Original Article

THE CORRELATION BETWEEN EXCLUSIVE BREASTFEEDING AND STUNTING IN CHILDREN UNDER FIVE IN SUB-DISTRICT MONTASIK, THE DISTRICT OF ACEH BESAR IN 2025

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(Received: August 2025 - Accepted: October 2025 - Published online: December 2025)

ABSTRACT

Background: Stunting is a chronic nutritional problem that affects children's physical growth, cognitive development, health, and long-term productivity. In the working area of Montasik Health Center, Aceh Besar, the prevalence of stunting remains relatively high. One of the critical factors associated with stunting is exclusive breastfeeding. The objective of this study was to analyze the correlation between exclusive breastfeeding and stunting in children under five in Montasik, the regency of Aceh Besar, in 2025
Subjects and Method: This study employed a quantitative, cross-sectional design. A total of 90 mothers with children under five years old were selected using proportional random sampling from several villages in Montasik Sub-district. Data were collected using questionnaires on exclusive breastfeeding practices and child nutritional status, and analyzed using the Chi-Square test to assess associations between variables.
Results: The findings revealed a significant association between exclusive breastfeeding and stunting among children under five (p=0.000). Children who were not exclusively breastfed had a higher risk of stunting compared to those who received exclusive breastfeeding.
Conclusion: Exclusive breastfeeding was significantly associated with stunting among children in Montasik Sub-district. Continuous health education and strong support from both families and health workers are essential to improve exclusive breastfeeding practices and reduce the prevalence of stunting.

Keywords: Exclusive Breastfeeding, Stunting, Montasik , Aceh Besar

INTRODUCTION

Nutrition is a substance obtained from food and drink that the body needs for growth, development, maintenance of bodily functions, and health. Nutritional status, then, reflects a child's health and growth, which is influenced by nutrient intake and the body's need for these nutrients. One nutritional problem that occurs in children is stunting (1).

Stunting is a condition of growth failure in toddlers (under 5 years of age) due to chronic malnutrition, causing them to be shorter than other children their age (2). Stunting not only impacts physical health but also affects a child's cognitive development and overall health (3).

Stunting is one of the most serious nutritional problems worldwide, especially in developing countries, including Indonesia (4). According to the World Health Organization (5), stunting

affects approximately 22% of children under five worldwide. In Indonesia, the prevalence of stunting remains high and is a top priority in the national health program (5).

Various factors can contribute to stunting in children, including poor nutrition during pregnancy, infant feeding, diseases and infections such as diarrhea, lack of access to health services, economic issues, and environmental issues such as hygiene and sanitation (1).

Stunting has significant long-term impacts on both individuals and society (2). Stunted children tend to experience delays in cognitive and educational development, low immunity, and a higher risk of chronic diseases in adulthood. Economically, stunting reduces future labor productivity and increases the economic burden on the national health system (6).

Addressing stunting requires a multisectoral approach involving various sectors such as health, education, agriculture, and the environment (7). Several strategies for managing stunting include improving maternal and child nutrition, providing integrated health services, increasing maternal education and awareness through educational programs, and improving sanitation and access to clean water (8).

The United Nations Children's Fund (UNICEF) reported in 2023 that the global prevalence of stunting remains high, at 22.9%. Half of the stunted children are in Asia (55%), and one-third are in Africa (39%) [9]

The stunting rate in Indonesia in 2020 was 37.2%. This is higher than the global stunting rate of 22.9%. The 2023 Indonesia Health Survey (SKI) indicates that Indonesia's nutritional status has improved, shifting to 30.8%, but the percentage still falls short of the WHO target of 20%).[10]

Data from the Aceh Provincial Health Office (2023) indicate that Aceh ranks fifth-highest in stunting prevalence, at 33.2 percent. The district with the highest stunting prevalence is Subusalam, at 47.9%. Meanwhile, the case rate in the District of Aceh Besar in 2023 was 55.7% [11]

Risk factors for stunting include mothers' low knowledge of nutrition and child health, which leads to suboptimal parenting and feeding practices. A history of inadequate exclusive breastfeeding and neglected Early Initiation of Breastfeeding (EIB) can hinder meeting a child's early nutritional needs [6].

