

Original Research Article

DOI: <http://dx.doi.org/10.18203/2394-6040.ijcmph20202969>

Social economy and dietary patterns with incidence of stunting in elementary school children at working area of Lapai public health center Padang

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Received: 16 February 2020

Revised: 03 June 2020

Accepted: 04 June 2020

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ABSTRACT

Background: The incidence of stunting in the Lapai Public Health Center has increased. The incidence of stunting in primary school-age children 6-12 years is a manifestation of stunting in infants, with 84 cases. Socio-Economic Level and Dietary Patterns are one of the factors that influence stunting. The aim of the study was to determine the socioeconomic and dietary patterns with the incidence of stunting in elementary school children in Lapai Public Health Center, Padang.

Methods: This type of research is observational analytic with case-control study program. The study period was June 2019 with a sample of 19 cases and 19 controls. Data collection using questionnaires and univariate analysis using descriptive statistics in the form of frequency and percentage distributions while bivariate with chi-square test α 0.05.

Results: From the results of the case group more than half (63.2%) of respondents have high socioeconomic status, more than half (63.2%) of respondents have good dietary patterns, there is no relationship between socioeconomic status with the stunting incidents and there is a meaningful relationship between dietary patterns and stunting incidents. From analysis, the OR value was 14 times the risk of stunting in elementary school children in Lapai Public Health Center.

Conclusions: Dietary patterns in school-age children have an important role in improving nutritional status. It is recommended for families to pay attention to children's dietary patterns, adjust their diet according to schedule and accompany children when eating and to the health center to provide counselling to families to play a role in providing care for the child's eating.

Keywords: Dietary patterns, Economic status, Stunting, School age children

INTRODUCTION

According to WHO (World Health Organization) data, 8.4 million children in Indonesia experience chronic stunting and malnutrition. Stunting can reduce a person's productivity and increase the risk of non-communicable diseases.¹ Basic Health Research 2018 noted the national stunting prevalence reached 30.8 percent, decreasing from 2013 (37.2%) that public health conditions in 2010

(35.6%) and short prevalence results showed that all provinces in Indonesia were in good condition. This number has been categorized as low because it is under the MDGS target of 32%.²

The prevalence of stunting in West Sumatra Province in 2018 was 39.2%, consisting of a short prevalence of 20.8% and very short of 18.4%. The stunting prevalence shows a significant increase compared to 2010 (32.7%)

and 2007 (26.5%). The prevalence of stunting in West Sumatra Province is above the national stunting prevalence.³

On the results of research conducted by Aramico in 2013 on Socio-economic relationships, parenting, dietary patterns with stunting in elementary school students in Lut Tawar District, Central Aceh Regency, it was found that there was a relationship between socioeconomic, parenting, and dietary patterns with stunting.⁴

Based on a report from Padang Health Office in 2017, Lapai Public Health Center in Nanggalo District was ranked first in the stunting case in Padang, 84 (17.87%) consisting of 12 elementary schools, out of 12 elementary schools in the working area of Lapai Public Health Center several elementary schools experienced the highest Stunting problems were Public Elementary School 01 Kampung Olo (19%), Public Elementary School 03 Kampung Olo (13%), Public Elementary School 02 Kampung Olo (11%), Public Elementary School 18 Kampung Lapai (10%) and Sabbihisma Elementary School (10%).^{5,6}

The purpose of this study was to look at the socioeconomic and dietary patterns with stunting incidents in elementary school-age children at the Lapai Public Health Center.

