International Journal of Health Science (IJHS)

E-ISSN: 2827-9603
P-ISSN: 2827-9603

Research Article

The Relationship Between Maternal Compliance and Attitude in Iron-Folic Acid Supplementation During Pregnancy and the Incidence of Stunting Among Toddlers

Louise Kartika Indah[1], Wiradi Suryanegara[2*], and Frisca Ronauli Batubara[3]

[1] Department of Medical Community, Faculty of Medicine, Universitas Kristen Indonesia, Jakarta, Indonesia; e-mail : louise.indah@uki.ac.id
[2] Department of Medical Community, Faculty of Medicine, Universitas Kristen Indonesia, Jakarta, Indonesia; e-mail : wiradi.suryanegar@uki.ac.id
[3] Department of Physiology, Faculty of Medicine, Universitas Kristen Indonesia, Jakarta, Indonesia; e-mail: frisca.batubara@uki.ac.id
* Corresponding Author : Wiradi Suryanegar

Abstract: Stunting remains a critical public health issue in Indonesia, reflecting chronic nutritional deficiencies during the crucial first 1,000 days of life. This study focuses on the UPTD Puskesmas Warung Jambu in Bogor, where 123 children were recorded as stunted in 2024. The research addresses the problem of whether maternal compliance and attitudes toward Iron-Folic Acid (IFA) or Tablet Tambah Darah (TTD) consumption during pregnancy are linked to stunting outcomes in toddlers. The primary objective is to analyze the relationship between these maternal factors and the incidence of stunting in this specific population. Using a cross-sectional analytical survey method, data were collected from 69 mothers between November 17 and November 20, 2025, using questionnaires and anthropometric measurements processed via WHO Anthro software. Univariate analysis revealed a high stunting prevalence of 56.5%, while 68.1% of mothers were compliant with IFA consumption and held positive attitudes. Bivariate Chi-square analysis demonstrated a significant relationship (p=0.000) between maternal compliance and stunting, as well as between maternal attitudes and stunting (p=0.000). These findings synthesize the idea that consistent IFA intake (at least 90 tablets) and a proactive maternal mindset are vital for preventing growth failure. In conclusion, poor compliance and negative attitudes significantly increase the risk of stunting, highlighting the need for collaborative educational interventions by health workers and the government to ensure optimal nutrition during pregnancy.

Keywords: Iron-Folic Acid Supplementation; Maternal Attitude; Maternal Compliance; Stunting; Toddlers.

Received: November 15, 2025
Revised: January 03 2026
Accepted: March 14, 2026
Online Available: May 07, 2026
Curr. Ver.: May 07, 2026

1. Introduction

The fulfillment of macro and micronutrients during pregnancy is a fundamental requirement for optimal fetal growth and development. Pregnant women require significant intake of micronutrients, particularly iron (Fe) and folic acid, to support metabolic processes and prevent anemia. In Indonesia, the government addresses this through the Iron-Folic Acid (IFA) supplementation program, requiring mothers to consume at least 90 tablets during pregnancy. Despite this intervention, nutritional issues such as stunting a chronic malnutrition condition characterized by a height-for-age z-score of less than -2 standard deviationsremain a significant national burden. Stunting does not only affect physical stature but also impairs cognitive development and increases the risk of metabolic diseases in adulthood.

Previous studies have utilized various methods to identify the determinants of stunting, ranging from longitudinal nutritional tracking to large-scale secondary data analysis such as Riskesdas. Most existing research focuses on post-natal factors, such as exclusive breastfeeding and complementary feeding (MP-ASI) practices. While these methods provide broad insights into child nutrition, they often overlook the behavioral and psychological precursors during the prenatal phase, specifically the internal factors of the mother. Furthermore, some

studies rely solely on quantitative compliance metrics without integrating maternal attitudes as a qualitative driver of health behavior. This gap creates a weakness in existing interventions, as high availability of IFA tablets does not necessarily translate to high consumption rates if maternal attitudes are negative or if the underlying compliance is poorly monitored.

