



THE RELATIONSHIP BETWEEN DIET AND NUTRITIONAL STATUS WITH THE INCIDENCE OF STUNTING IN CHILDREN AGED 2–5 YEARS IN THE WORKING AREA OF THE MAWASANGKA HEALTH CENTER

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ABSTRACT

Background: Stunting is a chronic nutritional problem caused by a lack of nutritional intake over a long period of time and is often associated with an inadequate diet. This condition has a serious impact on the physical growth, cognitive development, and productivity of children in the future. Objective: This study aims to determine the relationship between diet and nutritional status and the incidence of stunting in children aged 2–5 years in the working area of the Mawasangka Health Center. Methods: This study used a cross sectional design with a sample of 80 children aged 2–5 years who were selected by purposive sampling. It will be held in November 2025. Data were collected using dietary questionnaires, anthropometric measurements (weight, height), and maternal interviews. Data analysis was carried out by Chi-Square test. Results: The results showed that there was a significant relationship between diet and stunting incidence ($p=0.001$) and between nutritional status and stunting incidence ($p=0.003$). Children with an unbalanced diet are 3.5 times more likely to experience stunting than children with a good diet. Conclusion: Diet and nutritional status have a significant relationship with stunting events. Efforts are needed to improve balanced nutrition education for families to reduce stunting rates in the work area of the Mawasangka Health Center.

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1. INTRODUCTION

Stunting is still a major nutritional problem in Indonesia that has a long-term impact on the quality of human resources. Based on data from the 2023 Indonesian Nutrition Status Survey (SSGI), the national stunting prevalence reached 21.5%, while the national target for 2025 is below 14%. One of the areas that still faces stunting problems is Central Buton Regency, especially the Mawasangka Health Center work area. Stunting occurs due to chronic nutritional intake from pregnancy to the first 1000 days of life. An unbalanced diet and low intake of animal protein are important factors that contribute to the incidence of stunting. In addition, a child's nutritional status reflects the balance between the needs and nutritional intake received by the body. Several studies show a strong relationship between diet and nutritional status and stunting incidence. However, variations in food consumption patterns and local socioeconomic conditions can affect the results of the study in each region. Therefore, this study is important to determine the relationship between diet and nutritional status and the incidence of stunting in children aged 2–5 years in the work area of the Mawasangka Health Center.

2. RESEARCH METHODS

Research Design: This study is an observational analytical research with a cross sectional approach. **Population and Sample:** The population in this study is all children aged 2–5 years who live in the working area of the Mawasangka Health Center in November 2025. A sample of 80 children was selected using the purposive sampling technique based on inclusion criteria: children aged 24–59 months, living with their mothers, and willing to be respondents. **Research Variables:** Independent variables: diet and nutritional status; Dependent variable: stunting incidence. **Research Instruments:** Dietary data were collected with a modified Food Frequency Questionnaire (FFQ). Nutritional status is measured by weight and height indicators using WHO Child Growth Standards. **Data Analysis:** Univariate analysis is used to describe the frequency distribution of each variable. Bivariate analysis uses the Chi-Square test to determine the relationship between diet and nutritional status and stunting incidence. The significance level used is $\alpha = 0.05$.

3. RESULTS AND DISCUSSION

Results

Table 1 Characteristics of Respondents

Characteristics	Category	Frequency (n)	Percentage (%)
Child Age (years)	2–3	20	25,0
	3–4	44	55,0
	4–5	16	20,0
Gender	Man	42	52,5
	Woman	38	47,5
Mother's Education	Low (SD)	14	17,5
	Secondary (Junior High–High School)	51	63,7
	Higher (College)	15	18,8
Mother's Work	Housewives	56	70,0
	Farmer/Labourer	14	17,5
	Employee/Self-Employed	10	12,5

Table 2 Distribution of Stunting Incidence

Status Stunting	Frequency (n)	Percentage (%)
Stunting	25	31,2
Not Stunting	55	68,8
Total	80	100

