

DETERMINANTS OF UNDER-FIVE HEIGHT IN STUNTING PREVENTION EFFORTS IN TANJUNG JABUNG TIMUR, INDONESIA

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ABSTRACT

Background

Stunting is the unsuccessful growth of children under five due to chronic malnutrition so that their height is not in accordance with their age. the prevalence of stunting based on the results of SSGI research in 2020, since 2013-2019 the decline in the prevalence of stunting in Jambi Province reached 7.8%. The weight of under-fives according to age range is one of the indicators in achieving optimal under-five growth.

Objectives

This study aims to analyze the determinants of body weight in under-two children in East Tanjung Jabung District.

Methods

Quantitative research with a cross-sectional design. The sample was 179 mothers and children under two selected by random sampling technique. The questionnaire has been tested for validity and reliability. Data were analyzed using the chi-square test.

Results

Maternal occupation (PR 4.507), family income (PR 4.507), breastfeeding pattern (PR 5.136), IMD practice (PR 4.825), breastfeeding (PR 4.305), smoking behavior in the house (PR 4.323), visits to the health facilities (PR 5.247).

Conclusion

Based on the results of the study, maternal occupation, family income, breastfeeding pattern, IMD practice, breastfeeding exclusive, smoking behavior in the house, and health facility visits were correlated with the height of infants. It is recommended that mothers and families can increase family economic income with the participation of the district government in helping the family economy. Mothers improve breastfeeding patterns and IMD practices, increasing visits to health facilities for monitoring children under two height, optimizing the role of cadres and also eliminating smoking behavior in the house.

Keywords : Stunting, Children Under Two, Determinant

INTRODUCTION

The Ministry of Health revealed that the health sector contributes to 4 national strategic issues in an effort to develop superior human resources. In accordance with the president's direction, these issues are reducing stunting, reducing maternal mortality and infant mortality, improving JKN, and strengthening health services.¹ Stunting is the unsuccessful growth of children under five due to chronic malnutrition so that their height is not appropriate for their age. Indonesia is one of the countries in Southeast Asia with a high prevalence of stunting compared to other countries. The prevalence of stunting in children under five in Indonesia is slightly lower than the average for the Southeast Asian Region of 31.9%. The results of basic health research state that the prevalence of stunting in children under five decreased to 37.2% in 2013, and in 2018 to 30.8%. This prevalence rate is quite far from the target achievement set by WHO of 20% (World Health Statistics data visualizations dashboard, updated in April 2019).²

Many obstacles are faced in accelerating stunting. The stunting program that has been implemented so far has not been effective, the coordination of the implementation of specific nutrition interventions in terms of planning, budgeting, and evaluation monitoring has not been optimal. Budget allocation has not been effective, program capacity is limited, advocacy is still minimal and there is also a

lack of dissemination of stunting and prevention efforts.³

According to the National Team for the Acceleration of Poverty Reduction (TNP2K), a national strategy to reduce stunting should be developed. The national strategy should be developed based on global and local evidence and experience in stunting prevention. The aim is to ensure that resources are directed and allocated primarily to support priority activities, which become the national strategy priority targets are increasing the coverage of the quality of nutrition services in households in the 1,000 HPK program, specific nutrition priority interventions and sensitive nutrition and district / city priorities in 2020-2024 all priority villages gradually.³ East Tanjung Jabung District is one of the loci of stunting in the province of Jambi.⁴ In East Tanjung Jabung District, based on the results of measuring the nutritional status of toddlers in August 2021 using the E-PPGBM application based on the order of names and addresses, from a target of 15,336 toddlers and toddlers who were anthropometrically measured with a coverage of 90.67%, the prevalence of stunting was 7%, namely 973 children.⁵ This number actually cannot be used as a benchmark, because in 2020, the covid 19 pandemic hit, the PPGBM survey was stopped.

