Correlation of Stunting Determinants Among Children Under Five

Iin Setiawati*, Dana Daniati, Selvia Nurul Qomari
Noor Huda Mustofa University, Midwifery Professional Study Program, Bangkalan, East Java Indonesia
*Email: iensetia@gmail.com

ARTICLE INFO

Article History

Received: August 13rd , 2025

Revised: January 8th , 2026

Accepted: February 4th , 2026

Keywords: History of Anemia, History of CED, History of LBW, Nutritional Status, Stunting.

ABSTRACT

Malnutrition in Indonesia is a health problem that the government has yet to fully address. East Java's achievement for stunting is 7.51%, which is above the Nutrition and MCH Program Indicator Target for stunting in 2023 of 18.4%. The prevalence of stunting in Bangkalan was 26.2% in 2022, and decreased to 10.2% in 2023. The objective is to examine the relationship between the factors that contribute to stunting in Bangkalan. The research method used correlation analysis with a cross-sectional approach, where the independent variables and dependent variables were collected at the same time. Variables are gender of infants, nutritional status of infants, history of LBW, history of maternal anemia and CED, and stunting; research sample: 398 infants with cluster sampling technique. Research instruments: observation sheets and interviews. Regression and multivariate statistical tests were used, using logistic regression. Statistical tests for gender with stunting incidence: $\rho>0.05$, LBW history with stunting incidence: $\rho>0.05$, nutritional status with stunting incidence: $\rho<0.05$, anemia history with stunting incidence: $\rho<0.05$, and CED history with stunting incidence: $\rho<0.05$. The gender of the young child and the history of LBW has no relationship with stunting; nutritional status, history of maternal anemia, and CED has a relationship with stunting. The most influential factors are: Nutritional Status of Toddlers, Pregnant women's anemia history, the impact of sex on stunting in relation to toddlers' gender, and LBW's past

INTRODUCTION

This number still falls short of the WHO's aim of less than 20%, though. It is anticipated that Indonesia's stunting prevalence will decrease from 27.7% in 2019, 24.4% in 2021, and 21.6% in 2022, with children between the ages of three and four accounting for the bulk of cases, according to the Ministry of Health's report on the Indonesian Nutrition Status Study. As a result, the government is working to lower the stunting rate to 14% by 2024 and 17% by 2023. This shows that many young children in Indonesia are still chronically malnourished, and that years of government programs have failed to Deal with the issue. By the end

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

of 2022, 1,931 young children in Bangkalan were found to be stunted, while in 2021 it was 2,300 young children. The percentage reached 38.9 percent in 2021 and dropped to 26.2 percent in 2022. This means that during this period there was a decrease of 12.7% and in 2023 it decreased again to 10.2% (Dinas kesehatan Jawa Timur, 2023). Based on Bangkalan in 2024, it is known that the highest incidence of small children is in Tanjung Bumi, Bangkalan and Kokop sub-districts. Bangkalan which has the habit of eating without vegetables with salted fish side dishes and has a lot of abstinence from food, posing serious health risks to expectant mothers and the practice of providing boys' eating demands priority and supplemental foods before the age of six months. Although the stunting rate decreases every year, the Bangkalan Health Office hopes to achieve a stunting rate of 0%. Children will grow and develop quickly throughout the 1000 first day of life (FDL) period, which will have an impact on the quality of their future health. Important organs including the brain, heart, liver, kidneys, lungs, and bones form and develop while the infant is still within the womb (Ruaida, 2018). This development continues after the baby is born until two years after birth. Adequate nutritional intake needs to be considered not only during this period, but from the bride-to-be, the mother-to-be, the baby in utero to the child. Inadequate nutrition can lead to growth and developmental disorders in children, such as non-communicable diseases, inhibition of thinking skills, so that children are less intelligent and competitive, and have a short body or stunted growth (Sutriningish, Destri and Shaqinatunissa, 2019; Fibrianti *et al.*, 2024). In order to avoid stunting, it is crucial to maintain good health throughout pregnancy. The study lies in its integrated analysis of biological and maternal health factors namely gender, history of low birth weight (LBW), infant nutritional status, maternal anemia during pregnancy, and maternal chronic energy deficiency (CED) in relation to stunting prevalence in Bangkalan**.** Unlike previous studies that examined these factors separately, this study provides a comprehensive, region-specific assessment to better identify key determinants of stunting and support targeted intervention strategies. The purpose of this study is to investigate how gender, low birth

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

weight (LBW) history, infant nutritional status, history of anemia in pregnant, and history of maternal chronic energy deficiency (CED) relate to the prevalence of stunting on Bangkalan Regency.

