



Systematic Review Factors that Affect the Occurrence of Stunting

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ABSTRACT

Stunting in children aged 24 to 59 months is a health issue related to parenting patterns, social conditions, and family habits in meeting children's needs. This research aims to describe the factors related to the occurrence of stunting based on a review of six field research articles published between 2020 and 2025. Systematic review was conducted by searching articles in PubMed, Google Scholar, and Science Direct databases using keywords "stunting", "factors", "children 24 to 59 months", "health", and "economy" with inclusion criteria: journal articles from the last 5 years, full text, English/Indonesian language. The results found 6 articles that meet the criteria. The results show that the occurrence of stunting in children aged 24 to 59 months is related to the dynamics of family life, starting from parenting patterns, feeding habits, social conditions, to the household economic situation. The dynamics of family life, starting from parenting patterns, feeding habits, social conditions, to the household economic situation affects the occurrence of stunting in children aged 24 to 59 months.

INTRODUCTION

Stunting is a condition of long-term growth disorders in children that makes their height far below their age standard according to WHO growth guidelines (Akbar et al., 2023; Asif et al., 2022; Charlotte et al., 2022; Schneider, 2025). This situation describes the process of growth inhibition that takes place from the beginning of life so that it has an impact on the physical development and function of the child's body. Children who experience stunting often face limitations in learning ability, physical resilience, and general health that can continue to affect their lives until adulthood. This condition shows that stunting is a warning of a growth disorder that lasts for a long time and requires serious attention (Akbar et al., 2023; Mulyani et al., 2025; Putri et al., 2026).

Indonesia is still in a position to work hard to reduce the stunting rate. Data from the 2024 Indonesian Nutrition Status Survey (SSGI) states that the national prevalence of stunting is 19.8 percent, which indicates that the number of children with growth disorders is still quite large. In another report from SKI 2023, there is a fairly wide difference in stunting rates between regions and illustrates that the success of the decline has not been evenly distributed throughout the province. The large burden of stunting raises concerns because its impact touches various aspects of children's lives. Stunted growth has the potential to affect endurance, social skills, and educational achievement during school. Children who experience stunting often face limitations in achieving their optimal potential, so this condition has a long-term impact on the quality of human resources (Mulyani et al., 2025; Sukmawati et al., 2025).

Previous research has provided an overview of conditions related to the incidence of stunting through various study angles. Yulika et al. (2025) Padang found a relationship between

mother-care patterns and the growth of toddlers which shows that the role of the family is crucial for children's growth and development. Another study by Alim et al. (2019) states that the child's body size at birth and the mother's physical condition during pregnancy are related to the child's growth in the early years of life. Meanwhile, the findings of Dainy et al. (2024) also show that the condition of the mother's body is related to the risk of stunting so that maternal health is a concern that needs to be studied further.

Although a number of these studies provide a broad picture of the conditions related to stunting, these findings are still widespread and have not been summarized in a structured study. Each study tends to focus on a specific region so the results have limitations in describing patterns at the national level. Variations in methodology, respondent characteristics, and regional coverage make it difficult to compare research results directly, so a systematic review is needed that can unite various findings. The novelty of this research lies in its systematic approach to synthesizing evidence from multiple studies published between 2020 and 2025 specifically focusing on children aged 24–59 months, which is a critical period for growth monitoring. Unlike previous reviews that may have focused on broader age ranges or single risk factors, this review specifically examines the interplay between parenting patterns, feeding habits, social conditions, and economic factors as they jointly influence stunting occurrence.

Therefore, this study aims to collect, assess, and present research results related to stunting in children under five. This study is expected to provide a clearer direction regarding the pattern of previous research findings so that it can be used as a basis for the preparation of more targeted intervention strategies.

RESEARCH METHODS

This study was a systematic review study to identify factors that affect the incidence of stunting in children under five years 24-59 months. The review process is carried out systematically to ensure comprehensive scientific evidence coverage and follows the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

Search Strategy

The source of research data comes from literature in the form of journal articles obtained through Google Scholar, Crossref, and OpenAlex search engines with a publication time range between 2021 and 2025. The search strategy used a combination of keywords: "stunting" OR "malnutrition" AND "factors" OR "factors" AND "children 24 of 59 months" OR "toddler" AND "health" OR "health" AND "economy" OR "economy" OR "economy". The search process is aided by Publish or Perish software to maximize search results and avoid duplication.

