Correlation Between Mothers's Knowledge, Attitude, and Practice Basic Feeding Rules vs. Eating Behavior in Preschool Age Children

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Abstract: The stunting rate in Surabaya is 27,4%. The implementation of basic feeding rules aims to reduce inappropriate feeding practices and improve children's nutrition and health. This study aimed to analysed the correlation between a mother's knowledge, attitude, and practice of basic feeding rules with eating behavior in preschool-age children. A sample size of 41 respondents was selected by simple random sampling for this cross-sectional study. Mothers' knowledge, attitude, and practice of basic feeding rules were assessed based on Bonnin's theory in 2005. Children's eating behavior was assessed using the Behavioral Pediatric Feeding Assessment Scale (BPFAS) and categorized based on the Total Frequency Score (TFS) and Total Problem Score (TPS). The study results showed that 39% of children experienced eating problems, while most mothers had good knowledge, attitude, and practice of basic feeding rules. The test results showed no correlation between mothers' knowledge (p= 0,788 based on TFS; p=0,794 based on TPS) and attitude (p= 0,587 based on TFS; p=0,903 based on TPS) with children's eating behavior problem. However, there was a significant correlation between mothers' practice of basic feeding rules with children's eating behavior based on TFS (p=0,033), but no correlation based on TPS (p= 0,091).

1 INTRODUCTION

Toddlerhood is an important phase in a child's growth because the development that occurs during this period lays the foundation for their future growth and can significantly influence their maturation**.** As children transition into the preschool age, they start to express their preferences (Ministry of Health, RI., 2016). Within the initial five years of life, the body undergoes rapid changes and growth. The establishment of eating habits, which may serve as the groundwork for future eating patterns, takes place during these first five years (Taylor and Emmet, 2019). During this stage, children may encounter eating behavior problems, such as being small eaters and displaying food preferences (selective eating and picky eating), which can potentially lead to various health risks later in life (IDAI, 2015). Additionally, these problems can give rise to nutritional issues, such as *stunting* and *wasting* (Prasetyo dan Hagono, 2020).

According to the 2021 Indonesian Nutrition Status Survey, the stunting rate in Indonesia is 27,67%. The stunting rate in Surabaya is 27,4%. Based on research conducted by the UKK Nutrition and Metabolic Diseases IDAI in 2014, inappropriate feeding practices significantly contribute to the emergence of eating problems in children. Children often consume the food provided at home, those the meals served at home heavily influence their dietary choices. Consequently, families particularly parents, play a crucial role in shaping and educating children regarding their eating behavior (Ogden, 2014). However, the primary responsibility for child-feeding practices lies with the mother (Muriyanti, et al., 2022).

The basic feeding rule was created to address numerous mistakes that parents make when feeding their children. Basic feeding rules consist of structured guidelines encompassing three key aspects, such as feeding schedules, environment, and procedures (Ghinanda, et al., 2022). Therefore, mother's Knowledge, Attitude, and Practice (KAP) are also highly important to promote children's health. Exposure of mothers and children to dietary guidelines is very important to encourage healthy eating habits and good nutritional status (Prasetya dan Khomsan, 2022).

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Research conducted by Setiarsih and Habibi, (2020) revealed a correlation between the feeding style practiced by parents and the occurrence of eating difficulties among children aged 3-5 years at TK Nurul Hikmah Pamekasan. Eating problems were also identified at TK Pengawas II Surabaya, as evidenced by a survey involving 60 parents. as Among the respondents 88% reported observing at least one of the signs of feeding behavior problems in their children. This study aimed to analyze the correlation between a mother's knowledge, attitude, and practice of basic feeding rules with eating behavior in preschool-age children.

2 SUBJECTS AND METHODS

This study used an analytic observational method with a cross-sectional design. The data were gathered through interviews using a questionnaire. The research was conducted at TK Pengawas II Surabaya from May to November 2022 involving a population of preschool children. The study's participants included mothers and children from TK Pengawas II Surabaya. The sample consisted of children aged 36-60 months, selected using a simple random sampling technique. The minimum sample size in the study was 41 children, determined using the Lemeshow (1997) formula.

Children's eating behavior data was collected using the Behavioral Pediatric Feeding Assessment Scale (BPFAS) instrument with the total score classification categorized into two groups: normal (TFS≤84 and TPS≤9) and non-normal (TFS>84 and/or TPS>9). Mother's Knowledge, Attitude, and Practice of Basic Feeding Rules were assessed through the Knowledge, Attitude, and Practice Basic Feeding Rules questionnaire based on Bonnin's theory, (2005) with a scoring system. This questionnaire comprised 30 questions in total, with 10 questions dedicated to each aspect: knowledge, attitude, and practice of basic feeding rules.

