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Relationship Between Feeding Practice and Stunting Incidents in Toddlers

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Abstract

Background: Stunting is a condition of failure to grow due to a lack of calories and quality nutrition which results in serious long-term impacts on a child's physical growth and cognitive development. Stunting has become a global concern as one of the most critical problems in public health.
Objective: This study aimed to determine the relationship between feeding practice and stunting in toddlers in Bontomanai Village, Gowa Regency.
Methods: This study used quantitative research design with cross-sectional design. The sampling technique used purposive sampling with a total of 35 respondents. The study was conducted in Bontomanai Village, Gowa Regency in July-August 2024. The instruments used included Child Feeding Questionnaire (CFQ) and stunting observation sheets using direct measurements of height utilizing a microtoise.
Results: There were 10 people with proper feeding practice that was 5 people (14.3%) with normal nutritional status and 5 people (14.3%) experiencing stunting. While 25 people with improper feeding practices, there were 5 people (14.3%) with normal nutritional status and 20 people (57.1%) experiencing stunting. The results of the analysis using the fisher's statistical test obtained a value of $\rho=0.076 > (\alpha=0.05)$, which indicated no significant relationship between feeding practice and the incidence of stunting in toddlers.
Conclusion: There is no correlation between feeding practice and the incidence of stunting in toddlers in Bontomanai village, Gowa Regency. Future study needs to include larger sample size and paying attention to feeding patterns, types of food and frequency of eating in toddlers. In addition, it is also necessary to examine other factors that influence stunting.

Keywords: Feeding practice; stunting; toddler

Introduction

Stunting is a significant public health problem in Indonesia, characterized by children not growing according to their age. Based on data from the United Nations Children's Fund (UNICEF), almost half of children who experience stunting are in Asia. Indonesia is the second-ranked country in Southeast Asia and the fifth-ranked country globally (Rukmana et al., 2024). The prevalence of stunting according to the results of the Indonesian Health Survey in 2022 was 21.6% and in 2023 it was 21.5% (Badan Pusat Statistik, 2024). Meanwhile, in South Sulawesi, the prevalence of stunted toddlers reached 27.2% in 2022 based on the results of the Indonesian Nutritional Status Survey (Faqhruddin et al., 2024).

Stunting has become a global concern as one of the most critical problems in public health. As the first and dominant figure in a child's life, the mother is responsible for determining the right parenting behavior to be implemented to maintain the child's physical health (Abdulaziz et al., 2024). The mother's parenting pattern is one of the factors that influences the handling of stunting. Previous research has shown a significant relationship between mother's parenting pattern and stunting prevention behavior among children aged 3-5 years (Ningsih et al., 2024). Parenting patterns play an important role in the growth and development of toddlers. Poor parenting patterns can increase the incidence of stunting in toddlers (Shofiyah & Fatoni, 2022).

Parenting patterns are factors that can be intervened and improved. By knowing the types of parenting patterns that are risky and protective against stunting, interventions can be more targeted through education, counseling, or other intervention programs for the community. One of the maternal parenting patterns is feeding practice. Providing appropriate food or feeding practice according to the age and nutritional needs of children is a crucial factor in efforts to prevent stunting, and is an important focus in public health interventions. Therefore, researchers are interested in conducting research on the relationship between feeding practice and the incidence of stunting in toddlers. This study aims to assess whether there is a relationship between feeding practice and the incidence of stunting, especially in Bontomanai Village, Gowa.

Methods

Study Design
This study used quantitative research method with cross-sectional design.

Samples
The sampling technique used purposive sampling technique. The research sample was 35 mothers with inclusion criteria have children aged 12-59 months and willing to be a respondent.

Instruments
The research instrument used the Child Feeding Questionnaire (CFQ) modified from Camci, Bas and Buyukkaragoz (2024) in previous studies and used a stunting observation sheet by directly measuring height using a microtoise (Prakhasita, 2018). The results of the validity test used 30 respondents with a calculated r value > r table value of 5%. The results of the reliability test were for the type of food with a Cronbach alpha value of 0.902, the amount of food with a Cronbach alpha value of 0.769 and the food schedule with a Cronbach alpha value of 0.911.

Data Collection
This study was conducted in the Bontomanai village, Bontomarannu District, Gowa Regency in July-August 2024. Data was collected directly by researchers.

Data Analysis
Data analysis used the SPSS test using fisher's test. Descriptive statistics were used to analyze the participants' characteristics. Univariate analysis in the study was to describe the characteristics of respondents. Bivariate analysis used the Chi-square tests to determine the relationship between feeding practice and the incidence of stunting.

Ethical Considerations
This study applied ethical principles by providing informed consent and approval to research samples and were confidential and non-coercive. This study also received a research permit with number: 19068/S.01/PTSP/2024.

Results

Table 1 showed that the age of the child's mother with the largest number of 20-30 years as many as 27 (77.1%). The mother's occupation obtained the largest number of housewives 27 people (77.1%). Mother's education where the largest number of high school or equivalent 12 respondents (34.3%), toddler age with the largest number at the age of 12-23 months 14 toddlers (40%) and gender of toddlers the largest number of male 19 toddlers (45.7%) which can be seen in the table below.