Furthermore, low family income limits access to nutritious food and quality health services. Furthermore, poor sanitation and poor environmental hygiene increase the risk of recurrent infections in children, such as diarrhea, which interfere with nutrient absorption. Other factors, such as close birth spacing and maternal nutritional status during pregnancy, also contribute to the risk of stunting in children [2].

An initial survey conducted at the Montasik Community Health Center (Pusekesmas) in the district of Aceh Besar found that in 2023, there were 1,560 toddlers, of whom 261 (16.7%) were stunted. Meanwhile, based on 2024 data from January to October 2024, the number of toddlers was 873, with 129 (14.7%) experiencing stunting [12]

SUBJECT AND METHOD

1. Study Design

This study is quantitative, with an analytical design using a cross-sectional approach, meaning data are collected at a specific point in time or simultaneously [13]. This study aims to determine factors associated with stunting in toddlers.

2. Population and Sample

The population in this study comprised all mothers with toddlers in the Montasik Community Health Center (Puskesmas) work area in Aceh Besar from January to October 2024, totaling 873 people.

3. Study Variables

The sample for this study comprised 90 mothers with toddlers residing in the Montasik Community Health Center work area in Aceh Besar in 2024. The sample size was determined using the Slovin formula, with a population of 873 toddlers and a 10% margin of error, resulting in 90 respondents. Of the 30 villages in the Montasik Community Health Center work area, five villages were selected using simple random sampling (lottery). The sample size for each village was determined proportionally: 22 people from Seubam Lhok, 21 from Ulee Lhat, 18 from Mata Ie, 15 from Lamnga, and 26 from Weu Bada. Respondents in each village were then re-selected using simple random samplings to ensure representativeness. Inclusion criteria included toddlers aged 6–59 months who resided in the study area and whose parents were willing to serve as respondents by signing an informed consent form. In contrast, exclusion criteria included toddlers with incomplete anthropometric data, genetic disorders, chronic diseases, or unknown birth weight and gestational age information.

4. Operational Definition of Variables

Exclusive breastfeeding is the practice of providing only breast milk (ASI) without additional food or drink, including water, from birth to 6 months of age, as determined through interviews with mothers.

Stunting is a condition of growth failure in toddlers, characterized by a length-for-age below -2 SD based on WHO growth standards, as determined by anthropometric measurements. The dependent variable in this study is stunting in toddlers, while the independent variable is exclusive breastfeeding.

5. Study Instruments

The data collection techniques used in this study included questionnaires and records from the KIA Handbook. The

questionnaires were administered directly to mothers of toddlers to obtain information on their exclusive breastfeeding history. At the same time, the records in the KIA Handbook served as secondary data to verify breastfeeding status and toddler growth and development. This combination is expected to yield more accurate data and to reflect respondents' specific needs.

6. Data analysis

a. Univariate Analysis

An analysis was conducted for each variable, specifically the relationship between exclusive breastfeeding and stunting in toddlers. This analysis will display the frequency distribution in tabular form.

b. Bivariate Analysis

Conducted to determine the relationship between independent and dependent variables using the chi-square statistical test. The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) software. In the chi-square test, if the P value is < alpha (0.05), there is a relationship between the independent and dependent variables. However, if the P value is < alpha (0.05), there is no relationship between the independent and dependent variables.

7. Research Ethics

This research was conducted with due regard for research ethics, including informed consent. Informants who agreed to participate as respondents were required to sign a consent form after understanding the purpose and objectives of the research

RESULTS

1. Characteristics of the Sample

The sample in this study consisted of 90 mothers with toddlers in the Montasik Community Health Center (Puskesmas) work area in Aceh Besar. Of the 90 respondents, the largest age group was 20–35 years old (46 respondents) (51.1%). Based on educational level, most respondents had low education (51 respondents) (56.7%). Regarding employment status, most of the respondents were housewives (39 respondents) (43.3%).

Based on the number of children, most respondents had more than two children (51 respondents) (56.7%). In terms of birth weight, most babies weighed ≥2500 g (57 respondents), or 63.3%. Regarding gestational age at delivery, the majority were between 37 and 42 weeks, and 70 respondents (77.8%) were above 42 weeks. Regarding nutritional status, 60 respondents (66.7%) experienced stunting. Table 1 shows the characteristics of the sample in this study.

