



Family Food Security and Parenting Patterns with Stunting Event in Toddlers

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ARTICLE INFO

Article history:

Received 20 July 2022
Accepted 31 October 2022
Published 10 December 2022

Keyword:

Food Security
Mother Parenting
Stunting

ABSTRACT

Stunting is currently experienced by many toddlers in the world, especially in developing countries including Indonesia. Stunting is not only associated with children's height that is shorter than their age but can also threaten the intelligence, disease resistance, quality, and productivity of future generations. This study aims to analyze the relationship between family food security and maternal parenting with the incidence of stunting in toddlers aged 24-59 months. The study was observational and cross-sectional design. The sampling technique was multistage random sampling with a sample size of 205 children. Data were analyzed using chi-square and multiple logistic regression tests. The results showed that there was no significant relationship between family food security ($p=0.100$) and the incidence of stunting, there was a significant relationship between breastfeeding and food parenting ($p<0.001$), hygiene parenting, and environmental sanitation ($p<0.001$) with stunting in toddlers aged 24-59 months. The multivariate results showed that the variables most related to the incidence of stunting were hygiene parenting and environmental sanitation where the p-value was 0.003 and the PR value was 10,844 (95% CI=2.234-52.639). It is expected that health workers will monitor the nutritional status of children under five, and need to increase mother's knowledge about good parenting and the importance of improving clean and healthy living behavior.

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Kata kunci:

Ketahanan pangan
Pola asuh ibu
Stunting

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DOI: 10.30604/jika.v7i4.1342
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ABSTRAK

Stunting saat ini banyak dialami oleh balita di dunia, terutama di negara berkembang termasuk Indonesia. Stunting tidak hanya dikaitkan dengan tinggi badan anak yang lebih pendek dari usianya, tetapi juga dapat mengancam kecerdasan, ketahanan terhadap penyakit, kualitas, dan produktivitas generasi mendatang. Penelitian ini bertujuan untuk menganalisis hubungan ketahanan pangan keluarga dan pola asuh ibu dengan kejadian stunting pada balita usia 24-59 bulan. Jenis penelitian adalah observasional dan desain cross-sectional. Teknik pengambilan sampel adalah multistage random sampling dengan jumlah sampel 205 anak. Analisis data menggunakan uji chi-kuadrat dan regresi logistik berganda. Hasil penelitian menunjukkan bahwa tidak ada hubungan yang signifikan antara ketahanan pangan keluarga ($p=0,100$) dengan kejadian stunting, ada hubungan yang signifikan antara pemberian ASI dengan pola asuh makanan ($p<0,001$), higiene pola asuh dan sanitasi lingkungan ($p<0,001$). dengan stunting pada balita usia 24-59 bulan. Hasil multivariat menunjukkan bahwa variabel yang paling berhubungan dengan kejadian stunting adalah higiene parenting dan sanitasi lingkungan dimana p-value 0,003 dan nilai PR 10.844 (95% CI=2.234-52.639). Diharapkan petugas kesehatan memantau status gizi balita, dan perlu meningkatkan pengetahuan ibu tentang pola asuh yang baik dan pentingnya meningkatkan perilaku hidup bersih dan sehat.

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INTRODUCTION

The problem of stunting is currently experienced by many toddlers in the world, especially in developing countries which is still a special concern. Stunting is not only associated with children's height that is shorter than their age but can threaten the intelligence, disease resistance, quality, and productivity of future generations. The toddler period is a determinant or foundation for further growth in achieving perfect maturity (BKKBN, 2021). The World Health Organization (WHO) explains that all problems of nutrition or malnutrition are expected to be solved by 2030 through the second target of stunting (Sustainable Development Goals/SDGs). The SDG's target for the achievement of 2030 is sustainable food production systems, increased international cooperation, food reserves to help limit changes to extreme food prices, and end hunger and all malnutrition problems (WHO, 2016).

