

Original Research

# The Relationship Between Maternal Knowledge About The First 1000 Days of Life With Nutritional Status in Children 0-24 Months

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Article Info	Abstract
<p>Article History: Received: 27-07-2024 Revised: 29-07-2024 Accepted: 30-07-2024</p> <p>*Corresponding Author: Inka Pratiwi Study Program of Nursing, Faculty of Health Science, Universitas Mandala Waluya Email: <a href="mailto:inkapратиwi@gmail.com">inkapратиwi@gmail.com</a></p>	<p><b>Background:</b> Puuwatu Health Center are the health centers with the highest nutritional status problems in 2022 according to (BB/U) compared to other health center based on data from Puuwatu Health Center, the percentage of nutritional status of underweight (BB/Age) Puuwatu Health Center in 2022 is (39.08%).</p> <p><b>Objective:</b> The purpose of this study was to determine the relationship between maternal knowledge about the First 1000 Days of Life with nutritional status in children 0-24 months in the working area of Puuwatu Health Center, Kendari City.</p> <p><b>Methods:</b> This type of research is quantitative analytical research with a Cross-Sectional Study approach.</p> <p><b>Results:</b> The analysis method of this study uses the Gamma Correlation Test. The results showed that there was a significant relationship between maternal knowledge and nutritional status in children 0-24 months with <math>p = 0.000</math> which showed that there was a significant relationship between maternal knowledge and nutritional status in children and a correlation value of 0.788 showed a positive correlation with strong correlation strength.</p> <p><b>Conclusion:</b> The conclusion of this study is that there is a relationship between maternal knowledge about 1000 HPK with nutritional status in children 0-24 months in the Puuwatu Health Center Working Area, Kendari City.</p> <p><b>Keywords:</b> Mother's Knowledge; The First 1000 Days of Life; Children's Nutritional Status</p>

## Introduction

According to WHO, Unicef, and World Bank (2014) Indonesia is one of 17 countries (468 million) in the world that experience three nutritional problems in toddlers namely BB / TB, TB / U, and BB / U during 2005 to 2013 (International Food Policy Research Institute, 2014). The prevalence of BB / TB problems in Indonesia in 2013 reached 13.5%, in 2000 the prevalence of TB / U reached 42.4% and between 2003-2004 there was a decrease to reach  $\pm 29\%$  but again increased between 2006-2007 reached 40% then decreased again in 2012 around 3.6% reaching 36.4%, while for the prevalence of BB / U incidence in 2000 reached 1.5% but there was an increase between 2009-2010 reached  $\pm 13\%$  then decreased again in 2009-2010 in 2012 around 1.5%, reaching 11.5% prevalence of overweight events(1).

Problems at 730 days from birth to 2 years old are caused by poor knowledge and nutritional attitudes of parents. This problem can be prevented if the mother has good nutritional status and health as well as good physical condition. Good knowledge of maternal nutrition will affect the fulfillment of nutritional consumption which certainly has an impact on children's growth and development. Maternal knowledge that is lacking about the first 1000 days of life will have an impact on the nutritional status of baduta which is 2 times more likely for baduta to experience less nutritional status compared to mothers who have good knowledge(2).

Based on data from the Kendari City Health Office, the percentage of underweight (BB/U) according to the Kendari City Health Center in 2019 is the Benu-Continent Health Center (30.73%), Poasia Health Center (12.68%), and Abeli Health Center (12.19%). While the Health Center with the lowest percentage are Health center Perumnas (0.48%) and Health center Kandai (0.97%). The percentage of body weight less (BB/U) According to the Kendari City Health Center in 2021, they are Puuwatu Health Center (20.61%), Benu-Continent Health Center (19.843%), and Abeli Health Center (9.54%). While the Health center with the lowest percentage are Health center Mekar (0.38%) and Health center Mokoau (1.14%).

As for the target set by the president in 2024, the stunting prevalence rate can be reduced to 14%, and undernourished toddlers in 2024 by 7.0%(3).

Puuwatu Health Center is the health center that has the highest nutritional problems in 2022 according to (BB/U) compared to other health center based on data from Puuwatu Health Center, the percentage of underweight nutritional status (BB/age) of Puuwatu Health Center in 2022 is (39.08%). (UPTD Puskesmas PuuwatuKendari Year 2022). Maternal nutrition knowledge contributes to the nutritional status of children (4). Meanwhile, what is included in the 1000 HPK period is the level of adequacy of intake for pregnant women, health status of pregnant women, antenatal care (ANC) monitoring, exclusive breastfeeding, monitoring of body weight (BB) and body length (PB) of babies every month, immunization, and complementary foods (Chalid et al., 2014). Maternal knowledge is further applied in attitudes and practices that shape parenting and health in the household(5).

