an analytical survey with a quantitative approach. The design in this study used a cross sectional. It was carried out at the Health Center, and the population was mothers and babies aged 1-6 months who received exclusive breastfeeding. The sampling technique used was accidental sampling. A measuring instrument to assess the adequacy of breast milk based on the activity of the baby, on-demand breastfeeding at least 8-12 times a day, breastfeeding duration of at least 15 minutes at each feeding, the baby urinating at least 5-6 times/day, CHAPTER 1-2 times/da , the baby's weight increases according to the KMS (Card Towards Health) chart, sounds during feeding, the baby calms down or falls asleep after feeding, and the mother's breasts are soft after feeding, while the measuring instrument for assessing the baby's development is the KPSP (Pre-screening Development Questionnaire) according to age.

The data used in this study is primary data collected from June to July 2020. The data collection technique uses a questionnaire, and filling in the KPSP. Univariate analysis was conducted to determine the characteristics of the respondents and bivariate analysis was carried out to determine the effect of adequacy of breast milk on infant growth and development. Bivariate analysis using chi square.

RESULT AND DISCUSSION

Table 1. Characteristics of Respondents

Characteristic	f	%
Child number		
1	15	45.5
2	12	36.4
3	6	18.1
Child Gender		
Male	19	57.6
Female	14	42.4
Adequacy of breast milk		
Not enough	9	27.3
Enough	24	72.7
Baby Development		
Deviance	0	0
Doubtful	16	48.5
Suitable	17	51.5

Based on table 1 the characteristics of the respondents in this study were mostly the first child at 45.5%, 57.6% were baby boy, 72.7% baby received sufficient breast milk and 51.5% baby had appropriate growth and development.

Table 2 Adequate Breast Milk and Baby Development

Adequacy of Breast Milk	Baby Development						f	%	P-Value
	Deviance		Doubtful		Suitable				
	F	%	F	%	F	%			
Not enough	0	0	7	77.7 8	2	22.2 2	9	100	0.039
Enough	0	0	9	37.5	15	62.5	24	100	

Based on the table 2, it can be seen that 62.5% of infants with sufficient breast milk have appropriate growth and development and 77.78% of infants with insufficient breast milk have doubtful growth and development. The results of the bivariate analysis showed the P-value: 0.039 or <0.05, meaning that there was a significant relationship between the adequacy of breastfeeding and the development of the baby.

Postpartum breast milk production consists of 10-100 cc of colostrum, this amount will increase on the 2nd to 4th day to 150-300 ml/24 hours. Mature milk production from day 10 to 3 months is around 300-800 ml/day. Breast milk production will increase or decrease according to the needs of the baby (Astutik, 2014).

The signs of the adequacy of breast milk can be seen in both the mother and the baby. Indicators for babies can be in the form of babies being able to sleep quietly for 3-4 hours after feeding; Babies will urinate 5-6 times a day. Babies can defecate 2 or more times a day; The baby's weight will increase according to age; The baby looks healthy, the turgor is good and the baby is quite active; Baby feeds 8-12 times in 24 hours; The baby releases the mother's nipple on its own. While the indicators found in the mother can be in the form of breasts feeling tense before being fed and feeling soft after being fed; A lot of milk can seep out through the nipples, especially when the mother is thinking about breastfeeding the baby and remembering the baby; At the time of starting to breastfeed the mother feels something is flowing from her breast; Dripping of milk from the non-breastfed breast; Mother feels calm, relaxed and feels thirsty (Roesli, 2012).

Milk production that is not smooth can have an impact on the insufficient intake of breast milk needed by the baby, so mothers need to breastfeed regularly to maintain smooth milk production, the more often the baby sucks the mother's nipples, the milk production also increases, but if the baby starts to breastfeed less often then Breast milk production will also decrease and the milk needed by babies is not enough (Angriani, Sudaryati, & Lubis, 2018).

Research by Nurjanah, Susanti and Sari showed that of the 43 respondents who exclusively breastfed only 53.5% were getting enough breast milk, while 46.5% did not get enough milk (less). The frequency of breastfeeding is less than 8 times / day and

breastfeeding on one side of the breast is the cause. Meanwhile, in this study, the number of respondents who received sufficient breast milk was 72.7% and 27.3% of infants did not get enough breast milk (Nurjanah, Susanti, & Sari, 2019).

Babies with a duration of 15 minutes or more at one feeding and at least 8 or more feedings per day will get optimal benefits from the content of breast milk, both foremilk and hindmilk, so that babies get complete nutrition from the content of breast milk. Some babies who are breastfed sometimes gain weight, but when depicted on the KMS graph the curve is in the yellow line or in other words the baby does not gain the appropriate weight, this could be due to insufficient or too short breastfeeding duration, so the baby only gets benefits from foremilk only and not to hindmilk. Ideally, the baby's stomach will be empty within 2 hours, so on-demand breastfeeding can make the baby get optimal benefits from breast milk, because it prevents the baby's stomach from being empty and can digest the nutritional content every time he feeds. Babies who do not experience appropriate weight gain because they do not get optimal nutritional benefits from breast milk if left unchecked will have an impact on poor nutrition and then affect the baby's growth and development (Sari, Tamtomo, & Anantayu, 2017).

Broadly speaking, infant growth and development is influenced by genetic and environmental factors. Prenatal and postnatal nutrition or nutrition is one of the environmental factors. Nutrition plays an important role in the growth and development of babies, so the best nutrition needs to be given early in life. Early in life, babies need adequate nutrition for growth, so they can optimize the entire process of child growth and development (Soetjiningsih, 2012).

