

## Analysis of Determinants of Stunting Incidents in Children Toddler in The Area of The Bukal District Health Center, Buol District

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**ABSTRACT:** According to UNICEF, stunting is defined as the percentage of children aged 0-59 months with a height below minus (moderate and severe stunting) and minus three (chronic stunting) measured by WHO child growth standards. Stunting in toddlers manifests chronic nutritional deficiencies both during pregnancy and during the birth process. This research aims to analyze the determinants of stunting in children under five regarding parenting patterns, access to health services, nutritious food, and clean water and sanitation in the Bukal District Health Center Area, Buol Regency. The research was conducted in the Bukal Community Health Center Working Area, Buol Regency. The sample in this study was the entire population of 322 mothers of toddlers in the Bukal District Health Center Area, Buol Regency. This research was an analytical survey research with a cross-sectional design. Based on the findings, it can be concluded that: There is a relationship between parenting pattern factors and the incidence of stunting in children under five in the Puskesmas area, Bukal District, Buol Regency with a p-value = 0.000, There is a relationship between the factor of access to health services and the incidence of stunting. In children under five in the Puskesmas area, Bukal District, Buol Regency with a p-value = 0.000, There is a relationship between the factor of access to nutritious food and the incidence of stunting in children under five in the Puskesmas area, Bukal District, Buol Regency with a p-value = 0.000, There is a relationship between access to clean water and sanitation and the incidence of stunting with a p-value = 0.000. This study concludes that health services are the most related factor, with a significant value of 0.004 and a Wald value of 8.310, meaning that access to health services has a risk of 8,310 times the risk of stunting.

**KEYWORDS:** Stunting; Parenting Pattern; Acces To Health Services.

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### INTRODUCTION

Stunting is a chronic condition that describes stunted growth due to chronic malnutrition. The World Health Organization (WHO) stated that the prevalence of stunting cases worldwide began in 2017 when around 22.2% or about 150.8 million children under five experienced stunting circumstances, as many as 55%. It comes from Asia, 39% is in Africa, and the rest is in other parts of the continent.

According to UNICEF, stunting is defined as the percentage of children aged 0-59 months with a height below minus (moderate and severe stunting) and minus three (chronic stunting) measured by WHO child growth standards. Stunting in toddlers manifests chronic nutritional deficiencies both during pregnancy and during the birth process.

According to Dekker et al. in Nadimin (2010), stunting is caused by many direct and indirect factors. Natural factors are determined by food intake, birth weight, and disease, while the economy, culture, education, employment, and health service facilities determine indirect factors. According to Damar Upahita in Imani (2020), stunting results from various elements that occurred in the past, such as poor nutritional intake, repeated exposure to infectious diseases, and low birth weight (LBW). The condition of inadequate dietary intake for children occurs not only after the baby is born but can start while he is still in the womb. WHO states that approximately 20% of stunting incidents happen when the baby is still in the womb. The mother's intake causes this during pregnancy, being malnourished and of poor quality, so the nutrition received by the fetus tends to be small. Ultimately, growth in the womb begins to be hampered and continues after birth. (Imani, 2020).

The 2018 Riskesdas results found that 30.8% of toddlers were found to have cases of stunting, of which 11.5% were cases of short toddlers and 19.3% were concise. The 2021 Indonesian Nutrition Status Survey (SSGI) results state that the prevalence of stunting in Central Sulawesi Province is 29.7%, while in the Buol district, it is 28.6%. This figure indicates that stunting cases in Central Sulawesi Province are still high. In contrast, the results of the 2022 e-PPGBM report show the prevalence of stunting cases in the Buol Regency area has increased, with the number of instances totaling 954 children with a percentage of 75.9% of under-fives being short and 24.1% under-fives being very short.

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Nutritional status in Indonesia is still a significant problem for the Ministry of Health and its staff. The multiple nutritional problems experienced by toddlers in Indonesia currently indicate that the quality of health development still needs to be improved from what was expected. Many countries worldwide experience multiple nutritional problems, such as stunting, wasting, and being overweight in children under five, including Indonesia.

