

The Relationship of Breastfeeding Patterns with The Nutritional Status of Infants 6–24 Months

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ABSTRACT

Babies who are exclusively breastfed will get all the advantages of breast milk and maximum nutrition. On the other hand, the incidence of malnutrition in the future is largely determined by breastfeeding patterns. The aim of this research is to determine the relationship between breastfeeding patterns and the nutritional status of babies aged 6–24 months at the Islamic Boarding School I Community Health Center, Kediri City. This study used a cross-sectional design. The research population was mothers who had babies aged 6–24 months at the Pesantren I Health Center in Kediri City in August–October 2023, for a total of 150 babies. The research sample consisted of several mothers who had babies aged 6–24 months at the Pesantren I Health Center in Kediri City who met the inclusion and exclusion criteria. There were 110 respondents. The research instrument for assessing breastfeeding patterns uses a questionnaire, while nutritional status is assessed using height and weight measurements. Data analysis used the Spearman rho statistical test. Half of the mothers had a pattern of predominant breastfeeding, namely 50%. Based on nutritional status, undernutrition 28.2%. The Lambda test results show $p = 0.016$, meaning that there was a relationship between breastfeeding patterns and the nutritional status of children aged 6-24 months. The magnitude of the correlation was 0.152 which indicates the correlation very weak category. Breast milk given exclusively during the first 6 months of life can provide sufficient nutrition for the baby's growth and development.

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INTRODUCTION

In order to reduce infant morbidity and mortality rates, WHO recommends that to achieve optimal maternal and child health status, all women should be able to provide only breast milk until the baby is 6 months old (exclusively breastfeed), providing complementary breast milk (MP-ASI) right at time and continue to provide breast milk until the child is 2 years old. (WHO, 2020) Breast milk should be continued until the age of 2 years because it can help growth and development by increasing height and weight, protecting against infectious diseases and increasing the child's chances of survival. (Syeda et al., 2021) Based on the results of Basic Health Research in 2018, the proportion of breastfeeding patterns in Indonesia was 37.3% who received exclusive breast milk, 9.3% received partial breast milk and 3.3% who received predominant breast milk. (Indonesian Ministry of Health, 2018) The achievement of exclusive breastfeeding in Kediri City in 2022 is 62.8%; this figure is still the

achievement of exclusive breastfeeding in East Java, namely 69.72%. (East Java Provincial Health Office, 2021)

The low rate of exclusive breastfeeding is caused by both internal and external factors. Internal factors are factors that originate from the mother, in the form of parity, age, knowledge, education, beliefs, and perceptions of the inadequacy of breast milk, and the mother's occupation. External factors are factors that come from outside, such as family support, socio-economics, health workers, or support from the workplace.

The period from birth to the second year of life is critical for optimal growth and development. One of the indicators that can be used to assess growth is body weight. If a child's weight gain is lower than it should be, the child's growth will be disrupted, and the child will be at risk of experiencing malnutrition. On the other hand, if you gain more weight than you should, it is an indication of the risk of excess nutrition. Babies who are exclusively breastfed will get all the advantages of breast milk and maximum nutrition. On the other hand, the incidence of malnutrition in the future is largely determined by breastfeeding patterns. WHO groups breastfeeding patterns into three categories, namely exclusive, predominant, and partial breastfeeding. (Ministry of Health, 2014) Previous research states that there is a significant relationship between exclusive breastfeeding and the incidence of stunting. Toddlers who are not given exclusive breast milk are 61 times more likely to experience stunting than toddlers who are given exclusive breast milk. (Sampe, et.al., 2020)

Based on the background above, the researchers were interested in taking the title of the relationship between breastfeeding patterns and the nutritional status of infants aged 6–24 months at the Pesantren I Health Center, Kediri City.

