World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

Check for updates

Analysis of Factors Related to the Incidence of Stunting in Toddlers (12-59 Months) in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

Samsul [1], Wa Ode Salma [1,*] and Asriati [2]

[1] *Faculty of Public Health, Master of Public Health Program, Halu Oleo University, Kendari, Southeast Sulawesi, Indonesia.*
[2] *Faculty of medicine, Halu Oleo University, Kendari, Southeast Sulawesi, Indonesia.*

World Journal of Advanced Research and Reviews, 2025, 28(03), 091-097

Publication history: Received 22 October 2025; revised on 29 November 2025; accepted on 01 December 2025

Article DOI: https://doi.org/10.30574/wjarr.2025.28.3.4020

Abstract

Stunting is a condition of growth retardation that occurs in the first 1,000 days of life. The child's early life is next. Most instances of failure to grow occur in the first two years of life. Stunting in childhood is one of the most significant obstacles to human development. The purpose of this study is to analyze factors related to the incidence of stunting in toddlers (12-59 months) in the working area of the Langara Health Center, Konawe Islands Regency in 2025. This type of research is a quantitative research with a case control approach and *simple random sampling techniques*. The population of this study is 116 respondents in this study. The research instrument is a questionnaire sheet. The variables of this study are *Infectious Diseases, Basic Immunization, Parenting*. Data analysis used univariate, bivariate analysis with chi-square and multivariate tests using *binary logistic regression.* The results of the study showed that there was a relationship between infectious diseases (0.000), basic immunization (0.000), and parenting (0.000) in the working area of the Langara health center, Konawe Islands Regency in 2025. The *binary logistics regression* test showed that the Infectious Disease Variable was the most influential variable on the incidence of stunting in the working area of the Langara Health Center, Konawe Regency, Islands in 2025 with an Exp(B) value of 31,130.

Keywords: Infectious Diseases; Basic Immunization; Parenting; Stunting; Toddlers

1. Introduction

The nutritional problem of toddlers is one of the main challenges currently facing the health sector in Indonesia. Toddlers as the successors of our future also determine the future of the nation. Healthy toddlers will make toddlers smart. Toddlers are prone to disease if they experience food and nutrition deficiencies. Nutritional deficits in toddlers can cause undernourished toddlers, disease infections and affect children's intelligence. The impact of malnutrition will be disrupted growth and development in toddlers (Taswin et al., 2023).

According to WHO (2020), stunting is a condition of growth retardation that occurs in the first 1,000 days of life. Most instances of failure to grow occur in the first two years of life. Stunting in childhood is one of the most significant obstacles to human development (Khairani et al., 2020).

The causes of stunting are very complex. One of the main causes of stunting is infectious diseases that occur in children, such as diarrhea and acute respiratory tract infections (ARI). History of infectious diseases is closely related to the incidence of stunting in children under five. This is because infectious diseases can reduce food intake, interfere with the absorption of nutrients, cause direct loss of nutrients, and increase metabolic needs. There is a reciprocal interaction between nutritional status and infectious diseases (Darmawan et al., 2022). Socioeconomic status influences a family's ability to meet the nutritional needs of toddlers. In addition, socioeconomic conditions also affect the choice of food types, the timing of feeding, and the implementation of healthy lifestyle practices (Darmi, 2024).

* Corresponding author: Wa Ode Salma

Providing complete basic immunizations to children greatly affects children's growth and development. Basic immunization is expected to protect children from growth and development disorders as well as various diseases that can cause disability or death. Basic immunization must be given from the age of 0–9 months, including immunization of Hepatitis B, BCG, Polio/IPV, DPT-HB-HiB, and Measles. In addition, preconception immunization in mothers is also an important factor in maintaining the health of children and mothers from the intrauterine period (Wahyuni & Diansabila, 2021).

