JKM (Jurnal Kebidanan Malahayati), Vol 12, No. 6. June 2026,
ISSN (Print) 2476-8944 ISSN (Online) 2579-762X, Hal 345-352

THE RELATIONSHIP BETWEEN MATERNAL ANEMIA HISTORY AND EXCLUSIVE BREASTFEEDING WITH STUNTING INCIDANCE AMONG TODDLERS IN HADIMULYO VILLAGE

Nindi Pramela Okviana[1], Islamiyati Islamiyati[2], Ika Oktaviani[3]

[1,2,3] Poltekkes Kemenkes Tanjungkarang
Email: nindipramelaokviana8@gmail.com

ABSTRAK : HUBUNGAN RIWAYAT ANEMIA KEHAMILAN DAN PEMBERIAN ASI EKSKLUSIF DENGAN KEJADIAN STUNTING PADA BALITA DI KELURAHAN HADIMULYO BARAT

Stunting merupakan masalah kesehatan masyarakat yang berdampak terhadap pertumbuhan fisik, perkembangan kognitif, dan produktivitas sumber daya manusia di masa depan. UNICEF melaporkan sebanyak 148,1 juta balita mengalami stunting di seluruh dunia. Survei Kesehatan Indonesia tahun 2023 menunjukkan prevalensi stunting nasional sebesar 21,5%, sedangkan prevalensi stunting di Provinsi Lampung sebesar 14,9%. Riwayat anemia selama kehamilan dan pemberian ASI eksklusif merupakan faktor yang diduga berhubungan dengan status stunting pada balita. Penelitian ini bertujuan untuk menganalisis hubungan riwayat anemia selama kehamilan dan pemberian ASI eksklusif dengan status stunting pada balita di Kelurahan Hadimulyo Barat. Penelitian ini menggunakan desain observasional analitik dengan pendekatan case-control. Penelitian dilaksanakan di Kelurahan Hadimulyo Barat pada Mei 2025. Sampel berjumlah 84 balita yang terdiri dari 42 kasus (stunting) dan 42 kontrol (tidak stunting), dipilih menggunakan teknik consecutive sampling. Variabel independen adalah riwayat anemia selama kehamilan dan riwayat pemberian ASI eksklusif, sedangkan variabel dependen adalah status stunting. Analisis data dilakukan menggunakan uji chi-square dengan tingkat kepercayaan 95%. Hasil penelitian menunjukkan proporsi balita dengan riwayat anemia selama kehamilan sebesar 26,19% dan riwayat ASI eksklusif sebesar 47,62%. Terdapat hubungan yang signifikan antara riwayat anemia selama kehamilan dengan status stunting (p = 0,013; OR = 3,692; 95% CI: 1,273–10,714). Selain itu, terdapat hubungan yang signifikan antara riwayat pemberian ASI eksklusif dengan status stunting (p < 0,001; OR = 6,287; 95% CI: 2,433–16,244). Disimpulkan bahwa riwayat anemia selama kehamilan dan tidak mendapatkan ASI eksklusif berhubungan dengan peningkatan peluang terjadinya stunting pada balita. Hasil penelitian ini dapat menjadi dasar dalam memperkuat upaya pencegahan stunting melalui pencegahan anemia pada ibu hamil dan peningkatan cakupan ASI eksklusif.