METHODS

This study was an observational analytic study with a research design using a case-control approach where the dependent variable and independent variables on the object of research are measured starting from past exposure to to trace the history of dietary patterns that are usually given to the child and see the socioeconomic level of the family. The study was conducted in the working area of Lapai Public Health Center Padang for 3 months (May to July 2019). The study population was the whole object of research or the entirety of the object under

study. The populations in this study were all cases elementary school-age children who experienced stunting incident in Lapai, Nanggalo District, Padang as many as 38 cases. Based on calculate the number of samples, obtained a minimum sample size taken as many as 19 people, with a comparison of sample sizes between cases:control=1:1. The inclusion criteria samples taken are able to read and write samples and able to communicate well, while the exclusion criteria if the sample cannot be found after 2 visits. Data collection was done by interviewing using questionnaires.⁶ Data were analyzed by univariate and bivariate to decide the relationship between the independent variables (socioeconomic and dietary patterns) with the dependent variable (stunting incidents). Data are presented in tabular and narrative forms.

RESULTS

Table 1 showed the comparison of the number of respondents based on the case group and the control group seen from socioeconomic and dietary patterns. More than half of the case groups have a high socioeconomic level (63.2%) with good dietary patterns (63.2%).

Table 1: Frequency distribution of stunting incidents in elementary school-age children.

HIV Incidents	Frequency	Percentage (%)
Case	19	50
Control	19	50
Total	38	100

Table 2 showed that there is no relationship between socioeconomic and stunting incidents. Statistical test results showed that there is no significant relationship between socioeconomic and stunting case groups (p value=0.474) with OR value=0.457; 95% CI.

Table 2: Relationship of family socioeconomic status with stunting incidents in elementary school-age children.

Socioeconomic status family	Stunting incidents				OR (CI 95%)	P value		
	Case		Control					
	F	%	F	%				
Low	7	36.8	4	21,1				
High	12	63.2	15	78,9	0.457	0.474		
Total	19	100	19	100				

Table 3: The relationship between dietary patterns and stunting incidents in elementary school-age children

Dietary patterns	Stunting incidents				OR (CI 95%)	P value		
	Case		Control					
	F	%	F	%				
Not good	7	36.8	17	89.5				
Good	12	63.2	2	10.5	14.571	0.002		
Total	19	100	19	100				

Table 3 showed the relationship between dietary patterns with stunting. Statistical test results show that there is a significant relationship between dietary patterns and stunting case group (p value=0.002) with an OR value of 14.571; 95% CI, which means poor dietary patterns have 14 times the risk of stunting compared to those who have good dietary patterns.

DISCUSSION

The results showed a case group of 19 respondents experienced stunting in the working area of the Lapai Public Health Center Padang. Same with research conducted by Dasril about the risk factors for the incidence of short children in the new kid at Public Elementary School 23 Marapalam, Padang Timur District, Padang, obtained a group of cases of 24 respondents.⁷

The problem of stunting is the delay/disturbance in the growth of the body frame so that the body becomes short, which often arises due to lack of food supply and low purchasing power. Someone is said to be stunted if the TB/U index ≤ 2 Elementary School.⁸ The height measurements of the respondents were carried out using microtoise in their class, each child measured sometimes forgot to take off his shoes and socks so that researchers needed accuracy when making measurements.

The results showed that most respondents stated that in the case group more than half (63.2%) of respondents had high socioeconomic status. The results of this study are almost the same as the research conducted by Chotimah in Jember in 2017, it can be seen that there is a significant influence of parents' socioeconomic status on student achievement. This showed that the socioeconomic status variable of parents has a significant influence on student achievement in Jember.⁸ The results of this study were also in line with research conducted by Mushtaq about the incidence of stunting in school-age children in Pakistan, the results of the study stated that less than half of respondents (35%) live in low-income family.⁹

These results have following existing theories. The socioeconomic level is determined by elements such as education, employment and income. This can affect various aspects of life including health maintenance. The socioeconomic level, especially income is very influential in fulfilling the needs of a person's life and family. Poverty (low socioeconomic) is a condition that leads to poor working conditions, overcrowded housing, poor environment and malnutrition (poor nutrition) due to lack of ability to fulfill the necessities of life.¹⁰

From the results of the questionnaire distributed, good socioeconomic level helps the needs of good and nutritious food intake can be fulfilled so that indirectly the child's nutritional status will also be good because all the substances needed by the body can be fulfilled.