Mother's knowledge affects food consumption patterns, especially toddlers. Lack of knowledge about nutrition results in low diversity and quality of food. Nutritional disorders are also caused by the mother's lack of ability to apply information about 1000 HPK in daily life. The results of the study (6) on the relationship between knowledge and behavior of mothers in the fulfillment of nutrition in children in the First 1000 Days of Life / Golden Period revealed that there is a relationship between knowledge and behavior of mothers in the fulfillment of nutrition in children in the first 1000 days of life.

From the description above, researchers are interested in conducting a study in the Puuwatu Health Center Working Area, to see if there is a relationship between maternal knowledge about 1000 HPK and nutritional status in children 0-24 months in the Puuwatu Health Center Working Area of Kendari City in 2022.

## Methods

### Study Design

This study used the Cross-Sectional Study design. This study will observe the relationship of maternal knowledge (independent variable) with a certain effect or condition (dependent variable) and the measurement is carried out at the same time without any follow-up (7).

### Samples/Participants

The sample size in this study uses a sampling technique by Simple Random Sampling, which is a sampling technique or random elements, where each element or member of the population has the same opportunity to be selected as a sample. The sampling formula is the slovin formula: (8). The result of the formula is  $n = 69.3$  rounded to 69 people

### Instruments

The validity test states that the instrument used to obtain the data in the study can be used or not. According to Sugiyono (2018) states that valid means that the instrument can be used to measure what should be measured. To find the validity value in an item correlate the item's score with the item's total. If there are items that do not qualify, then they will not be further researched. The method used is by item analysis, where each value in each question item is correlated with the total value of all question items for a variable using the product moment correlation formula. The minimum requirement to be considered valid is the calculated  $r$  value  $\geq$  of the table  $r$  value(9). The results of the validity test obtained in this research instrument have a valid status, because of the value of SIG. (2 tailed)  $< \alpha$  (0.05) then the research instrument is said to be valid.

Reliability tests will be conducted using Cronbach's alpha method. According to Suharsimi Arikunto (2010), Cronbach's alpha is used to find the reliability of the instrument with the calculation if  $r$  calculate  $> r$  table 0.5 (5%) then the data is reliable reliable or consistent. As for the results of reliability test tests with a significant level of 0.5 obtained by Cronbach's alpha  $r$  count (0.734)  $> r$  table (0.361), the instrument is declared reliable(10).

### Data Collection

The study was conducted on mothers who had children 0-24 months who were in the Working Area of Puuwatu Health Center, Kendari City with a total of 69 respondents. The sampling technique used is Simple Random Sampling Before being given a questionnaire, researchers conduct an approach or sample screening in accordance with predetermined criteria, then provide an explanation to prospective respondents about this research, then prospective respondents who are willing to become research respondents can read the approval sheet and then sign. During filling out the questionnaire, researchers gave respondents the opportunity to ask questions.

### Data Analysis

Univariate analysis was used to describe the characteristics of each research variable measured(8). This univariate analysis was carried out on each variable of the research results. Bivariate analysis was conducted to test whether there was a relationship between two research variables, namely the independent variable with the dependent variable. The test used is gamma correlation through the SPSS Version 20 program. This univariate analysis was carried out on each variable of the research results. Bivariate analysis was conducted to test whether there was a relationship between two research variables, namely the independent variable with the dependent variable. The test used is gamma correlation through the SPSS Version 20 program.

### Ethical Considerations

The ethical permit is issued by the Ethics Institute of the Faculty of Health Sciences, Mandala Waluya University. Provide a consent sheet (informed concent), informed concentwill be given to respondents before the research is conducted by providing a consent sheet to become a respondent.

