

THE CORRELATION BETWEEN THE FEEDING PATTERNS AND THE STUNTING PREVALENCE IN TODDLERS AGED 24-59 MONTHS IN THE WORKING AREA OF LUMBI-LUMBIA HEALTH CENTER

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Abstract

Background: Stunting is one of the nutritional problems occurring in Indonesia. It had an impact not only for those who experiences it but also for the economy and development of the country. Human resources with stunting have lower quality than the normal one. Based on data from the World Health Organization (WHO) in 2017, Indonesia was in the fourth position with the highest prevalence of stunting in the world. Research Objectives: To determine the relationship between feeding patterns and the prevalence of stunting in toddlers aged 24-59 months in the working area of Lumbi-lumbia Health Center. Research Methods: This type of research was quantitative using an analytical survey with a cross sectional approach. The population in this study were 118 parents who had stunted toddlers aged 24-59 months with the sample of 95 respondents who were taken based on purposive sampling technique. The data was collected using a questionnaire on feeding patterns and toddlers, the data was measured using microtoise and then was converted into a standard value (z-score). The data analysis used chi square test with a significant $\alpha = 0.05$. Research Results: The results showed that the respondent's inappropriate feeding pattern was 71.60% and the right feeding pattern was 28.40%. While the prevalence of stunting in the short category was 73.70% and the one in the very short category was 26.30%. Conclusion: There is a relationship between the feeding patterns and the prevalence of stunting in toddlers aged 24-59 months in the working area of the Lumbi-lumbia Health Center with p value of 0.034.

Keywords: Stunting; Feeding Pattern; Toddler

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1. Introduction

Stunting is a condition of inability to grow and develop in children under the age of five years caused by a chronic lack of nutritional intake so that the child becomes short for his age. This nutritional deficiency begins when the child is in the womb and at the beginning of birth, but stunting can be detected after the child is 2 years old (TN2PK, 2017). Stunting is one of the nutritional problems occurring in Indonesia. It had an impact not only for those who experiences it but also for the economy and development of the country. Human resources with stunting have lower quality than the normal one.

Based on data from the World Health Organization (WHO) in 2017, Indonesia was in the fourth position with the highest prevalence of stunting in the world. According to WHO in 2017, the increase in stunting rates reached 150.8 million toddlers, and several million children under 5 years of age have died from stunting, mostly due to a lack of attention to providing good and correct food and

the occurrence of recurrent infectious diseases. WHO in 2017 reported 5 countries with the highest prevalence of stunting, which are India, Pakistan, Nigeria, Indonesia and China. Indonesia is in fourth position with 36.4% (Kemenkes RI, 2018)

The data (Kemenkes RI, 2018) shows that the prevalence of stunting (short) in Indonesia is 30.8%, from the results of the Indonesian Toddler Nutritional Status Study (Kementerian Kesehatan RI, 2019) there has been a decline in the prevalence of stunting to 27.67% . In the province of Central Sulawesi, the prevalence of stunting reached 30.8%. Based on data from the Banggai Islands Regency Health Office in 2020 the prevalence of stunting in toddlers was 1,419 toddlers and the highest prevalence was at the age of 24-59 months, which is 655 toddlers, with the highest incidence of stunting being at Lumbi-lumbia Health Center, which was 118 toddlers.

Based on information from a nutritionist at the Lumbi-lumbia Health Center that stunting cases

were caused by many factors but the most common was the pattern of feeding by the mother, from his statement that most mothers did not provide nutritious food according to the recommendation, namely providing varied foods containing various vitamins, protein and minerals, most mothers only give carbohydrates in the form of porridge/rice and a little protein from fish and snacks in the form of biscuits bought at the stalls while side dishes and vegetables are very rarely given, this is due to their understanding that only by feeding toddlers in the form of rice/porridge with fish is enough without paying attention to the fulfillment of other nutritional intakes

Stunting is a condition of inability to grow and develop in toddler caused by inadequate nutrition that is optimal and begins in the first 1,000 days of life, this can also affect the mental health of children so that the level of intelligence possessed by children is hampered. This is very dangerous to cause efficiency in adulthood will be reduced. A child with stunting can easily become sick and future children can be at a higher risk of developing persistent infections (Atikah, 2018). The study aims to determine the correlation between the feeding patterns and the stunting prevalence in toddlers aged 24-59 months in the working area of Lumbi-lumbia Health Center.

