

BREASTFEEDING DURATION AS A PREDICTOR RELATED TO THE INCIDENCE OF EATING DIFFICULTIES IN CHILDREN AGED 24-36 MONTHS

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Abstract: Background: The condition of eating difficulties in children can cause disruption to the growth and development of children. One study in 2015 in the Kedungmundu district stated that most malnourished children had eating difficulty. Factors that influence it include organic factors related to medical conditions, and non-organic factors related to diet, breastfeeding behavior, and parental factors. This study aims to determine the relationship between breastfeeding behavior, maternal emotional factors, the application of basic feeding rules (BFR), culture in applying BFR to children's eating difficulties. **Methods:** This study used mixed method with a cross sectional design. The study was conducted in the Kedungmundu district, Semarang City, Indonesia, in October 2022. The research subjects were taken by consecutive sampling as many as 55 subjects. Eating difficulty, implementation of BFR, cultural in implementing BFR, and maternal emotional factors were assessed using a questionnaire that had been through previous validity and reliability tests. Test analysis was carried out by using Mann Whitney and Chi Square. **Results:** The majority of children had eating difficulty (87.3%), female (54.2%), breastfed for 2 years (93.8%), exclusively breastfed (64.6%), had direct breastfeeding method (66.7%), mother's emotional state isn't good (58.3%), applies the BFR for child's diet (79.2%), and had culture that supports the implementation of the BFR (93.8%). There is a significant relationship ($p=0,018$) between duration of breastfeeding and eating difficulties. Children also tend to get bored with monotonous food. **Conclusion:** Factor that influence the incidence of eating difficulties in children aged 24-36 months are the duration of breastfeeding. Food variations also affect children's appetite which causes children to have eating difficulty.

Keywords: breastfeeding, duration, eating difficulties, 24-36 months

Introduction

The golden age is a period of rapid and critical growth and development in children (Priyanto A, 2014). One of the factors that play an important role is related to nutritional intake from food (Soetjningsih, 2014). Infant feeding is also beneficial for psychological development and training children to have proper eating habits. Nutrient intake is a direct determinant of growth and

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development and child survival. The presence of eating disorders in children will have an impact on the problem of feeding difficulties which will have negative impact on the growth and development of children (Uce L, 2018).

The prevalence of malnourished children aged 0-59 months in 2018 in Central Java Province was 16.8% (BPS, 2018). In Semarang City, the prevalence of under five-nutritional status in 2019 was 2.33% and 0.3% (Dinas Kesehatan Kota Semarang, 2019). One of the factors causing these nutrition problems is inadequate food consumption and improper child feeding practices. The term eating difficulties is a broad term used to describe a variety of feeding or mealtime behaviours perceived as problematic for a child or family. In general, the causes of eating difficulties can be divided into 2 factors, namely organic and non-organic factors (Saidah et al, 2020).

Organic factors/organic disorders are health problems that occur in children. These include congenital abnormalities, disorders of the digestive system, respiratory system, and nervous system as well as psychological disorders. Meanwhile, non-organic factors are divided into several aspects such as nutritional factors and psychosocial factors. Nutritional factors are related to the history of exclusive breastfeeding, the timing of the beginning of complementary feeding and the history of 6-24 months of complementary feeding, while psychosocial factors are related to feeding patterns in children (Goday et al, 2019; IDAI, 2015).

This study focuses more on non-organic disorders because the most frequent cause of eating difficulties is the provision of incorrect nutrition related to composition, texture, and feeding procedures. Affiliated program for Children Development University George Town states that there are 6 forms of eating difficulties in children, there are only wanting crushed food or liquid food; 27.3%, difficulty in chewing, sucking, or swallowing; 24.1%, strange and unusual eating habits; 23.4% dislike a variety of foods; 11.1% delay in self-feeding; 8.0%, and mealing time tantrums; 6.1% (Yuliarti et al, 2015).

Based on the explanation above, the reason the author chose the age of 24-36 months is because the critical feeding period up to 2 years have been fulfilled. Thus, it can describe the history of breastfeeding and complementary feeding as a whole. The critical period for the development of eating skills is at the age of 6-9 months. In addition, no previous studies have conducted research related to feeding difficulties at this age. One study mentioned feeding difficulties often occur at the age of 12-47.9 months (Van der Horst et al, 2016).

Previous studies have mostly discussed the relationship between parenting and nutritional status with eating difficulties in children, and did not specifically discuss the factors that cause eating difficulties. In addition, previous studies discussed more factors in general, not specifically on nutritional, feeding skills and psychological factors, so as a reason for researchers to examine the variables of nutrition, feeding skills and psychological factors associated with the incidence of eating difficulties in children.

Materials and Methods

This research was conducted from July to December 2022 in Kedungmundu Village, Semarang City, Central Java, Indonesia. The design was mix method study. The research sample for quantitative data was mothers with children aged 24-36 months. The sampling technique used was purposive sampling. The research samples for qualitative data were mothers/caregivers with children aged 24-36 months in

Semarang city who experienced eating difficulties as the main respondents, and the cadres as triangulation.