The central research problem at UPTD Puskesmas Warung Jambu is the high prevalence of stunting, with 123 children identified in 2024 despite the active distribution of IFA tablets. This suggests a disconnect between policy implementation and household-level execution. This study proposes a systematic analytical approach using a cross-sectional survey design to examine the correlation between maternal compliance, maternal attitudes, and the incidence of stunting. By focusing on these two specific behavioral variables, this research aims to provide a more granular understanding of why prenatal interventions fail to prevent growth faltering in certain communities.

The contributions of this research are twofold: first, it provides empirical evidence from a specific clinical setting in Bogor regarding the direct impact of maternal behavior on long-term child growth; second, it offers a strategic basis for local health centers to shift from mere distribution-based programs to education-based behavioral interventions. This paper is organized as follows: Section 2 reviews the theoretical framework and established literature; Section 3 details the cross-sectional methodology and data collection tools; Section 4 presents the results and synthesis of findings; and Section 5 concludes with practical recommendations for public health policy.

2. Materials and Method

This research employs a quantitative approach with a cross-sectional analytical survey design. The study focuses on evaluating the correlation between maternal Iron-Folic Acid (IFA) supplementation compliance and the prevalence of stunting in toddlers. The research was conducted at the UPTD Puskesmas Warung Jambu in Bogor, covering 23 integrated health posts. Primary data collection took place over a four-day period, from November 17 to November 20, 2025.

The study population included mothers with toddlers residing within the health center's working area. A total of 69 respondents were selected through a structured sampling procedure. Data collection involved two primary instruments: a validated questionnaire to assess maternal compliance and attitudes toward IFA consumption, and standardized anthropometric tools. Toddlers' height measurements were obtained using a microtoise or length board with a precision of 0.1 cm.

Nutritional status was determined by converting height and age data into Height-for-Age Z-scores (HAZ) using the WHO Anthro version 3.2.2 software. This process compares the measured height of each toddler against the median and standard deviation of the global reference population. Toddlers were classified as stunted if their Z-score fell below -2 Standard Deviations (SD) from the median. Maternal compliance was defined as the consumption of at least 90 IFA tablets during the gestational period, in accordance with national health protocols.

Statistical analysis was conducted through univariate and bivariate methods. The distribution and frequency of all variables were initially mapped to provide a descriptive overview. Subsequently, the Chi-square (X^2) test was applied to determine the significance of the relationship between maternal compliance and stunting outcomes. A p-value of less than 0.05 was established as the threshold for statistical significance, indicating a confirmed correlation between the studied variables.

3. Results and Discussion

Results

The results of this study will be presented using univariate and bivariate analyses respectively. Univariate analysis is a statistical approach used to analyze a single variable. Bivariate analysis is a statistical approach used to determine whether there is a relationship between the dependent and independent variables. Based on the results of the research titled "The Relationship Between Maternal Iron-Folic Acid Consumption During Pregnancy and the Incidence of Stunting Among Toddlers at UPTD Puskesmas Warung Jambu 2025," a total of 69 mothers completed the questionnaires distributed across several integrated health posts (Posyandu) registered under UPTD Puskesmas Warung Jambu during the sampling period from November 17 to November 20, 2025. The distribution of respondents in this study is detailed in the table below:

Table 1. Prevalence of stunting among toddlers based on questionnaire data collected from November 17 to November 20, 2025, at UPTD Puskesmas Warung Jambu.

Nutritional Status (Height-for-Age)	Frequency	Percentage (%)
Stunting	39	56.5
Non-stunting	30	43.5
Total	**69**	**100%**

The total number of respondents consisted of 69 mothers at UPTD Puskesmas Warung Jambu in 2025. As indicated in the table, out of these 69 respondents, 39 children were identified as stunted (56.5%), while 30 children were categorized as non-stunted (43.5%).

Table 2. Frequency Distribution of Children's Gender

Gender	Frequency	Percentage (%)
Male	32	46.4
Female	37	53.6
Total	**69**	**100%**

Based on the total questionnaires completed by mothers from November 17 to November 20, 2025, data regarding the children's gender were obtained. The table shows that there were 32 male children (46.4%) and 37 female children (53.6%).

