

STUNTING IN TODDLERS AND ITS DETERMINANT IN TABAN VILLAGE, TANGERANG REGENCY

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ABSTRAK : STUNTING PADA BALITA DAN PENENTUNYA DI DESA TABAN, KABUPATEN TANGERANG

Latar belakang: Kejadian stunting masih tinggi di Indonesia, ini akan mempengaruhi sumber daya manusia dimasa yang akan datang, anak stunting beresiko lebih tinggi terkena penyakit kronis dimasa depan.

Tujuan: Menganalisis kejadian stunting beserta determinannya pada balita di Desa Taban, Kecamatan Jambe, Kabupaten Tangerang.

Metode: Penelitian ini menggunakan data primer, dengan jenis penelitian cross sectional. Populasi penelitian adalah keluarga yang memiliki balita berdasarkan data Balita yang tercatat di laporan jumlah Balita di Puskesmas Kecamatan Jambe Pada Tahun 2020. Sampel diambil secara acak dengan tehnik systematic random sampling size dari daftar laporan jumlah balita tahun 2020. Analisa data menggunakan uji chi square dan regresi linier logistik.

Hasil: Hasil penelitian ditemukan faktor-faktor yang berhubungan dengan kejadian stunting; tinggi badan ibu (nilai $p=0,031$), pola makan (nilai $p=0,05$), pemberian ASI (nilai $p=0,024$), penghasilan (nilai $p=0,031$). Berdasarkan hasil uji multivariat ditemukan bahwa yang paling berhubungan dengan kejadian stunting pada balita adalah pola makan (nilai $p=0,003$) dengan OR 2,216 dan penghasilan keluarga (nilai $p=0,031$), dengan OR 2,031.

Kesimpulan: Pola makan dan penghasilan keluarga merupakan prediktor terhadap kejadian stunting. Diharapkan Pemerintah dapat mendorong masyarakat untuk memanfaatkan sumber daya alam disekitar yang masih sangat luas dan dapat dimanfaatkan untuk meningkatkan income perkapita masyarakat di desa Taban melalui upaya upaya pertanian, perkebunan peningkatan usaha peternakan dan atau meningkatkan kondisi desa pada peningkatan usaha home industri untuk memberikan penghasilan tambahan pada ibu sehingga dapat mengungkit daya beli bahan makanan bergizi dan konsumsi pangan yang berkualitas.

Kata Kunci: Balita; Penghasilan; Pola Makan; Stunting

ABSTRACT

Background: The incidence of stunting is still high in Indonesia, this will affect human resources in the future. Stunting children are at higher risk of developing chronic diseases in the future.

Objective: Analyze the factors that affect the incidence of toddlers with stunting at Taban Village, Jambe District, Tangerang Regency.

Methods: This study uses primary data with the type of cross-sectional research. The study population was families with toddlers on toddler data recorded, in the report on the number of toddlers at the Puskesmas Jambe in 2020. The sample was taken randomly using the systematic random sampling size technique from the list of reports on the number of toddlers in 2020. Data analysis using the chi-square test and logistic linear regression.

Results: It was found that the related factors are; mother height (p -value = 0.031), Dietary Habit (P = 0.05), Breastfeeding (P = 0.024), Family income (P = 0.031). The most related to the incidence of stunting in toddlers was Dietary Habit with OR of 2.216, and family income (p . value 0,031) with an OR of 2.031.

Conclusion: Dietary Habit and family income are predictors of stunting. It is hoped that the government can encourage the community to take advantage of the natural resources around which are still very broad and can be used to increase the income per capita of the people in Taban village through agricultural efforts, plantations, livestock business improvements and or improving village conditions in improving home industry businesses to provide additional income for the community. mothers so that they can leverage the purchasing power of nutritious food and consumption of quality food.

Keywords: Toddlers; Family Income; Dietary Habit; Stunting.