Inclusion Criteria

Studies are included in the study if they meet the following criteria: (1) Published between 2020-2024; (2) Research that discusses the characteristics of mothers and babies related to stunting aged 24 to 59 months; (3) Observational design in the form of cross sectional, case control, or cohort; (4) the article is available in full text; (5) the article is written in Indonesian or English.

Exclusion Criteria

Studies are excluded from the review if: (1) Published before 2020; (2) Research that does not focus on the relationship, (3) Conceptual review articles, editorial, or scientific opinions;

(4) The article is written in another language; and (5) Articles are only available in abstract or preview form.

Study Selection and Data Extraction

The study selection process is carried out in two stages. The first stage is an initial screening based on titles and abstracts to identify potentially relevant articles. The second stage is a full-text review of articles that pass the initial screening to ensure compliance with inclusion and exclusion criteria. Data extracted from each selected study included: author name and year of publication, country where the study was conducted, sample size, age range of participants, study design, key risk factors studied, and key findings related to stunting incidence.

RESULTS AND DISCUSSION

Based on the results of the article search, 6 research articles were obtained that were in accordance with the inclusion criteria with predetermined keywords and could be accessed in full with the keywords stunting risk factors in children 24-59 months with a publication time range until 2025. The study selection process is presented in detail in the PRISMA flowchart in Figure 1.



Figure 1. Diagram PRISMA

Source: Author's literature search and study selection process following PRISMA 2020 guidelines

After the initial selection based on the title, abstract, and content of the article, there were 112 publications that met the basic criteria. The follow-up screening process produced 6 articles that were in accordance with the focus of the study on the relationship between maternal and infant characteristics and the incidence of stunting in children aged 24 to 59 months. The process of selecting and filtering articles is visualized through the PRISMA Diagram as presented in Figure 1.

Table 1. Characteristics of Studies Included in the Review

NO	Title & Author	Purpose	Theme	Method	Key Findings
1	Risk Factors of Stunting Events in Toddlers Aged	Assess factors related to	Characteristics of	Cross-sectional	Mother's substandard height, inadequate frequency of ANC

	24-59 Months (Eka et al., 2020)	stunting incidence.	mother & baby		visits, and low birth length and weight contribute to an increased risk of stunting.
2	Risk Factors of Stunting in Toddler Aged 24-59 Month (Hutabarat et al., 2021)	Identify stunting risk factors.	Characteristics of children and families	<i>Case control</i>	Birth length is in a position that greatly determines the risk of stunting because it describes the quality of growth since the intrauterine period.
3	Factors Related to the Incidence of Stunting in Toddlers 24-59 Months (Rozalina et al., 2024)	Analyze factors related to stunting.	Feeding intake & feeding history	<i>Cross-sectional</i>	There is a clear relationship between MP-ASI patterns and daily protein intake on child growth. Children who receive MP-ASI not according to the recommendations or experience a lack of protein consumption are more prone to stunting.
4	Risk Factors for Stunting Incidence in Toddlers Aged 24-59 Months in the Working Area of the Salaman I Health Center, Magelang Regency (Mahera & Santik, 2023)	Identify stunting risk factors.	Pregnancy history & characteristics of the mother	<i>Case control</i>	Low maternal education is related to a lack of understanding of health, thus impacting the quality of pregnancy and parenting after birth.
5	Risk Factors for Stunting Incidence in Toddlers Aged 24-59 Months in the Working Area of the Eye Health Center, Kendari City in 2024 (Ningrum & Nurfadilah, 2025)	Assess stunting risk factors.	Baby history & diet	<i>Homes vs.</i>	Children with a history of BBLR have a greater chance of experiencing stunting due to limited growth from the early stages of life.
6	Stunting Risk Factors in Toddlers 24-59 Months in the Working Area of the Kluwut Health Center, Brebes Regency (Khoirunnisa & Arifin, 2025)	Identify stunting risk factors.	Baby's health history & maternal characteristics	<i>Homes vs.</i>	A history of MP-ASI that does not meet standards, incomplete basic immunizations, and social conditions such as maternal work are related to the incidence of stunting.