Kata Kunci : Stunting, Anemia Kehamilan, ASI Eksklusif, Balita

ABSTRACT

Stunting remains a major public health problem affecting physical growth, cognitive development, and future human productivity. UNICEF reported that 148.1 million under-five children worldwide were stunted. The 2023 Indonesian Health Survey reported a national stunting prevalence of 21.5%, while the prevalence in Lampung Province was 14.9%. A history of anemia during pregnancy and exclusive breastfeeding are factors that may be associated with stunting among toddlers. This study aimed to analyze the relationship between a history of anemia during pregnancy, exclusive breastfeeding, and stunting among toddlers in Hadimulyo Barat Village. This analytical observational study employed a case-control design. The study was conducted in Hadimulyo Barat Village in May 2025. A total of 84 toddlers were included, consisting of 42 stunted toddlers (cases) and 42 non-stunted toddlers (controls), selected using consecutive sampling. The independent variables were a history of anemia during pregnancy and exclusive breastfeeding, while the dependent variable was stunting status. Data were analyzed using the chi-square test with a 95% confidence level. The proportion of toddlers with a history of maternal anemia during pregnancy was 26.19%, while 47.62% had received exclusive breastfeeding. A significant association was found between a history of anemia during pregnancy and stunting status (p = 0.013; OR = 3.692; 95% CI: 1.273–10.714). A significant association was also found between exclusive breastfeeding and stunting status (p < 0.001; OR = 6.287; 95% CI: 2.433–16.244). In conclusion, a history of anemia during pregnancy and non-exclusive breastfeeding were significantly associated with higher odds of stunting among

toddlers. These findings highlight the importance of preventing maternal anemia and promoting exclusive breastfeeding as part of stunting prevention strategies.

Keywords : stunting, anemia during pregnancy, exclusive breastfeeding, toddlers

INTRODUCTION

Stunting remains a major public health problem that affects physical growth, cognitive development, educational achievement, and future productivity. Stunting is defined as a condition in which a child has a height-for-age Z-score below -2 standard deviations according to the World Health Organization (WHO) Child Growth Standards. This condition results from chronic nutritional deficiencies and recurrent infections occurring during the first 1,000 days of life, a critical period for growth and development. Children who experience stunting are at greater risk of impaired cognitive development, poor educational outcomes, reduced work productivity, and chronic diseases in adulthood (Kemenkes RI, 2023c).

According to UNICEF and WHO, approximately 148.1 million children under five years of age worldwide were affected by stunting in 2023. In Indonesia, stunting remains a significant public health challenge despite a gradual decline in prevalence over recent years. The Indonesian Health Survey (*Survei Kesehatan Indonesia/SKI*) 2023 reported a national stunting prevalence of 21.5%, indicating that the prevalence remains above the WHO threshold for a public health problem (Kemenkes RI, 2024). In Lampung Province, the prevalence of stunting was reported as 14.9% in 2023 and increased to 15.9% in 2024 according to provincial government reports. Although the prevalence in Metro City was lower than the provincial average, stunting remains an important public health concern, particularly in areas with persistent cases.

Data from the Yosomulyo Community Health Center showed that Hadimulyo Barat Village had the highest proportion of stunting cases among the villages within its service area. Preliminary data indicated that 7.91% of under-five children in Hadimulyo Barat Village experienced stunting. These findings highlight the need to identify modifiable risk factors that may contribute to the occurrence of stunting in this community.

The etiology of stunting is multifactorial and involves factors occurring before conception, during pregnancy, and throughout early childhood. One important maternal factor is anemia during pregnancy. Maternal anemia, particularly iron deficiency anemia, can impair oxygen and nutrient delivery to the fetus through reduced hemoglobin concentration and compromised placental function. This condition may restrict fetal growth and development, increase the risk of low birth weight, and contribute to growth faltering that eventually leads to stunting during childhood (Candra, 2020).

Another important determinant of child growth is exclusive breastfeeding. Breast milk provides complete nutrition, growth factors, and immunological components that support optimal growth and development during infancy. Exclusive breastfeeding also strengthens the infant's immune system and reduces the risk of recurrent infections, which are known contributors to impaired growth and stunting. Therefore, exclusive breastfeeding is recognized as one of the key interventions for preventing stunting during the first six months of life (Kemenkes RI, 2019; Wijaya, 2019).

