

THE RELATIONSHIP OF KNOWLEDGE, ATTITUDE AND MOTHER'S BEHAVIOR TO THE FEEDING OF COMPLEMENTARY FOOD WITH NUTRITIONAL STATUS FOR TODDLER

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ABSTRACT

Background: The problem of nutritional status in toddlers is the role of parents in providing good nutrition so that it is very influential because malnutrition and undernutrition in toddlers occurs through a long process and is determined by the fulfillment of nutritional needs. **Objective:** This study aims to determine the relationship between knowledge, attitudes and behavior of mothers related to complementary feeding with the nutritional status of toddlers. **Method:** This research method is analytic observational with a cross-sectional approach. The sampling technique was purposive sampling of 103 respondents collecting data using a questionnaire that is knowledge, attitudes, and behavior and measuring the nutritional status of toddlers using body weight according to age and height according to age. Bivariate analysis using the Gamma correlation test. **Results:** The results showed that the majority of respondents, had a nutritional status of 27.8% based on weight for age, a short nutritional status of 27.3% based on weight-for-age, maternal knowledge with the highest value of 28.3. While, maternal attitudes with the lowest value of 29.4% and maternal behavior with the lowest value of 29.9%. Knowledge with nutritional status based on weight-for-age and height-for-age p value 0.042 and p value 0.033. Attitude with nutritional status based on weight-for-age and height-for-age p value 0.076 and p value 0.063. Behavior with nutritional status based on weight-for-age and height-for-age p value 0.000 and p value 0.000. **Conclusion:** It can be concluded that there is a relationship between knowledge, and maternal behavior related to complementary feeding with the nutritional status of toddlers and there is no relationship between maternal attitudes related to complementary feeding with the nutritional status of toddlers in the working area of the Puskesmas Kauman Ngawi Regency.

Key words: mother's knowledge, behavior, attitude, nutritional status, toddler

INTRODUCTION

Toddlers are children who have reached the age of over one year or more popularly known as children under five years old. Toddlers are among the most vulnerable groups to suffer from nutritional problems that require special attention. According to *World Health Organization* writing in the *Global Nutrition Targets 2025 Breastfeeding Policy Brief*, the prevalence of stunting (height-for-age) 23.5%, wasting (weight-for-height) 6.4%, and underweight (weight-for-

age) 16.1%. According to the *United Nations Children's Fund* (UNICEF), more than fifty percent of deaths of children under five are related to malnutrition and two-thirds of deaths of children under five are related to improper feeding practices in toddlers. This situation will make the immune system weak and often sick so that toddlers need nutritional intake in accordance with the needs of toddlers.

Based on the results of *Basic Health Research* data in 2018, the percentage of children aged 0-59

months in Indonesia who experience malnutrition and undernutrition reached 17.7% and the number of toddlers in East Java reached 3,013,119 with those who had malnutrition problems were 16.78%, and the number of toddlers in Ngawi district who had malnutrition and undernutrition problems reached 17.80%.

Based on data from Posyandu in Kauman Village in October 2023, from 1207 toddlers and 7 posyandu there were 92 toddlers with malnutrition, with details of 25 babies 6-59 months with malnutrition and 3 babies 0-5 months with malnutrition. (Shobah, 2021).

Nutritional status is influenced by 2 factors, namely direct and indirect factors. Direct factors include infectious diseases, birth history, exclusive breastfeeding, and the type of food consumed in good quality. The reason is because some parents do not pay attention to their children's growth and development, as I have seen in the field, some mothers give formula milk to children who still need breast milk and some mothers give snacks at food stalls on the grounds that the child has no appetite, and some mothers excuse themselves from not coming to the posyandu. because the child grows well without the posyandu.

METHOD

This type of research includes observational research, with research design cross-sectional. Independent variable used in this study is the mother's knowledge, mother's attitude, and mother's behavior. Dependent variable the one used is the nutritional status of toddlers. This research uses purposive sampling technique. The number of samples in this study was 103 respondent. Sample is a part taken from all objects studied and is considered

representative of the entire population, the sample in this study uses a purposive sampling formula that has a subject of certain criteria. The sample formula that I use is Slovin. The inclusion criteria were mothers who had toddlers aged 6-24 months and lived in the working area of the Kauman Ngawi community health center. Exclusion criteria for mothers who do not provide complementary foods, mothers of toddlers who can't read and mothers of toddlers who can't write.

