

## CONSUMPTION PATTERNS AND INCIDENTS OF STUNTING AMONG SUKU ANAK DALAM (SAD) TODDLER IN MUARO JAMBI: ETHNOGRAPHIC STUDY

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### ABSTRACT

**Background:** The incidence of stunting among SAD toddlers in Nyogan Village, Muaro Jambi is 42.2%. Stunting is caused by children not getting adequate and adequate nutrition at all stages of life. Overcoming stunting requires addressing the main direct cause, namely consumption patterns. The aim of this research is to analyze consumption patterns and the incidence of stunting among SAD toddlers in Muaro Jambi Regency using an ethnographic study.

**Method:** This research uses a qualitative methodology with an ethnographic research design. Data collection used visual methods, in-depth interviews, FGD (focus group discussion), anthropometric measurements, and the Food Frequency Form. The research informants consisted of 15 mothers of toddlers as the main informants and 5 key informants. Researchers used the triangulation method of sources, methods and data to test the validity of the data. Data analysis uses thematic analysis.

**Result:** The research results found that 4 (26.7%) SAD toddlers were stunted. The food consumption patterns of SAD toddlers are not met in quantity, namely a lack of consumption of both animal and vegetable protein, vegetables and fruit. Likewise, with energy, protein, fat and carbohydrate intake. This SAD fulfills its food needs by purchasing and its purchasing power depends on the results of fishing. Some of the fish are consumed and sold to buy other food needs.

**Conclusion:** The food consumption patterns of stunted SAD toddlers are insufficient. Informants need to seek information from health workers about healthy and nutritionally balanced food, cheap and affordable according to purchasing power.

**Keywords:** Consumption Pattern; stunting; SAD toddler

### INTRODUCTION

Stunting refers to chronic malnutrition, which can have long-term impacts such as stunted growth, reduced cognitive and mental abilities, increased vulnerability to disease, reduced economic productivity, and reduced fertility. Stunting is caused by children not receiving sufficient and adequate nutrition at all stages of life. This condition can have a significant impact on the long-term health and survival of children, as well as the productivity of the Indonesian economy and the country's ability to achieve national and international development goals (UNICEF, 2020).

In 2018, 22.2% of children under five or around 150.8 million children were stunted in

2018. More than a third of stunted children under five in the world came from Asia (31.9%) and Africa (33.1%) (World Health Organization, 2019). Based on the World Bank's global database in 2022, there were 18 countries with stunting prevalence above 30% in 2018, with Indonesia ranking first in the Southeast Asia region at 30.8% (The World Bank, 2022). National stunting prevalence reached 30.8% in 2018, but will decrease to 21.5% in 2023. The prevalence of stunting in Jambi Province was 30.1% in 2018 and reached 13.5% in 2023 (BKPK Kemenkes, 2024; Kemenkes RI, 2019). Even though the reduction in stunting in Jambi province reached the target of 14%, Muaro Jambi has the sixth highest prevalence of child stunting in Jambi province at 18.6%, meaning that

approximately 1 in 5 toddlers in this district is stunted. (BKPK Kemenkes, 2022).

Muaro Jambi is one of the regions in Indonesia which is a priority area for reducing stunting by up to 14% by 2024. Muaro Jambi is one of 514 districts/cities focused on integrated interventions to reduce stunting in 2022, in line with the objectives of the National Medium Term Development Plan (RPJMN) for 2020-2024, expanded from the 360 districts/cities in the previous year (Kementerian PPN/ Bappenas, 2021). Many cases of stunting in Jambi are caused by poverty, especially SAD. SAD is increasingly trapped in poverty because livelihoods that depend heavily on hunting are increasingly reduced due to the collection of forest products that are increasingly scarce due to changes in land use (Asril, 2017).

