Factors Related to Stunting Incidence in Toddlers Aged 24-59 Months in the Working Area of Kambang Community Health Center, Pesisir Selatan District

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Abstract

Stunting is a major nutritional problem in Indonesia, even in the world particularly in developing countries. The purpose of the study was to find out the factors related to stunting in toddlers aged 24-59 months in the Pesisir Selatan District. This study is an analytical survey study with cross sectional design. This research will be conducted in the Kambang Health Center, Lengayang District, in July 2022–January 2023. The population in this study was all mothers who had toddlers aged 24-59 months who were in the Kambang Community Health Center working area in 2021 which numbered 1081 toddlers. Sample used in this study is 180 samples. The sampling technique used in this study is proportional stratified random sampling. Data collection tool using questionnaires. Analysis of the data in this study using Chi-Square test and use multiple logistical regression tests. The results showed that there was a significant relationship between the age of the mother during pregnancy (p-value = 0.040), there was a relationship between the nutritional status of the mother (p-value = 0.003), there was a relationship between parity (p-value=0.034), there is a relationship between psychosocial parenting (p-value = 0.000), there is a relationship between environmental sanitation (p-value=0.000), there is no significant relationship between low birth weight (p-value = 0.071), there is a significant relationship between birth length (p-value = 0.016). Environmental sanitation is the most dominant factor in causing stunting. Environmental sanitation has a 6,512 times chance of causing stunting in toddlers aged 24-59 months in the working area of the Kambang Community Health Center, Pesisir Selatan District. It is recommended for health workers to provide supplements or supplements for pregnant women and toddlers for nutritional improvement and to educate them on nutritional knowledge.

Keywords: ***Stunting, Mother Factors, Child Factors***

INTRODUCTION

Stunting is a major nutritional problem in Indonesia, even in the world (Zulaikha et al., 2022). Stunting is a condition of child nutritional status observed by measurement of height compared to age, where the measured value is <-2 SD. Stunting can inhibit child development and have negative effects on later life such as decreased catching power, susceptibility to disease, and when adults are at risk of developing degenerative diseases. In the end, stunting will broadly hinder economic growth, increase poverty and widen inequality (Rahayu et al., 2018).

World Health Organization (WHO) indicates 22% or 149.2 million of all childrenunder 5 years in the world experiencestunting in 2020. UNICEF in 2020 shows prevalence stunting

in Southeast Asia as much as 27.4%. Indonesia in 2020 is the second country with the highest prevalence stunting as much as 31.8% in the Southeast Asia region after East Leste (48.8%) (UNICEF, 2020). Prevalence stunting in West Sumatra decreased from the previous year, which was 29.9% (2018) to 27.47% (2019). Despite the prevalence stunting decreased in West Sumatra in 2019, but is still a problem because the prevalence rate is more than 20% (Kemenkes RI, 2019).

Basic Health Research tahun 2018 shows a 30.8% prevalence of stunting in Indonesia (Kemenkes RI, 2018). Pada tahun 2019, terjadi penurunan menjadi 27,67%. In 2019, there was a decline to 27.67%. However, the prevalence of stunting increased again in 2020 to 31.8% in 2020 (Kemenkes RI, 2020). The prevalence of stunting in West Sumatra decreased in 2018 by 29.9% and in 2019 to 27.47% (Kemenkes RI, 2018; Kemenkes RI, 2019). Although stunting prevalence declined in West Sumatra in 2019, it is still a problem as the prevalence rate is over 20%.

Stunting can be caused by many factors. WHO 2016 states that stunting caused by 4 factors, namely family and household factors, inadequate additional/complementary food, breastfeeding and infection. Family and household factors are divided into 2 groups, namely maternal factors and home environmental factors. Maternal factors include mother's nutritional status, mother's age, parity, while home environmental factors such as mother's upbringing and environmental sanitation. Besides that, child factors such as birth weight and birth length also cause the incident stunting (WHO, 2016).

The causes of stunting are the causes of malnutrition experienced by pregnant women and toddlers, lack of understanding of mother's health and nutrition before and during pregnancy, the strictness of health care services, including antenatal care services, There is still a lack of access to nutritious food and a lack of access to clean water and sanitation. Food factors such as energy intake, protein, and zinc. Meanwhile, stunting risk factors can be caused by family income factors, family membership, maternal education, maternal knowledge, maternal milk water supply history, weight at birth, and immunization completeness (Nuraeni et al., 2020).

According to Akombi et al 2017, maternal factors and child factors are the factors that have the most influence on the incidence of stunting. As for those included in the maternal factor, namely the mother's age, mother's nutritional status, mother's height, parity, while those included in the child factor were birth weight, birth length, sex (Akombi et al., 2017).

National Development Planning Agency stated Pesisir Selatan District is one of the focus locations for reduction intervention sstunting in 2021 (KPPN/BAPPENAS, 2020). Of

the 20 Public Health in Pesisir Selatan, one of the Public Health is included in the location of the focus of reduction stunting in 2021, is Kambang Public Health highest toodlers after Air Haji Public Health.

Based on the above description results, researchers are interested in finding out the factors related to stunting in toddlers aged 24-59 months in the Kambang Community Health Center area of South Pesisir Regency.

METHODS

This study is an analytical survey study with cross sectional design. The purpose of this study is to find out the factors related to stunting in toddlers aged 24-59 months in the Kambang Community Health Center area of South Pesisir Regency. This research will be conducted in the Kambang Health Center, Lengayang District, in July 2022–January 2023. The population in this study was all mothers who had toddlers aged 24-59 months who were in the Kambang Community Health Center working area in 2021 which numbered 1081 toddlers.