Table 3. Frequency Distribution of Posyandu Origin

Posyandu Origin	Frequency	Percentage (%)
Asoka 1 Posyandu	7	10,1
Asoka 2 Posyandu	2	2,9
Asparagus Posyandu	3	4,3
Cempaka Posyandu	3	4,3
Dadali 1 Posyandu	2	2,9
Dadali 2 Posyandu	2	2,9
Elang 1 Posyandu	2	2,9
Elang 2 Posyandu	1	1,4
Flamboyan 1 Posyandu	3	4,3
Flamboyan 2 Posyandu	2	2,9
Flamboyan 3 Posyandu	7	10,0
Garuda 1 Posyandu	1	1,4
Garuda 2 Posyandu	1	1,4
Gelatik 2 Posyandu	2	2,9

Kenanga 1 Posyandu	2	2,9
Kenanga 2 Posyandu	3	2,9
Kencana Posyandu	4	4,3
Mawar Posyandu	1	1,4
Mekarsari 1 Posyandu	3	4,3
Merpati 1 Posyandu	1	1,4
Merpati 2 Posyandu	3	4,3
Nuri Posyandu	4	5,8
Subagenda Posyandu	2	2,9
Total	69	100%

Table 3. regarding the Frequency Distribution of Posyandu Origin shows that there were 23 integrated health posts (Posyandu) registered under UPTD Puskesmas Warung Jambu that participated in the survey. The data indicates that the highest number of respondents came from Posyandu Asoka 1 and Posyandu Flamboyan 3, with 7 mothers (10.0%) each. This was followed by Posyandu Kencana and Posyandu Nuri with 4 mothers (5.8%) each. Furthermore, Posyandu Asparagus, Posyandu Cempaka, Posyandu Flamboyan 1, Posyandu Kenanga 2, Posyandu Mekarsari 1, and Posyandu Merpati 2 each had 3 mothers (4.3%). Meanwhile, Posyandu Asoka 2, Posyandu Dadali 1, Posyandu Dadali 2, Posyandu Elang 1, Posyandu Flamboyan 2, Posyandu Gelatik 2, Posyandu Kenanga 1, and Posyandu Subagenda each had 2 mothers (2.9%). Finally, Posyandu Elang 2, Posyandu Garuda 1, Posyandu Garuda 2, Posyandu Mawar, and Posyandu Merpati 1 each had 1 mother (1.4%).

Table 4. Frequency Distribution of Mothers' Last Education

Education	Frequency	Percentage (%)
No Schooling	3	4.3
Elementary School (or equivalent)	13	18.8
Junior High School (or equivalent)	26	37.7
Senior High School (or equivalent)	24	34.8
Diploma or higher	3	4.3
Total	69	100%

Table 4. presents the frequency distribution of the mothers' highest level of education. The data reveals that the majority of respondents completed Junior High School (or equivalent), totaling 26 mothers (37.7%). There were 24 mothers (34.8%) who completed Senior High School (or equivalent), 13 mothers (18.8%) who completed Elementary School (or equivalent), and 3 mothers (4.3%) who held a Diploma or higher degree. Additionally, 3 mothers (4.3%) reported having no formal schooling.

Table 5. Frequency Distribution of Mothers' Age at Marriage

Maternal Age	Frequency	Percentage (%)
< 21 Years Old	36	52.2
> 21 Years Old	33	47.8

Total	69	100%

Table 5. shows the frequency distribution of the mothers' age at marriage. Out of 69 mothers, 36 (52.2%) were married at an age below 21 years. Meanwhile, 33 mothers (47.8%) were married at an age above 21 years.

Table 5. Compliance with Iron-Folic Acid (IFA) Consumption During Pregnancy

IFA Consumption Compliance	Frequency	Percentage (%)
Non-compliant	22	31.9
Compliant	47	68.1
Total	69	100%

Table 5. regarding compliance with Iron-Folic Acid (IFA) consumption during pregnancy shows that the majority of mothers were compliant in taking their supplements. There were 47 mothers (68.1%) identified as compliant, while 22 mothers (31.9%) were identified as non-compliant.