Previous studies have demonstrated significant associations between maternal anemia during pregnancy, exclusive breastfeeding, and stunting. Amelia et al. (2024) reported that maternal anemia during pregnancy was significantly associated with stunting (OR = 6.643; p = 0.004). Similarly, Krisnawaty et al. (2023) found that children who were not exclusively breastfed had a higher risk of stunting than those who received exclusive breastfeeding (OR = 2.417; p = 0.029). These findings suggest that maternal nutritional status during pregnancy and infant feeding practices play important roles in determining child growth outcomes.

Despite growing evidence regarding these factors, studies examining the combined relationship between a history of anemia during pregnancy and exclusive breastfeeding with stunting among toddlers at the local level remain limited. In particular, no previous case-control study has specifically investigated these two factors in Hadimulyo Barat Village, an area with the highest proportion of stunting cases within the Yosomulyo Community Health Center service area. This study therefore provides local evidence that may support more targeted stunting prevention programs.

Based on the above background, the research problem addressed in this study is whether a history of anemia during pregnancy and exclusive breastfeeding are associated with stunting among toddlers in Hadimulyo Barat Village. Therefore, this

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

study aimed to analyze the relationship between a history of anemia during pregnancy and exclusive breastfeeding with stunting among toddlers in Hadimulyo Barat Village.

RESEARCH METHODS

This analytical observational study employed a case-control design and was conducted in Hadimulyo Barat Village, Metro City, Lampung Province, from 3 to 26 May 2025. The study population consisted of 531 toddlers residing in the study area. A total of 84 respondents were selected using consecutive sampling, comprising 42 cases (stunted toddlers) and 42 controls (non-stunted toddlers), with a 1:1 ratio. Cases were defined as toddlers aged 24–59 months with Height-for-Age Z-score (HAZ) < -2 SD according to the Indonesian Child Anthropometric Standards, while controls were toddlers with HAZ ≥ -2 SD from the same source population. No matching was performed between the case and control groups. Toddlers with congenital abnormalities, chronic diseases affecting growth, or incomplete records were excluded.

The independent variables were a history of maternal anemia during pregnancy and exclusive breastfeeding, while the dependent variable was stunting status. Maternal anemia during pregnancy was defined as hemoglobin (Hb) levels <11 g/dL during pregnancy based on records in the Maternal and Child Health (MCH) Book. Exclusive breastfeeding was defined as the provision of breast milk only for the first six months of life without additional food or beverages, except medicines and vitamin/mineral supplements. Data were collected through interviews using structured questionnaires and documentation review of MCH Books and health records. Data were analyzed using SPSS software. Univariate analysis was performed to describe the distribution of variables, while bivariate analysis was conducted using the Chi-square test with a 95% confidence level. Associations were presented as Odds Ratios (ORs) with 95% Confidence Intervals (95% CI). As only bivariate analysis was performed, potential confounding factors were not controlled.

This study received ethical approval from the Health Research Ethics Committee of Poltekkes Kemenkes Tanjungkarang (No. 260/KEPK-TJK/V/2025). Written informed consent was obtained from all respondents' parents or guardians, and participant confidentiality was maintained throughout the study.

RESEARCH RESULTS

Respondent Characteristics

Table 1
Respondent Characteristics

Characteristics	Cases (n=42)	%	Controls (n=42)	%	Total (n=84)	%
Child's Sex						
Male	23	54.8	25	59.5	48	57.1
Female	19	45.2	17	40.5	36	42.9
Child's Age						
24–36 months	23	54.8	13	31.0	36	42.9
37–48 months	12	28.6	17	40.5	29	34.5
49–60 months	7	16.7	12	28.6	19	22.6
Mother's Education						
Elementary School	13	31.0	9	21.4	22	26.2
Junior High School	17	40.5	9	21.4	26	31.0
Senior High School	12	28.6	19	45.2	31	36.9
Associate Degree	0	0.0	1	2.4	1	1.2
Bachelor's Degree	0	0.0	4	9.5	4	4.8
Mother's Employment						
Employed	4	9.5	10	23.8	14	16.7
Unemployed/Housewife	38	90.5	32	76.2	70	83.3

Table 1 shows the characteristics of the 84 respondents included in the study, consisting of 42 cases and 42 controls. Overall, the majority of children were male (57.1%), while females accounted for 42.9%. The largest age group was 24–36 months (42.9%), followed by 37–48 months (34.5%) and 49–60 months (22.6%).