RESEARCH METHODS

Study design

This kind of cross-sectional observational correlational quantitative study.

Sample/Participants/Informant

There were 79,600 toddlers in the Bangkalan district that made up the study population, using the Slovin formula n: N/1+N(α)2 Note N: population size with α 0.05, 79,600/1+79,600(0.05)^2, 79.600/200= 398 toodler (Wardhana, 2023). The study sample was 398 infants, cluster sampling technique. Inclusion criteria: toddlers registered in the register book, toddlers do not have congenital anomalies such as cleft lip, atresia ani, mothers have a maternal and child health (MCH) book, mothers are willing to be respondents. Stunting criteria: if the Z score is -3 SD to < -2 SD, it is called stunting; if the Z score is -2 SD to + 1SD, it is called normal or not stunting. CED criteria: if the upper arm circumference of pregnant women is < 23.5 cm, it is called CED, and if it is > 23.5 cm, it is not CED. Anemia criteria: if the Hb of a pregnant woman is < 10.5 grams/dl, it is called anemia, but if Hb> 10.5 grams/dl, it is called non-anemia. Nutritional status criteria: if the Z-score is -3 SD to > -2 SD, it is classified as malnutrition; if the Z-score is -2 SD to +1 SD, it is classified as normal nutritional status. This nutritional status is based on the weight and height of the toddler.

Instrument

The research instrument uses a fill sheet (structured observation) where what is observed has been determined according to the research variables in the form of (Weight, Height, Age, Gender of infants, History of LBW, History of Anemia, History of CED) (Abdullahi, Emenike and Doma, 2024). The instrument used was an observation sheet from a patented measuring device, so this research instrument was not tested for validity and reliability.

Data Sources

After obtaining permission from Agency for National Unity Politics and Community Protection Bangkalan and Bangkalan Health Office, collect data by coming to the health center to ask

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

permission to collect data according to the structured observation sheet. Data has been obtained then do data processing, namely editing, coding and tabulation. This activity was carried out for 4 weeks.

Data Collection Techniques

Data analysis was univariate (frequency distribution data) and bivariate using regression statistical tests and multivariate using logistic regression, Multicollinearity occurs when two or more independent variables are highly correlated with each other, which can distort the estimation of regression coefficients and weaken the interpretability of the model. In studies examining stunting determinants such as low birth weight (LBW), infant nutritional status, maternal anemia, and maternal chronic energy deficiency (CED) multicollinearity is a potential concern because these factors are biologically and socially interrelated. The goodness-of-fit test evaluates how well the statistical model explains the observed data. Since stunting is typically analyzed as a binary outcome (stunted vs. not stunted). Confounding occurs when the association between an independent variable and stunting is influenced by a third variable that is related to both. For example, socioeconomic status may affect both maternal nutritional status and child growth outcomes, thereby confounding the relationship between maternal CED and stunting. The research data were analyzed using IBM SPSS Statistic 25.

Ethical Clearance

This research already has an ethical license from Ngudia Husada Madura's high school of health education, namely number: 2312/KEPK/STIKES-NHM/EC/IV/2024. Then take care of the research permit to Politics and Community Protection Bangkalan with letter number 00.9.2/352/433.207/2024. Which was then submitted to the research site, namely Bangkalan, Tanjung Bumi and Kokop Health Centers.

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

RESULTS AND DISCUSSION

Results

Table 1. Frequency distribution of characteristics of toddlers aged 0-5 years in Bangkalan in relasion to incidence of stunting n: 398

Variable	*Frequency*	*Percentage*
Gender		
Male	182	45.7
Female	216	54.3
Total	398	100
History of LBW		
LBW	20	5
No LBW	378	95
Total	398	100
Nutrition Status		
Malnutrition	54	13.6
Normal	344	86.4
Total	398	100
Stunting		
Stunting	153	38.4
No stunting	245	61.6
Total	398	100

Table 1 shows that the majority of the babies are female, namely 216 infants (54.3%), almost all infants have no history of LBW, namely 378 infants (95%), almost all infants have normal nutritional status, namely 344 infants (86.4%).

