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Parental characteristics (education level) risk of stunting in toddlers

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Abstract

Background: Stunting is a condition where children experience stunted growth due to chronic malnutrition, especially during the first 1,000 days of life. This condition can have long-term impacts on a child's physical, cognitive, and social development. According to data from the World Health Organization (WHO), globally, about 22% of children under five years old experience stunting, with higher prevalence found in developing countries, including Indonesia. In Indonesia, the prevalence of stunting reached 24.4% in 2021, making it one of the significant public health challenges. Data from the Ministry of Health of the Republic of Indonesia shows that various factors contribute to stunting, including environment, economy, and parental characteristics, particularly education level. Research indicates that parents with higher education levels tend to understand the importance of nutrition and child health better, thus reducing the risk of stunting. In Lampung Province, the prevalence of stunting has also become a concern, with a figure reaching 28.3% in 2022. Geographic, social, and economic factors in Lampung can affect parents' knowledge and behavior in maintaining children's health.

Purpose: to determine the distribution of risk factors for stunting in toddlers in Noto Harjo village. The specific objective is to determine the prevalence of stunting incidents in toddlers in Noto Harjo village based on Z-Score values, to detect parental characteristics including education level and child development monitoring behavior.

Method: This study is designed as quantitative research using a survey design. The total population and sample of all toddlers in the Noto Harjo sub-district is 224 people, with 112 samples taken through observation techniques (height measurement), interviews with the parents of toddlers, and documentation studies. Data analysis uses a descriptive approach.

Results: The research results show that the stunting rate is 21.4 percent, which is almost the same as the prevalence of stunting in Indonesia (21.6 percent). However, the government aims to achieve a stunting rate of 14% by 2024. To achieve this, various collaborative efforts are needed.

Conclusion: The research results show that the prevalence of stunting in toddlers in Notoharjo Village reaches 21.4%. This is nearly equivalent to the national prevalence of stunting in Indonesia, which stands at 21.6%. However, this prevalence is still far above the government target of 14% by 2024. This indicates that stunting requires more intensive handling, which includes nutritional interventions, raising community awareness, and better policy support. It is hoped that all parties will work together to achieve the stunting reduction target, so that children in Indonesia can grow up healthy and optimally.

Keywords: Children Under Five Years Old; Early Detection of Risk Factors for Stunting in Toddlers.

PENDAHULUAN

Stunting is a condition in which children experience stunted growth due to chronic malnutrition, especially during the first 1.000 days of life. This condition can have long-term effects on children's physical, cognitive, and social development. Globally, around 22% of children under the age of five are stunted, with higher prevalence found in developing countries, including Indonesia (World Health Organization, 2015).

In Indonesia, the prevalence of stunting reached 24.4% in 2021, making it a significant public health challenge. Data from the Indonesian Ministry of Health shows that various factors contribute to stunting, including the environment, economy, and parental characteristics, particularly education level. Research shows that parents with higher education levels tend to better understand the importance of child nutrition and health, thereby reducing the risk of stunting (Ministry of Health of the Republic of Indonesia, 2023).

In 2022, the prevalence of stunting in Lampung Province was 15.2%, and in 2023, thank God, it dropped to 14.9%. This is an achievement we should be proud of, placing Lampung Province 4th nationally in terms of accelerating the reduction of stunting (Lampung Provincial Regional Development Planning Agency, 2024). Stunting is a condition in which children experience growth disorders caused by impaired nutrient absorption. Stunting in children has a negative impact on motor, cognitive, and social-emotional development (Dewi, Rahmadini, Setiawati, & Wakhidah, 2024).

Chronic malnutrition is caused by a long-term lack of nutrient intake, resulting in unmet nutritional needs and leading to stunting. Compared to other middle-income countries, Indonesia is one of the countries with a high prevalence of stunting. Adapun kejadian stunting di kawasan negara-negara ASEAN, adalah Myanmar 35%, Vietnam 23%, Malaysia 17%, Thailand 16%, dan Singapura 4% (Horidah, Prameswar, Erlinawati, Sasmito, & Muntasir, 2023).

To prevent child stunting, the government must intervene in mothers with low education and those living in rural areas. Intervention includes intensive socialization about improving nutritional status during pregnancy and practicing complementary feeding and breastfeeding habits until the child is 24 months old (Suratri, Putro, Rachmat, Nurhayati, Ristrini, Pracoyo, & Rahami, 2023).