INTRODUCTION

The World Health Organization (WHO) said that 55% of children under five with stunting are in Asia, and a third (39%) live in Africa. Of this number, the toddlers with the most stunting were from South Asia (58.7%) and the lowest number lived in Central Asia (0.9%) (WHO, 2018). Indonesia is ranked third in the Southeast Asian region with the highest prevalence of stunting (36.4%) in 2005-2017 (WHO, 2019). In Indonesia, one in three children under 5 years of age was stunted in 2016. Nearly 14% of children came from families below the national poverty line in 2015. More than 37% of children under 5 years of age were stunted in 2013. Prevalence stunting is still high, even among children from the most prosperous families (BAPPENAS & UNICEF, 2017). The 2019 Indonesian Toddler Nutritional Status Survey (SSGBI) reported that the prevalence of stunting decreased by 4.13% from 30.8% in 2018 to 26.67% in 2019 or decreased by around 3.13%. However, in order to achieve the nation's development goals, in terms of alleviating poverty, the stunting rate must continue to be suppressed in order to achieve the standards set by WHO (KEMENKES, 2019; KKBPMK, 2018).

The factor that most influences the incidence of stunting is nutrition in children, meanwhile the proportion of poor nutritional status and undernutrition in children under five in Indonesia in 2018 was 17.7%, of which 3.9% were malnourished and undernourished was 13.8% proportion of very thin and underweight toddlers is 10.2%, very short and short toddlers is 30.8%. The prevalence of very short and short toddlers is quite high ranging from 30%-<40% spread over 18 provinces (Kementerian Kesehatan RI, 2018). (KEMENKES, 2018b; Khairani, 2020; Quamme & Iversen, 2022; Rizal & Doorslaer, 2019).

Stunting conditions affect the quality of human resources, which has an impact on the Human Development Index (HDI). Indonesia's population reached 26,185,090 thousand people in 2017, with a different HDI per province, Banten is in 8th place while the Special Capital Region Jakarta (DKI Jakarta) has the highest HDI. In addition, based on data from the Central Statistics Agency, the life expectancy in Banten Province is below West Java and DKI Jakarta. Banten Province in 2018 had a life expectancy at birth of 69.64 while West Java was 72.66 and DKI Jakarta was 72.67. The mortality rate of children under 5 years old in Banten is 38. The high mortality rate of children under 5 years of age indicates that Banten Province should receive higher attention and support to increase community

motivation and public health (____, 2020; KEMENKES, 2018a).

Other health problems in Banten Province are also still quite high compared to other areas on the island of Java. Based on the 2015 Integrated Database report, at the national level there were an addition of around 800,000 poor households from the 2018 survey results, the area with the addition of poor households in Banten Province was quite high and ranked 9th (4%). The poverty rate is closely related to the incidence of stunting (TNP2K, 2017).

Stunting in Banten Province in 2019 was 24.11%. This figure is very concerning because it exceeds the WHO recommended prevalence limit (20%). The following are 8 regencies/cities in Banten Province with the highest proportion of stunting in children under five, namely Pandeglang Regency (34.01%), Lebak Regency (32.96%), while Tangerang Regency at 18.42%. Efforts to overcome malnutrition in Tangerang Regency carried out by the Regional Development Planning Agency (Bappeda) of Tangerang Regency are preparing an advocacy work plan. The advocacy plan is a stunting acceleration, prevention and reduction program in 29 Districts of Tangerang Regency. The priority sub-districts are 7 sub-districts because they have stunting locus villages: Jambe, Rajeg, Mauk, Cisoka, Kemeru, Teluk Naga, and East Sepatan. Jambe District is the first locus where it is hoped that the stunting rate will decrease and focus on accelerating the handling of toddlers with stunting (KEMENKES, 2019).

METHOD RESEARCH

The design of this research is cross sectional, using primary data. The research population is families who have toddlers based on data from the Jambe District Health Center in 2020. Samples were taken randomly using systematic random sampling technique. From the number of 610 toddlers recorded, a sample size of 315 toddlers was obtained using the different proportion formula from Lemeshow. height gauges that have been standardized. Statistical analysis using the chi square test followed by a logistic regression test to obtain the most dominant factor for stunting in Jambe Village.