Table 6. Maternal Attitude Toward IFA Consumption

Maternal Attitude	Frequency	Percentage (%)
Negative	22	31.9
Positive	47	68.1
Total	69	100%

Based on the table of Maternal Attitude Toward IFA Consumption, among the 69 mothers from several integrated health posts (Posyandu) registered at UPTD Puskesmas Warung Jambu, a larger number of mothers exhibited a positive attitude toward IFA consumption. It is recorded that 47 mothers (68.1%) had a positive attitude, while 22 mothers (31.9%) had a negative attitude.

Table 7. Relationship Between Maternal Iron-Folic Acid (IFA) Consumption Compliance During Pregnancy and the Incidence of Stunting

		Stunting			**OR (95%)**
Stunting			Non- *stunting*		Total
IFA Compliant	Compliant	19	28	47	14.7
Non-compliant		20	2	22	
Total		39	30	69	

Table 8. Relationship Between Maternal Iron-Folic Acid (IFA) Consumption Compliance During Pregnancy and the Incidence of Stunting.

Value	**df**	**Asymptotic significance (2-sided)**	**Exact sig. (2-sided)**	**Exact sig. (1-sided)**

Pearson Chi-Square	9.726[a]	1	.000		
Continuity Correction[b]	7.817	1	.000		
Likelihood Ratio	10.122	1	.00		
Fisher's Exact Test			.000		.000
Linear-by-Linear Association	9.577	1	.000		
N of Valid Cases	69				

Based on Table 8 there were 47 mothers who were compliant in consuming IFA tablets. Among these compliant mothers, 19 children were identified as stunted, while 28 children were non-stunted. Statistical analysis using the Chi-square method yielded a p-value of 0.000 ($p < 0.05$). This result indicates a significant relationship between maternal IFA consumption compliance during pregnancy and the incidence of stunting among toddlers at UPTD Puskesmas Warung Jambu 2025.

Table 9. Relationship Between Maternal Attitude Toward IFA Consumption and the Incidence of Stunting

		Stunting		**OR (95%)**
Stunting		**Non-stunted**	**Total**	
FA consumption attitude	Negative	20	2	22
				14.7
	Positive	19	28	47
Total	**39**	**30**	**69**	

Value	df	**Asymptotic significance (2-sided)**	**Exact sig. (2-sided)**	**Exact sig. (1-sided)**
Pearson Chi-Square	15.541[a]	1	.000	
Continuity Correction[b]	13.555	1	.000	
Likelihood Ratio	17.651	1	.000	
Fisher's Exact Test				.000
Linear-by-Linear Association	15.316	1	.000	
N of Valid Cases	69			

Based on Table 9 among the mothers with a positive attitude (47 mothers total, following Table 3.7), 19 had stunted children, while 28 had non-stunted children. Conversely, of the 22 mothers with a negative attitude, 20 had stunted children. Statistical analysis using the Chi-square method yielded a p-value of 0.000 ($p < 0.05$). This result indicates a significant relationship between maternal attitude toward IFA consumption during pregnancy and the incidence of stunting among toddlers at UPTD Puskesmas Warung Jambu 2025.

Discussion

Based on the research titled "The Relationship Between Maternal Iron-Folic Acid Consumption During Pregnancy and the Incidence of Stunting Among Toddlers at UPTD Puskesmas Warung Jambu 2025," involving a population of 69 mothers, data were obtained

regarding maternal demographics such as age, age at marriage, and latest education. This study identifies the prevalence of stunting, the quantity of maternal IFA consumption during pregnancy, and maternal attitudes toward such supplementation. Furthermore, it examines the relationship between the amount of IFA consumption and maternal attitudes with the incidence of stunting.

Univariate analysis revealed the prevalence of stunting based on data collected from November 17 to November 20, 2025. From 69 respondents, data including child height, age, and birth dates were processed using WHO Anthro software and SPSS version 25, identifying 39 stunted children (56.5%) and 30 non-stunted children (43.5%). Regarding gender, there were more females (37 children or 53.6%) than males (32 children or 46.4%).

