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The Relationship Between Exclusive Breastfeeding, Occupation, Income, and Education with Stunting in Toddlers Aged 6-24 Months in Lebak Parahiang Village

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Abstract

Stunting is a chronic nutritional problem that affects children's physical growth and cognitive development. Factors influencing stunting include exclusive breastfeeding practices, family income, maternal occupation, and maternal education. Optimal exclusive breastfeeding for the first six months of life has been proven to prevent stunting. However, stunting cases are still found in Lebak Parahiang Village, Leuwidamar District, thus research on these factors is necessary. To determine the relationship between exclusive breastfeeding, family income, maternal occupation, and maternal education with stunting among children aged 6–24 months in Lebak Parahiang Village in 2025. This study used a quantitative approach with an analytical observational design and a cross-sectional method. The population was all children aged 6–24 months in Lebak Parahiang Village, with 71 samples determined using the Slovin formula. Data were collected through questionnaires and anthropometric measurements. Data analysis was conducted using univariate and bivariate analysis with the Chi-Square test. The results showed that most mothers practiced exclusive breastfeeding for more than six months; however, some children still experienced growth retardation. Statistical analysis revealed a significant relationship between exclusive breastfeeding, family income, maternal occupation, maternal education, and stunting ($p < 0.05$). Strengthening maternal education regarding the importance of exclusive breastfeeding, improving child feeding practices, and providing continuous support from health workers are recommended. Regular child growth monitoring and family-based interventions should be enhanced by health authorities and local government to reduce stunting prevalence.

Keywords: Exclusive Breastfeeding, Family Income, Maternal Occupation, Maternal Education, Stunting, Children Aged 6–24 Months.

INTRODUCTION

Stunting is a significant issue in child health and is defined as a condition that causes low height-for-age compared to global standards (WHO, 2020). It results from chronic malnutrition, where a child's body does not receive the nutrients necessary for healthy growth and development. Stunting most commonly occurs in low- and middle-income countries, where children often face various forms of malnutrition due to poverty, limited access to nutritious food, and poor sanitation and hygiene. Children who experience stunting face a higher risk of mortality and morbidity, including impaired immune function, increased susceptibility to infectious diseases, and cognitive deficits. Furthermore, stunting can perpetuate the cycle of poverty by limiting children's ability to learn, work, and contribute to their communities (Kirana Putri Aulia, 2025).

The WHO estimates that 21.9% of children under five worldwide experience stunting. Most of these children are in Asia; as of 2020, more than half of all stunted children globally lived in Asia (WHO, 2020). In Indonesia, stunting is a significant public health problem, affecting approximately 28% of children under five. The Indonesian government has made significant efforts to reduce these rates. In 2017, the government launched the National Strategy to Accelerate Stunting Prevention, aiming to reduce the stunting rate to 14% by 2024 (Bappenas, 2020). This strategy includes interventions such as improving access to nutritious food, promoting breastfeeding, and enhancing sanitation.

Addressing stunting requires a comprehensive approach to tackle its various causes. To lower stunting rates in Indonesia, the government must collaborate with other actors, particularly international organizations specializing in health and child welfare, to ensure programs are implemented effectively (Kirana Putri Aulia, 2025). Nutritional issues often begin early in life,

particularly during the first 1,000 days of life. Impaired growth and development during toddlerhood is a serious concern, as it can lower the quality of human resources (HR) if not prevented early (Indonesian Ministry of Health, 2021; Rohana, 2025).

The Role of Breastfeeding and Socio-Economic Factors

Exclusive breastfeeding—providing only breast milk from birth until six months of age—is a vital protector against stunting. Breast milk contains essential macronutrients (protein, carbohydrates, fats, carnitine), micronutrients (vitamins and minerals), and bioactive substances required for development. The benefits of breastfeeding include providing ideal nutrition and antibodies, improving intelligence, and preventing the nutritional deficiencies that lead to stunting (Rachmawati et al., 2022; Ni Komang Shelly Suastini, 2025).