The sample in this study is a population that meets the criteria for inclusion and exclusion. As for the inclusion sample criteria in this study, namely having a Maternal and Child Health book, parents/parents are willing to be respondents, children in healthy condition, mothers who nurture and live with their children, and children who have complete parents. Meanwhile, the exclusion criterion is that toddlers have abnormalities such as congenital disease, physical disability, and mental disorders. Calculate samples using the formula Lemeshow (1990) the known population size is :

$$n = \frac{\mathrm{Z^2 1-a/2\ P\ (1-P) N}}{\mathrm{d^2\ (N-1) +\ Z^2 1-a/2 P\ (1-P)}}$$

$$n = \frac{1{,}96^2 \text{ x } 0{,}146\ (1-0{,}146) \text{ x } 1081}{0{,}05^2 \text{ x} 1080 + 3{,}84 \text{ x } 0{,}146 \text{ x } (1-0{,}146)}$$

$$n = \frac{517{,}57}{2{,}7 + 0{,}48}$$

$$n = \frac{517{,}57}{3{,}18} = 163$$

Based on the results calculated using the above formula, the minimum sample required is 163 samples. To avoid sample dropouts plus 10% of the required sample. So the sample used in this study is 180 samples.

The sampling technique used in this study is proportional stratified random sampling. The data collection in this study was used to measure the height of a toddler, the Maternal and Child Health Book was used to look at the maternal health records needed to obtain the data

needed in the study such as maternal age, maternal height, parity, nutritional status, and other factors. the birth weight, pregnancy age, and length and research questionnaires that researchers have designed are questions. Analysis of the data in this study using Chi-Square test with a level of efficacy $\alpha = 0,05$ dan and use multiple logistical regression tests.

RESULTS

The Distribution of Mother Characteristics Frequency in table 1 is as follows:

Table 1. Characteristics of Mother Respondents

Characteristics of Respondents	Frequency	%
Mother's Education		
Elementary School	17	9,4
Junior high school	39	21,7
High School / Vocational High School	107	59,4
College	17	9,4
Mother's Occupation		
Government employees	5	2,8
Honorer	9	5,0
Non-permanent employee	4	2,2
Housewife	162	90,0
Mother's Higth		
<150 cm	21	11,7
≥150 cm	159	88,3
Mother's Age		
Risk	41	24,4
Not risk	136	75,6
Mother's Nutrional Status		
Chronic Energy Deficiency	44	24,4
No Chronic Energy Deficiency	136	75,6
Parity		
Risk	49	27,2
Not risk	131	72,8

Based on the table 1, mothers with elementary education were 17 (9.4%) and mothers with junior high school education were 39 (21.7%). While mothers who work as housewives are 162 (90%). Furthermore, mothers with a height of <150 cm were 21 (11.7%). A total of41 (22.8%) mothers of age were not at risk during pregnancy. Furthermore, mothers with Chronic Energy Deficiency nutritional status were 44 (24.4%), while mothers with parity at risk were 49 (27.2%).

The frequency distribution of child characteristics in table 2 is as follows:

Table 2. Characteristics of Toddler Respondents

Characteristics of Respondents	Frequency	%
Age		
24 Month- 36 Month	55	36,7
37 Month- 59 Month	144	63,3
Gender		
Male	96	53,3
Female	84	46,7
Birth Length		
Short	16	8,9
Normal	164	91,1
Birth Weight		
Low birth weight	4	2,2
Not low birth weight	176	97,8

Base on table 2, majority of children with an age range of 37 months-59 months were 114 (63.3%). 53.3% of the children were male and 84 (46.7%) female. Furthermore, there were 16 toddlers with short birth length (8.9%). While toddlers with low birth weight werefound as many as 4 (2.2%)

The frequency distribution of maternal hygiene patterns and sanitation to toddlers in table 3 is as follows:

Table 3. Custody Patterns and Sanitation of Maternal Hygiene to Toddlers Age 24-59 Months in Kambang Community Health Center Working Area, Pesisir Selatan District

Variable	Frequency	%
Parenting Pattern		
Good	41	22,8
Not good	139	77,2
Hygiene Parenting		
Good	85	47,2
Not good	95	52,8
Health Care Style		
Good	102	56,7
Not good	78	43,3
Psychosocial Parenting		
Good	86	47,8
Not good	94	52,2
Environment Sanitation		
Good	86	47,8
Not good	94	52,2

Base on the table 3, most of the respondents had poor parenting patterns as many as 139 (77.2%). Some of the respondents had unfavorable hygiene parenting styles of 95 (52.8%). Poor health care pattern as many as 78 (43.3%). some of the respondents with poor psychosocial parenting were 94 (52.2%) and some of the respondents with poor environmental sanitation were 94 (52.2%).

The distribution of the Stunting Event Frequency in Toddlers ages 24-59 Months in table 4 follows :

Table 4. Distribution of the Frequency of Stunting in Toddlers Age 24-59 Months in Pesisir Selatan District

Stunting Incident	Frequency	%
Stunting	78	43,3
No Stunting	102	56,7
Total	180	100

By table 4. showed that 78 (43.3%) of the 180 respondents received stunting toddlers.

