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Research Article

Factors Influencing the Incidence of Stunting in Children at Tilamuta Community Health Center

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Abstract: Stunting is a major health concern in many developing countries, including Indonesia, with profound long-term effects on children's physical, cognitive, and emotional development. This condition is primarily influenced by factors such as malnutrition, infections, and inadequate care during the first few years of life. The objective of this study was to analyze the factors associated with stunting in children under five years old within the working area of Puskesmas Tilamuta. An analytical survey design was employed, using a cross-sectional approach to examine 54 children, who were selected using accidental sampling. Data collection involved assessing factors such as exclusive breastfeeding, complementary feeding practices (MP-ASI), and low birth weight (BBLR). Statistical analysis was conducted using the Chi-Square test with Fisher's exact test to determine the association between these factors and stunting. The results revealed that exclusive breastfeeding had a significant impact on the occurrence of stunting, with a p-value of 0.002, suggesting that children who were exclusively breastfed were less likely to experience stunting. Similarly, the provision of complementary feeding (MP-ASI) was significantly associated with stunting (p = 0.043), highlighting the importance of timely and adequate complementary feeding to prevent stunting. However, the factor of low birth weight (BBLR) was found to have no significant effect on stunting (p = 0.202), indicating that other factors, such as nutrition and feeding practices, may have a more direct influence on stunting in the studied population. This study underscores the critical role of exclusive breastfeeding and proper complementary feeding practices in preventing stunting. It also suggests that addressing these factors, along with other local health interventions, may help reduce the incidence of stunting in children under five years old in the area.

Keywords: BBLR; Stunting; Stunting Factors

1. Introduction

Stunting is a linear growth retardation (RPL), which appears in the first two to three years of life and is a reflection of the effects or influences of insufficient energy and nutrient intake and the effects of infectious diseases, because under normal conditions, a person's weight will be directly proportional or linear to their height (Fitri, 2018)

Stunting is a condition where children under the age of five fail to grow due to chronic malnutrition, especially in the first 1,000 days of life (HPK).

Stunting affects growth and brain development. Even up to the age of adulthood, children who experience stunting are at higher risk of developing chronic diseases.

Stunting problems begin since pregnancy and are seen in children aged two years. UNICEF defines stunting as the proportion of children aged 0 to 59 months who are high, which is one of the world's infant malnutrition problems. At least 178 million children in the world are too small compared to WHO growth standards.

The prevalence of stunting is 28.5% worldwide and 31.2% in developing countries. More than half (55%) of infants who experienced stunting in 2017 were from South Africa, and more than a third (39%) lived in Africa. Of the 83.6 million stunted infants in South Africa,

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the highest number was in South Africa (58.7%), the lowest in Central Africa (0.9%), and the lowest in Southeast Asia (29.4%) (WHO, 2020).

Stunting is a common issue occurring in developing countries, including Indonesia. According to data from the United Nations International Children's Emergency Fund (UNICEF), one in three children experiences stunting. More than 37% of children under five years old suffer from stunting, totaling about 8.4 million children across Indonesia. The prevalence of stunting is quite high, especially among children from the most prosperous families (UNICEF, 2018). Stunted children exhibit characteristics such as having a height that is lower than their age, delayed dental growth, delayed physical development, poor performance in cognitive tests and memory assessments, and by ages 8-10, they become more likely to drop out of school, as well as experience delays in puberty (Sundjojo, 2021).

Stunting is caused by several factors, one of which is malnutrition experienced by mothers during pregnancy, which often goes unnoticed even after childbirth. The lack of awareness among mothers about the importance of health and nutritional intake before, during, and after pregnancy also contributes to this issue. Additionally, limited access to necessary health services, such as antenatal care (ANC) to monitor maternal and infant health, as well as postnatal care and early childhood education that is of quality, further contributes. This problem is exacerbated by the difficulty in accessing nutritious food due to high prices, as well as limited access to clean water and sanitation, especially in remote areas (Sundjojo, 2021).

2. Research Methods

This research used a non-experimental design with an analytic survey method. The sampling technique employed was accidental sampling. The study was conducted in the working area of the Tilamuta Community Health Center (Puskesmas) from November to December 2024. The research population consisted of all toddlers experiencing stunting in the Tilamuta Community Health Center working area in 2024, with a total of 60 toddlers. The research sample involved 54 stunted toddlers. Data was collected using a questionnaire sheet, and data analysis was performed using the chi-square test with a significance level of ($\mathbf{p}< 0.05$).

