

RELATIONSHIP BETWEEN BASIC FEEDING RULE APPLIED BY PARENTS AND EATING DIFFICULTIES OF CHILDREN UNDER FIVE YEARS OF AGE IN KEDIRI, EAST JAVA

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ABSTRACT

Background: Difficulty eating in children is a problem faced by parents. However, adequate nutritional intake is required for the growth and development of children. Basic feeding rules can be used as guidelines for parents to overcome the feeding problems in children. This study aimed to examine the relationship between basic feeding rule applied by parents and children's eating difficulties under five years of age in Kediri, East Java.

Subjects and Method: A cross-sectional study was conducted at Semampir, Kediri, East Java. A sample of 32 children under five years of age was selected by purposive sampling. The dependent variable was eating difficulty of children. The independent variable was basic feeding rule applied by parents. The data were collected by questionnaire. The data were analyzed by chi-square.

Results: Basic feeding rules that are lacking from parents increased the incidence of feeding difficulties in children under five (OR = 5.94; 95% CI = 1.08 to 32.51; p = 0.050).

Conclusion: Basic feeding rules that are lacking from parents increase the incidence of feeding difficulties in children under five.

Keywords: basic feeding rule, difficulties, children under five years of age,

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BACKGROUND

Toddler age is a golden period of growth and development. It is a determining period in subsequent physical and mental development so that nutritious food intake is very important in this period. Some of the problems that often occur in the fulfilment of nutrition during toddlerhood are difficulty eating which can cause decreased immune system, sleep disturbances, impaired balance and coordination, children become aggressive, impulsive, and stunted Djauhari (2017).

In the 2015-2019 health development, stunting was included in the four national health development programs to reduce stunting incidence to 28% (MOH RI, 2018). In 2017 22.2% or around 150.8 million children under five in the world were stunt-ed. According to WHO data, Indonesia is one of

the third countries with the highest prevalence in Southeast Asia. The average prevalence of stunting under five in Indonesia in 2005-2017 was 36.4%. Based on Nutritional Status Monitoring data for the last three years, stunting incidence has the highest prevalence compared to other nutritional problems such as malnutrition, wasting, and obesity.

Difficulty eating in children is a child refuses or unable to accept a sufficient number of variations of food or drink, even though children need adequate nutritional intake to maintain their nutritional status (Fitriani et al., 2009).

Children aged 3 - 5 years are preschoolers, experiencing growth and development are active consumers. In preschool children, more than 20% of the problems were found to have difficulty eating. This is because

children can choose the food they like and only want to eat certain foods.

Difficulty eating or often referred to as Picky Eater is a child who has difficulty eating or only likes certain types of food. Picky Eater is the behavior of a child refusing to eat or refusing to eat or having difficulty consuming food or drinks of the appropriate type and quantity physiologically (naturally). It starts from opening his mouth without coercion, chewing, swallowing until it is absorbed in digestion both without force and without giving certain vitamins and drugs (Judarwanto, 2006). Picky Eaters' symptoms are eating only a little, hard to try new foods, totally avoiding certain types of food, and only having foods he/ she likes. So, picky eaters are eating difficulties characterized by refusing to eat, neophobic, and having preferred foods (Abell, 2006).

Parents often complain about difficulty eating in children when going to a polyclinic or a practice place. One of the developmental disorders that occur in healthy babies or children. About 25% of children with normal development and 80% of children with developmental disabilities reported eating problems (Gurnida, 2013).

According to the census conducted by the World Health Organization (WHO) (2012, in Rohmasari, 2013), 42% of the 15.7 million deaths of children under 5 years occurred in developing countries. From these data, 84% of malnutrition cases of children under five years of age (toddlers) occurred in Asia and Africa. Meanwhile, in Indonesia in 2012, around 53% of children under 5 years of age suffered from malnutrition caused by a lack of food to meet their daily nutritional needs (MOH RI, 2012).

