

## Analysis of Stunting Incidents Based on Mother's Knowledge

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### ABSTRACT

Every parent does not want stunting cases to occur in their children. Stunting in children can be caused by direct and indirect factors. One direct cause is a lack of nutritious food intake. The role of parents, especially mothers, as indirect causes plays a vital role in fulfilling children's nutrition. This research aims to analyze the relationship between a mother's knowledge and the incidence of stunting. The research method uses an analytical survey with a cross-sectional approach. The sampling technique used purposive sampling, totaling 68 respondents, with the criteria being mothers who had toddlers aged 1-2 years. Research location in the city of Bekasi, Indonesia. The research instrument used a questionnaire and measurements of body length compared with age. Data analysis with bivariate and univariate statistics. The research results show that the majority of mothers have good knowledge, and the majority do not experience stunting. Statistical tests using Chi-Square show that there is a significant relationship between mothers' knowledge about nutrition and the incidence of stunting in mothers of toddlers 1-2 years old. The contribution of this research is evidence that mother's knowledge is essential for children's growth. One alternative strategy to overcome the increase in stunting cases is to strengthen the understanding of mothers.

**Keywords:** Knowledge, Mothers, Children's Nutrition, Nutritional Intake, Stunting, Toddlers



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## 1. INTRODUCTION

Every year, one million children worldwide die due to stunting (Muche et al., 2021). Nutritional problems in children are a contributing factor to stunting cases (Ismawati et al., 2020). The presence of growth barriers at the beginning of life causes stunting (Kurnia et al., 2021). The beginning of life in question is from intrauterine, post-natal up to the age of 2 (two) years (Sartika et al., 2021). The occurrence of stunting in children is often unknown because linear growth examinations or body length measurements are not carried out (Bagamian et al., 2023; DeBoer et al., 2021).

Based on the 2021 Health Profile, the percentage of stunted (very short and short) in Indonesia is 24.4% (Noor et al., 2022). This means that 1 in 3 Indonesian children experience stunting. More than 1/3 of children under 5 years old in Indonesia are below average height. The problem of stunting in Indonesia has quite a big impact in various fields. In the health sector, stunting causes failure to thrive (low birth weight, small, short, thin), obstacles to cognitive and motor development (Aprilia et al., 2022). Metabolic disorders in adulthood such as the risk of non-communicable diseases (diabetes, obesity, stroke, heart disease, etc.) (Krishnaswamy & Laxmaiah, 2011). The impact on the economic sector has the potential to cause losses every year: 2-3% of GDP (Sari et al., 2020).

There are two factors that influence the occurrence of stunting problems, namely direct causes and indirect causes (Bustami & Ampera, 2020). Direct causes include disease and nutritional intake (Fikawati

et al., 2021). Indirect causes include health services, parenting patterns, economics, culture, food availability, and others (Atamou et al., 2023).

The role of parents, especially mothers, is very important in providing children with nutrition (Marshall et al., 2022; Yunitasari et al., 2021). Children need parental attention and support in facing very rapid growth and development (De Cianni et al., 2023). To get good nutrition, parents need good nutritional knowledge so they can provide a balanced menu of food choices. A person's level of knowledge influences attitudes and behavior in parenting their children. Good knowledge will create good attitudes, which in turn, if these attitudes are deemed appropriate, then good behavior will emerge. Knowledge itself is obtained from information both obtained from formal education and from (non-formal) media, such as radio, TV, internet, newspapers, magazines and others.

Research by Febriani et al. (2020) said that a history of low birth weight contributes as a main risk factor for stunting problems. Research by Rahayuwati et al. (2020) found that based on factor analysis there was relevance, including mothers employment, birth complications, completeness of immunizations, immunization schedules, exclusive breastfeeding, and children's medical records. According to Suratri et al. (2023), low mothers education in rural areas is one of the factors causing stunting. Research by Laksono et al. (2022) said that the mother's education level influences the incidence of stunting, a low level of education provides an opportunity for stunting to occur. Several research results prove that apart from nutritional factors, there are other factors, for example a history of low birth weight. Some studies also focus more on maternal factors, for example the level of mother's education. The novelty of this research is looking at the incidence of stunting from mother's education from a more detailed perspective, namely maternal knowledge about nutrition. Therefore, the aim of this research is to analyze the relationship between a mother's knowledge and the incidence of stunting.

## 2. METHOD

The design of this research is an analytical survey using a cross-sectional approach (Amaliah et al., 2022). The research sample consisted of 68 respondents using purposive sampling technique. Purposive sampling criteria were mothers who had toddlers aged 1-2 years. The research location is in the city of Bekasi, West Java, Indonesia. The research instrument used a questionnaire and body length measurement results. Univariate statistical analysis was used to see the frequency distribution of mothers' knowledge and the incidence of stunting. Bivariate statistical analysis in this study used the chi square test to determine the significance of the relationship between mothers' knowledge and the incidence of stunting. The statistical hypothesis proposed is that there is a significant relationship between mothers' knowledge about nutrition and the incidence of stunting in toddlers 1-2 years old.

## 3. RESULTS AND DISCUSSION

### 3.1. Results

Table 1 below is the results of research regarding the characteristics of respondents who have children aged 1-2 years based on age, education, occupation and parity.