METHODS

This study used a cross-sectional design. The research population was mothers who had babies aged 6–24 months at the Pesantren I Health Center in Kediri City in August–October 2023, for a total of 150 babies. The research sample consisted of several mothers who had babies aged 6–24 months at the Pesantren I Health Center in Kediri City who met the inclusion and exclusion criteria. There were 110 respondents. The research instrument for assessing breastfeeding patterns uses a questionnaire, while nutritional status is assessed using height and weight measurements. Data analysis used the Spearman rho statistical test. This research has received a certificate of ethical suitability from the Health Research Ethics Committee of the Indonesian STRADA Institute of Health Sciences, No. 000473/EG/KEPK/I/10/2023.

RESULTS

Table 1 shows the characteristics of mothers based on age, education, and employment. Most were aged 20–25 years (56.4%), had a high school education (36.3%), and worked in the private sector (45.5%).

Table 1: Mother Characteristics

Mother Characteristics	Frequency	Percentage
Age		
- 20-25 year	62	56.4
- 26-30 year	30	27.3
- 30-35 year	18	16.3
Education levels		
- Elementary school	28	25.5
- Junior high school	19	17.3
- Senior high school	40	36.3
- College	23	20.9
Working		
- Housewife	33	30
- Government employees	27	24.5
- Private employees	50	45.5
Total	110	100

Table 2 shows the characteristics of respondents based on gender and age. Respondents were 51.8% male and 48.2% female. Respondents aged 6–12 months were 40.9%, and those aged 12–24 months were 59.1%.

Table 2: Respondent Characteristics

Respondent Characteristics	Frequency	Percentage
Sex		
- Male	57	51.8
- Female	53	48.2
Age		
- 6-12 month	45	40.9
- >12-24 month	65	59.1
Total	110	100

Table 3 shows that half of the mothers had a pattern of predominant breastfeeding, namely 50%, exclusive breastfeeding of 34.5% and partial breastfeeding of 15.5%.

Table 3: Mother's Breastfeeding Pattern

Breastfeeding Pattern	Frequency	Percentage
Exclusive	38	34.5
Predominant	55	50
Partial	11	15.5
Total	110	100

Table 4 shows the nutritional status aged 6-24 months. Based on nutritional status, undernutrition status is 28.2%, overnutrition status is 26.4%, malnutrition status is 23.6% and normal status is 21.8%.

Table 4: Nutritional Status

Nutritional status	Frequency	Percentage
Malnutrition	26	23.6
Undernutrition	31	28.2
Normal	24	21.8
Overnutrition	29	26.4
Total	110	100

Table 5 shows the relationship between breastfeeding patterns and the nutritional status of children aged 6-24 months. The Lambda test results show $p = 0.016$, meaning that there was a relationship between breastfeeding patterns and the nutritional status of children aged 6-24 months. The magnitude of the correlation was 0.152 which indicates the correlation very weak category.

Table 5: Relationship between Breastfeeding Patterns and Nutritional Status of Children 6-24

		Nutritional Status				Total	r	p
		Mal nutrition	Under nutrition	Normal	Over nutrition			
Breastfeeding Pattern	Exclusive	8	7	4	19	38	0.152	0.016
	Predominant	16	17	15	7			
	Partial	2	7	5	3			
Total		26	31	24	29	110		

DISCUSSION

Mother's Breastfeeding Pattern, Breastfeeding patterns are divided into exclusive, dominant and partial breastfeeding. In this study, 34.5% of mothers breastfed exclusively. Previous research showed that 96.3% of postpartum mothers gave only breast milk without other food and drink until the age of 40 days. (Nurita, 2022) Exclusive breastfeeding means not giving the baby food and drink other than breast milk until the baby is 6 months old, except for medicines and vitamins. (WHO, 2020) It can be assumed that babies are only given breast milk, without additional liquids such as formula milk, oranges, tea water, water, and without additional solid foods, for example bananas, papaya, milk porridge, biscuits, rice porridge, or other food. The protein composition of breast milk is 60% whey so

