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Socio-Cultural Influence on Stunting Incidence in Children Aged 0 – 59 Months In Tarempa Village, Siantan District, Anambas Islands Regency In 2025

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Socio-Cultural; Toddlers; Stunting

ABSTRACT
Tarempa Village is a village with the highest stunting rate in Tarempa Village, Siantan District, which is 7.14%. Socio-cultural factors are characteristics of a nation or region that can form patterns of community behavior, which may have an indirect impact on health, derived from hereditary beliefs and traditions. Some of these are in line with health rules, while others are less aligned, and they are involved in their roles within the cultural, social, economic, and health service systems. This study aims to analyze the socio-cultural influence on the incidence of stunting in children aged 0–59 months in Tarempa Village, Siantan District, Anambas Islands Regency. The research sample consisted of 101 parents of toddlers, selected using a purposive sampling technique. The research design used is a Mixed Method. Data collection was carried out using questionnaires and the in-depth interview method. Questionnaire tests were used to guarantee the validity and reliability of the instrument. The study showed a significant influence of cultural, social, and health service systems on the incidence of stunting ($p < 0.05$) in Tarempa Village, Siantan District, Anambas Islands Regency. There is a significant influence between cultural, social, and health care systems and stunting. The researcher suggested that indigenous leaders should be directly involved in KIE (communicative, informative, and educational) efforts with the community, parents, and the environment, to play an active role in improving children's nutritional status, as well as the involvement of other stakeholders in realizing a qualified health service system.

INTRODUCTION

Stunting is the most important problem of child nutritional status around the world. Based on global data in 2022, there are 148.1 million children under five years old with a prevalence of 22.3% (WHO, 2023). According to data from the 2021 Indonesian Nutrition Status Survey (SSGI), there are 5.3 million children under five in Indonesia who are stunted, with a prevalence of 21.6% in 2021 (SSGI, 2021). The prevalence of stunting in Riau Islands Province in 2022 was 16.04% (SSGI, 2022), and in 2023 it was 17.43% (Indonesian health survey, 2023). The prevalence of

stunting in Anambas Islands Regency in 2024 is 4.39%. The prevalence of stunting in Tarempa Village in 2023 is 7.14%, which is the highest in this sub-district (EPPBGM, 2023).

Stunting has impacts related to increased risk of illness and death, suboptimal brain development, delayed motor development, and inhibited mental growth (Health, 2021). This poses a serious threat to the existence of children as the next generation of a nation. Short stature in children is a widely recognized factor in the poor quality of human resources, which can reduce the productive capacity of a nation in the future (Black C. G.; Walker S. P.; Bhutta Z. A.; Christian P., 2021; Godfrey D. J., 2020; Haerani S., 2022; Mbuya J. H., 2022; Shrimpton C., 2017). Stunting treatment is not only limited to specific nutrition interventions, which account for 30%, but also includes sensitive nutrition interventions, one of which is socio-cultural, especially in the field of nutrition, which covers 70% (UNICEF, 2020).

The people in the Anambas Islands Regency area, especially in Tarempa Village, are mostly Malays. Socio-cultural activities carried out by the community must be obeyed, even if some are not in line with health rules. This is certainly both an advantage and a disadvantage, as well as a characteristic of each tribe in dealing with stunting. Mabahans in this tribe also apply a patrilianism cultural system, where decision-making is made by the father. For example, during the immunization schedule, fathers tend not to allow mothers to bring their children to the posyandu to be immunized because it is believed that there are non-halal ingredients in the vaccine. In addition, some fathers are also worried about the effects that occur after immunization, such as fever, which makes children fussier, unwilling to eat, and so on.

Immunization is one of the measures to prevent stunting indirectly, as it can increase a child's immune system from an early age against disease. However, if children are not immunized, it will have a negative impact on their health, making them more susceptible to illness, various infectious diseases, and disrupting their growth and development process. This is what interests the researcher in the socio-cultural factors that play an indirect role in stunting.