**Table 1**  
*Distribution of Characteristics of Mothers who have Children 1 – 2 Years Old*

Characteristics	Categories	Frequencies	Percentage
Age	20-35 years	60	88.2
	Over 35 years	8	11.8
Education	Middle School	46	67.6
	High School	22	32.4
Occupation	Not working	45	66.2
	Working	23	33.8
Parity	Primiparous	46	67.6
	Multiparous	22	32.4

Based on Table 1, it shows that the majority of mothers aged 20-35 years (88.2%) have children aged 1-2 years. The majority (67.6%) of respondents were high school graduates. The occupation of the majority (66.2%) of mothers who have children aged 1-2 years is not working. The parity status of the majority of respondents (67.6%) was primiparous. Table 2 below is the result of filling out the mother's knowledge questionnaire about nutrition which is depicted in the frequency distribution table.

**Table 2**  
*Description of Mother's Knowledge about Nutrition*

Mother's Knowledge	Frequencies	Percentage
Less	19	27.9

Enough	18	26.5
Good	31	45.6
Total	68	100.0

Based on Table 2, it shows that of the 68 respondents, mothers' knowledge shows that the majority have good knowledge, numbering 31 respondents (45.6%). Table 3 below is the results of research that describes the incidence of stunting.

**Table 3**  
*Description of Stunting Incidents*

Stunting Incidents	Frequencies	Percentage
Stunted	16	23.5
Not Stunted	52	76.5
Total	68	100.0

Based on Table 3, it shows that the majority of 68 respondents were not stunted, amounting to 52 respondents (76.5%). Furthermore, the bivariate analysis is shown in Table 4 regarding the chi-square test for the significance of the relationship between mothers' knowledge and the incidence of stunting.

**Table 4**  
*Results of Analysis of the Relationship between Mother's Knowledge and Stunting Incidents*

Mother's Knowledge	Stunting Incidents				Total		P-value
	Stunted		Not Stunted		f	%	
	f	%	f	%			
Less	12	63.2	7	36.8	19	100.0	0.000
Enough	2	72.7	16	88.9	18	100.0	
Good	2	23.5	29	93.5	31	100.0	
Total	16	23.5	52	53.1	68	100.0	

Based on table 4, it shows that the majority of respondents with less knowledge fell into the stunting category (63.2%). The majority of respondents with sufficient knowledge fell into the no stunting category (88.9%). The majority of respondents with good knowledge fell into the no stunting category (93.5%). Table 4 also shows the results of hypothesis testing using a chi square significance level of 0.05. These results show a p-value of  $0.000 < 0.05$ , in other words there is a significant relationship between mothers' knowledge and the incidence of stunting in children aged 1-2 years.

### 3.2. Discussion

Their level of education can influence mothers' understanding of nutrition. Education is a driving factor in mothers' knowledge; they can quickly receive information through education. Education is needed to obtain information, for example, things that support health to improve the quality of life (Jankowiak et al., 2020). Apart from that, according to Yada et al. (2022), education can influence a person's behavior and attitude. The higher a person's education, the easier it is to receive information about the importance of nutrition for children, so it is hoped that someone with higher education will have better knowledge.

The occupation status can influence mothers who have good knowledge and can absorb the information they receive well and gain knowledge from their work environment. This shows that education and employment are factors driving mothers' knowledge about child nutrition. Education is needed to obtain nutritional information for children to support growth. Parashakti et al. (2020) stated a person's work environment influences behavior and motivates them to increase their knowledge. In general, the better the social interactions in the work environment, the easier it is to receive information. Apart from the work environment, good nutritional knowledge can be obtained from the surrounding environment, such as family, neighbors, and others. Respondents who do not work may have limited nutritional interactions.

The research results show that the majority are not stunted. Toddlers whose height is not stunted can be influenced by several factors, such as the toddler's nutritional adequacy. The family's economic status dramatically influences children's nutritional adequacy (Santosa et al., 2022). Families with high financial status tend to be able to meet nutritional needs well and provide more food variety to children (França et al., 2022). In the minority of stunting cases, it is known that the height does not match the age of the toddler. Knowing these parameters is essential for mothers to know about the growth and development conditions, especially toddlers.

Knowledge about children's nutritional needs is an essential factor in supporting children's growth and development according to their age (Norris et al., 2022). If children's nutritional intake is not appropriate, it can cause malnutrition, resulting in stunting. The condition of children who have very short body lengths is a result of the composition of food needing to be in accordance with nutritional needs (Ali, 2021; Obasohan et al., 2020). Mothers who are unable to provide the best nutrition for their children are mothers who have insufficient knowledge about nutrition, so it cannot be applied in everyday life. Apart from that, the mother's lack of knowledge about stunting means that the mother does not understand and comprehend stunting, resulting in not carrying out proper care for toddlers.

Knowledge can change a person's perspective, which ultimately strengthens a person's belief about something. The beliefs that you have can give rise to a response in the form of behavior. Mother's knowledge can help improve the nutritional status of children to achieve growth maturity. Insufficient knowledge means mothers will feel confused when determining attitudes and behavior to overcome cases of stunting in their children.

#### 4. CONCLUSION

Giving birth to and raising a child with an abnormal height is not a desire. Knowledge about nutrition is needed not only in academic circles but also by mothers of children. The majority of mothers who have good nutritional knowledge can actually overcome the incidence of stunting. The results of statistical tests show that there is a significant relationship between maternal knowledge about nutrition and the incidence of stunting in mothers of toddlers 1-2 years old. Mother. It is hoped that the results of the research will motivate mothers to increase their knowledge about nutrition so that children can grow normally. Strengthening mothers' knowledge can be used as an alternative strategy to overcome cases of stunting in children.

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