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Correlations between Maternal Knowledge, Attitude, and Posyandu Utilization on Nutritional Status in Children Under Five

Anggraini Dian Prasticha[1)], Mahendra Tri Arif Sampurna[2)], Linda Dewanti[3)]

[1)]Midwifery Program Study, Faculty of Medicine, Airlangga University, Surabaya
[2)]Department of Pediatrics, Faculty of Medicine, Airlangga University, Surabaya
[3)]Department of Public Health Science, Airlangga University, Surabaya

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ABSTRACT

Background: Malnutrition is a condition of deficiency, excess, or imbalance of nutrients from the amount of nutrients needed by the body. One of the ways to prevent malnutrition is by monitoring regularly through a program of public health activities, namely weighing toddlers. This study aims to determine the relationship between mother's knowledge, mother's attitude, and utilization of integrated health post (posyandu) in weighing toddlers with toddlers' nutritional status.
Subjects and Method: A cross-sectional study was conducted in Semambung Village, Wonoayu District, Sidoarjo Regency, in August 2022. A total of 144 mothers and their children was selected using a proportionate stratified random sampling. The dependent variable is nutritional status. The independent variables are knowledge, mother's attitude, and posyandu utilization. The data were collected by a questionnaire. Data were analyzed by Chi square test and Odds ratio (OR).
Results: Maternal irregular visit at integrated health post were at risk for having underweight (WAZ) (OR= 3.39; 95% CI= 1.46 to 7.84; p= 0.003) and stunted (WHZ) children (OR= 4.37; 95% CI= 1.20 to 15.84; p= 0.016).
Conclusion: It can be concluded that there is no relationship between mother's knowledge, mother's attitude and nutritional status of toddlers. and there is a relationship between posyandu utilization and the nutritional status of children under five based on the WAZ and WHZ indexs.

Keywords: knowledge, attitude, posyandu utilization, nutritional status.

Correspondence:
Anggraini Dian Prasticha. Midwifery Program Study, Faculty of Medicine, Airlangga University, Indonesia, Jl. Mayjen Pro. Dr. Moestopo No. 47, Pacar Kembang, Tambaksari, Surabaya, East Java 60132, Indonesia. Email: anggraini.dian.prasticha-2019@fk.unair.ac.id. Mobile: +6281235205296.

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BACKGROUND

The problem of nutritional status in children is a problem that often occurs in Indonesian public health. The first few years of a child's life are very important for determining mental and physical development, but during this period it is common to find children under the age of five experiencing micronutrient deficiencies which affect their growth process. Malnutrition is the cause of

infection, morbidity and death as well as decreased brain development in children in the first years of life. (Endris et al., 2017). Globally in 2020 there are 149.2 million children under the age of five suffering from stunting. As many as 45.4 million children suffer from acute malnutrition or wasting, and 38.9 million children are overweight or overweight (WHO, 2020).

Indonesia currently still has problems with the nutritional status of toddlers. According to Basic Health Research data for 2018, the prevalence of under-fives with malnutrition and malnutrition was 17.7%, 6.7% for thin toddlers, 8% for obese toddlers and 19.3% for short toddlers (Ministry of Health, 2020). One of the indirect causes of the worsening nutritional status of children is parenting style. Parenting style plays an important role in the occurrence of growth disorders in children. Families that have good parenting patterns for toddlers will be able to optimize the nutritional status of their families, especially toddlers (Mashitah, 2005). One of the government programs in preventing malnutrition is weighing toddlers. Weighing toddlers is closely related to nutritional status, toddlers who are weighed irregularly have a 1.5 times the risk of failing to thrive compared to toddlers who are regularly weighed (Rahmadini et al, 2013).

The results of a preliminary study at the Wonoayu Health Center found that the D/S data rate or the coverage of toddler weighing decreased from year to year and found 41 toddlers with very low weight, 233 toddlers with less weight, and 102 toddlers with excess weight. This research makes Semambung Village, Wonoayu District, a research location because it has a declining D/S rate coupled with an increase in nutritional problems in toddlers in 2020. The role of parents is needed in monitoring the nutritional status of toddlers to assist government programs in achieving community welfare (Listautin, 2017). The nutritional status of toddlers is also influenced by the mother's routine visits to the posyandu. Based on the results of a study by Lumongga et al., (2020) showed that there was a relationship between the number of posyandu visits and the nutritional status of toddlers. Based on Munthofiah's research (2008) stated that there is a relationship between mother's knowledge in fulfilling nutrition with the nutritional status of toddlers. Mothers with good knowledge have a 17 times greater chance of having children with good nutritional status.