The questionnaires were distributed across 23 integrated health posts (Posyandu) registered under UPTD Puskesmas Warung Jambu. As shown in Table 3.3, the highest number of respondents came from Posyandu Asoka 1 and Flamboyan 3, with 7 mothers (10.0%) each. These were followed by Posyandu Kencana and Nuri with 4 mothers (5.8%) each, and several other posts such as Posyandu Asparagus, Cempaka, and Flamboyan 1 with 3 mothers (4.3%) each. Posts like Asoka 2 and Dadali 1 had 2 mothers (2.9%) each, while others like Garuda 1 and Mawar had 1 mother (1.4%) each.

In terms of education, most respondents completed Junior High School (37.7%), followed by Senior High School (34.8%), Elementary School (18.8%), and Diploma or higher (4.3%), while 4.3% had no formal schooling. Regarding age at marriage, 36 mothers (52.2%) married below the age of 21, while 33 mothers (47.8%) married above 21.

The research found that 47 mothers (68.1%) were compliant with the minimum consumption of 90 IFA tablets during pregnancy, while 22 (31.9%) were non-compliant. Regarding attitudes, 47 mothers (68.1%) held a positive attitude toward IFA consumption, whereas 22 mothers (31.9%) held a negative attitude.

Micronutrient deficiencies in pregnant women significantly increase the risk of stunting because nutritional needs rise during pregnancy. Iron is essential for the body during this period, and IFA supplements help fulfill this need. A lack of iron can lead to low iron stores, anemia, low birth weight, and shorter stature (stunting).

This study shows a significant relationship between maternal IFA consumption and stunting, with a p-value of 0.000 ($p < 0.05$). This aligns with Fentiana et al., who found a significant correlation using Riskesdas data, noting that mothers consuming <90 tablets have a 1.05 times higher chance of having stunted children. However, these findings differ from Munirah et al., who found a non-significant relationship ($p > 0.910$), possibly due to other contributing factors.

Attitude reflects a person's daily behavior. This study found a significant relationship between maternal attitude and stunting ($p=0.000$). This is consistent with Misriani, who reported a p-value of 0.02 , and Suryanih et al., who found a relationship ($p=0.024$) between knowledge and attitudes toward iron tablet use in stunting prevention.

In conclusion, maternal compliance and positive attitudes during pregnancy are vital for preventing growth failure. Attitudes can be influenced by others, personal experience, education, and family. Poor consumption and negative attitudes increase stunting risks, which negatively impact human resource quality and national productivity. Therefore, supporting stunting prevention programs, such as IFA distribution during the first 1,000 days of life, is essential. Eradicating stunting requires collaboration between the government, health workers, and the community to ensure proper nutrition and behavior for a better future.

4. Conclusions

Based on the research conducted, it can be concluded that the study at UPTD Puskesmas Warung Jambu in 2025 involved a total of 69 mothers who completed the questionnaires. The demographic profile revealed that the majority of respondents had a Junior High School (SMP) education level, totaling 26 mothers (37.7%). This was followed by Senior High School (SMA) graduates at 24 mothers (34.8%), Elementary School (SD) graduates at 13 mothers (18.8%), while mothers with a Diploma or higher and those with no formal schooling accounted for the smallest groups at 3 mothers (4.3%) each. Regarding the age of marriage, it was found that more mothers married at an age below 21 years (36 mothers or 52.2%) compared to those who married at an age above 21 years (33 mothers or 47.8%).

