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Original Article

The Relationship Between Mothers' Knowledge Level and Community Nurse Support with the Incidence of Stunting in Early Childhood

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Abstract
Stunting is still a major health issue that influences children's physical growth and development in Indonesia. Insufficient maternal knowledge and inadequate support from community nurses are factors that may increase the risk of stunting among young children. This study aimed to analyze the relationship between maternal knowledge and community nurse support with stunting incidence in early childhood. A quantitative cross-sectional design was applied involving 42 respondents selected through simple random sampling. Data collection used questionnaires and anthropometric measurements of height-for-age. Statistical analysis was performed using the Chi-Square test. The findings revealed that 38.1% of children were stunted, while 61.9% had normal growth status. Significant associations were identified between maternal knowledge and stunting occurrence, as well as between community nurse support and stunting incidence. Better maternal understanding and stronger nurse support were associated with lower stunting rates. Health education and community nursing services should therefore be strengthened to reduce stunting prevalence.

Keywords: community nurse support; maternal knowledge; stunting; toddlers

Introduction

Stunting remains a major public health challenge in Indonesia due to its long-term consequences for child growth, cognitive development, educational achievement, productivity, and future health outcomes. As a manifestation of chronic undernutrition during the first 1,000 days of life, stunting not only affects individual well-being but also poses a substantial threat to national human resource development (Astuti & Romero, 2023). Despite ongoing national efforts to reduce stunting prevalence, recent evidence indicates that the burden of stunting remains a significant concern, highlighting the need for comprehensive and sustainable prevention strategies involving families, healthcare professionals, and communities (Mulyani et al., 2025).

Maternal knowledge has consistently been identified as one of the key determinants of stunting prevention. Mothers play a central role in ensuring adequate nutrition, providing appropriate feeding practices, monitoring child growth and development, and maintaining healthy household behaviors. Limited knowledge regarding nutrition and child health may lead to inadequate caregiving practices and increase the risk of growth failure among children (Qoyimah et al., 2024). Previous studies have demonstrated a significant association between maternal knowledge and stunting incidence, indicating that mothers with lower levels of knowledge are less likely to recognize and address factors contributing to child malnutrition and growth disorders (Purnama et al., 2021; Masilela & Modjadji, 2023).

In addition to maternal factors, support from healthcare professionals, particularly community nurses, plays a critical role in strengthening stunting prevention efforts. Community nurses contribute through health education, growth monitoring, family empowerment, health promotion, and early identification of nutritional problems. Evidence suggests that support from healthcare workers can improve family awareness, increase the utilization of health services, and enhance community participation in stunting prevention programs (Hanifah & Astuti, 2023; Dhani Syahputra Bukit et al., 2021; Faizi et al., 2022). Although various interventions, including Posyandu services, nutrition education, supplementary feeding, and community

empowerment programs, have been implemented, challenges such as limited maternal knowledge, inadequate access to health information, and suboptimal support from health personnel continue to hinder the effectiveness of stunting reduction initiatives (Atamou et al., 2023; Siregar & Satria, 2024).

Recent studies have reported that maternal knowledge, attitudes, and health service support are important determinants of stunting prevention behaviors (Juniarti et al., 2025; Anggraeni et al., 2025). However, most previous research has examined maternal knowledge and healthcare support separately, while studies investigating the combined relationship between maternal knowledge and community nurse support with stunting incidence in early childhood remain limited. Guided by health behavior theory, which emphasizes the influence of knowledge and reinforcing factors on health-related behaviors, this study aims to examine the relationship between mothers' knowledge level and community nurse support and the incidence of stunting in early childhood. The findings are expected to provide evidence for strengthening community nursing interventions, health promotion strategies, and family-centered programs to reduce stunting in the community (Soviyati et al., 2023; Siagian & Ramschie, 2024).

Method

Study Design and Setting

This study employed a quantitative analytical observational design with a cross-sectional approach. The study aimed to examine the relationship between mothers' knowledge level and community nurse support and the incidence of stunting in early childhood.

A cross-sectional design was selected because it enables the assessment of the relationship between independent and dependent variables at a single point in time. Data collection was conducted from January to February 2026 in a community area where cases of stunting among young children were still reported and community nursing services were actively implemented.