The relationship between maternal factors and the incidence of stunting in toddlers aged 24-59 months in the working area of the Kambang Community Health Center in Pesisir Selatan Regency, in table 5 below:

Table 5. Relationship between maternal factors and stunting in toddlers aged 24-59 months in the working area of the Kambang Community Health Center, Pesisir Selatan District

Variable	Stunting Incident				Total		P-value
	Stunting		No Stunting				
	n	%	n	%	N	%	
Mother's Age							
Risk	24	58,5	17	41,5	41	100	0,040
Not risk	54	38,8	85	61,2	139	100	
Mother's Nutrional Status							
Chronic Energy Deficiency	28	63,6	16	36,4	44	100	0,003
No Chronic Energy Deficiency	50	36,8	86	63,2	136	100	
Parity							
Risk	28	57,1	21	42,9	49	100	0,034
Not risk	50	38,2	81	61,8	131	100	

Table 5. The study showed that mothers with an age of pregnancy risked having more stunting toddlers (58.5%) than those with not 58 stunting (41.5%). The statistical test results obtained a value of 0.040 which means that there is a significant relationship between the age of the mother while pregnant and the stunting.

Research results found that mothers with Chronic Energy Deficiency nutritional status had more stunting toddlers (63.6%) than had stunting toddlers (36.4%). The statistical test results obtained a value of 0.003 which means there is a significant relationship between the history of maternal nutritional status and stunting incident. Research results showed mothers with parity risk having more stunting toddlers (57.1%) than non stunting toddlers (42.9%). The statistical test results obtained a value of 0.034 which means that there is a significant relationship between parity and stunting incident.

The Relationship between Maternal Parenting and Environmental Sanitation Factors with Stunting Incidence in Toddlers Aged 24-59 Months in the Work Area of the Kambang Community Health Center in Pesisir Selatan Regency, in table 6 below:

Table 6. Correlation between Maternal Parenting and Environmental Sanitation Factors with Stunting Incidence in Toddlers Aged 24-59 Months in the Work Area of the Kambang Community Health Center, Pesisir Selatan District

Variable	Stunting Incident				Total		P-value
	Stunting		No Stunting				
	n	%	n	%	N	%	
Parenting Pattern							
Good	4	9,8	37	90,2	41	100	0,000
Not Good	74	53,2	65	46,8	139	100	
Parenting Hygiene							
Good	19	22,4	66	77,6	85	100	0,000
Not Good	59	62,1	36	37,9	95	100	
Health Care Style							
Good	30	29,4	72	70,6	102	100	0,000
Not Good	48	61,5	30	38,5	78	100	
Psychosocial Parenting							
Good	14	16,3	72	83,7	86	100	0,000
Not Good	64	68,1	30	31,9	94	100	
Environment Sanitation							
Good	15	17,4	71	82,6	86	100	0,000
Not Good	63	67,0	31	33,0	94	100	

Table 6. shows that more stunted toddlers (53.2%) have poor parenting patterns than toddlers who are not stunted (46.8%). There is a very significant relationship between parenting and eating patterns with the incidence of stunting in toddlers aged 24-59 months in the working area of the Kambang Health Center, Pesisir Selatan District where the p value is 0.000.

The results showed that more stunted toddlers (62.1%) had poor hygiene parenting styles than non-stunted toddlers (37.9%). The results of the statistical test obtained a p value of 0.000, which means that there is a very significant relationship between parenting hygiene and the incidence of stunting.

Stunted toddlers (61.5%) had poor health care patterns compared to non-stunted toddlers (38.5%). The results of the statistical test obtained a p value of 0.000, which means that there is a very significant relationship between health care patterns and the incidence of stunting.

Stunted toddlers (68%) have more poor psychosocial parenting styles than non-stunted toddlers (32%). The results of the statistical test obtained a p value of 0.000, which means that there is a very significant relationship between psychosocial parenting and the incidence of stunting.

The results showed that more stunted toddlers (67%) had poor environmental sanitation than non-stunted toddlers (33%). The results of the statistical test obtained a p value of 0.000, which means that there is a very significant relationship between environmental sanitation and stunting.

Relationship between Child Factors and Stunting Incidents in Toddlers Aged 24-59 Months in the Working Area of the Kambang Community Health Center, Pesisir Selatan Regency, in table 7 below :

Table 7. The Relationship between Child Factors and Stunting Incidents in Toddlers Aged 24-59 Months in the Work Area of the Kambang Community Health Center, Pesisir Selatan District

Variable	Stunting Incident				Total		P-value
	Stunting		No Stunting				
	n	%	n	%	N	%	
Birth Length							
Short	12	75,0	4	25,0	16	100	0,071
Normal	66	40,2	98	59,7	164	100	
Birth Weight							
Low birth weight	4	100	0	0	4	100	0,016
Not low birth weight	74	42,0	102	58,0	176	100	

Table 7. showed that most toddlers who were not born with BBLR had more stunting (58%) than stunting (42%). The statistical test results obtained a value of 0.071 which means that there is no significant relationship between low birth weight and stunting incident.

The percentage of toddlers with a short birth length is greater (75%) than non-stunting toddlers (25%). The statistical test results obtained a value of 0.016 which means there is a significant relationship between the length of the birth body and the incidence of stunting.

Table 8. Analysis Multivariat

Variable	P *value*	Exp(B)	95% CI for EXP (B)
Mother nutrional status	0,001	0,135	0,042 – 0,433
Parenting pattern	0,009	6,368	1,600 – 25,351
Hygiene parenting	0,011	3,218	1,302 – 7,956
Health style care	0,030	2,573	1,094 – 6,052
Psycosocial parenting	0,001	4,785	1,962 – 11,668
Environment sanitation	0,000	6,512	2,660 – 15,945

Based on table 8. The multivariate final modeling can be concluded that of all independent variables related to stunting incident there is one variable most related to stunting,

namely environmental sanitation with a value of 0.000. The Exp value (B) was obtained 6.512 meaning that environmental sanitation has a chance of 6.512 times causing stunting in toddlers aged 24-59 months in the Kambang Community Health Center working area of South Pesisir Regency.