If examined further, the prevalence of stunting based on the results of SSGI research in 2020, from 2013-2019 the decline in stunting prevalence in Jambi

Province reached 7.8%.⁶ The prevalence of stunting in East Tanjung Jabung Regency is relatively high. Until now, there are still many obstacles and constraints faced. Based on the author's initial study conducted at the end of 2021, one of the obstacles in the implementation of the stunting prevention program is the monitoring of toddlers/babies, which is difficult to do due to the distance between the health center and the place of residence, coupled with the absence of vehicles to access the health center, which is an obstacle in the monitoring program for pregnant women. In fact, monitoring of under-fives is a way of prevention so that the growth period is filled with nutritious food. Monitoring the height of under-five children is a benchmark for children to grow according to their age range.⁷

METHODS

This study is a quantitative study with a cross-sectional design. The study was conducted in two public health center working areas, namely mendahara Public Health Center and simpang pandan Public Health Center with the two highest stunting loci in East Tanjung Jabung Regency. The research was conducted from May to September 2022. The sample in this study were 179 mothers and toddlers who were selected using a simple random sample

technique based on toddler cohort data at the public health center. Data collection instruments using questionnaires that have been tested for validity and reliability. Data analysis consisted of two stages, namely univariate and bivariate. Data analysis using SPSS software and research test with kai squared test.

RESULTS

Based on the research results, the following data was obtained in Table 1.

Based on table 1 above, the largest percentage of age in the young age range is 19-33 years with a proportion of 77.9%. Mothers have high education with a proportion of 59.8%, and mothers do not work at 67%. Family income was mostly below the minimum wage with a proportion of 62.6%. Good breastfeeding pattern was 61.9%, and good parenting pattern was 76.5%. Complete immunization for infants was 84.4%, and good IMD practices were 59.8%. Most breastfeeding practices were good at 60.3%. Smoking behavior in the home was not good at 68.7%. Health facility visits for under-five children were good at 67%. Normal height was 58.1% and abnormal height was 41.9%. Based on the results of bivariate tests with kai squared, the following results were obtained Table 2.

Table 1. Frequency Distribution of Determinants of Under-five Height

| <i>Variable</i> | | <i>N</i> | <i>Percentage</i> |
|--------------------------------|--------------------|----------|-------------------|
| <i>Mother Age</i> | <i>Young</i> | 138 | 77.9 |
| | <i>Old</i> | 41 | 22.1 |
| <i>Mother Education</i> | <i>Low</i> | 72 | 40.2 |
| | <i>High</i> | 106 | 59.8 |
| <i>Mother Occupation</i> | <i>Not Working</i> | 120 | 67 |
| | <i>Working</i> | 59 | 33 |
| <i>Family Income</i> | <i><UMR</i> | 112 | 62.6 |
| | <i>>/= UMR</i> | 66 | 37.4 |
| <i>Breastfeeding Pattern</i> | <i>Bad</i> | 70 | 39.1 |
| | <i>Good</i> | 109 | 61.9 |
| <i>Parenting Pattern</i> | <i>Bad</i> | 42 | 23.5 |
| | <i>Good</i> | 137 | 76.5 |
| <i>Immunization</i> | <i>Incomplete</i> | 28 | 15.6 |
| | <i>Completed</i> | 151 | 84.4 |
| <i>IMD Practice</i> | <i>Bad</i> | 72 | 40.2 |
| | <i>Good</i> | 106 | 59.8 |
| <i>Breastfeeding Exclusive</i> | <i>Bad</i> | 71 | 39.7 |
| | <i>Good</i> | 108 | 60.3 |
| <i>Smoking Behaviour</i> | <i>Bad</i> | 123 | 68.7 |
| | <i>Good</i> | 56 | 31.3 |
| <i>Health Visits</i> | <i>Bad</i> | 65 | 33 |
| | <i>Good</i> | 114 | 67 |
| <i>Body Height</i> | <i>Unnormal</i> | 75 | 41.9 |
| | <i>Normal</i> | 104 | 58.1 |

Based on Table 2, the variables that were correlated with the height of infants were maternal occupation, family

income, breastfeeding pattern, IMD practice, breastfeeding, smoking behavior, and health facility visits.