SAD or Orang Rimba is a indigenous community in Jambi Province which is spread out in small groups in secondary forests and oil palm plantations and industrial plantation forests in Jambi Province (Sukmareni, 2021). There are still quite a lot of SAD communities in Jambi Province. The number of SAD in Jambi Province up to 2010 was recorded at 6,773 families or 28,883 people spread across 8 districts, namely Muaro Jambi, Batanghari, Tebo, Sarolangun, Merangin, Bungo, West Tanjung Jabung and East Tanjung Jabung. There are several groups that have been fostered and housed by the government, including in Nyogan Muaro Jambi Village since 2004 (Dinas Sosial Tenaga Kerja dan Transmigrasi, 2013).

One of the health problems that often occurs in the SAD community is low nutritional status and the problem of poverty in the SAD community, so that they are easily attacked by disease and have an impact on their nutritional status (Sari and Putri, 2021). Haris, A found that the incidence of stunting among SAD toddlers in Nyogan Village, Muaro Jambi was 42.2% (Haris et al., 2019).

Nurizka's research found that the Baduy tribe's way of life and good nutritional sources

make a big contribution to the nutritional quality of the community. Baduy's ability to preserve biodiversity makes local food rich in nutrition and abundant. Baduy never lack food, in contrast to non-indigenous communities who are vulnerable to food shortages. Therefore, maintaining the culture of preserving nature and developing local food production in the Baduy Tribe is one strategy to improve the nutritional status of the community (Nurizka et al., 2020).

Based on interviews with health workers, specifically for the incidence of stunting in toddlers living in remote areas, especially in SAD living in Nyogan Muaro Jambi Village, there is no special data collection yet. This is due to the difficulty of accessing information and technology, as well as the low utilization of health services in the SAD community, so it is feared that the stunting rate in SAD may be high. Based on the description above, researchers are interested in conducting an ethnographic study on consumption patterns and the incidence of stunting among SAD toddlers in Muaro Jambi.

## METHODS

This qualitative research, with an ethnographic research design, aims to study and collect data on consumption patterns of toddlers based on daily cultural norms and activities adopted by the Anak Dalam tribe community in Nyogan Muaro Jambi Village. This research was conducted in Nyogan Muaro Jambi Village, Jambi Province, from May 2023 to December 2023. The sampling technique uses purposive sampling. The informants for this research consisted of 15 main informants and 5 key informants.

The data collection techniques used were visual, in-depth interviews, structured interviews using food frequency forms, FGDs, and anthropometric measurements. To test the validity of qualitative data, researchers used triangulation (combined) methods, including triangulation of sources,

methods and data. The qualitative analysis carried out is thematic analysis, which is a way to carry out data analysis aimed at identifying patterns or finding themes through the data obtained by the researcher. To obtain themes, researchers mapped the research data as in Figure 1.



**Figure 1** Thematic data analysis process

**Table 1** Characteristics of Main Informants in SAD in Muaro Jambi Regency

Informant code	Age (Years)	Mother Education	Mother Work	Father Education	Father Work
01	25	Elementary school	Housewife	elementary school	Fisherman
02	32	not completed in primary school	Housewife	not completed in primary school	Private
03	20	not completed in primary school	Housewife	elementary school	Fisherman
04	22	Junior high school	Housewife	not completed in primary school	Fisherman
05	28	not completed in primary school	Trader	not completed in primary school	Laborer
06	23	Senior high school	Housewife	Senior high school	Farmer
07	23	Junior high school	Trader	elementary school	Laborer
08	40	not completed in primary school	Trader	not completed in primary school	Fisherman
09	23	not completed in primary school	Housewife	elementary school	Private
10	40	Elementary school	Housewife	Junior high school	Laborer
11	16	Elementary school	Housewife	not completed in primary school	Fisherman
12	27	Elementary school	Housewife	Junior high school	Farmer
13	23	Elementary school	Housewife	not completed in primary school	Fisherman
14	33	not completed in primary school	Fisherman	elementary school	Fisherman
15	21	Elementary school	Housewife	not completed in primary school	Laborer

Source: Main Informant Primary Data, 2023

The main informants in this study were mothers of SAD toddlers aged 16-40 years and most of them still had low education, 6 people had not finished elementary school and 7 heads of families had also not finished elementary school. The occupation of 11 main informants is housewife, while 7 heads of families work as fishermen along the Nyogan River. The Nyogan River is the source of life for SAD. The majority of SAD do not have a definite job, almost all make their living as fishermen.

