

THE RELATIONSHIP BETWEEN PARENTING PATTERNS, KNOWLEDGE AND IMMUNIZATION WITH THE INCIDENCE OF STUNTING IN TODDLERS IN THE WORK AREA OF SANGGIRAN COMMUNITY HEALTH CENTER, SIMEULUE REGENCY IN 2024

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Abstract

Stunting is a failure of growth and development in months and toddlers aged 12-59 years chronic malnutrition especially in the first 1,000 days of life, which can be characterized by height that is not in accordance with age < -2 SD based on the Z-Score table. The problem in this study is high rate of stunting in the last 3 years at the Sanggiran Health Center, namely in 2022 the number of stunted toddlers reached 58 people (13%), in 2023 the number of stunted toddlers increased to 81 people (20%), in 2024 the number of stunting decreased to 41 people (11%). The purpose of this study was to see the relationship between parenting patterns, knowledge of stunting and immunization with the incidence of stunting in toddlers in the Sanggiran Health Center Work Area, Simeulue Regency In 2024. The research design used is cross-sectional. The population in this study were all stunted toddlers in the Sanggiran Health Center Working Area in 2024 and the number of samples in this study was 41 people. Data analysis using SPSS application with Chi-square statistical test significance value 95%. The results of this study indicate that there is a relationship between maternal parenting patterns and stunting incidence ($P=0,000$). This study reveals a significant correlation between immunization status and stunting ($P=0.036$), as well as between knowledge level and stunting ($P=0.018$). The conclusion is that there is a relationship between parenting patterns, immunization, knowledge, and Stunting In The Sanggiran Health Center Work Area in 2024. Suggestions for further researchers can improve variables such as economic status, energy intake, and drinking water sources.

Keywords: *stunting, parenting, immunization, knowledge*

INTRODUCTION

Stunting is a condition of growth and development failure in infants (0-11 months) and toddlers (12-59) who experience chronic malnutrition, especially in the first 1,000 days of life, which can be characterized by height that is not appropriate for their age (Arnita, *et al* 2021). In addition to nutritional intake factors, stunting can be influenced by parental height, family economy, number of family members, and exclusive breastfeeding (Yuwanti, *et al* 2022). According to the Indonesia Ministry of Health (2018), the impact of stunting on children's health and growth and development is very detrimental, stunting can cause disorders in children's growth and development, especially in children under two years of age. According to Shekar *et al* (2027), toddlers who are stunted can experience short-term impacts such as growth failure, cognitive and motor development disorders, and metabolic disorders. Meanwhile, the long-decreased intellectual capacity, impaired nerve function structure, impaired brain cells, impaired growth (short or thin) and increased risk of noncommunicable diseases (diabetes mellitus, hypertension, and stroke) later in life.

The solution to overcome stunting in toddlers is to provide additional food (PMT) in accordance with the regulation of the Minister of Health of the Republic of Indonesia Number 51 of 2016 concerning nutritional supplement product standards, the PMT provided can be in the form of family food based on local food ingredients (Wati, *et al* 2021). Knowledge is everything that is known by humans or respondents about health and illness or health, for example stunting. This knowledge includes causes, characteristics, impacts, ways to prevent stunting, nutritional status, sanitation and others. The broader a person's knowledge, the more positive their behavior. Maternal nutritional knowledge can be influenced by age knowledge, occupational and income. Therefore, if a mother has insufficient nutritional knowledge, the food intake given to the toddler will also be inappropriate and can affect the status of the

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toddler (Andriani, 2017). According to the World Health Organization (WHO) in Rusdi (2021) stunting is a health problem in the world that has not been resolved until now, who gives a tolerance for malnutrition of 10% and a stunting incidence of 29%. The World Health Organization (WHO) in its research (2023) stated that the incidence of stunting in the world in 2020 was (22,7%) while in 2021 the world stunting rate was (22,5%), then in 2022 the stunting rate in the world decreased by (22,3%).