Data collection was carried out through direct interviews by trained researchers and enumerators with mothers of children under five who were the sample using a questionnaire that has been tested for validity and reliability as well as measuring tools such as scales. Determination of the nutritional status of toddlers is done directly by measuring the child's height and weight.

RESULT AND DISCUSSION

Based on the table above, it can be seen that the incidence of stunting (29.8%), the majority of mothers with age are not at risk (81.6 %), the majority

of the mother's height is 150 cm (74.9%), the majority of mothers have low education (41.3 %), the majority of families have one toddler (88.6%), and the majority of family members living in the same house are 4 people (40.6%).

Table 1
Distribution of Respondent Characteristics

Variable	f	%
Stunting (height/age)		
Stunting	94	29,8
Not Stunting	221	70,2
Mother's age		
Risky (<20 and >35)	58	18,4
Not Risk (20-35)	257	81,6
Mother's Height		
< 150 cm	83	25,1
≥ 150 cm	232	74,9
Mother's Education		
Didn't Pass PS	130	41,3
JHS	127	40,3
JHS & College	58	18,4
Numbers of Toddlers in the Family		
1 child	279	88,6
2 children or more	36	11,4
Number of Family Member Living at Home		
3 people	47	14,9
4 people	128	40,6
5 people	82	26
≥ 6 people	58	18,4

*Primary School, ** Junior High School, *** Senior High School

Table 2
Distribution of Parenting ang Socio-Economic Status

Variable	f	%
Dietary Habit		
Irregular	79	23,2
Regular	236	76,8
Exclusive Breastfeeding		
No	67	21,3
Yes	248	78,7
Father's Presence at Home		
≥ 5 PM	207	65,7
< 5 PM	108	34,3
Family Income		
< Rp. 3.000.000	234	74,3
≥ Rp. 3.000.000	81	25,7
Help Receipt		
Once	71	22,5
Never	244	77,5
Home Ownership		
Rent / Live with Parents	87	27,6

One's Own	228	72,4
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Based on table 2 above, the majority of families have regular eating habits/patterns (76.8%). The majority of toddlers get exclusive breastfeeding (78.7%), the majority of the father's presence at

home at 5 pm and above (65.7%). The majority of families with income < Rp. 3,000,000, only 22.5% of families have received assistance, and the majority of the houses are owned by themselves (72.4%).

Table 3
Relationship between Child Characteristics, Mother's Characteristics, Parenting and Socio-Economic Status with Stunting Incidence

Variable	Stunting		P Value
	(+)	(-)	
Age			
Risky	15 (25,9)	43 (74,1)	0,566
Not Risk	79 (30,7)	178 (69,3)	
Mother's Height			
<150cm	33 (39,8)	50 (60,2)	0,031
≥150cm	61 (26,3)	171 (73,7)	
Mother's Education			
Primary	34 (26,2)	96 (73,8)	0,400
JHS	43 (33,9)	84 (66,1)	
SHS	17 (29,3)	41 (70,7)	
Numbers of Toddlers in the Family			
1 child	86 (30,8)	193(69,2)	0,385
2 children or more	8 (22,2)	28 (77,8)	
Dietary Habit			
Irregular	34 (43,0)	45 (57,0)	0,005
Regular	60 (25,4)	176 (74,6)	
Exclusive Breastfeeding			
No	12 (17,9)	55 (82,1)	0,024
Yes	82 (33,1)	166 (66,9)	
Father's Presence at Home			
≥ 5 PM	65 (31,4)	142 (66,6)	0,479
< 5 PM	29 (32,2)	79 (75,8)	
Family Income			
< Rp. 3.000.000	78 (33,3)	156 (66,7)	0,031
≥ Rp. 3.000.000	16 (19,8)	65 (80,20)	
Help Receipt			
Once	15 (21,1)	56 (78,9)	0,094
Never	79 (32,4)	165 (67,6)	
Home Ownership			
Rent / Live with Parents	31 (35,6)	56 (64,4)	0,211
One's Own	63 (27,6)	165 (72,4)	