Regarding maternal characteristics, most mothers had completed senior high school education (36.9%), followed by junior high school (31.0%) and elementary school (26.2%). Only a small proportion

had higher education qualifications. In terms of employment status, the majority of mothers were unemployed or housewives (83.3%), whereas 16.7% were employed.

Distribution History of Anemia During Pregnancy in Hadimulyo Barat Subdistrict

The results of this study showed that among stunted toddlers, 38.1% had a history of maternal anemia during pregnancy, whereas the proportion was lower among non-stunted toddlers. These findings indicate that a history of maternal anemia during pregnancy was more common among stunted children than among non-stunted children. However, the proportion observed in this study was lower than that reported by Pasalina et al. (2024), who found that 48.0% of stunted children had a history of maternal anemia. Similarly, Senjayani et al. (2024) reported that 61.8% of stunted children had a history of anemia during pregnancy.

Table 2
Prevalence of Anemia During Pregnancy

History of Anemia During Pregnancy	Stunting (Cases)		Non Stunting (Control)	
	n	%	n	%
Anemia	16	38,10	6	14,30
Non Anemia	26	61,90	36	85,70

Differences in the proportion of maternal anemia among stunted children across studies may be related to variations in study design, sampling methods, population characteristics, and local health conditions. Senjayani et al. (2024) used a cross-sectional design with purposive sampling, whereas the present study employed a case-control design with consecutive sampling. These methodological differences may contribute to variations in the distribution of exposure and outcome variables. Nevertheless, both studies consistently demonstrated a significant association between maternal anemia during pregnancy and stunting.

The findings of this study suggest that maternal anemia during pregnancy is associated with increased odds of stunting among toddlers. Biologically, anemia during pregnancy may reduce the oxygen- and nutrient-carrying capacity of maternal blood, potentially impairing placental function and fetal growth. Inadequate fetal growth may contribute to low birth weight and subsequent growth faltering, which are recognized risk factors for stunting. Therefore, efforts to prevent anemia during pregnancy through adequate nutrition, iron supplementation, routine antenatal care, and regular hemoglobin screening remain important components of stunting prevention programs.

The findings should be interpreted with caution because this study used a retrospective case-control design. Information on maternal anemia was obtained from Maternal and Child Health (MCH) Books and available health records; therefore, incomplete documentation may have introduced information bias. In addition, although the use of documented records reduced recall bias compared with self-reported information, the possibility of misclassification cannot be completely excluded. Furthermore, this study only employed bivariate analysis and did not control for potential confounding factors such as birth weight, maternal nutritional status, socioeconomic conditions, infectious diseases, complementary feeding practices, and environmental sanitation. Consequently, the observed association may have been influenced by factors not measured in this study. Future studies are recommended to apply multivariable analyses to better assess the independent contribution of maternal anemia during pregnancy to stunting among toddlers.

The Rate of Exclusive Breastfeeding in Hadimulyo Barat Subdistrict

Based on the results of the study, it was found that among children with stunting who had a history of exclusive breastfeeding, more than a quarter (73.80%) of the respondents with stunting did not have a history of exclusive breastfeeding, compared to children without stunting. Additionally, children who experienced stunting but had a history of exclusive breastfeeding accounted for just under a quarter (26.20%). These findings are lower than those reported by Lushinta et al. (2024) at the Sungai Kapih Community Health Center, which used the same research design and found that 33 (91.6%) children with stunting did not receive breast milk, whereas this study found that just over a quarter (73.80%) of children with stunting did not receive exclusive breastfeeding. The findings of this study are higher compared to a study conducted by Pramulya et al. (2021: 38) at the Selompang Community Health Center in Temanggung Regency;

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

with a different study design, 38 (71.7%) children with stunting were not exclusively breastfed.