The next informants were key informants consisting of 5 people, namely the Head of the Nutrition Section of the Muaro Jambi District Health Service, nutrition workers at the Tempino Health Center, Village Midwives, community leaders (Temenggung) and the Head of Nyogan Village. In-depth interviews

## RESULTS AND DISCUSSION

### Informant Characteristics

The informants consisted of 15 SAD mothers of toddlers in Nyogan village as the main informants and 5 key informants. The characteristics of the main informants can be seen in table 1.

were conducted with these key informants. The characteristics of key informants can be seen in table 2.

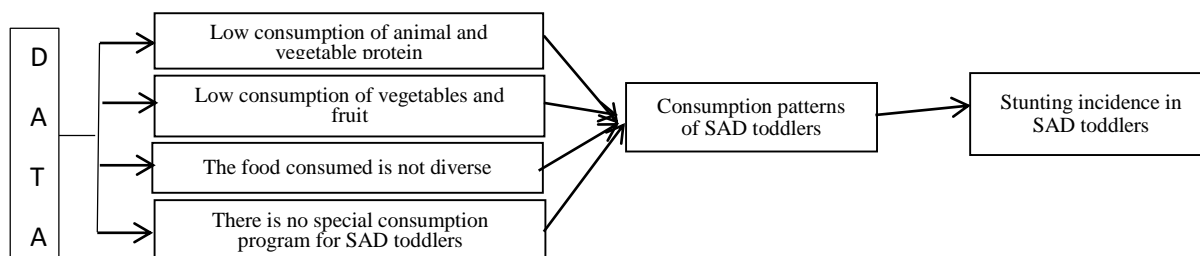
**Table 2** Characteristics of Key Informants in SAD in Muaro Jambi Regency

Informant Code	Type of informant	Education
01	Nutritionist at the Muaro Jambi Regency Health Office	Master of Public Health
02	Tempino Health Center nutritionist	Third Diploma in Midwifery
03	Nyogan Village Midwife	Third Diploma in Midwifery
04	Temenggung SAD traditional head	No school
05	Nyogan village head	Senior high school

Source: Key Informant Primary Data, 2023

### Qualitative Data Analysis Process Patterns

The pattern of the qualitative data analysis process for consumption patterns among SAD toddlers can be seen in Figure 2.



**Figure 2** Qualitative Data Analysis Process Pattern "Consumption Patterns and Stunting Incidents in SAD Toddlers in Muaro Jambi

### Incidents of Stunting in SAD Toddlers in Muaro Jambi

The SAD toddlers in this study ranged in age from 16 to 58 months. The results of anthropometric measurements of SAD toddlers, in the form of height, were entered into the WHO Antro application to get the HAZ score (TB/U), with the average HAZ score (TB/U) being  $-2.01 \pm 0.4$ . Furthermore, grouped based on Permenkes RI No. 2 of 2020 concerning Children's Anthropometric Standards, it was found that 4 SAD toddlers were stunted and 11 were not stunted. The incidence of SAD toddlers at risk of stunting can be seen more clearly in table 3.

