



The Role of Stunting Prevention Programs in Shaping Maternal Behavior Toward Stunting Incidence Among Children Under Five in the Working Area of Jongaya Public Health Center, Makassar, Indonesia: A Literature Review

Asniar^{1*}, Nurfardiansyah Burhanuddin²

^{1,2} Universitas Muslim Indonesia, Sulawesi Selatan, Indonesia

asniarniar174@gmail.com^{1*}, nurfardiansyah.bur@umi.ac.id²

Received: 15/04/2026

Accepted: 25/04/2026

Published: 21/05/2026

ABSTRACT

Background: Stunting remains one of the major public health problems in Indonesia because it affects children's physical growth, cognitive development, and future productivity. Despite various government interventions through stunting prevention programs, the prevalence of stunting remains relatively high in several regions, including the working area of Jongaya Public Health Center, Makassar. The effectiveness of these programs is strongly influenced by maternal behavior in implementing appropriate child nutrition and health practices. **Objective:** This study aims to analyze the role of stunting prevention programs in shaping maternal behavior toward the incidence of stunting among children under five in the working area of Jongaya Public Health Center, Makassar. **Methods:** This study will employ a quantitative research design with a cross-sectional approach. The independent variable is the stunting prevention program, the intervening variable is maternal behavior, and the dependent variable is the incidence of stunting among children under five. The study population will consist of mothers with children aged 0–59 months in the working area of Jongaya Public Health Center. Samples will be selected using a simple random sampling technique. Primary data will be collected through structured questionnaires, while secondary data will be obtained from health center records. Data will be analyzed using univariate analysis and the Chi-square test with a significance level of 0.05. **Expected Results:** The study is expected to demonstrate that effective implementation of stunting prevention programs is associated with improved maternal behavior in preventing stunting. Furthermore, positive maternal behavior is expected to contribute to a lower incidence of stunting among children under five. **Conclusion:** This study is expected to provide evidence regarding the importance of strengthening stunting prevention programs to improve maternal behavior and reduce stunting incidence. The findings are anticipated to serve as valuable input for health policymakers and healthcare providers in enhancing the effectiveness of stunting prevention interventions at the primary healthcare level.

Keywords: Stunting; Stunting Prevention Program; Maternal Behavior; Children Under Five; Public Health Center.

INTRODUCTION

Stunting is one of the most serious public health and nutritional problems affecting children worldwide. According to the World Health Organization (WHO), stunting is defined as impaired growth and development resulting from chronic malnutrition, recurrent infections, and inadequate psychosocial stimulation during the first 1,000 days of life. Children are classified as stunted when their height-for-age is more than two standard deviations below the WHO Child Growth Standards. Stunting not only limits physical growth but also negatively affects cognitive development, educational achievement, immune function, and productivity in adulthood. Consequently, stunting has become a major global health priority and is included in the Sustainable Development Goals (SDGs), particularly Goal 2 (Zero Hunger) and Goal 3 (Good Health and Well-being).



Although the prevalence of stunting has gradually declined in Indonesia over the past decade, it remains a major public health concern. National survey data indicate that the prevalence decreased from 30.8% in 2018 to 21.5% in 2023. However, this figure is still above the national target and the threshold established by the World Health Organization. In South Sulawesi Province, the prevalence of stunting remains relatively high, and Makassar City continues to report children affected by stunting. The working area of Jongaya Public Health Center is one of the areas where stunting cases are still identified, indicating that further improvements in prevention strategies are required.

To reduce the burden of stunting, the Indonesian government has implemented various integrated stunting prevention programs through primary healthcare services. These programs include the First 1,000 Days of Life (1000 HPK) Program, Integrated Health Service Posts (Posyandu), Maternal and Child Health Classes, Health Education Programs, and Supplementary Feeding Programs (PMT). The primary objective of these interventions is to improve maternal knowledge, encourage healthy childcare practices, increase the utilization of healthcare services, and ensure adequate nutritional intake during pregnancy and early childhood. Effective implementation of these programs is expected to reduce the incidence of stunting through improved maternal health behavior.