### Results

#### Frequency Distribution of Respondents

Table 1 Distribution of Respondents by Age Baduta  
In Puuwatu Health Center Working Area

Age Interval (Months)	Sum	Presented
1-3	13	19%
4-6	21	30%
7-9	12	17%
10-12	6	9%
13-15	11	16%
16-18	4	6%
19-22	1	1%
23-25	1	1%
<b>Total</b>	<b>69</b>	<b>100%</b>

Source: Data Primer, 2022

Table 2 Distribution of respondents according to maternal age  
In Puuwatu Health Center Working Area

Age Interval (Years)	Frequency	Presented
18-20	2	3%
21-23	4	6%
24-26	8	12%
27-30	31	45%
31-33	11	16%
34-36	11	16%
37-39	2	3%
<b>Total</b>	<b>69</b>	<b>100%</b>

Source: Data Primer, 2022

Table 3 Distribution of Respondents by Sex Baduta  
In Puuwatu Health Center Working Area

<b>Gender</b>	<b>Frequency</b>	<b>Presented</b>
Man	37	53,6%
Woman	32	46,4%
<b>Total</b>	<b>69</b>	<b>100%</b>

Source: Data Primer, 2022

Table 4 Distribution of Respondents Based on Maternal Education  
In Puuwatu Health Center Working Area

<b>Education</b>	<b>Frequency</b>	<b>Presented</b>
SD	25	36,2%
SMP	11	15,9%
SMA	24	34,8%
Diploma	3	4,3%
Bachelor	6	8,7%
<b>Total</b>	<b>69</b>	<b>100%</b>

Source: Data Primer, 2022

Table 5 Distribution of Respondents by Mother's Occupation  
In Puuwatu Health Center Working Area

<b>Work</b>	<b>Frequency</b>	<b>Presented</b>
IRT	59	85,5%
Private	8	11,6%
Officer	2	2,9%
<b>Total</b>	<b>69</b>	<b>100%</b>

Source: Data Primer, 2022

Table 6 Distribution of Respondents Based on Mother's Knowledge  
In Puuwatu Health Center Working Area

<b>Knowledge</b>	<b>Frequency</b>	<b>Presented</b>
Good	33	47,8%
Less	36	52,2%
<b>Total</b>	<b>69</b>	<b>100%</b>

Source: Data Primer, 2022

Table 7 Distribution of Respondents by Nutritional Status  
In Puuwatu Health Center Working Area

<b>State of Nutrition</b>	<b>Frequency</b>	<b>Presented</b>
Very Lacking	4	5,8%
Less	31	44,9%
Normal	28	40,6%
Risk of More Weight	6	8,7%
<b>Total</b>	<b>69</b>	<b>100%</b>

Source: Data Primer, 2022

## Gamma Correlation Test Analysis

Table 8 Gamma Correlation Test Analysis Results

Knowledge	State of Nutrition				Total	Coefficient Korelasi (r)	P value
	Very Less	Less	Normal	More BB Risk			
Good	3 (9,1%)	1 (3,0%)	23 (69,7%)	6 (18,2%)	33 (47,8%)	0,788	0,000
Less	1 (2,8%)	30 (83,3%)	5 (13,9%)	0 (0,0%)	36 (52,2%)		
<b>Total</b>	<b>4 (5,8%)</b>	<b>31 (44,9%)</b>	<b>28 (40,6%)</b>	<b>6 (100,0%)</b>	<b>69 (100,0)</b>		

Source: Data Primer, 2022

## Discussion

Based on the results of a study on the relationship between maternal knowledge about 1000 HPK and nutritional status in children 0-24 months in the Puuwatu health center work area held in July 2022, a relationship was found between maternal knowledge and nutritional status in children 0-24 months. The results showed that most of the nutritional status samples were very lacking, namely 4 people (5.8%), malnourished 31 people (44.9%), normal nutrition 28 people (40.6%), nutritional risk of weight more 6 people (18.2%). The nutritional problems found were samples with very less nutritional status, less, and the risk of more weight.

The results showed that mothers with good knowledge had a very deficient nutritional status of 3 (9.1%). This happens because of the mother's lack of time in paying attention to her child because the mother works outside the home. According to Notoatmojo (2011) work is a time-consuming activity. Good knowledge of mothers with less nutritional status as much as 1 (3.0%) this occurs likely to be caused by direct factors, namely food intake or infectious diseases that may be experienced by children. Good maternal knowledge with nutritional status of weight risk is more than 6 (18.2%) Babies who are fed formula tend to weigh more than babies who are breastfed because formula milk contains 20% more calories. To ensure the baby is full, parents usually force the baby to finish one bottle of milk so that the baby is at risk for obesity. Obesity can occur in children when infants are not accustomed to consuming breast milk, but use formula milk with an amount of intake that exceeds the portion needed by infants / children.