**Table 3** Incidence of Stunting in SAD Toddlers in Muaro Jambi

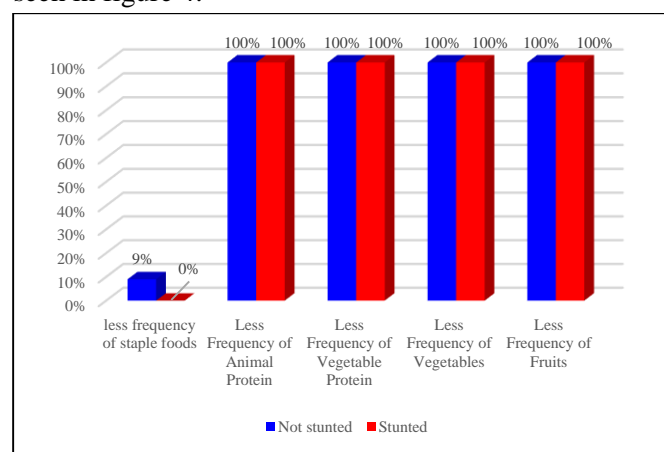
informant's toddler	Age (months)	Height (cm)	HAZ score (TB/U)	Nutritional status
01	18	77,0	-1,96	Not stunted
02	30	86,8	-1,22	Not stunted
03	56	95,8	-2,72	Stunted
04	26	79,2	-2,54	Stunted
05	20	78,8	-1,90	Not stunted
06	19	77,8	-1,94	Not stunted
07	35	87,5	-1,98	Not stunted
08	29	81,0	-2,63	Stunted
09	36	88,0	-1,97	Not stunted
10	18	78,0	-1,51	Not stunted
11	16	74,0	-1,54	Not stunted
12	39	90,8	-1,91	Not stunted
13	17	74,0	-1,95	Not stunted
14	31	85,0	-1,91	Not stunted
15	58	97,0	-2,43	Stunted

Source: Anthropometric Primary Data, 2023

### Consumption Patterns of Stunting SAD Toddlers in Muaro Jambi

Consumption patterns are seen from the amount, type and frequency of food for SAD toddlers. The amount of food consumed is obtained from the nutrients contained in the

food consumed to fulfill the body's needs in carrying out activities. The types of food consumed by SAD toddlers in Nyogan Village usually develop from local food and culture. The frequency of eating for SAD toddlers was analyzed based on the number of meals in a day of staple foods, animal and vegetable proteins, vegetables and fruit. Consumption patterns based on the frequency of food consumed by SAD toddlers can be seen in figure 4.

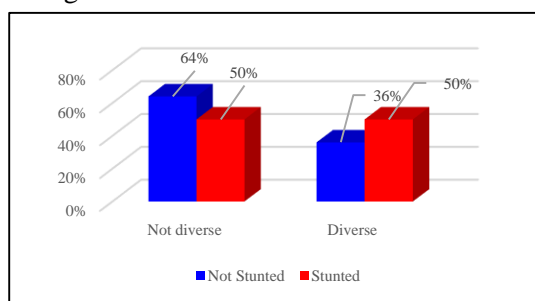


**Figure 4** Frequency of consumption of staple foods, animal protein, vegetable protein, vegetables and fruit among SAD toddlers in Muaro Jambi

In Figure 4, the frequency of food sources of carbohydrates in the form of cereals and tubers for stunting SAD toddlers has been fulfilled (100%), namely 3 times / day, nothing is missing. SAD usually consumes food sourced from the forest. However, SAD who live in the Trans Social settlement of Nyogan Village consume food

obtained by purchasing, especially staple foods. However, the frequency of food sources of animal protein, vegetable protein, vegetables and fruit for stunting SAD toddlers is less (100%). The average consumption of animal protein is only once/day and rarely or even no consumption of vegetable protein.

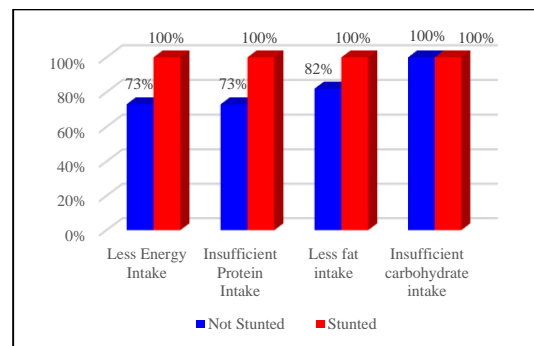
Food consumption for SAD toddlers at risk of stunting is influenced by fishing results from fishing in the river around Nyogan Village, while animal protein from white meat, namely poultry and other livestock, is very low or even not consumed at all due to the informant's low economic capacity. Meanwhile, consumption of vegetables and fruit has not been fulfilled, on average only once/day, some even do not consume it at all. This is because the condition of the land occupied by SAD does not support cultivation, as a result of oil palm plants almost filling every land where it is located. Consumption patterns based on the type of food consumed by SAD toddlers can be seen in Figure 5.