Population and Sample

The study population consisted of all mothers with children aged 0–59 months in the study area, totaling 54 individuals. The sample size was determined using the Slovin formula

with a 5% margin of error, resulting in 42 respondents. Participants were selected using probability sampling with a simple random sampling technique, ensuring that each eligible member of the population had an equal chance of being included in the study.

The inclusion criteria were mothers who had children aged 0–59 months, were willing to participate in the study, and were present during the data collection period. Mothers who were unavailable during data collection or returned incomplete questionnaires were excluded from the study.

Data Collection and Measurement

Data were collected using a structured questionnaire and an anthropometric observation sheet. The questionnaire was used to assess mothers' knowledge regarding stunting, child nutrition, parenting practices, and stunting prevention, as well as perceived support received from community nurses. Community nurse support included health education, family assistance, counseling, and health promotion activities provided within the community.

The incidence of stunting was determined through anthropometric measurement of children's height according to age based on the World Health Organization (WHO) growth standards. Children were classified as stunted when their height-for-age Z-score (HAZ) was below −2 standard deviations (< −2 SD).

Validity and Reliability Testing

Prior to data collection, the questionnaire underwent validity and reliability testing using respondents outside the study sample. Item validity was assessed using the Pearson Product–Moment correlation test, with items considered valid when the calculated correlation coefficient exceeded the critical value at a significance level of 0.05. Reliability testing was performed using Cronbach's alpha coefficient, with values of 0.70 or higher considered indicative of acceptable internal consistency.

Data Analysis

Data were analyzed using descriptive and inferential statistics. Univariate analysis was conducted to describe the characteristics of respondents, levels of maternal knowledge, community nurse support, and the prevalence of stunting. Bivariate analysis was performed using the Chi-

square test to examine the relationship between maternal knowledge, community nurse support, and stunting incidence. Statistical significance was established at a 95% confidence level with a p-value of less than 0.05.

Ethical Considerations

This study adhered to ethical principles, including voluntary participation, informed consent, confidentiality, and anonymity. All respondents were informed about the purpose and procedures of the study and were given the right to withdraw from participation at any stage without any consequences. The collected data were used exclusively for research purposes and were maintained confidentially throughout the study.

Results

A total of 42 mothers with children aged 0–59 months participated in this study. Data were collected using questionnaires assessing maternal knowledge and community nurse support, as well as anthropometric measurements to determine the nutritional status of children based on the height-for-age (HAZ) index. The results are presented through univariate and bivariate analyses.

Univariate Analysis

Univariate analysis was performed to describe respondents' characteristics, maternal knowledge levels, community nurse support, and the incidence of stunting among children.

Table 1. Characteristics of Respondents, Maternal Knowledge, Community Nurse Support, and Stunting Incidence (N = 42)

Variable	Category	n	%
Maternal Age	< 20 years	4	9.5
	20–35 years	30	71.4
	> 35 years	8	19.1
Educational Level	Elementary School	8	19.1
	Junior High School	12	28.6
	Senior High School	17	40.5
	College/University	5	11.9
Maternal Knowledge	Good	15	35.7
	Moderate	14	33.3
	Poor	13	31
Community Nurse Support	Good	18	42.9
	Moderate	13	31
	Poor	11	26.1
Stunting Status	Stunted	16	38.1
	Not Stunted	26	61.9

Table 1 presents the characteristics of respondents and the distribution of the study variables. Most mothers were aged 20–35 years (71.4%), while 19.1% were older than 35 years and 9.5% were younger than 20 years. Regarding educational attainment, the largest proportion of respondents had completed senior high school (40.5%), followed by junior high school (28.6%), elementary

school (19.1%), and college/university education (11.9%).

In terms of maternal knowledge regarding stunting, 35.7% of respondents had good knowledge, 33.3% had moderate knowledge, and 31.0% had poor knowledge. Community nurse support was reported as good by 42.9% of respondents, while 31.0% and 26.1% reported moderate and poor support, respectively. Regarding child nutritional status, 16 children (38.1%) were classified as stunted, whereas 26 children (61.9%) were not stunted.