METHOD

The type of research used is Mixed Method , namely Sequential Explanatory Designs (Quantitative data collection first, then qualitative). This research was conducted in Tarempa Village, Siantan District, Anambas Islands Regency in April 2025. The population of this study is 206 parents of toddlers (mothers or fathers) who have children in the stunting and non-stunting categories in Tarempa Village. The sample is the part of the population to be studied or part of the number of characteristics possessed by the population, the sample is mothers of toddlers who have children aged 0-59 months with the stunting and non-stunting categories. The sampling technique was carried out by purposive sampling.

Data collection in this study was carried out through primary and secondary data. Primary data was obtained through data from the Health Office related to data on the number of toddlers, stunting and non-stunting data in Tarempa Village. Meanwhile, secondary data was obtained from the Tarempa Village posyandu and relevant literature. This data includes data related to respondent characteristics, cultural, social, economic, and health care system variables

The data were analyzed using the Chi Square test to analyze the significant influence between independent and dependent variables. The test was carried out with a significant level (p value) of 0.05. If the p value < 0.05, the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected, where both variables show a statistically significant influence. In addition, logistic regression analysis is also needed to analyze the cultural, social, economic and health service system variables that have the strongest influence on stunting incidence.

RESULTS AND DISCUSSION

Univariate Analysis

Table 1. Respondent Characteristics

Gender	Frequency (n = 101)	Percentage
Male	34	33.7
Female	67	66.3
	101	**100.0**
Father's Last Education		
< High School/Equivalent	48	47.5
> High School/Equivalent	53	52.5
	101	**100.0**
Mother's Last Education		
< High School/Equivalent	49	48.5
> High School/Equivalent	52	51.5
	101	**100.0**
Father's Work		
Work	101	100.0
	101	**100.0**
Mother's Work		
Work	22	21.8
Not Working	79	78.2
	101	**100.0**

Based on Table 1. It can be seen that the majority of respondents were female as many as 67 people (66.3%) out of a total of 101 respondents. Based on the characteristics of the last education, the majority of respondents have education above high school/equivalent. In terms of father's work, all respondents have jobs, while in terms of mother's work, the majority of mothers do not work as many as 79 people (78.2%).

Bivariate Analysis

Table 2. Cultural Influence with Stunting Incidence

Culture	Stunting Category						P Value
	Stunting		Not Stunting		Total		
	N	%	N	%	N	%	
Not Good	3	20.0	47	54.65	50	49.50	0.013
Good	12	80.0	39	45.35	51	50.50	
Total	15	100.0	86	100.0	101	100.0	

The table above shows that out of 50 people with poor culture, there are 3 children (20%) who are stunted and 47 children (54.65%) are not stunted, while of 51 people with good culture there are 12 children (80%) who are stunted and 39 children (45.35%) are not stunted. From the results of the chi square test, a p value of 0.013 was obtained.

Table 3. Social Influence with Stunting Incidence

Social	Stunting Category			P
	Stunting	Not Stunting	Total	

	N	%	N	%	N	%	Value
Not Good	6	40.0	58	67.44	64	63.37	0.042
Good	9	60.0	28	32.56	37	36.63	
Total	15	100.0	86	100.0	101	100.0	

The table above shows that of the 64 people with poor social practices, there are 6 children (40%) who are stunted and 58 children (67.44%) who are not stunted, while of the 37 people with good social practices there are 9 children (60%) who are stunted and 28 children (32.56%) are not stunted. From the results of the chi square test, a p value of 0.042 was obtained

Table 4. Economic Influence with Stunting Incidence

Economics	Stunting Category						P Value
	Stunting		Not Stunting		Total		
	N	%	N	%	N	%	
Not Good	11	73.3	39	45.35	50	49.50	0.045
Good	4	26.7	47	54.65	51	50.50	
Total	15	100.0	86	100.0	101	100.0	

The table above shows that the incidence of stunting in the economically disadvantaged group was 11 children (73.3%) and 4 people (26.7%) were economically good. Children who do not experience stunting come from the economic group as many as 47 people (54.65%), and the economy is not good as 47 people (54.65%). From the results of the chi square test, a p value of 0.045 was obtained.

Table 5. The Influence of the Health Service System on Stunting Incidence

System Healthcare	Stunting Category						P Value
	Stunting		Not Stunting		Total		
	N	%	N	%	N	%	
Not Good	13	86.67	49	56.98	62	61.39	0.029
Good	2	13.33	37	43.02	39	38.61	
Total	15	100.0	86	100.0	101	100.0	

The table above shows that the proportion of stunting incidence in the poor variable has a higher percentage of stunting at 20.97% (13 children) than the good group which is 5.13% (2 children). From the results of the chi square test, a p value of 0.029 was obtained.

