



(RESEARCH ARTICLE)



## The effect of environmental health on stunting in the coastal area of Gorontalo City

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### Abstract

Stunting is one of the nutritional status problems in toddlers which is described as a form of growth failure due to poor nutrition and health during the prenatal and postnatal periods. This study aims to analyze the factors that influence of environmental health on stunting in the coastal area of Gorontalo City. The research method carried out is the ethnographic method. The data collection method is carried out by interview and in-depth interview. The data analysis method is carried out by descriptive analysis. The results of the research obtained that environmental health that can be very important and be the cause of stunting in children, namely; low environmental sanitation facilities, unhealthy water sources, unhealthy hand washing habits or behaviors, and stunting family residences that are less or not even habitable.

**Keywords:** Stunting; Environmental; Health; Coastal; Communities

### 1. Introduction

Stunting is one of the nutritional status problems in toddlers which is described as a form of growth failure due to poor nutrition and health during the prenatal and postnatal periods [1]. Stunting (short) can be caused due to malnutrition of chronic nutritional intake or chronic or recurrent infectious diseases, it can be seen from the z-score (TB /U) value of less than -2 elementary schools [2].

Factors related to stunting, namely, family socioeconomic status, parental education, nutritional status, weight at birth, child disease, clean water supply, health services, and ethnicity [3]. Factors that cause stunting in children are cumulative processes that occur during pregnancy, childhood, and throughout the life cycle. Stunting occurs due to causative factors such as genetics, birth weight history, history of infectious diseases, parental income, gender, and nutritional status [4].

Indonesia is ranked 5<sup>th</sup> highest with the prevalence of stunted children. After India, China, Nigeria and Pakistan [5]. [6] shows that nationally the number of stunted children reaches 37.2%. With the breakdown of children very short (18.0%) and short (19.2%). There was an increase in cases in 2010 of 35.6% compared to 2007 which was 36.8% [7].

Children who are stunted have a 9 times greater risk of having an IQ score below the average when compared to children who are not stunted [8]. Stunting in toddlers needs special attention because it can hinder physical and mental development in children. Stunting will be the cause of increased mortality, decreased cognitive levels and low motor development as well as imbalances in body functions. Stunting is also associated with an increased risk of decreased intellectual function, productivity levels and an increased risk of developing degenerative diseases in the coming period.

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Children with stunting will tend to be more susceptible to infectious diseases, thus increasing the risk of experiencing a decrease in the quality of learning [9]. Stunting problems that occur in childhood have an impact on pain, death, physical growth disorders, mental development disorders, cognitive and motor development disorders. Disorders that occur tend to be irreversible and affect subsequent development which can increase the risk of degenerative diseases in adulthood [10]. Another impact that occurs due to stunting where children have less intelligence which affects learning achievement is not optimal and productivity decreases. If this continues, it will hinder the development of a nation's productivity in the future [11].

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## 2. Material and methods

This research uses a qualitative approach, namely a study in which the presentation of the results of the study uses words, sentences, symbols or symbols and not in the form of numbers. Qualitative approach, which aims to understand social and cultural phenomena as a whole (holistic) and in depth. As a qualitative research, the data that has been collected in this study is descriptive [12]. According to [13], culture is knowledge that people learn as members of a group and cannot be observed directly. An ethnographer carries out the process of understanding what is seen and listened to to infer what people know. The source of the cultural conclusions of an ethnographer is obtained from what people say, the way people act and from the various artifacts that people use.

Ethnographic methods are the foundation of anthropology and sociology, social science theory, and this contributes to the quantification of social science fieldwork and the foundation of the mixture and design of the dual method [14]. [15] with his ethnographic methods, has taken an important part in transforming the image of anthropology into an important tool for understanding the currently developing societies and multicultural societies around the world. In fact, almost all anthropologists agree that ethnography is the basis of cultural anthropology [16]. Data collection techniques are ways, methods, tips, approaches, strategies carried out by researchers to obtain accurate, valid and accountable data which in qualitative research can be in the form of interviews or questions and answers (structured and unstructured), observation (participants and non-participants), documentation, literature studies, and focus group discussions (FGD).

