

# FOOD CONSUMPTION PATTERNS IN TODDLERS IN LOKUS STUNTING VILLAGE, BUNGO DISTRICT

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## ABSTRACT

**Background:** The Indonesian Nutrition Status Study (SSGI) in 2021 showed that Bungo Regency data has a stunted toddler prevalence of 22.9%. Several research results have shown that the problem of stunting in toddlers is related to low protein intake in daily food consumption. On the other hand, Jambi Province has local food sources of protein, especially freshwater fish as an alternative to daily side dishes. This study aims to examine the pattern of protein food consumption in Sungai Mengkuang and Sungai Puri Village as Bungo Regency's stunting locus village.

**Method:** Quantitative methods are used to measure the toddler's pattern of protein food consumption with a food frequency questionnaire and food recall.

**Result:** The results showed that food protein consumption was already contained in children's complementary feeding, but with the number of servings that did not meet the balanced nutrition guidelines (< 100% daily recommendations).

**Discussion:** As many as 63.5% of respondents have received complementary feeding  $\geq$  three times a day.

**Conclusion:** It is necessary to optimize the production, distribution, and consumption of local protein foods as a solution to accelerate reduction of stunting.

**Keywords:** toddlers, food, stunting

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## INTRODUCTION

Stunting is a problem of malnutrition that affects the growth and development of children, and has short and long term consequences until adulthood<sup>1</sup>. Efforts to accelerate the reduction of stunting are contained in Presidential Decree no. 72 Year 2021<sup>2</sup>. The results of the 2021 Indonesian Nutritional Status Study (SSGI) show data on stunted nutrition problems in toddlers in

Indonesia amounting to 24.4%. Jambi Province has a stunted toddler prevalence of 22.4% (an increase compared to 2019 of 21.0%), meanwhile Bungo Regency has a stunted toddler prevalence of 22.9%<sup>3</sup>.

Several research results show that the problem of stunted children under five is related to low protein intake in daily food consumption. Lack of protein intake by weight correlates with the incidence of stunting in a study conducted on children

aged 12-24 months in Plerean, Jember<sup>4</sup>. On the other hand, Jambi Province has local food sources of protein, especially those from river fish as an alternative daily side dish. Consumption of livestock and fishery products is higher in urban areas. Types of animal food that are mostly consumed are eggs, purebred chicken meat and tuna/tuna/skip skipjack. The average consumption of beef/capita is very low and the consumption participation rate is also low<sup>5</sup>.

The results of research related to the consumption of vegetable protein foods reported that the factors that influence the level of consumption of plant foods consist of income, number of family members and eating habits of plant foods<sup>6</sup>. However, the dominance of vegetable protein intake in children's diets is not a risk factor for stunting in children aged 2-4 years<sup>7</sup>. This study aims to examine the pattern of consumption of food sources of protein in toddlers in the stunting locus villages of Bungo Regency, namely Sungai Mengkuang and Sungai Puri Villages.

## **METHOD**

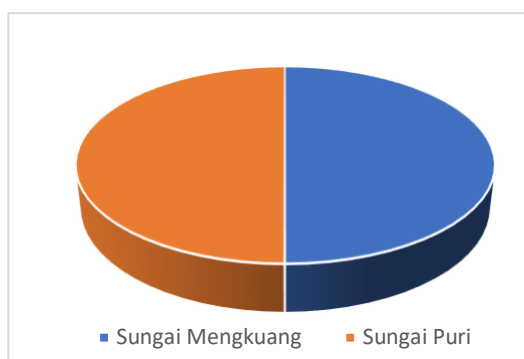
The research method uses quantitative methods through a cross sectional approach. In this study, the measurement of protein food consumption patterns was carried out using a food

frequency questionnaire and 1 x 24 hour food recall. This research was conducted in the stunting locus villages in Bungo Regency, namely Sungai Mengkuang Village and Sungai Puri Village. Determination of locus of stunting villages based on data on the highest prevalence of stunting in Bungo Regency in 2021.

The population used to obtain quantitative data in this study were all toddlers in Sungai Mengkuang and Sungai Puri Villages. The research sample was 96 children aged six months to two years. Primary data was obtained directly from interviews with respondents, in this case, mothers or child caregivers. Secondary data was obtained from related stakeholder documents, namely posyandu, puskesmas, and the Health Office. Quantitative univariate data processing was carried out using the SPSS application.