The prevalens of wasting toddlers SSGI 2022, the wasting rate in Nagan Raya Regency in 2021 wa 10,1% and in 2022 it decreased from the previous year of 8,6%, and in 2023 the prevalence of wasting in Nagan Raya increased by 17,6%. Stunting data in Indonesia in 2021 was (24,4%) while in 2022 it was (21,6%) then in 2023 it was (21,5%) only down 1 % from the previous year (SSGI 2023). Stunting data in Aceh Province in 2021 it was (33,2%) then in 2022 it was (31,2%) and in 2023 the stunting rate was (29,4%).

The simeulue Reagency Health Office (Dinkes) stated that the prevalence of stunting in 2021 was 18,9% in 2022 the prevalence of stunting was 15,9%. In 2023 the prevalence of stunting decreased from 2022 15,9% to 10,7%. From the district data, the highest stunting rate was in West Simeulue District with a stunting prevalence of 13,9%. Based on the results of stunting data per year in the Sanggiran Health Center Area, the results were obtained in 2022 the number of toddlers was 420, while the number of stunted toddlers was 81 toddlers 20% meaning there was an increase in 2023. Furthermore, in 2024 the number of toddlers was 369, while the number of stunted toddlers was 41 toddlers 11% data (Januari-September).

LITERATURE REVIEW

Stunting (short stature) is a condition in children that causes children to experience growth disorders so that their height does not match their age. This is caused by chronic nutritional problems in the form of lack of nutritional intake over a long period of time (Ministry of Health, 2020). The imbalance of nutrition obtained by the body causes a decrease in the growth and development of children (Fikawati, 2018). Stunting can cause a decrease in cognitive, productivity and work performance and children become vulnerable to health problems (Setiawan, 2020). Stunting is one of the nutritional problems caused by chronic malnutrition. This is made with the TB/U indicator with a Z-score value below -2 growth can be seen with several indicators of nutritional status. The growth of infants and children can be monitored through several indicators, including weight for length (BB/PB) and height as the main indicators. to body length BB/PB, height according to age TB/U, and weight according to height BB/TB (Rosmalina et al., 2017).

Parenting patterns are the behavior of mothers in caring for or looking after their children. Mother's behavior includes playing a role in providing breast milk or providing or providing complementary foods, teaching proper eating habits, providing foods with high nutritional value (Febriani, 2018). According to Blumrind (1991 in Septinadia 2019) there are 4 characteristics of eating patterns or with the term parental feeding style including parenting food patterns determined by parents but Children have the right to choose food that meets their needs and preferences. The second is an authoritarian parenting pattern of food that will be eaten which is of a nature that regulates the portion and time of the child's meal and The type and variety of food can influence children's eating behavior. Permissive parenting patterns, namely giving children the freedom to consume food based on their wishes, parents need to give an agreement to the child if they do not want to eat. The fourth pattern of eternal parenting is the freedom of children to determine their own food and parents do not see whether the child has eaten or not. The results of this study are in line with the research of Sofan Fatonah (2020) which shows that there is a significant relationship between authoritarian parenting patterns and the incidence of stunting.

Mother's knowledge of stunting malnutrition is the mother's understanding of stunting malnutrition such as the types of food that children will consume and the relationship between food ingredients and health. Nutritional status will be achieved if the food consumed contains the ingredients or nutritional value needed by the body. Nutritional status is said to be lacking if the food does not contain the required amount of nutrients (Hardiningsih and Yunita, 2019). Lawrence Green's theory (1991) as quoted by Notoatmodjo (2014) states that individual or community health behavior is influenced by knowledge as a factor that influences action. or behavior in real terms. Mothers who are able to have self-knowledge will increase their knowledge well or sufficiently in overcoming stunting prevention efforts (Arsyanti, 2021).

