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Research Article

RISK FACTORS FOR STUNTING INCIDENTS IN CHILDREN TODDLERS IN TOROBULU VILLAGE OF LAEYA DISTRICT

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ABSTRACT

Background: One of the nutritional problems that has become a global focus is overcoming stunting in toddlers. Based on the 2023 Mandala Waluya University Student KKN Activity Report, information was obtained that many of the pregnant women in Torobulu village are teenagers, who do not have adequate knowledge, because many do not continue their basic education to high school. The aim of this research is to determine the risk factors for stunting among toddlers in Torobulu Village, Laeya District in 2024
Methods: The research used a case control study design. The sample consisted of 40 cases and 40 controls with gender. with matching gender the data analysis univariate. The sample technique uses simple random sampling. The data analysis used is odds ratio (OR) analysis.
Results: The Research show that knowledge, exclusive breastfeeding, environmental sanitation and income are risk factors for the incidence of stunting in children under five in Torobulu Village, Laeya District 2024.
Conclusion: The conclusion is that knowledge is a risk factor (OR: 5.571), exclusive breastfeeding (OR: 2.914), environmental sanitation (OR: 1.667) and income (OR: 2.513) are risk factors for stunting incidents in Torobulu Village, Laeya District.

Keywords: Knowledge, Exclusive Breastfeeding, Environmental, Income

INTRODUCTION

One of the nutritional problems that has become a global focus is overcoming stunting in toddlers, which is a chronic condition caused by malnutrition during early growth and has the potential to affect the physical and cognitive development of children into adulthood. According to WHO (2020) stunting is a condition of being short or very short based on length/height for age which is less than -2 standard deviation (SD) on the WHO growth curve which occurs due to an irreversible condition resulting from inadequate nutritional intake and/or recurrent infections/ chronic disease that occurs within 1000 days.(1) The prevalence of stunting fell from 30.8% in 2018 to 21.5% in 2023. This means that in five years, all parties involved in accelerating the handling of stunting succeeded in reducing the prevalence of stunting by 9.3%, or an average of 1.85%.(2)

Stunting is a serious nutritional problem and infection in the first 1000 HPK (first thousand days of life) experienced by children under five years old who are characterized by stunted height or failure to grow for their age. The prevalence of stunting in Southeast Sulawesi is ninth in Indonesia. Data according to the Southeast Sulawesi Provincial Health Service shows that South Konawe Regency is ranked eleventh in terms of having stunted children aged 0 – 24 months.(3) One of the villages in the Publich Health Centre working area in South Konawe Regency which has the highest stunting rate and is supported by data from the results of the Thematic KKN Activities for Mandala Waluya University Students in February - March 2023. Data obtained quite high stunting rates in Torobulu Village, Laeya District, totaling 51 Toddlers, this figure is higher than the previous 2 years. The high rate of stunting in Torobulu Village, Laeya District is due to the low level of public knowledge about providing correct diets for toddlers, fulfilling nutrition at 1000 HPK, and lack of clean and healthy living behavior, as well as the lack of utilization of health facilities and infrastructure (Date Toddler).(4)

Based on the date 2023 Mandala Waluya University Student Community Service Activity Report, information was obtained that many of the pregnant women in Torobulu village were teenagers, who did not have adequate knowledge, because many did not continue their basic education to high school. This minimal knowledge affects nutritional intake during pregnancy and breastfeeding. Low nutritional intake affects the first 1000 days of a baby's life, making it a risk factor for stunting.(5)

MATERIAL AND METHODS

The research method used in observation research with a case control study design. This observation is based on observations of disease events that already exist or have occurred, making it possible to analyze retrospectively two specific groups, namely the case group and the control group.(6)(tasnim metode penelitian) The population in this study was 51, the sample in this study was 40 cases and 40 controls with gender matching. The sample technique uses simple random sampling. The data analysis used is odds ratio (OR) analysis.

RESULTS

Torobulu Village is a village located in Laeya District, South Konawe Regency. The village has the White Sand Beach Nature Tourism and cultural tourism which is still well preserved. Torobulu Village Beach offers unspoiled natural views. Surrounded by green trees that are still intact, large rocks that stand firmly in various corners of the beach. Towering cliffs and stretches of white sand along the beach area. Green trees are spread almost all over the beach, able to create clean air and neutralize air pollution from beach visitors' vehicles and smoke from grilling fresh fish in restaurants around the beach.

To determine the magnitude of the independent variable risk factors for coronary heart disease, cross tabulation with dichotomous variables was used and the statistical test used was the Odds ratio test.

The Matching of Gender

Gender is a biological characteristic of respondents who are differentiated into male or female. The distribution of respondents based on gender can be seen in the following table:

Table 1. Distribution of Respondents According to Gender in Torobulu Village, Laeya District

Gender	Case		Control	
	n	%	n	%
Male	22	55	22	55
Female	18	45	18	45
Amount	40	100	40	100

Table shows that generally the respondents were male, namely 22 people (55%) both cases and controls and 18 people (45%) female, both cases and control.