Maternal behavior plays a crucial role in preventing stunting because mothers are primarily responsible for childcare, feeding practices, growth monitoring, hygiene, and healthcare utilization. Appropriate maternal behaviors include exclusive breastfeeding, timely introduction of complementary feeding, provision of balanced nutrition, regular attendance at integrated health service posts, complete immunization, and the practice of clean and healthy living behaviors. According to Lawrence Green's behavioral theory, health behavior is influenced by predisposing, enabling, and reinforcing factors. Stunting prevention programs function as enabling factors by providing health education, counseling, health services, and family assistance that encourage mothers to adopt healthier behaviors.

Previous studies have reported that maternal knowledge, parenting practices, nutritional behavior, and healthcare utilization are significantly associated with stunting prevention. Nurfatimah et al. (2021) reported that maternal knowledge and preventive behavior during pregnancy contribute to reducing the risk of stunting. Ayu et al. (2023) found that parenting practices, exclusive breastfeeding, complementary feeding, immunization status, and nutritional care were significantly associated with stunting risk among children. Furthermore, Noviana et al. (2024) demonstrated that maternal behavior in complementary feeding and breastfeeding practices plays an important role in preventing stunting. These findings suggest that improving maternal behavior is essential for reducing stunting among children under five.

However, most previous studies have focused on the direct relationship between maternal behavior and stunting or on the determinants of maternal behavior. Limited research has examined how government stunting prevention programs contribute to shaping maternal behavior, which subsequently influences the incidence of stunting. In particular, evidence regarding this relationship in the working area of Jongaya Public Health Center, Makassar, remains limited. Therefore, this study addresses this research gap by examining maternal behavior as an intervening variable linking stunting prevention programs to stunting incidence.

The novelty of this study lies in the integration of three variables into a single conceptual framework. Unlike previous studies that primarily investigated direct relationships, this research examines the role of maternal behavior as an intervening variable between the implementation of stunting prevention programs and the incidence of stunting among children under five. The findings are expected to provide a more comprehensive understanding of how prevention programs influence child nutritional outcomes through behavioral changes among mothers.

Therefore, this study aims to analyze the role of stunting prevention programs in shaping maternal behavior toward the incidence of stunting among children under five in the working area of Jongaya Public Health Center, Makassar. The study hypothesizes that effective implementation of stunting prevention programs is associated with improved maternal behavior, and that better maternal behavior is associated with a lower incidence of stunting among children under five.

This study employs a quantitative research design with a cross-sectional approach. The independent variable is the stunting prevention program, the intervening variable is maternal behavior, and the dependent variable is the incidence of stunting. Data will be collected through structured questionnaires and

documentation, and analyzed using descriptive statistics and the Chi-square test. The findings are expected to provide evidence that can support the improvement of stunting prevention policies and programs at the primary healthcare level.

METHOD

This study employed a literature review design following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines. A systematic search was conducted to identify studies related to stunting prevention programs, maternal behavior, and stunting incidence among children under five. The literature search was performed using two electronic databases: Google Scholar and PubMed. The search included articles published between 2021 and 2025 using combinations of the keywords stunting prevention program, maternal behavior, stunting incidence, children under five, nutrition, exclusive breastfeeding, and Indonesia.

The inclusion criteria were original research articles published in English or Indonesian, available in full text, and investigating the relationship between stunting prevention programs, maternal behavior, and stunting incidence among children under five. Articles published before 2021, review articles, conference proceedings, duplicate publications, and studies unrelated to the research objectives were excluded.

The article selection process consisted of four stages: identification, screening, eligibility assessment, and inclusion, in accordance with the PRISMA 2020 guidelines. Initially, 600 records were identified from the selected databases, comprising 412 records from Google Scholar and 188 records from PubMed. After removing duplicate records, 435 articles remained for title and abstract screening. A total of 307 articles were excluded because they did not meet the inclusion criteria. The remaining 128 full-text articles were assessed for eligibility, and 108 articles were excluded due to unavailable full texts, inappropriate study designs, or irrelevant research variables. Finally, 20 studies were included in the qualitative synthesis. The selection process is illustrated in Figure 1.

Data extraction was conducted using a standardized extraction form, including the author(s), publication year, study objectives, research design, sample characteristics, variables, and main findings. The selected studies were analyzed using a narrative synthesis approach to compare, summarize, and interpret previous evidence regarding the implementation of stunting prevention programs, maternal behavior, and their relationship with stunting incidence among children under five.