Table 2. Frequency distribution of maternal health based on HB levels and upper arm circumference of pregnant women in Bangkalan in relation to stunting incidence n: 398

Variable	*Frequency*	*Percentage*
Incidence of anemia		
Anemic	93	23.4
Not anemic	305	76.6
Total	398	100
Incidence of CED		
CED	182	45.7
Not CED	216	54.3
Total	398	100

Table 2 demonstrates that most moms (216 mothers, 54.3%) do not have a history of CED, and nearly all mothers (305 mothers, 76.6%) do not have Anemia during pregnancy in the past.

Table 3. Bivariate analysis between stunting cases and toddler characteristics (gender, history of LBW and nutrition status) in Bangkalan district n: 398

Variable	Stuntig		Correlation Coefficient (r)	ρ value
	Stunting	No Stunting		
Gender Toodler				
Male	72 (47.1)	110 (44.9)	0.021	0.675
Famale	81 (52.9)	135 (55.1)		
History of LBW				
LBW	7 (4.6)	13 (5.3)	-0.016	0.746
Not LBW	146 (95.4)	232 (94.7)		
Nutrition Status				
Less	47 (30.7)	7 (2.9)	0.37	0.000
Normal	106 (69.3)	238 (97.1)		

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

History of anemia				
Anemia	47 (30.7)	46 (18.8)	0.137	0.006
No Anemia	106 (69.3)	199 (91.2)		
History of CED				
CED	126 (82.4)	56 (22.9)	0.581	0.000
No CED	27 (17.6)	189 (77.1)		

Table 3 shows that the majority of female toddlers who suffer from stunting are 81 toddlers (52.9%). Gender has a correlation value of r 0.021, However, the statistical test findings showed that there is no correlation between toddler gender and the frequency of stunting, with ρ> α (0.675>0.05). Almost all infants without a history of LBW experience stunting, namely 146 infants (95.4%), A history of LBW has a coefficient value of -0.016 for stunting, which means that a LBW has weak and negative correlation. The statistical According to test results, there is no connection between the history of LBW and the occurrence of stunting ρ>α (0.746>0.05). Up to 47 (30.7%) of young toddlers with inadequate nutritional status were stunted, nutritional status has a moderate correlation of r: 0.37, if the nutritional status of young children increases, the correlation will be more and more young children do not experience stunting. According to statistical testing, the prevalence of stunting is significantly correlated with the nutritional status of young children (ρ < α; 0.00 < 0.05). Only a small proportion of mothers had a history of anemia, while 47 toddlers (30.7%) were stunted. A history of maternal anemia during pregnancy showed a positive correlation with stunting (r = 0.137), indicating that as the number of pregnant women without anemia increases, the number of children who are not stunted also increases. The statistical test results showed ρ < α (0.006 < 0.05), confirming a significant correlation between stunting incidence and maternal anemia during pregnancy.

Furthermore, maternal chronic energy deficiency (CED) during pregnancy demonstrated a strong association with stunting (r = 0.581), with 126 children (82.4%) born to mothers with a history of CED experiencing stunted growth.

The number of young children who are not stunted is rising along with the number of pregnant mothers who are not CED. The statistical test results indicate a link between the occurrence

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

of stunting and the history of pregnant with CED (ρ <α (0.000<0.05)).