Table 1: Characteristics of Sample

No	Variabel	Frequancy	Percentage
1.	Age		
	<20 & >35 Years old	44	48.9
	20-35 years old	46	51.1
	Total	90	100
2.	Level of education		
	Low (Elementary and middle school)	51	56,7
	High school	39	43.3
	Total	90	100
3	Occupations		
	Housewife	39	43.3
	Civil servant	27	30.0
	Others	24	26.7
	Total	90	100
3.	The number of children		
	≤ 2 children	39	43.3
	> 2 Children	51	56.7
	Total	90	100
4.	Birth Weight		
	<2500 grams	33	36.7
	≥ 2500 grams	57	63,3
	Total	90	100
5.	Gestational Age		
	<37 Weeks	20	22,2
	37-42 Weeks or >42 weeks	70	63.3
	Total	90	100
6.	Stunting		
	Stunting	60	66,7
	No Stunting	30	33,3
	Total	90	100

2. Exclusive of breastfeeding

The research results also showed that the majority of respondents did not exclusively breastfeed, namely 55 people (61.1%), and that those who received exclusive breastfeeding were 35 children (38.9%). The data is shown in Table 2

Table 2. Exclusive Breastfeeding of the Sample

No	Providing exclusive breastfeeding	Frequency	Percentage
1	Providing Exclusive Breastfeeding	35	38.9
2	Did not provide exclusive breastfeeding	55	61.1
	Total	90	100

3. Bivariate Analysis

Based on the results of the Chi-Square test, among the 35 children who received exclusive breastfeeding, only 12 (34.3%) experienced stunting, while 23 (65.7%) did not. Conversely, of the 55 children who did not receive exclusive breastfeeding, the number of stunted children was much higher: 48 (87.3%), and only 7 (12.7%) were not stunted.

The analysis showed an Odds Ratio (OR) of 0.076 with a p-value of 0.000. An OR value <1 indicates that exclusive breastfeeding is a protective factor against stunting. This means that children who are exclusively breastfed have a lower likelihood (approximately 92.4%) of stunting compared to children who are not exclusively breastfed. Furthermore, a p-value <0.05 indicates a statistically significant association between exclusive breastfeeding and stunting

DISCUSSION

Based on the analysis, only 12 (34.3%) of the 35 children who received exclusive breastfeeding experienced stunting, while 23 (65.7%) did not. Conversely, among the 55 children who did not receive exclusive breastfeeding, the number of stunted children was much higher: 48 (87.3%), and only 7 (12.7%) were not stunted.

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Researchers assume the importance of exclusive breastfeeding as a significant protective factor against stunting. Exclusive breastfeeding provides optimal nutrition for infants during the first 6 months of life, containing complete nutrients, antibodies, and immunological factors that support healthy growth and development. Furthermore, exclusive breastfeeding helps prevent gastrointestinal infections and other diseases that can hinder a child's growth.

The results of this study align with the Nutritional Programming theory, which states that nutrition in early life significantly determines a child's future growth and health trajectory. Exclusive breastfeeding as the sole source of food during the first 6 months is the most effective nutritional intervention for

preventing chronic malnutrition, such as stunting [10].

This finding is supported by research conducted by Latifah, Purwanti, and Sukamto [11], which showed that infants who are exclusively breastfed have a lower risk of stunting than those who are not. Research by Sari and Utami (2020) also confirmed that exclusive breastfeeding significantly reduces stunting rates across various regions of Indonesia.

Based on the results of this research, it can be concluded that exclusive breastfeeding has a very significant relationship and plays a crucial role in preventing stunting in toddlers. Therefore, promotional and educational programs to increase exclusive breastfeeding coverage need to be continuously strengthened as a primary strategy in stunting prevention efforts in the Montasik Community Health Center area and its surroundings.

FINANCIAL SUPPORT AND SPONSORSHIP

None

ACKNOWLEDGEMENT

The author would like to thank the lecturers of the Midwifery Department who helped carry out this research.

CONFLICT OF INTEREST

There is no conflict of interest in this research.

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