Maternal behavior in providing nutrition is closely related to the body mass index or nutritional status of the child. Providing complementary food is one form of healthy behavior in an effort to improve health status in children. And toddlers who have difficulty eating or refuse to eat are often experienced by children in the first year, and maternal behavior will affect choosing and preparing food to get a good nutritional status.

Data collection on mother's knowledge, attitudes and behavior used a questionnaire, while the nutritional status of toddlers was seen from body weight and height for age. Next all questionnaire data were analyzed using the gamma correlation test to find out nonparametric tests that measure the relationship between two ordinal scale variables. Data analysis using SPSS for computer. This research obtained a code of ethics from the ethics commission section at RSUD dr. Soehadi Prijonegoro Sragen, No: 136/Etik-CRSSP/1/2024.

RESULT AND DISCUSSION

Respondent characteristics in table 1 show the distribution of respondents with an average age of 28-35 with a percentage of 32,6% of respondents according to job category, the average respondent's job is as a housewife with

a percentage of 48,7% of respondents namely the latest average education is high school with a percentage of 29,9%.

Based on the results of the average respondent's knowledge with the highest score 25,1%, then the average respondent's attitude was with a

sufficient value 24,6%, and the average respondent's behavior with a sufficient score is 23,5%. Based on nutritional status, the average body weight is undernourished 27.8%, then the nutritional status of toddlers based on average height is short 27,3%.

Table 1. Analysis Characteristics Respondent

Categori	Frequency(n)	Percentage (%)
Age		
18-27	28	15,0
28-35	61	32,6
36-45	14	1,5
Work		
Housewife	91	48,7
Wiraswasta	8	4,3
Nurse	1	0,5
Teacher	3	1,6
Education		
Elementary school	6	3,2
Junior high school	29	15,5
Senior high school	56	29,9
Diploma 3	5	2,7
Bachelor	7	3,7
Knowledge		
Good	47	25,1
Fair	40	21,4
Less	16	8,6
Attitude		
Good	41	21,9
Fair	46	24,6
Less	16	8,6
Behavior		
Good	43	23,0
Fair	44	23,5
Less	16	8,6
Nutritional status of toddlers weight-for-age		
Normal	44	23,5
Underweight	52	27,8
Overweight	7	3,7
Nutritional status of toddlers height-for-age		
Normal	45	24,1
Moderately stunted	51	27,3
Severely stunted	7	3,7

In theory, nutritional status is not only influenced by knowledge but also influenced by socio-economics due to lack of food, both in terms of quality. The state of good nutrition can determine the percentage level of nutritional status. Ignorance of foods that have good nutrition will cause the selection of wrong foods and low nutrition contained in these foods can cause the nutritional status of the child to be bad and lacking (Elfandes et al., 2023).

According to Rahayu's theory (2018), gender determines the amount of nutritional needs for a person. The difference in the amount of nutritional needs is influenced by differences in body composition so that it can be concluded that gender can also affect the nutritional status of toddlers with differences in body posture and boys who are more active playing outdoors so that their energy and nutritional needs are also different from girls.

The Relationship Between Maternal Knowledge And Nutritional Status of Toddlers

Based on table 2, the statistical test between maternal knowledge and nutritional status of toddlers was carried out using the gamma correlation test. This test shows a p value of 0.042 so

that it can be said that there is a significant relationship between maternal knowledge and nutritional status of toddlers. In the r value, the higher the mother's knowledge, the lower the nutritional status of toddlers, Why is the r value negative? The larger the value of one variable, the smaller the value of other variables but at the p value there is a significant relationship and the strength of the correlation is weak. It can be seen that there is less knowledge of mothers with good nutritional status as much as 74.5%.