The results of the study of maternal knowledge were lacking with good nutritional status as much as 5 (13.9%). This research is supported by research conducted by Agnes Grace Florence (2017) who said that the knowledge a person has may not necessarily be able to change his eating habits. Based on theory according to Robinson and Weighley in Merryana Adriani et al (2012), factors that affect nutritional status are food intake, disease, family economy, food production, culture, environmental success, and health service facilities(11).

The results of the study were on questions related to the number of blood-added tablets consumed during pregnancy, the maximum limit of breastfeeding and the age of children getting measles immunization. The most wrong answer is 69.6% regarding the number of blood-added tablets for pregnant women. It can be assumed that pregnant women still lack knowledge about the consumption of good blood-added tablets, non-compliance with the consumption of blood-added tablets, causing ignorance of the recommended amount of blood-added tablet consumption, and non-compliance with ANC during pregnancy. Supplementation of blood-added tablets is carried out in order to overcome the problem of anemia to support the 1000 HPK program(12).

On the question of up to what age children get exclusive breastfeeding, if exclusive breastfeeding is given more than 6 months of age without being given complementary foods, toddlers are feared to have a nutritional deficit. As mentioned that after the exclusive breastfeeding period for 6 months, children are given solid food as MP-ASI to help meet nutritional needs because breast milk no longer meets the nutritional needs of infants(13)

In the study related to MP-ASI, there are still many mothers who do not understand the question of MP-ASI. According to Puji et al (2016), children who get MP-ASI that is not in accordance with the time of starting MP-ASI have a risk of 2.8 times to become stunted (z score <-2). Growth disorders in early infant life are caused by malnutrition since infancy, giving MP-ASI too early or too late, MP-ASI is not

enough nutrition according to the baby's needs or poor pattern of giving according to age, and poor infant care(14).

Children who are given exclusive breastfeeding and complementary foods according to their needs can reduce the risk of nutritional problems. This is because at the age of 0-6 months baduta given exclusive breastfeeding can form immunity or immunity of children so that they can avoid infectious diseases. After that, at the age of 6 months toddlers are given MP-ASI in sufficient quantity and frequency so that toddlers meet their nutritional needs which can reduce the risk of problems in child nutrition.

On the question of what age children get immunization against measles. It is assumed that the mother's lack of knowledge regarding child immunization information. Immunization is important because it is an effort to form antibodies in the body so that it can increase immunity against disease attacks, without being accompanied by immunization properly the body will be susceptible to disease.

In this study, baduta who had nutritional problems mostly worked as mothers as housewives. The results of this study are supported by research conducted by Nur Azikin Rozali (2016) which shows that non-working mothers have toddlers with less nutrition than working mothers(15). This is according to research by Suranandi and Chandradewi (2008) suggests that although mothers work outside the home during work, if they have enough knowledge, the mother can manage time in caring for her child(16).

The results of this study showed that respondents mostly had less knowledge, namely 36 people (52.2%), good knowledge 33 people (47.8%). The results of this study were supported by most of the respondents' last education level, namely elementary school. According to Notoatmodjo, knowledge related to health problems will affect the occurrence of health problems in certain groups. Lack of knowledge about nutrition will result in reduced ability to apply information in everyday life which is one of the causes of nutritional disorders(8).

Based on the results of research, a person's nutritional status is not only influenced by the level of knowledge, but is influenced by other factors in this case, namely the level of education and employment. According to Dian (2014), the higher a person's level of education, the easier it is to be given an understanding of information and the easier it is to implement his knowledge in behavior, especially in terms of health and nutrition. Thus, relatively low maternal education will also be related to the attitudes and actions of mothers in dealing with malnutrition problems in children. Even so, there are still nutritional problems with very poor nutritional status, less nutritional status, and the risk of more weight. This problem is likely caused by family socioeconomics which is a factor that affects nutritional status. Therefore, even though you have good knowledge, you should pay attention to children's intake so that it can reduce nutritional problems(17).

## Conclusion

Based on the results of the study, it can be concluded that there is a relationship between maternal knowledge about 1000 HPK with nutritional status in children 0-24 months in the Puuwatu Health Center Working Area with a gamma correlation coefficient value of 0.788, while the significance value of 0.000 is smaller than the significance level of 0.05 ( $0.000 < 0.05$ ).

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