it is easily digested by the baby's intestines compared to 40% casein (the main protein in cow's milk). Several amino acids and nucleotides which play a role in the development of brain tissue, nerves and intestinal maturity, iron absorption and body resistance are in greater quantities than formula milk. Breastfeeding is predominantly carried out by 50% of mothers. Predominant breastfeeding is breastfeeding the baby but giving a little water or a water-based drink as a prelacteal food before the milk comes in. (WHO, 2020) Previous research stated that the category of predominant breastfeeding pattern was most often found in male babies, namely 59.4%, while in babies women as much as 44.4%. (Putri & Illahi, 2017) This is because almost all mothers who breastfeed predominantly think that the breast milk they produce cannot meet their baby's needs. Baby boys are considered stronger and more active than baby girls, so baby boys need greater nutritional intake than baby girls. The research results also showed that 15.5% of mothers had a partial breastfeeding pattern. Partial breastfeeding is breastfeeding a baby and giving artificial food other than breast milk such as formula milk, porridge or other food before the baby is 6 months old, whether given continuously or as prelacteal food. Types of prelacteal food given to newborns include formula milk, non-formula milk, water, sugar water, starch water, coconut water, fruit juice, sweet tea, honey, bananas, dates, crushed rice, porridge.

Nutritional Status of Children Aged 6-24 Months, This research shows that the nutritional status of children aged 6-24 months is mostly in the poor category (28.2%). The results of this study are in accordance with previous research which shows that nutritional status is more or less common in babies aged 6-8 months at 16.67% and male babies at 18.18%. (Widowati et al., 2022) Nutritional status is the condition of the human body caused by food consumption and use of nutrients. Nutritional status is one thing that can describe a baby's growth pattern. The golden period in the first two years of a child's life can be achieved optimally if it is supported by proper nutritional intake from birth. This begins with exclusive breastfeeding for 6 months followed by giving MP-ASI. If a child experiences malnutrition at the age of 6-24 months, the long-term impact of the child can be pain, mental and motor disorders, which will impact intelligence, work capacity and productivity as a teenager or adult. (Mahardhika et al., 2018) Infectious diseases and food intake are direct factors that influence nutritional status. Providing inappropriate food can cause children to experience malnutrition, while giving too much food will cause children to be obese. (Rahmah et al., 2020)

Relationship between Breastfeeding Patterns and Nutritional Status of Children 6-24 Months, Breast milk given exclusively during the first 6 months of life can provide sufficient nutrition for the baby's growth and development. Before breast milk comes out, the baby needs to be breastfed to stimulate the baby's reflexes. Breastfeeding a baby after birth will have an impact on breastfeeding success. Successful breastfeeding is a process of giving breast milk to a baby, where the baby has a sucking reflex, a swallowing reflex, which is a natural process whose success does not require special equipment and does not require money. (Aguszulikia, & Nurvinanda, 2020) Previous research states that a history of breastfeeding has a significant relationship with the incidence of stunting ($p=0.002$). (Purwandari et al., 2021) Other research states that an exclusive breastfeeding pattern makes them healthier and never get sick, babies with a predominant breastfeeding pattern get sick less often and Babies with partial breastfeeding patterns experience illness more often. (Putri & Illahi, 2017) Giving complementary foods for breast milk too early is associated with an increased risk of gastro intestinal disease, which can cause growth disorders, micro-nutrient deficiencies, and susceptibility to various infectious diseases in the first two years of life. (Wangiyana et al., 2020) Although previous research shows that there is no relationship between the timeliness of complementary foods for breast milk and the baby's nutritional status with a p value = 0.640. (Widowati et al., 2022) however, accuracy in providing complementary foods for breast milk and sustainability of provision Breast milk plays an important role in the growth and development of children in the future. A phenomenon that exists in society, the types of food given to babies aged < 6 months include bananas, formula milk, biscuits, rice porridge, industrial baby food products, crushed rice.

CONCLUSION

There is a relationship between breastfeeding patterns and the nutritional status of children aged 6-24 months in the category of very weak relationship, it is possible that there are other factors that influence the nutritional status of children aged 6-24 months. It is hoped that future research will reveal internal and external factors that influence the nutritional status of children aged 6-24 months.

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