Based on the research conducted, it can be said that there is a significant relationship between maternal knowledge and the nutritional status of toddlers based on body weight-for-age. Based on the data seen in the field that maternal knowledge about nutrition is still relatively sufficient, from the results of research data it is known that respondents have low nutritional knowledge. According to Yuhansyah (2019) said the problem in the nutritional status of toddlers is not only in knowledge but can be from several direct and indirect factors such as infectious diseases, contaminated children's food, socio-economics and the environment.

Table 2. The Relationship Between Maternal Knowledge and Nutritional Status

Mothers knowledge	Nutritional status of children under five						Correlation coefficient (r)	p value
	Underweight		Normal		Overweight			
	n	%	n	%	n	%		
Less	10	21,3	35	74,5	2	4,3	-0,294	0,042
Enough	28	70,0	10	25,0	2	5,0		
Good	6	37,5	6	37,5	4	25,0		

This is in line with Ayuningtyas research (2021) which states that based

on the results of statistical tests, a value of p = 0.000. It can be concluded that there is a relationship between the

variable level of knowledge of mothers and the nutritional status of toddlers. This study is in line with researcher Sundari (2020) who stated that the results of the analysis using the *chi-square* test with a *p value* of 0.000, *p value* <0.05, which means that statistically there is a relationship between maternal knowledge of nutrition challenges and the nutritional status of toddlers.

The level of maternal knowledge about nutrition greatly affects the nutritional state of toddlers because mothers are the greatest attachment to children. So, the knowledge that mothers have is the key to fulfilling the nutritional status of toddlers. Knowledge based on good understanding technologically and from public media can be well understood can be accompanied by good behavior as well. However, parents who have less knowledge about nutrition and health tend not to pay attention to the nutritional content in their family, especially for toddlers, so it will affect their nutritional status. The level of maternal knowledge about nutrition greatly affects the nutritional state of toddlers because mothers are the greatest attachment to children. So that the knowledge that mothers have is the key to fulfilling the nutritional status of toddlers, so that knowledge based on good understanding technologically and mass media so that it can be seen from

knowledge that is well understood can be accompanied by good behavior as well. However, parents who have less knowledge about nutrition and health tend not to pay attention to the nutritional content in their family, especially for toddlers, so it will affect their nutritional status.

The Relationship Between Maternal Attitudes and Nutritional Status of Toddlers

Based on table 3, statistical tests between maternal attitudes and nutritional status of toddlers were carried out using the gamma correlation test. This test shows a *p value* of 0.076 so that it can be said that there is no significant relationship between maternal attitudes and nutritional status of toddlers. In the *r value*, the higher the mother's attitude, the lower the nutritional status value of toddlers but at the *p value* there is no significant relationship and there is a weak correlation strength. It can be seen that a good mother's attitude is found with a good nutritional status of 78.0%. Based on the results of the statistical test, there is a significant relationship between attitude and nutritional status of toddlers. Based on the data in the field that the mother's attitude towards nutritious food in children is lacking due to several factors, one of which is the economy, the environment, distant health services.

Table 3. The Relationship Between Maternal Knowledge and Nutritional Status

Mother's attitude	Nutritional status of children under five						Correlation coefficient (r)	<i>p value</i>
	Underweight		Normal		Overweight			
	n	%	n	%	n	%		
Less	32	78,0	32	78,0	1	19,5	-0,255	0,076
Enough	13	28,3	13	28,3	3	65,2		
Good	6	37,5	6	37,5	4	37,5		

According to Safitri (2018), mothers with high education can prevent malnutrition in their toddlers compared to mothers with low education. Maternal education determines attitudes and actions in dealing with a problem, a negative attitude in the mother is the mother's lack of concern for the child's intake, mothers who are positive tend to pay attention to the food consumed by children according to their needs and better control the food that the child will consume.

This is in line with research to Rusmiadi's research (2020) which states that the results of the study show that from 73 mothers of toddlers who have good knowledge and from the results of the spearman rank correlation test, a value of $p = 0.003$ ($p < 0.005$) is gained which means there is a meaningful correlation Between the attitude of mothers and nutritional status in toddlers. Meanwhile, indirect factors include the attitude of parents, especially mothers, regarding nutrition. Low nutritional knowledge will cause an arbitrary attitude towards children's food, this is due to several factors, one of which is education and the environment.