According to UNICEF (2019), it was found that almost three out of 10 children under the age of five experienced stunted growth so that their height was shorter for their age, while one in 10 children were underweight or too thin for their age. The nutritional status of toddlers can be an important health indicator because toddlers are classified as a vulnerable group to nutritional problems including stunting. Stunting in toddlers occurs due to poor food intake that can threaten the growth of children, survival, and development of a nation. The problem lies in a food system that doesn't work and fails to provide children with the food they need to grow up healthily.

Based on data from the 2019 Indonesian Toddler Nutritional Status Study, the prevalence of stunting is still at 27.7 percent. World Bank data for 2020 shows that the prevalence of stunting in Indonesia is 115th out of 151 countries in the world (KEMENKO PMK, 2021). The number of children in Indonesia who experience stunting is still relatively high, more than a third of children under five experience growth disorders (Suhaimi, 2019).

The prevalence of stunting in infants is 22.7%, children under two years old are 29.9% and toddlers are 30.8%. The province with the lowest stunting rate for under-fives was DKI Jakarta (17.7%) and the province with the highest stunting rate for under-fives was East Nusa Tenggara (42.6%). Aceh Province is in third place with a prevalence of 37.7% (Kemenkes RI, 2018). Toddlers who experienced stunting in Southeast Aceh Regency in 2019 there were 1251 children under five (27.7%) out of 9898 children under five who were registered, and there was an increase in cases in 2020 with the number of stunted children under five (29.3%) from the 7519 number of children under five measured (Dinkes Aceh, 2019).

METHOD

Participant characteristics and research design

The inclusion criteria in this study were a) children under the age of 24-59 months; 2) residing in the working area of the community health center being researched; 3) if there is more than one toddler in one family, the toddler with the largest age is taken; 4) willing to be interviewed, while the exclusion criteria are children under five who have comorbidities or chronic diseases. This study was quantitative with an observational and cross-sectional

design approach. This research was conducted in Southeast Aceh Regency from February to June 2022.

Sampling procedures

The sample of this study was stunted toddlers aged 24-59 months in the work area of the selected community health center. The sampling technique used in this research was multistage random sampling. The sampling process was carried out in stages where random sampling was carried out at each stage, namely in the cluster and the sampling unit.

Sample size

Sampling was done using the Isaac and Michael table based on the error rate (10%), the sample obtained based on the table with a population of 844 was 205. So the sample size in this study was 205 stunted toddlers aged 24-59 months.

Measures

Stunting was obtained by measuring the child's height using a microtome tool with an accuracy of 0.1 cm. The height measurement results obtained were entered into the WHO Anthro program to obtain a z-score of height according to age-adjusted for sex. The results of the TB/U measurement are divided into two categories, namely Stunting (TB/U -3SD to < -2 SD) and Normal (TB/U -2 SD to 2 SD).

The measurement of family food security is carried out by combining two indicators of food security, namely the level of food expenditure and family energy consumption. The limit for family energy consumption is 80 percent of the average family's energy consumption adequacy rate, while the limit for food expenditure is 60 percent of total expenditure. Measurements of maternal parenting in this study included breastfeeding and food parenting (*Cronbach's Alpha* 0,756), personal hygiene (*Cronbach's Alpha* 0,758) and environmental sanitation parenting (*Cronbach's Alpha* 0,678), and health parenting (*Cronbach's Alpha* 0,783).

Data analysis

Multivariate analysis was conducted to determine which variables were most related to the incidence of stunting. The multivariate analysis begins with a simple logistic regression analysis by analyzing each variable one by one and if the variable has a p-value greater than 0.25, then it is analyzed together using multiple logistic regression analysis. Variables that have a value ($p > 0.05$) must be excluded from the analysis model. In the final analysis, the variables that have a p-value less than 0.05 are the variables that have a relationship with the dependent variable, namely the incidence of stunting. The variable that has the largest Exp. value (B) is the variable that has the strongest relationship with the incidence of stunting.