From table 3 described that the child's age, gender, mother's age at the time of the child's pregnancy as measured during the study, education level, number of children under five, were not related to the incidence of stunting in children under five. The presence of fathers at home, receiving assistance

and home ownership were not associated with stunting (p value > 0.05). Factors related to the incidence of stunting were maternal height (p-value 0.031), diet (p- value 0.005), exclusive breastfeeding (p-value 0.024) and family income (p-value 0.031).

Table 4
Dominant Factors Related to Stunting

Variable	Stunting				Total		P Value	OR (95% CI)	OR
	Yes		No		f	%			
	f	%	f	%					
Mother's Height									
< 150	33	39,8	50	60,2	83	100	0,022	1,091-3,137	1,890
≥ 150	61	26,3	171	73,7	232	100			
Dietary Habit									
Irregular	34	43,0	45	57,0	79	100	0,003	1,300-3,777	2,216*
Regular	60	25,4	176	74,6	236	100			
Exclusive Breastfeeding									
No	12	17,9	55	82,1	67	100	0,018	0,224-0,870	0,442
Yes	82	33,1	166	66,9	248	100			
Family Income									
< Rp. 3.000.000	78	33,3	156	66,7	234	100	0,031	1,103-3,741	2,031
≥ Rp. 3.000.000	16	19,8	65	80,2	81	100			

Based on the results of the logistic regression test, it was found that the factor most related to the incidence of stunting in toddlers was diet (p value = 0.003) with an OR of 2,216, meaning that the better the diet, the 2,216 times the nutritional status of children under five, and family income (p value = 0.031). , with an OR of 2.031, meaning that a high family income will reduce the incidence of stunting in children under five by 2.031 times. In line with the research of R.W. Sari et al (2021) stated that good feeding practice for infants is one of the factors most associated with stunting (Exp value (B) 6.422), the practice of feeding with a healthy and nutritious pattern helps prevent stunting (R. W. Sari et al., 2021).

The other study by of Mahfouz et al (2021) calculated the total score of family socioeconomic status from 8 domains; education, occupation, family, family property, sanitation and health care, found that socioeconomic status was one of the factors most associated with stunting. Children from low and very low socioeconomic status are more at risk of stunting than children from high socioeconomic status (aOR=3.05 95% CI=1.45-63.9 and aOR=2.74 95%, CI=1,31-5.72) (Mahfouz et al., 2021).

Maternal height and its relationship to stunting

Amaha (2016) informed that mothers with height <150 cm are at risk of having stunted children compared to mothers with height > 150 cm. The same study also reported that mothers who are short (<150 cm in height) have a 2.5 times higher risk of having stunted children compared to mothers with a height of >160 cm (Amaha & Woldeamanuel, 2021)

Mikawati's research (2019) stated that there was a significant relationship between maternal height and the incidence of stunting in children with p value = 0.026 (Mikawati et al., 2019), as well as from another study by Nasution et al (2014) that maternal height is significantly associated with stunting in children OR 2,14 (95% CI 1,08-4,33). Mothers with less than normal height are at risk of 2 times greater risk of having stunting children (Nasution et al., 2014). Relevant to the longitudinal RCT study in nine villages in Indonesia reported by Schmidt et al (2002) that slightly higher than normal maternal height increases length and Height-for Age Z Score (HAZ) in infants 0-12 months (Beal et al., 2017).

As the results of research by Addo et.al (2013) which examined the relationship between the height of mothers and their offspring (children born) using a cohort of 7630 pairs of mothers and children from 5 births, it was proven that maternal height was significantly related to the child's height at birth. An increase of 1 cm in maternal height predicted an increase of 0.024 (95% CI: 0.021-0.028) SD. Mothers with short height (<150 cm) were more likely to have stunted children at the age of 2 years (OR=3.20 95% CI: 2.80-3.60). Maternal height affects the linear growth of offspring during the growth period. This influence may be related to nutrition on growth preventing genetic high potency (Addo et al., 2013).