Parenting is the attitude and behavior of mothers in terms of providing food, hygiene, and there are several facts, one of which is education, knowledge, family skill level. Respondents who do not work or as housewives should have enough time to get information, but due to lack of interaction or socialization with the surrounding environment, it is one of the causes of lack of information and negative attitudes. And the previous experience of respondents should be a lesson or learning process for the next.

The Relationship Between Maternal Behavior and Nutritional Status of Toddlers

Based on table 4, the statistical test between maternal behavior and nutritional status of toddlers was carried out using the gamma correlation test. This test shows a p value of 0.000 so that it can be said that there is a significant relationship between maternal behavior and the nutritional status of toddlers. In the r value, the higher the mother's behavior, the lower the nutritional status of toddlers, but at the p value there is a significant relationship and the strength of the correlation is strong. It can be seen that sufficient maternal behavior is found with sufficient nutritional status as much as 85.7%.

Based on the results of the gamma statistical test, there is a significant relationship between attitudes and nutritional status of toddlers based on. Based on the data seen in the field that mothers' behavior is quite sufficient, it can be seen when mothers fill in questions, most mothers do not fill in according to the questions and some mothers help each other answer questions. However, some of the toddler parents are busy working so they are taken care of by grandma and some toddlers are given food that is not suitable for their age because the grandmother is worried if the toddler does not want to eat.

This result is inversely proportional to Maesarah's research (2018) stating that the p value is 0.000 ($p < 0.05$) which means there is a significant relationship between parental behavior towards the nutritional status of toddlers.

Table 4 The Relationship between Maternal Behavior and Nutritional Status

Mother's behavior	Nutritional status of children under five						Correlation coefficient (r)	p value
	Underweight		Normal		Overweight			
	n	%	n	%	n	%		
Less	9	20,9	9	22,0	0	0,0	0,694	0,000
Enough	36	81,8	36	85,7	3	7,1		
Good	6	37,5	6	30,0	5	25,0		

This is because some mother's behavior do not care about the type of food consumed by their children. Behavior that does not care about children's health has an impact on children's nutritional status. In addition, mothers never bring their children to the *posyandu* when weighing so mothers do not know the development and growth of their children because parents conclude if their children eat on time then the growth of their children is also good.

The Relationship Between Maternal Knowledge and Nutritional Status of Toddlers

Based on table 5, the statistical test between maternal knowledge and nutritional status of toddlers was carried out using the gamma correlation test. This test shows a p value of 0.033 so that it can be said that there is a significant relationship between maternal knowledge and nutritional status of children under five. In the r value, the higher the mother's knowledge, the lower the nutritional status of toddlers, but at the p value there is a significant relationship and the strength of the correlation is weak. It can be seen that lack of maternal knowledge is found with normal nutritional status as much as 74.5%.

Based on the results of the Mann-whitney statistical test, there is

a significant relationship between knowledge and nutritional status of toddlers based on. Based on the phenomenon seen in the field that the mother's knowledge about nutrition is still classified as sufficient, from the results of research data it is known that respondents have low nutritional knowledge.

This study is not in line with Afrinis (2021) which states that the results of the chi-square test with a p value of 0.001 ($p < 0.005$) so that there is a significant relationship between disease history and nutritional status of preschool children. The nutritional status of preschool children is closely related to maternal nutrition knowledge so that it can increase maternal knowledge through counselling or social media so it can be applied to children that nutrition is very important for child growth and development. because the r value is weak, so the greater the value of one variable, the greater the value of other variables.

The Relationship Between Maternal Attitudes and Nutritional Status of Toddlers of Toddlers Based on Height For Age

Based on table 6, the statistical test between maternal behavior and nutritional status of toddlers was carried out using the gamma

correlation test. This test shows a p value of 0.000 so that it can be said that there is a significant relationship between maternal attitude and nutritional status of toddlers. In the r value, the higher the mother's attitude, the lower the nutritional status value of toddlers, but at the p value there is a significant with a normal nutritional status of 85.7%.