RESULTS AND DISCUSSION

Food is one of the basic human needs, if these needs are not met, both in quantity and quality at the individual and household level, it will interfere with the achievement of a healthy, active, and sustainable quality of life and can cause various health and nutritional problems. In this study, the

results of the chi-square test showed that there was no significant relationship between family food security and the incidence of stunting in toddlers aged 24-59 months ($p = 0.100$; $p > 0.05$). This research is in line with Abdullah, Wado, and Cenerwasih (2019) showed that families who are

vulnerable, lacking, vulnerable, and food insecure can have toddlers who experience stunting or normal toddlers.

This condition depends on the parenting style of the parents, the education, and knowledge of the parents, the number of family members, the income, and expenditure of their household needs, and the provision of nutritious food intake for toddlers and others.

Table 1
 The Relationship of Family Food Security with Stunting Incidences in

Family food security	Stunting events				Total		p	PR CI 95%
	Stunting		No stunting		n	%		
	n	%	n	%				
Food security	35	71,4	14	28,6	49	100	0,100	(0.890-3.584)
Not food security	91	58,3	65	41,7	156	100		

Table 2
 The Relationship between Breastfeeding and Food Parenting with Stunting Incidence

Parenting Patterns of Breastfeeding and Food	Stunting events				Total		p	PR 95% CI
	Stunting		No stunting		n	%		
	n	%	n	%				
Good	69	86,3	11	13,8	80	100	0,000	7,484 (3,616-15,485)
Poorly	57	45,6	68	54,4	125	100		

Table 3
 The Relationship between Parenting Hygiene and Environmental Sanitation with Stunting Incidence in Toddlers

Parenting Personal Hygiene and Environmental Sanitation	Stunting events				Total		p	PR 95% CI
	Stunting		No Stunting		n	%		
	n	%	n	%				
Good	54	83,1	11	16,9	65	100	0,000	4,636 (2,238-23,9,603)
Poorly	72	51,4	68	48,6	149	100		

Table 4
 The Multiple Logistics Regression Model with Stunting Incidence in Toddlers Age 24-59 Months

Variab	Le B	p-value	Exp (B)	95% CI. For EXP (B)	
				Lower	Upper
Family food security	0,782	0,054	2,186	0,988	4,838
Parenting Patterns of Breastfeeding and Food	2,019	0,000	7,529	3,509	16,154
Parenting Personal Hygiene and Environmental Sanitation	2,384	0,003	10,844	2,234	52,639
Constant	-,706	0,000	0,000		

This condition shows that in families who are not food insecure (food insecure, food insecure, and food insecure) not all children under five are stunted. Likewise, in families who are food insecure, not all toddlers are normal because in the study it was found that there were families whose toddlers were stunted in food insecure conditions even though the percentage was smaller. The incidence of stunting in toddlers can be caused by multi-factors such as maternal parenting, history of infectious diseases, and others.

Mother's parenting is all actions taken by mothers in caring for and caring for children, so that children's growth and development can run well, including physically, mentally, and socially. Mother's attitudes and behavior in providing food, and caring for personal and environmental hygiene are things that are included in the mother's parenting pattern. The mother's parenting pattern consists of breastfeeding and food parenting, personal hygiene/hygiene

and sanitation parenting, and healthy parenting. The results of the chi-square test showed that there was a relationship between breastfeeding and food parenting with the incidence of stunting ($p = 0.000$; $p < 0.05$). This study is in line with research conducted by Wati Sari, Aritonang, and Sudaryati (2021) explaining that there is a relationship between parenting patterns consisting of feeding practices with stunting. According to Hizriyani and Aji, (2021) exclusive breastfeeding until the baby is six months old is an effective way to prevent stunting, so that children's growth and development are more optimal and do not get sick easily during their growth period.