Several factors influence stunting, categorized into direct and indirect factors. Direct factors include household education levels, occupation, and family income. According to Soekirman and UNICEF, low nutritional status can be caused by insufficient food security at the household level. Food security is tied to purchasing power; families with higher incomes have easier access to education and healthcare, leading to better nutritional status for children (Rahma & Nadhrioh, 2017; Putri, Rahayu & Maemunah, 2017; Yeni Nurmala Sari, 2020).

Case Study: Lebak Parahiang Village

In the working area of the Leuwidamar Health Center, stunting cases have shown a concerning trend. In Lebak Parahiang Village, the number of stunted toddlers rose from 26 in early 2025 to 54 by June 2025. This condition indicates that massive and sustainable efforts to increase exclusive breastfeeding coverage must be a primary strategy in reducing stunting, especially in high-prevalence areas.

In Lebak Parahiang Village, these potential factors need to be analyzed particularly for toddlers aged 6–24 months, as this period is critical for linear growth. Limited education, maternal employment constraints, and low income can serve as barriers to exclusive breastfeeding and adequate nutrition, ultimately increasing the risk of stunting.

RESEARCH METHODS

This study utilized a quantitative method with an observational analytic design and a cross-sectional approach. The research was conducted in Lebak Parahiang Village in July 2025. The study population consisted of all toddlers aged 6–24 months in the area, with a total sample size of 71 toddlers determined using the Slovin formula. The research instruments included questionnaires to collect primary data regarding exclusive breastfeeding behavior and anthropometric measurements to determine nutritional status (height and weight of the children). Additionally, secondary data were obtained from medical records at the Leuwidamar Health Center. Data analysis was performed univariately to observe frequency distributions and bivariately using the Chi-Square test to examine the relationship between variables with a significance level of $p < 0.05$.

RESULTS AND DISCUSSION

Results

Univariate Analysis

The univariate analysis describes the frequency distribution and percentage of each variable, as shown in the tables below.

Exclusive Breastfeeding

The study examined the relationship between exclusive breastfeeding, employment, income, and education with the incidence of stunting among toddlers aged 6-24 months in Lebak Parahiang Village in 2025.

Table 1
Frequency Distribution of Exclusive Breastfeeding and Stunting Incidence among Toddlers Aged 6–24 Months in Lebak Parahiang Village, 2025

Exclusive Breastfeeding	**Frequency**	**Percentage**
Did Not Provide Exclusive Breastfeeding	12	16%
Provided Exclusive Breastfeeding	59	83%
Total	**71**	**100%**

Based on Table 4.1, out of 71 respondents, 59 mothers (83%) provided exclusive breastfeeding, and 12 mothers (16%) did not. This indicates that most mothers in Lebak Parahiang Village have a high awareness of the importance of exclusive breastfeeding.

Occupational Category

The following table shows the distribution of exclusive breastfeeding based on family occupation in Lebak Parahiang Village in 2025.

Table 2
Frequency Distribution of Family Occupation and Stunting Incidence among Toddlers Aged 6–24 Months in Lebak Parahiang Village, 2025

Mother's Occupation	**Frequency**	**Percentage**
Housewife (IRT)	64	31%
Employee	6	32%
Entrepreneur	1	36%
Total	**71**	**100%**

Based on Table 4.2, the majority of mothers with toddlers aged 6–24 months in Lebak Parahiang Village in 2025 are housewives (IRT), totaling 64 people (31%). Meanwhile, 6 mothers work as employees (32%), and 1 person is an entrepreneur (36%).

Income Category

The following table presents the distribution of exclusive breastfeeding based on family income in Lebak Parahiang Village in 2025.