Data analysis of the study was carried out using SPSS v.20.0 software. The analysis performed was univariate analysis, with data presentation in tabular form in the form of frequency distribution, percentage, mean, and standard deviation of each variable. Bivariate analysis using the Pearson Correlation Test, which was carried out with the aim to analyze the relationship between knowledge, attitude, and practice of basic feeding rules of mothers with eating behavior of preschool-age children.

3 RESULTS

Characteristics of the child including age and gender. This data was collected with a questionnaire. The outcomes derived from the gathered data are presented in the subsequent table.

Table 1: Characteristics of children.

Characteristics of children	n	%
Age		
36-48 months	10	24,3
49-60 months	31	75,6
Gender		
Boys	19	46,3
Girls	22	53,7
Total	41	100

The results showed that there were 24,3% of children aged 36-48 months and 75,6% of children aged 49-60 months. In addition, the results regarding the gender characteristics of children, it was found that there were more girls than boys, which amounted to 53,7%.

Table 2: Characteristics of respondents.

Characteristics of children's guardians	n	%
Age		
20-35 years old	26	63,4
36-45 years old	15	36,5
Children's guardian		
Mothers	33	80,5
Others	8	19,5
Education		
Elementary School	0	0
Junior high school	3	7,3
Senior high school	22	53,7
College	16	39,0
Work status		
Worker	18	43,9
Non-workers	23	56,1
Total	41	100

The total number of respondents was 41 people. Data were obtained through the completion of structured questionnaires containing questions about age, children's guardian, education, and work status given to respondents. Based on Table 2, the age distribution of children's guardians was in the range of 20 to 45 years with most subjects being cared for by mothers, as many as 80.5% and 19.5% were cared for by others such as grandmothers. The distribution of education level was mostly high school graduates, as many as 53.7%, and the highest education was

college, which amounted to 39%. Work status is mostly not working, with a percentage of 56.1%.

3.1 Mother's Knowledge, Attitude, and Practice Basic Feeding Rules

Mother's Knowledge, Attitude, and Practice of Basic Feeding Rules were assessed through the Knowledge, Attitude, and Practice Basic Feeding Rules questionnaire. The results can be seen in the following table.

Table 3: Knowledge, Attitude, and Practice Basic Feeding Rules of Respondents in TK Pengawas II Surabaya 2022.

KAP *Basic Feeding Rules*		Poor	Good	Total
Knowledge	n	3	38	41
	%	7,3	92,7	100,0
Attitude	n	2	39	41
	%	4,9	95,1	100,0
Practice	n	3	38	41
	%	7,3	92,7	100,0

Based on Table 3, the frequency distribution of the results of Basic Feeding Rules Knowledge's respondents is mostly classified as good, with a percentage of 92.7%. The result of attitude Basic Feeding Rules has the highest value, which is 95.1%. The results of the practice of Basic Feeding Rules were also classified as good with a value of 92.7%.

3.2 Children's Eating Behaviour

The results of the children's eating behavior scores are presented in the form of average, minimum, and maximum values in the following table.

Table 4: Eating Behavior Scores of Subjects in TK Pengawas II Surabaya 2022.

Eating Behavior Scores	Average	Minimum	Maximum
Total Frequency Score (TFS)	73,54 ± 13,6333	47	101
Total Problem Score (TPS)	7,12 ± 6,038	0	21

Based on Table 4 shows that the average Total Frequency Score (TFS) and Total Problem Score (TPS) are classified as normal. Total Frequency Score (TFS) shows an average of 73.54 ± 13.6333, while the average Total Problem Score (TPS) is 7.12 ± 6.038.

Table 5: Eating Behavior of Subject in TK Pengawas II Surabaya 2022.

Eating Behavior	n	%
Normal	25	61,0
Not-Normal	16	39,0
Total	41	100,0

Children's eating behavior data was obtained by filling out the Behavioral Pediatric Feeding Assessment Scale (BPFAS) questionnaire given to respondents. Based on the results in Table 5, most subjects had normal eating behavior, as many as 61%. The abnormal eating behavior was found in subjects with the results of 39%.