A study by The Gateshead Millenium Baby Study in 2006 in the UK stated that 20% of parents said their children had eating problems, with the highest prevalence of

children only eating certain foods. Another survey in the United States in 2004 stated that 19-50% of parents complained that their children were very picky in eating, resulting in deficiencies of certain nutrients (Kesuma et al., 2015).

Difficulty eating is the inability of children to consume the amount of food they need. Research on preschool children aged 4-6 years in Jakarta found a prevalence of eating difficulties of 33.6%, 44.5% of them suffer from mild-moderate malnutrition, and 79% have lasted more than three months. A study in Belgium found 17% of children referred with severe feeding difficulties were found to have reflux esophagitis without any other illness. Organic, nutritional, and psychological factors largely differentiate the causes of food difficulties.

Difficulty feeding in children is often associated with failure to thrive. Failure to thrive in general can be caused either by organic or non-organic factors. Organic factors include abnormalities in the anatomical structure, digestive system, metabolic disorders, mechanical obstruction, cranial nerve damage, food allergies, and dysphagia, while non-organic factors include psychosocial factors, the inability of parents to provide adequate food intake, and ignorance/misinformation about how to feed.

A multidisciplinary approach is needed to assess and manage feeding difficulties in children. Medical, developmental, physiological, behavioral, parent-child relationships, and environmental factors are needed to diagnose and manage eating disorders in children. Therefore, management of eating problems should include 3 aspects: (1) Identifying the causative factors, (2) Evaluating the impact that has occurred, and (3) Making improvements.

One form of improvement in overcoming the problem of eating difficulties is

by providing counselling for parents/caregivers. According to Chatoor, providing counselling to parents that includes feeding rules can help children learn to manage and overcome their own eating problems (Kadarhadi, 2012).

Basic feeding rules are guidelines or basic rules of feeding practice to develop a structured eating schedule and help children practice their internal eating regulations. Based on a preliminary study conducted in the Work Area of the Sukorame Public Health Center, Kediri City, of 10 parents of children under five (1-3 years), found that 8 children (%) had difficulty eating and 75% did not follow the Basic Feeding Rules in providing food to their children. This study aimed to examine the relationship between basic feeding rule applied by parents and children's eating difficulties under five years of age in Kediri, East Java.

SUBJECTS AND METHOD

1. Study Design

A cross-sectional study was conducted at Semampir, Kediri, East Java.

2. Population and Sample

A sample of 32 children under five years of age was selected by purposive sampling. Those who had difficulty eating with inclusion criteria were mothers of under-five who were willing to be respondents with the criteria for both boys and girls. These toddlers had parental misperception and inappropriate feeding. The exclusion criteria were toddlers with feeding difficulties who had structural abnormalities such as naso-oropharyngeal abnormalities, choanal atresia, cleft lip, sequences, Pierre Robin, macroglossia, ankyloglossia, children with laryngeal and tracheal abnormalities, etc.

3. Study Variables

The dependent variable was eating difficulty of children. The independent variable was

basic feeding rule applied by parents. The data were collected by questionnaire.

4. Data Analysis

Univariate analysis was carried out to show the sample characteristics in frequency and percentage. Bivariate analysis was conducted using chi-square.

RESULTS

1. Sample Characteristics

Table 1 showed the sample characteristics of the study. The majority of the toddlers were female (62.5%), 12 -24 months aged toddlers (78.13%), 2nd to 4th children in the family (43.75 %). The majority of the parents had a secondary education level (31.25%) and worked as private employees (31.25%). Most (71.9%) parents did not perform basic feeding rules behavior in providing food to their children. Almost half (37.5%) of under-five children in this study had difficulty eating in the high category.

Table 2 showed the relationship between basic feeding behavior rules applied by parents and feeding difficulty for toddlers. The majority (55.56%) had difficulty eating toddlers in the light category, as many as 5 respondents. Of 23 respondents who were parents of toddlers who did basic behavior Feeding Rules found that almost half (30.43%) had difficulty eating toddlers in the moderate category, as many as 7 respondents. Basic feeding rules that are lacking from parents increased the incidence of feeding difficulties in children under five, and it was statistically significant (OR = 5.94; 95% CI = 1.08 to 32.51; p = 0.050).