Risk Factor Knowledge Risk Factors and Incidence of Stunting in Toddlers

Table 2. Distribution of Respondents According to Knowledge and Incidents of Stunting in Toddlers in Torobulu Village, Laeya District, 2024.

Knowledge	Stunting Incident				Amount		OR LL - UL
	case		control				
	n	%	n	%	n	%	
Enough	30	75.0	14	35.0	44	55.0	5.571 2.119 – 14.647
Not Enough	10	25.0	26	65.0	36	45.0	
Amount	40	100	40	100	80	100	

The results of statistical tests with odds ratios obtained a value of OR = 5.571, which means that respondents who have insufficient knowledge are at risk of experiencing stunting 5,571 times greater than respondents who have sufficient knowledge.

Risk Factors for Exclusive Breastfeeding and Stunting in Toddlers

Table 3. Distribution of Respondents According to Exclusive Breastfeeding and Stunting Incidents in Toddlers in Torobulu Village, Laeya District, 2024

Exclusive breastfeeding	Stunting Incident				Amount		OR LL - UL
	case		control				
	n	%	n	%	n	%	
Exclusive breastfeeding	21	52.5	11	27.5	32	40	2.914 1.149 – 7.393
Not Exclusive breastfeeding	19	47.5	29	72.5	48	60	
Amount	40	100	40	100	80	100	

The results of statistical tests with odds ratios obtained a value of OR = 3.914, which

means that respondents who were not given exclusive breast milk were at risk of experiencing stunting 3.914 times greater than respondents who were given exclusive breast milk.

Risk Factors for Environmental Sanitation and Stunting Incidents in Toddlers

Table 4. Distribution of Respondents According to Environmental Sanitation and Stunting Incidents in Toddlers in Torobulu Village, Laeya District, 2024

Environmental Sanitation	Stunting Incident				Amount		OR LL - UL
	case		control				
	n	%	n	%	n	%	
Good	20	50.0	15	37.5	35	43,8	
Bad	20	50.0	25	62.5	45	56,2	1.667
Amount	40	100	40	100	80	100	0.684 – 4.063

The results of statistical tests with odds ratios obtained a value of OR = 1,667, which means that respondents who have poor environmental sanitation are at risk of experiencing stunting 1,667 times greater than respondents who have good environmental sanitation.

Risk Factors Income and Stunting Incidents in Toddlers and Stunting Incidents in Toddlers

Table 5. Distribution of Respondents According to Income and Stunting and Stunting Incidents in Toddlers in Torobulu Village, Laeya District, 2024

Income	Stunting Incident				Amount		OR LL - UL
	case		control				
	n	%	n	%	n	%	
Tall	23	57.5	14	35.0	37	46.2	
Low	17	42.5	26	65.0	43	53.8	2.513
Amount	40	100	40	100	80	100	1.019 – 6.198

The results of statistical tests with odds ratios obtained a value of OR = 2,513, which means that respondents who have low incomes are at risk of experiencing stunting 2,513 times greater than respondents who have high incomes.

DISCUSSION

Risk Factor Knowledge and Incidence of Stunting in Toddlers

Knowledge is a collection of information obtained from experience or from birth that makes a person know something.(7) (tasnim stunting knowledg) Family income can be one of the factors that influences the incidence of stunting in toddlers. Poor family economic conditions can make parents unable to provide balanced nutrition for children.

Table 1 shows that more respondents who had sufficient knowledge experienced stunting (cases), namely 30 people (75%), compared to 14 people who did not experience stunting (controls). Meanwhile, respondents who had more or less knowledge did not experience stunting, namely 26 people (65%), compared to those who experienced stunting, namely 10 people (25%). Based on the results of research analysis, it is known that toddlers who come from families with low economic status are at risk of experiencing stunting. The economic status of parents as a risk factor for stunting is caused by the economic level which can influence the family's ability to meet the nutritional needs of toddlers, the choice of types of additional food and the timing of feeding as well as healthy living habits. High economic status makes a person choose and buy nutritious and varied food. On the other hand, low economic status is considered to have a dominant influence on

the incidence of thinness and shortness (stunting) in children. This is because families with low economic status more often choose animal and vegetable side dishes at affordable or cheap prices according to their means. Vegetables that will be processed are often taken from vegetables available in paddy fields or fields with a limited variety of plants so that the daily menu served is simple and not varied. This condition causes food intake in toddlers to be less varied so that it can indirectly cause nutritional intake in toddlers to be less.(8)

