Available *online* at : http://ejurnal.stikesprimanusantara.ac.id/

Jurnal Kesehatan

| ISSN (Print) 2085-7098 | ISSN (Online) 2657-1366 |

Article

RISK FACTORS FOR STUNTING INCIDENTS IN TODDLERS

Ratna Juwita[1], *Zurni Seprina*[2], Rummy Islami Zalni[3], *Hamdhani*[4]

[1] *Departement Of Public Health, Tengku Maharatu Colege Of Health Sciences Pekanbaru Riau, West Sumatera, Indonesia.*

[2,3] *Department of Midwifery, Tengku Maharatu Colege Of Health Sciences Pekanbaru Riau, West Sumatera, Indonesia·*

[4] *Tengku Maharatu Colege Of Health Sciences Pekanbaru Riau, West Sumatera, Indonesia.*\

ARTICLE INFORMATION

Received: June, 10, 2024
Revised: June, 30, 2024
Accepted: July, 15, 2024
Available online: July, 31, 2024

KEYWORDS

Factors; Stunting Risk; Toddles;

CORRESPONDING AUTHOR

Ratna Juwita

E-mail: juwitaratna7512@gmail.com

A B S T R A C T

Background: Stunting can hinder physical growth, increase a child's susceptibility to diseases, and create barriers to cognitive development, potentially reducing intelligence and productivity in the future. The prevalence of stunting in Riau Province in 2022 was 17%. This figure does not meet the target set by the Medium-Term Development Plan (RPJM), which is 14% by 2024. In Purnama Sub-District, Dumai Barat District, the prevalence of stunting remains high, with 47 toodlers (30%) out of a total of 159 under-fives affected.

Objective: This study aims to identify the risk factors associated with stunting in toodlers aged 24-59 months, including maternal and child characteristics, knowledge, maternal nutritional status during pregnancy, exclusive breastfeeding history, and basic immunization history.

Methods: This research is a quantitative study with an analytical observational design using a case-control approach.

Results: Statistical tests showed significant associations between maternal education (p-value 0.29), maternal chronic energy deficiency (KEK) during pregnancy (p-value 0.032), history of iron tablet consumption (p-value 0.002), exclusive breastfeeding (p-value 0.031), and basic immunization (p-value 0.019) with stunting in toodlers. No significant association was found between occupation (p-value 0.059) and maternal knowledge (p-value 0.073) with stunting in toodlers.

Conclusion: The calculation of the Odds Ratio (OR) indicates that pregnant women with a history of chronic energy deficiency are three times more likely to have stunted toodlers compared to those without a history of chronic energy deficiency. Women who do not exclusively breastfeed are three times more likely to have stunted toodlers compared to those who exclusively breastfeed. Toodlers who do not receive complete immunization are 11 times more likely to experience stunting than those who receive complete immunization. In this study, immunization was found to have the greatest impact on the occurrence of stunting in under-fives in Purnama Sub-District, Dumai Barat District, after controlling for variables such as exclusive breastfeeding, maternal history of iron tablet consumption, maternal occupation, maternal knowledge, and maternal nutritional status during pregnancy

INTRODUCTION

Stunting is a condition of impaired growth in toodlers under five years old due to chronic malnutrition, particularly during the first 1,000 Days of Life (HDL), characterized by height or length below the standard. A child is considered stunted if their height or length is below minus two standard deviations (-2SD) compared to the standard for their age group. Stunting can impede physical growth, increase susceptibility to diseases, and create barriers to cognitive development, potentially reducing a child's intelligence and future productivity. Stunting also increases the risk of developing degenerative diseases in adulthood. Stunted toodlers have a lower Intelligence Quotient (IQ) compared to the average IQ of normal toodlers(1)

DOI: http://dx.doi.org/10.35730/jk.v%vi%i.1147

Stunting has widely been used as an indicator to measure community nutritional status. If the prevalence of stunting in an area is high, it is indicative of broader development issues such as access to clean water, education, health, and poverty(2).

According to the 2022 joint data from UNICEF, WHO, and the World Bank, there were 148.1 million (22.3%) stunted toodlers, 45 million (6.8%) wasted toodlers, and 37 million (5.6%) overweight toodlers. Among these, stunting is the most prevalent form of malnutrition. The majority of stunted toodlers are in Africa (52%) and Asia (43%), with Indonesia being one of the countries with a very high prevalence of stunting at 31%, alongside 10.2% wasting and 10.6% overweight(3).