Multivariate Analysis

		Sig	Exp (B)	CI 95%
Step 1a	**Culture**	.019	.176	0.041 – 0.748
	Social	.039	.272	0.079 – 0.937
	Economics	.801	.794	0.132 – 4.769
	Healthcare System	.082	7.174	0.780 – 66.000
	Constant	**<.001**	**20.572**	
Step 2a	**Culture**	.017	.184	0.045 – 0.743
	Social	.040	.278	0.082 – 0.945
	Healthcare System	.031	5.890	1.170 – 29.636
	Constant	**<.001**	**18.931**	

The table above shows that in step 1, cultural (p value 0.019) and social (p value 0.039) have a significance p value < 0.05. However, the economy (p value 0.801) and the health service system (p value 0.082) did not have a significant value for stunting incidence (p value > 0.05). The significant value of the health care system is close to 0.05 so it is not excluded from the modeling. In step 2, the economy is removed from the modeling and left cultural, social, and health care systems. The confounding factor is that the economy has been excluded from the modeling, so that the health care system produces a sig value of <0.05.

Univariate Analysis

Respondent Characteristics

In this study, 101 respondents were involved in quantitative research and 7 informants were involved in qualitative research. The majority of respondents are female. Based on the characteristics of the last education of the father and mother, the majority of respondents in this study graduated from high school/equivalent. Maulida & Kartika (2023) reveals that one of a person's fundamental beliefs and perspectives is their level of education. Children's health will be realized if parents are able to apply all the knowledge they learn in academic education for practical use, such as providing the nutrition that their children need as well as possible. So it is hoped that the higher the education of parents, both fathers and mothers, the better their knowledge and skills in meeting their children's nutritional needs. Based on the characteristics of the father's work, the respondents in this study involved all working fathers, but the majority of mothers' work characteristics did not work.

Bivariate Analysis

Cultural Influence with Stunting Incidence

The results of the chi-square test between culture and stunting incidence showed a statistically significant influence. Respondents who have a good culture actually have a higher risk of stunting compared to those who have a bad culture. This is certainly contrary to the initial hypothesis where it is expected that a good culture has an effect on lower stunting. Even if a good culture does not necessarily reduce stunting rates, just as stunting cases in this study are more common in good cultural groups (Ibrahim S., 2020; Suryani D., 2020).

Based on the results of in-depth interviews, the informant stated that, "People tend to do things that have become traditions/beliefs that have been passed down from generation to generation, even though they are not in line with health principles. They consider that what has been inherited by previous people is better and must be implemented. For example , giving colostrum is not suitable for newborns because it is considered to be still mixed with blood so it is mandatory to be discarded, traditions/cultures of abstinence related to post-saline maternal food that are considered good by society are even at risk of increasing stunting (only eating dried smoked fish with black and black pepper during the postpartum period, only drinking spiced water and limited to drinking water, It is not allowed to eat coconut milk and can only be processed clearly, even though other types of fish that are rich in protein are good for the recovery of the mother after salinity and also the fulfillment of the intake of newborns)".

This is in line with the research of Zahiruddin (2016) that, humans tend to maintain their culture even though it is not good, the behavior of these respondents is also supported by the respondent's environment which is a means of unifying in society. Cultural views can influence the attitudes, behaviors and responses that mothers give to their children. In addition, belief in the fulfillment of eating habits plays an important role in maintaining behavior in controlling a person's diet and the mother's feeding pattern to the baby.

Social Influence with Stunting Incidence

After statistical tests were carried out using the chi square test, there was a significant influence between social and stunting events. Respondents who have good social status actually have a higher risk of stunting compared to those who are socially disadvantaged. This indicates the possibility of confounding factors (al., 2015).

