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Relationship between Education, Mother's Knowledge and Environmental Sanitation with Stunting for Toddlers in the Sarudik Primary Care Area Central Tapanuli Regency in 2020

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ABSTRACT

Stunting describes chronic undernutrition status during growth and development since early life. This situation is represented by a z-score of height for age (TB/U) less than -2 standard deviations (SD) based on growth standards. Based on the results of a preliminary survey study conducted at the Sarudik Primary care in February 2020, it was found that the number of toddlers was 60 people with stunting incidence as many as 16 toddlers. Based on the data above, the researchers examined the relationship between education, maternal knowledge and environmental sanitation with stunting in toddlers in the area of the Sarudik Primary care, Central Tapanuli Regency in 2020. This type of research is analytic observational with a cross sectional approach (cross-sectional). With a sample of 60 children aged 6-23. This study uses the chi square statistical test. showed the incidence of stunting in children under five as many as 14 respondents (41.2%). Respondents who are less knowledgeable about the incidence of stunting in toddlers are 16 people (36.4%). Environmental sanitation in good respondents who experienced stunting as many as 2 people (6.9%) and poor environmental sanitation who experienced stunting as many as 15 people (48.4%). The variables of education, knowledge and environmental sanitation were related to the incidence of stunting, because the p value <0.05.

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1. Introduction

Stunting describes chronic undernutrition status during growth and development since early life. This situation is represented by a z-score of height for age (TB/U) less than -2 standard deviations (SD) based on growth standards [3]. The practice of providing good food is an indicator for assessing the optimization of children's nutritional needs [4]

Globally, in 2017 there were 25% of children under the age of five, around 160 million children were stunted. Malnutrition remains a major public health issue in developing and transitional countries and food insecurity is a major indicator of the nutritional status [5]. In Indonesia, based on the results of basic health research (Riskesdas) in 2018, there were 37.2% of children under five who experienced stunting [2]. It is known from this percentage, 19.2% of children are short and 18.0% are very short. The prevalence of stunting has increased compared to the results of Riskesdas in 2015 which was 35.6%. At the Asian level, in 2011-2017, Indonesia was ranked the fifth highest prevalence of stunting. According to WHO, if the stunting problem is above 20%, it is a public health problem.

The incidence of stunting in North Sumatra is 32.39 percent. This means that for every 100 children under five in North Sumatra, there are more than 32 people who are stunted. "North Sumatra, 32.4% or 3 out of 10 children under five experience stunting, this situation is higher than the National (30.8%). From the results of the 2013 Riskesdas, North Sumatra was in 6th place and in 2018 it fell to 14th. "Although we have not received data on the prevalence of stunting under five in 2019, the provincial government said, he is trying to reduce the number to the level of 27 percent.

In Tapteng Distric the proportion of the prevalence of nutritional cases, namely weight imbalance compared to age was 10.33 percent and weight imbalance compared to height 9.17 percent. Based on the results of a preliminary survey study conducted at the Sarudik Primary care in February 2020, it was found that the number of toddlers was 60 people with stunting incidence as many as 16 toddlers.

The author is interested in knowing the relationship between education, maternal knowledge and environmental sanitation with stunting in toddlers in the area of the Sarudik Primary care, Central Tapanuli Regency in 2020.

2. Research Methods

2.1 Research Design

This type of research is analytic observational with a cross sectional approach (cross-sectional). Research Design Cross sectional survey is a study to approach, observe or collect data directly at the same time.

2.2 Population and Sample

Total population of all mothers who have children under five aged 6-23 months in the area of the Sarudik Primary care is according to the results of a survey we did whose data we got from the primarycare, the total population was 60 people. This research is used all population as the sample to be studied so the number of samples in this study is a total population of 60 people.