Stunting leads to a "lost generation," posing a burden and threat to the nation's future and causing an annual economic loss of up to three hundred trillion rupiahs. Stunting has short-term effects, such as increased morbidity and mortality risks; medium-term effects, including lower intellectual and cognitive abilities; and long-term risks, such as reduced quality of human resources and increased risk of degenerative diseases in adulthood(4). Meta-analysis results show that stunting affects various aspects of child development, including fine and gross motor skills, language and communication, and socio-emotional development, highlighting the need for focused attention on stunting prevention(5).

According to the Indonesian Nutritional Status Survey (SSGI), the prevalence of stunting in toodlers reached 21.6% in 2022, down by 2.8 percentage points from 24.4% in 2021(6). In 2023, based on the Indonesian Health Survey (SKI), the prevalence of stunting in Indonesia was 21.5%, a slight decrease of 0.1% from 21.6% in 2022(7). In Riau Province, the prevalence of stunting in toodlers aged 0-59 months has shown a decline, from 22.3% in 2021 to 17% in 2022. However, this figure does not meet the RPJM target of 14% by 2024(8). In Dumai City, the prevalence of stunting decreased from 23% in 2021 to 12.8% in 2022. While this figure meets the national target, Purnama Sub-District, Dumai Barat, still has a high prevalence of stunting, with 47 toodlers (30%) out of a total of 159 under-fives affected.

The causes of stunting are very complex. According to UNICEF, the direct causes of nutritional issues, including stunting, are inadequate nutrition and infectious diseases. Indirect causes include insufficient food supply, inadequate child-rearing practices, and poor basic healthcare services. Key contributing factors include low levels of education, knowledge, and skills(4). Many factors influence the occurrence of stunting, such as maternal knowledge, education, energy and protein adequacy, and family income, which are all risk factors for stunting in children aged 24 to 59 months(9).

To reduce stunting in toodlers, the government implements holistic interventions, including specific and sensitive interventions. Specific interventions target toodlers during the first 1,000 Days of Life (HDL) and pregnant women, focusing on short-term outcomes generally conducted in the health sector, targeting adolescents, prospective brides, pregnant women, breastfeeding mothers, and toodlers aged 0-59 months. Sensitive interventions are carried out through various development activities outside the health sector and involve cross-sectoral collaboration with the general public(10).

Maternal nutritional status before and during pregnancy significantly affects fetal development. Pregnant women experiencing Chronic Energy Deficiency (CED) are more likely to give birth to babies with low birth weight (LBW)(11). Babies born with LBW are at higher risk of stunting(12)(13). Other factors contributing to stunting in under-fives include maternal knowledge and education, child-rearing practices, exclusive breastfeeding, child health services, and family economic status.(14),(15)

The aim of this study is to identify the risk factors associated with stunting in under-fives in Purnama Sub-District, Dumai Barat.

METHOD

This research is a quantitative study with an analytical observational design using a case-control approach. The study compares risk factors between cases and controls, including characteristics (education, occupation, and maternal knowledge), health services (maternal nutritional status during pregnancy, history of iron tablet consumption, exclusive breastfeeding, and

 DOI: http://dx.doi.org/10.35730/jk.v%vi%i.1147

completeness of child immunizations), using a retrospective approach to determine how risk factors influence stunting in under-fives.

The study population includes all toodlers aged 24 to 59 months, with 47 stunting cases and 47 control subjects distributed in Purnama Sub-District, Dumai Barat, Dumai City. The results are analyzed univariately to describe the characteristics of each variable, followed by bivariate analysis to determine the odds ratios and identify factors associated with stunting in under-fives. Multivariate analysis is used to identify the most dominant risk factors for stunting in toodlers.