Data from the 69 mother-child pairs at UPTD Puskesmas Warung Jambu in 2025 showed that 39 children (56.5%) were identified as stunted, while 30 children (43.5%) were categorized as non-stunted. A significant proportion of mothers at UPTD Puskesmas

Warung Jambu in 2025 were compliant with Iron-Folic Acid (IFA) supplementation during pregnancy, totaling 47 mothers (68.1%), while 22 mothers (31.9%) were non-compliant. Compliance was mirrored by maternal attitudes, where 47 mothers (68.1%) exhibited a positive attitude toward IFA consumption, whereas 22 mothers (31.9%) exhibited a negative attitude. There is a significant relationship between maternal compliance in IFA consumption and the incidence of stunting among toddlers at UPTD Puskesmas Warung Jambu in 2025, with a p-value = 0.000. Similarly, maternal attitude toward IFA consumption is significantly associated with stunting in the same population (p-value = 0.000). Both findings indicate a statistically significant correlation as the p-values are less than 0.05.

References

Achmad, L. N., Aritonang, J. M., Puspitasari, F., & Pariama, G. (2026). Profile of patients with multidrug-resistant pulmonary tuberculosis at Merauke Regional General Hospital, Merauke Regency, South Papua, January 2021–December 2024. *Journal of Innovation Research and Knowledge, 5*(8), 5–8.

Amirulloh, M. R. (2021). Implementasi kebijakan penanggulangan stunting oleh Dinas Kesehatan di Kabupaten Sukabumi. *Jurnal Ilmiah Muqoddimah: Jurnal Ilmu Sosial, Politik dan Humaniora*.

Anitya, P. C., Senjaya, A. A., & Somoyani, N. K. (2023). Hubungan status gizi ibu saat hamil dengan kejadian stunting di wilayah kerja Unit Pelaksana Teknis Puskesmas Kintamani VI tahun 2022. *Jurnal Ilmiah Kebidanan (The Journal of Midwifery), 11*(1), 1–8.

Asih, A. K., Wahyudi, A., & Rahutami, S. (2023). Analisis kejadian stunting pada balita usia 24–59 bulan di wilayah kerja Puskesmas Mariana Kabupaten Banyuasin tahun 2023. *Jurnal Kesehatan Saelmakers PERDANA (JKSP), 6*(2), 261–271.

Batubara, F. R., Patriawati, K. A., & Sisthaningrum, N. M. E. V. (2025). The relationship between body image, eating behavior, and physical activity on the nutritional status of adolescents among medical students. *KESANS: International Journal of Health and Science, 5*(1), 125–131.

Dewi, E. K., & Nindya, T. S. (2017). Hubungan tingkat kecukupan zat besi dan seng dengan kejadian stunting pada balita 6–23 bulan. *Amerta Nutrition, 1*(4), 361–368.

Gultom, A., Sisthaningrum, N. M. E. V., & Prihantini, N. N. (2025). G2P1A0 37–38 weeks pregnant with cephalopelvic disproportion, previous caesarean section scar and anemia: Risk factors, prevention and management—Case report. *KESANS: International Journal of Health and Science, 5*(1), 107–112.

Harahap, A., Mahadewi, E. P., Ahmadi, D., Tj, H. W., Ganiem, L. M., Rafika, M., & Hartanto, A. (2021). Monitoring of macroinvertebrates along streams of Bilah River, North Sumatra, Indonesia. *International Journal of Conservation Science, 12*(1), 247–258.

Hatijar, H. (2023). The incidence of stunting in infants and toddlers. *Jurnal Ilmiah Kesehatan Sandi Husada, 12*(1), 224–229.

Hidayati, D. U., Yulastini, F., & Fajriani, E. (2022). Pengaruh edukasi 1000 hari pertama kehidupan (HPK) terhadap pengetahuan dan sikap wanita usia subur (WUS). *Holistic Nursing and Health Science, 5*(2), 169–177.

Kementerian Kesehatan Republik Indonesia. (2018). *Laporan nasional RISKESDAS 2018*.

Tim Nasional Percepatan Penanggulangan Kemiskinan, & Sekretariat Wakil Presiden Republik Indonesia. (2017). *100 kabupaten/kota prioritas untuk intervensi anak kerdil (stunting) (Vol. 1)*.