2. Metode

This type of research was quantitative using an analytical survey with a cross sectional approach. This research was conducted in the working area of Lumbi-lumbia Health Center. As for the time of implementation in May 2021. The population in this study were 118 parents who had stunted toddlers aged 24-59 months with the sample of 95 respondents who were taken based on purposive sampling technique. The data was collected using a questionnaire on feeding patterns and toddlers, the data was measured using microtoise and then was converted into a standard value (z-score).

3. Results

Based on table 1.1 shows that of the 95 respondents there are the most respondents at the age of 31-40 years which is 56 people (58.90%), Based on job status shows that there are the most working parents which is 69 people (72.60%), At the level of parental education, it shows that there is the mostest is in junior high school, which is 38 people (40.00%), the data on the total of children shows that there are the mostest are 3-4 children as many as 47 people (49.50%), Based on the data above the total of family members shows that there are the most total of family members, which is y 5-6 people, there are 50 respondents (52.60%), parental income shows that there are the most parents' income <Rp.2,303,711 which is as much as 90 respondents

(94.70%), the data on the gender of toddler showed that there were moistest is male, which is 51 toddlers (53.70%), the data on the age of the toddlers showed that there are at most toddlers aged 48-59 months, which is 33 toddlers (34.70%).

Table 1. Characteristics of respondents in the working area of Lumbi-lumbia Health Center

Characteristics of respondents	N (95)	100%
Parental Age (Year)		
- 18-30	24	25,30%
- 31-40	56	58,90%
- >40	15	15,80%
Total	95	100%
Parental job status		
- Working	69	72,60%
- No working	26	27,40%
Total	95	100%
Parental education		
- Elementary		
- Junior high school	31	32,60%
- Senior high school	38	40,00%
- College	4	4,20%
Total	95	100%
Total childrens		
- 1-2 childrens	44	46,30%
- 3-4 childrens	47	49,50%
- >4 childrens	4	4,20%
Total	95	100%
Total of family members		
- 1-4 persons	41	43,20%
- 5-6 persons	50	52,60%
- >6 persons	4	4,20%
Total	95	100%
Family income (UMK)		
- < Rp. 2.303.711		
- > Rp. 2.303.711	90	94,70%
Total	95	100%
Gender of toddlers		
- Male	51	53,70%
- Female	44	46,30%
Total	95	100%
Age of toddlers		
- 24-35 Month	32	33,70%
- 36-47 Month	30	31,60%
- 48- 59 Month	33	34,70%
Total	95	100%

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parental education, it shows that there is the mostest is in junior high school, which is 38 people (40.00%), the data on the total of children shows that there are the mostest are 3-4 children as many as 47 people (49.50 %), Based on the data above the total of family members shows that there are the most total of family members, which is y 5-6 people, there are 50 respondents (52.60%), parental income shows that there are the most parents' income <Rp.2,303,711 which is as much as 90 respondents (94.70%), the data on the gender of toddler showed that there were moistest is male, which is 51 toddlers (53.70%), the data on the age of the toddlers showed that there are at most toddlers aged 48-59 months, which is 33 toddlers (34.70%).

Table 2. Characteristics of toddlers based on feeding patterns in the working area of Lumbi-lumbia Health Center

The feeding patrnerns	N (95)	100%
Incorrect	68	71,60%
corect	27	28,40%

Total	95	100%
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Base on table 1.2 shows that of the 95 respondents there are at most 68 respondents (71.60%) who do the feeding pattern that is incorrect, while there are only as many as 27 respondents (28.40%) who do the feeding pattern correctly.

Table 3. Characteristics of toddlers based on prevalence of stunting in the working area of Lumbi-lumbia Health Center

Prevalence of Stunting	N (95)	100%
Very short	25	26,30%
Short	70	73,70%
Total	95	100%

Base on table 1.3, it shows that of the 95 respondents, there were at most 70 stunting in the short category (73.70%) while the stunting in the very short category was 25 (26.30%).

Table 4. The correlation between the feeding patterns and the stunting prevalence in toddlers aged 24-59 months in the working area of Lumbi-lumbia Health Center

The feeding patrnerns	Stunting				Total		ρ
	Very short		Short		N	%	
	N	%	N	%			
Incorrect	22	23,20	46	48,40	68	71,60	0,034
corect	3	3,20	24	25,30	27	28,40	
Total	25	26,30	70	73,70	95	100%	

OR = 3,826

Base on table 1.4 it can be seen that most of the inappropriate feeding patterns with stunting in the short category of 48.40% or 46 toddlers, while the inappropriate feeding patterns with stunting in the very short category of 23.20% or 22 toddlers. Then, on the right feeding pattern with stunting in the short category of 25.30% or 24 toddlers and the feeding pattern with stunting in the very short category of 3.20% or 3 toddlers. The results of the statistical test of this study using the Chi Square test with the results ρ value of 0.034 based on the determination of the level of significance $\alpha \leq 0.05$, from the results of this study showed $\rho < \alpha$ which means H_1 is accepted so that it is said that there is a significant correlation between feeding patterns and prevalence of stunting in toddlers in the working area of the Lumbi-lumbia Health Center with an Odds Ratio value of 3.8, this indicates that improper feeding patterns can cause stunting to be 3.8 times greater.