RESULT DAN DISCUSSION

Characteristics of Subjects and Respondents

Table: Frequency Distribution of Toodlers's Gender, Parental Education, and Occupation

	Stunting		Not stunted	
Gender of Toddlers	**n**	**%**	**n**	**%**
Male	23	49%	20	43%
Female	24	51%	27	57%
Total	**47**	**100%**	**47**	**100%**
Mothers Education Level				
Elementary	9	19%	5	11%
Junior School	9	19%	9	19%
Senior High School	27	57%	21	45%
College	2	4%	12	26%
Total	**47**	**100%**	**47**	**100%**
Mother's Occupation				
Working	1	2%	7	15%
Not Working	46	98%	40	85%
Total	**47**	**100%**	**47**	**100%**

The majority of the study subjects were female, constituting 54% of the toodlers, while males made up 46%. One factor influencing child growth is gender. Growth patterns differ between boys and girls; typically, girls experience faster physical growth, although boys usually surpass girls in height eventually. The relationship between gender and stunting has been debated in previous studies(13). Some research indicates a link between gender and stunting, while others find no significant difference in stunting risk between boys and girls(16). This study found a higher percentage of stunting among girls compared to boys.

The proportion of mothers with low education in the case group was 38%, which is higher than the 34% in the control group. Higher educational attainment often correlates with greater knowledge, understanding, and the ability to think logically and rationally. Educated individuals are more likely to view problems from multiple perspectives and seek effective solutions compared to those with lower education levels.

A. Risk Factors for Stunting in Toodlers

Bivariate and multivariate analyses were conducted to determine the odds ratios and identify risk factors associated with stunting in toodlers. The following factors were identified as risk factors for stunting, as summarized in the table below:

1. Chi-Square Test

Table: Association of Maternal Education, Maternal Occupation, Maternal Knowledge, Chronic Energy Deficiency (KEK) Status during Pregnancy, History of Iron Tablet Consumption, Exclusive Breastfeeding, and Basic Immunization with Stunting in Toodlers

		Stunting		Not stunted		Total		*P Value*
1	**Maternal Education**	**n**	**%**	**n**	**%**	**n**	**%**	
	Elementary	9	19%	5	11%	14	15%	0,029
	Junior School	9	19%	9	19%	18	19%	
	Senior High School	27	57%	21	45%	48	51%	
	College	2	4%	12	26%	14	15%	
2	**History of Taking Blood Supplement Tablets**							
	Not Drinking	2	4%	0	0%	2	2%	0,002
	Drinking but not finished	37	79%	24	51%	61	65%	
	Drink up to 90 tablets	8	17%	23	49%	31	33%	

		Stunting		Not stunted		Total		OR	*P Value*
3	**Maternal Occupation**	**n**	**%**	**n**	**%**	**n**	**%**	**(95%CI)**	
	Working	1	2%	7	15%	8	9%	0,124	0,029
	Not Working	46	98%	40	85%	86	92%	(0,015-1,053)	
4	**Maternal Knowledge**								
	Lack of knowledge	19	40%	10	21%	29	31%	2,511	0,073
	Good knowledge	28	60%	37	79%	65	69%	(1,011-6,235)	
5	**Nutrisional Status Of Pragnant Women**								
	Chronic Energy Deficiency	13	28%	14	9%	17	18%	4,11	0,032
	Not Chronic Energy Deficiency	34	72%	33	92%	77	82%	(1,229-13,750)	
6	**Exslusif Breastfeeding Status**								
	Not Exclusive Breastfeeding	22	47%	11	23%	33	35%	2,88	0,031
	Exclusive Breastfeeding	25	53%	36	77%	61	65%	(1,188-6,982)	
7	**Basic Immunization Status**								
	Incomplete	9	19%	1	2%	10	11%	10,895	0,019
	Complete	38	81%	46	98%	84	89%	(1,321-89,879)	

Maternal Occupation

The results indicate that there is no significant relationship between maternal occupation (p-value 0.059) and stunting in toodlers. Similarly, maternal knowledge (p-value 0.073) does not show a significant relationship with stunting[17]. This finding is consistent with Djogo et al., who reported no relationship between maternal occupation and stunting[(17)]. However, it contrasts with Asti Sabrina Utami's research, which found that non-working mothers had a higher prevalence of stunting (87%) compared to working mothers (13%)[(18)]. Rahmawati's study also found a significant relationship between maternal occupation and stunting[(19)], as did Fadila et al., who reported a correlation between maternal occupation and stunting[(20)]. According to the author, working mothers often juggle multiple responsibilities, including managing their job, household duties, and childcare, which may limit their time for child-rearing.

 DOI: http://dx.doi.org/10.35730/jk.v%vi%i.1147

Maternal Education

The study shows that 96% of mothers with stunted toodlers had low to medium education levels, compared to 75% in the non-stunted group. Statistical analysis reveals a significant relationship between maternal education and stunting in toodlers in Kelurahan Purnama, Dumai City, with a p-value of 0.29. This finding aligns with Husnaniyah's research, which reported a relationship between maternal education levels and stunting[21]. In contrast, Salsabila's study found no association between maternal education and stunting[22].