Nutritional status is more determined by healthy living behaviors, nutritious food and children's energy adequacy every day but parents who have better socioeconomic status can certainly easily meet the special needs of healthy and balanced food intake. Preferably parents with high socioeconomic status prefer healthy, nutritious, and good quality food.

Based on the results of research conducted in the case group more than half (63.2%) of respondents had poor parenting and in the control group the majority (89.7%) of respondents had poor dietary patterns against stunting. The results obtained in line with research conducted by Sari were eating and health care patterns provided to children under five in the working area of Gapura Health Center in Sumenep Regency. This condition means that the better the parenting score and health, the better the nutritional status of children under five.¹¹ According to research conducted by Yulia, the pattern of eating and health care provided by the tea picking women in the Malabar garden was positively related to the nutritional status of a toddler. This condition means that the better the score for parenting and health, the better the nutritional status of a toddler.

According to the researchers' assumptions, seen from the results of the questionnaire answers 14 respondents (36.8%) mothers who answer questions sometimes in the preparation of menus for children based on food that mothers enjoy. A total of 12 (31.6%) of the 19 respondents in the case questionnaire analysis of mothers never used food ingredients that were still fresh and were of good quality in processing food for children. Feeding children was done regularly according to the eating schedule. This is because both parents who work so do not have time to regulate the child's dietary patterns and usually children like just any snacks. Children in daily life are usually left with other people or household assistants (ART). Parents should give good parenting and pay attention to their children to increase the child's IQ.

To see the relationship between socioeconomic status and stunting events, a statistical test (chi-square) was obtained p value=0.474 ($p>0.05$), it can be concluded that there is no meaningful relationship between socioeconomic status of the family with stunting in the working area of Lapai Public Health Center Padang. The nutritional status of a good child is not entirely influenced by the socioeconomic status of parents. Nutritional status is more determined by healthy living behaviors, nutritious food, and children's energy sufficiency every day.¹²

To see the relationship between eating patterns with stunting events performed a statistical test (chi-square) obtained p value=0.002 ($p<0.05$), it can be concluded that there is a significant relationship between dietary patterns with stunting incidents in elementary school-age children in the working area of Lapai Public Health Center Padang, the high influence of dietary patterns on stunting

due to good dietary patterns is very supportive of achieving an optimistic nutritional status, through comprehensive care of parents on child development.¹³

The results of the analysis also obtained the value of OR=14 which means that dietary patterns are not good at risk of 14 times experience stunting compared to those who have good dietary patterns. This can be seen from the feeding habits applied by the mother to the child which will affect the child's growth, one of which is the nature of the development that is formed is a change in the child's dietary patterns, where the child, in general, has difficulty eating, and there is a relationship between dietary patterns and stunting. The dietary patterns given by the mother to the child is very important in the development of the child in child psychology, the ability of child socialization and children's independence. From the results of the questionnaire as many as 19 respondents with questionnaire analysis found, from the questions of mothers who pay attention to the composition of nutrients and menu variations in the preparation of menus for children who answered never from the case of 5 people (13.2%) and the control answered 8 people (21.1%) The mother should give food to children who are filled with color variations.

CONCLUSION

There is no significant relationship between the socioeconomic status of the family with the stunting incidents in primary school children in the working area of Lapai Public Health Center Padang. Whereas there is a significant relationship between dietary patterns and stunting incidents in elementary school children in the working area of Lapai Public Health Center Padang. The poor dietary pattern has a risk of 14 times experiencing stunting compared with good dietary patterns.

ACKNOWLEDGEMENTS

Authors would like to thank the Head and staff of Lapai Public Health Center Padang, all elementary schools in the working area of the Lapai Public Health Center and all of those who have helped in conducting this research.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Oktariyani D, Fitri YR, Chamy R. Social economy and dietary patterns with incidence of stunting in elementary school children at working area of Lapai public health center Padang. *Int J Community Med Public Health* 2020;7:2483-6.