4. Discussion

Based on (Kementrian Kesehatan RI, 2018), that one of the elements that hinders the process of child development and growth is parental knowledge, where a person's educational status is very influential with the level of knowledge he has. from the results of the study it was found that the highest level of parental education was junior high school around 40% and elementary school at 32.60%, it can be said that most stunting toddlers have parents with low educational status, educational status can affect the level of knowledge a person has because it can affect the amount of nutrients that will be consumed by children during their growth and development. The results of this study are also corroborated by (Muche et al., 2021), in his research said toddlers born to parents who have a high level of education will be less likely to have growth disorders than toddlers with parents with low educational status, because their parents highly educated people will quickly accept the

information, especially regarding health during pregnancy, such as the need attention to nutrition during pregnancy and provide exclusive breastfeeding within six months. Lack of information about nutrition in the family will cause health problems for a person. Information obtained by a person can influence the perspective and treatment to choose the source of nutrition to be consumed. Parental information on good nutrition can influence in making the right decisions to meet children's nutritional needs, generally regarding the nutrients contained in a food, maintaining food hygiene and feeding (Rahmatillah, 2018).

The economic level owned by the family also very important role in influencing the fulfillment of food needs, low income in a family can determine the nutritional status possessed. From the results of the study, it was found that the income of parents based on the province minimum wage of Central Sulawesi Province in 2021 was < Rp. 2,303,711 as many as 94.7%, it can be said that most of the respondents have a low economic level, the low economic status of the family is due to the average job of parents being small farmers who usually harvest only once in 3 months and do not have a side job . According to (Akbar et al., 2016) the economic level is the adequacy in finances by the family to fulfill all the needs of all family members. Economic status is closely related to the ability to meet nutrition in food and in obtaining health services for each family member. A child who comes from a family that has a low financial status will easily be at risk of getting nutritional problems, caused by low nutritional needs in food, so that it can cause the risk of stunting. This hypothesis corresponds to that presented by (Wahyuni & Fithriyana, 2020) which is about "Socio-Economic Influence with Stunting Incidences in Kaula Tambang Kampar Village", this is seen from the job classification that most respondents have jobs as farmers (71.6%) based on the results of statistical tests show that there is a very large relationship between work and the incidence of stunting.

The incidence of stunting can also be influenced by gender where the amount of fulfillment of child nutrition can be determined by gender. This means that female are generally less likely to be stunted than male. From the results of the study, it was found that there were 53.7% more male toddlers with stunting than female toddlers were 46.3%. This study is in accordance with the research of (Christin Angelina F, 2018) that the rate of male toddler with stunting is greater than female toddler with the chi-square test results obtained a p value of 0.043 which means that there is an important relationship between gender and the incidence of stunting, researchers assume that male toddlers are mostly more dynamic than female, male are more generally more likely to play for example running,

this causes boys to often be in a less stressful environment. clean and can use a lot of energy while the energy intake is not enough. The incidence of stunting is dominated by male because the nutrition obtained is lacking, not proportional to the needs that should be obtained, especially the adequacy of protein energy, the amount of a person's nutritional needs is influenced by gender (Damayanti, R.A, Muniroh, L, 2016).