Table 2. Results of Cross-Tabulation with Height of Under-five Children in East Tanjung Jabung District

| <i>Variable</i> | <i>Body Height</i> | | | | <i>P Value</i> | <i>PR</i> |
|-------------------------------------|--------------------|----------|---------------|----------|----------------|-----------|
| | <i>Unnormal</i> | | <i>Normal</i> | | | |
| | <i>N</i> | <i>%</i> | <i>N</i> | <i>%</i> | | |
| <i>Mother Age</i> | | | | | | |
| <i>Young</i> | 59 | 42.8 | 79 | 57.2 | 0.212 | 1.252 |
| <i>Old</i> | 14 | 34.1 | 27 | 65.9 | | |
| <i>Mother Education</i> | | | | | | |
| <i>Low</i> | 32 | 45.7 | 38 | 54.3 | 0.179 | 1.215 |
| <i>High</i> | 41 | 37.6 | 68 | 62.4 | | |
| <i>Mother Occupation</i> | | | | | | |
| <i>Not Working</i> | 56 | 46.7 | 64 | 53.3 | 0.016 | 1.620 |
| <i>Working</i> | 17 | 28.8 | 42 | 71.2 | | |
| <i>Family Income</i> | | | | | | |
| <i><UMR</i> | 56 | 46.7 | 64 | 53.3 | 0.016 | 1.620 |
| <i>>/= UMR</i> | 17 | 28.8 | 42 | 71.2 | | |
| <i>Breastfeeding Pattern</i> | | | | | | |
| <i>Bad</i> | 20 | 29.4 | 48 | 70.6 | 0.011 | 0.616 |
| <i>Good</i> | 53 | 47.7 | 58 | 52.3 | | |
| <i>Parenting Pattern</i> | | | | | | |
| <i>Bad</i> | 15 | 35.7 | 27 | 64.3 | 0.281 | 0.844 |

| | | | | | | |
|--------------------------------|----|------|----|------|-------|-------|
| <i>Good</i> | 58 | 42.3 | 79 | 57.7 | | |
| Imunization | | | | | | |
| <i>Tidak Lengkap</i> | 9 | 34.6 | 17 | 65.4 | 0.343 | 0.841 |
| <i>Lengkap</i> | 63 | 41.3 | 90 | 58.8 | | |
| IMD Practice | | | | | | |
| <i>Bad</i> | 21 | 30 | 49 | 70 | 0.018 | 0.641 |
| <i>Good</i> | 51 | 46.8 | 58 | 53.2 | | |
| Breastfeeding Exclusive | | | | | | |
| <i>Bad</i> | 21 | 30.4 | 48 | 69.6 | 0.042 | 0.656 |
| <i>Good</i> | 51 | 46.4 | 59 | 53.6 | | |
| Smoking Behaviour | | | | | | |
| <i>Bad</i> | 56 | 45.5 | 67 | 54.5 | 0.023 | 1.593 |
| <i>Good</i> | 16 | 28.6 | 40 | 71,4 | | |
| Health Visits | | | | | | |
| <i>Bad</i> | 18 | 28.6 | 45 | 71,4 | 0,014 | 0.614 |
| <i>Good</i> | 54 | 46.6 | 62 | 53.4 | | |

DISCUSSION

Based on the results of the study, maternal employment has a correlation with the height of the baduta with a PR of 1.620, meaning that mothers who do not work have a chance of 1.620 times increasing the weight of the baduta. This study is in line with Esti, 2021, that maternal employment has a correlation with stunting.⁷ Family income has a correlation with the height of the baby with a PR of 1,620 times, meaning that family income above the minimum wage has a 1,620 times chance of having a baby with normal height. This study is in line with Esti, 2021, Families with income below the regional minimum wage cannot fulfil the needs of complementary foods, so that children's nutrition cannot be fulfilled. High family income is a form of support and protection that can prevent stunting, because with high income, families can provide complementary foods that are in accordance with the nutritional needs of children. This low economic status leads to

low birth weight and prolonged stunting. Low-income families are one of the factors involved in undernutrition, which inhibits child growth.¹