3. Results and Discussion

Univariate Analisis: Frequency Distribution of Respondent Characteristics in the Tilamuta Community Health Center working area (n=54)

The majority of stunted toddlers who were respondents in this study were aged 1-3 years, totaling 40 toddlers (74.1%), while the remaining were aged 4-5 years, totaling 14 toddlers (25.9%). Based on gender, the majority of respondents were male, totaling 35 toddlers (64.8%), while female toddlers numbered 19 (35.2%). This data indicates that stunting is more common in male toddlers and in the younger age group in the research area.

Bivariate Analysis: Analysis of the effect of Exclusive Breastfeeding on the incidence of Stunting in children in the Tilamuta Community Health Center working area.

Of the 54 respondents in this study, 35 toddlers (64.8%) received non-exclusive breastfeeding. Of this group, 22 toddlers (40.7%) experienced stunting with a short condition, while 13 toddlers (24.1%) experienced stunting with a very short condition. On the other hand, there were 19 toddlers (35.2%) who received exclusive breastfeeding, all of whom experienced stunting with a short condition (35.2%), but none experienced stunting with a very short condition (0%). The results of statistical analysis using the Chi-Square test with Fisher's exact test showed a p-value of 0.002, meaning that rho < 0.05. Thus, it can be concluded that there is a statistically significant effect between exclusive breastfeeding and the incidence of stunting in the Tilamuta Community Health Center working area.

Analysis of the effect of Complementary Feeding (MP-ASI) on the incidence of Stunting in children in the Tilamuta Community Health Center working area. Of the 54 toddlers who were respondents, the majority received inappropriate complementary feeding (MP-ASI), totaling 37 toddlers (68.5%). Among this group, 25 toddlers (46.3%) experienced stunting with a short condition, and 12 toddlers (22.2%) experienced stunting with a very short condition. Meanwhile, toddlers who received appropriate MP-ASI numbered 17 (31.5%), with 16 toddlers (29.6%) experiencing stunting with a short condition, and only 1 toddler (1.9%) experiencing stunting with a very short condition. The results of the statistical test showed a p-value of 0.043 ($p < 0.05$), which indicates a statistically significant relationship between the provision of appropriate MP-ASI and the incidence of stunting.

Analysis of the effect of Low Birth Weight (LBW) on the incidence of Stunting in children in the Tilamuta Community Health Center working area, Of the 54 respondents, 27 children (50.0%) had a history of abnormal LBW, with 18 children (33.3%) experiencing stunting with a short condition and 9 children (16.7%) experiencing stunting with a very short condition. Meanwhile, among children with normal LBW, there were 23 children (42.6%) who experienced stunting with a short condition and 4 children (7.4%) with a very short condition. The results of statistical analysis using the Chi-Square test based on Fisher's exact test showed a ϱ- value of 0.202 (ϱ>0.05). This indicates that there is no significant effect between the history of LBW and the incidence of stunting in children in the Tilamuta Community Health Center working area.

The results of statistical analysis using the Chi-Square test with Fisher's exact test connection showed that the ϱ value was 0.002 (ϱ<0.05), which indicates a significant relationship between exclusive breastfeeding and the incidence of stunting in the Tilamuta Community Health Center working area. This finding is consistent with various previous studies. Aridiyah et al. (2019) concluded that exclusive breastfeeding is one of the important factors influencing the incidence of stunting in toddlers, both in rural and urban areas. In addition, research by Ni'mah & Siti (2020) also found a relationship between exclusive breastfeeding and stunting, with statistical test results showing a\rho value of 0.02. Similar

results were also found in research by Bentian & Rattu, which showed that children who did not receive exclusive breastfeeding had a 4.03 times greater risk of experiencing stunting compared to children who received exclusive breastfeeding, with significant analysis results (ϱ<0.05).

4. Conclusions

There is a significant relationship between exclusive breastfeeding and the incidence of stunting in children in the Tilamuta Community Health Center working area. The provision of MP-ASI has a significant effect on the incidence of stunting in children in the Tilamuta Community Health Center working area. No significant relationship was found between low birth weight (LBW) and the incidence of stunting in children in the Tilamuta Community Health Center working area

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