



The Correlation Between Maternal Care for Breastfeeding and Complementary Foods with the Nutritional Status of Infants in Puskesmas Panekan Magetan Regency

Riska Ayu Eliana¹, Sri Umijati^{2*}, Roedi Irawan³ and Yunias Setiawati⁴

¹Medical Program, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

²Department of Public Health and Preventive Medicine,
Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

³Departement of Pediatric, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

⁴Departement of Psychiatry, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

E-mail: riska.ayu.eliana-2019@fk.unair.ac.id; sri-u@fk.unair.ac.id;
roedi.dr.rsds@gmail.com; yuns.setiawati@gmail.com

*Corresponding author details: Sri Umijati; sri-u@fk.unair.ac.id

ABSTRACT

Background: Parenting is one of the important factors that affect the nutritional status of children. Inappropriate parenting can lead to a lack of nutritional intake and the occurrence of diseases that can affect the nutritional status and death of children. Caring for breastfeeding and complementary foods that are not sufficient can cause growth and development disorders with all the impacts in adulthood. **Methods:** This is an observational analytic with a cross-sectional approach. Samples were taken by random sampling technique with a sample size of 97 mothers who had babies aged 0-12 months. The independent variable is breastfeeding and complementary feeding and the dependent variable is the child's nutritional status. The data collection method was carried out through interviews using a questionnaire given to the mother and secondary data in the form of the baby's weight, then the results were analyzed using the chi-square test. **Results:** The most nutritional status of infants (90.7%) was normal weight or good nutritional status based on the weight/age index. The frequency of breastfeeding ≥ 8 times was 61.29%. The duration of breastfeeding ≥ 15 minutes was 64.9%. The frequency of giving complementary foods ≥ 3 times was 56.7%. The type of Complementary food that is suitable for age is 43.3%. The Chi-Square test showed that there was no relationship between breastfeeding and complementary feeding with children's nutritional status ($p > 0.05$). **Conclusion:** The results of this study prove that there is no relationship between a mother's care for breastfeeding and complementary foods with children's nutritional status.

Keywords: parenting; breastfeeding; complementary food; nutritional status

INTRODUCTION

Parenting is one of the important factors that affect the nutritional status of children. Caring for children can be in the form of breastfeeding and complementary foods. Inappropriate parenting can lead to a lack of nutritional intake and the onset of disease that can affect the nutritional status and death of children [1]. If breastfeeding and complementary food are not sufficient, it can cause growth and development disorders with all the impacts in adulthood [2].

Malnutrition as a reflection of child growth is still a significant problem in Indonesia. Based on Riskesdas data for 2018, the percentage of malnutrition in Indonesia is 11.4%, while in East Java it is 11.6%. In 2019, the percentage of toddlers in Magetan Regency with malnutrition was 7.6%. In the Panekan Health Center itself, there are toddlers with less nutritional status, which is higher than in Magetan Regency, which is 8% [3].

Although the malnutrition rate at the Puskesmas Panekan is lower than that in East Java Province, this figure has not yet reached the WHO target. WHO targets to reduce undernutrition to 5% by 2025.

Taberima et al, 2019 study in Semarang Regency showed that a history of exclusive breastfeeding and complementary feeding affected children's nutritional status. Children who have a history of exclusive breastfeeding and age-appropriate complementary foods show better nutritional status compared to children who do not get exclusive breastfeeding and age-appropriate complementary foods [4]. Meanwhile, Afrianto et al's 2015 study showed that there was no significant relationship between colostrum giving, exclusive breastfeeding, and complementary feeding with the nutritional status of children aged 4-24 months [5].

Based on the description above, the nutritional status figures at the Puskesmas Panekan have not reached the WHO target, there is an influence of parenting on the nutritional status of children, as well as several contradictory studies. This research is expected to provide information to increase knowledge about parenting and nutritional status.