DISCUSSION

This study showed a relationship between basic feeding behavior rules applied by parents and feeding difficulty for toddlers. Basic feeding rules that are lacking from parents significantly increased feeding difficulties in children under five. Basic Feeding Rules are guidelines or basic rules of correct feeding

practice to overcome eating difficulties. Research in America in 2007 showed that parenting strategies when feeding also affects the nutritional status of children. Research in China showed that mothers who receive nutrition education interventions for 1 year have better knowledge and infant feeding practices and growth (Adarhadi, 2012).

Based on the results of a multicenter national research study involving 1116 children aged 1-3 years from 11 provinces in Indonesia who experienced eating or weight

problems. The results showed three main findings that serve as a reference for diagnosis: parental complaints, nutritional status, and feeding rules. Eating problems can be classified as inappropriate feeding practices, small eaters, and parental misperception. Inappropriate feeding practice may occur primarily due to a lack of parental knowledge about correct or secondary feeding in response to small eaters, parental misperception, and food preferences (Sjarif, 2014).

Table 1. Sample Characteristics (categorical data)

Variables	Categories	Frequency (n)	Percentage (%)
Gender	Male	12	37.5
	Female	20	62.5
Age (months)	12 to 24	25	78.13
	25 to 36	12	37.5
Number of children	1	12	37.5
	2 to 4	14	43.75
Parental Education	4	6	18.75
	Basic	6	18.75
	Middle	16	50
	High	10	31.25
Parental Occupation	Housewives	8	25
	Self-employee	8	25
	Civilian	4	12.5
Applied Basic Feeding Rules	Private employee	10	31.25
	Others	2	6.25
	Yes	9	28.1
Level of difficulty feeding	No	23	71.9
	Low	9	28.1
	Medium	11	34.4
	Height	12	37.5

2. Bivariate Analysis

Table 2. Relationship between feeding behavior basic rules applied by parents and feeding difficulties in toddlers

Variables		Feeding Difficulties in Toddlers		OR	95% CI		p
		Light	Medium-Heavy		Lower Limit	Upper Limit	
Behavior basic feeding rules	Yes	5	4	5.94	1.08	32.51	0.050
	No	4	19				

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If the child has difficulty eating, several things need to be done. According to feeding

rules to Bonnin's: schedule, environment, and procedure. Schedule: schedule of main meals and snacks regular, feeding should not be ≥ 30 minutes, do not offer other snacks at mealtime except drinking. Environment: a pleasant environment (no compulsion to eat), prepare napkins for eating mats so that they are not messy, no distraction (toys, television, electronic game devices) when eating, do not give food as gifts. Procedure: give food in small portions, give the main meal first, then end with drinking, encourage the child to eat alone. If the child shows signs of refusing to eat (closes his mouth, turns his head, cries), offer food again neutrally, that is, without coaxing or insist, if after 10-15 minutes the child still does not want to eat, end the process of eating. Only clean the child's mouth when eating is finished (Perez, 2017).

The behavior of many parents in Indonesia towards some of these things is still very difficult to do, because their understanding is still inaccurate. Most parents-/caregivers tend to persuade and calm the children in various ways so that the children want to eat. This actually disturbs the child's concentration on eating. If the child does not want to eat, the parents often replace it with excessive formula milk. This method results in children always full, and it becomes increasingly difficult to recognize proper eating behavior (Soedibyo, 2016).

The problem of difficulty eating in children needs to be addressed. This is a problem for parents because parents realize the importance of forming healthy eating habits early in life and the relationship between malnutrition and adverse health conditions that can lead to complications and growth disorders in children. Basically, eating is a learning process, so introducing the food menu to children must be done gradually. But behind this convenience and

habit, without realizing it, this picky eating behavior can be a media for children to emulate in choosing food because toddler-age children are imitators of their closest people (Gurnida, 2013).