DISCUSSION

1. Relationship Between Maternal Age During Pregnancy and Stunting

The results of the statistical test obtained a p value of 0.040, which means that there is a significant relationship between the age of the mother during pregnancy and the incidence of stunting.

The results of this study are in line with research conducted by Manggala, et al (2018) which states that there is a significant relationship between the age of the mother during pregnancy and the incidence of stunting with a p value of 0.001 (OR 4.3), which means that mothers at risk have 4 chances 3 times causing stunting. Young maternal age during pregnancy is associated with an increased risk of premature birth, intrauterine growth restriction, infant and maternal mortality, low birth weight. Meanwhile, mothers who are older (>35 years) have an increased risk of premature birth, chromosomal abnormalities, intrauterine growth restriction (Manggala et al., 2018).

Researcher assumptions, the mother's age is too young, the reproductive organs and their physiological functions are not optimal. Meanwhile, in women over 35 years of age, organ function begins to decline. Psychologically, a mother who is too young is psychologicallyand psychologically immature, not ready for her pregnancy and does not know how to look after and care for her pregnancy. Whereas mothers who are too old, usually the mother's stamina has decreased and her enthusiasm for caring for her pregnancy has decreased.

2. Relationship Between Maternal Nutritional Status and The Incidence of Stunting

The results of the study obtained a p value of 0.003 which indicated a significant relationship between the nutritional status of the mother and the incidence of stunting. Hunggumila, et al (2023) found that mothers who experienced Chronic Energy Shortage during pregnancy had a 4.29 times greater tendency for their children to experience stunting compared to mothers who did not experience Chronic Energy Shortage during pregnancy (Hunggumila et al., 2023).

Pregnant women with Chronic Energy Shortage are at risk of giving birth to babies with low birth weight which, if not treated properly, will be at risk of experiencing stunting. This is reinforced by Pangaribuan, et al., (2022) which states that mothers with a history of

Chronic Energy Shortage nutritional status are associated with the incidence of stunting in toddlers. Mothers who experience Chronic Energy Shortage have a 6.0 times higher risk of having stunted children than mothers who do not experience Chronic Energy Shortage (Pangaribuan et al., 2022).

The increased need for nutrients during pregnancy is necessary for the growth and development of the fetus and changes in the mother's metabolism. If there is a lack of nutrients needed during pregnancy, it can cause the fetus to grow imperfectly. Chronic energy deficiency in pregnant women is caused by many factors, one of which is the level of education, the age of the mother during pregnancy. If pregnant women with low education will find it difficult to receive information compared to mothers with higher education, so mothers with low education will have limited knowledge. In this study, mothers with elementary school education were 9.4% and 21.7% junior high school. Mothers with high education have higher concern for nutritional status compared to mothers with less education. Mothers have concern for their nutritional status and all family members and are able to make their own decisions on problems related to family nutritional status (Anggraini, 2019).

3. Relationship Between Parity and The Incidence ff Stunting

The results of the statistical test obtained a p value of 0.034, which means that there is a significant relationship between parity and the incidence of stunting. The results of this study are in line with the research of Widyaningsih et al., (2021) which concluded that parity is related to the incidence of stunting. Research Lubis (2021) states that there is a relationship of maternal parity with stunting incident p-value=0,000. This is because families with many children especially with less economic conditions will not be able to pay enough attention and food to all their children.

Research Sarman et al., (2021) This suggests that there is a link between parity and stunting in 6–12 month olds with a risk of 2,176. Mothers with many parity tend to have stunting children. This is because families with many children especially with less economic conditions will not be able to pay enough attention and food to all their children.

Parity is an indirect factor in stunting, because parity is closely related to parenting patterns and meeting child nutritional needs, especially if supported with less economic conditions. Children born to mothers with parity have a greater chance of getting poor parenting patterns and insufficient nutrition needs during their growth. Children with a large number of siblings may cause delays in growth because competition for available nutrition is limited in the home.

4. Relationship Parenting Pattern and The Incidence of Stunting

Based on the research results, it is known that the unfavorable pattern of foster care has more stunting toddlers (53.2%) than non-stunting toddlers (46.8%). There is a very significant relationship between the pattern of feeding and stunting incident with values (p-*value* =0,000).

The results of this study are in line with the study Fatonah et al., (2020) It states that there is a foster pattern in the feeding of stunting incident in children aged 24–59 months (p-value=0.003). This is because mothers have an unfavorable category of foster care because the lack of family economic income brings bad consequences. Lack of family income will cause food security to be compromised. The helplessness of the family to meet the food supply directly will have an effect on the nutrition fulfillment of their family members, including for their children.

There is a very significant relationship between parenting and stunting with a value of In line with the research by Astika et al., (2020) concluded that the most dominant factor in the incidence of stunting is the parenting style of feeding. Mother's behavior in maintaining the health of toddlers is influenced by knowledge where exposure to certain knowledge is determined by information obtained from the environment, both mass media or social media, cadres, and health workers (Hayati et al., 2022).

Stunted children in the working area of the Kambang Health Center tend to receive food that does not fulfill balanced nutrition, such as only giving their children plain rice with tempeh or rice with vegetable gravy, or just rice and fish. Stunted children also rarely consume fruit or drink milk and on average these stunted children are not exclusively breastfed. Most of the respondents, their children rarely drink milk. In addition, the food menu for some stunted children does not vary. This can be influenced by the mother's low education. Parenting is one of the factors that affect the development of toddlers. Toddlers who get good parenting from their parents are able to avoid deviations in their growth.