According to Safitri (2018), mothers with high education can prevent malnutrition in their toddlers compared to mothers with low education. Maternal education determines attitudes and actions in dealing with a problem, a negative attitude in the mother is the mother's lack of concern for the child's intake,

This is in line with research to Rusmiadi's research (2020) which

states that the results of the study show that from 73 mothers of toddlers who have good attitude and from the results of the spearman rank correlation test, a value of $p = 0.003$ ($p < 0.005$) is gained which means there is a meaningful correlation Between the attitude of mothers and nutritional status in toddlers.

This is in line with research to Rusmiadi's research (2020) which states that the results of the study show that from 73 mothers of toddlers who have good knowledge and from the results of the spearman rank correlation test, a value of $p = 0.003$ ($p < 0.005$) is gained which means there is a meaningful correlation Between the attitude of mothers and nutritional status in toddlers.

Table 5 The Relationship between Maternal Behavior and Nutritional Status Toddlers

Mothers knowledge	Nutritional status of children under five						Correlation coefficient (r)	P value
	Moderately stunted		Normal		Severely stunted			
	n	%	n	%	n	%		
Less	35	74,5	35	74,5	2	4,3	-0,306	0,033
Enough	9	22,5	9	22,5	2	5,0		
Good	6	37,5	6	37,5	4	25,0		

Table 6 The Relationship Between Maternal Attitude and Nutritional Status Toddlers

Mother's behavior	Nutritional status of children under five						Correlation coefficient (r)	p value
	Moderately stunted		Normal		Severely stunted			
	n	%	n	%	n	%		
Less	32	78,0	32	78,0	1	2,4	-0,265	0,063
Enough	12	26,1	12	26,1	3	6,5		
Good	6	37,5	6	37,5	4	25,0		

The Relationship Between Maternal Behavior and Nutritional Status of Toddlers

Based on table 7, the statistical test between maternal behavior and nutritional status of toddlers was carried out using the gamma correlation test. This test

shows a p value of 0.000 so that it can be said that there is a significant relationship between maternal behavior and nutritional status of toddlers. In the r value, the higher the mother's behavior, the lower the nutritional status value of toddlers,

but at the p value there is a significant relationship and strong correlation strength. It can be seen that sufficient maternal behavior is found with a normal nutritional status of 85.7%.

Table 7 The Relationship Between Maternal Behavior and Nutritional Status Of

Mother's attitude	Nutritional status of children under five						Correlation coefficient (r)	p value
	Moderately stunted		Normal		Severely stunted			
	n	%	n	%	n	%		
Less	8	18,6	8	19,5	0	0,0	0,706	0,000
Enough	36	81,8	36	85,7	3	7,1		
Good	6	37,5	6	30,0	5	25,0		

According to Elfandes (2023) said that maternal behavior factors are influenced by education, economy, knowledge of parents about nutrition is very influential on behavior and attitudes in choosing food for their children. Ignorance about foods that have good nutrition will cause the wrong food selection and the low nutrition contained in these foods will cause the child's nutritional status to be poor and lacking.

Behavior of fulfilling nutritional needs is an activity of a person carried out in relation to meeting food needs. The formation of eating patterns needs to be applied according to family diet so that the role of parents is very important in fulfilling toddler nutrition. Good maternal behavior can be seen from the time of pregnancy to the child is 2 years old so it is expected that mothers of toddlers should provide more nutritious food and enough energy for their children and be active in participating in *posyandu* activities every month to monitor the development of toddlers.

This result is inversely proportional to Maesarah's research (2018) stating that the p value is 0.000 ($p < 0.05$) which means there is a significant relationship between parental behavior towards the nutritional status of toddlers.

CONCLUSIONS AND SUGGESTIONS

Based on data analysis that has been done, can be concluded that there is a relationship between maternal knowledge and maternal behavior with nutritional status of toddlers based on weight-for-age and height-for-age. But there is no relationship Between maternal attitudes and the nutritional status of children under five based on weight-for-age and height-for-age.

It is recommended that future researchers can provide education regarding the importance of nutritional status of toddlers, as well as using measurement indicators related to behavior and mothers to compare the results of this study with

subsequent research There needs to be education about the importance of health for toddlers, both in terms of weight and height, so that mothers

can apply it to their families, especially toddlers.

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