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## Determinants Of Stunting Incidence In Toddlers In Pasaman Barat

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### Abstract

*The incidence of stunting in Indonesia in 2021 is relatively high with a stunting prevalence of 24.4%, and one area in West Pasaman Regency has even experienced an increase in the incidence of stunting in 2022. The adverse effects of stunting are not only related to the child's height, it can also cause permanent disability and affect the child's future. To find out the factors associated with the incidence of stunting in toddlers, this research is a quantitative study with an observational analytic design through a cross-sectional approach. The sample is taken by simple random sampling technique. Data processing is in the form of univariate analysis and bivariate analysis. The results of the data analysis in this study obtained significant results between the incidence of stunting and parenting factors and economic factors. Various factors include causing the incidence of stunting in toddlers in West Pasaman Regency, so that family assistance is one of the efforts to prevent stunting incidents.*

**Keywords : Toddler; Stunting; Parenting; Economy**

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## INTRODUCTION

Stunting is an event in children whose height is shorter than normal children of their age. Incidence of stunting is caused by inadequate nutrition or recurrent infectious diseases, generally occurring in late infancy or early childhood. Poor diet during pregnancy is also a cause of stunting, because it can hinder the growth of the baby. Inadequate nutrition can increase the risk of illness, treatment costs and even death. Stunted children have a great chance of experiencing a higher level of anemia. Apart from having an impact on a child's height, stunting can also cause permanent disability which affects the child's future. Children who experience stunting are likely to experience a decrease in academic scores when running their level of education. The high incidence of stunting also has a negative impact on national development because it is related to child morbidity and mortality, children's cognitive abilities, and non-communicable diseases in the future.

Reports related to Global Nutrition inform that the prevalence of stunting is divided into two, namely stunted children with obesity and stunted children with thin bodies. One of these countries, namely Indonesia, has experienced a double nutritional burden on toddlers. Children who are stunted and accompanied by obesity have a greater risk of experiencing unhealthy development than normal children. Based on study data on the nutritional status of toddlers in Indonesia in 2021 the incidence of stunting in toddlers is relatively high with a stunting prevalence of 24.4%. <sup>11</sup> The same statement according to Yunitasari E (2022), cases of stunting in Indonesia are high with various influencing factors. Indonesia has various socio-cultural characteristics, behavior and economic levels in various islands which are a big challenge in tackling stunting.

An initial survey at the Paraman Ampalu Health Center in West Pasaman Regency, West Sumatra Province, found that in 2022 there will be an increase in the number of stunting incidents by 18 incidents compared to the previous year, namely from 271 incidents in 2021 to 289 incidents in 2022. The high incidence of stunting is likely due to by several factors. This is the reason for

researchers in conducting a study entitled factors related to the incidence of stunting in toddlers in West Pasaman.

## RESEARCH METHODS

This research is a quantitative study with an observational analytic design through a cross-sectional approach. The population in this study were all toddlers, namely normal toddlers and stunted toddlers. The sample in this study was obtained using a simple random sampling technique, which was taken by randomly drawing members of the population (lottery technique). The instrument used in this study was a questionnaire containing questions to obtain answers from the respondents, namely the main caregivers of toddlers. Data analysis in the form of univariate analysis and bivariate analysis. The test used is the chi-square test with a 95% confidence level using the SPSS software application.

## RESULTS AND DISCUSSION

### Univariate analysis

This study focused on 55 respondents, namely the main caregivers of toddlers. Of these, most toddlers are aged 25-35 months, namely there are 23 (41.8%) toddlers. The majority of respondents with toddlers were female, there were 31 (56.4%) toddlers.

**Table 1. Distribution of the frequency of stunting events among 55 respondents in the working area of the Paraman Ampalu Health Center, West Pasaman Regency**

<b>Stunting events</b>	<b>Frequency</b>	<b>Percentage (%)</b>
stunt	39	70.9
Normal	16	29.1
<b>Parenting</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Negative	32	58.2
Positive	23	41.8
<b>Economy</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Low	50	90.9
Tall	5	9.1
<b>Culture</b>	<b>Frequency</b>	<b>Percentage (%)</b>
There isn't any	15	27.3
There is	40	72.7
<b>Amount</b>	<b>55</b>	<b>100.0</b>

Identification of stunting status is useful for determining children who are identified as stunting. The height-for-age Z-score was used to calculate stunting. <sup>14</sup> More than half of the respondents included in the research sample who were interviewed had stunted toddlers, consisting of 39 (70.9%) stunted toddlers and 16 (29.1%) normal toddlers. The majority of respondents or 32 (59.2%) gave negative parenting results. The survey results during the interview stated that the mother did not carry out health recommendations due to the lack of awareness of the mother on the importance of

preventing stunting. The majority of respondents have low family economic status with income below the regional UMK, namely there are 50 (90.9%) respondents. Related to cultural factors, some respondents or 40 (72.7%) stated that there is a culture that is still carried out by mothers when pregnant and caring for toddlers.