Indonesia is still included in the list of developing countries with a high prevalence of stunting. More than one-third of children under the age of five have below-average height. Based on the results of the 2024 Indonesian Nutrition Status Survey (SSGI), the prevalence of very short and short toddlers (stunting) was recorded at 15.6%. Meanwhile, routine data from e-PPBGM shows that there are 2.6% of clowns in the very short category and 7.3% clowns in the short category. The province with the highest percentage for the very short and short height category in baduta is West Sulawesi Province at 26.6%, while the province with the lowest percentage is Bali Province at 7.1% (Garcia et al., 2024).

The problem of stunting is still one of the serious public health issues in Indonesia, including in Southeast Sulawesi Province. Based on the *Southeast Sulawesi Provincial Health Profile* report (2025), the number of stunted toddlers in this region has shown a fluctuating trend over the past four years. In 2021, the prevalence of stunting was recorded at 11.69%, then increased in 2022 to 15%. Furthermore, in 2023 there was a decrease to 11.33%, but it increased sharply again in 2024 to reach 19.8%. These fluctuations show that efforts to reduce stunting in Southeast Sulawesi Province have not been carried out consistently and sustainably.

At the district/city level, Konawe Islands Regency ranks 8th highest out of 15 districts/cities in the province. The districts with the highest prevalence of stunting are South Buton at 28.20%, followed by North Buton at 25.5%, Central Buton at 24.2%, and Konawe Islands at 20.6%. Based on this data, Konawe Islands Regency is still designated as a stunting locus in 2025 because its prevalence is still above the provincial average (SSGI 2024).

The results of the preliminary study show that the increase in stunting rates in Southeast Sulawesi, especially in Konawe Islands Regency, can be influenced by several factors, including: Limited access to nutrition and maternal and child health services, especially in remote areas and islands, low knowledge and balanced nutrition practices in families with toddlers, socioeconomic factors, such as low income and parental education levels, the availability of nutritious food that is not evenly distributed throughout the region, cross-sector coordination that is not optimal in the implementation of stunting reduction programs.

Overall, the increase in stunting rates is quite high in several Puskesmas areas, especially Langara, showing the need for a thorough evaluation of stunting control strategies at the Konawe Islands Regency level. A region-based approach and strengthening cross-sector collaboration are important to reduce stunting rates in a sustainable manner.

Based on the above background, the researcher wants to analyze the factors related to the incidence of stunting in children under five (12-59 months) in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025.

2. Material and methods

This research is a quantitative research using the Case Control method. The study population was all toddlers aged 12 - 59 months who were stunted. A sample of 116 toddlers was taken using the simple random sampling method. The instrument used in this study is a questionnaire sheet. Primary data collection was carried out by distributing questionnaires to patients.

The independent variables in this study are infectious diseases, basic immunization, parenting , while the dependent variable is the incidence of stunting. Data analysis used univariate, bivariate analysis with chi-square and multivariate tests using *binary logistic regression.*

3. Results and discussion

3.1. Univariate Analysis

3.1.1. Characteristics of Respondents

Table 1 The characteristics of the respondents in the study were classified into several categories, namely: age, gender, education and occupation.

Characteristic	Category	Frequency	Present (%)
Age	1-3 Years	61	52.6
	4-5 Years	55	47.4
Gender	Man	63	54.3
	Woman	53	45.7
Education	SD	6	3.7
	JUNIOR	9	5.6
	High School/Vocational School	88	54.7
	S1	13	88.1
Work	IRT	103	64
	Self employed	4	2.5
	ASN	9	5.6

It shows that of the 116 respondents (100%) there are the highest respondents in the 1-3 year age group as many as 61 respondents (52.6%) and the lowest in the 4-5 year age group as many as 55 respondents (47.4%). Then there were the highest respondents in gender, namely men as many as 63 respondents (54.3%) and the lowest in women as many as 53 respondents (45.7%). There were the highest respondents in education, namely high school/vocational school with 88 respondents (54.7%) and the lowest in elementary education with 6 respondents (3.7%). As for work, it shows that out of 116 respondents (100%), there are the highest respondents in IRT work as many as 103 respondents (64%) and the lowest in Wiraswata work as many as 4 respondents (2.5%) and ASN as many as 9 respondents (5.6%).