According to Law No. 20 of 2003, Article 3, the purpose of national education is to develop abilities and shape character and civilization to educate the nation's life, aiming to produce individuals who are faithful, pious, ethical, healthy, knowledgeable, skilled, creative, independent, and responsible citizens[23]. Higher education often correlates with better knowledge, understanding, and the ability to approach problems logically and rationally, which can influence stunting prevention strategies.

History of Iron Tablet Consumption

Mothers of stunted toodlers had a history of not consuming iron tablets completely (79%), compared to 51% in the non-stunted group. The study shows a significant relationship between iron tablet consumption during pregnancy and stunting, with a p-value of 0.002. This result aligns with Munirah's research, which found a link between adherence to iron tablet consumption and stunting[24]. However, Fentiana's study identified iron tablet consumption as the most significant factor related to stunting[25].

The WHO states that approximately 20% of stunting occurs during pregnancy due to inadequate fetal nutrition, affecting fetal growth and increasing the risk of low birth weight (LBW). Pregnant women are advised to consume 90 iron tablets to prevent anemia and support fetal development, as LBW is a risk factor for stunting in toodlers[26].

Chronic Energy Deficiency (KEK) Status

Maternal nutritional status before and during pregnancy affects fetal growth. Good maternal nutrition is likely to result in a healthy, full-term baby with normal birth weight[11]. Conversely, poor maternal nutrition can affect fetal growth, leading to LBW. The study found that 28% of mothers with a history of KEK had stunted toodlers, compared to 9% in the non-KEK group. Statistical analysis shows a significant relationship between KEK status during pregnancy and stunting, with a p-value of 0.032. The odds ratio calculation indicates that mothers with a history of KEK are three times more likely to have stunted toodlers compared to those without KEK. This finding is consistent with Diana's research[27] and Desni Sagita's study, which both found a relationship between maternal nutritional status during pregnancy and stunting[28].

Exclusive Breastfeeding

Breast milk is the ideal food for infants, providing all the necessary nutrients and antibodies. Exclusive breastfeeding, defined as feeding only breast milk (with the exception of vitamins and minerals) for the first six months, supports optimal growth and development and reduces the likelihood of illness[29]. The study shows that 47% of toodlers who were not exclusively breastfed experienced stunting, compared to 35% in the non-stunted group. Statistical analysis indicates a significant relationship between exclusive breastfeeding and stunting, with a p-value of 0.031. The odds ratio calculation shows that toodlers who were not exclusively breastfed are three times more likely to be stunted compared to those who were exclusively breastfed. This finding is consistent with Pratama's research[30] and Lois's study, which found a link between exclusive breastfeeding and stunting[31]. However, Safitri's study found no relationship between exclusive breastfeeding and stunting[32], suggesting that other factors, such as adequate complementary feeding and continued breastfeeding up to two years[33], also play a role in preventing stunting.

Basic Immunization Status

Immunization improves immunity by introducing vaccines to protect against diseases. The study found that 19% of toodlers who did not receive complete immunization experienced stunting, compared to 2% in the fully immunized group. Statistical analysis shows a significant relationship between immunization status and stunting, with a p-value of 0.019. The odds ratio calculation indicates that toodlers who did not receive complete immunization are eleven times more likely to be stunted compared to those who received complete immunization. This finding is consistent with Fajariah's research and Wanda's study, which both reported a relationship between immunization status and stunting[34][35]. However, Vasera's study found no relationship between immunization and stunting[36]. Immunization helps build immunity, reducing the risk of illness that can affect nutritional status and growth.

Multiple Regression Analysis

Multivariate analysis was conducted to determine which variables have the greatest impact on stunting in toodlers. Variables included in the multivariate analysis were those with a p-value < 0.025 from the bivariate analysis.