The study aimed to determine the characteristics of mothers, toddlers, families as well as to analyze the relationship between knowledge, attitudes of mothers, and the use of Posyandu in weighing toddlers with the nutritional status of toddlers.

SUBJECTS AND METHOD

1. Study Design

This research was conducted using an observational analytic design with a cross-sectional approach which aimed to analyze the relationship between knowledge, attitudes of mothers, and utilization of posyandu in weighing toddlers with their nutritional status at one time. The subjects in this study were mothers who had toddlers aged 0-59 months at the Posyandu in Semambung Village, Wonoayu District, Sidoarjo Regency.

2. Population and Sample

The sample size in this study was calculated using the slovin formula and the resulting sample size was 144 mothers taken from a population of 225 people spread across 5 posyandu who had the same opportunity to be included in the study sample. Determination of the sample in this study using proportionate stratified random sampling based on posyandu level. Respondents analyzed in this study were those who met

the inclusion criteria, namely mothers who had toddlers aged 0-59 months, mothers who had toddlers with a history of normal birth weight ≥ 2500 gr, and mothers who had toddlers with a history of full-term birth. The number of samples that met the inclusion criteria in this study amounted to 137 respondents who would be analyzed, some of the other respondents who did not meet the inclusion criteria would be included in the exclusion criteria and dropped out if they did not fill out the questionnaire completely.

3. Study Variable

This study used two main variables, namely the independent variables consisting of mother's knowledge of fulfilling toddler nutrition, mother's attitude towards monitoring toddler nutrition, and routines in using posyandu weighing toddlers. While the dependent variable in this study is the nutritional status of toddlers which is measured based on the parameters weight/age (BB/A), height/age (TB/A), weight/height (BB/TB), and head circumference/age (LK/U).

4. Operational Definition of Variables

Knowledge is the level of mother's understanding of the fulfillment of toddler nutrition which consists of the concept of balanced nutrition, exclusive breastfeeding, nutritional needs of toddlers, food processing, monitoring of nutritional status

Attitude is an attitude based on self-evaluation and self-reflection of statements made regarding monitoring of the nutritional status of under-fives consisting of the mother's attitude towards changes in the child's nutritional status, and the mother's attitude towards weighing under-fives.

Utilization of Integrated Healthcare Center is the number of arrivals under five to the posyandu weighing under five in the last 6 months with parameters ≥ 4 times and < 4 times in the last 6 months.

Nutritional status is a toddler's physical condition which is assessed from weighing, measuring height, and measuring head circumference through the WHO-Antrho application.

5. Study Instrument

Data collection on knowledge and attitude variables in this study used an instrument in the form of a questionnaire which was distributed to mothers of toddlers who came to Posyandu Semambung Village, Kec. Wonoayu, Kab. Sidoarjo. The questionnaire was adopted from previous research, namely Munthofiah (2008) and Simatupang (2016) which have been tested for validity and reliability. In the posyandu utilization variable, the number of visits was seen through observation on the KMS sheet. Meanwhile, for the nutritional status variable, weight, height, and LK were measured directly.

6. Data Analysis

Testing the data in this study using univariate and bivariate analysis through the SPSS application to determine the frequency distribution and relationship between independent and dependent variables using the Chi-Square test.

7. Research Ethics

This research was conducted based on informed consent agreement between researcher and research subject, guarantee of data confidentiality, and anonymity. This research has been declared ethically feasible by the ethics committee of the Faculty of Medicine, Airlangga University with no. 136/EC/KEPK/FKUA/2022.

RESULTS

1. Sample Characteristics

The frequency distribution of the study subjects was divided into the categories of mothers, toddlers, and families as described in Table 1, Table 2, and Table 3. Table 1 shows that the majority of subjects aged 26-35 years were 80 (58.4%) people, with the last

education level namely SMA 81 (59.1%) people, most of the respondents did not work 93 (67.9%) people with normal nutritional status as many as 66 (48.2%) people.