Tabel 4. Multivariate analysis between toddler characteristics, pregnant women's health history, and stunting incidence in Bangkalan, n: 398

Variable	B	S. E	Wald	Df	Sign.	Exp	95% C.I for Exp (B)	
							Lower	Upper
Gender	0.192	0.305	0.396	1	0.529	1.1212	0.666	2.203
LBW	-0.656	0.733	0.801	1	0.371	0.519	0.123	2.183
Nutrional Status	5.105	0.702	52.836	1	0.000	164.811	41.610	652.787
Anemia	2.390	0.554	18.645	1	0.000	10.917	3.689	32.307
CED	4.663	0.564	68.327	1	0.000	105.993	35.080	320.255

The coefficient value (B) shows the direction and magnitude of the influence of each variable (X), while the significance value (Sig) reflects the level of statistical significance of each variable (X). The gender variable has a coefficient value of 0.192 and a significant value of 0.529, whereas the LBW history variable has a coefficient value of -0.656 and a significant value of 0.371. The nutritional status variable has a coefficient value of 5.105 and a significance value of 0.000. The anemia history variable has a significance value of 0.000 and a coefficient value of 2.390. The CED variable has a significant value with a coefficient of 4.663. It means that nutritional status of infants, history of anemia and history of CED have better influence than other variables.

Discussed

1. Correlation of under-five gender with stunting

The findings revealed no connection between young children's gender and the prevalence of stunting. The results of this study are not consistent with Yuningsih (2022) and Setiawati (2022) who claim that most toddlers with short or extremely short conditions that are stunted are male.Gender and stunting are related, as evidenced by the bivariate analysis using the chi square statistical test, which produced a p-value of 0.04 (<0.05), indicating that Ha is accepted and Ho is rejected (Setiawati, Daniati and Widiastutik, 2022; Yuningsih, 2022). The nutrition that young infants receive during their growth is one of the elements that can influence the occurrence of stunting, despite variations in research findings. If the nutrition received by young children

will also be good growth and development. With a coefficient value 0.021 which means that gender has a weak relationship with the incidence of stunting, gender and the incidence of stunting are strongly correlated, meaning that a rise in one gender will result in an increase in stunting. Despite the statistical test's lack of correlation.

2. Correlation between LBW history with stunting

The findings demonstrated that there was no correlation between the occurrence of stunting and the history of LBW. This contrasts with the findings of Shiyvia's (2023) study, which indicates that the Chi-Square test findings with a significance threshold of 5% (α = 0.05) and a p-value of 0.022 (p <0.05) indicate a link between LBW and the incidence of stunting in toddlers. The Odds Ratio (OR) value of 4.333 indicated that toddlers with LBW were 4.333 times more likely than toddlers without LBW to experience incidences of stunting (Sholihah, 2023). Infants with a history of LBW growth and development can be the same as those without a history of LBW, because during the care parents provide excellent parenting, such as providing food intake according to the needs of LBW babies by giving lots of vitamins to increase their weight, so that their development and growth can be the same as those who are LBW. With an r : -0.016, there is a substantial link between the history of LBW and the incidence of stunting; that is, the lower the history of LBW, the lower the incidence of stunting. Despite statistical testing, there is no correlation between the occurrence of stunting and the history of LBW. these results are different from the results of a study that states the impact of low birth weight on the occurrence of stunting in children aged 0–60 months was brought up by this systematic review and meta-analysis. LBW was the independent variable that was examined. Stunting was the dependent variable under investigation. A comprehensive review and meta-analysis of the primary study's findings revealed an epidemiological study design with a bigger sample and distinct demographic variables, which served as a foundation for the conclusion that LBW had a statistical impact on the incidence of stunting. Studies that fit the analytic criteria are primarily located in Asia (Indonesia), Africa (Ethiopia), and South America (Brazil), according to the findings of

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

systematic studies and meta-analyses of primary research (Putri, Salsabilla and Saputra, 2021; Halli, Biradar and Prasad, 2022)

3. Correlation between nutritional status of toddlers with stunting

The results of this study indicate that the nutritional status of toddlers is related to the incidence of stunting, with an OR value of 164.8811, meaning that toddlers with poor nutritional status are 164 times more likely to experience stunting than toddlers with normal nutritional status.

The findings of this study are consistent with those of Swaidatul's (2023) research, which found that the incidence of stunting in young children in integrated service post Sabulmil is related to their nutritional state (p-value = (0.000) < (0.05)). Therefore, H1 is accepted. In line with Yuningsiah (2022) Yuningsih (2022) Having a p-value of 0.04, indicating a connection between stunting incidence and nutritional status. According to the results, Since nutritional status has an impact on young children's physical and cognitive development, it makes sense that there is a correlation between the occurrence of stunting and poor nutritional status. The same thing was also shown by Wijhati, Nuzuliana and Pratiwi (2021) who explained that the effect of inadequate consumption of nutrients is a major factor in malnutrition, as a result of which young children tend to experience stunting. Poor nutrition in children leads to easy disease and stunting. (Kendig *et al.*, 2017; Cahyani *et al.*, 2019; Yuningsih, 2022; AF and Soares, 2023; Susanto *et al.*, 2024).