In this study, it was found that most toddlers did not get exclusive breastfeeding for six months. It was found that 23 respondents (11.2%) did not give colostrum to the baby due to the mother's lack of knowledge about the importance of the first breast milk coming out for the child's immune system and growth. The results of the interview found that

the parenting pattern of giving maternal food to children did not pay attention to diversity and nutrition, the timing of giving food tended to be irregular and sometimes food did not run out because the child did not have an appetite and the child preferred to snack outside. This means that the parenting pattern of feeding mothers to toddlers is not good, seen from the lack of knowledge of mothers about the nutritional needs of children and the lack of diversity and the amount of food provided for children, so that the nutritional needs of children from diverse food sources are not optimally met, then it can pose a risk of growth disorders or children are at risk of stunting. Fulfillment of nutrition includes daily consumption of nutritious food in the type and amount according to the needs of the child's body, taking into account the principles of food diversity, physical activity, clean living behavior, and monitoring body weight regularly in maintaining the child's weight and growth to prevent nutrition problems in children.

According to the Ministry of Health (2019) that stunting prevention steps taken are related to parenting patterns of breastfeeding and food, namely: 1) Meeting nutritional needs since pregnancy; 2) Giving exclusive breastfeeding until the baby is six months old; 3) Accompany exclusive breastfeeding with healthy complementary foods; 4) Monitor children's growth and development regularly.

This study is in line with research conducted by Mahdiah, Siagian, Aritonang, and Lubis (2018) that there is a relationship between knowledge ($p=0.00$) and attitude ($p<0.05$) with the practice of exclusive breastfeeding. The importance of providing effective breastfeeding counseling can increase knowledge of maternal nutrition, attitudes, and practices of exclusive breastfeeding.

The results of this study indicate that most of the respondents have poor personal hygiene/hygiene behavior, it can be seen that there are still many respondents who do not apply hand washing with soap when they want to cook, and after doing activities outside the home. The majority of respondents also do not teach and encourage children to wash their hands with soap when going to eat, after playing outside the house, after defecating, and after touching dirty items. Applying the habit of washing hands with soap in running water is one of the preventive measures to avoid various health problems in children, including preventing the risk of stunting. The results of this study are in line with the results of research by Sutarto et al. (2021) stated that there is a relationship between personal hygiene and the incidence of stunting in toddlers 24-60 months.

Stunting is caused by multidimensional factors and is not only caused by poor nutrition experienced by pregnant women and children under five. Lack of access to clean water and sanitation is one of the triggering factors for stunting in toddlers, access to clean water and poor sanitation facilities can increase the incidence of infectious diseases which can divert energy for growth to the body's resistance to infection, nutrients are difficult to absorb by the body and stunted growth. Therefore, poor hygiene and sanitation can lead to a high incidence of stunting in toddlers (Pakpahan, 2021)

CONCLUSIONS AND SUGGESTIONS

The variables most related to the incidence of stunting in toddlers aged 24-59 months in Southeast Aceh Regency are personal hygiene/hygiene parenting and environmental sanitation. It is hoped that the Southeast Aceh District Health Office will monitor the nutritional status of children under

five through TB measurements and weight weighing regularly to find out the description of the nutritional status of toddlers, and routinely implement stunting problem prevention programs, especially for toddlers aged 24-59 months in reducing the incidence of stunting in Aceh District. Southeast Asia, as well as the need to increase the knowledge of mothers and expectant mothers through education about proper parenting, the importance of exclusive breastfeeding, and nutritious food for children, especially during the 1000 HPK period for optimal child growth and development in preventing stunting.

ETHICAL CONSIDERATIONS

This study was approved by The Research Ethics Committee, Universitas Prima Indonesia No. 021/KEPK/UNPRI/III/2022. Declared to be ethically appropriate by seven WHO 2011 standards, 1) social value, 2) scientific value 3) equitable assessment and benefit, 4) risk, 5) persuasion/exploitation, 6) confidentiality and privacy, and 7) informed consent, referring to the 2016 CIOMS Guidelines. This is as indicated by the fulfillment of the indicators of each standard.

Funding Statement.

The authors did not receive support from any organization for the submitted work and no funding was received to assist with the preparation of this manuscript.

Conflict of Interest Statement

The author declares that there is no potential conflict of interest concerning the authorship and publication of this article.

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