Table 1. Characteristics of the Sample by Mother

Variable	Frequency (n)	Percentage (%)
Maternal Age		
17-25 years	27	19.7
26-35 years	80	58.4
36-45 years	29	21.2
46-55 years	1	0.7
Maternal Education		
PS	2	1.5
JHS	28	20.4
SHS	81	59.1
Higher Education	26	19.0
Maternal Occupation		
Working	44	32.1
Not Working	93	67.9
Maternal Nutritional Status		
Very thin	3	2.2
Thin	8	5.8
Normal	66	48.2
Overweight	14	10.2
Obesity	46	33.6

Table 2. Characteristics of the Sample Based on Toddlers

Variable	Frequency (n)	Percentage (%)
Toddlers' Age		
0-11 months	31	22.6
12-23 months	27	19.7
24-59 months	79	57.7
Gender		
Male	75	54.7
Female	62	45.3
ASI Exclusive		
Yes	100	73.0
No	37	27.0
Basic Immunization		
Complete	115	83.9
Incomplete	22	16.1
Vitamin A		
Given	120	87.6
Not given	8	5.8
Not getting Vit.A according to age	9	6.6
Disease History		
Nothing	133	97.1
Chronic disease	4	2.9
Birthweight		
Normal ≥ 2.500 gr	137	100

Variable	Frequency (n)	Percentage (%)
Baby Sitter		
Mother	118	86.1
Grandmother	19	13.9

Table 2 shows that the majority of the subjects in the study were 75 (54.7%) male toddlers and 79 (57.7%) aged 24-59 months. The majority of children under five received exclusive breastfeeding as many as 110 (73%) people and received complete basic immunization according to age as many as 115 (83.9%) people, and received vitamin A as many as 120 (87.6%) people. The majority of children under five did not have a history of chronic disease as many as 133 (97.1%), and had a history of normal birth weight as many as 137 (100%). Most of the 118 toddlers (86.1%) were raised by their own mothers.

Table 3 shows that the majority of families have ≤ 2 children as many as 111 (81.0%) families, with the number of family members belonging to the medium category as many as 76 (55.5%) families, and have high family income (>Rp. 2000,000) as many as 83 (63.5%) family.

Table 3. Characteristics of the sample by family

Variable	Frequency (n)	Percentage (%)
Number of Children		
≤ 2	111	81.0
> 2	26	19.0
Number of family member		
Small	32	23.4
Normal	76	55.5
Big	29	21.2
Income		
Low (0 - Rp 1.000.000),	16	11.7
Normal (> Rp 1.000.000 - Rp 2000.000)	34	24.8
High (> Rp 2.000.000).	87	63.5

1. Univariate Analysis

Univariate analysis in this study included mother's knowledge, mother's attitude, Posyandu utilization, and nutritional status as shown in Table 4 and Table 5. Table 4 shows that the majority of the knowledge level of mothers under five was in the good category of 131 (95.6%) people, and had an attitude 70 (51.1%) people positively used the posyandu, and the majority of mothers under five routinely used the posyandu with visits ≥4 times in the last 6 months as many as 94 (68.6%) people.

Table 5 shows that the nutritional status of toddlers based on the weight/age index shows that most of the toddlers are in normal nutritional status, namely 107 (78.1%) toddlers. The distribution of nutritional status based on the height/age index shows that the majority of toddlers with normal height are 121 (88.3%) toddlers. The distribution of the nutritional status of children under five based on the weight for body height (WHZ) index shows that the majority of the nutritional status of children under five is in the good nutrition category of 95 (69.3%). The distribution of the nutritional status of toddlers based on the head circumference/age index shows that the majority of the nutritional status of toddlers is in the normal category of 122 (89.1%) toddlers.

Table 4. Sample distribution based on mother's knowledge, mother's attitude, and posyandu utilization

Variable	Frequency (n)	Percentage (%)
Knowledge		
Good	131	95.6
Lacking	6	4.4
Attitude		
Positive	70	51.1
Negative	67	48.9
The use of integrated healthcare center		
Routine	94	68.6
Not Routine	43	31.4