METHODS

This research was conducted in August 2021 and finished in November 2022. This research uses an observational analytic research type with a cross-sectional approach. Samples were taken by random sampling technique with a sample size of 97 mothers who had babies aged 0-12 months. The independent variable is the parenting of breastfeeding and complementary foods. The results of this variable distinguished the frequency of breastfeeding (≥ 8 times or < 8 times, the duration of breastfeeding (≥ 15 minutes or < 15 minutes), the frequency of giving MP-ASI (≥ 3 times or < 3 times), and the type of MP-ASI (according to age or not according to age). The dependent variable in this study was nutritional status. The dependent variable was calculated using anthropometric indices (undernutrition status, good nutritional status, and overnutrition status). The data collection method was carried out through interviews using a questionnaire given to mothers and secondary data in the form of SKDN data from the puskesmas. The data obtained were then analyzed using SPSS with the chi-square test.

RESULT

This study involved 97 respondents of mothers and their babies. The youngest mother in this study was 19 years old and the oldest mother was 48 years old. The youngest baby in this study was 1 month old and the oldest baby was 12 months old with an average age of 7 months.

Table 2 shows that the frequency of giving ASI is ≥ 8 times greater than < 8 times. The duration of breastfeeding ≥ 15 minutes was also greater (64.9%) compared to < 15 minutes. The frequency of giving MPASI ≥ 3 times was 56.7% greater than < 3 times and babies who had not received MPASI. 43.3% more types of MPASI were given according to age than MPASI that was not age-appropriate.

TABLE 1: Characteristic Respondents.

| Characteristic | Frequency (n) | Percentage (%) |
|------------------------------|---------------|----------------|
| Mother's Age (Years) | | |
| 19-29 | 49 | 50,5 |
| 30-40 | 43 | 44,3 |
| 41-50 | 5 | 5,2 |
| Infant's Age (Months) | | |
| 0-3 | 20 | 20,6 |
| 4-6 | 44 | 45,4 |
| 6-12 | 33 | 34 |
| Gender | | |
| Male | 54 | 55,7 |
| Female | 43 | 44,3 |

TABLE 2: Characteristic maternal care forbreastfeeding and complementary foods.

| Characteristic | Frequency (n) | Percentage (%) |
|-----------------------------------|---------------|----------------|
| Frequency of Breastfeeding | | |
| ≥ 8 times | 60 | 61,9 |
| < 8 times | 37 | 38,1 |
| Duration of breastfeeding | | |
| ≥ 15 minutes | 63 | 64,9 |
| < 15 minutes | 34 | 35,1 |
| Frequency of giving MPASI | | |
| ≥ 3 times | 55 | 56,7 |
| < 3 times | 11 | 11,3 |
| Not yet MPASI | 31 | 32 |
| MPASI type | | |
| Age appropriate | 42 | 43,3 |
| Not Age Appropriate | 24 | 24,7 |
| Not yet MPASI | 31 | 32 |

TABLE 3: Characteristic Nutritional Status Gizi Based BB/U.

| Characteristic | Frequency (n) | Percentage (%) |
|----------------|---------------|----------------|
| Underweight | 2 | 2,1 |
| Normal | 88 | 90,7 |
| Overweight | 7 | 7,2 |
| Total | 97 | 100,0 |

Normal nutritional status has the highest percentage of 90.7% compared to being underweight and overweight. Normal nutritional status is higher than those with underweight or overweight status. Only a few babies have underweight or overweight nutritional status.

TABLE 4: Correlation between Breastfeeding and complementary food with Nutritional Status.

| Correlation between Breastfeeding and complementary food | Nutritional Status (BB/U) | | | | | | P value |
|--|---------------------------|-----|--------|------|-------------|------|---------|
| | Under weight | | Normal | | Over weight | | |
| | n | % | n | % | n | % | |
| Frequency of Breastfeeding | | | | | | | |
| ≥ 8 times | 1 | 1,7 | 57 | 95 | 2 | 3,3 | 0,412 |
| < 8 times | 1 | 2,7 | 31 | 83,8 | 5 | 13,5 | |
| Duration of Breastfeeding | | | | | | | |
| ≥ 15 minutes | 1 | 1,6 | 59 | 93,7 | 3 | 4,8 | 0,351 |
| < 15 minutes | 1 | 2,9 | 29 | 85,3 | 4 | 11,8 | |
| Frequency of Giving MPASI | | | | | | | |
| ≥ 3 times | 1 | 1,8 | 51 | 92,7 | 3 | 5,5 | 0,621 |
| < 3 times | 0 | 0 | 10 | 90 | 1 | 9,1 | |
| Not yet MPASI | 1 | 3,2 | 27 | 87,1 | 3 | 9,7 | |
| MPASI Type | | | | | | | |
| Age appropriate | 1 | 2,4 | 39 | 92,9 | 2 | 4,8 | 0,573 |
| Not Age Appropriate | 0 | 0 | 22 | 91,7 | 2 | 8,3 | |
| Not yet MPASI | 1 | 3,2 | 27 | 87,1 | 3 | 9,7 | |