The results of this study indicate that there is a significant relationship between the adequacy of breastfeeding and infant development where the P value = 0.039 or less than 0.05. Exclusive breastfeeding also needs to be balanced with monitoring the adequacy of breast milk, so that in addition to getting the right and best food for the baby, the growth and development of the baby is also appropriate.

On infant development, data showed that 51.5% was appropriate and 48.5% was doubtful, the results of this study are in line with research conducted by Damayanti (2015) which showed that 51.9% of infants had appropriate development, 45.6% had dubious development and 2.5% had development with deviations. In his research Damayanti (2015) also stated that there was no difference in development between infants who were given exclusive and non-exclusive breastfeeding, this was because breast milk was indeed the best food for babies, but in giving it there were still many factors that influenced the success or failure of exclusive breastfeeding. (Damayanti, 2015).

CONCLUSION

72.7% of infants with sufficient breast milk and 51.5% of infants have appropriate development. 62.5% of infants with sufficient breast milk had appropriate development. There is a relationship between the adequacy of breast milk and the development of infants aged 0-6 months who receive exclusive breastfeeding.

In addition to exclusive breastfeeding, monitoring of the adequacy of breastfeeding, monitoring of baby's growth and development also needs to be done regularly. By monitoring the adequacy of breastfeeding, it is hoped that the problem of exclusive breastfeeding can be overcome as early as possible, so that the

achievement of exclusive breastfeeding can increase, and the growth and development of babies can be in accordance with their age.

It is still necessary to do further research related to the simulation of growth and development of the baby's development and the difference in age of the baby to the kissing of breast milk.

ACKNOWLEDGMENT

The authors would like to thank the Harapan Bersama Polytechnic, Margadana Health Center and the respondents who were involved in the smooth running of this research.

REFERENCE

Angriani, R., Sudaryati, E., & Lubis, Z. (2018). Hubungan Frekuensi Menyusui Dengan Kelancaran Produksi ASI Ibu Post Partum Di Wilayah Kerja Puskesmas Peusangan Selatan Kabupaten Bireuen Provinsi Aceh Tahun 2017. *Jurnal Muara Sains, Teknologi, Kedokteran dan Ilmu Kesehatan*, Vol 2 (1): 299-304.

Astutik, R. Y. (2014). *Payudara dan Laktasi*. Jakarta: Salemba Medika.

Damayanti, D. F. (2015). Tumbuh Kembang Bayi 0-6 Bulan Menurut Status ASI Di Puskesmas Telaga Biru Pontianak. *Jurnal Vokasi Kesehatan*, Vol 1 (3): 75-79.

Dinkes. (2020). *Profil Kesehatan Provinsi Jawa Tengah Tahun 2019.* Semarang: Dinas Kesehatan Provinsi Jawa Tengah.

IDAI. (2013, Agustus 23). *ASI sebagai Pencegah Malnutrisi Pada Bayi*. Retrieved from Ikatan Dokter Anak Indonesia: https://www.idai.or.id/artikel/klinik/asi/asi-sebagai-pencegah-malnutrisi-pada-bayi

Kemenkes. (2016). *Pedoman Pelaksanaan Stimulasi, Deteksi, dan Intervensi Dini Tumbuh Kembang Anak Ditingkat Pelayanan Kesehatan Dasar*. Jakarta: Kementerian Kesehatan RI.

Kemenkes. (2020). *Profil Kesehatan Indonesia Tahun 2019.* Jakarta: Kementerian Kesehatan RI.

Mufdlilah. (2017). *Buku Pedoman Pemberdayaan Ibu Menyusui pada Program ASI Ekslusif*. Yogyakarta: Universitas 'Aisyiyah Yogyakarta.

Muslihatun, N. W. (2011). *Asuhan Neonatus Bayi dan Balita.* Yogyakarta: Fitramaya.

Nurjanah, F. M., Susanti, R., & Sari, K. (2019). *Gambaran Kecukupan ASI Pada Bayi Usia 0-6 Bulan Di Wilayah Kerja Puskesmas Leyangan Kabupaten Semarang Tahun 2019.* Semarang: Program Studi D-IV Kebidanan Fakultas Ilmu Kesehatan Universitas Ngudi Waluyo.

Rachmadani, Z., Rusli, R., & Agustina, R. (2016). Pemberian ASI Eksklusif Dengan Perkembangan Bayi Usia 6 Bulan Di Wilayah Kerja Puskesmas Guntung Payung. *Dunia Keperawatan*, Volume 4 (1): 65-69.

Roesli, U. (2012). *Panduan Inisiasi Menyusu Dini Plus ASI Ekslusif*. Jakarta: Pustaka Bunda.

Sari, D. K., Tamtomo, D. G., & Anantayu, S. (2017). Hubungan Teknik, Frekuensi, Durasi Menyusui dan Asupan Energi dengan Berat Badan Bayi Usia 1-6 Bulan di Puskesmas Tasikmadu Kabupaten Karanganyar. *Amerta Nutr*, 1-13.

Soetjiningsih. (2012). *Tumbuh Kembang Anak.* Jakarta: EGC.

Wahyuni, R., Lestari, E., & Anam, K. (2018). Determination Of Adequacy Breast Milk Production. *Jurnal Medika: Karya Ilmiah Kesehatan*, Volume 3 (2): 40-46.