Data that has been collected in the field, either through interviews, indept intevieew, observation, literature studies and documentation must be analyzed, starting from data reduction, data display to data verification. According to [17], data analysis is the process of organizing and sorting data into patterns, categories, and basic units of description so that themes and places of formulation of work hypotheses can be found as suggested by the data. Data analysis in this study is qualitative interpretive [18], through the following stages

- Preparing data from primary data and secondary data;
- Read the entire data repeatedly;
- Coding the data, that is, naming the codes on the data;
- Analyze everything that arises and the topics that have been grouped and then create themes.
- A descriptive approach, that is, the entire data is interpreted and then systematically re-describes the data, findings, along with the analysis.

Equipped with citation references and concepts or theories related to the results of the research. In addition to what Creswell points out, there are a number of steps or stages in qualitative data analysis. The steps of data analysis according to [19], are as follows

- Data collection, namely collecting data at the research site by conducting observations, interviews, and documentation by determining the appropriate data collection strategy and to determine the focus and deepening of the data in the next data collection process.
- Data reduction, namely as a process of selection, focusing, abstracting, transforming coarse data that is in the direct field, and is continued at the time of data collection, thus data reduction begins from the moment the researcher focuses the research area.
- Presentation of data, that is, a set of information organizations that allow research to be carried out. Presentation of data obtained different types, networks of work, interrelationships of activities or tables.
- Drawing conclusions, namely in data collection, researchers must understand and be responsive to something studied directly in the field by compiling patterns of direction and causation.

### 3. Results and discussion

Stunting in children is a long-term result of chronic consumption of low-quality diets combined with morbidity, infectious diseases, and environmental problems. Maternal behaviors such as how to maintain home hygiene, food hygiene, individual hygiene, and psychosocial practices are important factors that influence the child's growth and development process. In relation to environmental health that will be studied in this study, it consists of: environmental sanitation facilities, water sources, handwashing habits or behaviors, and stunted family residences.

Hygiene and environmental health factors affect the incidence of stunting. Foodborne mycotoxins, lack of adequate sanitation, dirt floors in the house, poor-quality cooking fuel, and inadequate local waste disposal are associated with an increased risk of child stunting. The environment can be related to stunting, this is related to the incidence of infection if the living environment is unhealthy, it will increase the risk of infectious diseases such as diarrhea. Diarrhea can interfere with the process of absorbing a child's nutrients, so it can inhibit the growth of the child. This environmental health condition can be seen from hygiene and sanitation such as access to healthy latrines, the application of handwashing with soap (CTPS), management of household waste and waste, access to clean water sources and drinking water management. According to the results of observations, it can be seen that some residents do not have good household wastewater sewers. A lot of stagnant water in every house. This is also reinforced by the description of one of the residents as seen in the following interview excerpt:

"The houses here have no disposal. Yes, at most Just make a hole behind the house. There is no such channel ato what. So yes, just throw it away, keep going to the back of the house" (Mr. DH, 45 Th).

The impact of water being discharged directly behind the house will result in a puddle that becomes a nest of germs. This is also as stated about the impact of environmental sanitation facilities on stunting, such as the presentation of interviews with puskesmas officers as follows.

"I have served for quite a long time in this coastal area. Indeed, there are not a few children who are stunted. Based on my experience and observations, the state of the todak environment is well noticed by the residents here. Residents pay little attention to environmental health. In fact, poor environmental health will allow the occurrence of various diseases, including diarrhea and respiratory infections. Which is not impossible will cause stunting. This is based on my experience and observations yes" (Mr. RML. 48 Th).