2.3 Data Collection Techniques and Instrument Development

.Primary data for this research is data obtained and collected directly from the object of research carried out, namely: Identity Data of Respondents and toddlers, Mother's Education Data, Mother's Knowledge Data about nutrition, Toddler Body Length Data, and Toddler Age. Secondary data for this research is data collected includes a description of the research location and the prevalence of stunting in children under five at the Sarudik Primary care, namely 16 people.

2.4. Analysis Techniques

1) Data on stunting

The incidence of stunting can be obtained from measuring body length according to age (PB/U). Stunting can be seen through growth standards according to WHO (WHO, 2012), namely:
Stunting: <-2 standard deviations (SD) and no stunting: - 2 standard deviations (SD).

2) Mother's Education data

Mother's education data were collected from interviews with respondents or asking the level of formal education that the mother had taken. Then the results were categorized into 2, namely:
Low (SMA and below) and Height (Diploma and above)

3) Knowledge data

Mother's knowledge of under-five nutrition was carried out using direct interviews with respondents through 20 questionnaire questions, the correct answer score was 3 (three) and the wrong score was 0 (zero), which was added up from all questionnaires. This study analyzed the data by: Univariate and Bivariate analysis.

3. Results

TABLE 1.
EDUCATION LEVEL

Level of Education	Responden	
	f	%
Low	24	56.7
High	36	43.3
Total	**60**	**100**

Based on above it is known that the education level of the most respondents is low, namely as many as 34 respondents (56.7%) and the least highly educated, namely as many as 26 respondents (3.3%).

TABLE 2.
KNOWLEDGE

Level of Knowledge	Responden	
	f	%
Good	16	26.7

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Not good	44	73.3
Total	**60**	**100**

Based on above, it is known that the respondents' knowledge is mostly obtained with good knowledge, which is as much as 73.3% and the least is obtained with less knowledge, as much as 26.7%.

TABLE 3.
ENVIRONMENT SANITATION

Environment sanitation	Responden	
	f	%
Good	29	48.3
Not good	31	51.7
Total	**60**	**100**

According to table above it is known that the environmental sanitation of most respondents has not met the requirements or less, which is 51.7% and at least has met the requirements or is good, which is 48.3%.

TABLE 4.
STUNTING INCIDENT

Stunting Incident	Responden	
	f	%
Stunting	17	28.3
Normal	43	71.7
Total	**60**	**100**

According to table above it is known that the incidence of stunting in respondents, namely as many as 17 toddlers (28.3%) and those who do not experience stunting, namely as many as 43 toddlers (71.7%).

4. Analysis

TABLE 5.
RELATIONSHIP BETWEEN EDUCATION AND STUNTING IN CHILDREN IN THE WORKING AREA OF THE SARUDIK PRIMARY CARE

Level of Education	Stunting Incident				Total		P (value
	stunting		normal				
	f	%	f	%	f	%	
Low	14	41.2	20	58.8	34	56.7	0.001
High	3	11.5	23	88.5	26	43.3	
Total	**17**	**28.3**	**43**	**71.7**	**60**	**100**	

Based on table above it is known that the low education of respondents with stunting in children under five as many as 14 respondents (41.2%). The results of statistical analysis show p-value = 0.001 0.05, which means that it is concluded that there is a relationship between education and the incidence of stunting in toddlers in the Sarudik Primary care Work Area in 2020.

This study is in line with research [6][7], the relationship between maternal education level and stunting in children 6-35 months in Tambalang District, Semarang City. From the 33 samples, it can be seen that the education of mothers (SMA-PT) as many as 23 respondents (69.7%) is more than mothers with low education (some are elementary school and some are not in school) as many as 10 respondents (30.3%).

Based on the results of Amaha 2021 said, mothers with primary education were 25% less likely to give birth to stunted children when compared with mothers who had no education. Stunting is a complex multifactorial phenomenon that has many contributing factors including poor in utero nutrition, childhood infections, poor maternal health and nutrition, micronutrient

deficiencies, poor socioeco- nomic status, and inadequate infants and young children feeding practices [8]. From the results of the Chi Square statistical test, it was found that there was no significant relationship (p value = 0.89) between maternal education and the incidence of stunting.