The results of the e-PPGBM report state that the prevalence of stunting in the Buol Regency has changed. In 2021, the most cases were in the Biau Community Health Center area, Biau District. Still, in August 2022, the highest number of patients were in the Bukal District Health Center area, with 214 cases, with the percentage of children under five very short at 22.9% and short toddlers at 77.1%. The current change in the prevalence of stunting cases is influenced by many factors, including parenting practices, health services, lack of access to nutritious food, and lack of access to clean water and sanitation, so we need to be careful by looking at the determinant factors in the area so that the interventions carried out will be right on target. Apart from that, nutritional problems, including stunting, are like an iceberg phenomenon where what is visible is a tiny part of stunting that is not visible and is even much more numerous, and to date, there has been no research related to the incidence of stunting in Buol Regency.

Based on the background above, this research aimed to examine "Analysis of Determinants of Stunting Incidents in Children Under Five in the Puskesmas Area, Bukal District, Buol Regency."

### METHODS

The type of research used is observational research with a Cross-Sectional Study plan. The independent variables in this study include parenting practice factors, health services, and access to nutritious food. The dependent variable in this study is the incidence of stunting.

The research population of stunting sufferers who live in the Modo Health Center Area, Bukal District, Buol Regency, 2022, will be 1663 mothers.

Inclusion criteria are as follows:

- 1) Willing to be a respondent
- 2) Have complete achievement data according to indicators
- 3) Residing in the Modo Community Health Center, Bukal District, Buol Regency.

Meanwhile, the exclusion criteria are:

- 1) Stunted toddlers who do not live in the Bukal District Health Center area.
- 2) Mothers who have more than one toddler

The sampling method was purposive sampling using the sample size formula according to Slovin, so a sample size of 322 people was obtained.

This research uses statistical tests appropriate to the data scale and is processed using a computer using the SPSS application with the chi-square analysis test. The relationship criteria are carried out by looking at the p-value. The significant test used the specified limits ( $\alpha > 0.05$ ). If the P value is  $< 0.05$ , there is a substantial relationship between the independent and dependent variables. If the P value is  $> 0.05$ , there is no significant relationship between the independent and dependent variables.

### RESULTS AND DISCUSSION

#### Analysis of the Relationship between Parenting Pattern Factors and the Incident of Stunting

Table 1. Factor Analysis of Parenting Patterns with Stunting Incidents in Bukal District

Parenting Pattern Factors	Stunting events				Amount		P value
	Stunting		Normal		n	%	
	n	%	n	%			
Not good	123	89.7	14	10.3	137	100	0,000
Good	7	16.7	35	83.3	42	100	
Total	130	72.6	49	27.4	179	100	

Source : Primary Data, 2023

The T table above shows that of the 179 respondents who stated that the factor of poor parenting patterns with the incidence of stunting was 123 people with a percentage of (89.7%), the characteristic of poor parenting patterns with typical toddlers (not stunting) was 14 people with a ratio of (10.3 %). Meanwhile, of the toddlers (not stunting) was 35 people with a ratio of (83.3%). The results of the k statistical test obtained p value = 0.000 because the p-value  $< 0.05$  where the degree of significance  $\alpha = 0.05$ , then  $H_0$  is rejected. Statistically, it can be interpreted that there is a relationship between parenting factors and the incidence of stunting in children under five in the Puskesmas area, Bukal District, Buol Regency. 179 respondents who stated that the factor of good parenting was related to the incidence of stunting, there were 7 people with a percentage of (16.7%), the element of good

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parenting with typical

### Analysis of the Relationship between Health Service Access Factors and Stunting Incidents

**Table 2. Analysis of Health Service Access Factors with Stunting Incidents in Bukal District**

Health Service Access Factors	Stunting events				Amount		P value
	Stunting		Normal		n	%	
	n	%	n	%			
Not good	119	90.2	13	9.8	132	100	0,000
Good	11	23.4	36	76.6	47	100	
Total	130	72.6	49	27.4	179	100	