The nutritional status of infants greatly affects their growth and development. If infants get nutrition with nutrients that meet the nutritional status will be better. Good nutritional status will also increase the immunity of infants, infants will not get sick easily, so their growth and development will be optimal. Indirectly, infants will avoid the occurrence of stunting.

4. Correlation of maternal anemia history during pregnancy with stunting

The findings demonstrated a correlation between the incidence of stunting and the history of maternal anemia during pregnancy; the correlation coefficient was r: 0.137, indicating that a history of anemia has a very weak relationship with the incidence of stunting in toddlers. These

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

results are in line with Meikawati's research 2023, which explains that the history of LBW (p=0.004) and anemia status of mothers during pregnancy (p=0.001) are most at risk of stunting (Meikawati, Rahayu and Purwanti, 2021). According to a different study, babies whose mothers had previously had anemia during pregnancy were 3,600 times more likely to experience stunting than babies whose mothers had not experienced anemia during pregnancy. Basic Health Research 2018 shows that in Indonesia, as many as 48.9% of pregnant women experience blood loss during pregnancy (Kemenkes RI, 2023). Pregnant women's health has a significant impact on the fetus's health. Including the incidence of anemia, when pregnant women suffer from anemia, the nutrients distributed to the fetus are insufficient, so the stimulation of the fetus to grow and develop optimally is reduced. Thus, even after the baby is born, the influence of the pregnant mother's health still has an impact on the baby that is born (Nadhiroh *et al.*, 2023). According to other research, underdeveloped nations like Indonesia have a high incidence of iron deficiency anemia (IDA). The synergistic association between IDA and stunting where one may cause the other may help to explain why IDA is linked to stunting in children (Oktarina *et al.*, 2024).

5. Correlation of maternal history of CED during pregnancy with stunting

The results of the study show that pregnant women with chronic energy deficiency and stunting have an OR value of 105.993, which means that pregnant women with chronic energy deficiency are 105 times more likely to have children with stunting. Pregnant women with chronic energy deficiency cannot meet their own nutritional needs, so the nutritional needs of the fetus in their womb cannot be met either.

The findings demonstrated a correlation between the incidence of stunting and the mothers' history of CED, and the correlation coefficient r: 0.581 indicates that the incidence of stunting in young children increased with the mothers' experience of CED. These results are consistent with the results of research by Setiawati (2024), which explains that there is a correlation between the history of CED in pregnant women and the occurrence of stunting, with an OR value of 36.19, This indicates that pregnant women with a

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

history of CED are 36.19 times more likely to have stunted kids (Adibin, Tosepu and Effendy, 2022; Putri Adila, Sri Yanti and Sriyanti, 2023; Setiawati and Maulana, 2024b, 2024a). Fetal growth and development can be impacted by a woman's nutrition both before and during pregnancy. Healthy, full-term babies with appropriate body mass are most likely to be born normally if the mother's nutritional requirements are well met both before and during pregnancy. Nutritional adequacy in pregnant women is influenced by good nutrient absorption during pregnancy. The baby's growth and development after birth will be aided by the significance of proper and healthful eating habits.

The factors that most strongly correlate with the occurrence of stunting include the nutritional state of young children, the history of anemia in pregnancy, and the history of CED. Other factors that affect the incidence of stunting include gender and the history of LBW. some studies mention cultural factors, parental or family care factors, economic factors, cultural factors may also affect the incidence of stunting (R. P. Adhikari, M. L. Shrestha, A. Acharya, 2019; Atamou *et al.*, 2023).