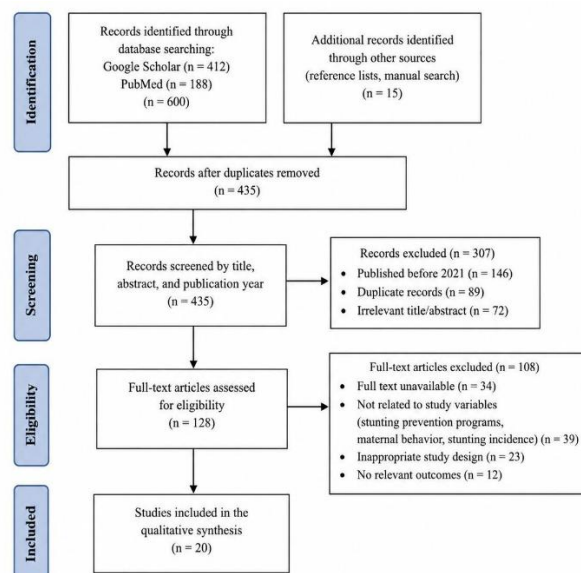


Figure 1. PRISMA Flowchart

The PRISMA 2020 flow diagram illustrates the process of identifying, screening, assessing eligibility, and including studies. A total of 600 records were identified from two databases and additional sources. After removing duplicates and applying the inclusion and exclusion criteria, 20 studies were included in the qualitative synthesis.

RESEARCH RESULTS AND DISCUSSION

Research Results

Based on the synthesis of previous studies, the implementation of stunting prevention programs and maternal behavior are consistently identified as important factors in reducing the incidence of stunting among children under five. The findings from the selected studies indicate that integrated health interventions contribute to improving maternal behavior and child nutritional outcomes. The synthesis of the selected studies is presented in Table 1.

Table 1. Synthesis of Previous Studies on Stunting Prevention Programs, Maternal Behavior, and Stunting Incidence

Author(s), Year	Research Design	Sample	Variables	Main Findings
Ayu et al. (2023)	Cross-sectional	Children under five and their mothers	Parenting style, exclusive breastfeeding, complementary feeding, immunization status, stunting risk	Parenting practices, exclusive breastfeeding, complementary feeding, complete immunization, and adequate nutritional status significantly reduced the risk of stunting.
Diana et al. (2022)	Cross-sectional	Mothers of children under five	Maternal behavior, stunting prevention	Maternal behavior significantly influenced stunting prevention through appropriate nutrition, exclusive breastfeeding, and healthcare utilization.
Nurfatimah et al. (2021)	Cross-sectional	Pregnant women	Maternal knowledge, maternal behavior, stunting prevention	Maternal knowledge and preventive behavior during pregnancy significantly contributed to stunting prevention.
Mujadillah et al. (2024)	Cross-sectional	Mothers of children under five	Exclusive breastfeeding, complementary feeding, healthcare provider support, stunting incidence	Exclusive breastfeeding, appropriate complementary feeding, and healthcare provider support were associated with lower stunting incidence.
Noviana et al. (2024)	Cross-sectional	Mothers with infants aged 6–12 months	Maternal behavior, breastfeeding practice, complementary feeding	Maternal behavior in breastfeeding and complementary feeding significantly improved child nutritional outcomes and prevented stunting.
Mindarsih et al. (2024)	Cross-sectional	Mothers	Social support, maternal perception, maternal behavior, stunting incidence	Social support and positive maternal perception improved maternal behavior, thereby reducing stunting incidence.
Bancin et al. (2024)	Cross-sectional	Mothers of children under five	Maternal knowledge, maternal behavior, nutritional status, stunting	Mothers with better knowledge and behavior were more likely to have children with normal nutritional status.
Harianto et al. (2025)	Cross-sectional	Mothers of children under five	Antenatal care, stunting	Adequate antenatal care significantly reduced the risk of stunting among children under five.
Kustanto et al. (2025)	Literature Review	Various countries	Determinants of stunting	Stunting is influenced by nutrition, infection, socioeconomic status, maternal education, sanitation, and healthcare utilization.
Ndagijiman a et al. (2025)	Secondary Data Analysis	National Demographic and Health Surveys	Socioeconomic inequality, stunting	Socioeconomic inequalities remain important determinants of childhood stunting despite improvements in health programs.