Source : Primary Data, 2023

The table above shows that of the 179 respondents who stated that the health service factor was not good with the incidence of stunting, there were 119 people with a percentage of (90.2%), the health service factor was not good with typical toddlers (not stunting) as many as 13 people with a ratio of (9.8%). Meanwhile, of the 179 respondents who stated that the factor of good health services with the incidence of stunting was 11 people with a percentage of (23.4%), the element of good health services with typical toddlers (not stunting) was 36 people with a ratio of (76.6%). The results of the k statistical test obtained p value = 0.000 because the p-value < 0.05 where the degree of significance  $\alpha = 0.05$ , then  $H_0$  is rejected. Statistically, it can be interpreted that there is a relationship between health service factors and the incidence of stunting in children under five in the Puskesmas area, Bukal District, Buol Regency.

### Analysis of the Relationship between Nutritious Food Access Factors and Stunting Incidents

**Table 3. Factor Analysis of Access to Nutritious Food with Stunting Incidents in Bukal District**

Nutritious Food Access Factors	Stunting events				Amount		P value
	Stunting		Normal		n	%	
	n	%	n	%			
Not good	126	88.1	17	11.9	143	100	0,000
Good	4	11.1	32	88.9	36	100	
Total	130	72.6	49	27.4	179	100	

Source : Primary Data, 2023

Table 3 shows that of the 179 respondents who stated that the food access factor was poor with the incidence of stunting, there were 126 people with a percentage of (88.1%), the food access factor was poor with typical toddlers (not stunting) as many as 17 people with a ratio of (11.9%). Meanwhile, of the 179 respondents who stated that the factor of good food access with the incidence of stunting was 4 people with a percentage of (11.1%), the element of good food access with typical toddlers (not stunted) was 32 people with a ratio of (88.9%). The statistical test results obtained p value = 0.000 because the p-value < 0.05 where the degree of significance  $\alpha = 0.05$  then  $H_0$  is rejected. Statistically, it can be interpreted that there is a relationship between the factor of access to nutritious food and the incidence of stunting in children under five in the Puskesmas area, Bukal District, Buol Regency.

## DISCUSSION

### 1. Parenting Patterns for Toddlers

The results of research conducted in Bukal District, Buol Regency, show that the number of mothers who have stunted toddlers with poor parenting patterns is 137 people or 76.5% compared to the number of mothers who have checked toddlers with good parenting patterns, namely 42 people. Or 23.5%. Parenting patterns are closely related to the mother's behavior or ability to care for and protect the toddler during growth and development. Good parenting patterns will have an impact on the child's psychological skills and will also influence the process of better change. The interaction and attention given to toddlers will tend to create strong emotional bonds, thereby creating comfort for toddlers, reducing the risk of pain and disability in toddlers, and preventing toddlers from other dangerous diseases.

The research results of Ariyanti (2015) stated that parental parenting was a trigger factor for stunting in children under five in the Muara Tiga Health Center work area, Pidie Regency. The opinion of Amani et al. supports this research, and Sandra Fikawati et al. (2017) state that stunting is the impact of various factors such as low birth weight, inappropriate stimulation and care for children,

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inadequate nutritional intake and repeated infections, as well as various other environmental factors.

According to the results of research by Reiher (2019), poor parenting has a risk of 8.07 times greater than good parenting, with stunting nutritional status percentages of 53% and 12.3%, respectively. Parental behavior is the most significant determining factor and the most difficult to overcome, followed by environmental factors. This is because behavior is more dominant than ecological factors. After all, environmental factors in human life are also greatly influenced by parental behavior. If the obstacles experienced by parents in providing parenting patterns for children cannot be identified, then children will experience stunting due to inadequate needs to support growth. Ultimately, stunting will hamper economic growth, increase poverty, and widen inequality (Fathmy Fitriani Souliisa, 2021).

### **2. Access to Health Services for Children Under Five**

The results of research conducted in Bukal subdistrict, Buol Regency, show that access to health services is closely related to the incidence of stunting where there are 132 or 73.7% of respondents who have stunted children with poor access to health services and 47 or 26.3% of respondents who have restricted children with access to good health services.