Table 3
Frequency Distribution of Family Income and Stunting Incidence among Toddlers Aged 6–24 Months in Lebak Parahiang Village, 2025

Family Income	**Frequency**	**Percentage**
≤ Rp3,172,384	66	93%
> Rp3,172,384	5	7%

Family Income	Frequency	Percentage
Total	**71**	**100%**

Based on Table 3, the majority of families (93% or 66 families) have an income of ≤ Rp3,172,384, while only 5 families (7%) have an income > Rp3,172,384.

Education Category

The following table shows the distribution of exclusive breastfeeding based on the mother's education level in Lebak Parahiang Village in 2025.

Table 4
Frequency Distribution of Mother's Education Level and Stunting Incidence in Lebak Parahiang Village, 2025

Mother's Education	Frequency	Percentage
No School, Elementary, Junior High	5	7%
High School (SMA)	63	88%
Diploma/Bachelor's (S1)	3	4%
Total	**71**	**100.0%**

Based on Table 4.4, most mothers in Lebak Parahiang Village (88% or 63 people) have a high school (SMA) level education.

Stunting Category

The research results for stunting incidence in Lebak Parahiang Village in 2025 are as follows:

Table 5
Frequency Distribution of Stunting Incidence among Toddlers Aged 6–24 Months in Lebak Parahiang Village, 2025

Stunting Incidence	Frequency	Percentage (%)
Stunted	26	36%
Not Stunted	45	63%
Total	**71**	**100%**

Based on the research of 71 respondents, 26 respondents (36.6%) were categorized as not stunted, while 45 respondents (63.4%) were categorized as stunted. This shows that more than half of the respondents experienced stunting.

Bivariate Analysis

This study analyzes the relationship between independent variables (education, income, occupation, age, and parity) and nutritional status.

1) Exclusive Breastfeeding

Table 6
Exclusive Breastfeeding for Toddlers Aged 6-24 Months in Lebak Parahiang Village

Exclusive Breastfeeding	Stunted (n / %)	Not Stunted (n / %)	Total (N / %)	P-Value	OR
Non-Exclusive	12 (46.2%)	0 (55.9%)	12 (100%)	0.000	4.214
Exclusive	14 (53.8%)	45 (76.3%)	59 (100%)		
Total	**26 (36.6%)**	**45 (63.4%)**	**71 (100%)**		

Based on Table 4.6, statistical tests showed a p-value = 0.000 (<0.05), meaning there is a significant relationship between exclusive breastfeeding and stunting. The Odds Ratio (OR) of 4.214 indicates that toddlers who are not exclusively breastfed have a 4.2 times higher risk of stunting.

2) Family Occupation

Table 7
Family Occupation and Stunting Incidence among Toddlers Aged 6–24 Months in Lebak Parahiang Village, 2025

Occupation	Stunted (n / %)	Not Stunted (n / %)	Total (N / %)	P-Value	OR
Housewife (IRT)	26 (40.6%)	38 (59.4%)	64 (100%)	0.000	4.49
Employee	0 (0.0%)	6 (13.3%)	6 (100%)		
Entrepreneur	0 (0.0%)	1 (2.2%)	1 (100%)		
Total	**26 (36.6%)**	**45 (63.4%)**	**71 (100%)**		

Statistical results show a p-value = 0.000, indicating a significant relationship. The OR = 4.49 shows that children from housewife (IRT) families have a 4.5 times greater risk of stunting.

3) Family Income

Table 8
Family Income and Stunting Incidence in Lebak Parahiang Village, 2025

Family Income	Stunted (n / %)	Not Stunted (n / %)	Total (N / %)	P-Value	OR
≤ Rp3,172,384	26 (39.4%)	40 (60.6%)	66 (100%)	0.000	3.108
> Rp3,172,384	0 (0.0%)	5 (11.1%)	5 (100%)		
Total	**26 (36.6%)**	**45 (63.4%)**	**71 (100%)**		

Statistical tests yielded a p-value of 0.000, showing a significant relationship. The OR of 3.108 indicates that children from low-income families have a 3.1 times higher risk of stunting.