5. Relationship Hygiene Perenting and The Incidence of Stunting

Based on research results, it showed that the pattern of poor hygiene foster care had more stunting (62.1%) than non-stunting toddlers (37.9%). The results of the statistical tests were obtained (p-value=0.000) which means there is a very significant relationship between the pattern of hygiene and stunting.

The results of this study are in line with the study Setiawati et al., (2022) states that there is a meaningful relationship between self-cleaning practice and stunting in toddlers and OR 7 which means that children with poor hygiene practices tend to be at 7 times more risk of stunting than children with good hygiene practices. This is due to the lack of practice and the application

of clean and healthy living behavior including washing hands with ssats before meals and after meals will worsen children's hygiene conditions.

There is a very significant relationship between hygiene parenting styles and the incidence of stunting. Good hygiene affects the growth and development of children. Poor hygiene conditions can allow various bacteria to enter the body and cause various diseases such as diarrhea, intestinal parasites, fever, malaria and many other diseases. Infection can interfere with the absorption of nutrients, causing malnutrition and stunted growth (Mahudeh et al., 2022). Mothers with poor hygiene patterns for their toddlers have a 7.19 times greater chance of having stunted toddlers than mothers with good hygiene patterns for their toddlers (Bella et al., 2019).

The researcher's assumption is that the results of the study show that most mothers do not wash their hands with soap when they want to feed their children. Even children are not used to washing their hands with soap when they want to eat or after eating. There are even some mothers or children who do not wash their hands with soap after defecating. The reason is because they do not have their own latrines. They defecate on the banks of the river.

6. Relationship Health Care Style and The Incidence of Stunting

Based on the research results, it is known that the pattern of poor health care is more widely owned by stunting toddlers (61.5%) than non-stunting toddlers (38.5%). The results of statistical tests were obtained (p-value=0.000) which means there is a very significant relationship between health care patterns and stunting incident.

There is a very significant relationship between health care styles and the incidence of stunting. in line with Bella et al., (2020) which concluded that there was a significant relationship between parenting hygiene and the incidence of stunting. Health services are access to disease prevention and health care efforts such as immunization, child weighing, health and nutrition counseling, as well as good health facilities such as posyandu, health center, midwife, doctor, and hospital (Dewi et al., 2019). Health care patterns are related to how to maintain a child's health status, prevent and avoid diseases that can lead to a decline in the health status of the child. Child care practices include the treatment of children's diseases, preventive measures against diseases so that the child does not catch the disease (Dwi Pratiwi et al., 2016).

Most mothers who have stunted toddlers experience illnesses such as fever, flu/colds, andcoughs in the past month. Some stunted toddlers do not get incomplete basic immunizations. Basic immunization is very important for toddlers to overcome immune disorders against infectious diseases because decreased antibody production makes it easy for diseases to enter

the toddler's body.

7. Relationship Psychosocial Parenting and The Incidence of Stunting

Based on the research results, it is known that the psychosocial foster pattern that is not good is more owned by stunting toddlers (68.1%) than non-stunting toddlers (31.9%). The results of the statistical tests were obtained (p-value 0.000) which means there is a very significant relationship between psychosocial foster patterns and stunting incident.

The results of this study are in line with the study Hidayah et al., (2019) The study states that there is a significant relationship between psychosocial stimulation and stunting incident (p=0.000). Toddlers who are not good at getting psychosocial stimulation are 25,972 times more likely to cause stunting than those who get psychosocial stimulation well.

Research Adha et al., (2021) This suggests a significant relationship between psychosocial foster patterns and stunting incident (p-value=0.006). This is because the mother's pattern of foster care based on psychosocial stimulation is due to the way the mother provides stimulation to the child, both in terms of guard and supervision, for example during eating, sleeping, and playing.

According to the researcher's assumption that there are still toddler mothers who do not accompany or supervise children when they eat, even though accompanying children during meals is very important to control the large portion that children spend at meals. The habit of feeding a toddler after an adult eats will have a strong effect on the onset of stunting in a child due to an error in the selection of food or the failure of food intake.

The role of parents in providing psychosocial stimulation is very important because stunting does not only have a physical impact but also has an impact on children's psychosocial development (Rahmawati et al., 2020). Good psychosocial care is closely related to good nutrition and health care so that it influences the growth and development of children. A variety of stimuli that are routinely provided by the mother or caregiver to the child, both visual, verbal and auditory stimuli can cause growth hormone stimulation, energy metabolism to become normal and immune responses to the brain (Rahmayana et al., 2014).

8. Relationship Environment Sanitation and The Incidence of Stunting

Based on the research results, it is known that less good environmental sanitation has more stunting toddlers (67%) than non-stunting toddlers (33%). The results of statistical tests were obtained (p-value 0.000) which means there is a very significant relationship between environmental sanitation and stunting.

There is a very significant relationship between environmental sanitation and the incidence of stunting. Supported by the research of Wulandari et al., (2019) which states that

there is a relationship between environmental sanitation and the incidence of stunting with a p-value (0.008) and an OR value of 3.8 meaning that mothers who have poor environmental sanitation are at risk of 3.8 times greater stunting incident. Research Hidayah et al., (2019) shows a significant relationship between environmental sanitation and stunting incident (p=0.000). Toddler mothers who have poor environmental sanitation are 10,879 times more likely to stunting than mothers who have good environmental sanitation.

According to the researcher's assumption that there are still respondents who do not have the means to dispose of excrement in the river, for reasons of economic factors that cause children to experience stunting. Furthermore, for wastewater disposal is mostly available, but many are applied but contaminate water sources or a distance of <10 m. The majority of respondents already own landfills, but not covered. The trash can in healthy sanitation is covered and also impermeable from water. This is to avoid insects or other animals that enter the trash, thus polluting the environment and the risk of disease spreading.