The results of this study are in line with research conducted by Amaha (2021) which states that maternal education was found to be the strongest pre- dictor of childhood stunting in Ethiopia among the ma- ternal factors studied. Mothers with low education are at risk of 3.3 times more likely to have stunted their toddler being stunted compared to mothers with higher education.

TABLE 6.
RELATIONSHIP BETWEEN KNOWLEDGE AND THE INCIDENCE OF STUNTING IN TODDLERS IN THE WORKING AREA OF THE SARUDIK PRIMARY CARE

Level of Knowledge	Stunting Incident				Total		P (value
	stunting		normal				
	f	%	f	%	f	%	
Good	1	6.3	15	93.5	16	26.7	0.018
Not good	16	36.4	28	63.6	44	73.3	
Total	**17**	**28.3**	**43**	**71.7**	**60**	**100**	

According to the table above known that respondents who have less knowledge there are 16 people (36.4%) stunting in toddlers, more than 1 person with good knowledge (6.3%). The test results with Chi Square show the p-value = 0.018 0.05, which means that the conclusion is that there is a relationship between knowledge and the incidence of stunting in toddlers in the Sarudik Primary care Work area in 2020.

This is in line with research by Elisaria, et al. 2021, several studies have linked poor nutritional status among pregnant women and women of reproductive age with adverse birth and nutritional outcomes among newborns and children [9]. The results of the research above can be concluded that the knowledge of good mothers is more than the knowledge of mothers who have less knowledge. From the results of the Chi Square statistical test, it was found that there was a significant relationship (p value = 0.00) between Mother's Knowledge and the incidence of stunting.

Knowledge of parents, especially mothers about nutrition, can help improve the nutritional status of children to achieve growth maturity. Among the identified factors ofstunting, maternal nutritional status (chronic energy defi-ciency) appeared to be negatively associated with stunting among children 6–59 months old. Those children who were born to mothers of low BMI [10]. The results of this study are in line with research conducted in the work area of the Tanah Kali Kenwall Public Primary care, Surabaya in 2015, it is known that mothers of toddlers who have stunting children (61.8%) have lower knowledge than mothers who have normal or non-stunted children, namely 29.4%. square shows that knowledge of maternal nutrition is a factor associated with the incidence of stunting in toddlers with (p = 0.015).

Based on Agustiningrum's research (2016), it can be concluded that 75 respondents have poor knowledge about stunting and 44 respondents (58.7%) of whom have stunting children. While respondents with good knowledge were 91 respondents and 39 respondents (42.9%) of whom had stunting children and 52 respondents (57.1%) had children who were not stunted. Based on the results of the Chi Square test, a p-value of 0.043 was obtained, meaning that Ha was accepted and H0 was rejected, so it can be concluded that maternal knowledge is statistically related to the incidence of stunting. Based on the Odds Ratio (OR) value, it has a value of 1.8 so that the mother's knowledge is at risk of causing stunting. So that mothers who have poor knowledge about nutrition are 1.8 times at risk of having stunting children compared to mothers who have good knowledge about nutrition. The knowledge item that has the highest error is related to the understanding of nutritional status and the impact of malnutrition.

Knowledge of maternal nutrition is one of the factors that determine a person's food consumption. People who have good nutritional knowledge will have the ability to apply nutritional knowledge in food selection and processing so that it can be expected that their food intake is more secure, both in using household income allocations to choose good food and being able to pay attention to good nutrition for children and their families. For example, regarding the importance of exclusive breastfeeding for babies, based on research, there are still many mothers who do not give exclusive breastfeeding to babies for various reasons, including insufficient breast milk, babies who do not want to breastfeed, and because the mother is busy working.