3.3 Relationship between Mother's Knowledge of Basic Feeding Rules with Children's Eating Behavior

The results of the analysis on the relationship between Mother's Knowledge of Basic Feeding Rules with eating behavior in preschool children using the Pearson correlation test obtained a significance value between the knowledge score and TFS is 0.788, while the knowledge score with TPS is 0.794. This shows that there is no significant relationship between knowledge score and eating behavior in this study.

A non-significant relationship was also found between mother's attitude toward basic feeding rules and children's eating behavior. This is because the significance values based on TFS and TPS are 0,587 and 0,903. These results show that the significance value is >0,05.

However, a significant value was found in the relationship between the mother's practice of basic feeding rules in preschool children's eating behavior with a significance value based on the TFS score of 0,033. Based on the TPS score, the p-value was 0,091 which indicates that there is no significant relationship.

Table 6: Cross Tabulation of Knowledge, Attitude, and Practice of Basic Feeding Rules of Mothers with Children's Feeding Behavior in TK Pengawas II Surabaya 2022.

Classification of Eating Behavior						Total	%	p-value
		Normal	%	Not-Normal	%			
Classification of Knowledge Basic Feeding Rules	Poor	2	4,9	1	2,4	3	7,3	TFS (0,788) TPS (0,794)
	Good	23	56,1	15	36,6	38	92,7	
Classification of Attitude Basic Feeding Rules	Poor	2	4,9	0	0,0	2	4,9	TFS (0,587) TPS (0,903)
	Good	23	56,1	16	39	39	95,1	
Classification of Practice Basic Feeding Rules	Poor	0	0,0	3	7,3	3	7,3	TFS (0,033) TPS (0,091)
	Good	25	61,0	13	31,7	38	92,7	
Total		35	61	16	39,0	41	100	

4 DISCUSSIONS

Eating problems in children are picky eating, selective eating and small eating. However, when children show eating problems, parents tend to give supplements or multivitamins to children, while the cause of the appearance of eating problems in children can occur due to inappropriate feeding practices. Therefore, there are basic feeding rules that are expected to help children with feeding problems. It is important for parents, especially mothers, to know the basic feeding rules for children to support the nutritional status and health of children. (IDAI,2015)

Based on the research, both the knowledge, attitude, and practice of mothers towards basic feeding rules are classified as good but the significance value between the knowledge score and TFS was 0.788, while the knowledge score and TPS was 0.794. This shows that there is no significant relationship between knowledge score and eating behavior in this study. The significance values of attitude scores with TFS and TPS were 0.587 and 0.903. These results also indicate that there is no significant relationship between attitude score and eating behavior in this study.

The absence of a relationship is due to the high and low scores of knowledge and attitude in this study did not affect the score of eating behavior, both TFS and TPS scores. The results of the study are not in line with the research of Rahayu, et al., (2021) that as the mother's knowledge of feeding rules increases, eating problems in children decrease. Meanwhile, a significant relationship was found between the practice basic feeding rules score and eating behavior based on the TFS assessment, while there was no significant relationship between the practice basic feeding rules score and eating behavior based on the TPS assessment. This is due to mothers who do not consider their children's eating behavior as a problem, so there is no relationship between practicing basic feeding rules and TPS.

In this study, it was found that the lower the practice score, the higher the TFS, which indicates that there is a non-normal eating behavior or eating problems in children. The results related to the relationship between the practice of basic feeding rules and children's eating behavior in this study are supported by Saidah and Dewi's research, (2020) which shows that the lack of practice of Basic Feeding Rules significantly increases eating difficulties in children.

Lack of knowledge and feeding practices that are not in accordance with basic feeding rules can cause feeding problems in the form of primary inappropriate feeding practices. Inappropriate feeding practices by mothers or caregivers are non-organic etiologies of feeding problems in children. However, there are organic etiologies that can also lead to feeding problems in children, such as structural or functional abnormalities that affect the physiology of the body Kivilcim et al. (2019).

5 CONCLUSIONS

The results showed that there was no significant relationship between the knowledge and attitude of basic feeding rules of mothers with children's eating behavior. The mother's practice of basic feeding rules showed a significant relationship with eating behavior based on TFS. Mothers who play an important role in child feeding are expected to always apply the practice of basic feeding rules, especially on the child's meal schedule. The recommended meal schedule is three main meals and 2 - 3 snacks. Main meals consist of staple foods, animal/vegetable side dishes, vegetables, and fruit. Interludes can include

fruit, milk, pudding, and biscuits. Children are also encouraged to consume water.

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