4) Mother's Education

Table 9
Mother's Education and Stunting Incidence in Lebak Parahiang Village, 2025

Education	Stunted (n / %)	Not Stunted (n / %)	Total (N / %)	P-Value	OR
Low (No School/SD/SMP)	5 (19.2%)	0 (0.0%)	5 (100%)	0.000	56.763
Medium (SMA)	21 (80.8%)	42 (93.3%)	63 (100%)		
High (Diploma/S1)	0 (0.0%)	3 (6.7%)	3 (100%)		
Total	**26 (36.6%)**	**45 (63.4%)**	**71 (100%)**		

Statistical results show a p-value = 0.000, indicating a significant relationship. The OR = 56.763 indicates that children from mothers with low education have a 56 times higher risk of stunting compared to children from mothers with higher education.

Tables and charts or captions are arranged in the form of a phrase (not a sentence) succinctly. Description of the image / graph is placed under the picture / graph, while the title of the table is placed on it. The title begins with a capital letter.

Do not repeat writing numbers that have been listed in the table in the text of the discussion. If it will emphasize the results obtained should serve in other forms, such as percentage or difference. To show the number in question, just refer to the table that contains the number.

In general international journals do not want statistical languages (such as: different, treatment, etc) written in the discussion. Avoid copy and paste tables of statistical analysis results directly from statistical data processing software

Discussion

The study identifies a significant correlation between maternal education and the incidence of stunting, where mothers with lower education levels (Elementary/Junior High) face a 56-fold higher risk of having stunted children compared to those with higher education. Higher education serves as a primary protective factor, as it enhances a mother's literacy in nutrition, childcare, and the utilization of health services. Consequently, stunting prevention strategies must prioritize improving health literacy and educational quality for women, especially in areas with low educational attainment.

In terms of occupational status, the majority of respondents are housewives (IRT), who face a 4.5 times greater risk of having stunted toddlers compared to families with parents working as employees or entrepreneurs. This risk is often linked to limited economic resources and restricted access to health information. While staying at home theoretically allows for more direct care, it must be supported by adequate nutritional knowledge and financial stability. Therefore, empowering housewives through nutritional education and family economic strengthening is essential to ensure optimal growth for children.

Economic status also emerges as a dominant determinant, with low-income families facing a 41-fold increased risk of stunting. Limited income directly impacts a family's ability to provide nutritious food and access proper healthcare services. This confirms that stunting is not merely a nutritional issue but is deeply rooted in socio-economic conditions. To effectively reduce stunting rates, interventions must be multidimensional, integrating nutritional programs with economic empowerment, social assistance, and cross-sectoral efforts to improve the welfare of rural communities.

CONCLUSIONS

Exclusive Breastfeeding Practices and Their Impact on the Growth of Toddlers Aged 6–24 Months in Lebak Parahiang Village (2025)

1. Exclusive Breastfeeding
   Statistical test results showed a p-value = 0.000 (< 0.05), indicating a significant relationship between exclusive breastfeeding and the incidence of stunting among toddlers aged 6–24 months.
2. Family Income
   Statistical test results showed a p-value = 0.000 (< 0.05), indicating a significant relationship between family income and the incidence of stunting.
3. Maternal Occupation
   Statistical test results showed a p-value = 0.000 (< 0.05), indicating a significant relationship between the mother's occupation and the incidence of stunting.
4. Maternal Education and Characteristics
   Out of 71 respondents, the majority of mothers worked as Housewives (IRT), totaling 64 people (90.1%), while only 6 people (8.5%) worked as employees and 1 person (1.4%) was an entrepreneur. This suggests that most mothers spend the majority of their time at home, which theoretically provides a greater opportunity to provide direct care for their children, including exclusive breastfeeding and growth monitoring.
5. Incidence of Stunting
   Based on the study of 71 respondents, it was found that 26 children (36.6%) were categorized as not stunted, while 45 children (63.4%) fell into the stunted category. These results indicate that more than half of the respondents' children are experiencing stunting.

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