Low-income families are often unable to afford a healthy and nutritionally balanced diet because their income only fulfils minimal needs.⁸ In addition to families not being able to provide healthy and nutritious food for children, home environment factors also affect the occurrence of stunting. A family environment that is less clean and has inadequate ventilation can inhibit child growth. Most respondents work as casual daily labourers where household income is low or less than the regional minimum wage. Income is the spearhead to fulfil one's life needs. If family income is high, then all household needs can be met.⁹ A high income will influence child feeding practices, stimulate children's psychosocial development, and allow them to visit health facilities needed to monitor children's health.¹⁰ If this is done correctly, then children's health will always be monitored

so that the incidence of stunting can be prevented.

A good breastfeeding pattern has a 0.616 times chance of having a normal beduta height, and the results of this study are in line with research conducted by Esti, 2021; Parenbeng 2020.^{11,12} The pattern of breastfeeding not up to two years was carried out by 135 respondents. Breastfeeding for up to 2 years can improve the health of infants.¹³

Furthermore, the determinants of infant height were correlated with IMD practices. The results showed that mothers whose IMD practices were good increased the chance of normal birth weight by 0.641 times. The results of this study are in line with research conducted by Kanaang, 2020.¹² The content of breast milk colostrum which is rich in nutrients can reduce the risk of infants developing infectious diseases that can increase malnutrition and if it occurs in the long term can interfere with the absorption of nutrients, thereby increasing the risk of stunting in toddlers. The effect of IMD on changes in stunting status is due to the function of colostrum as an anti-infection. Based on interviews with sample mothers who had toddlers who did not provide IMD, because at that time, breast milk had not been released.

Good breastfeeding increases the chance of normal height by 0.656 times. Based on the results of the study, most mothers of toddlers combined breastfeeding with formula milk.

Breastfeeding combined with formula milk can fulfil the nutritional needs of infants. However, formula milk does not contain antibodies as good as breast milk so that babies are susceptible to disease which, if prolonged, will cause stunting.⁷

Another determinant is smoking behaviour in the home. Based on the results of the study, smoking in the house reduces the chance of normal body weight of under-five children by 1,593 times. From the observations made in the field, the fact that smokers are dominated by male parents (fathers). This is because most fathers act as breadwinners. It is very difficult for them to get rid of the habit of smoking because cigarettes are used as an excuse to get rid of drowsiness, fatigue, and tiredness because they have worked. It can also automatically be seen that cigarettes divert the need for food expenditure in the household. The family's food needs tend to be less so that the fulfilment of family nutrition is also less, especially for families with low economic income. This condition will increase the risk of malnutrition in children.¹⁴ The last determinant is visits to health facilities.

Based on the results of the study, visiting health facilities can increase the chance of normal height for under-five children by 0.614 times. Based on the results of the study, 85% of respondents came to the health center for immunization and weighing. They were given vitamins, bread, and also PMT during their visit to the health center. The distance from the

respondent's house to the health center ranges from 1-5 km with roads that are damaged, potholed, and muddy during the rainy season. Almost 97 per cent of respondents use motorbikes. The condition of the road makes them reluctant to come to the Public Health Center, especially during the rainy season. A total of 92.7% of respondents stated that they did not receive counselling on maternal and child health, 94.9% of respondents stated that they did not receive counselling on nutrition, and 94.9% of respondents did not receive counselling on PHBS. Counselling, education, and information should still be done because it is a must for officers to always educate the community. IEC is very useful in increasing knowledge, raising awareness, and ultimately changing behaviour.¹⁵

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CONCLUSSION

It is recommended that mothers and families can increase family economic income with the participation of the district government in helping the family economy. Mothers should improve breastfeeding patterns and IMD practices, increase visits to health facilities for height monitoring, optimize the role of cadres and also eliminate smoking behavior in the house. Public Health Center officers are expected to always provide IEC on maternal and child health, nutrition, and clean and healthy living behavior.

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