## **RESULT**

Efforts to accelerate stunting reduction as stipulated in Presidential Decree No. 72 of 2021 expects the convergence of specific and sensitive programs in each stunting locus village. Data collection was carried out in two stunting locus villages in Bungo Regency with a total sample of 96 toddlers.



**Figure 1.** Number of samples under five

Stunting is a condition of failure to thrive as a result of chronic malnutrition so that a child's length/height does not match their age. Malnutrition occurs since the child is in the womb and in the early period after the child is born (the first 1000 days of life starting from the beginning of conception until the child is 2 years old). The definition of stunting according to the

Ministry of Health (2018) is a child under five with a z-score value of  $-3SD$  to  $<-2SD$  (stunted) and  $<-3SD$  (severely stunted). Baduta (children under two years) who are stunted will be more susceptible to disease and can reduce productivity in the future. In the end, stunting can hinder economic growth and increase poverty.

**Table 1.** Univariate Research Data

| <b>Variable</b>                                    | <b>Desa<br/>Sungai Mengkuang</b> | <b>Desa<br/>Sungai Puri</b> | <b>Total</b> |
|--|----------------------------------|-----------------------------|--------------|
| <i>Father's age (average in years)</i>             | 34                               | 32                          | 33           |
| <i>Father's age of marriage (average in years)</i> | 26                               | 22                          | 24           |
| <i>Mother's age (mean in years)</i>                | 31                               | 27                          | 29           |
| <i>Mother's age of marriage (average in years)</i> | 23                               | 18                          | 20           |

Table 1 shows data on parents' ages and parents' married age. From these data it can be seen that the respondent's parents are the middle age group of adults.

The father's marriage age is 24 years, while the mother's marriage age is too young, namely 20 years.

**Table 2. Frequency of giving MP-ASI to children**

| <b>Variable</b>       | <b>Desa<br/>Sungai Mengkuang</b> | <b>Desa<br/>Sungai Puri</b> | <b>Total</b> |
|-----------------------|----------------------------------|-----------------------------|--------------|
| <i>Not MP-ASI yet</i> | 6 (12.5%)                        | 8 (16.7%)                   | 14 (14.6%)   |
| <i>2 times</i>        | 11 (22.9%)                       | 10 (20.8%)                  | 21 (21.9%)   |
| <i>3 times</i>        | 29 (60.4%)                       | 26 (54.2%)                  | 55 (57.3%)   |
| <i>&gt;3 times</i>    | 2 (4.2%)                         | 4 (8.3%)                    | 6 (6.2%)     |
| <i>Total</i>          | 48 (100%)                        | 48 (100%)                   | 96 (100%)    |

In table 2 it can be seen that more than half of the respondents have received MP-ASI  $\geq$  three times a day. However, there are still respondents who consume MP-ASI twice a day (21.9%). As many as

66.7% of respondents have received family food. Meanwhile, 9.4% and 9.3% of respondents consumed pureed/filtered and chopped food respectively.

**Table 3. The form of MP-ASI for children**

| <b>Variable</b>              | <b>Desa<br/>Sungai<br/>Mengkuang</b> | <b>Desa<br/>Sungai Puri</b> | <b>Total</b> |
|------------------------------|--------------------------------------|-----------------------------|--------------|
| <i>Not MP-ASI yet</i>        | 6 (12.5%)                            | 8 (16.7%)                   | 14 (14.6%)   |
| <i>Crushed/filtered food</i> | 5 (10.4%)                            | 4 (8.3%)                    | 9 (9.4%)     |
| <i>Minced food</i>           | 5 (10.4%)                            | 4 (8.3%)                    | 9 (9.3%)     |
| <i>Family meal</i>           | 32 (66.7%)                           | 32 (66.7%)                  | 64 (66.7%)   |
| <i>Total</i>                 | 48 (100%)                            | 48 (100%)                   | 96 (100%)    |

## DISCUSSION

Stunting interventions are divided into two, namely specific nutrition interventions and sensitive nutrition interventions. Specific nutrition interventions are interventions aimed at children in the first 1000 days of life (1000 HPK) and are carried out in the health sector. This intervention is divided into targets which include: pregnant women; breastfeeding mothers and children aged 0-6 months; and breastfeeding mothers and children aged 7-23 months. Meanwhile, nutrition sensitive interventions include: providing access to clean water;

improved sanitation; fortification of foodstuffs; provision of access to family planning; provision of national health insurance (JKN); provision of universal maternity insurance (Jampersal); improving parenting education; early childhood education programs; community nutrition education; sexual and reproductive health education, as well as nutrition for adolescents; provision of assistance and social security for poor families; and increasing food security and nutrition<sup>2</sup>.