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TABLE 7.
RELATIONSHIP BETWEEN ENVIRONMENTAL SANITATION AND STUNTING INCIDENCES IN TODDLERS IN THE WORKING AREA OF THE SARUDIK PRIMARY CARE

Environment Sanitation	Stunting Incident				Total		P (value
	stunting		normal				
	f	%	f	%	f	%	
Good	2	6.9	27	93.1	29	48.3	0.036
Not good	15	48.4	16	51.6	31	51.7	
Total	**17**	**28.3**	**43**	**71.7**	**60**	**100**	

Based on table above, it is known that environmental sanitation in good respondents experienced stunting as many as 2 people (6.9%) and poor environmental sanitation experienced stunting as many as 15 people (48.4%). Statistical results show p-value = 0.036 0.05, meaning that the conclusion is that there is a relationship between environmental sanitation and the incidence of stunting in children under five in the Sarudik Primary care Working Area in 2020.

The results of the analysis in this study the importance of education owned by a mother can increase awareness about household health and hygiene such as transmission and prevention of diarrhea [11]. The research location in each area is sometimes a difference in research results, this may be influenced by differences in demographics and community culture. Environmental sanitation in this research location almost overall has a poor status, both sanitation for toddlers who are stunted and those who are not stunted. The existence of latrines that do not meet the theoretical standard has the potential to trigger infectious diseases due to poor hygiene and sanitation.

Some infectious diseases suffered by the baby can cause the baby's weight to drop. If this condition occurs for a long time and is not accompanied by adequate intake for the healing process, it can result in stunting. The factor of waste disposal facilities (feces) is very important to note even though the relationship that occurs indirectly has an impact on toddlers. Aspects of personal hygiene and environmental sanitation have an important role in the problem of malnutrition, including stunting, such as the frequency with which children are exposed to infectious diseases (diarrhea and ARI), the low habit of washing hands with soap properly can also increase the frequency of diarrhea. Things that are considered trivial such as open defecation can have a wide impact on health, nutritional status, and the nation's economy. Stunting in children is a chronic impact of continuous consumption of low-quality diets and is supported by infectious diseases and environmental problems. Poor hygiene practices can cause toddlers to get diarrhea which can later cause children to lose nutrients that are important for growth. The results of one study stated that most caregivers in the stunting group had poor hygiene practices (75.8%), while those in the non-stunted group had good hygiene practices (60.6%) (Aisah, 2019).

A similar study was conducted by [11] public awareness about health can be hampered due to the low income of the community. This will have an impact on one's ability to maintain health status. regarding the relationship between nutritional knowledge and sanitation hygiene behavior on the incidence of stunting in toddlers aged 7-24 months. The significant results can be caused by the large number of caregivers who still apply poor hygiene practices, so that it can have an impact on the intake consumed by toddlers. Toddlers who eat food as a result of poor hygiene practices can increase the risk of these children getting infectious diseases which are usually characterized by appetite disturbances, vomiting, or diarrhea so that the intake of these toddlers does not meet their needs and conditions like this which will have bad implications for children.

Drinking water should also receive special attention[11]. Drinking water should be guarded so that it is not easily contaminated by hazardous materials, so if the safety of drinking water is in doubt, it should be boiled until it boils. Water that meets the requirements for drinking is water that is tasteless, odorless, does not contain harmful substances and is clear. By addressing the root causes of disease, of course, drinking water and sanitation can reduce disease problems globally due to the environment.

5. Conclusion

1. It is known that there are 14 respondents (41.2%). The results of statistical analysis show p-value = 0.001 0.05
2. It is known that respondents who have less knowledge have 16 people (36.4%) stunting in toddlers, more than 1 person with good knowledge (6.3%). The test results with Chi Square show the p-value = 0.018 0.05
3. It is known that environmental sanitation in good respondents experienced stunting as many as 2 people (6.9%) and poor environmental sanitation experienced stunting as many as 15 people (48.4%). Statistical results show p-value = 0.036 0.05

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