Table 5. Sample distribution based on toddler nutritional status

Variable	Frequency (n)	Percentage (%)
Nutritional Status Weight/Age		
Underweight	17	12.4
Normal weight	107	78.1
Risky of overweight	13	9.5
Nutritional Status Height/Age		
Very short	1	0.7
Short	10	7.3
Normal	121	88.3
High	5	3.6
Nutritional Status Weight/Height		
Severe Malnutrition	7	5.1
Malnutrition	20	14.6
Good nutrition	95	69.3
Risk of Over nutrition	10	7.3
Over nutrition	2	1.5
Obesity	3	2.2
Nutritional Status Height head circumference /Age		
Microcephaly	9	6.6
Normal	122	89.1
Macrocephaly	6	4.4

2. Bivariate Analysis

Bivariate analysis was used to see the relationship between mother's knowledge, mother's attitude, Posyandu utilization and the nutritional status of toddlers (Table 6, Table 7, Table 8, and Table 9). Table 6 shows the bivariate results between knowledge, attitudes, Posyandu utilization and nutritional status based on WAZ. The non-routine use of posyandu is related to the nutritional status of children based on weight/ age (WAZ). Mothers who did not routinely visit the posyandu were at risk of having children with nutritional status WAZ as much as 3.39 times compared to mothers who regularly visited the integrated health post, and these results were statistically significant (OR=3.39; 95% CI= 1.46 to 7.84; p= 0.003). Mothers with less knowledge (OR= 0.26; 95% CI= 0.01 to 4.67; p= 0.185) and negative attitude (OR= 0.89; 95% CI= 0.39 to 2.01; p=0.781) lowered the nutritional status of weight/ age, however this result was not statistically significant.

Table 6. Bivariate results on the relationship between knowledge, attitudes, and utilization of Posyandu on nutritional status (WAZ)

Independent Variable	Nutritional Status (WAZ)				OR	95%CI		p
	Malnutrition		Normal Weight			Lower limit	Upper limit	
	N	%	N	%				
Knowledge								
Lacking	0	0.0	6	4.4	0.26	0.01	4.67	0.185
Good	30	21.9	101	73.7				
Attitude								
Negative	14	10.2	53	38.7	0.89	0.39	2.01	0.781
Positive	16	11.7	54	39.4				
The use of integrated healthcare center								
Not routine	16	11.7	27	19.7	3.39	1.46	7.84	0.003
Routine	14	10.2	80	58.4				

Table 7. Bivariate results regarding the relationship of knowledge, attitudes, and utilization of posyandu to nutritional status (Heigth/Age)

Independent Variable	Nutritional Status (Height/Age)				OR	95%CI		P
	Malnutrition		Normal Height			Lower limit	Upper limit	
	N	%	N	%				
Education								
Lacking	0	0.0	6	4.4	0.80	0.04	15.23	0.459
Good	11	8.0	120	87.6				
Attitude								
Negative	6	4.4	61	44.5	1.28	0.37	4.40	0.696
Positive	5	3.6	65	47.4				
The use of integrated healthcare center								
Not routine	7	5.1	36	26.3	4.37	1.20	15.85	0.016
Routine	4	2.9	90	65.7				

Table 7 shows the bivariate results between knowledge, attitudes, Posyandu utilization and nutritional status based on height/age. Negative attitudes and non-routine use of Posyandu are related to children's nutritional status based on height/ age. Mothers with negative attitude are at risk of having children with height/ age nutritional status 1.28 times compared to mothers with positive attitudes, but these results are not statistically significant (OR= 1.28; 95% CI= 0.37 to 4.40; p= 0.696). Mothers who did not routinely visit the posyandu were at risk of having children with a underweight nutritional status 4.37 times compared to mothers who regularly visited the posyandu, and these results were statistically significant (OR= 4.37; 95% CI= 1.20 to 15.84; p= 0.016). Meanwhile, lack of knowledge (OR= 0.80; 95% CI= 0.04 to 15.23; p= 0.459) reduced nutritional status at height/age, but these results were not statistically significant.

Table 8 shows an analysis of the relationship between knowledge, attitudes, utilization of Posyandu and the nutritional status of toddlers based on weight/height. Non-routine use of posyandu is related to

the nutritional status of children based on weight/height. Mothers who did not routinely visit the posyandu were at risk of having children with a nutritional status of BB/TB as much as 1.80 times compared to mothers who regularly visited the posyandu, and these results were statistically significant (OR= 1.80; 95% CI= 0.84 to 3.87; p= 0.127). Meanwhile, mothers with less knowledge (OR= 0.43; 95% CI= 0.05 to 3.87; p= 0.447) and negative attitude (OR= 0.92; 95% CI= 0.45 to 1.92; p= 0.841) lowered the WHZ nutritional status, but it was not statistically significant.