Nutritional problems are directly caused by low nutritional intake and health

problems. In addition, nutritional intake and health problems are two things that influence each other. The indirect effect is the availability of food; parenting style, availability of (clean) drinking water, sanitation; and health services. All of these causal factors are influenced by several root causes, namely institutional, political and ideological, economic policies, and resources, environment, technology, and population<sup>2</sup>.

Parenting styles also determine the feeding of infants and children, starting with exclusive breastfeeding, breastfeeding until the child is two years old, and complementary feeding. Respondents' mothers in this study had a relatively young marriage age, namely 20 years. The age of parents' marriage determines the knowledge, attitudes, and practices of parents in child rearing. However, this cannot be generalized, because with the existence of social media, parents who marry young can learn parenting practices, including feeding babies and children. In a study related to the relationship between the age of mothers who marry early and the nutritional status of children under five in Temanggung Regency, it shows that the earlier the age of the mother marries, the percentage of stunted and malnourished children will also increase, but this is not statistically related<sup>8</sup>.

Food is everything that comes from biological and water sources, both processed and unprocessed intended for

human consumption, including food additives, food raw materials and other materials used in the process of preparing, processing and/or making food and beverages. . In the 2014 PGS it is stated that the composition of healthy food consists of the following food groups: Carbohydrate Food; Animal Protein Food; Vegetable Protein Food; Vegetables and fruit. Apart from these food groups, there are also consumption limits for sugar, salt and oil<sup>9</sup>.

Animal protein food or side dish is a food group that provides flavor and delicacy in the cooking menu. The content of glutamate which is owned by animal protein foods produces an umami or savory taste in the cooking menu. The animal protein food group consists of ruminant meat (beef, mutton, and others), poultry (chicken, duck, and others), seafood, eggs, and milk, and their processed products. Both animal and vegetable protein foods contain protein, but each of these food groups has advantages and disadvantages. All animal protein foods are healthy foods, as long as they are consumed in quantities according to the 2014 PGS portion recommendations and processed using healthy processing methods such as steaming, boiling or baking. The recommended consumption for animal and vegetable protein foods is 2-4 servings a day. One portion of animal food is equivalent to 1 medium piece of fresh fish weighing 40 grams. One portion

of vegetable protein food is equivalent to 2 medium pieces of tempeh or 50 grams<sup>9</sup>.

Vegetable protein food has no less benefits and advantages than animal protein food. The vegetable protein food group includes legumes and their processed products such as soybeans, green beans, peanuts, red beans, tempeh, tofu, and others. Vegetable protein foods have the advantage of containing more unsaturated fats than animal foods, as well as isoflavones, which are phytochemicals that also function similarly to the hormone estrogen (female hormone) and antioxidants and anti-cholesterol. Consumption of soybeans and tempeh has been shown to lower cholesterol and increase insulin sensitivity and insulin production. So it can control cholesterol and blood sugar levels. However, the quality of protein and minerals contained in vegetable protein foods is lower than animal protein foods<sup>9</sup>.

Providing balanced nutritious MP-ASI to children from six months to two years of age is one of the success factors in efforts to reduce stunting. Some respondents have received MP-ASI  $\geq$  three times a day. However, there are still respondents who consume MP-ASI only twice a day. As many as 66.7% of respondents have received family food.

Family meals are expected to have a balanced nutritional food composition, starting from carbohydrate foods, animal

protein foods, vegetable protein foods, vegetables and fruit. Some research results related to the practice of giving MP-ASI to children show the following results: there are differences in the types of ingredients for complementary feeding between groups of stunted and non-stunted children, while the frequency of giving MP-ASI does not show a significant difference<sup>10</sup>. In another study in Bima Regency, it was seen that most of the respondents were still wrong in determining the texture of MPASI, were not precise in the frequency of giving MPASI, and had not implemented a 4 star MPASI healthy menu<sup>11</sup>.

## CONCLUSION

The problem of stunting in toddlers is related to low protein intake in daily food consumption. On the other hand, Jambi Province, especially Bungo Regency, has local food sources of protein, especially those from river fish as an alternative daily side dish. It is necessary to optimize the production, distribution and consumption of local protein foods as a solution to accelerate stunting prevention.

## ACKNOWLEDGEMENT

The author would like to thank the Faculty of Medicine and Health Sciences & the Institute for Research and Community Service, Universitas Jambi for funding this research activity.

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