The high number of stunting cases is due to parents' lack of knowledge about stunting. Parents, especially mothers, play a very important role in their children's growth and development, particularly in meeting their nutritional needs so that they can grow well and avoid malnutrition and stunting (Muzayyarah, 2021). A mother's level of education is one factor that can influence the occurrence of stunting. A mother's level of education affects the incidence of stunting, because the higher a mother's level of education, the easier it will be for her to gain knowledge about providing nutritious food for her children to consume (Mumtaza, 2023).

A child is said to suffer from stunting if their growth and development are below the standard growth curve. A child suffering from stunting has very poor growth and development. Not only do they appear short or stunted, but their intelligence level is also reduced, they have speech disorders, and they experience difficulties in learning. In addition, their immune system is weaker, making them more susceptible to viruses and bacteria (Pebriandi, Fatriansyah, Rizka, Indahsari, Yulanda, & Nurianti, 2023).

Various efforts are being made to reduce the negative effects caused by stunting. Among these efforts is early detection, which is carried out by continuously monitoring children's growth curves. If the length-for-age index (LB/A) or height-for-age index (HB/A) of a toddler is below -2 SD (short) or -3 SD (very short), the toddler will be categorized as stunted.

RESEARCH METHOD

This research is quantitative research. The research design used is a survey research design. Time and Place of Research This research was conducted in Noto Harjo Village, Trimurjo District, Central Lampung Regency. The time was from February to September 2023. Population and sample this study was children aged 0–60 months (toddlers) in Kampung Noto Harjo. There were 211 participants. The sample consisted of 112 people. The techniques used in data collection in this study were observation (measuring height using a measuring tape), interviews with toddlers' parents, and documentation studies (KIA books).

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The ethics in this study were to submit a letter of request for research permission from the research institution, followed by permission from the village head and the head of the local health center, to provide an explanation to prospective respondents about the purpose and objectives of the study, and if they agreed, the prospective respondents were asked to sign a consent form (informed consent). The data

collected will be kept confidential by the researcher. Data Processing In order for the research analysis to produce accurate information, there are at least four stages in data processing that must be passed, namely editing, coding, scoring, and cleaning. Using central tendency statistics. The results of each variable are displayed in the form of a frequency distribution.

RESEARCH RESULTS

Table 1. Frequency Distribution of Respondent Characteristics (N=112)

Variable	Results
Stunting (n/%)	
Yes	24/21.4
No	88/78.6
Mother's Education (n/%)	
Junior High School	14/12.5
Senior High school	88/78.6
Bachelor	10/8.9

Table 1 shows that the majority of respondents did not suffer from stunting, with 88 respondents (78.6%) and the majority of mothers having a high school education level, namely 88 (78.6%).

Health Knowledge and Awareness: Mothers with higher education tend to better understand the importance of immunization, healthy eating, and proper health care for their children. **Decision Making:** Educated mothers are better able to make decisions about their children's health because they can communicate with medical personnel, understand medical information, and make appropriate decisions about their children's health. **Access to Health Services:** A mother's education can also influence a family's access to health services; educated mothers tend to have better access to health facilities and can seek the medical care their children need.

DISCUSSION

Stunting is a condition of growth failure in children under five years of age caused by chronic malnutrition, resulting in children being too short for their age. The causes of stunting consist of basic factors such as the mother's economic and educational status, as well as intermediate factors such as family size, the mother's height, the mother's age, and the number of children the mother has (Sutarto & Ratna, 2020).

Previous studies have shown that there are three main factors that influence the risk of stunting in Indonesian toddlers, including: parental factors, which consist of maternal factors, factors during pregnancy, and genetic factors; toddler factors; and environmental factors. The most dominant factor

influencing the incidence of stunting in toddlers in this literature review is low maternal education levels (Prabowo & Peristiowati, 2023).

Other research results also found that 53.1% of toddlers were stunted, 62.5% of mothers had low education levels, and 37.5% of mothers had high education levels. 26.6% of mothers exclusively breastfed their children, while 73.4% did not. 67.5% of mothers with low education had stunted toddlers, while only 29.2% of mothers with high education had stunted toddlers, and there was a relationship between the mother's education level and the incidence of stunting in toddlers ($p=0.007<0.05$). The proportion of stunted toddlers was higher among toddlers who were not exclusively breastfed (61.7%)

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compared to toddlers who were exclusively breastfed (29.4%), and there was a relationship between exclusive breastfeeding and stunting in toddlers ($p=0.045<0.05$), which means that there was a significant relationship between the mother's level of education and exclusive breastfeeding and stunting in toddlers (Rohmatun, Rustiningsih, & Rakhma, 2014).