Mothers who have been stunted since childhood tend to experience growth disorders including reproductive problems, pregnancy complications, difficulties in childbirth, and even perinatal death. Mothers with stunting have the potential to give birth to children who experience

stunting and this is called the intergenerational cycle of malnutrition (Fitriahadi, 2018).

Dietary Habit and its relationship to stunting

Diet has been shown to be associated with stunting (0.05) in this study. Lack of energy and protein causes stunting in children. It is a marker of chronic malnutrition that affects millions of children worldwide, and poses a major risk to their health and future. Impact of children with stunting will have a higher mortality rate and are more likely to die from diseases such as diarrhea, pneumonia, malaria, and measles (Quamme & Iversen, 2022; Usman & Kopczywska, 2022). In line with the research of Sari et al (2021) good feeding practices are associated with the incidence of stunting (p value = 0.028) (R. W. Sari et al., 2021).

Similar to Rahman's research (2018), there is a relationship between eating patterns and the incidence of stunting where a good feeding pattern will reduce the risk of stunting by 5.1 (Danita, 2018). Nutritional needs during growth and development should be provided adequately, because good nutritional intake can prevent stunting. A good diet allows children to get adequate nutritional intake for their growth and development, both according to the amount and frequency that the child's body needs (Rahman, 2018).

Exclusive breastfeeding and its relationship to stunting

Nutritional intake starts from pregnancy, exclusive breastfeeding (the first 6 months of life) followed by appropriate complementary feeding until the child is 2 years old (Astuti et al., 2018). The incidence of stunting in children is caused by various factors, including household and family factors, inadequate complementary feeding and breastfeeding that is not exclusive (Hidayat et al., 2022). Mikawati (2019) reported that there was a relationship between exclusive breastfeeding and the incidence of stunting (p value = 0.015) (Mikawati et al., 2019).

Exclusive breastfeeding is related to the fulfillment of nutrition in children aged 6-23 months, children who have poor nutritional intake will experience a higher risk of stunting. The incidence of stunting is smaller in children who are exclusively breastfed. Exclusive breastfeeding is proven to increase the average height of children (height is measured using the Z-Score). The group of children aged 4 and 5 years who received exclusive breastfeeding was found to be higher than children who did not receive exclusive breastfeeding.

Exclusive breastfeeding had an effect on the growth of children aged 4 years (p value = 0.012) and in children aged 5 years with a value of p = 0.005. Exclusive breastfeeding from the first day of a baby's life is the most appropriate nutrition. Colostrum on the first day is very rich in nutrients and contains antibodies that are important for the development of the gut microbiota and the immune system (Kuchenbecker et al., 2015).

The Indonesian government continues to promote exclusive breastfeeding, but the pattern of parenting in Indonesia, especially the achievement of exclusive breastfeeding is still low. Many studies have proven that breastfeeding is very beneficial for the growth and development of infants, Uwiringiyimana, et al (2019) report that exclusive breastfeeding, giving vitamins, and good nutrition can prevent children from experiencing stunted growth and development. The likelihood of becoming stunted was significantly lower if a child was exclusively breastfed (aOR, 0.22; 95% CI, 0.10 0.48) (N. Sari et al., 2021; Uwiringiyimana et al., 2019). conveyed the results of their research that children who do not receive exclusive breastfeeding are 3.1 times more likely to experience stunting (R. W. Sari et al., 2021).