3.1.2. Research Variables

History of Infectious Diseases

Table 2 Distribution of Respondent Frequency Based on History of Infectious Diseases in Toddlers in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

No.	Infectious Diseases	Quantity (n)	Percentage (%)
1	Suffer	62	53.4%
2	Not suffering	54	46.6%
	Total	116	100

Source : Primary Data processed, 2025

Table 2 shows that of the 116 respondents, the highest is a child with an infectious disease as many as 62 respondents (53.4%) and the lowest is a child with a child who does not suffer from an infectious disease as many as 54 respondents (46.6%).

Basic Immunization

Table 3 Distribution of Respondent Frequency Based on Basic Immunization for Toddlers in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

No.	Immunization Status	Quantity (n)	Percentage (%)
1	Complete	53	47.7%
2	Incomplete	63	54.3%
	Total	116	100

Source : Primary Data processed, 2025

Table 3 shows that of the 116 respondents, the highest was a child with an incomplete immunization status of 63 respondents (54.3%) and the lowest was a child with a complete immunization status of 53 respondents (47.7%).

Parenting

Table 4 Distribution of Respondent Frequency Based on Parenting Patterns in Toddlers in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

No.	Exclusive Breastfeeding	Quantity (n)	Percentage (%)
1	Exclusive Breastfeeding	57	49.1
2	No Exclusive Breastfeeding	59	50.9
	Total	116	100

Source : Primary Data processed, 2025

Table 4 shows that of the 116 respondents, the highest was 59 respondents (50.9%) and the lowest was 57 respondents (49.1%).

3.2. Bivariate Analysis

Bivariate analysis is carried out to determine the relationship between independent variables and dependent variables through Crosstabs or cross-tabulation. The statistical test carried out in this Bivariate analysis was to use the Chi Square test with a 95% confidence degree (α = 0.05). It is said that there is a statistical relationship if *a p<0.05 value is obtained*

3.2.1. Infectious Diseases

Table 5 Relationship between Infectious Diseases and Stunting Incidence in Children Under Five in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

Infectious Diseases	Stunting Incidence				Total		Statistical Test
	Case		Control				
	N	%	N	%	N	%	
Suffer	51	87.9	11	19	62	53.4	P-value=0.000 OR=31.130
Not Suffering	7	12.1	47	81	54	46.6	
Total	58	100	58	100	116	100	

Source : Data Analysis Results using SPSS, 2025

Table 5 shows that of the 58 respondents in the case group who suffered from infectious diseases, there were 51 respondents (87.9%) and 7 respondents (12.1%) did not suffer from infectious diseases. Meanwhile, of the 58 control group respondents who suffered from infectious diseases, there were 11 respondents (19%) and 47 respondents (81%) did not suffer from infectious diseases.

The results of statistical analysis using the chi-square test at a 95% confidence level showed a ρ-value = 0.000 (ρ-value < 0.05), so that H0 was rejected and H1 was accepted, which means that there is a relationship between the history of infectious diseases and the incidence of stunting in children under five in the working area of the Langara Health Center, Konawe Islands Regency in 2025.

Basic Immunization

Table 6 Relationship between the Provision of Basic Immunization and the Incidence of Stunting in Children Under Five in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

Basic immunization status	**Stunting Incidence**				**Total**		***Statistical Test***
	Case		Control				
	N	%	N	%	N	%	
Complete	51	87.9	12	20.7	63	54.3	***P-value=0.000***
Incomplete	7	12.1	46	79.3	53	45.7	***OR=0.036***
Total	58	100	58	100	116	100	

Source : Data Analysis Results using SPSS, 2025

Table 6 shows that of the 58 case group respondents who had complete basic immunization status, there were 51 respondents (87.9%) and 7 respondents (12.1%) with complete immunization status. Meanwhile, of the 58 control group respondents who had complete basic immunization status, there were 46 respondents (79.3%) and 12 respondents (20.7%) with incomplete immunization status.