Table of bivariate analysis results for the risk factors of stunting in toodlers

Variabel Independen	P Value
Mother's Education	0,020
Mother's Occupation	0,027
Mother's Knowledge	0,043
Nutritional Status of Mother during Pregnancy	0,014
History of Taking Blood Additive Tablets	0,001
Exclusive Breastfeeding	0,017
Immunization History of Toddlers	0,004

Variables that met the criteria were then subjected to multivariate analysis using logistic regression. In the multivariate analysis process, variables with a p-value > 0.05 were removed one by one, starting with the variable having the highest p-value. After each variable was removed from the model, the analysis was continued by examining the change in odds ratios (OR). If there was a change in OR greater than 10%, the removed variable was reintroduced into the model. If no OR change greater than 10% was observed, the variable was kept out of the model.

The final model of the multivariate logistic regression analysis shows the factors most significantly influencing the incidence of stunting.

	S.E.	Sig.	Exp(B)	95% C.I.for EXP(B)	
				Lower	Upper
Riwayat Minum TTD	0,58	0,008	4,665	1,498	14,53
ASI Ekslusif	0,614	0,012	4,717	1,416	15,712
Riwayat immunisasi	1,194	0,046	10,853	1,046	112,581
Staus Gizi Berdasarkan LILA Saat Hamil	0,794	0,214	2,681	0,565	12,721
Pengetahuan Ibu Tentang Gizi Balita	0,557	0,205	2,026	0,68	6,037
Pekerjaan Ibu	1,193	0,071	0,116	0,011	1,206

Based on the multivariate analysis, the variables associated with the incidence of stunting are the history of iron tablet consumption, exclusive breastfeeding, and immunization history. Meanwhile, the variables of maternal employment, maternal knowledge, and maternal chronic energy deficiency (KEK) during pregnancy act as confounding variables. To determine which variable has the greatest impact on stunting in toodlers, we look at the value of Exp(B); the larger the Exp(B) value, the greater its effect on the dependent variable. The analysis shows that the Odds Ratio (OR) for the immunization history variable is 10.853, meaning that toodlers who do not receive complete immunization are 11 times more likely to experience stunting compared to those who receive complete immunization.

CONCLUSION

Pregnant women with a history of chronic energy deficiency (KEK) have a 3 times higher risk of having stunted toodlers compared to those without a history of KEK during pregnancy. Mothers who do not exclusively breastfeed have a 3 times higher risk of having stunted toodlers compared to those who exclusively breastfeed. Toodlers who do not receive complete immunization are 11 times more likely to experience stunting compared to those who receive complete immunization. The variable with the greatest impact on stunting in toodlers in the Purnama sub-district of Dumai Barat is immunization, after controlling for exclusive breastfeeding, history of iron tablet consumption, maternal employment, maternal knowledge, and maternal KEK status during pregnancy.

ACKNOWLEDGMENT

The author wishes to thank STIKes Tengku Maharatu and Yayasan Tengku Maharatu, the study participants, the Dumai City Health Office, Puskesmas Purnama, and the professionals who participated in this research.

 DOI: http://dx.doi.org/10.35730/jk.v%vi%i.1147

REFERENCE

[1] Kementerian Kesehatan. Petunjuk Teknis Penyusunan dan Pelaksanaan Strategi Komunikasi Perubahan Perilaku Percepatan Pencegahan Stunting (Buku 1) [Internet]. Vol. 11, Kementerian Kesehatan RI. 2021. 1–116 p. Available from: https://promkes.kemkes.go.id/download/fpkk/files49505Juknis Implementasi KPP Stunting_ISBN_13072021.pdf%0Astunting.go.id

[2] Cobayashi F, Augusto RA, Lourenço BH, Muniz PT, Cardoso MA. Factors associated with stunting and overweight in Amazonian children: A population-based, cross-sectional study. Public Health Nutr. 2014;17(3):551–60. https://doi.org/10.1017/S1368980013000190

[3] World Health Organization. Levels Trends In Child Malnutrition. 2023; Available from: http://www.who.int/en/

[4] Siswati T. Buku Stunting Lengkap. Husada Mandiri Poltekkes Kemenkes Yogyakarta. 2018.

[5] Laily LA, Indarjo S. Literature Review: Dampak Stunting terhadap Pertumbuhan dan Perkembangan Anak. HIGEIA (Journal Public Heal Res Dev. 2023;7(3):354–64. https://doi.org/10.15294/higeia.v7i3.63544

[6] Kemenkes. Hasil Survei Status Gizi Indonesia (SSGI) 2022. Kemenkes. 2023;1–7.

[7] Kemenkes BKPK. Survei Kesehatan Indonesia (SKI) Tahun 2023. Kota Bukitinggi Dalam Angka. 2023;1–68.