Bivariate Analysis

Table 2. Association Between Maternal Knowledge, Community Nurse Support, and Stunting Incidence (N = 42)

Variable	Category	Stunted n (%)	Not Stunted n (%)	p-value
Maternal Knowledge	Good	2 (13.3)	13 (86.7)	0.003
	Moderate	5 (35.7)	9 (64.3)	
	Poor	9 (69.2)	4 (30.8)	
Community Nurse Support	Good	3 (16.7)	15 (83.3)	0.002
	Moderate	5 (38.5)	8 (61.5)	
	Poor	8 (72.7)	3 (27.3)	

Table 2 shows the association between maternal knowledge, community nurse support, and stunting incidence among children aged 0–59 months. Among mothers with good knowledge, the majority of children were not stunted (86.7%), whereas stunting was more prevalent among children of mothers with poor knowledge (69.2%). The Chi-square test revealed a statistically significant association between maternal knowledge and stunting incidence ($p = 0.003$).

Similarly, respondents who reported good community nurse support had a higher proportion of non-stunted children (83.3%), while stunting was more frequently observed among children whose mothers reported poor community nurse support (72.7%). The Chi-square analysis demonstrated a significant association between community nurse support and stunting incidence ($p = 0.002$). These findings indicate that higher maternal knowledge and stronger community nurse support were significantly associated with lower rates of stunting among children.

Discussion

Mothers' Knowledge and Stunting Incidence in Early Childhood

This study identified a significant association between maternal knowledge and the incidence of stunting among children aged 0–59 months ($p = 0.003$). Children of mothers with higher levels of

knowledge were less likely to experience stunting than those whose mothers had lower levels of knowledge. Maternal knowledge is a critical determinant of child nutrition and health because mothers are primarily responsible for feeding practices, growth monitoring, hygiene maintenance, and the utilization of healthcare services. Mothers with adequate knowledge are more likely to practice exclusive breastfeeding, provide appropriate complementary feeding, and recognize early signs of growth problems, thereby reducing the risk of stunting (Azizah et al., 2025; Mistry et al., 2019).

These findings support Health Behavior Theory, which posits that knowledge serves as a predisposing factor influencing health-related attitudes and behaviors (Notoatmodjo, 2020). In the context of child nutrition, increased knowledge may encourage mothers to adopt preventive practices that promote optimal growth and development (Fadare et al., 2019). The findings are also consistent with previous studies reporting that maternal knowledge is significantly associated with stunting prevention and child nutritional outcomes (Purnama et al., 2021; Wulansari, 2025; Yunitasari et al., 2021). Similarly, Fajrianti et al. (2020) highlighted the importance of nutrition education in improving maternal practices related to child feeding and healthcare utilization.

Ginting and Hutabarat (2025) further reported that knowledgeable mothers are more likely to participate in Posyandu activities, immunization programs, and routine growth monitoring. Nevertheless, misconceptions regarding stunting remain prevalent in some communities, particularly the belief that short stature is solely hereditary, which may hinder preventive efforts (Kartini et al., 2025). Limited educational attainment and restricted access to health information may further contribute to inadequate knowledge and stunting prevention practices (Aryani et al., 2024).

Community Nurse Support and Stunting Incidence in Early Childhood

This study also demonstrated a significant relationship between community nurse support and stunting incidence ($p = 0.002$). Children whose families received better support from community nurses were less likely to experience stunting. Community nurses

play a central role in promotive and preventive healthcare through health education, nutritional counseling, growth monitoring, home visits, and family empowerment initiatives. Such support enhances parental awareness, strengthens health-seeking behaviors, and improves adherence to recommended child health practices (Lotaan, 2025).

The findings are consistent with the principles of community nursing, which emphasize the role of nurses as educators, counselors, advocates, and facilitators of community health improvement (Maria et al., 2025). Effective community nurse engagement strengthens families' capacity to recognize and address risk factors associated with child growth failure (Agustian et al., 2023). Previous studies have similarly demonstrated that healthcare worker support significantly contributes to stunting prevention efforts.