Immunization is one way to prevent child mortality, immunization is the process of providing artificial immunity to children to avoid various diseases that can cause death. Diseases in toddlers that can be prevented through immunization are polio, measles rubella, pertussis, diphtheria and hepatitis B, immunization has reduced the child mortality rate by 2 million to 3 million each year (Romantika, 2022). Immunization is one of the efforts made to actively increase the baby's immune system against certain diseases, so that if the baby is exposed to a disease, it is not easy to get sick or only experiences mild illness. According to Picauly (2013 in Nasrul 2016) concluded that children

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who are not immunized are 1.9 times at risk of stunting compared to children who are immunized, most respondents in this study did not receive complete immunization due to the lack of parental knowledge about the importance of immunization. Based on the research results of Anggraini (2019), the risk factors for stunting in toddlers include the baby's birth weight, the child's anemia status, the mother's age at birth and the mother's education. The characteristics of children with stunting are: Slow growth, Face looks younger than children of the same age, Slow tooth growth, Poor performance in the ability to focus and learn memory, At the age of 8-10 years children become quieter, do not make much eye contact with people around them. According to Tampubolon et al. (2021), in general, stunting in children is handled in the following ways: One of the first treatments that can be done for children with below normal height who are diagnosed with stunting is to provide the right parenting pattern to prevent children from experiencing stunting.

METHOD

The method used in this study is a quantitative method with an analytical survey research type, with a cross-sectional approach (Nursalam, 2015). The purpose of this study was to analyze multidimensionality in preventing stunting in the Sanggiran Health Center Work Area. The technique used was the total sampling technique with a population of 41 people. This research utilized both primary and secondary data collection methods. Primary data were obtained from measuring BB/PB and Z-Score of toddlers, direct interviews with mothers of toddlers about parental knowledge and immunization, and personal data of mothers. Secondary data used in this study were obtained from community health center documentation. Data analysis was carried out using the chi square test to see the relationship between categorical variables, namely Parenting Patterns, Knowledge and Immunization with Stunting Incidents in Toddlers. The chi square test was chosen because it is effective in measuring the relationship between non-parametric variables (Sugiono, 2017).

RESULTS AND DISCUSSION

RESULTS

Based on the research results, the characteristics of respondents including gender, age, and Z-score can be seen in the following table.

Univariat Analysis

Table 1. Distribution of Toddler Gender in the Sanggiran Health Center Work Area, Simeulue Regency in 2024

No	Gender	Frequency (f)	Percentage%
1	Female	17	41,5
2	Male	24	58,5
Total		41	100

Table 1. Shows that of the 41 respondents studied, the gender with the highest category was male, with 24 people (58.5) and the gender with the lowest category was female, with 17 people (41.5).

Table 2. Distribution of Toddler Age in the Sanggiran Health Center Work Area, Simeulue Regency in 2024

No	Toddler Age	Frequency (f)	Percentage%
1	1-2 years	17	41,5
2	3-4 years	24	58,5
Total		41	100

Table 2 shows that of the 41 respondents studied, respondents in the highest category were at the 3-4 year age level, totaling 24 people (58.5), and respondents in the lowest category were at the 1-2 year age level, totaling 17 people (41.5).

Table 3 Distribution of Toddler Z-Scores in the Sanggiran Health Center Work Area, Simeulue Regency in 2024

No	Z-Score	Frequency (f)	Percentage%
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1.	Short	23	56,1
2.	Fery short	18	43,9
Total		41	100

Table 3. shows that of the 41 respondents studied, the Z-Score with the highest category was at the short stunting level of 23 people (56.1), and the Z-Score with the lowest category was at the very short stunting level of 18 people (43.9).

Table 4. Distribution of Respondents' Mothers' Age in the Sanggiran Health Center Work Area, Simeulue Regency in 2024

No	Mother's Age	Frequency (f)	Percentage%
1	24-30 years	19	46,3
2	31-40 years	18	43,9
3	36-40 years	4	9,8
Total		41	100

Table 4. Shows that of the 41 mothers respondents studied, the respondents in the highest category were aged 24-30 years, as many as 19 people (46.3), then the respondents in the lowest.

Table 5. Distribution of Respondent Mothers' Education in the Sanggiran Health Center Work Area, Simeulue Regency in 2024

No	Mother's Age	Frequency (f)	Percentage%
1	Elementary School	8	19,5
2	Junior High School	10	24,4
3.	High School	12	29,3
4.	College	11	26,8
Total		41	100

Table 5. Shows that of the 41 respondent mothers studied, respondents with the highest category were at the high school level as many as 12 people (29.3), then respondents with the lowest category were at the elementary school level as many as 8 people (19.5). respondents with the junior high school category as many as 10 people (24.4), and respondents with the college category as many as 11 people (26.8).