The results of statistical analysis using the chi-square test at a confidence level of 95% showed a ρ-value = 0.000 (ρ-value < 0.05), so that H0 was rejected and H1 was accepted, which means that there is a relationship between the provision of basic immunization and the incidence of stunting in children under five in the working area of the Langara Health Center, Konawe Islands Regency in 2025.

Parenting

Table 7 Relationship between Parenting and Stunting Incidence in Children Under Five in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

Exclusive Breastfeeding	**Stunting Incidence**				**Total**		***Statistical Test***
	Case		**Control**				
	N	**%**	**N**	**%**	**N**	**%**	
Exclusive Breastfeeding	6	10.3	51	87.9	57	49.1	***P value=0.000***
No Exclusive Breastfeeding	52	89.7	7	12.1	59	50.9	***OR=0.036***
Total	58	100	58	100	116	100	

Source : Data Analysis Results using SPSS, 2025

Table 7 shows that of the 58 respondents in the case group who were exclusively breastfeeding, there were 6 respondents (10.3%) and 52 respondents (89.7%) who were not exclusively breastfeeding. Meanwhile, of the 58 respondents in the control group who were exclusively breastfeeding, there were 51 respondents (87.9%) and 7 respondents (12.1%) who were not exclusively breastfeeding.

The results of statistical analysis using the chi-square test at a 95% confidence level showed a ρ-value = 0.000 (ρ-value < 0.05), so that H0 was rejected and H1 was accepted, which means that there is a relationship between exclusive breastfeeding and the incidence of stunting in children under five in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025.

3.3. Multivariate Analysis

Multivariate analysis is used to look at the influence of several independent variables and dependent variables at the same time. This analysis is used to find out which variables are most dominant with the variables they obtain. The analysis used is binary logistic regression. (Sastroasmoro. 2013)

Based on the results of the bivariate test, independent variables were obtained that had a p<0.05 value, namely History of Infectious Diseases, Basic Immunization, Parenting so that these variables would be included in the multivariate analysis of binary logical regression.

Table 8 Multivariate Analysis of Binary Logistics Regression Factors Most Influential on the Incidence of Stunting in Children Under Five in the Working Area of the Langara Health Center, Konawe Islands Regency in 2025

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
History of Infectious Diseases	0.846	0.745	1.289	1	0.000	31.130
Basic Immunization	0.682	0.764	0.796	1	0.000	0.036
Parenting	1.385	0.908	2.324	1	0.000	0.016

The variable of Infectious Disease History was obtained with a value of Sig = 0.000 (*P value* <0.05). Therefore, it was concluded that Infectious Disease History is a factor related to the incidence of stunting in children under five in the working area of the Langara Health Center, Konawe Islands Regency in 2025. This means that children who suffer from infectious diseases will be at risk of stunting as much as 31,130 compared to children who do not suffer from infectious diseases.

According to WHO (2025) Infectious diseases are Diseases caused by pathogenic microorganisms (bacteria, viruses, parasites, or fungi) that can be transmitted from person to person, animal to human, or through the environment. Infectious diseases that are at risk in the first 2 years of stunting are diarrhea and ARI. In addition, based on data, it is known that the incidence of diarrhea and ISPA is most common in toddlers according to the characteristics of the age group. Children who are malnourished have a 9.5 times greater risk of having diarrhea than children who do not have diarrhea, and children who are stunted are at a 4.6 times greater risk of death. Another study stated that children who experience diarrhea have a shorter height of 0.38 cm than children who do not experience diarrhea (Novianti Tysmala Dewi*, 2023).

The results of this study are in line with the research conducted by Novianti Tysmala Dewi and Dhenok Widari, (2023), which showed that there is a relationship between infectious diseases and the incidence of stunting Results of infectious diseases (p=0.049; OR=3,071; 95% CI: 1,155-11,861) with the incidence of stunting in clowns. infectious diseases in the last 3 months increased the risk by 0.157 and 3.017 times the incidence of stunting in clowns. It is recommended that clowns who have infectious disease problems be given special attention by the posyandu and it is necessary to carry out regular development-related reviews so that developmental disorders that may occur can be immediately recognized and overcome (Novianti Tysmala Dewi, 2023).