Table 3
The Rate of Exclusive Breastfeeding

History of Exclusive Breastfeeding	Stunting (Cases)		Non Stunting (Control)	
	n	%	n	%
Non-exclusive breastfeeding	31	73,80	13	31,00
Exclusive Breastfeeding	11	26,20	29	69,00

Variations can be found when comparing the results with the study by Lushinta et al. (2024), which showed that a quarter more (91.6%) of children had a history of exclusive breastfeeding associated with stunting, whereas in this study, a quarter more (73.80%) of children had a history of exclusive breastfeeding associated with stunting. This similarity in results may be due to the similarity in study design (Lushinta et al., 2024) used a case control study with purposive sampling, which tends to capture a high risk population, while this study used a case control study with consecutive sampling, which balances the number of cases and controls to measure the strength of the relationship between variables, rather than prevalence. Although both studies demonstrate a significant association between a history of exclusive breastfeeding and stunting, the high proportion of risk factors in (Lushinta et al., 2024) is the primary reason for the high prevalence of stunting observed.

The study shows that children who are not exclusively breastfed have a higher prevalence of stunting compared to those who are exclusively breastfed. This research confirms that optimal breastfeeding during the first six months of life is a crucial foundation for supporting a child's overall growth and development. Exclusive breastfeeding not only provides essential macronutrients and micronutrients but also contains immunological factors that protect infants from recurrent infections that can interfere with growth. Failure to provide exclusive breastfeeding is often caused by a lack of maternal understanding, limited family support, and social or cultural barriers in the surrounding environment. Therefore, increasing exclusive breastfeeding rates needs a holistic approach, including breastfeeding education starting during pregnancy, training for health workers, and creating an environment that supports breastfeeding mothers both at home and at work. A cross sectoral approach involving community leaders, the media, and women's organizations can strengthen advocacy for the importance of exclusive breastfeeding.

The Correlation Between a History of Anemia During Pregnancy and the Incidence of Stunting Among Children in Hadimulyo Barat Subdistrict

According to the results in Table 4, among the 42 respondents who were diagnosed with stunting, 38.10% also had pregnancy related anemia. Meanwhile, among the 42 children who were not diagnosed with stunting but had pregnancy related anemia, the rate was 14.30.

Table 4
Analysis of the Correlation between History of Anemia During Pregnancy and the Incidence of Stunting in Children

History of Anemia During Pregnancy	Stunting						P Value	OR Value	95% CI
	Stunting		Non Stunting		Total				
	n	%	n	%	n	%			
Anemia	16	38,10	6	14,30	22	26,19	0,013	3,692	1.273-10.714
Non Anemia	26	61,90	36	85,70	62	73,81			

The chi-square test yielded a p value of 0.013 ($p < 0.05$), indicating a significant association between a history of pregnancy related anemia and the rate of stunting among children in Hadimulyo Barat. The results of the analysis further support this finding, with an OR (Odds Ratio) of 3.692, indicating that mothers with a history of pregnancy related anemia have a 3.692 times higher risk of their infants experiencing stunting compared to

mothers without a history of pregnancy related anemia.

Pregnancy anemia is a major contributing factor to stunting. Anemia in pregnant women, particularly caused by iron deficiency, can affect fetal growth and development in the uterus. Inadequate intake of micronutrients such as iron, folic acid, and vitamin B12 affects placental quality and oxygen supply to the fetus, which can lead to the risk of low birth weight (LBW), growth retardation, and stunting. Anemia is a condition characterized by a reduction in the number of red blood cells or hemoglobin in the body below normal levels, preventing the blood from adequately fulfilling its function of delivering sufficient oxygen to peripheral tissues, resulting in a decrease in the delivery of oxygen and nutrients to the tissues (Sumarmi, 2021: 206).

