



The Relationship between Mothers' Knowledge of Nutritional Needs in Children and the Incidence of Stunting at the Anggrek Integrated Health Post, Petunggulung Hamlet, Watupatok Village, Bandar District, Pacitan Regency

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Abstract. Stunting is a chronic nutritional problem that remains prevalent in Indonesia and poses a risk to children's long-term quality of life. A mother's lack of knowledge about her child's nutritional needs is suspected to contribute to the incidence of stunting. This study aims to determine the relationship between maternal knowledge of child nutrition and the incidence of stunting among toddlers at Posyandu Anggrek, Dusun Petunggulung, Watupatok Village, Bandar Sub-district, Pacitan Regency. This quantitative study employed a descriptive correlational design with a total of 20 respondents selected using total sampling. Data were collected through a knowledge questionnaire and measurements of children's Body Mass Index (BMI). The data were analyzed using the Chi-Square test with a significance level of 0.05. The results showed that most mothers had a moderate level of knowledge (80%), and 65% of toddlers were identified as stunted. The Chi-Square test yielded a p-value of 0.108, indicating no statistically significant relationship between maternal knowledge and stunting. Although the relationship was not statistically significant, the findings suggest that maternal nutritional knowledge remains an important factor to consider in stunting prevention efforts.

Keywords: Child Nutrition; Maternal Knowledge; Nutritional Status; Posyandu; Stunting.

1. BACKGROUND

Early childhood is the nation's next generation, undergoing a period of rapid growth and development. The 0–5 age period is known as the golden age, crucial for determining a child's future quality of life. During this period, children are highly susceptible to growth disorders, particularly if nutritional intake is inadequate. One form of growth disorder of national concern is stunting, a condition of failure to thrive due to chronic malnutrition that occurs from pregnancy to age two. Children who experience stunting tend to be shorter than their peers and are at risk of impaired physical and cognitive development.

The World Health Organization (WHO) and UNICEF reported in 2023 that Indonesia ranked 27th out of 154 countries with a high prevalence of stunting, and 5th in the Asian region. Based on the results of the 2022 Indonesian Nutritional Status Survey (SSGI), the national stunting prevalence rate was 21.6%, a decrease from 24.4% the previous year. In East Java Province, stunting prevalence fell from 23.5% in 2021 to 19.2% in 2022. However, Pacitan Regency still showed a fairly high rate, at 20.6%, with 3,905 stunted toddlers out of a total of 26,155 toddlers.

Stunting significantly impacts children's health by increasing the risk of infection, slowing motor and cognitive development, and lowering later academic achievement. A key factor influencing stunting is a mother's knowledge of child nutrition. A mother's lack of

understanding regarding exclusive breastfeeding, complementary feeding, and nutritious food choices is a major cause of poor nutritional intake in children. This knowledge is strongly influenced by educational background, information received, and the family's socioeconomic status.

Several previous studies have shown that mothers' good nutritional knowledge is directly proportional to lower stunting rates. Therefore, improving mothers' knowledge about their children's nutritional needs is crucial as a preventative measure to reduce stunting rates.

Seeing this phenomenon, researchers were interested in examining the relationship between mothers' knowledge about children's nutritional needs and the incidence of stunting at the Anggrek Integrated Health Post, Petunggulung Hamlet, Watupatok Village, Bandar District, Pacitan Regency.

2. THEORETICAL STUDY

Knowledge is the result of a learning process and interaction between individuals and their surroundings, which shapes their understanding or perception of an object. Notoatmodjo (in Albunsiyary, 2020) explains that knowledge is not only acquired through formal education but is also influenced by experience, received information, and the use of mass media. In the context of nursing and child health, maternal knowledge significantly influences behavior in caring for and meeting children's nutritional needs.

Stunting is a condition of growth failure that reflects chronic malnutrition, particularly in the early stages of a child's life, from pregnancy to age two. One of the main causes of stunting is a mother's lack of understanding of the importance of nutrition, such as exclusive breastfeeding, nutritious complementary foods, and the principles of balanced nutrition (Kusyani & Fitriyah, 2021). Furthermore, factors such as maternal nutritional status, anemia during pregnancy, and interpregnancy spacing also play a role in increasing the risk of stunting (Kirana, 2022).

Mothers play a central role in meeting children's nutritional needs, as they are the ones who interact most closely with them. A good understanding of nutritious eating patterns can minimize the risk of stunting in children. Conversely, a lack of knowledge can lead to errors in food selection, feeding frequency, and the quality of nutritional intake (Adja et al., 2023).

Murti's (2020) research found that children raised by mothers with poor nutritional knowledge were almost five times more likely to experience stunting than children raised by mothers with good knowledge. Education and access to information also influence this

knowledge, as mothers with higher levels of education tend to have a better understanding of child care and nutrition (Dakhi, 2018; Sulastris & Anas, 2017).

Based on the results of a study at the Anggrek Integrated Health Post (Posyandu) in Watupatok Village, most mothers had sufficient knowledge, while others were in the good and poor categories. Although statistical analysis using the Chi-Square test did not show a significant relationship between maternal knowledge and stunting incidence, the emerging pattern still suggests a tendency for an influence that can serve as the basis for education-based preventive interventions.

Considering various theories and previous research findings, it can be assumed that the higher a mother's knowledge of her child's nutritional needs, the lower the child's likelihood of experiencing stunting. Although the hypothesis wasn't explicitly stated in the form of a question, the direction of this research still indicates a relationship between the two variables.

3. RESEARCH METHODS

This study used a quantitative approach with a descriptive correlational design. The aim was to evaluate the relationship between maternal knowledge of children's nutritional needs (independent variable) and the incidence of stunting in toddlers (dependent variable), without providing any special treatment to the research subjects.