[8] Kemenkes RI. Profil Kesehatan Provinsi Riau Tahun 2022. 2019;8–25.

[9] Tanzil L, Hafriani H. Faktor-Faktor Yang Mempengaruhi Terjadinya Stunting Pada Balita Usia 24-59 Bulan. J Kebidanan Malahayati. 2021;7(1):25–31. https://doi.org/10.33024/jkm.v7i1.3390

[10] Perpres. Peraturan Presiden No. 72 Tahun 2021 Tentang Percepatan penurunan stunting. 2021;(1).

[11] Nilvar Ruaida OS. Hubungan Status KEK Ibu Hamil dan BBLR Dengan Kejadian Stunting Pada Balita Di Puskesmas Tawiri Kota Ambon. 2018;5(September):188–94.

[12] Sholihah SC. Hubungan Berat Badan Lahir Rendah (BBLR) Terhadap Kejadian Stunting Di Wilayah Kerja Puskesmas Dradah. Prepotif J Kesehat Masy [Internet]. 2023;7(1):135–40. Available from: https://journal.universitaspahlawan.ac.id/index.php/prepotif/article/view/10859

[13] Sanda A, Amiruddin R, Rismayanti R. Faktor Risiko Stunting Pada Balita Di Puskesmas Tamalate Kota Makassar Tahun 2022. Hasanuddin J Public Heal. 2022;3(2):145–54. https://doi.org/10.30597/hjph.v3i2.21275

[14] Ni'mah C, Muniroh L. Hubungan Tingkat Pendidikan, Tingkat Pengetahuan Dan Pola Asuh Ibu Dengan Wasting Dan Stunting Pada Balita Keluarga Miskin. Media Gizi Indones. 2016;10(1):84–90. https://doi.org/10.20473/mgi.v10i1.84-90

[15] Tebi, Dahlia, Wello EA, Safei I, Rahmawati, Sri Juniarty, et al. Literature Review Faktor-Faktor yang Mempengaruhi Terjadinya Stunting pada Anak Balita. Fakumi Med J J Mhs Kedokt. 2022;1(3):234–40. https://doi.org/10.33096/fmj.v1i3.70

[16] Rahayu PP, Casnuri. Stunting risk differences based on gender. Semin Nas UNRIYO. 2020;1(1):135–9.

[17] DJOGO HMA. Hubungan Pekerjaan Ibu Dan Praktik Asi Ekslusif Dengan Kejadian Stunting Pada Balita Di Kabupaten Timor Tengah Selatan. J Kesehat. 2021;8(2):89–97. https://doi.org/10.35913/jk.v8i2.200

[18] Asty Sabrina Utami. Pekerjaan Ibu Sebagai Faktor Dominan Kejadian Stunting Pada Anak Usia 24 – 59 Bulan di Desa Mulyasari Kecamatan Bayongbong Kabupaten Garut Tahun 2021. J Ris Kedokt. 2023;49–56. https://doi.org/10.29313/jrk.vi.2300

[19] Rahmawati DA, Zakiah V, Mutmaina R. Hubungan Pendidikan dan Pekerjaan Ibu dengan Kejadian Stunting Pada Balita 24 – 60 Bulan di UPTD Puskesmas Landono. J Ners. 2023;7(2):1294–7. https://doi.org/10.31004/jn.v7i2.17280

[20] Fadlilah AA, Fibriana AI. Kejadian Stunting pada Balita di Wilayah Kerja Puskesmas Poncol. HIGEIA (Journal Public Heal Res Dev. 2023;7(2):293–302. https://doi.org/10.15294/higeia.v7i2.64230

[21] Husnaniyah D, Yulyanti D, Rudiansyah R. Hubungan Tingkat Pendidikan Ibu dengan Kejadian Stunting. Indones J Heal Sci. 2020;12(1):57–64. https://doi.org/10.32528/ijhs.v12i1.4857

[22] Salsabila S, DEWI NOVIYANTI R, Pertiwi Dyah Kusudaryati D. Hubungan Tingkat Pendidikan Ibu Dan Pola Asuh Orang Tua Dengan Kejadian Stunting Pada Balita Usia 12-36 Bulan Di Wilayah Puskesmas Sangkrah. Profesi (Profesional Islam Media Publ Penelit. 2023;19(No.2):143–52. https://doi.org/10.26576/profesi.v19ino.2.103

[23] Soedibyo. UU No20 Tahun 2003 Tentang Pendidikan. Tek bendungan. 2003;1–7.