The condition of environmental sanitation that is not good allows the occurrence of various types of diseases such as diarrhea, intestinal worms and gastrointestinal infections. Ifa child suffers from a digestive tract infection, the absorption of nutrients will be disrupted which causes nutritional deficiencies. Someone who is deficient in nutrients will be susceptible to disease and growth will be disrupted. Waste disposal facilities that are not carried out daily or left until full are removed, unclothed and visible trash is often visited by flies and other insects. In addition, there are still as many respondents who throw their garbage in irrigation channels.

9. Relationship Birth Weight and The Incidence of Stunting

Based on research results, most of the unborn toddlers with low birth weight had more stunting (58%) than stunting toddlers (42%). Statistical tests obtained a value (p-value 0.071) which meant that there was no significant relationship between birth weight and stunting. The results of this study are in line with the study (Kusumawati et al., 2019) This suggests that birth weight has a significant relationship to stunting, meaning that low birth weight babies are easier for children to stunting. Research Murti et al., (2020) that there is a relation of birth weight to stunting (p-value=0,000).

The results of this study are not in line with the researchof which concluded that birth weight is the dominant factor influencing the incidence of stunting. Birth weight is used as an indicator whether during pregnancy the baby grows and develops optimally or not. Babies with low birth weight are prone to stunting (Purnamasari et al., 2022).

Low birth weight is a baby born with a lower body weight than the average baby's body

weight <2500 grams. Because of the lack of weight, there will be a shortage of nutritional substances as well, so the body's nutritional deposits are used to make ends meet. If this situation persists for a long time, the nutrient deposits will run out and there will be tissue deterioration, low levels of hemoglobin, serum vitamin A and carotene, increased lactic acid and pyruvate. By this time people can be said to be stunting (Nainggolan et al., 2019).

Low birth weight is generally highly associated with long-term growth and development. Research results have been found that the possible causes of low birth weight are poor maternal nutritional status and inadequate surrounding environment such as insufficient sources of clean water and places far away from health facilities.

10. Relationship Birth Length and The Incidence of Stunting

Based on the research results, it is known that toddlers with short birth lengths have more stunting toddlers (75%) than non-stunting toddlers (25%). The statistical test results obtained (p-value=0.016) show a significant relationship between birth length and stunting. There is a significant relationship between birth length and the incidence of stunting. in line with research conducted by Indriani et al., (2021) which concluded that the risk of stunting would increase if the birth length was short. Short birth length is influenced by the fulfillment of the baby's nutrition while still in the womb. Inadequate maternal nutritional intake before pregnancy causes growth disturbances in the fetus so that it can cause babies to be born with short birth lengths. In line with research Barir et al., (2019) states that there is a relationship between the length of the baby's birth and the stunting event (p-value=<0,001)

The researcher's assumption that short birth length is one of the risk factors for stunting in infants and is a reflection of the failure of the growth process. Babies born with short birth lengths show insufficient maternal nutritional intake during pregnancy, so fetal growth in the womb is not optimal. Therefore to prevent stunting from being done in the first thousand-day period of life. A healthy, well-nourished pregnant mother has the opportunity to give birth to a healthy, well-nourished baby. Children born with a short birth length to get a normal body length need good nutritional intake, but if the intervention is too late, toddlers will not be able to catch up on the delay in their growth.

CONCLUSION

The results showed that there was a significant relationship between the age of the mother during pregnancy (p-value = 0.040), there was a relationship between the nutritional status of the mother and the incidence of stunting (p-value = 0.003), there was a relationship between parity and the incidence of stunting (p-value = 0.034). = 0.000), there is a relationship

between psychosocial parenting and the incidence of stunting (p-value = 0.000), there is a relationship between environmental sanitation and the incidence of stunting (p-value = 0.000), there is no significant relationship between low birth weight and the incidence of stunting (p-value = 0.071), there is a significant relationship between birth length and the incidence of stunting (p-value = 0.016). Environmental sanitation is the most dominant factor in causing stunting. Environmental sanitation has a 6,512 times chance of causing stunting in toddlers aged 24-59 months in the working area of the Kambang Community Health Center, Pesisir Selatan District.

It is suggested to the Kambang Community Health Center in Pesisir Selatan District to provide supplementary needs or additional food for pregnant women and toddlers to improve nutrition and prevent stunting, and provide tools or toys that can stimulate child growth and development in each Integrated Service Center, it is suggested to provide education regarding knowledge of nutrition, maternal care patterns which include feeding, hygiene, health and psychosocial to mothers and families in preventing stunting incidents and it is advisable to work with related parties such as cross-sectors in providing healthy latrines to overcome poor hygiene parenting patterns.

REFERENCE

Adha, A. S., Bahtiar, N. W., Ibrahim, I. A., Syarfaini, & Nildawat. (2021). Analisis Hubungan Pola Asuh Ibu Dengan Kejadian Stunting Pada Balita Di Kabupaten Jeneponto. *Al Gizzai: Public Health Nutrition Journal*, *1*(2), 71–82.