Table 6. Distribution of Respondent Mothers' Occupations in the Sanggiran Health Center Work Area, Simeulue Regency in 2024

No	Mother's Job	Frequency (f)	Percentage%
1	Civil Servant	5	12,2
2	Self-Employed	4	9,8
3	Household	32	78
Total		41	100

Table 6. shows that of the 41 respondent mothers studied, respondents with the highest category were at the housewife level (IRT) as many as 32 people (78.0), while those with the lowest category were at the Self-Employed level as many as 4 people (9.8), and respondents with the Civil Servant (PNS) category as many as 5 people (12.2).

Table 7. Distribution of Mother's Parenting Patterns in the Sanggiran Health Center Work Area, Simeulue Regency in 2024.

No	Parenting	Frequency (f)	Percentage%
1	Good	17	41,5
2	Not Good	24	58,5
Total		41	100

Table 7. shows that of the 41 respondents studied, respondents with the highest category were at the poor

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parenting level as many as 24 people (58.6), and respondents with the highest and lowest categories of good knowledge were 17 people (41.5).

Table 8. Distribution of Immunization in the Sanggiran Health Center Work Area, West Simeulue District, Simeulue Regency in 2024

No	Imunization	Frequency (f)	Percentage %
1	Compleat	18	43,9
2	Incomplet	23	56,1
Total		41	100

Table 8. Shows that of the 41 respondents studied, respondents with the highest category were at the incomplete immunization level as many as 23 people (53.7), and respondents with the lowest category were at the good immunization level as many as 18 people (43.9).

Table 9. Distribution of Knowledge in the Sanggiran Health Center Work Area, West Simeulue District, Simeulue Regency in 2024

No	Knowledge	Frequency (f)	Percentage%
1	Good	22	53,7
2	Not Good	19	46,3
Total		41	100

Table 9 shows that of the 41 respondents studied, the respondents with the highest level of knowledge were 22 people (53.7), and the respondents with the lowest level of knowledge were 19 people (46.3).

Bivariate Analysis

After the univariate analysis is complete, the next step is to conduct a bivariate analysis using chi-square. This analysis aims to see the relationship between the independent variables and the dependent variables with a statistically significant level determined by the p-value (0.05). The following results were obtained:

Table 10. Relationship between Parenting Patterns and Stunting in the Sanggiran Health Center Work Area, Simeulue Regency in 2024.

Parenting	Stunting						Total	Nilai <i>p value</i>
	Very Short		Short					
	f	%	f	%	f	%		
Good	14	34,15	3	7,32	17	41,4	0,000	
Not Good	5	12,20	19	46,34	24	58,6		
Total	19	46,78	22	53,66	41	100		

The chi-square analysis in table 4.10 shows a significant relationship between parenting patterns and the incidence of stunting in the Sanggiran Health Center Work Area, West Simeulue District, Simeulue Regency in 2024. The results of the analysis show a p-value (0.000), this means that Ha is accepted.

Table 11. Relationship between Immunization and Stunting in the Sanggiran Health Center Work Area, Simeulue Regency in 2024.

Imunization	Stunting		Total	Nilai <i>p value</i>
	Very Short	Short		

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	f	%	f	%	f	%	
Compleat	5	12,20	13	31,71	18	43,9	
Incomplet	14	34,15	9	21,95	23	56,1	0,036
Total	19	46,35	22	53,66	41	100	

Chi-square analysis in table 11. Immunization has a significant correlation with the incidence of stunting in the working area of Sanggiran Health Center, West Simeulue, Simeulue Regency in 2024.. The results of the analysis show a p-value (0.035), this means that Ha is accepted.

Table 12 Relationship between Knowledge and Stunting in the Sanggiran Health Center Work Area, Simeulue Regency in 2024.