Table 9 shows the analysis of the relationship between knowledge, attitude, utilization of Integrated Healthcare Center and the nutritional status of toddlers based on head circumference/ age. Mothers with less knowledge (OR= 0.57; 95% CI= 0.03 to 3.87; p= 0.380); negative attitude (OR= 0.90; 95% CI= 0.31 to 2.64; p= 0.854); and non-routine use of Integrated Healthcare Center (OR=0.51; 95% CI= 0.13 to 1.91; p= 0.314) reduced the nutritional status of FI/U, but this result was not statistically significant.

Table 8. Bivariate results on the relationship between knowledge, attitudes, and posyandu utilization on nutritional status (Weight/Height)

Independent Variable	Nutritional Status (Weight/Height)				OR	95%CI		P
	Malnutrition		Good nutrition			Lower limit	Upper limit	
	N	%	N	%				
Education								
Lacking	1	0.7	5	3.6	0.43	0.05	3.87	0.447
Good	41	29.9	90	65.7				
Attitude								
Negative	20	14.6	47	34.3	0.92	0.45	1.92	0.841
Positive	22	16.1	48	35.0				
The use of integrated healthcare center								
Not routine	17	12.4	26	19.0	1.80	0.84	3.87	0.127
Routine	25	18.2	69	50.4				

Table 9. Bivariate results on the relationship between knowledge, attitudes, and utilization of Posyandu on nutritional status (LK/U)

Independent Variable	Nutritional Status (Head circumference/Age)				OR	95%CI		P
	Malnutrition		Normal head circumference			Lower limit	Upper limit	
	N	%	N	%				
Education								
Lacking	0	0.0	6	4.4	0.57	0.03	10.77	0.380
Good	15	10.9	116	84.7				
Attitude								
Negative	7	5.1	60	43.8	0.90	0.31	2.64	0.854
Positive	8	5.8	62	45.3				
The use of integrated healthcare center								
Not routine	3	2.2	40	29.2	0.51	0.13	1.91	0.314
Routine	12	8.8	82	59.9				

DISCUSSION

1. Characteristics of Subjects

The characteristics of the mothers in Table 1 show that most of the subjects or mothers were in early adulthood, namely 26-35 years, as much as 58.4%. The mother's age determines the level of maturity in her role as a parent, the older the mother, the more her experience of parenting will increase. In addition, most of the respondents had last education at the secondary level, namely 59.1%. According to research by Dessie et al. (2019) stated that there was a significant relationship between mother's education and the nutritional status of children. Mothers who do not have a good education are at risk of having children with stunting or malnutrition.

This is supported by research in Kenya, Tanzania, and Euthopia. Mothers with low education tend to have less knowledge about child nutrition, child care, and a less prosperous life. However, this research is not in line with research conducted by Indrastuty and Pujiyanto (2019) which states that there is no significant relationship between mother's education and children's nutritional status. This is because mother's education is an indirect factor that influences the incidence of malnutrition in children (Rukmana et al, 2016).

Most of the respondents did not work, namely as much as 6.9%. Mothers who don't work have a chance of stunting in their children 1.15 times (Indrastuty and Pujiyanto, 2019). Mothers who are not working have more time to care for and pay attention to the health and nutrition of their children.

The nutritional status of some mothers was normal 48.2% and some were in a state of malnutrition (very thin 2.2%, underweight 5.8%, overweight 10.2%, and obese 33.6%). Underweight mothers are at risk of having stunted or malnourished children compared to mothers who have normal nutritional status (Edris, 2006). This is because malnutrition can become an intergenerational cycle, which means malnutrition in the mother can also occur as malnutrition in the fetus which manifests in LBW (low birth weight babies) (Black et al., 2008).

The characteristics of the toddlers in Table 2 show that most of the children under five who were weighed were 24-59 months. This age range is the toddler period which requires monitoring of its growth and development. However, it cannot be denied that the most vulnerable children are under two years of age or 0-23 months because at this age children still have low immunity and therefore require more attention regarding their health and growth.