A person's nutritional status can be determined from the pattern of proper and good feeding, from the results of research conducted in the working area of the Lumbi-lumbia Health Center with 95 respondents as parents who have toddlers aged 24-59 months. The results show that most parents with incorrect feeding pattern as much as 71.6%. incorrect feeding patterns by parents is caused by many factors including the preparation of menus that are not appropriate and correct according to the nutritional needs and age of toddlers, toddlers are mostly only given rice with fish in small portions while vegetables and fruit are rarely given, food processing has to be precise because food processing can provide benefits such as improving the nutritional content and absorption, increasing appetite and long storage time, in addition to the unattractive and varied food presentation factors that can affect children's appetite so that food is rarely spent. Inappropriate feeding where most parents rarely give snacks to their children as a complement to the main course, parents also do not pay attention to the timing of feeding their children and also do not make a meal schedule which is an effort to implement eating habits. right, according to meal times. The results of this study are supported by (Prakhasita, 2018) where the results show that the incidence of stunting in toddlers is caused by some respondents not giving the right diet, this is because some children often eat only rice and vegetable gravy. prefer to eat porridge, and the management of food by mothers is less varied, where practical food is more often chosen. The results of another study by (Rahman, 2018) said that of 71 respondents, most of them carried out an inappropriate feeding pattern, which are 53 respondents (67.1%) according to the results of the logistic regression test which showed a relationship between feeding patterns with the incidence of stunting in toddlers with a risk level of 5.1, this states that the application of inappropriate feeding patterns will increase the risk of stunting. Feeding is a way of providing food as one of the patterns carried out by parents for their children regarding how to treat and conditions at mealtime. The purpose of providing food to children is to achieve the ideal and appropriate process of growth and development. Feeding by parents based on the recommendations set will provide sufficient nutrition so that the advantages that exist within can

be developed and improved optimally (Lestari, 2018).

Based on the results of research in the working area of the Lumbi-lumbia Health Center, the 95 respondents who had stunting toddlers showed that there were 73.7% stunting toddlers in the short category and 26.3% stunting toddlers in the very short category. The incidence of stunting is a condition of growth failure that occurs in toddlers, this is caused by a lack of optimal nutrients starting in the First 1000 Days of Life. Stunting occurs in a fairly long process, starting from when in the womb, the nutritional intake during pregnancy is not sufficient so that it affects the development of the fetus, insufficient nutrition for a long time can have an impact on nutritional deficiencies, lack of these nutrients will cause growth and development problems, for example bone development will be slow and abnormal bone shape can cause stunting. A person with stunting will be able to affect their health and future life which can have impacts such as not optimal cognitive, motor and verbal improvement, and also having a body shape that is not ideal as a teenager or looks different from other people of his age, in addition to the ability to learn and decreased performance during school so that it can affect productivity and performance capacity in adulthood (TN2PK, 2017). The stunting problem is one that is quickly addressed early so that it does not cause a prolonged problem, researchers assume that parents should focus more on providing nutrition to children so that children can grow according to their age.

Based on the results of the Chi Square test, the ρ value of 0.034 according to value of $\alpha < 0.05$, the results of this study indicate $\rho < \alpha$ so it can be said that there is a significant correlation between feeding patterns and the prevalence of stunting in the working area of Lumbi-lumbia Health Center. This research was conducted on 95 respondents of parents who have toddlers aged 24-59 months. From the results of the study, it was found that most of the inappropriate feeding patterns with stunting in the short category of 48.40% or 46 toddlers, while the inappropriate feeding patterns with stunting in the very short category of 23.20% or 22 toddlers. Then the right feeding pattern with stunting in the short category of 25.30% or 24 toddlers and the feeding pattern with stunting in the very short category of 3.20% or 3 toddlers, from these results indicate that most of the respondents practice feeding that is not appropriate for their toddlers who are stunted.

In accordance with the data above, researchers assume that by providing the right and right food will provide adequate nutrition. In addition, in choosing foodstuffs to be given to children, it is very necessary to remember that children are very susceptible to disease, therefore the food to be consumed is appropriate based on their needs and is easily absorbed by the toddler's body.

Foods that are varied and have sufficient nutritional content are needed to prevent toddlers from becoming malnourished. Researchers also argue that from an early age children should have been given food with the right pattern by providing various kinds of food sources in the right portions based on their needs, besides that, giving food for consumption needs to be considered properly how to process it, serve food based on the stages of its development and provide food according to the amount, time and method of giving.

5. Conclusions

Based on these results, there is a relationship between feeding patterns and the incidence of stunting in toddlers aged 24-59 months in the working area of the Lumbi-lumbia Health Center. In the process of growth and development of toddlers, it should be noted that by providing the right and right foods, they will provide adequate nutrition. In addition, in choosing foodstuffs to be given to children, it is very important to remember that children are very susceptible to disease, therefore the food to be consumed is appropriate based on their needs and is easily absorbed by the toddler's body. Foods that are varied and have sufficient nutritional content are needed to prevent toddlers from becoming malnourished, in addition that from an early age children should have been given food in the correct pattern by providing various kinds of food sources in the right portions based on their needs, and the provision of food for consumption needs to be considered properly how to process it, serving food based on the stages of development and providing food according to the amount, both gift time and the manner of feeding. From the results of this study, it is hoped that future researchers can make additional sources of information for the development of further research and can add research related to other causes of stunting.

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