Based on the results of the interview above, poor environmental health will be at risk of stunting, although it is not the only contributing factor. The risk of stunting toddlers living with poor environmental sanitation is higher than that of good sanitation. This happens because most of the toddlers' residences do not meet the requirements for healthy houses, insufficient ventilation and lighting, the absence of closed and waterproof landfills, no family latrines, and this is supported by relatively low family economic conditions. The results of the interview revealed that society has not had clean and healthy and clean habits. As seen in the following interview results:

"We from the sub-district government element, always convey to the residents about the cleanliness of the environment. Every time there is a community celebration meeting, we always ask residents to pay attention to the health of their environment. We ask residents not to litter. We also convey that residents should not throw their prayers in any place. Because for us, a healthy environment will create a comfortable, cool, beautiful atmosphere. However, because the clean culture has not been embedded in the residents, it is difficult to make the environment remain in a healthy state. The shortage of citizens in the economic field, can also make them not care about the health of the environment. Environmental factors are important for health. It is okay for stunting to occur in this village, due to environmental health factors that are not maintained" (Mrs. NHYT. 44 Th).

Referring to the results of the interview above, that people do not yet have clean and healthy and clean habits. In fact, environmental health factors have the potential and carrying capacity to create a society that is free from all kinds of diseases, which affect environmental health, namely: physical factors, in the form of biotics and abiotics, where these factors play an important role for the community in paying attention to where their residences will be built. Social factors: social factors in the form of behavior, intelligence, customs, where these factors play a role in public relations and the environment. Economic factors: Economic factors in the form of work, income, poverty, where generally in the environment are occupied as most of the people are incapacitated, then indirectly affect the health of the environment on where they live. Interview with residents of Batudaa Pantai Subdistrict, Gorontalo Regency, the results appeared as follows:

“Sorry, it's not a disgrace in itself, there are very few residents in this village who really pay attention to environmental health. Like throwing garbage on the spot. Then throw the *hajatan* in its place. Most residents do not pay attention to the health of the environment. Yes, because of their habits during this time. Therefore, it is not uncommon for disasters, such as diarrhea, flu and so on. Well this disease is more babies and children” (Mrs Uli. 39 Th)

Based on the results of the interview above, residents of the community are less concerned about the health of their environment. They are not aware that not caring about their health will cause them to be attacked by various diseases and one of them is stunting. Environmental sanitation is the health status of an environment that includes housing, sewage, provision of clean water, and so on.

Environmental sanitation is one of the factors that affect nutritional status. Malnutrition and infection both stem from poverty and an unhealthy environment with poor sanitation. Severe malnutrition in infancy can be the cause of stunting. Environmental sanitation is closely related to the availability of clean water, the availability of latrines, the type of floor of the house and the cleanliness of tableware in each family. The more clean water is available for daily needs, the less risk children are from developing malnourished diseases. The level of environmental health is determined by the various possibilities that the environment plays the role of breeding living agents, the level of unhealthy environmental health can be measured by the lack of clean water supply. Disposal of wastewater that does not meet health requirements. Provision and utilization of unhealthy manure shelters and ways to dispose of human waste. The absence of the provision and utilization of household landfills that meet health requirements. The absence of the provision of means of supervision of food health. Provision of housing facilities that do not meet health requirements. Environmental sanitation is an effort to supervise all factors in the physical environment that influence or adversely affect health, physical, mental and social welfare. The influence of the environment in the home on daily activities is not direct. Environments that do not seem to have potential dangers can actually cause health problems for their residents.

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#### 4. Conclusion

The conclusion of this study is that environmental health that can be very important and be the cause of stunting in children, namely; low environmental sanitation facilities, unhealthy water sources, unhealthy hand washing habits or behaviors, and stunting family residences that are less or not even habitable.

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#### Compliance with ethical standards

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##### *Disclosure of conflict of interest*

No Conflict of Interest by Authors.

##### *Statement of informed consent*

All information obtained from informants in this study has received approval from the informant and is an important part of this research.

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