The number of toddlers analyzed in this study were 54.7% male and 45.3% female. In a study conducted by Shafiq et al., (2022) in Pakistan, it was stated that in developing countries gender inequality is a common phenomenon. Girls do not get optimal care like boys. The cause of higher malnutrition in children is not only lack of nutritious food and poverty but also the value attached to girls in their families from early adulthood. Analysis in Balogun et al. (2021) revealed that girls are less likely to be malnourished.

In addition, most toddlers also get exclusive breastfeeding, get complete basic immunization, get vitamin A tablets, and have no history of chronic diseases. Children who receive exclusive breastfeeding have the opportunity to avoid norovirus infection, this is due to the presence of maternal antibodies during exclusive breastfeeding (Athiyyah et al., 2020). Toddlers who do not have a history of chronic disease are 0.33 times less likely to experience malnutrition compared to toddlers who have a history of chronic disease (Kuntari et

al., s2013). Disease infections can cause weight loss through vomiting, diarrhea, decreased appetite which results in loss of the number of calories to meet activity needs and growth and development. It can be seen that diarrhea and constipation are the causes of death and morbidity in children in the world. This prevalence is influenced by socio-economic conditions, the environment, and habits (Mengistie et al., 2013 in Ranuh et al., 2022).

All under-fives who were studied had a history of normal birth weight ≥ 2,500 gr. Babies with low birth weight have a risk of experiencing malnutrition 4.32 times compared to children born with normal weight. This malnutrition condition will continue if it is not supported by a good diet, lifestyle, and environment (Rachmachandran et al., 2013). Children with low birth weight are more likely to be severely malnourished regardless of geographical context. In a study by Anik et al., (2021) conducted in Bangladesh, it was shown that children with low birth weight were 3.99 times more likely to experience severe undernutrition. In addition, nutrition that is not fulfilled optimally for the mother and fetus during pregnancy will affect the growth and development of the fetus which manifests in the form of low birth weight or LBW (Wong et al., 2020; Kusparina 2019 in Prasojo et al., 2022).

The family characteristics in Table 3 show that most families have ≤ 2 children, 81.0%. Most families consist of 4-5 people in the moderate category as much as 55.5%. The large number of children will affect the level of food consumption in terms of the amount and distribution of food in the household. In families that have many children, even with sufficient economic levels, it will result in reduced parental attention and affection received by each child, especially when the children are too close (Labada et al., 2016).

Involvement of the number of family members plays a role in the worsening of nutrient consumption which can occur in families with more than 6 members. Meanwhile, families with 4-6 members do not experience poor nutrition (Ernawati, 2006). In addition, the majority of family income in this study was in the high category of 63.5%. The condition of child malnutrition is directly related to low family income, the size of the large number of family members causes higher mortality and morbidity rates. In developing countries, children from families with less income are 2 times more likely to be malnourished than children from families with more income (Gul and Kibria, 2013).

The results of the meta-analysis of the study by Abdulahi et al. (2017), the combined results of ten cross-sectional studies on risk factors for child malnutrition showed that nine factors: child age, child gender, solids (cereal-based), diarrheal disease, dietary diversity, mother's education, mother's BMI, residential area (living in a rural area) and socioeconomic status are the main risk factors for stunting, underweight, and wasting in Ethiopia.

2. The relationship between mother's knowledge about nutrition fulfillment and toddler's nutritional status

Chi Square results on the relationship between knowledge and nutritional status based on the index of Weight/Age (WAZ), Height/Age (HAZ), Weight/Age (WHZ), Head Circumference/Age were p= 0.185, p= 0.459, p= 0.447, p= 0.380, respectively. This is in line with Ekawati et al. (2015) which stated that there was no relationship between mother's knowledge and the nutritional status of toddlers. This is because knowledge is an indirect cause of nutritional disorders in toddlers, there are still

direct factors such as food consumption patterns, infectious diseases, and socio-economic conditions. Even though knowledge is not a direct factor affecting the nutritional status of toddlers, mother's knowledge is important because by having sufficient knowledge one can know health problems that may arise (Suriani et al., 2021).

There are two factors causing malnutrition in toddlers, namely direct and indirect causes. The direct cause is consumption of children's food, infectious diseases that may be suffered by children. Indirect causes are mother's knowledge about child nutrition and mother's attitude about childcare patterns (UNICEF, 2012). However, the results of this study are not in line with Puspasari and Andriani (2017), which has a P value = 0.000 which is less than α = 0.05, which means that there is a relationship between mother's knowledge and nutritional status. This discrepancy is because in this study there were mothers who had good knowledge even though their children were malnourished and there were no mothers with less knowledge who had malnourished children. This is because knowledge is not the direct cause of malnutrition in children, this can happen if the mother's knowledge is good but not accompanied by good behavior towards caring for children such as patterns of feeding, food processing methods, monitoring of children's health status.