Risk Factors for Exclusive Breastfeeding and Stunting in Toddlers

Breast milk is the only food that can meet the needs of babies up to 6 months. Breast milk contains carbohydrates, proteins, fats, vitamins, minerals, enzymes, growth hormones and immunoglobulins which are needed by children to support their growth, prevent morbidity and death. Table 2 shows that more respondents who were given exclusive breastfeeding experienced stunting (cases), namely 21 people (52.5%), compared to 11 people who did not experience stunting (controls) (27.5%). Meanwhile, more respondents who were not given exclusive breastfeeding did not experience stunting, namely 29 people (72.5%), compared to those who experienced stunting, namely 19 people (47.5%). Breastfeeding has several benefits, namely that it can increase children's intelligence because breast milk contains special nutrients and has a good composition which is very necessary for brain development in children. Another benefit is that it can increase affection because of the emotional bond and closeness between mother and child during the breastfeeding process. Apart from that, breast milk also has the benefit of meeting the baby's needs. Breast milk has contents that change as the child grows, so that the child's nutritional intake can follow his growth.(9) tasnim breast feeding)

The results of this study state that a higher proportion of stunting occurs because children are not given exclusive breast milk. Children who are not exclusively breastfed have a risk of becoming stunted 6.54 times compared to children who are exclusively breastfed. Other research suggests that children who do not receive exclusive breast milk are 3.2 times more likely to suffer from malnutrition while the risk of children becoming stunted is 6.9 times if they do not receive exclusive breast milk. The factor causing the failure of exclusive breastfeeding in Penanggalan District is the community's habit of giving honey to newborn babies. It is assumed that children who often cry are because they are hungry, so the mother provides other foods such as starch water, strained porridge, and formula milk and family influences that do not support exclusive breastfeeding.(10)

Risk Factors for Environmental Sanitation and Stunting Incidents in Toddlers

Environmental sanitation has a dominant role in children's health and growth and development. Aspects of cleanliness, both personal and environmental, play an important role in causing disease. Poor environmental sanitation can increase the risk of stunting in toddlers because it can cause infectious diseases such as diarrhea and worms. These diseases can interfere with the digestive process and absorption of nutrients, which if they occur continuously can result in stunting.

Table 3 shows that respondents who had good environmental sanitation were more likely to experience stunting (cases), namely 20 people (50%), compared to 15 people who did not experience stunting (controls). Meanwhile, more respondents who had poor environmental sanitation did not experience stunting, namely 25 people (62.5%), compared to those who experienced stunting, namely 20 people (50%). Research Results Environmental sanitation can be a supporting factor for the development of infectious diseases, thus facilitating the emergence of infectious diseases, especially diarrhea and ARI. These two diseases are the two most common diseases suffered by children under five in developing countries. These two infectious diseases are also associated with growth retardation and high infant mortality rates.(11) Futhermore, poor sanitation affects to child nutritional status.(12) (tasnim, determin malnut)

According to research results environmental sanitation is good sanitation which is an important element that supports human health. Sanitation is related to environmental health which influences the level of public health. Poor sanitation conditions will have a negative impact on many aspects of life, starting from decreasing the quality of the community's living environment, contamination of drinking water sources for the community, and the emergence of several diseases. Humans in their survival also need a house as a basic need that must be there from the time humans are born.(13)

Risk Factors Income and Stunting Incidents in Toddlers and Stunting Incidents in Toddlers

The amount of income earned or received by a household can describe the welfare of a society. Children from families with low economic status consume less food than children from families with better economic status. Thus, they also consume less energy and nutrients.

Table 4 shows that more respondents who had high incomes experienced stunting (cases), namely 23 people (57.5%), compared to 14 people who did not experience stunting (controls) (35.0%). Meanwhile, more respondents who had low incomes did not experience stunting, namely 26 people (65%), compared to those who experienced stunting, namely 17 people (42.5%). income level also determines what type of food will be purchased with additional money. The higher the income, the greater the percentage of that income used to purchase various types of food. A sufficient income level means mothers have more freedom to choose and buy baby necessities such as beef, fish and fruit even though the prices on the market are quite expensive. However, on the other hand, mothers who do not have sufficient income will have difficulty providing good nutritional intake to their babies, where mothers only provide vegetables and side dishes with a menu that rarely varies, resulting in babies who are malnourished, even though the family income level is above the minimum wage, however, toddlers are still found. with stunting status,(14)

This research states that low family income is a risk factor for stunting in children aged 6-24 months. Children with low family income have a risk of stunting 8.5 times compared to children with high family income.(15-17)

CONCLUSION

The conclusions from the results of this research are as follows:

1. Knowledge is a risk factor for stunting incidents in Torobulu Village, Laeya District with an OR value: 5.571
2. Exclusive breastfeeding is a risk factor for stunting in Torobulu Village, Laeya District with an OR value: 2.914
3. Environmental sanitation is a risk factor for stunting incidents in Torobulu Village, Laeya District with an OR value: 1.667
4. Income is a risk factor for stunting in Torobulu Village, Laeya District with an OR value: 2.513

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