The research sample criteria included mothers who have children aged 24-36 months, mothers who care for their children directly, and the mother of the child is not ill. For the exclusion criteria were mothers who have children with structural/functional disorders of the digestive system such as cleft lip, labiognatopalatoschisis, cleft palate, short tongue frenulum, macroglossia, esophageal atresia, stomatitis, gingivitis, tonsillitis, and chronic diarrhoea; mothers who have children with structural/functional disorders of the respiratory system such as pulmonary tuberculosis; mothers who have children with central nervous system disorders or neurological disorders such as cerebral palsy; mothers who have children with other disease that affect eating ability such as Congenital Heart Disease and Down's Syndrome.

The tools used included interviews guides on breastfeeding and complementary feeding history, questionnaires on child feeding patterns and diagnosis of eating difficulties that had been tested for validity and reliability. Data collection was carried out after ethical clearance was issued by the Health Research Ethics Commission Faculty of Medicine, Universitas Muhammadiyah Semarang No.086/EC/KEPK-FK/UNIMUS/2022. Analysis was conducted on four independent variables and one dependent variable, that were suspected to have a relationship, namely breastfeeding behavior, history of complementary feeding, application of basic feeding rules, application of parenting patters (independent variables) to eating difficulties (dependent variable). Bivariat analysis was performed using the chi-square and Mann Whitney test.

Results and Discussion

This study aimed to determine the relationship between the factors of breastfeeding behavior, emotional parents, and children's diet with the incidence of eating difficulties in children. The research was conducted in Kedungmundu Village. The number of respondents was 55 people. The survey was conducted from October to December 2022 using mixed methods in the form of observational analytic studies and a cross-sectional approach. Data sources were obtained by interviewing respondents, namely mothers who have children aged 24-36 months in Kedungmundu Village. Respondents met the inclusion criteria and exclusion criteria.

The characteristics of the respondents are illustrated in table 1. The majority of children were female (52.7%), parental income more or equal to regional minimum wage (74.5%), the last mother education was higher education (61.8%), children with eating difficulties (87.3%) with the majority (69.1%) belonging to the inappropriate feeding practice group, breastfeeding for 2 years (94.5%), providing exclusive breastfeeding (69.1%) applying direct breastfeeding (69.1%), emotional factors in dealing with feeding problems in children are not good (58.2%), the application of children's diet according to Basic Feeding Rules (78.2%), and culture supports the application of Basic Feeding Rules (92.7%).

Table 1. Respondents Characteristics

Variables/Characteristics	Frequency	Percentage (%)
<i>Child Gender</i>		
Male	26	47.3%
Female	29	52.7%
<i>Revenue</i>		
More or equal to the minimum wage	41	74.5%
Less than minimum wage	14	25.5%
<i>Mother's last education</i>		
Secondary education (high school or equivalent)	21	38.2%
Higher education (college)	34	61.8%
<i>Children with eating difficulties</i>		
Not experienced	7	12.7%
Experience	48	87.3%
<i>Classification of eating difficulties</i>		
Sensory food aversions	38	69.1%
Inappropriate feeding practice	10	18.2%
<i>Breastfeeding for 2 years</i>		
Yes	52	94.5%
No	3	5.5%
<i>Exclusive breastfeeding</i>		
Yes	38	69.1%
No	17	30.9%
<i>Breastfeeding method</i>		
Direct	38	69.1%
Indirect	14	25.5%
Not breastfeeding	3	5.5%
<i>Emotional factors of mother</i>		
Good	23	41.8%
Not good	32	58.2%
<i>Child's diet</i>		
Applying Basic Feeding Rules	43	78.2%
Not Applying Basic Feeding Rules	12	21.8%
<i>Culture</i>		
Support	51	92.7%
Not in favor	4	7.3%

After testing between characteristic variables and eating difficulties, the results are shown in table 2. The results of the test between the variables of child gender, breastfeeding for 2 years, exclusive breastfeeding, breastfeeding method, maternal emotional factors, child diet, and culture on eating difficulties in children showed that there was no significant relationship ($p>0.05$).

Table 2. Relationship between respondent characteristics and the incidence of eating difficulties

No	Variables	Eating difficulties				n	p value
		Not		Yes			
		n	%	n	%		
1	Gender						
	Male	4	57.1	22	45.8	26	0.696*
	Female	3	42.9	26	54.2	29	
2	Breastfeeding for 2 years						
	Yes	7	100	45	93.8	52	1.000*
	Not	0	0	3	6.3	3	
3	Exclusive breastfeeding						
	Yes	7	100	31	64.6	38	0.086*
	Not	0	0	17	35.4	17	
4	Breastfeeding method						
	Direct	6	85.7	32	66.7	38	0.562*
	Indirect	1	14.3	13	27.1	14	
Not breastfeeding	0	0	3	6.3	3		
5	Mother Emotional factors						
	Good	3	42.9	20	41.7	23	1.000*
	Not good	4	57.1	28	58.3	32	
6	Child's diet						
	Applying BFR	5	71.4	38	79.2	43	0.639*
	Not applying BFR	2	28.6	10	20.8	12	
7	Culture						
	Support	6	85.7	45	93.8	51	0.429*
	Not in favor	1	14.3	3	6.3	4	

As for the variable length of breastfeeding, the average mother breastfeeds her child 15.20 months \pm 11.775 (0-36 months). While the results of bivariate tests using Mann Whitney test (non-normal distribution test data) showed the results of the relationship between the length of breastfeeding with eating difficulties (p=0.018).