Kharisma, B., Anwar, A., Puspitarini, A. W., Amalia, F., Jumsaddin, J., Yosephine, M. K., ... & Nurvia, S. N. (2026). Pengaruh kemiskinan terhadap prevalensi stunting di Kota Cirebon. *Jurnal Syntax Imperatif: Jurnal Ilmu Sosial dan Pendidikan, 6*(6), 1616–1634.

Kusdalinah, K., & Suryani, D. (2021). Asupan zat gizi makro dan mikro pada anak sekolah dasar yang stunting di Kota Bengkulu. *Action: Aceh Nutrition Journal, 6*(1), 93–99.

Langi, L. A., & Tanggo, C. R. (2025). The relationship between compliance of jumantik cadres in larvae eradication and the incidence of dengue hemorrhagic fever (DHF). *KESANS: International Journal of Health and Science, 5*(3), 540–548.

Luhulima, D. E. J., & Sirait, B. I. (2026). D-dimer in pregnancy. *International Journal of Health, Engineering and Technology (IJHET), 4*(6), 2673–2679.

Luhulima, D. E. J., Tanggo, C. R., & Amelia, R. (2026). Laboratory examination of hemolytic disease in neonates due to rhesus incompatibility. *Journal of Innovation Research and Knowledge, 5*(8), 9111–9116.

Maksum, T. S., & Hulinggi, P. (2022, December). Penilaian asupan zat besi dan asam folat pada ibu hamil. In *Prosiding Seminar Nasional Mini Riset Mahasiswa* (Vol. 1, No. 2, pp. 67–71).

Marlina, L., Tiroy Sari B, S., & Adur, M. M. B. (2025). Relationship between personal audio system use and tinnitus among medical students. *International Journal of Health Engineering and Technology (IJHET), 4*(4), 869–875.

Menteri Kesehatan Republik Indonesia. (2022). *Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/MENKES/1928/2022 tentang pedoman nasional pelayanan kedokteran tatalaksana stunting*.

Menteri Kesehatan Republik Indonesia. (2020). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2020 tentang standar antropometri anak*.

Munira, S. L. (2023). *Hasil survei status gizi Indonesia (SSGI) 2022*.

Munirah, L., Sumarmi, S., & Isaura, E. R. (2023). Relationship between iron tablets consumption adherence and middle-upper arm circumference of pregnant women with stunting in East Nusa Tenggara Province. *Media Gizi Kesmas, 12*(2), 698–703.

Nadeak, B., Manik, J., & Destine, D. (2025). The effectiveness of managerial approaches in promoting adolescent healthy lifestyles: A qualitative study at HKBP Gedong Church. *Asian Journal of Basic Science & Research, 7*(2), 119–128.

Nina, F., Formaida, T., & Daniel, G. (2022). Stunting, pemeriksaan kehamilan dan konsumsi tablet tambah darah ibu hamil di Indonesia: Analisis data Riskesdas 2013. *Jurnal Keperawatan Suaka Insan*.

Novelyn, S., Sidauruk, M. N., & Christine, R. N. (2026). Association between formaldehyde vapor exposure and eye irritation and upper respiratory tract irritation during anatomy laboratory sessions. *Journal of Innovation Research and Knowledge, 5*(8), 9149–9160.

Poluan, F. H., Simanjuntak, E. G. M., & Lele, J. A. J. M. N. (2025). Case report: Otitis media supuratif kronik auricula dekstra type benigna. *International Journal of Health and Pharmaceutical, 5*(4), 639–643.

Rahayu, A., Yulidasari, F., Putri, A. O., & Anggraini, L. (2018). *Study guide-stunting dan upaya pencegahannya*. Buku Stunting dan Upaya Pencegahannya.

Rahman, H., Rahmah, M., & Saribulan, N. (2023). Upaya penanganan stunting di Indonesia: Analisis bibliometrik dan analisis konten. *Jurnal Ilmu Pemerintahan Suara Khatulistiwa, 8*(1), 44–59.

Rawas, M. (n.d.). *Hubungan antara karakteristik anak dengan defisiensi zat besi pada anak sekolah dasar di kabupaten*.