**Figure 5** Types of food consumed by SAD toddlers in Muaro Jambi

The consumption patterns of stunted SAD toddlers based on the type of food ingredients are 50% not diverse because they consume less than 5 types of food ingredients consisting of staple foods, animal protein, vegetable protein, vegetables and fruit, and the other 50% of stunted SAD toddlers have varied consumption patterns. Even though it is diverse, the quantity or amount consumed is not yet sufficient. Consumption patterns based on the amount of food consumed in the form of energy, protein, fat and carbohydrate

intake in SAD toddlers can be seen in Figure 6.



**Figure 6** Percentage of Insufficient Energy, Protein, Fat and Carbohydrate Intake on Nutritional Adequacy Rates for SAD Toddlers in Muaro Jambi

Based on Figure 6, it can be seen that the intake of energy, protein, fat and carbohydrates in 4 SAD toddlers who are stunted is insufficient in the amount of nutrients according to nutritional adequacy figures and age. The consumption of toddlers is not sufficient in quantity, because to meet their protein needs, most of it only comes from fish, while animal protein from white meat, namely poultry and other livestock, is very low or even not consumed at all. Likewise, consumption of vegetables and fruit has not been fulfilled.

Based on the results of research data exploration, the consumption patterns of SAD toddlers based on frequency, namely lack of consumption of animal, vegetable protein, vegetables and fruit as well as lack of energy, protein and fat and carbohydrate intake, are the causes of stunting in SAD toddlers. The results of this study are in line with Pradigdo who found that sedentary SAD toddlers had more diverse eating patterns compared to sedentary toddlers with SAD. SAD toddlers who do not hunt usually eat rice as a staple food (2 to 3 times per day), along with vegetables, animal side dishes and fruit. All nomadic SAD toddlers have restrictions on eating certain foods (poultry, animals), except water animals. Nomadic SAD toddlers have higher rates of malnutrition than sedentary children (Pradigdo et al., 2022).



All living creatures need food to survive, and toddlers need it for the growth and development of their bodies. Food consumption is important to meet the body's energy needs, although energy reserves provide buffer reserves in times of hunger. A person's nutritional consumption can determine the level of health or nutritional status they achieve. If the body is at an optimum level of health where the tissues are saturated with all nutrients, then the body is free from disease and has the highest endurance. Malnutrition status occurs when food consumption is less than the body's needs. Humans need energy to maintain life, support growth and carry out physical activity. Energy is obtained from carbohydrates, fats and proteins in food (Almatsier, 2016; Notoatmodjo, 2012).

According to Beaton GH and Ghasserni H (1982), the main cause of stunting was known from the start to be a deficiency of macronutrients such as energy and protein. Apart from macronutrients, deficiencies in single micronutrients such as zinc have been proven to play a role in growth deficits (Lamid, 2015). Pradigdo (2022) found that sedentary SAD toddlers had more diverse eating patterns compared to sedentary toddlers with SAD. All nomadic SAD toddlers have restrictions on eating certain foods (poultry, animals), except water animals. Nomadic SAD toddlers have higher rates of malnutrition than sedentary children (Pradigdo et al., 2022).

## CONCLUSION

Food consumption patterns for SAD toddlers are based on frequency, namely lack of consumption of animal, vegetable protein, milk, vegetables and fruit as well as lack of energy, protein and fat and carbohydrate intake. The amount of nutrients in all SAD toddlers who are stunted is insufficient according to nutritional adequacy figures and age. Informants sought as much information

as possible regarding healthy and balanced nutritious food that was cheap and affordable within their purchasing power, both from electronic media and health workers to increase the nutritional knowledge of mothers of SAD toddlers.

## ACKNOWLEDGMENT

The author would like to thank the Director of the Health Polytechnic, Ministry of Health, Jambi, and all parties who have supported this research activity

## CONFLICT OF INTEREST

In this research there is no conflict of interest in writing the manuscript.

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