Akombi, B. J., Agho, K. E., Hall, J. J., Merom, D., Astell-burt, T., & Renzaho, A. M. N. (2017). Stunting and severe stunting among children under-5 years in Nigeria : A multilevel analysis. *BMC Pediatrics*, *17*(15), 1–16. https://doi.org/10.1186/s12887-016-0770-z

Anggraini, N. D. (2019). Analisis Faktor Resiko Kejadian Stunting Pada Anak Usia 12–59 Bulan Di Provinsi Nusa Tenggara Barat. *Medical Technology and Public Health Journal*, *3*(1), 86–93. https://doi.org/10.33086/mtphj.v3i1.649

Astika, T., Permatasari, E., & Supriyatna, N. (2020). Pengaruh pola asuh pemberian makan terhadap kejadian stunting pada balita. *JKMA : Jurnal Kesehatan Masyarakat Andalas*, *14*(2), 3–11. https://doi.org/10.24893/jkma.v14i2.527

Barir, B., Murti, B., & Pamungkasari, E. P. (2019). The Associations between Exclusive Breastfeeding , Complementary Feeding , and the Risk of Stunting in Children Under Five Years of Age : A Path Analysis Evidence from Jombang East Java. *Journal of Maternal and Child Health*, *4*(6), 486–498. https://doi.org/10.26911/thejmch.2019.04.06.09

Bella, F. D., Fajar, N. A., & Misnaniarti. (2019). Pola Asuh Positive Deviance dan Kejadian Stunting Balita di Kota Palembang. *Jurnal Kesehatan Vokasi*, *4*(4), 209–216. https://doi.org/10.22146/jkesvo.45725

Bella, F. D., Fajar, N. A., & Misnaniarti, M. (2020). Hubungan antara Pola Asuh Keluarga dengan Kejadian Balita Stunting pada Keluarga Miskin di Palembang. *Jurnal Epidemiologi Kesehatan Komunitas*, *5*(1), 15–22. https://doi.org/10.14710/jekk.v5i1.5359

Dewi, I., Suhartatik, & Suriani. (2019). Faktor yang mempengaruhi kejadian stunting pada

balita 24-60 bulan di wilayah kerja puskesmas lakudo kabupaten buton tengah. *Jurnal Ilmiah Kesehatan Diagnosis*, *14*(1), 65–90. http://jurnal.stikesnh.ac.id/index.php/jikd/article/view/104/99

Dwi Pratiwi, T., Masrul, M., & Yerizel, E. (2016). Hubungan Pola Asuh Ibu dengan Status Gizi Balita di Wilayah Kerja Puskesmas Belimbing Kota Padang. *Jurnal Kesehatan Andalas*, *5*(3), 661–665. https://doi.org/10.25077/jka.v5i3.595

Fatonah, S., Jamil, N., & Risviatunnisa, E. (2020). Hubungan pola asuh ibu dalam pemberian makan dengan kejadian stunting pada anak usia 24-59 bulan di puskesmas Leuwigajah Cimahi Selatan 2019. *Jurnal Kesehatan Budi Luhur*, *13*(2), 293–300. http://jurnal.stikesbudiluhurcimahi.ac.id/index.php/jkbl/article/view/103

Hayati, N., & Helty, M. R. (2022). Hubungan Pola Asuh Dalam Pemberian Makan Dengan Kejadian Stunting Pada Balita di UPT Puskesmas Bahorok Kabupaten Langkat Tahun 2021. *Jurnal Maternitas Kebidanan*, *7*(1), 169–178. https://doi.org/10.34012/jumkep.v7i1.2569

Hidayah, N., Rita, W., Anita, B., Podesta, F., Ardiansyah, S., Subeqi, A. T., Nasution, S. L., & Riastuti, F. (2019). Hubungan pola asuh dengan kejadian stunting (rekomendasi pengendaliannya di Kabupaten Lebong). *Riset Informasi Kesehatan*, *8*(2), 140–151. https://doi.org/10.30644/rik.v8i2.237

Hunggumila, A. R., Pekabanda, K., Toru, V., & Radandima, E. (2023). [PDF] from unigres.ac.id Hubungan Status Gizi Ibu Dan Pola Asuh Dengan Stunting Pada Balita Usia 24-36 Bulan Di Puskesmas Rambangaru. *Journals of Ners Community*, *13*(1), 200–209. https://doi.org/10.1186/s12887-016-

Indriani, D., Retnoningrum, A. D., & Retnoningsih, T. (2021). Pengaruh panjang badan lahir, asi eksklusif, jumlah dan pendapatan keluarga terhadap resiko kejadian stunting pada balita. *Jurnal Bidan Pintar*, *2*(1), 176–185. https://doi.org/10.30737/jubitar.v2i1.1651

Kemenkes RI. (2018). *Laporan Nasional Riskesdas 2018*. Jakarta : Kementerian Kesehatan RI.

Kemenkes RI. (2019). *Profil Kesehatan Indonesia Tahun 2019*. Jakarta : Kementerian Kesehatan RI.

Kemenkes RI. (2020). *Profil Kesehatan Indonesia Tahun 2020*. Jakarta : Kementerian Kesehatan RI.

Kusumawati, M. R. D., Marina, R., & Wuryaningsih, C. E. (2019). Low Birth Weight As the Predictors of Stunting in Children under Five Years in Teluknaga Sub District Province of Banten 2015. *The 3rd International Meeting of Public Health and the 1st Young Scholar Symposium on Public Health*, *2019*, 284–293. https://doi.org/10.18502/kls.v4i10.3731

Lubis, S. Z. (2021). Determinan kejadian stunting di Puskesmas Alue Bilie Kabupaten Nagan Raya Determinants of stunting at Alue Bilie Public Health Center, Nagan Raya Regency. *Jurnal SAGO Gizi Dan Kesehatan*, *3*(1), 74–84. http://dx.doi.org/10.30867/gikes.v3i1.721

Mahudeh, Rohmah, N., & Adriani, S. W. (2022). Correlation Between History of Infectious Disease with Stunting in Toddler. *Journal of Nursing Science Update*, *10*(2), 193–200. https://doi.org/10.21776/ub.jik.2022.010.02.15