Based on the chi-square test, there was no significant relationship between the frequency of breastfeeding ($p = 0.412$), the duration of breastfeeding ($p = 0.351$), the frequency of complementary feeding ($p = 0.621$), and the type of complementary feeding ($p = 0.573$) to the nutritional status of infants based on BB/U index.

DISCUSSION

Correlation between Frequency of Breastfeeding and Infant Nutritional Status. The results showed that there was no relationship between the frequency of breastfeeding and the nutritional status of infants based on the weight/age index. This is likely to occur because the data obtained is less varied and the sample is not large enough. The results of this study are in line with previous research which showed that 90.9% of the frequency of breastfeeding babies is more than eight times per day and this study shows that there is no relationship between the frequency of breastfeeding babies and baby's growth [6]. However, other studies have shown that the frequency of breastfeeding is related to the baby's weight gain [7].

The frequency of good breastfeeding is not scheduled (*on demand*) or according to the baby's request. The frequency of breastfeeding affects milk production. Smooth breastfeeding can be obtained when the mother increases the frequency of breastfeeding. Breastfeeding is a form of communication between mother and baby. Frequency is an important consideration because of the large amount of nutrients transferred to the infant [8].

Correlation between Duration of Breastfeeding and Infant Nutritional Status

The results of this study stated that there was no relationship between the mother's care for breastfeeding and complementary foods with the nutritional status of infants at the Panekan Health Center, Magetan Regency. The results of this study are different from other studies which show that the duration of breastfeeding is related to the baby's weight gain [7]. Other studies also state that the duration of breastfeeding is significantly related to infant weight gain [9]. The duration of sufficient breastfeeding makes the baby get complete nutrition. Many babies do not gain weight because the duration of breastfeeding is too short so the baby's nutritional status is less than optimal [7].

Correlation between the Frequency of Giving MPASI and the Nutritional Status of Infants

The results of this study indicate that there is no relationship between the mother's care for giving MPASI and the nutritional status of infants at the Panekan Health Center, Magetan Regency. This is different from other studies showing that the frequency of giving complementary foods that are not suitable tends to have less nutrition [10]. However, other studies have shown that there is a relationship between the frequency of complementary feeding and the nutritional status of children at the Gajah Mada Tembilahan Health Center [11].

Infants who are malnourished even though they have received the appropriate frequency of complementary foods may be due to the fact that their administration does not comply with the requirements for providing complementary foods. Babies who get less frequency of giving complementary foods but have good nutrition are probably because the portions and nutritional value contained in complementary foods have fulfilled their daily nutritional needs [11]. The frequency of complementary feeding is one of the factors that describe the energy adequacy received by the baby.

Giving the frequency of MPASI according to age can provide sufficient energy in the form of carbohydrates, proteins, fats, vitamins, and minerals. Adequacy of energy can prevent and overcome nutritional problems in children in their infancy [12].

Correlation between Types of MPASI and Infant Nutritional Status. The results of this study indicate that there is no relationship between the mother's care for giving MPASI and the nutritional status of infants at the Panekan Health Center, Magetan Regency. This research is in line with research that shows that there is no relationship between the type of complementary foods and nutritional status ($p = 0.456$) [13]. However, this study is not in line with other studies whose results show that there is a relationship between the texture of complementary foods and the nutritional status of 6-12 months of age in Kradenan Village, Trucuk District, Klaten Regency with a value of $p = 0.005$. [14].

Nutritional health depends on the level of consumption so if the intake of food consumed is not appropriate it can result in malnutrition. Conversely, if food is consumed in excess, it can result in overnutrition [15].

CONCLUSIONS

The most nutritional status of infants (90.7%) was normal weight or good nutritional status based on the weight/age index. The results of this study prove that there is no relationship between a mother's care for breastfeeding and complementary foods and the nutritional status of infants because the data is less varied. Further research is needed with a larger sample and more varied data.

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