This study supports previous research conducted by Pebrianti et al. (2023) at the Caringin Community Health Center in Bogor Regency, which used a different study design and found that there is an association between a history of anemia during pregnancy and the incidence of stunting, specifically stunting was more prevalent among children with mothers who had a history of pregnancy related anemia (38.9%) compared to those whose mothers did not have such a history (10.0%). The chi-square test yielded a p-value of 0.000 and an odds ratio (OR) of 6.634, indicating that mothers who experienced anemia during pregnancy were 6.634 times more likely to have a child with stunting than mothers who did not have anemia during pregnancy. This study also supports a previous study conducted by Syswianti et al. (2023) in the service area of the Guntur Community Health Center, which stated that there is an association between a history of anemia during pregnancy and the incidence of stunting in children, with a chi-square test yielding a p-value of 0.012; OR = 3.600), indicating that infants whose mothers had a history of anemia during pregnancy were 3.600 times more likely to experience stunting compared to infants whose mothers did not have a history of anemia during pregnancy. However, the main difference lay in the odds ratio, where this study showed a lower OR. This may be due to the fact that hemoglobin levels in cases of pregnancy related anemia were not specifically analyzed.

The study shows that a history of anemia during pregnancy significantly increases the risk of stunting in infants. The findings of this study can serve as a foundation for primary prevention through improving the overall health status of pregnant women. This study also adds to the contextual evidence in Indonesia, particularly at the household level, that a mother's nutritional status during pregnancy plays a crucial role in determining optimal child growth and development.

The Correlation Between a History of Exclusive Breastfeeding and the Frequency of Stunting Among Children in Hadimulyo Barat Subdistrict

According to Table 5, among the 42 stunted toddlers, 31 (73.80%) had not received exclusive breastfeeding, whereas 11 (26.20%) had received exclusive breastfeeding. Among the 42 non-stunted toddlers, 13 (31.00%) had not received exclusive breastfeeding and 29 (69.00%) had received exclusive breastfeeding.

Table 5
Analysis of the Correlation Between a History of Exclusive Breastfeeding and the Frequency of Stunting Among Children

History of Exclusive Breastfeeding	Stunting						P Value	OR Value	95% CI
	Stunting		Non-Stunting		Total				
	n	%	n	%	n	%			
Non-exclusive breastfeeding	31	73,80	13	31,00	44	52,40	0,001	6,287	2.433-16.244
Exclusive breastfeeding	11	26,20	29	69,00	40	47,60			

The Chi-square test showed a statistically significant association between a history of exclusive breastfeeding and stunting among toddlers in Hadimulyo Barat Village ($p < 0.001$). The estimated Odds Ratio (OR) was 6.287 (95% CI: 2.433–16.244), indicating that toddlers who did not receive exclusive breastfeeding had 6.287 times higher odds of experiencing stunting than toddlers who received exclusive breastfeeding.

Exclusive breastfeeding during the first six months of life is one of the key interventions for preventing stunting because breast milk provides complete nutrients and bioactive components that support optimal growth and development. In addition, breast milk contains antibodies and

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

immunological factors that strengthen the infant's immune system and reduce the risk of recurrent infections, which are known contributors to growth faltering and stunting.

The findings of this study are consistent with those of Lestari et al. (2023), who reported a significant association between exclusive breastfeeding and stunting ($p < 0.001$; OR = 11.175), indicating that children who did not receive exclusive breastfeeding had higher odds of stunting than those who received exclusive breastfeeding. Similarly, Pramulya et al. (2021) found a significant association between breastfeeding history and stunting among children aged 24–60 months ($p = 0.0001$), with a greater proportion of stunted children having not received exclusive breastfeeding.