**Bivariate Analysis**

Bivariate analysis at this stage is to determine the relationship between the independent variables and the dependent variable using the chi-square test with a significance level of  $\alpha = 0.05$ .

**Table 2. The relationship between parenting factors and the incidence of stunting in toddlers in the working area of the Paraman Ampalu Health Center West Pasaman District**

Parenting	Stunting events						P Value	QR CI 95% (Low-Up)
	stunt		Normal		Total			
	N	%	N	%	N	%		
Negative	31	96.9	3.1	32	40	100%	0.000	0.017 (0.002-0.150)
Positive	8	34.8	65.2	23	40	100%		
<b>Amount</b>	<b>39</b>	<b>70.9</b>	<b>29.1</b>	<b>55</b>	<b>40</b>	<b>100</b>		

Based on statistical tests between parenting factors and the incidence of stunting in this study, it was found that  $p\ value = 0.000$  ( $p\ value < \alpha$ ) so it can be concluded that there is a relationship between parenting factors and the incidence of stunting in toddlers in the work area of the Paraman Ampalu Health Center, Pasaman Regency West. The results of further analysis obtained OR (0.017) meaning that respondents with negative parenting styles had a risk of 0.1 times for stunting in toddlers compared to positive parenting styles.

**Table 3. The relationship between family economic factors and the incidence of stunting in toddlers in the working area of the Paraman Ampalu Health Center West Pasaman District**

Family Economy	Stunting events						P Value	QR CI 95% (Low-Up)
	stunt		Normal		Total			
	N	%	N	%	N	%		
Low	30	78.0	11	22.0	50	100%	0.001	0.22 (0.131-0.371)
Tall	0	0.0	5	100.0	5	100%		
<b>Amount</b>	<b>39</b>	<b>70.9</b>	<b>16</b>	<b>29.1</b>	<b>55</b>	<b>100</b>		

Based on statistical tests between family economic factors and the incidence of stunting, it was found that  $p\text{ value} = 0.001$  ( $p\text{ value} < \alpha$ ) so it can be concluded that there is a relationship between family economic factors and the incidence of stunting in toddlers in the work area of the Paraman Ampalu Health Center, West Pasaman Regency. The results of further analysis obtained OR (0.22) meaning that respondents with a low family economy had a risk of 0.2 times for stunting in toddlers compared to a high family economy.

**Table 2.3. The relationship between cultural factors and the incidence of stunting in toddlers in the working area of the Paraman Ampalu Health Center West Pasaman District**

Culture	Stunting events						P Value
	stunt		Normal		Total		
	N	%	N	%	N	%	
There isn't any	11	73.3	4	26.7	15	100%	1,000
There is	28	70.0	12	30.0	30	100%	
<b>Amount</b>	<b>39</b>	<b>70.9</b>	<b>16</b>	<b>29.1</b>	<b>55</b>	<b>100</b>	

Based on statistical tests between cultural factors and the incidence of stunting, it was found that  $p\text{ value} = 1,000$  ( $p\text{ value} > \alpha$ ) so it can be concluded that there is no relationship between cultural factors and the incidence of stunting in toddlers in the working area of the Paraman Ampalu Health Center, West Pasaman Regency.

## DISCUSSION

### Relationship between parenting factors and the incidence of stunting in toddlers

The parenting factor is an indicator that influences the incidence of stunting in toddlers. Mothers of toddlers who have positive and consistent parenting tend to have children who are not stunted. Existing parenting behaviors can provide a better path for children to reach their developmental potential. The consistency of mother's attention to toddlers is inseparable from the support and influence of the family. Through the family, various parenting styles can be applied which can form a mindset for the progress of the family because the family is the main educational institution in forming character.

poor parenting were mothers' ignorance of balanced food information, mothers who were less indifferent to the importance of keeping hands and cutlery clean before feeding children. Factors from inadequate complementary foods are low quality micronutrients in complementary foods, as well as low diversity of food and food ingredients that contain anti-nutrients.<sup>16</sup> From several mothers who did not understand this balanced diet information, mothers had reasons such as a child who had difficulty eating or a child's poor appetite so that the child did not like certain foods such as fruits and vegetables. This is in line with Esti Yunitasari's research (2021), respondents stated that complementary foods given to children are any foods that can make children full. In fact, parents who meet their children's balanced food needs can reduce the likelihood of stunting.