CONCLUSIONS

1. Most of the gender of toddlers on Bangkalan
2. is Female (54.3%). Gender of toddlers has no relationship with the incidence of stunting but has a correlation of r: 0.021
3. Almost all toddlers on Bangkalan did not have a history of LBW (95%). LBW history of toddlers has no relationship with the incidence of stunting, but has a negative correlation yaiti r: -0.016
4. Almost all toddlers on Bangkalan have normal nutritional status (79.9%). Toddlers' nutritional status and the prevalence of stunting are positively correlated (r = 0.37).
5. Most toddlers on Bangkalan were not stunted (61.6%)
6. On Bangkalan, nearly all moms (76.6%) had never experienced anemia during pregnancy. Maternal anemia history has an association with the incidence of stunting and has a positive correlation r: 0.137
7. Most mothers did not have a history of maternal stunting in Bangkalan (54.3%). There is a positive link (r: 0.581) between the occurrence of

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524

stunting and maternal history of CED.

8. The most influential factors are Nutritional Status of toddlers, Pregnant women's anemia history, the impact of sex on stunting in relation to toddlers' gender, and LBW's past.

Suggestions for further research There are several factors whose results do not have a relationship, because it could be that other factors, like as parenting styles and the nutrition young children receive, can affect the occurrence of stunting. As for other factors that have a relationship with the incidence of stunting, it can be further developed for how to prevent stunting in young children.

LITERATURE

Abdullahi, M. D., Emenike, J. and Doma, A. S.2024. Anthropometric measurements and nutritional status for sustainable education and development of children in the north central zone, 4(2), pp. 28–38. Available at: https://dzarc.com/education/article/view/515.

Adibin, Tosepu, R. and Effendy, D. S.2022. The Number of Stunting Cases Based on Chronic Energy Deficiency (CED) in the North Buton Regency, *KnE Life Sciences*, 0(0 SE-Articles). doi: 10.18502/kls.v0i0.11785.

AF, S. M. and Soares, I. F.2023. Korelasi Status Gizi Dengan Kejadian Stunting Pada Balita, *Care : Jurnal Ilmiah Ilmu Kesehatan*, 11(1), pp. 196–207. doi: 10.33366/jc.v11i1.4463.

Atamou, L. *et al.*2023. Analysis of the Determinants of Stunting among Children Aged below Five Years in Stunting Locus Villages in Indonesia', *Healthcare (Switzerland)*, 11(6), pp. 1–12. doi: 10.3390/healthcare11060810.

Cahyani, V. U. *et al.*2019. Social Support as the Main Factor in Providing Specific Nutrition Interventions for ChildrenAged 6-24 Months with Stunting Events based on Transcultural Nursing', *Pediomaternal Nursing Journal*, 5(1), pp. 77–88. Available at: http://e-journal.unair.ac.id/PMNJ%7C77 JournalHomepage:https://e-journal.unair.ac.id/PMNJ/index.

Dinas kesehatan Jawa Timur.2023. *Profil Kesehatan Propinsi Jawa Timur tahun 2022*. Surabaya.

Fibrianti, F. *et al.*2024. Curve Analysis of Receiver Operating Characteristics (ROC) in Modeling Determinants of Stunting among Children Under Five Years in Urban Areas, Indonesia, 14(1), pp. 27–36. doi: 10.11591/ijphs.v14i1.24721.

Halli, S. S., Biradar, R. A. and Prasad, J. B.2022. Low Birth Weight, the Differentiating Risk Factor for Stunting among Preschool Children in India', *International Journal of Environmental*

Research and Public Health, 19(7). doi: 10.3390/ijerph19073751.

Kemenkes RI .2023. *Prevalensi Stunting di Indonesia Turun ke 21,6% dari 24,4%*. Available at: https://sehatnegeriku.kemkes.go.id/baca/rilis-media/20230125/3142280/prevalensi-stunting-di-indonesia-turun-ke-216-dari-244/.

Kendig, S. *et al.*2017. Consensus Bundle on Maternal Mental Health: Perinatal Depression and Anxiety, *Obstetrics and gynecology*, 129(3), pp. 422–430. doi: 10.1097/AOG.0000000000001902.

Meikawati, W., Rahayu, D. P. K. and Purwanti, I. A.2021. Berat Badan Lahir Rendah Dan Anemia Ibu Sebagai Prediktor Stunting Pada Anak Usia 12–24 Bulan Di Wilayah Puskesmas Genuk Kota Semarang, *Media Gizi Mikro Indonesia*, 13(1), pp. 37–50. doi: 10.22435/mgmi.v13i1.5207.