The population in this study included all mothers with toddlers and registered as active participants at the Anggrek Integrated Health Post (Posyandu) in Petunggulung Hamlet, Watupatok Village, Bandar District, Pacitan Regency. The sampling technique used was total sampling, meaning the entire population was sampled. The number of respondents in this study was 20 mothers and their toddlers.

Data collection was conducted using two main instruments: a questionnaire and direct measurement of toddlers' Body Mass Index (BMI). The questionnaire consisted of 14 items measuring mothers' knowledge of child nutrition using a Likert scale, while BMI was used to assess the child's nutritional status, whether they were classified as stunted or not.

The questionnaire instrument underwent validity and reliability testing, and all items were found to be valid and consistent. This was demonstrated by a Cronbach's alpha value that met the reliability criteria of ≥ 0.70 , making it suitable for use in data collection.

The data obtained were analyzed using descriptive statistics to determine distribution and frequency, and inferential analysis using the Chi-Square (χ^2) test to determine the relationship between maternal knowledge and stunting status. This test was chosen because it is appropriate

for examining relationships between categorical variables. Results are considered significant if the p-value is <0.05 .

The relationship model between variables in this study is described as:

$X \rightarrow Y$,

With:

X = Mother's knowledge of children's nutritional needs

Y = Incidence of stunting in children

Through this design, it is hoped that it can be determined whether or not there is a relationship between mothers' knowledge about nutrition and the incidence of stunting at the research location.

4. RESULTS AND DISCUSSION

Implementation of Data Collection, Time, and Location of Research

This research was conducted from May to June 2025 at the Anggrek Integrated Health Post (Posyandu) in Petunggulung Hamlet, Watupatok Village, Bandar District, Pacitan Regency. This location was chosen because data shows that the area still has a relatively high stunting rate. Data collection techniques included distributing questionnaires to mothers of toddlers to determine their level of knowledge about child nutrition and measuring the nutritional status of toddlers by calculating their Body Mass Index (BMI).

Research Findings

Level of Mothers' Knowledge about Child Nutrition

Most of the mothers who responded to this study demonstrated a sufficient level of knowledge. Detailed data is presented in Table 4.1 below:

Table 1. Level of Mothers' Knowledge about Child Nutrition

Knowledge Category	Frequency	Percentage
Good	2	10%
Enough	16	80%
Not enough	2	10%
Amount	20	100%

Source: Primary data, 2025

Nutritional Status of Toddlers Based on BMI

BMI measurements indicate that most toddlers are malnourished, potentially leading to stunting. The details are presented in the following table:

Table 2. Nutritional Status of Toddlers Based on BMI

BMI Category	Frequency	Percentage
Low BMI	13	65%
Normal BMI	4	20%
BMI Over	3	15%
Amount	20	100%

Source: Primary data, 2025

Analysis of the Relationship between Maternal Knowledge and the Incidence of Stunting

The results of the statistical test using Chi-Square yielded a significance value (p) of 0.108. Because this value is greater than the significance limit of 0.05, it is concluded that there is no statistically significant relationship between maternal knowledge and the incidence of stunting in toddlers.

Table 3. Relationship Between Maternal Knowledge and the Incidence of Stunting

Mother's Knowledge	Stunting in Toddlers	No Stunting	Amount
Good	0	2	2
Enough	12	4	16
Not enough	1	1	2
Total	13	7	20

Source: Chi-Square Test, 2025

Discussion

Relevance of Results to Theoretical Concepts

Based on research results, even though the majority of mothers have sufficient knowledge, stunting rates remain high. This indicates that knowledge is insufficient to prevent stunting if not accompanied by appropriate practices. While maternal knowledge plays a crucial role, it does not directly guarantee the quality of a child's nutritional intake, as it is influenced by many other factors such as the environment, economics, and family habits.

Comparison with Previous Studies

This finding is inconsistent with research by Murti (2020), which found that low maternal knowledge was directly proportional to an increased risk of stunting. This discrepancy may be due to the limited number of respondents and varying local characteristics, resulting in inconsistent results.

Theoretical and Practical Implications

Theoretically, these results reinforce the idea that knowledge is a crucial factor, but not sufficient on its own. Practically, they suggest that intervention programs for stunting prevention must involve more than just education, but also concrete actions such as growth and

development monitoring, family economic empowerment, and increased access to health services.

5. CONCLUSION AND SUGGESTIONS

The results of this study indicate that most mothers who responded had a sufficient level of knowledge regarding children's nutritional needs. However, based on the results of the analysis using the Chi-Square test, no statistically significant relationship was found between maternal knowledge levels and the incidence of stunting in toddlers at the Anggrek Integrated Health Post (Posyandu), Petunggulung Hamlet, Watupatok Village, Bandar District, Pacitan Regency. Nevertheless, the trends emerging in the data continue to demonstrate the importance of maternal knowledge in preventing stunting, so improving mothers' understanding of child nutrition remains an important aspect that needs attention.

As a follow-up to these findings, it is recommended that health workers and integrated health post (Posyandu) cadres increase nutrition education efforts, both through routine outreach and direct community activities. These efforts can help mothers better understand the importance of proper nutrition for early childhood. Support from village governments and cross-sectoral stakeholders is also expected to strengthen stunting prevention programs, particularly through ongoing promotive and preventive interventions.

This study is limited by its relatively small sample size and specific location, making its results unable to be generalized to a wider region. Therefore, future research is recommended to include a larger sample size and consider other variables, such as family diet, parenting behaviors, income level, and access to health facilities, which may influence children's nutritional status.

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