The present study found that toddlers who did not receive exclusive breastfeeding had 6.287 times higher odds of experiencing stunting compared with toddlers who received exclusive breastfeeding (OR = 6.287; 95% CI: 2.433–16.244). These findings indicate that the absence of exclusive breastfeeding is associated with an increased likelihood of stunting. Exclusive breastfeeding may contribute to optimal growth through adequate nutrient intake, immune protection, and a reduced risk of recurrent infections during infancy.

Although this study identified a significant association between maternal anemia during pregnancy, exclusive breastfeeding, and stunting, several maternal and child factors were not examined. The study did not assess the severity of maternal anemia, the trimester during which anemia occurred, adherence to iron (Fe) supplementation, maternal nutritional status during pregnancy, or other pregnancy-related conditions that may influence fetal growth and subsequent child nutritional status. Differences in these factors may partly explain why the magnitude of association observed in this study differs from that reported in previous studies. Future research should incorporate these variables to better understand the pathways linking maternal health, infant feeding practices, and stunting.

These findings support the importance of promoting and strengthening exclusive breastfeeding practices during the first six months of life as part of comprehensive stunting prevention programs. However, the results should be interpreted as evidence of an association rather than causation because of the observational case-control design employed in this study.

CONCLUSION

This study found a significant association between a history of maternal anemia during pregnancy and stunting among toddlers in Hadimulyo Barat Village. Toddlers whose mothers had a history of anemia during pregnancy had higher odds of stunting (OR = 3.692). In addition, the absence of exclusive breastfeeding was significantly associated with stunting, with toddlers who were not exclusively breastfed having higher odds of stunting than those who received exclusive breastfeeding (OR = 6.287). These findings suggest that maternal health during pregnancy and optimal infant feeding practices are important factors associated with stunting. Strengthening anemia prevention efforts during pregnancy and promoting exclusive breastfeeding may support stunting prevention programs in the community.

SUGGESTION

Healthcare workers and community health centers are encouraged to strengthen stunting prevention efforts through routine hemoglobin (Hb) screening during antenatal care, monitoring compliance with iron supplementation, providing nutrition education for pregnant women, and optimizing maternal classes. Breastfeeding counseling should begin during pregnancy and continue postpartum, with support from families to promote exclusive breastfeeding. In addition, Posyandu services should be strengthened through regular growth monitoring and early detection of growth faltering.

Future studies are recommended to include additional variables such as low birth weight, maternal nutritional status, infectious diseases, complementary feeding practices, sanitation, and socioeconomic factors. The use of multivariable logistic regression and stronger epidemiological designs, such as cohort studies or matched case-control studies, is also recommended to better control potential confounding factors.

REFERENCES

Amelia, S. R., Sari, A., & Rindu, R. (2024). Hubungan ASI eksklusif, riwayat penyakit infeksi pada balita dan anemia pada ibu saat hamil dengan kejadian stunting. *Open Access Jakarta Journal of Health Sciences, 3*(5), 1220–1227. https://doi.org/10.53801/oajjhs.v3i5.264

Arbani, T., Saleh, M., Putri, A. O., Noor, M. S., Fakhriyah, Qadrinnisa, R., Amaliah, S. K., Kasmawardah, I., Abdurrahman, M. H., Ridwan, A. M., Fitriani, L., & Arsyad, M.

(2022). *Buku ajar stunting dan permasalahannya*. Universitas Lambung Mangkurat.

Candra, A. (2020). *Epidemiologi stunting*. Fakultas Kedokteran Universitas Diponegoro.

Herlina, S., Sartika, W., & Qomariah, S. (2024). Pengaruh riwayat pemberian ASI eksklusif terhadap kejadian stunting pada balita. *Journal of Public Health Sciences, 13*(1), 119–128.

Krisnawaty, A., Trisnawati, E., Widyastutik, O., & Alamsyah, D. (2023). Riwayat KEK ibu dan pemberian MP-ASI sebagai penentu utama stunting di Kabupaten Kubu Raya. *Media Publikasi Promosi Kesehatan Indonesia, 6*(9), 1846–1853. https://doi.org/10.56338/mppki.v6i9.3606

Lestari, R. R., Zurrahmi, Z. R., & Hardianti, S. (2023). Pengaruh riwayat pemberian ASI eksklusif dengan kejadian stunting pada ibu balita usia 6–24 bulan di Desa Gading Sari Kecamatan Tapung Tahun 2022. *Jurnal Ners, 7*(1).