Nadhiroh, S. R. *et al.*2023. Association between maternal anemia and stunting in infants and children aged 0–60 months: A systematic literature review, *Nutrition*, 115, p. 112094. doi: https://doi.org/10.1016/j.nut.2023.112094.

Oktarina, C. *et al.*2024. Relationship Between Iron Deficiency Anemia and Stunting in Pediatric Populations in Developing Countries: A Systematic Review and Meta-Analysis, *Children*, 11(10). doi: 10.3390/children11101268.

Putri Adila, W., Sri Yanti, R. and Sriyanti, R.2023. The relationship of chronic energy deficiency (CED), exclusive breastfeeding, and economic with stunting in Nagari Aua Kuning West Pasaman, *Science Midwifery*, 10(6), pp. 2721–9453. Available at: www.midwifery.iocspublisher.orgjournalhomepage:www.midwifery.iocspublisher.org.

Putri, T. A., Salsabilla, D. A. and Saputra, R. K.2021. The Effect of Low Birth Weight on Stunting in Children Under Five: A Meta Analysis, *Journal of Maternal and Child Health*, 6(4), pp. 496–506. doi:10.26911/thejmch.2021.06.04.11.

R. P. Adhikari, M. L. Shrestha, A. Acharya, and N. U.2019. Determinants of stunting among children aged 0–59 months in Nepal: findings from Nepal Demographic and health Survey, 2006, 2011, and 2016, *BMC Nutrition*, 5(1). doi: 10.1186/s40795-019-0300-0.

Ruaida, N.2018. Gerakan 1000 Hari Pertama Kehidupan Mencegah Terjadinya Stunting (Gizi Pendek) di Indonesia', *Global Health Science*, 3(1), pp. 139–151.

Setiawati, I., Daniati, D. and Widiastutik, V.2022. Hubungan pengetahuan ibu tentang MPASI dan jenis kelamin balita dengan kejadian Stunting, *Medika Ilmu kesehatan*, 11(2), pp. 184–188. doi:

https://doi.org/10.30989/mik.v11i2.741.

Setiawati, I. and Maulana, T.2024. Hubungan Riwayat Anemia dan Kurang Energi Kronis (KEK) pada Ibu Hamil dengan Kejadian Stunting, *jurnal faletehan*, 11(1), pp. 8–15. doi: https://doi.org/10.33746/fhj.v11i01.

Setiawati, I. and Maulana, T.2024. Pengaruh kadar hemoglobin dan lingkar lengan atas ibu hamil terhadap kejadian stunting pada balita, *Media ilmu kesehatan*, 13(2), pp. 199–205. doi: https://doi.org/10.30989/mik.v13i2.1048.

Sholihah, S. C.2023. Hubungan Berat Badan Lahir Rendah (BBLR) Terhadap Kejadian Stunting Di Wilayah Kerja Puskesmas Dradah, *Prepotif: Jurnal Kesehatan Masyarakat*, 7(1), pp. 135–140. Available at: https://journal.universitaspahlawan.ac.id/index.php/prepotif/article/view/10859.

Susanto, T. *et al.*2024. Determinants of Nutritional Status Among Malnourished Children in Agricultural Areas', *Jurnal Keperawatan Soedirman*, 19(3), pp. 171–179. doi: 10.20884/1.jks.2024.19.3.11637.

Sutriningish, Destri, Y. and Shaqinatunissa, A.2019. Pengaruh Birthball terhadap Nyeri Persalinan', *Wellness and Healthy Magazine*, 1(February), pp. 125–132.

Wardhana, A.2023. *Instrumen PenelitianKuantitatif Dan Kualitatif, Metodologi Penelitian Kesehatan*.

Yuningsih, Y.2022. Hubungan Status Gizi dengan Stunting pada Balita', *Oksitosin : Jurnal Ilmiah Kebidanan*, 9(2), pp. 102–109. doi: 10.35316/oksitosin.v9i2.1845.

Available Online at https://journal.ibrahimy.ac.id/index.php/oksitosin
p-ISSN: 2354-9653| e-ISSN: 2597-6524