Excerpts from interview results according to Yenita RN's research (2021), respondents said the reason for not being guided by the consistency of providing nutritious food to children at all times was not because of income because income could still be controlled to be sufficient, but the child's willingness to eat was the main reason for providing sufficient child nutrition. If the child's desire to eat decreases and doesn't want to eat, the child can replace it with a snack that he likes, the most important thing is that the child eats and doesn't have a stomachache. The results of Amiruddin A's research (2021) on the results of in-depth interviews, respondents did not provide a balanced nutritional diet for children according to their age, such as only giving rice porridge or bananas to children aged > 6 months-1 year because at that age children were not allowed food other types because it assumes it will harm the health of the child.<sup>11</sup> In line with that, Mustamin's research (2021), states that capacity building for caregivers is needed according to the age of the child. Capacity building in feeding and child care practices through mentoring activities at the household level. Attitudes and behavior of mothers who do not respect health information is one of the factors that causes negative parenting and children become stunted.

Good parenting also arises from a mother's mindset that is realistic and consistent in providing care to children. The assumption of the mindset of some mothers in this study considers that the incidence of stunting is not a health problem. Yunitasari's research (2022) also states that most caregivers do not perceive stunting as a health problem because they usually think that stunting is a genetic disease and/that a person's height or physical height has been determined by God. The survey results of interviews with respondents in this study also stated that some mothers still did not understand what stunting was. You have heard of or know about stunting , but you don't understand the concept or definition of stunting itself.

#### **The relationship between family economic factors and the incidence of stunting in toddlers**

The results of the analysis in this study showed that respondents with a low family economy had a higher risk of stunting in toddlers than those with a high family economy. This is in line with Shyam Sundar's research (2019), which obtained the same results, namely that there was a significant relationship ( $p < 0.01$ ) between stunting and family economic status factors. In line with that, in Svefors P's research (2018) in Bangladesh, a strong relationship between stunting and poverty has been reported from the large number of stunting incidents occurring in families with low-middle income.<sup>2</sup> Most of the literature in Pakistan is also about the socioeconomic determinants of malnutrition.<sup>18</sup> Household wealth influences the increasing and decreasing trend of stunting prevalence.<sup>22</sup> Research by Khaliq A (2021), states that economic status is significantly related to consistency of being underweight with stunting.

Mutiarasari D's research (2021), revealed that there is no correlation between the economic status of the family and the incidence of stunting.<sup>8</sup> However, children from low-income families, due to the family's lack of ability to provide nutritious food, tend to be more vulnerable to the risk of stunting. Family income in residential areas where the economic average is low, allocating costs for raising and feeding children are used for daily family meal costs from morning to night, people prefer to spend more money for snacks than costs to meet family nutritional intake.<sup>1</sup> Improving nutrition can be carried out accompanied by socio-economic improvements and providing additional food programs for children.<sup>24</sup> Policy perspectives related to improving education and the economic conditions of vulnerable family groups can result in a more rapid and efficient reduction of stunting.

#### **The relationship between cultural factors and the incidence of stunting in toddlers**

Although the results of this study showed no relationship, the results of the survey during the interviews showed that after looking at the parenting style, especially the way of feeding toddlers, there are still mothers who provide complementary feeding patterns (MP-ASI) before the age of 6

months. This statement means that most mothers stated that there was no previous culture that was followed by mothers, but mothers still implemented old cultural habits such as giving additional food to toddlers before the age of 6 months, for example, giving bananas. Motivation to practice health behaviors is certainly influenced by social opportunities including time, work demands and social norms.

Regarding the identical culture of several respondents who have been interviewed, there is no longer a specific culture that only a few respondents do. This culture includes forbidden habits during pregnancy, such as pregnant women are not allowed to sit on the floor or in front of the door because they are believed to hinder the baby's way out during childbirth, using herbs/herbs on the head after giving birth to reduce the mother's pain after giving birth. This culture is still implemented in everyday life because mothers follow the directions of their parents who advise them. The results of Amiruddin A's research (2021), during pregnancy, most mothers follow the restrictions recommended by their parents and in-laws.

The many types of food taboos for consumption during pregnancy and breastfeeding generally come from animal protein sources such as squid, shrimp, crabs, shellfish and so on because they are believed to cause the fetus to become sticky, making it difficult for the delivery process and breast milk to be difficult to come out.

Most of the respondents in this study indicated a low self-efficacy response in preventing and treating malnutrition saying that they simply "did not know" how they would treat or prevent malnutrition and that they should seek advice from a hospital or other person. The lack of specific counseling to inform the public about stunting has resulted in very limited knowledge regarding stunting. As cited in Linberg L's research (2021), a better understanding of the importance of local trust can enable more comprehensive decisions to be made about how they can do so, integrated into future interventions. Collaboration between the government, non-governmental organizations, the health team and the community can obtain maximum results in reducing the incidence of stunting

## CONCLUSION

The results of the study show that parenting factors and economic level influence the incidence of stunting in the working area of the Paraman Ampalu Health Center, West Pasaman Regency. So that family assistance is one of the efforts to prevent stunting. And the role of policy makers is very important and should be aligned with a better understanding of the importance of local trust, so as to enable more comprehensive decisions to be made about how communities can implement them, and to be integrated into future interventions.

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