Bukit, Keloko, and Ashar (2021) reported that regular engagement with health professionals increases parental awareness of child nutritional needs and promotes the utilization of healthcare services. Likewise, Faizi et al. (2022) and Tyarini and Mulat (2025) found that health education and family support provided by healthcare workers positively influence child-feeding practices and healthy lifestyle behaviors. However, barriers such as limited home visits, low participation in Posyandu activities, caregiver time constraints, and shortages of healthcare personnel may reduce the effectiveness of community-based stunting prevention programs (Erda et al., 2025; Asmara et al., 2024).

Implications for Community Health Practice

The findings of this study have important implications for public health practice and policy. Efforts to reduce stunting should prioritize improving maternal knowledge through continuous nutrition education and strengthening the role of community nurses in delivering preventive and promotive services. Integrating family education with community-based nursing interventions may enhance parental capacity to adopt healthy childcare practices and improve utilization of health services.

Furthermore, effective stunting prevention requires collaboration among healthcare providers, Posyandu cadres, families, and local governments. Strengthening community nursing

programs through regular outreach activities, family-centered education, home visits, and routine growth monitoring may contribute to sustainable reductions in stunting prevalence. Such a comprehensive approach is essential for improving child health outcomes and supporting the development of healthier future generations.

Conclusion

This study demonstrated that both maternal knowledge and community nurse support were significantly associated with stunting incidence among children aged 0–59 months. Mothers with higher levels of knowledge were less likely to have stunted children, while stronger community nurse support was associated with lower rates of stunting. These findings highlight the importance of enhancing maternal knowledge through continuous health education and strengthening the role of community nurses in delivering promotive and preventive services. Integrating family-centered education with community-based nursing interventions may contribute to more effective stunting prevention and improved child health outcomes.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this article. The research was conducted independently, and the authors have no financial, commercial, legal, or professional interests that could have influenced the study design, data collection, analysis, interpretation, or reporting of the findings.

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References

Agustian, D., Triyanto, S. A., Apriyani, D., & Helbawanti, O. (2023). *DEDIKASI : Community Service Reports Strategi Pencegahan Stunting dalam Rumah Tangga untuk Mendukung Pembangunan Berkelanjutan di Kota Tasikmalaya*. *5*(January), 75–90.

Anggraeni, D. D., Mulyanti, S., Budiawan, H., Muksin, A., & Handayani, H. (2025). *The Relationship Between Maternal Knowledge and Attitude Towards Stunting Prevention Efforts and the Incidence of Stunting in Toddlers*. *7*(1), 194–202. https://doi.org/10.35568/healthcare.v7i1.5903

Aryani, A., Herawati, V. D., Mufidah, N., & Eriyanti, E. (2024). *The Effect Of Health Education On Nutrition On Increasing Mothers ' Knowledge In Preventing Stunting In Children*. *2*(1).

Asmara, R., Astuti, S. P., Nasytha, S. R., & Petersen, Z. (2024). *Paediatrica Indonesiana*. *64*(6).

Astuti, D. A., & Romero, C. (2023). *An Overview of the Family Assistance Team's Role in Stunting Prevention in an Integrated Health Post*. *2*(03), 140–147. https://doi.org/10.56741/jphs.v2i03.390

Atamou, L., Rahmadiyah, D. C., & Hassan, H. (2023). *Analysis of the Determinants of Stunting among Children Aged below Five Years in Stunting Locus Villages in Indonesia*. 1–12.

Azizah, N., Rizki, K., & Seni, W. (2025). *Hubungan Pengetahuan Ibu dengan Kejadian Stunting pada Balita di Wilayah Kerja Puskesmas Krueng Barona Jaya*. *2*(September).

Erda, R., Badri, I. A., Gustina, N. Z., Putri, Y. D., & Novia, R. (2025). *Pemantauan Tumbuh Kembang Anak sebagai Upaya Pencegahan Stunting di Posyandu Bengkong Abadi Baru Kota Batam Child Growth and Development Monitoring as an Effort to Prevent Stunting at the Bengkong Abadi Baru Posyandu , Batam City*. *2*(April), 10–16.

Fadare, O., Id, M. A., Mavrotas, G., Akerele, D., & Ogunniyi, A. (2019). *Mother ' s nutrition-related knowledge and child nutrition outcomes : Empirical evidence from Nigeria*. 1–17.

