

# The Relationship Between Mother's Knowledge About Balanced Nutrition And The Nutritional Status Of Under-Five Children In Bendo Village

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## ABSTRACT

**Background:** Nutritional status is a physical condition caused by intake and nutritional needs. Malnutrition can cause delayed physical and intellectual development, impacting morbidity and mortality, especially in children <5 years. This study examined the relationship between a mother's knowledge of balanced nutrition and the nutritional status of children under two in Bendo Village.

**Research Methods:** The research design used is correlation analytic with a cross-sectional approach and uses Spearman Rank correlation at a significance level of 0.05. The target of this research is all mothers with children under five in Bendo Village. The sample used is 72 respondents and uses a simple random sampling technique. The data obtained is by giving ten questionnaire questions and observation sheets.

**Research Result:** The results showed that mothers with good knowledge, according to the indicators of BB/U, had children with an average weight of 90.3% and a risk of weight greater than 9.7%. For mothers with good knowledge of the TB/U index, 93.1% of normal children and 6.9% of short children. Meanwhile, mothers with good knowledge, according to the indicators of BB/TB, have 75% of their children are good, 4.2% are malnourished, 16.7% are at risk of overnutrition, 1.4% are at risk of overnutrition, 1.4% are obese, 2.8%.

**Conclusion:** The results of the Rank Spearman statistical test showed that there was no significant relationship between the mother's knowledge about balanced nutrition with indicators of BB/U (sig 0.506), TB/U (sig 0.580), and BB/TB (sig 0.772) because the value was > 0.05.

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## BACKGROUND

Nutritional status is the body's condition due to consuming food and using nutrients the body needs as a source of energy, growth, and maintenance of body tissues.<sup>1</sup> The nutritional status of Padua can be assessed using anthropometry, which consists of variables of age, body weight (BW), and height (TB). Body weight is a measure of tissue mass and body fluids. Weight is sensitive to sudden changes caused by infectious diseases or reduced food consumption. On the other hand, height describes growth function in terms of thinness. Height is a good indicator of past nutritional status, especially about LBW and undernutrition in children <2 years old.

Several direct and indirect factors influence the problem of nutritional status in under-five children. Natural elements are determined by food and infectious diseases, while indirect factors include socioeconomics and the limited knowledge of families, especially mothers, about the nutritional status of under-five children. Inadequate nutrition in the first five years of life results in an irreversible impairment of

growth and physical, mental, and brain development. The measure of success in fulfilling nutrition is nutritional status.

The mother's knowledge about child nutrition dramatically affects the nutritional state of under-five children because the mother has the most attachment to children, such as security, comfort, happiness, and nutrition. Mother's knowledge about nutrition can be seen in how to determine food ingredients, how to process them, and how to serve the food itself.

According to survey data obtained by researchers, the UPTD Puskesmas Bendo has a working area of five (5) villages, including Pelem Village, Bendo Village, Darungan Village, Sumberbendo Village, and Sambirejo Village. Of the five villages, malnutrition is 8.5% in Pelem Village, 7.7% in Bendo Village, 13.4% in Darungan Village, 3.1% in Sumberbendo Village, and 4.9% in Sambirejo Village. Meanwhile, the percentage of undernutrition in the Bendo Health Center area is 9.6% in Pelem Village, 29.2% in Bendo Village, 31.1% in Darungan Village, 5.1% in Sumberbendo Village, and 5.7% in Sambirejo Village.

The 2018 Riskesdas shows that in Indonesia, 17.7% of children aged <5 years still experience malnutrition problems, 13.8% and 3.9% malnutrition. Compared to 2013, the number of under-five children experiencing malnutrition was 19.6% to 17.7% in 2018. Still, the decline in malnutrition problems needs to be in sync with the RPJMN, which hopes that the nutritional conflict can fall to 17%.

This study aims to see the correlation between maternal knowledge about balanced nutrition with the nutritional status of under-five children in Bendo Village (UPTD Puskesmas Bendo Pare District). Therefore, the data generated can be used to improve the nutritional quality of under-five children who experience dietary conflicts. This study uses a Cross-Sectional design with a type of correlation analytical research that explains the correlation between variables through hypotheses carried out on a set of objects that can be used to illustrate the reality in a particular population.