The results of in-depth interviews with the main informants, which are mothers who have children who have difficulty eating, are as follows: Related to breastfeeding behavior in children: "I breastfeed until now. Directly, when I used to work, I used a pacifier." The mothers give breast milk until now, if she meets directly (the mother does not work), she breastfeeds directly. However, if the mother works, breastfeeding is given with a pacifier.

Regarding the variety of food given to children: "I don't like fish. I still like chicken but sometimes I want it, sometimes I don't. If it's snacks, it's snacks like chocolate biscuits. Now I eat regular rice, like adult food, adult side dishes. Fish doesn't like it, it's fishy because it's usually 'wheeked'. If he likes tempe, he likes to make him pray. He likes cheese, he likes chocolate instead. Bread is given jam

and then donuts, yes, chocolate, if you buy 'sari roti'. He also likes Chiki". The child tends to choose food, and doesn't like fish, preferring chocolate (sweet food).

Regarding children's eating behavior: "when eating, he usually sits while playing cellphone, now that he is older, he can walk, sometimes he likes to ride his baby walker. Yes, while watching TV, sometimes while riding a bicycle, walking, sometimes being carried, not necessarily him".

Regarding the length of meal time: "Yes, 20 minutes at most, no half an hour, he's fast when he eats." When it comes to meal times and special rules: "No, if he wakes up wanting to eat, usually he doesn't give him a snack later at 12 o'clock to eat again, in the afternoon he usually eats at 5 o'clock in the evening to go to bed, what else is a snack. If he eats, he is somewhat able to eat, is it's with me, sometimes I don't bribe him, because if he eats alone, it takes a long time."

Regarding the mother's actions when dealing with children who have eating difficulty: "I'm never bored, because if I cook one day, for example today soup, tomorrow spinach vegetables, tomorrow soup, so on, change."

Based on the results of the study, it shows that there is no relationship between child gender, breastfeeding for 2 years, exclusive breastfeeding, breastfeeding method, maternal emotional factors, child diet, and culture on eating difficulties in children. The majority of children who experienced eating difficulties were female (54.2%), breastfed for 2 years (93.8%), exclusive breastfed (64.6%), direct breastfeeding method (66.7%), unfavorable maternal emotional factors (58.3%), children's diet by applying Basic Feeding Rules (79.2%), and culture that supports the application of Basic Feeding Rules (93.8%).

This is in contrast to some studies that shown the application of basic feeding rules to be associated with eating difficulties in children. There may be other cause related to the eating difficulties faced. Based on the results of in-depth interviews, it was mentioned that the child is a picky eater, and only certain types of food. This is more of a factor in children's eating difficulties. This condition is due to the fact that most incidences of feeding difficulties related to exclusive breastfeeding are related to Sensory Food Aversion classification of eating difficulties, which describes picky eater in children (Benjasuwantep et al, 2013).

Whereas in this study, the most common classification of eating difficulties is inappropriate feeding practice which describes that child's eating behavior. And also related to the behavior of mothers who tend not to provide rules in eating, which is more following the wishes of the child. Children are more likely to like sweet foods (chocolate) and chiki/snacks with flavoring. So that children feel full just by eating these snacks, which can cause children to have difficulty eating when mealtime arrives. IDAI in the Diagnosis and Management Approach to Feeding Problems in toddlers in Indonesia in 2014, provides recommendations for parents or caregivers in applying feeding practices correctly and from the time the child is introduced to complementary foods (IDAI, 2015).

The results of the study of the variable of breastfeeding duration and eating difficulties showed a significant relationship between the two. This is probably because children prefer breastfeeding to eating. In children who breastfeed directly, a strong bond has been formed between mother and child, so children tend to prefer breastfeeding over eating. Children will tend to feel full and comfortable just by breastfeeding. This statement is also supported by the results of the majority of children who

have difficulty eating are children who breastfeed directly with their mothers. This is also associated with poor maternal emotional factors, which tend to cause more children to experience eating difficulties. Emotional factors are concluded to be unfavorable in this study, because mothers tend to follow the wishes of children when children have difficulty eating. Such as not being able to bear if their children do not eat, so they follow the food that the child likes more than the recommended standard menu, also tend to persuade children to eat even by watching TV or playing and walking around the house.

Conclusion

The need to provide routine mealtime rules for children, so that children will choose to eat rather than breastfeed or drink formula milk. There is a need further research related to intervention research from factors that influence children's eating difficulties, which related to intervention in applying basic feeding rules to overcome to problem of children's eating difficulties.

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