The level of mother's knowledge about nutrition fulfillment in children can affect children's eating patterns. One such diet is selective eating which is characterized by a less varied diet and has been associated with inadequate consumption of foods with low energy density such as fruits and vegetables, lean protein-rich foods, and high-fiber foods (Setyowati et al., 2019). Research conducted by (Balogun et al., 2021) points to the fact that children of educated mothers (at least secondary education) are less likely to fall into anthropometric failures.

3. Relationship between mother's attitude and toddler's nutritional status

Yulizawati (2012) showed that there was no relationship between mother's attitude and toddler's nutritional status. This situation can be caused because the mother's attitude is an indirect factor that affects the nutritional status of toddlers. Therefore, even if the mother has a negative attitude about toddler nutrition, if the child consumes sufficiently nutritious food, the child will still have good nutritional status (Anida et al., 2015).

However, this is not in line with Wulandari (2019) showing that there is a relationship between the mother's attitude and the nutritional status of toddlers. This discrepancy is due to Wulandari's research (2019) the questionnaire used focuses on questions of attitude towards feeding children, whereas in this study the attitude questionnaire focuses on questions of mother's attitude in monitoring the nutritional status of toddlers.

A positive attitude is not always accompanied by the behavior of accepting, responding, appreciating, and carrying out what one already knows (Wulandari, 2019). This is the reason for the presence of respondents with a positive attitude but who have under-fives with malnutrition. It is hoped that mothers who have a positive attitude tend to pay more attention to the condition of their child's nutritional status on a regular basis. But it is possible that there are mothers who have a negative attitude towards monitoring nutritional status but have toddlers with good nutritional status because the intake provided is sufficient for their toddler's needs. Attitude is a person's reaction or response to a stimulus or object. Attitude in everyday life is an

emotional reaction to social stimulus (Mubarak, 2007).

4. The relationship between Posyandu utilization and toddler nutritional status

Research by Lumongga et al. (2020) showed that there was a significant relationship between routine posyandu visits and the nutritional status of toddlers. In line with Octavianis et al. (2016) which states that there is a relationship between family activity in using Posyandu and the nutritional status of children under five years of age. The more often mothers visit the posyandu to weigh their toddlers, the more the nutritional status of their toddlers will be monitored (Lanoh et al., 2015).

Toddlers who are weighed irregularly have a 1.5 times the risk of failing to thrive compared to toddlers who are regularly weighed (Rahmadini et al., 2013). Research in Mumbai conducted by Rode (2015) showed that there were few malnourished children who received treatment at health facilities. Low access to health facilities will exacerbate the nutritional status of children. Lack of attention in receiving additional food, access to health services, preventive and curative interventions will affect the outcome conditions of nutritional status (Nguyen et al., 2014).

Efforts to prevent the incidence of decreased nutritional status in children include providing medication or treatment for children with acute malnutrition, providing micronutrient supplements, feeding practices for children, immunization, administering deworming drugs, providing zinc supplements for children with diarrhea, all of which can be accessed at health facilities or the community level such as the role of posyandu cadres (UNICEF, 2022). In this study, it was found that mothers rarely brought their toddlers to posyandu with a frequency of <4 times in 6 months. Mother's participation should be increased in an effort to reduce the problem of malnutrition in children by visiting and weighing their toddlers at the Posyandu every month. The mother's routine in visiting the posyandu will be very useful for monitoring body weight to determine the nutritional status of children by weighing each month. This is done as an effort to be able to detect the health status of children at an early stage, so that further intervention can be carried out immediately if undernourished or malnourished children are found. If the mother does not visit the posyandu regularly, the child's nutritional status is not monitored properly.

AUTHOR CONTRIBUTION

In this study, Mahendra Anggraini Dian Prasticha, Tri Arif Sampurna and Linda Dewanti collaborated to create a research model and methodology. Data collection, data analysis and results compilation were carried out by Anggraini Dian Prasticha.

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CONFLICT OF INTERESTS

There is no conflict of interest in this study.

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