Family income and its relationship to stunting

Stunting is a crucial and multidimensional problem that does not only occur in children from poor families, but also in children from families with welfare levels above 40% (Teja, 2019). Globally, stunting affected 161 million children under five years of age in 2013 mostly in low-middle income countries (Rizal & Doorslaer, 2019). Several studies have found that families with low wealth quintiles are at risk of having stunted children. Research conducted by Titaley et.al (2019) using the 2013 IDHS data, in infants aged under 2 years in Indonesia, found that the incidence of stunting increased significantly along with a decrease in the level of family wealth, there was a significant relationship between the wealth quintile and the incidence of stunting (value $p < 0.001$), the family with the poorest wealth quintile (Quantile 5) has a 1.74 times risk of experiencing stunting. A higher wealth index enables families to access their food needs and purchase good quality food, obtain adequate health care services and improve sanitation facilities and safe drinking water (Titaley et al., 2019).

A systematic review study stated that 10% increase in income reduces 0-2% incidence of stunting. A 1 cm increase in a child's height was associated with a 4% increase in male wages and a 6% increase in female wages. Several studies that

have been reviewed prove that a good economic level reduces the incidence of stunting and malnutrition. High economic growth in several countries shows a decrease in the incidence of stunting, increasing family income per capita will improve infant health and reduce stunting. From several countries in the research studied, it shows that the level of economy, wages and family income are related to the incidence of stunting (McGovern et al., 2017).

The results of Hoddinott et al research show that an 11% increase in income prevents stunting, a low economic level is indirectly related to stunting. Some of the cycles associated with low economy are loss of potential for physical growth, cognitive impairment, increased risk of chronic disease, additional funds for future medical expenses. The growth deficit will be greater in stunted children. Stunting conditions also affect higher cognitive development processes, such as a child's focus / attention, memory, learning and visuospatial abilities, lost growth potential is associated with a decreased degree of achievement. In adulthood, children with stunting are at risk of getting sick, the costs to be incurred will increase along with the treatment needed (Hoddinott et al., 2013).

The findings of the research by Rizal and Doorslaer (2019) reported that more children with stunting were found in poorer families. However, there was a significant decrease in inequality by wealth over a seven-year period, suggesting that more stunting reductions occurred in poorer households. This is possible because of the direct cash assistance from the government targeting the poor (Rizal & Doorslaer, 2019).

The low economic situation causes a decrease in the ability of the family to consume good nutrition, this cycle will affect the health condition of the mother and family. Children with less nutritional intake will be at risk of stunting (Koene et al., 2019). Availability of high quality food and affordability of nutrient-rich food, socioeconomic status will affect the ability of families to provide healthy food and prevent stunting.

CONCLUSION

The decline in the incidence of stunting is still the focus of government attention because it is related to the quality of the nation's future generations. Jambé District, which is the locus of stunting in Tangerang Regency, needs special attention and the efforts of all parties to handle it. The results of this study prove that maternal height is associated with stunting (0.031), as well as diet (0.005), exclusive breastfeeding (0.024) and family

income (0.031). The factors most related to stunting are diet and family income.

SUGGESTION

The government and all elements of society are expected to contribute actively to encourage the community in the utilization of natural resources in the surrounding environment, which are useful for increasing family income in Taban village, both in agriculture, plantations, livestock and home industries, so as to increase purchasing power for consumption of quality nutrition. Home Industry can be launched to empower housewives to work which allows the development of independent small businesses in Taban Village, so that they can live more productively. This can be done through developing the role and function of the posyandu/Integrated Healthcare Center that focuses on reducing stunting, empowering cadres, as well as village development activities. Thus, it can increase the purchasing power of families for quality food consumption.

Health promotion through planning programs carried out by the National Family Planning Coordinating Board (BKKBN) to provide knowledge to mothers and families about family planning programs that help mothers and families plan the number of family members, birth spacing so that they give birth to healthy, smart, strong and high-achieving children. in the future. It takes commitment from all parties, both the government at the village level, regional government to the center, relevant health agencies, to jointly overcome and reduce the incidence of stunting, to decide the consequences of malnutrition between generations in Taban Village, Jambé District in the future.

Future research is expected to be able to examine the variables that cause stunting that have not been studied, such as parenting parents, child feeding patterns, and environmental sanitation by using a different research method approach by conducting a multivariate test so that it is known which variable is most related to the incidence of stunting with various causal variables.

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