## METHODS

The method used was correlation analysis. The research was conducted in Bendo Village, Pare District, in February and June 2022. The sample used was 72 respondents. Sample calculation using the Slovin formula as follows:

n = The method used was correlation analysis. The research was conducted in Bendo Village, Pare District, in February and June 2022. The sample used was 72 respondents. Sample calculation using the Slovin formula as follows:

$$\begin{aligned} n &= \frac{N}{1 + Ne^2} \\ &= \frac{87}{1 + 87(0.05)^2} \\ n &= 1,217 \\ &= 71.48 \text{ multiplied to } 72 \text{ Respondents} \end{aligned}$$

The sampling technique uses simple random sampling, which means that a population has the same opportunity to be selected as a sample. By drawing members of the population (lottery technique).<sup>6</sup> To measure the degree of knowledge of mothers about nutrition, a questionnaire consisting of 10 questions with multiple choice. The correct choice is given a value of 1, and the wrong choice is assigned a value of 0.

## RESULTS AND DISCUSSION

**Table 1. Respondent Characteristics**

Characteristics	f	%
<b>Mother's age</b>		
20-30 years	36	50,1
31-40 years	30	41,5
41-50 years	6	8,4
<b>Total</b>	<b>72</b>	<b>100</b>
<b>Mother's Education Level</b>		
SD	8	11,1
SMP	15	20,8
HIGHSCHOOL	28	38,9
BACHELOR/DIPLOMA	21	29,2
<b>Total</b>	<b>72</b>	<b>100</b>
<b>Mother's Occupation</b>		
PNS	0	0,0
Private	14	19,4
Farmers	8	11,1
IRT	50	69,4
<b>Total</b>	<b>72</b>	<b>100</b>

Source : Respondent Questionnaire Sheet 2022

Table 1 shows the characteristics of the majority of respondents are 20-30 years old, with a total of 36 people (50.1%), a high school education level of 28 mothers (38.9%), and the mother's occupation is a housewife with a total of 50 (69.4%).

**Table 2. Level of Mother's Knowledge About Balanced Nutrition with Nutritional Status of Under-Five Children with BB/U Indicator in Bendo Village**

Knowledge	Nutritional Status of Under-Five Children (BB/U)						Total	
	BBK		BBN		Risiko BBL		n	%
	n	%	n	%	n	%		
Good	2	2,8	59	81,9	7	9,7	68	94,4
Simply	0	0	4	5,6	0	0,0	4	5,6
<b>Total</b>	<b>2</b>	<b>2,8</b>	<b>63</b>	<b>87,5</b>	<b>7</b>	<b>9,7</b>	<b>72</b>	<b>100</b>

Source : Processed Data 2022

BBK : Underweight

BBN : Normal Weight

BBL : Overweight

Table 2 shows the relationship Knowledge of mothers about balanced nutrition with the nutritional status of children under five based on BB / U in Bendo Village, Pare District, Kediri Regency; there are four mothers (5.6%) with sufficient knowledge have children with normal weight status, and 68 (94.4%) mothers with good knowledge have children with underweight by 2 (2.8%), average weight by 61 (84.7%), and 7 (9.7%) respondents with nutritional status risk of overweight.

The results were analyzed with the Spearman rank statistical test of 72 respondents with the results of p-value = 0.671 Ho accepted, which means that there is no significant relationship between maternal knowledge about balanced nutrition with the nutritional status of under-five children in Bendo Village, Pare District, Kediri Regency. The correlation coefficient value ( $r = - 0.051$ ) with the direction of the variable relationship is negative.

In Bendo Village, there is still a nutrition problem based on BB/U, namely, being underweight caused by inadequate food intake; if the food given to children is not good enough, it can reduce children's immunity, so children are attacked by many infectious disorders and reduce appetite. As a result, children are malnourished and at risk of being overweight due to excessive food consumed by under-fives, an unbalanced under-five diet, and early formula feeding. Overnutrition for children at risk of being overweight can be seen early, and action can be taken quickly before the problem becomes more significant.

**Table 3. Knowledge Level of Mothers About Balanced Nutrition with Nutritional Status of Under-Five Children with TB/U Indicator in Bendo Village**

Knowledge	Nutritional Status of Under-Five Children (TB/U)				Total	
	Short		Normal		n	%
	n	%	n	%		
Good	5	6,9	63	87,5	68	94,4
Simply	0	0,0	4	5,6	4	5,6
<b>Total</b>	<b>5</b>	<b>6,9</b>	<b>67</b>	<b>93,1</b>	<b>72</b>	<b>100</b>

Source: Processed Data 2022

Table 3 shows the relationship between mothers' knowledge about balanced nutrition and the nutritional status of under-five children based on TB/U in Bendo Village; there are 4 (5.6%) mothers with sufficient knowledge who have children with normal weight status, and 68 (94.4%) mothers with good knowledge have children with short height 5 (6.9%) children, and 63 (87.5%) children with standard height.

The results were analyzed with the Spearman rank test of 72 respondents p value = 0.580 Ho accepted, which means there is no significant relationship between maternal knowledge about balanced nutrition and with nutritional status of children under five in Bendo Village, Pare District, Kediri Regency. With the correlation coefficient value ( $r = -0.066$ ), the direction of the variable relationship is negative.