Health services are a process of interaction between health workers and the community. The better the service provided, the more comfortable it is for the district to place their hopes of curing their illness on health workers. In this study, the interaction between health workers and stunting sufferers was intense, from counseling to coaching from house to house. Provide evidence of the existence of health services in the working area of the Bukal District Health Center. Buol is perfect. However, some people still need access to optimal health services. This is because, among other things, the distance from where they live to health facilities is considered far and can only be reached by motorized vehicles. Some also don't have health insurance cards, so they must pay for treatment. So, some people buy medicine at the shop if a family member is sick or goes to a shaman for treatment.

The results of research conducted by Fadila Aisah Raihan (2022) regarding Health Services with Nutritional Status for Toddlers Based on Body Weight and Age stated that there is a significant relationship between health services and nutritional status for toddlers based on weight and age in Jombang Regency. This research is in line with the opinion expressed by Mosadeghrad (2013), which states that quality health services are a form of effort to please patients by providing good health care services that are under the latest clinical guidelines and standards so that they are more effective and efficient in meeting and satisfying patient needs, more further health services have many benefits, it has been empirically proven that satisfied patients have better levels of acceptance and compliance with care and treatment and thus overall improved health outcomes (Mallat et al., 2020)

Efforts to obtain health services play an essential role in improving children's nutritional status. Where mothers can use it to get correct health information, efforts to increase the utilization of health services can be made in various ways, for example, by following nutrition and health education and nutritional counseling for toddlers (Bella et al., 2020). This will determine whether toddlers are malnourished, mildly malnourished, or expected. In contrast to growth, development includes gross motor skills, fine motor skills, spoken language, and how to communicate with people (social relations).

### **3. Access to Nutritious Food for Children Under Five**

The results of research conducted in Bukal District, Buol Regency, showed that 143 or 79.9% of respondents with stunted toddlers had poor access to nutritious food, and 36 or 20.1% of respondents with tiny toddlers had good access to healthy food.

Access to nutritious food is the ability of individuals or heads of families to provide sufficient and balanced nutrition to fulfill the nutrients the body needs, especially for children under five. In this research, not all communities can provide nutritious food for their family members. This is because of the community's economic capacity and the mother's knowledge of delivering accessible, cheap, high-quality processed ingredients. Apart from that, cultural factors are also a contributor to the increasing prevalence of stunting under five in the working area of the Bukal District Health Center. Buol, the public's belief in not consuming certain types of nutritious food is due to ideas passed down from generation to generation and the influence of interaction from the incoming community in several working areas of the Bukal Regency Health Center. Boo.

Various studies show that households experiencing food insecurity are more likely to have children with stunting. Diseases in children remain a problem that affects nutritional status in Indonesia. Inadequate energy and nutritional intake, as well as infectious diseases, play a significant role in the trial of stunting (Sari et al., 2016). Nutritional status is the condition of the body as a result of nutritional intake and the nutrients contained in food. Nutritional status has several categories, namely more nutritional status, moderate nutritional status, less nutritional status, good nutritional status, and poor nutritional status. Nutrition or food intake will impact a person's nutritional status. A person who falls into the category of deficient nutritional status will occur if there is a lack of one or more essential nutrients in the body. Lack of nutrition, especially in children, can negatively impact the short-term (acute) and long-term (chronic). Children who experience acute malnutrition appear physically weak. For chronically malnourished children, physical growth will be disrupted, such as children being shorter than their age, especially when they are under two years old (Istiany, 2013).

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### CONCLUSIONS

Parenting patterns for children under five in the Bukal District Health Center area, Buol Regency were 137 people (76.5%) poor, and 42 people (23.5%) were good. Access to health services for children under five in the Bukal District Health Center area, Buol Regency, was poor for 132 people (73.7%) and suitable for 47 people (26.3%). Access to nutritious food for children under five in the Bukal District Health Center area, Buol Regency, was poor for 143 people (79.9%) and suitable for 36 people (20.1%).

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