Source: Author's analysis of 6 articles meeting the inclusion criteria, 2025

Based on Table 1, all studies focused on social conditions and behavior patterns of families and children related to the incidence of stunting. Children's health issues in various regions are often related to family habits, care patterns, environment, and social conditions that develop in daily life (Eka et al., 2020; Hutabarat et al., 2021; Rozalina et al., 2024; Mahera & Santik, 2023; Ningrum & Nurfadilah, 2025; Khoirunnisa & Arifin, 2025). Each study shows that household dynamics, economic conditions, and access to health services are part of the reality observed on the ground. In terms of methodology, all studies rely on field research with quantitative designs such as cross sectionals and a mixed approach that combines surveys and interviews. The use of cross-sectional design provides an opportunity to see the pattern of relationships between the variables observed in a single measurement period, while the study that adds observations and interviews helps to portray the condition of families and children more fully. This approach shows that the measurement of nutritional status, consumption

patterns, and family environmental conditions was the focus of the analysis throughout the study.

Empirical Overview of Parenting Patterns, Family Environment, and Social Dynamics in Stunting Incidence

The dynamics of family life are an important element in children's development. Eka et al. (2020) describe parenting patterns formed through daily habits at home, from food serving to attention to hygiene and health. Hutabarat et al. (2021) also emphasized that family routines and the way parents manage children's basic needs are closely related to nutritional conditions. These findings suggest that parenting practices form the initial foundation of a child's development and play a role in emerging health outcomes. The social environment that surrounds the family also shapes the health behavior and consumption patterns that children live. Rozalina et al. (2024) highlight the influence of community habits on the way families provide food and maintain health. Mahera & Santik (2023) found that community support and a supportive residential environment that supports health services encourage families to be more responsive to the needs of children. In addition, Ningrum & Nurfadilah (2025) added that interactions with extended family and neighbors often influence mothers' decisions in caring for children.

Household economic conditions are part of the explanation of the variation in childcare and consumption patterns. Khoirunnisa & Arifin (2025) show that the level of family welfare affects the ability to meet food and health needs. In families with limited resources, the child's food variety tends to be less. This is in line with the findings of Eka et al. (2020) and Hutabarat et al. (2021) regarding differences in diet and health concerns between families with diverse economic conditions. This situation shows that welfare determines children's access to basic needs. In addition, cultural values and customs inherited between generations appear to be present in several findings. Rozalina et al. (2024) note that feeding practices often follow long-standing family habits, although they are not necessarily in accordance with the needs of the child. Mahera & Santik (2023) show that some parents prefer traditional diets without considering nutritional variations. The combination of these findings indicates that family traditions and perspectives have a major influence on daily decisions regarding children's health.

CONCLUSION

The incidence of stunting in children aged 24 to 59 months is related to the dynamics of family life, ranging from parenting patterns, feeding habits, social conditions, to the household economic situation. Consumption patterns, environmental support, and cultural values that develop in the family's daily life shape child care practices that have implications for growth. The overall picture of the six studies shows that stunting prevention efforts need to touch the daily behavior of families and the environment in which children grow, so that the interventions carried out can reach the root of the problems that occur in daily life. Based on these findings, several recommendations are proposed. For future researchers, it is recommended to conduct primary studies that simultaneously examine the interaction between parenting patterns, feeding practices, socioeconomic status, and environmental factors using prospective cohort designs to establish causal relationships. For healthcare providers and community health workers, it is

advised to strengthen family-based nutrition education, promote appropriate complementary feeding practices, and regularly monitor child growth through integrated health posts. For policymakers, stunting reduction programs should be designed to be context-specific, addressing not only nutritional intake but also improving household economic resilience, maternal education, and access to clean water and sanitation facilities. Additionally, cross-sectoral collaboration between health, agriculture, social affairs, and education sectors is essential to achieve sustainable stunting reduction targets.

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