A synthesis of previous studies was conducted to examine the relationship between stunting prevention programs, maternal behavior, and the incidence of stunting among children under five. The selected studies were obtained from reputable national and international journals published between 2021 and 2025. These studies were analyzed based on their research design, study population, variables, and principal findings to

identify the current state of knowledge and research gaps. The synthesis of previous studies is presented in Table 1.

Discussion

The synthesis of previous studies demonstrates that maternal behavior plays a central role in reducing the incidence of stunting among children under five. Several studies consistently reported that appropriate maternal practices, including exclusive breastfeeding, timely complementary feeding, balanced nutrition, growth monitoring, and healthcare utilization, contribute significantly to the prevention of stunting. These findings suggest that improving maternal behavior remains an essential strategy for reducing childhood stunting. In addition, previous studies indicate that government-led stunting prevention programs contribute to improving maternal knowledge and health practices. Programs such as the First 1,000 Days of Life (1000 HPK), Integrated Health Service Posts (Posyandu), maternal classes, health education, and supplementary feeding provide mothers with information and practical support to adopt healthier childcare practices. Consequently, these programs indirectly contribute to reducing stunting through behavioral changes among mothers. Despite substantial evidence regarding maternal behavior and stunting, most previous studies focused only on direct relationships between maternal behavior and child nutritional status or on individual determinants of maternal behavior. Only a limited number of studies have investigated how comprehensive stunting prevention programs influence maternal behavior and subsequently affect stunting incidence within a single conceptual framework. Therefore, the present study differs from previous research by integrating stunting prevention programs as the independent variable, maternal behavior as the intervening variable, and stunting incidence as the dependent variable. This framework is expected to provide a more comprehensive understanding of the mechanisms through which public health interventions influence child nutritional outcomes. Furthermore, the study focuses specifically on the working area of Jongaya Public Health Center, Makassar, where evidence regarding these relationships remains limited. The findings are expected to provide practical recommendations for strengthening community-based stunting prevention programs and improving maternal health behavior to accelerate stunting reduction.

CONCLUSION

Stunting remains one of the major public health challenges in Indonesia, requiring comprehensive prevention efforts involving healthcare providers, families, and communities. The synthesis of previous studies indicates that effective stunting prevention programs and positive maternal behavior are essential factors in reducing the incidence of stunting among children under five. However, previous research has primarily focused on the direct relationship between maternal behavior and stunting, with limited attention given to the role of stunting prevention programs in shaping maternal behavior. This study proposes a conceptual framework that integrates stunting prevention programs, maternal behavior, and stunting incidence into a single analytical model. By positioning maternal behavior as an intervening variable, the study is expected to provide a more comprehensive understanding of the mechanisms through which public health interventions influence child nutritional outcomes. Furthermore, the research is expected to enrich the existing literature on stunting prevention and provide evidence that may support the development of more effective community-based intervention strategies. Future empirical studies are needed to validate the proposed conceptual framework using primary data collected from mothers of children under five in the working area of Jongaya Public Health Center, Makassar. The findings are expected to provide valuable recommendations for policymakers, healthcare professionals, and public health institutions in strengthening stunting prevention programs and improving maternal behavior to accelerate the reduction of stunting prevalence in Indonesia.

REFERENCE

Asnidar, et al. (2022). Determinants of stunting in pre-school-aged children in Ujung Bulu Subdistrict. Global Health Science Group, 291–298.