Whatever he sees, it is considered good and should be emulated, but sometimes parents do not think that their usual habits will impact their children (Afridawaty, 2018).

Factors that influence parental behavior regarding Basic Feeding Rules can be due to a lack of mothers' knowledge about how to feed toddlers. So, counseling or more in-depth information is needed on guidelines for how to feed children properly.

This study found almost half (37.5%) of toddlers had difficulty eating in the high category, amounting to 12 respondents. According to the "Diagnostic and Statistical Manual of Mental Disorders" (DSM IV), eating difficulties in childhood is defined as the child's persistent failure to obtain an adequate amount of food intake. This eating disorder lasts for at least 1 month, and can cause disruption in body weight growth, or experience significant weight loss. Children can refuse to eat the food served, failing the child to meet energy and nutritional needs (Gurnida, 2013).

Feeding is an important part of the life of infants and children under three years (toddler). Most parent-child interactions occur at the time of feeding. Infant and toddler feeding is considered a natural process. However, 50-60% of parents reported that their child was having problems eating. After further evaluation, it was found that children who do have eating problems are 20-30%, and only 1-2% have serious and prolonged eating problems.

Meanwhile, in children with neurological disorders, eating problems are higher, which is around 80%. Variations in terminology and classification used caused the pre-

valence of varied eating problems. The Chicago study reported that the most common eating behavior problem in infants was not always hungry at mealtimes (33%), whereas eating behavior problems in toddlers included not always being hungry at meal-time (52%), trying to end a meal after a few bites. (42%), picky eating (35%), and strong preferences for certain foods (33%). Toddler picky eaters ate slower than non-picky eaters (23.3 minutes vs 19.7 minutes ($p < .040$)).

The New Zealand study reported that 24% of 2-year-olds had feeding problems and the Gateshead Millennium Baby Study in the UK reported 20% of parents thought their toddler had eating problems, especially wanting certain foods (17%) and choosing drinks over food (13%) (Sjarif, 2014).

A preliminary study in Jakarta, Indonesia in 2011 showed that inappropriate feeding practices are one of the causes of significant eating problems (30%) in children aged 1-3 years. Inappropriate Feeding Practice is defined as wrong eating behavior, including not following feeding rules or feeding that is not age-appropriate. Incorrect feeding practices, including types of food and eating behavior, greatly contribute to inappropriate feeding practices. Incorrect feeding practices have often occurred since the weaning period when complementary feeding (MPASI) is started. The weaning period is an important period for introducing food and training oromotor skills so that children can eat family food (Sjarif, 2014).

Basic feeding rules are guidelines or basic rules of feeding practice to develop a structured eating schedule and help children practice their internal eating regulations. Parents' inability to feed properly can lead to feeding problems. This inability can be caused due to a lack of knowledge regarding four aspects of proper feeding methods: (1) On time, (2) Quantity and quality of food, (3)

Hygienic preparation and presentation, and (4) Feeding according to the stages. Child development by applying Feeding Rules (Sjarif, 2014).

The inability of parents to apply the basic feeding rules makes it difficult for children to eat. Where the child feels depressed or the child feels bored and so on. In the IDAI Recommendation on Approaches to Diagnosis and Management of Feeding Problems in Toddlers in Indonesia, experts explained at length about this eating problem. Research in 2011 showed that the most common cause of eating problems is inappropriate feeding practices. Inappropriate feeding practice is wrong eating behavior, not following feeding rules, or feeding that is not age-appropriate (Rahmawati, 2019).

The success of managing feeding problems depends on the degree of problems with eating and the cooperation of the family with doctors. The family in question includes parents and all family members involved in feeding and caring for children. For serious eating problems, a multidisciplinary team is needed consisting of a pediatrician as team leader, a specialist in physical and rehabilitation medicine, a specialist in psychiatry experienced in dealing with feeding problems in children, and child dietitians. An underlying medical problem eating problems also should be treated with care.

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