From the results of an in-depth interview with the informant, the mother was not only involved alone in the care of the baby, but also supported by parents or other family members. However, when parents are involved, babies < 6 months old who should not have been given food or other intake other than breast milk only give formula milk because their grandchildren cry every night and feel that their mother's milk is not enough (L. Kusumawati, 2015; Li Y.AU3 - Sun Y., 2018). Grandmothers as parents who have previous experience justify the treatment by the child's parents. This kind of thing is a supporting factor for the high level of stunting even though the social factors are good. This research is in line with the research of E. Kusumawati et al. (2015) which shows a significant relationship between families and the incidence of stunting in Sintang Regency.

Economic Influence with Stunting Incidence

After a statistical test using the chi square test, there was a significant influence between the economy and the incidence of stunting. Respondents who have a poor economy have a higher risk of stunting than those with a good economy.

Based on the informant's statement through an in-depth interview, it was stated that "If the income is insufficient, it will be difficult to meet the needs of the family, especially related to the fulfillment of children's nutritional needs. Coupled with the price of foodstuffs in this archipelago, it is in the more expensive category than other areas that are not islands. If the community's economy is good, then the prevention and handling of stunting will be more effective". This is in line with Pakpahan's (2021) research that low economic status is considered to have a significant impact on stunting incidence. The family's low economic status can be influenced by the mother's level of education in the choice of food she consumes so that it usually becomes less varied and nutritious in foods that function for children's growth such as sources of protein, vitamins and minerals (Pakpahan, 2021).

The Influence of the Health Service System on Stunting Incidence

After statistical tests were carried out using the chi square test, there was a significant influence between the health service system and stunting incidence. Respondents who have a poor health care system have a higher risk of stunting than those with a good health care system. If the health service system is qualified, both in terms of access, services, infrastructure and manpower, it will minimize the stunting rate, because its handling and prevention can be carried out appropriately and efficiently (Ahmad & Pay, 2024).

Based on the informant's statement when interviewed in depth that, "The local government here has tried and tried to facilitate us here. Although there are still obstacles, ma'am, if I can be honest, the medical equipment here is not qualified, it is not adequate. But for medicine, there are some that exist, there are some that do not. But thank God that now, the pediatrician already exists, the obstetrician is also there, only, sometimes the health workers are there, but the tools are again, sometimes, the tools are there but the resources are not there. But we have tried as much as possible for health workers who specifically handle stunting". This research is in line with the research of Husna & Ali Amin (2023), finding a relationship between access to health services and the incidence

of stunting, one of which is affordable access.

Multivariate Analysis

In terms of statistical tests, the four variables that have been tested chi square are tested again using a double logistics regression test. The independent variable was tested simultaneously with the dependent variable using the "Backward Stepwise (Conditional)" method to find out the most dominant variable. In Step 1, economics is removed from the modeling because it shows an insignificant p value. The test was again carried out in step 2 with the results that culture was the most dominant variable of all independent variables (Adnan Z. M., 2019; Khoiriyah H., 2020; Siti N., 2017; Widodo H., 2021).

Based on an in-depth interview, the informant stated that, "The community still holds fast to the culture that has been carried out for generations so that it has become a habit for them". Researchers suggest that inherited negative cultural beliefs can form the wrong parenting style, and make children's growth and development not optimal, while positive culture forms the correct parenting style so that children's growth and development are achieved according to age.

This is in line with Munawara's (2015) research, culture refers to values, beliefs, norms, patterns and practices that are inherited from generation to generation. Society tends to maintain a poor culture, which of course affects the attitudes, behaviors, and responses given by parents to their children, especially in meeting the needs of feeding and feeding children. There is also research by Sari et al. (2019) which states that feeding practices based on certain traditions or beliefs have a poor impact on children's nutritional intake.

CONCLUSION

Based on the results of this study, it can be concluded that cultural, social, and health service system factors significantly influence the incidence of stunting in children aged 0–59 months in Tarempa Village, Siantan District, Anambas Islands Regency, with culture identified as the most dominant factor, while economic status does not have a significant effect. These findings highlight the need for targeted interventions that address not only nutritional aspects but also the socio-cultural beliefs and practices that shape parenting and child care in the community. For future research, it is recommended to explore in greater depth the specific cultural practices and social dynamics that contribute to stunting, as well as to conduct longitudinal and multi-site studies to better understand the causal pathways and to develop culturally sensitive, community-based strategies for stunting prevention and reduction

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