Table 1. Characteristics of Respondents

Respondent Characteristics		f	%
Mother's age	20-30 years	27	77.1
	30-40 years	7	20
	40-50 years	1	2.9
Mother's job	Self-employed	1	2.9
	Housewife	27	77.1
	Civil servant	1	2.9
	Private	2	5.7
	Nurse	4	11.4
Mother education	Not In school	2	5.7
	Elementary school	8	22.9
	Junior High school	6	17.1
	High school	12	34.3
	Diploma/S1	7	20
Toddler age	12-23 month	14	40
	24-35 month	10	28.6
	36-47 month	6	17.1
	48-59 month	5	14.3
Gender of toddler	Male	19	54.3
	Female	16	45.7

Source: Primary data, 2024

Table 2 showed that 10 people with proper feeding practice, there are 5 people (14.3%) with normal nutritional status and 5 people (14.3%) experiencing stunting. While 25 people with improper feeding practices, there are 5 people (14.3%) with normal nutritional status and 20 people (57.1%) stunting. Based on the results of the analysis with the chi-square statistical test, the value of ρ = 0.107> (α = 0.05) is obtained, so it can be concluded that there is no significant relationship between maternal feeding of toddlers and the incidence of stunting in children in Bontomanai Village, Gowa which can be seen in the table below.

Table 2. Feeding Practice and Stunting Incidence

Feeding Practice	Stunting Incidence				Total		*p-Value*
	Normal		Stunting				
	f	%	f	%	f	%	
Right	5	14,3	5	14,3	10	100,0	*0.107
Not right	5	14,3	20	57,1	25	100,0	
	10	28,6	25	71,4	35	100,0	

** Fisher's test*

Discussion

Providing proper and nutritious food is very important in preventing stunting in children. Stunting is a condition of failure to thrive due to a lack of calories and quality nutrition which results in serious long-term impacts on the physical growth and cognitive development of children. Other studies have shown that feeding patterns influence the incidence of stunting (Khairunnisa, 2023). In addition, previous studies have also shown that there is a significant relationship with the incidence of stunting in toddlers aged 12-59 months (Prakhasita, 2018). Parenting patterns and feeding patterns are related to stunting. Good maternal parenting patterns can prevent

children from experiencing stunting, as well as feeding, if mothers provide the right food for their children, then children can avoid stunting (Wibowo et al., 2023).

However, this study is different from previous studies which stated that there is a relationship between feeding practice and the incidence of stunting. In this study, no relationship was found between feeding practice and the incidence of stunting in toddlers. This study is in line with the study of Rahmawati, et al (2024) which showed that feeding patterns were not related to the incidence of stunting in toddlers aged 1-5 years (Tahun et al., 2024). Other studies also show that there is no relationship between the type of food and the amount of food with the incidence of stunting (Arongan, 2022).

Previous studies explained that there was no significant relationship between the type of food given and the incidence of stunting. In this study, most of the types of food consumed by toddlers were inappropriate, namely they did not include any of the rice, side dishes, vegetables, and fruits, where most toddlers only consumed rice, side dishes, vegetables, or even only rice and vegetables (Fadzilah Nur Qolbiyah, Riries Choiru Pramulia Yudia2, 2021).

According to Rosha et al (2020), factors that cause stunting can be grouped into direct and indirect causes. The practice of providing colostrum and exclusive breastfeeding, children's consumption patterns, and infectious diseases suffered by children are direct factors that affect children's nutritional status and can have an impact on stunting. Meanwhile, indirect causes are access and availability of food and sanitation and environmental health (Ruswati et al., 2021).

Many factors are related to the incidence of stunting in children in Indonesia, including the mother's knowledge and attitude towards nutritional intake both during pregnancy and after the child is born, especially in the early stages of a child's life (Hardianty et al., 2024; Pratiwi et al., 2024). Other factors that also cause stunting are the mother's age, poor parenting practices, food safety, mother's education and mother's work (Suryani et al., 2023). The causes of stunting include premature birth, environmental factors, healthy and clean living behavior, smoking habits of one of the family members, healthy eating patterns, diarrhea, birth spacing, family understanding and attitudes in providing healthy nutrition (Anwar et al., 2022). Also, a study by Tiotor et al. (2024) depicts that stunting is correlated with exclusive breastfeeding.

The absence of a relationship between feeding patterns and the incidence of stunting in toddlers in this study was likely due to the good quality of the respondents' food intake. In addition, most of the respondent parents had also implemented the right feeding pattern for their children.

Conclusion

This study shows that there is no relationship between feeding practice and stunting in toddlers in Bontomanai Village, Gowa. Future research needs to include larger sample size and pay attention to feeding patterns, and types of food and frequency of eating in toddlers. In addition, it is also necessary to examine other factors that influence stunting.

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