Faizi, M., Rochmah, N., Hisbiyah, Y., Perwitasari, R. K., Fedora, K., & Lailatun, N. (2022). *Effectiveness of Health Education about Stunting Toward Improvement of Community Knowledge*. *3*(5), 778–781. https://doi.org/10.51542/ijscia.v3i5.18

Fajrianti, D., Yunitasari, E., & Pradanie, R. (2020). *The Correlation Between Personal Reference : Health Workers and Health Facilities with Parenting in Stunting Prevention*. *6*(2), 125–132.

Ginting, W. M., & Hutabarat, F. B. (2025). *Hubungan Pengetahuan Gizi Ibu dan Perilaku Ibu terhadap Status Gizi Balita di Puskesmas Perawatan Kota Blangkejeren The Relationship Between Maternal Nutritional Knowledge and Maternal Behavior on the Nutritional Status of Children Under Five at the Blangkejeren*

City Health Center. *c*, 561–566.

Hanifah, L., & Astuti, A. W. (2023). *Jurnal Aisyah : Jurnal Ilmu Kesehatan Promotive and Preventive Efforts of Health Workers in Reducing Stunting : A Scoping Review*. *8*(1), 297–308. https://doi.org/10.30604/jika.v8i1.1603

Juniarti, N., Alsharaydeh, E., Windani, C., Sari, M., Yani, D. I., & Hutton, A. (2025). *Determinant factors influencing stunting prevention behaviors among working mothers in West Java Province , Indonesia : a cross-sectional study*.

Kartini, S., Bagenda, E. F., Hartati, S., Prodi, S., Fakultas, K., Kurnia, U., & Persada, J. (2025). *Pengaruh Edukasi Kesehatan Terhadap Pengetahuan Ibu Tentang Pencegahan Stunting Pada Balita*.

Lotaan, A. (2025). *Parental assistance in nutrition management of stunting toddlers through home care nursing visits*. *2*, 128–136.

Maria, S., Ps, L., Tiara, A., & Tarigan, A. A. (2025). *Effectiveness of Community-Based Nutrition Interventions in Preventing Stunting and Malnutrition in Toddlers : A Literature Review*.

Masilela, L. N., & Modjadji, P. (2023). *Child Nutrition Outcomes and Maternal Nutrition-Related Knowledge in Rural Localities of Mbombela , South Africa*. 1–17.

Mistry, S. K., Hossain, B., & Arora, A. (2019). *Maternal nutrition counselling is associated with reduced stunting prevalence and improved feeding practices in early childhood : a post-program comparison study*. 1–9.

Mulyani, A. T., Khairinisa, M. A., & Khatib, A. (2025). *Understanding Stunting : Impact , Causes , and Strategy to Accelerate Stunting Reduction — A Narrative Review*.

Qoyimah, A. U., Shaluhiyah, Z., & Winarni, S. (2024). *Maternal Factors as Determinants of Stunting in Children under the Age of Five : Scoping Review*. *12*(2), 254–263. https://doi.org/10.20473/jpk.V12.I2.2024.254-263

Siagian, E., & Ramschie, P. A. (2024). *The Influence of Mother ' s Knowledge of Toddler Nutrition on Their Knowledge and Attitudes Towards Stunting*. *17*(2), 180–188.

Siregar, M., & Satria, A. A. (2024). *Analysis of Risk Factors for Stunting Incidents in Posyandu , Hanopan Puskesmas Area , Arse District , South Tapanuli Regency , 2022*. *3*(May), 528–539.

Soviyati, E., Sulaeman, E. S., Sugihardjo, I., & Wiboworini, B. (2023). *Effect of applying the health promotion model in stunting prevention and behavior control in Indonesia*. 1–9. https://doi.org/10.4103/jehp.jehp

Tyarini, I. A., & Mulat, T. C. (2025). *Optimization of the role of community midwives in maternal nutrition education to prevent stunting during the first 1000 days of life*. *2*, 137–144.

Wulansari, E. (2025). *Original Article Maternal Knowledge of Stunting in Toddlers : A Cross-Sectional Study in Indonesia Implications for Practice :* *7*(3), 531–537.