[24] Munirah L, Sumarmi S, Isaura ER. Hubungan antara Kepatuhan Konsumsi Tablet Tambah Darah dan Ukuran Lingkar Lengan Atas Ibu Hamil dengan Kejadian Stunting di Provinsi Nusa Tenggara Timur. Media Gizi Kesmas. 2023;12(2):698–703. https://doi.org/10.20473/mgk.v12i2.2023.698-703

[25] Fentiana N, Ginting D. Determinan Stunting Anak Usia 0-2 Tahun Di Indonesia: Bukti Survei Cross Sectional Menunjukkan Peran Penting Pemberian Tablet Tambah Darah Pada Ibu Hamil Dalam Penurunan Stunting. J Vent J Ris ilmu Kesehat Masy dan keperawatan [Internet]. 2023;1(3):57–65. Available from: https://jurnal.stikeskesdam4dip.ac.id/index.php/Ventilator/article/view/458/389

[26] Sholihah SC. KEJADIAN STUNTING DI WILAYAH KERJA PUSKESMAS. 2025;7(April 2023):135–40.

[27] Diana R, Verawati B, Rizqi ER. Hubungan Status Gizi Ibu Saat Hamil dengan Kejadian Stunting pada Balita Usia 24-59 Bulan di Wilayah Kerja Puskemas Rejosari Kota Pekanbaru. SEHAT J Kesehat Terpadu. 2023;2(2):30–8.

[28] Desni Sagita Y, Kusuma Wardani P. Status Gizi Dan Usia Ibu Saat Hamil Dengan Kejadian Stunting Pada Balita Usia 1-5 Tahun. J Matern Aisyah (JAMAN AISYAH). 2022;3(2):115–22. https://doi.org/10.30604/jaman.v3i2.485

[29] Elly Susilawati, yanti siska herlina. ASI EKSLUSIF DAN STUNTING. Angew Chemie Int Ed 6(11), 951–952. 1967;5–24.

[30] Pratama MR, Irwandi S. Hubungan Pemberian Asi Eksklusif Dengan Stunting Di Puskesmas Hinai Kiri, Kecamatan Secanggang, Kabupaten Langkat. J Kedokt STM (Sains dan Teknol Med. 2021;4(1):17–25. https://doi.org/10.30743/stm.v4i1.65

[31] Louis SL, Mirania AN, Yuniarti E. Hubungan Pemberian ASI Eksklusif dengan Kejadian Stunting pada Anak Balita. Matern Neonatal Heal J. 2022;3(1):7–11. https://doi.org/10.37010/mnhj.v3i1.498

[32] Safitri D, Prasetyo S, Ekananda R, Studi Kesehatan Masyarakat P, Kesehatan Masyarakat F, Direktorat Kesehatan Masyarakat S, et al. The Relationship between Exclusive Breastfeeding and the Incidence of Stunting in Toddlers in Province X Hubungan Pemberian ASI Eksklusif dengan Kejadian Stunting pada Balita di Provinsi X. J Kesehat Masy Mulawarman. 2023;5(1):11–8.

[33] Trihono, Atmarita, Dwi Hapsari Tjandrarini, Anies Irawati, Nur Handayani Utami, Teti Tejayanti IN. Pendek (Stunting) Di Indonesia, Masalah Dan Solusinya.

[34] Fajariyah RN, Hidajah AC. Correlation Between Immunization Status and Mother'S Height, and Stunting in Children 2–5 Years in Indonesia. J Berk Epidemiol. 2020;8(1):89. https://doi.org/10.20473/jbe.v8i12020.89-96

[35] Wanda YD, Elba F, Didah D, Susanti AI, Rinawan FR. Riwayat Status Imunisasi Dasar Berhubungan Dengan Kejadian Balita Stunting. J Kebidanan Malahayati. 2021;7(4):851–6. https://doi.org/10.33024/jkm.v7i4.4727

[36] Vasera RA, Kurniawan B. Hubungan Pemberian Imunisasi Dengan Kejadian Anak Stunting Di Puskesmas Sungai Aur Pasaman Barat Tahun 2021. J Kedokt STM (Sains dan Teknol Med. 2023;6(1):82–90. https://doi.org/10.30743/stm.v6i1.376