Maryuni, Handayani, L., & Trustisari, H. (2024). *BUTANTING: Buku pintar cegah stunting*. BFS Medika.

Ministry of Health of the Republic of Indonesia. (2022). *Child anthropometric standards (Minister of Health Regulation No. 2 of 2020)*. https://hukor.kemkes.go.id

Ministry of Health of the Republic of Indonesia. (2023a). *Maternal and child health handbook*. Ministry of Health of the Republic of Indonesia.

Ministry of Health of the Republic of Indonesia. (2023b). *Pocket book for anemia prevention among pregnant women and adolescent girls*. Ministry of Health of the Republic of Indonesia.

Ministry of Health of the Republic of Indonesia. (2023c). *Understanding stunting*. https://yankes.kemkes.go.id/view_artikel/2657/mengenal-lebih-jauh-tentang-stunting

Ministry of Health of the Republic of Indonesia. (2024). *Indonesian Health Survey 2023*. Ministry of Health of the Republic of Indonesia.

Pasalina, P. E., Ihsan, H. F., & Devita, H. (2023). Hubungan riwayat anemia kehamilan dengan kejadian stunting pada balita. *Jurnal Kesehatan*.

Pebrianti, A., & Nasel, F. A. (2023). Hubungan riwayat anemia saat kehamilan dengan kejadian stunting pada balita di Desa Lemah Duhur Puskesmas Caringin Kabupaten Bogor. *Jurnal Farmapedia, 1*(2).

Pramulya, I., Wijayanti, F., & Saparwati, M. (2021). Hubungan pemberian ASI eksklusif dengan kejadian stunting pada balita usia 24–60 bulan. *Jurnal Kesehatan Kusuma Husada*.

Purwitaningtyas, R., & Paramitha, I. A. (2024). Hubungan riwayat anemia dan kekurangan energi kronis ibu saat hamil dengan kejadian stunting pada balita di wilayah kerja Puskesmas Buaran Tahun 2023. *Cendekia: Jurnal Ilmu Pengetahuan, 4*(2).

Rahmawati, Kirana, R., Laili, F. J., & Isnaniah. (2025). Hubungan kejadian anemia pada ibu hamil dengan kejadian stunting di wilayah kerja Puskesmas Pekapuran Raya. *Jurnal Penelitian Multidisiplin Bangsa, 1*(8).

Samsuddin, Agusanty, S. F., Desmawati, Bahriyah, L. F. K. F., Wati, I., Ulva, S. M., Laili, U. P. A. U., Malik, M. F., Purwadi, H. N., & Ernawati, Y. (2023). *Stunting*. Eureka Medika Aksara.

Sari, F., Flora, R., Syakurah, R. A., Ocktariyana, Tanung, R., & Yuliana, I. (2022). Hubungan pemberian ASI eksklusif dan keragaman konsumsi pangan ibu dengan kejadian stunting pada balita di Kabupaten Muaro Jambi. *Jurnal Ilmu Kesehatan Society, 4*(1), 123–128.

Sumarmi, & Mantasia. (2021). Hubungan riwayat anemia kehamilan dengan kejadian stunting pada batita di wilayah kerja Puskesmas Galesong Kabupaten Takalar. *Jurnal Ilmiah Keperawatan, 8*(1).

UNICEF, World Health Organization, & World Bank. (2023). *Levels and trends in child malnutrition: Key findings of the 2023 edition*. UNICEF.

Wibowo, N., Irwinda, R., & Hiksas, R. (2021). *Anemia defisiensi besi pada kehamilan*. Universitas Indonesia Publishing.