4. Conclusion

The results of the study showed that there was a significant relationship between the history of infectious diseases, basic immunization, parenting and the incidence of stunting in toddlers (12-59 months) in the working area of the Langara health center, Konawe Islands Regency in 2025, each indicated by a p value that was below 0.05, namely p=0.000 for infectious diseases, p=0.000 for basic immunization, p=0.000 for parenting. Of all these variables, infectious diseases are the most related factor to the incidence of stunting based on the results of the binary logistics regression test with an Odds Ratio Exp(B) = 31.130, which shows that children suffering from infectious diseases are at 31.130 times greater risk of stunting compared to children who do not suffer from infectious diseases.

Compliance with ethical standards

Acknowlegement

The author would like to express his sincere gratitude to the Postgraduate Program, Faculty of Public Health, Halu Oleo University, as well as to all individuals, institutions and all those who have contributed to the completion of this research.

Disclosure of Conflict of Interest

There was no conflict of interest in this study.

Statement of informed consent

This study was conducted in accordance with ethical standards for research involving human participants. Approval was obtained from the relevant institutional ethics committee prior to data collection. Informed consent was obtained from all individual participants included in the study. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The data collected were used solely for research purposes.

References

[1] Taswin, T., Taufiq, L. O. M., Damayanti, W. O. A., & Subhan, M. (2023). Exclusive Breastfeeding and Basic Immunization with Stunting Incidence in Toddlers. Malacci Journal of Midwifery, 4(1), 51. https://doi.org/10.33490/b.v4i1.789Rahmatullah, R., Hardono, H., Elasari, Y., & Pringsewu, U. A. (2025). Patient Satisfaction with Prolanis Services at Pulau Panggung Health. 16(2), 263–272

[2] Khairani, N., & Effendi, S. U. (2020). The analysis of the incidence of stunting in toddlers was reviewed from the status of basic immunization and history of infectious diseases. PREPOTIF : Journal of Public Health, 4(2), 228–234. https://doi.org/10.31004/prepotif.v4i2.1030

[3] Darmawan, A., Reski, R., & Andriani, R. (2022). ANC visits, Integrated Health Service Post (Posyandu), and immunizationwith stunting in children under five in Central Buton District. AcTion: Aceh Nutrition Journal, 7(1), 33–40. http://dx.doi.org/10.30867/action.v7i1.469

[4] Garcia, A. R., Filipe, S. B., Fernandes, C., Estevão, C., & Ramos, G. (2024). Survey of Indonesia's Nutritional Status in Numbers. 367.

[5] Wahyuni, T., & Diansabila, J. (2021). The Relationship Between Body Mass Index (BMI) and Cholesterol Levels among Medical Students. 1(2), 48–53. https://doi.org/10.24853/mjnf.1.2.48-53

[6] Ministry of Health of the Republic of Indonesia. (2022). Report on the Indonesian Nutritional Status Survey (SSGI) 2022. Jakarta: Ministry of Health of the Republic of Indonesia

[7] Southeast Sulawesi Provincial Health Office. (2025). Profile of the Southeast Sulawesi Provincial Health Office 2025. Kendari: Southeast Sulawesi Provincial Health Office..

[8] Novianti Tysmala Dewi, D. W. (2023). The Relationship Between Low Birth Weight and Infectious Diseases with the Incidence of Stunting among Children Under Two Years in Maron Kidul Village, Maron Subdistrict, Probolinggo Regency. 373–381. https://doi.org/10.2473/amnt.v2i4.2018.373-381.

[9] Sastroasmoro, S., & Ismael, S. (2013). *Fundamentals of Clinical Research Methodology (4th ed.). Jakarta: Sagung Seto.

[10] Darmi, S. (2024). The Relationship Between Exclusive Breastfeeding History, Immunization History, and Family Socioeconomic Status with the Incidence of Stunting. pp. 457–465.