Meanwhile, according to previous theories, a high level of maternal knowledge does not guarantee that infants will have normal nutritional status. Mothers who have good knowledge are expected to be able to apply their knowledge in their daily lives. However, behavior is influenced not only by the level of knowledge but also by other factors, such as socioeconomic status, sociocultural factors, and the environment (Notoatmodjo & Sarwono, 1985).

Stunting is caused by nutritional intake problems during pregnancy and early childhood. Mothers' lack of knowledge about health and nutrition before pregnancy and during the postnatal period, limited health services such as antenatal care, postnatal care, and poor access to nutritious food, sanitation, and clean water are also causes of stunting (Yuwanti, Mulyaningrum, & Susanti, 2021).

Previous studies have revealed that risk factors that have been proven not to affect stunting are family income, maternal height, and frequency of antenatal care. Based on this study, it can be concluded that the dominant factors affecting stunting in toddlers are birth weight, maternal education level, and distance to health care facilities (Purnamasari, Widiyati, & Sahli, 2022).

Child growth stunting remains a challenge in sub-Saharan Africa, where 34% of children under 5 years are stunted, and causing detrimental impact at individual and societal levels. Identifying risk factors to stunting is key to developing proper interventions. This study aimed at identifying risk factors of stunting in Rwanda (Nshimiyiryo, Hedt-Gauthier, Mutaganzwa, Kirk, Beck, Ndayisaba, & El-Khatib, 2019). Child stunting reduction is the first of 6 goals in the Global Nutrition Targets for 2025 and a key indicator in the second Sustainable Development Goal of Zero Hunger. The prevalence of child stunting in Indonesia has remained high over the past decade, and at the national level is approximately 37%. It is unclear whether current approaches to reduce child stunting align with the scientific evidence in Indonesia (Beal, Tumilowicz, Sutrisna, Izwardy, & Neufeld, 2018).

Stunting affects one-third of children under 5 y old in developing countries, and 14% of childhood deaths are attributable to it. A large number of risk factors for stunting have been identified in epidemiological studies. However, the relative contribution of these risk factors to stunting has not been examined across countries. Estimated the number of stunting cases among children aged 24–35 mo (i.e., at the end of the 1.000 days' period of vulnerability) that are attributable to 18 risk factors in 137 developing countries (Danaei, Andrews, Sudfeld, Fink, McCoy, Peet, & Fawzi, 2016).

Prevalence of Stunting Incidence, Stunting is a health disorder that affects infants, resulting in stunted growth or short stature due to chronic malnutrition. Stunting can occur as a result of malnutrition, especially during the first 1000 days of life (HPK). Stunting has the potential to slow brain development, with long-term effects such as mental retardation, low learning ability, and the risk of chronic diseases such as diabetes, hypertension, and obesity.

The results of this study show that the stunting rate is 21.4%. This data is almost the same as the prevalence of stunting in Indonesia, which is 21.6%. Meanwhile, the target set by the government is 14% by 2024 (PAUDPEDIA, 2022). Therefore, various joint efforts are needed to achieve the set target.

2. Parental Characteristics. In this study, parental characteristics include the mother's education. The term "education level" refers to the stage of education determined based on the developmental level of the student, the goals to be achieved, and the skills to be developed. Formal education consists of primary education, secondary education, and higher education (Law No. 20 of 2003 Article 14), namely Primary Education, Junior High School, Senior High School, and Higher Education. The results of this study show that most mothers have a high school education (78.6%), but 12.5% have a lower level of education (junior high school). A mother's level of education greatly affects her child's health status. Health Knowledge and Awareness: Mothers with higher education tend to better understand the importance of immunization, healthy eating, and proper health care for their children. Decision Making: Educated mothers are better able to make decisions about their children's health because they can communicate with medical personnel, understand medical information, and make appropriate decisions

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about their children's health. Access to Health Services: A mother's education can also affect a family's access to health services; educated mothers tend to have better access to health facilities and can seek the medical care their children need.

CONCLUSION

Based on the results of the study, the prevalence of stunting in children under five reached 21.4%. This result shows a figure that is almost comparable to the national prevalence of stunting in Indonesia, which is 21.6%. This figure is still far above the target set by the government, which is 14% by 2024. This emphasizes the need for more intensive efforts in tackling stunting, including nutritional interventions, raising public awareness, and more effective policy support. With collaboration between various parties, it is hoped that the target of reducing stunting can be achieved, so that children in Indonesia can grow up healthy and optimally.

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