Knowledge	Stunting				Total	Nilai <i>p value</i>
	Very Short		Short			
	f	%	f	%		
Good	14	34,15	8	19,51	18	43,9
Not Good	5	12,20	14	34,15	23	56,1
Total	19	46,35	22	53,66	41	100

Chi-square analysis in table 12. The results of the analysis show a significant relationship between immunization status and the incidence of stunting in the Sanggiran Health Center Work Area, Simeulue Regency in 2024. The results of the analysis show a p-value of 0.017 or <0.05, meaning that Ha is accepted.

DISCUSSION

The results of this study are about the relationship between parenting patterns, knowledge and immunization with the incidence of stunting in toddlers in the work area of the sanggiran public health center, simeulue regency in 2024. with a total of 41 respondents. From the nutritional status data, there were 23 short toddlers (56.1%), and 18 very short toddlers (43.9%). Then the data on maternal parenting patterns where out of 41 respondents studied, 17 had good maternal parenting patterns (41.5%), and 24 had poor maternal parenting patterns (58.5%). Then the immunization data from the 41 respondents studied, 18 had complete immunization (43.9%) and 23 had incomplete immunization (56.1%). Of the 41 respondents studied, 22 people (53.7%) had good knowledge, while 19 other people (46.3%) had poor knowledge. ledge (53.7%) and 19 had poor knowledge (46.3%).

Relationship between Mother's Parenting Pattern and Stunting Incidents

Based on the results of data analysis through statistical tests using the Chi-Square test, a p-value of 0.000 or <0.05 was obtained. Quality parenting patterns have a significant relationship with a reduced risk of stunting, indicating the importance of the role of parents. While the worse the parenting pattern, the more likely it is that the number of parents who have stunted children will increase. This study is also in line with researcher Ika, 2021 in Neglasari Village, Tanjung Agung Health Center Work Area, South Lampung Regency, 2021, which stated that there was a significant relationship between mother's parenting patterns and stunting incidents. This study is also in line with Hayati & Healthy 2022, at the Bahorok Health Center UPT, Langkat Regency, which stated that there was a significant relationship between mother's parenting patterns and stunting incidents.

Relationship between Basic Immunization and Stunting Incidents

Based on the results of data analysis through statistical tests using the Chi-Square test, a P value of 0.036 or <0.05 was obtained, which means that there is a relationship between immunization and stunting incidents in toddlers in the Sanggiran Health Center Work Area. This study is in line with research conducted by Wanda, et al. 2021 in Hegarmanah Village, Jatinangor District, which found that children who did not receive complete immunizations were at risk of stunting, compared to children who received complete immunizations. This study is also supported by Taswin's 2023 study in Pasarwajo Village, Buton Regency, which stated that there was a significant relationship between immunization and stunting incidents.

Relationship Between Knowledge and Stunting Incidents

Based on data analysis through statistical tests using the Chi-Square test, a p-value of 0.018 or <0.05 was

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obtained, meaning that there is a relationship between knowledge and stunting incidents in the Sanggiran Health Center Work Area. This study is in line with previous studies which state that there is a significant relationship between maternal knowledge and stunting incidents (Olsa, et.al 2017). This study is also in line with the research of Ningtyas, et.al 2020 where there is a significant relationship between knowledge and stunting incidents at the Karangayu Health Center in Semarang

CONCLUSION

Based on the results and discussions in this study, it can be concluded as follows:

1. There is a significant relationship between parenting patterns and the incidence of stunting in the Sanggiran Health Center Work Area as evidenced by a P value = 0.036 or <0.05 , meaning that H_a is accepted and H_o is rejected.
2. There is a significant relationship between the level of immunization and the incidence of stunting in the Sanggiran Health Center Work Area as evidenced by a P value = 0.000 (<0.05), it can be concluded that there is a very significant relationship, so H_a is accepted and H_o is rejected.
3. There is a significant relationship between the level of knowledge and the incidence of stunting in the Sanggiran Health Center Work Area as evidenced by a P value = 0.018 or <0.05 , meaning that H_a is accepted and H_o is rejected.

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