Table 3 Relationship between Diet and Stunting Incidence

Diet	Stunting (n)	Not Stunting (n)	Total	p-value
Good	7	43	50	0,001*
Bad	18	12	30	
Total	25	55	80	

Table 4 Relationship between Nutritional Status and Stunting Incidence

Nutritional Status	Stunting (n)	Not Stunting (n)	Total	p-value
Good	9	43	52	0,003*
Less	16	12	28	
Total	25	55	80	

Discussion

The results showed that most children aged 3–4 years with an almost equal proportion of sex between boys and girls. At this age, children experience a period of rapid growth so that the need for macro and micronutrients increases significantly. Lack of nutritional intake in this period greatly affects the growth of children's height, which is the main indicator of stunting. Age and gender factors play a role in different energy and nutrient needs, so proper dietary arrangements are important to prevent growth disorders.



The majority of mothers in this study have a secondary education level and work as housewives. This condition can affect children's behavior and parenting styles. Mothers with secondary education generally have basic knowledge about nutrition, but still need guidance in implementing a balanced diet for children. As the main food manager in the family, mothers play a big role in determining the type and frequency of food given. Low maternal nutritional knowledge is often one of the factors causing suboptimal child growth.

From the results of the study, it is known that the prevalence of stunting is 31.2%, which means that about one-third of children still experience growth disorders. This figure shows that the problem of stunting is still a public health issue that needs serious attention. Although most children are not stunted, the existence of groups that are still stunted reflects an imbalance in meeting the nutritional needs and parenting of children in the research area.

The analysis of the relationship between diet and stunting incidence showed significant results with a value of $p=0.001$. This indicates that children with poor diets have a higher risk of stunting. An unbalanced diet, both in terms of frequency and food variation, can lead to deficiencies in essential nutrients such as protein, iron, zinc, and vitamin A that are needed for growth. These findings are in line with previous research that states that a less diverse diet increases the risk of growth disorders in children under five.

Children who have a poor diet often do not get a balanced nutritious diet, for example, they eat more foods high in carbohydrates but low in protein and micronutrients. This condition has an impact on the disruption of the growth of body and bone cells, which eventually causes stunting. In addition, family environmental factors such as economic limitations and lack of variety of food ingredients also worsen the quality of children's diet. Therefore, education to parents about the importance of a balanced menu is an important step in efforts to prevent stunting.

This study also showed a significant relationship between nutritional status and stunting incidence ($p=0.003$). Children with poor nutritional status are more likely to experience stunting than children with good nutritional status. Poor nutritional status reflects an imbalance between intake and body needs. If it persists over the long term, this condition causes linear growth disorders. Thus, nutritional status is an important determining factor in the incidence of stunting.

These findings are in line with the theory that children's growth is greatly influenced by the adequacy of energy and nutrients. Poor nutritional status can be caused by insufficient food intake, recurrent infectious diseases, and improper parenting. Several studies in Indonesia and other developing countries have also shown a consistent link between malnutrition and stunting. Therefore, nutritional interventions that focus on improving diet and improving nutritional status are needed to reduce stunting rates.

Overall, the results of this study confirm that diet and nutritional status have an important role in the incidence of stunting. Prevention efforts can be carried out through nutrition education for mothers, increasing access to nutritious food, and routine monitoring of child growth at posyandu. Cross-sectoral cooperation, including health workers, cadres, and local governments, is needed to create an environment that supports optimal child growth. Thus, the stunting rate can be reduced and the quality of future generations can be improved.

4. CONCLUSION

There is a significant relationship between diet and nutritional status with the incidence of stunting in children aged 2–5 years in the work area of the Mawasangka Health Center. It is necessary to increase balanced nutrition education and regular monitoring of child growth by health workers as well as the active role of the family in ensuring the adequacy of children's nutritional intake.

5. RECOMENDATION

For Health Workers: Conducting balanced nutrition education and regular growth and development monitoring.

For Parents: Provide complete and varied nutritious food intake according to the needs of the child's age.

For Regional Governments: Improving nutrition intervention programs and stunting prevention counseling in the community.

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