- Ayu, M. S., et al. (2023). A stunting risk model based on children's parenting style. *International Journal of Public Health Excellence*, 2(2), 578–583. <https://doi.org/10.55299/ijphe.v2i2.347>
- Bancin, A., et al. (2024). The relationship between mothers' knowledge and behavior about nutritional status with the incidence of stunting. *Indonesian Journal of Global Health Research*, 1747–1757.
- Diana, H. H., et al. (2022). Enhancing maternal behavior towards prevention of stunting among children below 5 years old in the District of Tebing Tinggi, Indonesia. *The Malaysian Journal of Nursing*, 67–74.
- Erawati, G. N., et al. (2024). Analisis penguatan implementasi program kelas ibu dalam upaya pencegahan stunting di Kota Denpasar. *Jurnal Perencanaan Pengembangan Wilayah dan Pengelolaan Lingkungan*, 52–64.
- Harianto, S. R., et al. (2025). Hubungan antenatal care (ANC) dengan kejadian stunting di Puskesmas Sumbang Kabupaten Enrekang. *Window of Public Health*, 1164–1170.
- Heni, P. D., et al. (2023). Gambaran perilaku ibu tentang pencegahan stunting pada baduta. *Kesehatan Ilmiah Indonesia*, 89–95.
- Kustanto, D. R., et al. (2025). Stunting di berbagai negara: Perbandingan global. *Pengabdian Masyarakat Aupa (JPMA)*, 1–8.
- Megantari, S. H., et al. (2020). Karakteristik determinan kejadian stunting pada anak balita usia 24–59 bulan di kawasan kumuh Kecamatan Bontoala Kota Makassar. *Window of Public Health*, 207–219.
- Mindarsih, E., et al. (2024). The influence of social support, perception, and maternal behavior in preventing stunting cases in Indonesia. *International Journal of Public Health Science*, 1872–1880.
- Mujadillah, S. A., et al. (2024). Hubungan riwayat pemberian ASI eksklusif, riwayat pemberian MP-ASI dan dukungan tenaga kesehatan dengan kejadian stunting di Kelurahan Kota Baru Kota Bekasi Tahun 2023. *Jurnal Kesehatan Masyarakat*, 156–161.
- Ndagijimana, A., et al. (2025). Socio-economic inequalities of childhood stunting in Rwanda: Time trend analysis of demographic and health surveys, 2000 to 2019. *Journal of Epidemiology and Global Health*, 1–25.
- Noviana, U., et al. (2024). Analysis of factors influencing mothers' behavior in providing complementary foods and breastfeeding practices to children aged 6–12 months in prevention of stunting. *Indonesian Journal of Global Health Research*, 47–58.
- Nurhidayati, L. D., et al. (2025). Literature review: Faktor penyebab stunting di Indonesia. *Prosiding Seminar Nasional dan Call for Paper Kebidanan Universitas Ngudi Waluyo*, 1316–1325.
- Oktovia, E. Y., et al. (2024). Faktor-faktor yang mempengaruhi kejadian stunting pada balita di Indonesia tahun 2024. *Jurnal Ventilator: Jurnal Riset Ilmu Kesehatan dan Keperawatan*, 158–168.
- Rahamadani, R. A., et al. (2025). Effectiveness of nutrition education on stunting prevention behavior in mothers under five. *Edukasi Ilmiah Kesehatan*, 1–8.
- Revinel, F. S., et al. (2025). Analisis pemberian ASI eksklusif, balita bebas stunting. *Jurnal Ilmiah Kesehatan*, 238–247.
- Rifandy, M. R., et al. (2022). Hubungan perilaku ibu dalam pemberian ASI eksklusif dan pemberian MP-ASI terhadap kejadian stunting di Kelurahan Naioni Kota Kupang. *Jurnal Ilmu Kesehatan*, 320–326.
- Safitri, A. E., et al. (2024). Hubungan perilaku hidup bersih dan sehat ibu terhadap kejadian stunting pada balita. *Jurnal Kesehatan Tambusai*, 6804–6809.
- Wulandari, R. F., et al. (2023). Efektivitas metode health education terhadap perilaku ibu mengenai tindakan preventif stunting pada anak balita di Posyandu. *The Indonesian Journal of Health Science*, 77–85.

- Megantari, S. H., Arifin, M. A., & Rahman, N. (2020). Karakteristik determinan kejadian stunting
- Nurfatimah, N., Ramadhan, K., Entoh, C., Longgupa, L. W., & Hafid, F. (2021). Prevention behavior during pregnancy to reduce the incidence of stunting. *Gaceta Sanitaria*, 35(Suppl. 2), S530–S535.
<https://doi.org/10.1016/j.gaceta.2021.10.087>
- World Health Organization. (2023). Levels and trends in child malnutrition: UNICEF/WHO/World Bank Joint Child Malnutrition Estimates. World Health Organization.
<https://www.who.int/publications/i/item/9789240095713>