Manggala, A. K., Kenwa, K. W. M., Kenwa, M. M. L., Sakti, A. A. G. D. P. J., & Sawitri, A. A. S. (2018). Risk factors of stunting in children aged 24-59 months. *Paediatrica Indonesiana*, *58*(5), 205–212. https://doi.org/10.14238/pi58.5.2018.205-12

Murti, F. C., Suryati, S., & Oktavianto, E. (2020). Hubungan Berat Badan Lahir Rendah (BBLR) Dengan Kejadian Stunting Pada Balita Usia 2-5 Tahun Di Desa Umbulrejo Kecamatan Ponjong Kabupaten Gunung Kidul. *Jurnal Ilmiah Kesehatan Keperawatan*, *16*(2), 52–60.https://doi.org/10.26753/jikk.v16i2.419

Nainggolan, B. G., & Sitompul, M. (2019). Hubungan Berat Badan Lahir Rendah (BBLR)

Dengan Kejadian Stunting Pada Anak Usia 1-3 Tahun. *Jurnal Nutrix*, *3*(1), 36–41. https://doi.org/10.37771/nj.Vol3.Iss1.390

Nuraeni, R., & Suharno, S. (2020). Gambaran Faktor-Faktor yang Berhubungan dengan Kejadian Stunting Balita Usia 24-59 Bulan. *Syntax Literate: Jurnal Ilmiah Indonesia*, *5*(10), 1190–1204. https://doi.org/10.36418/syntax-literate.v5i10.1682

Pangaribuan, S. R. U., Napitupulu, D. M., & Kalsum, U. (2022). Hubungan Sanitasi Lingkungan, Faktor Ibu dan Faktor Anak Dengan Kejadian Stunting Pada Anak Usia 24 – 59 Bulan di Puskesmas Tempino Kabupaten Muaro Jambi. *Jurnal Pembangunan Berkelanjutan*, *5*(2), 79–97. https://doi.org/10.22437/jpb.v5i2.21199

Purnamasari, I., Widiyati, F., & Sahli, M. (2022). Analisis faktor risiko yang mempengaruhi kejadian stunting pada balita. *Jurnal Penelitian Dan Pengabdian Kepada Masyarakat UNSIQ*, *9*(1), 48–56. https://doi.org/https://doi.org/10.32699/ppkm.v9i1.2342

Rahayu, R. M., Pamungkasari, E. P., & Wekadigunawan, C. S. P. (2018). The Biopsychosocial Determinants of Stunting and Wasting in Children Aged 12-48 Months. *Journal of Maternal and Child Health*, *3*(2), 105–118. https://doi.org/10.26911/thejmch.2018.03.02.03

Rahmawati, D., & Agustin, L. (2020). Psychososial Stimulation In Stunting And Non-Stunting Firms. *7th International Conference on Public Health*, 199–204.

Rahmayana, A, I., Ibrahim, & Damayati, D. S. (2014). Hubungan Pola Asuh Ibu Dengan Kejadian Stunting Anak Usia 24-59 Bulan Di Posyandu Asoka II Wilayah Pesisir Kelurahan Ba- rombong Kecamatan Tamalate Kota Makassar Tahun 2014. *Al-Sihah : Public Health Science Journal*, *VI*(2), 424–436.

Sarman, & Darmin. (2021). Hubungan ASI Eksklusif dan Paritas dengan Kejadian Stunting pada Anak Usia 6-12 Bulan di Kota Kotamobagu : Studi Retrospektif. *Gema Wiralodra*, *12*(2), 206–216. https://doi.org/10.31943/gemawiralodra.v12i2.186

Setiawati, E., Fajar, N. A., & Hasyim, H. (2022). Hubungan Pola Asuh dan Status Ekonomi Dengan Kejadian Stunting Pada Anak Balita Usia 24-59 Bulan. *Jurnal Kesehatan*, *13*(3), 1–8. https://doi.org/10.35730/jk.v13i0.920

UNICEF. (2020). Situasi Anak di Indonesia - Tren, Peluang, dan Tantangan dalam Memenuhi Hak-hak Anak. *Unicef*, 8–38.

WHO. (2016). *Strategic Action Plan to reduce the double burden of in the South-East Asia Region 2016–2025*. World Health Organization. https://www.who.int/docs/default-source/searo/india/health-topic-pdf/strategic-action-plan-to-reduce-the-double-burden-of-malnutrition-in-sear-2016-2025.pdf?sfvrsn=a73ab5d1_2

Widyaningsih, C. A., Sari, P., Wijaya, M., & Rinawan, F. R. (2021). Identifikasi Faktor-Faktor Kejadian Stunting. *JKM (Jurnal Kebidanan Malahayati)*, *7*(2), 207–212. https://doi.org/10.33024/jkm.v7i2.2854

Wulandari, Rahayu, F., & Darmawansyah. (2019). Hubungan Sanitasi Lingkungan dan Riwayat Penyakit Infeksi Dengan Kejadian Stunting di Wilayah Kerja Puskesmas Kerkap Kabupaten Bengkulu Utara Tahun 2019. *Jurnal Ilmiah Avicenna*, *14*(2), 6–13. https://doi.org/10.36085/avicenna.v14i02.374

Zulaikha, F., Fitriani, & Wahyuni. (2022). Analisis Faktor-faktor Risiko Kejadian Stunting pada Anak: Studi Pustaka. *Jurnal Kesehatan Ngesti Waluyo*, *11*(2), 198–204. https://doi.org/10.46815/jk.v11i2.105