In Bendo Village, there is still a nutritional problem, according to TB/U, namely short children. This is caused by a lack of nutrients for a relatively long time, poor environmental conditions, poverty, and chronic unhealthy behaviors.

**Table 4. Level of Knowledge of Mothers About Balanced Nutrition with Nutritional Status of Under-five Children with Weight/TB Indicator in Bendo Village**

Child Nutritional Status(BB/TB)	Knowledge				Total	
	Good		Simply		N	%
	n	%	n	%		
GK	3	4,2	0	0,0	3	4,2
GN	51	70,8	3	4,2	54	75
GL Risk	11	15,3	1	1,4	12	16,7
GL	1	1,4	0	0,0	1	1,4
Obesitas	2	2,8	0	0,0	2	2,8
<b>Total</b>	<b>68</b>	<b>94,5</b>	<b>4</b>	<b>5,6</b>	<b>72</b>	<b>100</b>

Source: Processed Data 2022

GK: Undernourished

GN: Normal Nutrition

GL: Over Nutrition

Table 4 shows the relationship between maternal knowledge about balanced nutrition and the nutritional status of under-five children in Bendo Village; there are 68 mothers (94.5%) with good knowledge who have 3 (4.2%) under-nourished children, 51 (70.8%) children have normal nutritional status, 11 (15.3%) children have nutritional status at risk of over-nutrition, 1 (1.4%) child has over-nutrition status, and 2 (2.8%) children with obesity status. Of the four respondents (5.6%) with sufficient knowledge, one child (1.4%) had an overnutrition risk status, and three children (4.2%) had good nutritional status.

The results were analyzed with the Spearman rank statistical test with p-value = 0.772.  $H_0$  is accepted, and  $H_a$  is rejected, meaning there is no significant relationship between maternal knowledge about balanced nutrition and the nutritional status of under-five children in Bendo Village. The correlation coefficient value ( $r = -0.035$ ) with the direction of the variable relationship is negative.

In Bendo Village, there are still problems with BB/TB nutritional status, namely GK, GL risk, and obesity. These problems are caused by significant birth weight, hereditary obesity, unbalanced diet, parental feeding behavior, and maternal perception.

Based on the research results in Bendo Village, Pare District, most mothers with sufficient knowledge have children with good nutritional status. This is because many mothers are educated up to high school; according to the theory expressed by Notoatmodjo (2012), education can bring a person's knowledge. A good mother's knowledge of balanced nutrition can fulfill the infant's food according to the infant's needs. In the daily life of infants, adequate nutrition is needed for development and growth. And the results of this study showed that a minority of infants had GL status. Overnutrition is a disease of malnutrition caused by consuming food that significantly exceeds its needs. Therefore, mothers should pay more attention to their babies' nutritional needs so they can grow and develop normally. The energy needs of children are more than parents because, in baduta, the growth is still very rapid. The adequacy continues to decrease with age.

A good level of maternal knowledge about balanced nutrition in children can be deterred early on by implementing a good lifestyle, diet, and balanced nutrition so that nutritional problems do not occur in under-five children. Not only that, but good maternal knowledge can also bring their children to the health center and ask questions about the development of the nutritional status of infants regularly. Junaidi (2012) said that good nutritional status is the first requirement for realizing quality human resources. Baduta who experience nutritional problems at child age will interfere with growth and development, which is fatal and causes death. In general, nutritional problems are caused by infection, lack of nutritional intake, and lack of parental attention to knowledge. Many factors can influence understanding, including socio-culture, education, information/mass media, economy, environment, ability, and age.

## CONCLUSIONS

Knowledge of mothers about balanced nutrition. With. Status. Most under-five children in Bendo Village have a good understanding of 68 respondents (94.5%). The nutritional status of children, according to BB/U in Bendo Village, was mainly 65 children (90.3%) with average weight status and seven children (9.7%) with overweight risk status. The nutritional status of children based on TB/U in Bendo Village, Pare Subdistrict, mainly 67 children (93.1%) with average level, five children (6.9%) with short status. The nutritional status of children based on BW/TB in Bendo Village, Pare Subdistrict, mainly was 54 children (75%) with good nutritional status, three children (4.2%) with low quality, 12 children (16.7%) with risk of overnutrition, one child (1.4%) with overnutrition, and two children (2.8%) with obesity. There is no correlation between mothers' knowledge about balanced nutrition and the nutritional status of under-five children in Bendo Village based on the nutritional status of BB/U (sig 0.671), TB/U (sig 0.580), BB/TB (sig 0.772) because the  $p$  value  $> \alpha 0.05$

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