Reviani, N., & Tampubolon, C. H. (2025). The relationship between mothers' frequency of visits to the posyandu and the nutritional status of toddlers in Jemah Village, West Java, Indonesia. *KESANS: International Journal of Health and Science, 5*(3), 549–556.

Rochmawati, L., Kuswanti, I., & Melina, F. (2023). Edukasi dan pemantauan pertumbuhan pada balita sebagai upaya deteksi dini risiko stunting melalui pendampingan di posyandu. *Pengabdian Masyarakat Cendekia (PMC), 2*(2), 48–51.

Sanggul, A. R., & Patriawati, K. A. (2025). Determining factors of typhoid fever among elementary school children in Cijeungjing Village, Sumedang Regency, West Java. *International Journal of Integrated Science and Technology (IJIST), 3*(12), 2463–2484.

Sihombing, J. A., Maharani, M. E. S., & Hendrika, W. (2026). The correlation between dietary patterns and physical activity with body mass index among Faculty of Medicine UKI students class of 2022 in 2024. *KESANS: International Journal of Health and Science, 5*(6), 1065–1073.

Sijabat, I. Y. B. (2021). *Literatur review: Hubungan karakteristik ibu, asupan zat besi dan zink selama hamil dengan kejadian stunting pada anak balita.*

Silaban, H., Tennes, J. G., & Simarmata, V. P. A. (2025). The relationship between knowledge, attitude, and practice of iron supplementation and the incidence of anemia. *KESANS: International Journal of Health and Science, 5*(3), 532–539.

Sirait, B. I., Angreni, F., & Hutahaean, I. N. (2026). Factors associated with pregnancy outcomes after intrauterine insemination. *International Journal of Health, Engineering and Technology (IJHET), 4*(6), 2557–2564.

Sirait, B. I., Eunike, G., & Novelyn, S. (2025). Fertilization and embryogenesis success rates in patients with polycystic ovary syndrome undergoing in vitro fertilization. *KESANS: International Journal of Health and Science, 5*(1), 113–118.

Suryanegara, W., & Ronny, R. (2025). Factors associated with the incidence of dengue hemorrhagic fever in the Warung Jambu Community Health Center area, West Java. *International Journal of Integrated Science and Technology (IJIST), 3*(12), 2449–2462.

Suryanih, A., Yanti, S. I., & Shoaliha, M. (2024). Hubungan pengetahuan dengan sikap penggunaan tablet Fe pada wanita dalam pencegahan stunting di RW 012 Desa Sukamekar. *JIFI (Jurnal Ilmiah Farmasi Imelda), 7*(2), 78–85.

Tanggo, C. R., Bontong, K. D., & Sihombing, J. A. (2026). Characteristics and comorbidities in patients with urinary tract infections (UTI). *International Journal of Health, Engineering and Technology (IJHET), 4*(6), 2565–2572.

Tarigan, N., Sitompul, L., & Zahra, S. (2021). Asupan energi, protein, zat besi, asam folat dan status anemia ibu hamil di wilayah kerja Puskesmas Petumbukan.

Utomo, T. Y., Constantin, N., & Pariama, G. (2025). The relationship between sleep quality and cephalalgia among medical students. *International Journal of Health Engineering and Technology (IJHET), 4*(4), 876–880.

Wellina, W. F., Kartasurya, M. I., & Rahfiludin, M. Z. (2016). Faktor risiko stunting pada anak umur 12–24 bulan. *Jurnal Gizi Indonesia (The Indonesian Journal of Nutrition), 5*(1), 55–61.

Wija, I. B. E. U., & Sihombing, J. A. (2026). Management of food allergy in children. *KESANS: International Journal of Health and Science, 5*(6), 1056–1064.

Wija, I. B. E. U., Gunawan, A., & Reviani, N. (2025). The relationship between leukopenia and dengue fever in child patients. *International Journal of Health, Engineering and Technology (IJHET), 4*(4), 747–750.

Yudawijaya, A., Londo, A. B. S., & Aritonang, C. R. L. (2025). Clinical profile of primary headache patients. *KESANS: International Journal of Health and Science, 5*(1), 119–124.