



Qualitative Study of Nutritional Knowledge and Parenting Patterns on the Child Feeding Patterns of Stunting on Sebatik Island, North Kalimantan

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Abstract. Background: The prevalence of stunting and under-nutrition of children under five in Nunukan Regency, Sebatik Island is still quite high. An important factor for children's health is the mother's knowledge and behavior, as a person who plays a role in child care. Stunting, malnutrition and undernutrition have complex causes. So it needs an in-depth study. Objective. To find out and examine more deeply the influence of nutritional knowledge, parenting patterns on feeding patterns and the incidence of stunting in Sungai Limau Village and Aji Kuning Village, Sebatik Island, North Kalimantan. Method. Descriptive qualitative research with source triangulation approach. Data were collected using in-depth interviews, documentation, and observation. Results. 7 respondents consisting of parents of children who have good nutritional status and are stunted. Most of the respondents do not understand the concept of balanced nutrition properly. The practice of providing nutritious food for children is still not optimal and problems with hygiene, water, and sanitation are also problems at the research location. Conclusions. Nutrition knowledge related to balanced nutrition is still lacking and is constrained by economic problems so that the practice of daily feeding, especially for children, is still not optimal. The limited availability of clean water and sanitation is also an obstacle in the practice of healthy feeding.

Keywords: nutrition knowledge · parenting · child feeding practice · stunting

1 Introduction

The period of rapid growth and development occurs in children aged 0–60 months or commonly known as toddlers. In this period there is a golden period as well as a critical period, namely for children aged 12–24 months or commonly known as baduta. It is called the golden period as well as the critical period because if infants and children at this time do not get food that suits their nutritional needs, the golden period will turn into a critical period that will disrupt the growth and development of infants and children both now and in the future [1, 3].

The prevalence of children's nutritional status such as undernutrition and malnutrition begins to increase at the age of 6–11 months and reaches its peak at the age of 12–23 months and 24–35 months. This is in line with research which shows that based on body weight, malnutrition is more common in infants aged 0–6 months and undernourished at the age of 3–5 years. An important factor for children's health is the mother's knowledge and behavior, as a person who plays a role in child care. Malnutrition and stunting problems can be prevented as early as possible through efforts to improve young mother's health literacy on the importance of paying attention to nutritional status during pre-pregnancy, pregnancy, and post-natal periods or during the First 1000 Days of Life (HPK) [5, 7].

The position of Sebatik Island as the front porch of the Republic of Indonesia which is directly adjacent to neighboring Malaysia is considered very strategic and of national interest so that it becomes one of the priority border areas to be developed. Also of concern in terms of maternal and child health from this island are the two villages currently included in the stunting locus, namely Sungai Limau and Aji Kuning villages in Central Sebatik District. From the two villages there are a total of 9 posyandu which play an important role in handling maternal and child health.

Sungai Limau and Aji Kuning villages are also the villages with the highest population density on Sebatik Island with a total population of 2,912 people in Aji Kuning village with 1,406 women and in Sungai Limau village with a total population of 2,649 people with 1,253 women. The prevalence of nutritional status of body weight based on age (W/W) in children aged 0–59 months (toddlers) in Nunukan Regency according to the 2018 Basic Health Research (riskesdas) obtained results of 2.67% of children experiencing malnutrition, 16.99% of children experiencing malnutrition and 2.39 children are more malnourished. Meanwhile, the prevalence of nutritional status in height based on age (TB/U) shows below 8.37% of children experiencing stunting problems [6].

Nutritional problems in children under five on Sebatik Island, which is located in Nunukan Regency as a border island which is still very minimal in health facilities and infrastructure, really need attention and intervention, especially on stunting, malnutrition and malnutrition, the causes of which are so complex. Therefore, it is very important to conduct a study on mother's knowledge of nutrition and mother's behavior when feeding children in relation to the child's dietary behavior and nutritional status. In this study, the researchers took locations in Sungai Limau Village and Aji Kuning Village because these two villages became the government's attention as stunting loci areas. From the description of the background above, it can be concluded that the purpose of this study is to find out and examine more deeply the influence of nutritional knowledge, parenting patterns on feeding patterns and the incidence of stunting in Sungai Limau Village and Aji Kuning Village, Sebatik Island, North Kalimantan. The research question to be answered is whether nutritional knowledge, parenting patterns have an influence on feeding patterns and the incidence of stunting in Sungai Limau Village and Aji Kuning Village, Sebatik Island, North Kalimantan.

2 Method

This research is a descriptive qualitative research with source triangulation approach. Data were collected using in-depth interviews, documentation, and observation.

The research was conducted in Sungai Limau Village and Aji Kuning Village, Sebatik Island, Kalimantan. The choice of location was because these villages included stunting loci and the community was still not educated about stunting and a balanced nutritional diet. In addition, the livelihoods of the population are mostly farmers and fishermen from the middle to lower economic class, making it a target that needs to be studied more deeply regarding parenting and nutritional knowledge on toddler feeding practices. The research process was carried out in December 2020 – July 2021.

The study population was all children under five in Sungai Limau Village and Aji Kuning Village, Sebatik Island, North Kalimantan. The research sample was parents/caregivers who had stunting/undernutrition toddlers and parents/caregivers of toddlers who were not stunted/undernourished. Sampling was taken using a purposive sampling method based on certain considerations made by the researcher himself, namely in accordance with the inclusion criteria set by the researcher and obtained 7 respondents. The data for the 7 respondents was obtained from the posyandu in the location village, which consisted of 4 respondents who had stunting toddlers and 3 respondents who had non-stunted toddlers. However, after being re-calculated using the WHO Anthro Plus version 1.0.4 application by the researcher, the nutritional status of the respondents' toddlers turned out to only consist of 1 stunting toddler, 3 toddlers who had the nutritional status of BB//U under the yellow line, and 3 toddlers with normal nutritional status. It is possible that the data obtained by the researcher is old data so that there has been an improvement in the condition of the toddler. In addition to respondents from mothers/caregivers of toddlers, the researchers also collected data on nutritionists at the Puskesmas and health volunteers who served in the village area.

For data collection, the research instrument used by the researcher was an in-depth interview question guide, recording device, writing instrument, laptop and secondary data from Posyandu in the form of target respondent data.

The first stage of research is preparation where the researcher coordinates with research enumerators for data collection through in-depth interviews, observation and documentation. Furthermore, the enumerators conducted a site survey and asked for permits at the relevant research locations. The third stage, enumerators ask for secondary research data, namely the names of prospective research respondents. The fifth stage, enumerators conduct in-depth interviews, discussions, and direct observations related to the variables studied to respondents. The sixth stage is data analysis and the next is research reporting.

The data analysis method used in this study is the Miles and Hubberman model. The data analysis activities of this research will be carried out in 3 stages, namely: data reduction (data reduction), data presentation (data display), and conclusion drawing and verification (conclusion drawing/verification).

3 Result

Based on the research that has been done, obtained 7 respondents consisting of parents of toddlers who have good nutritional status and are stunted. Using the WHO Anthro Plus version 1.0.4 application, 1 respondent with stunting nutritional status based on TB//U and underweight based on BB//U, 2 respondents at risk of underweight based on

Table 1. Subjects Nutritional Status

Subjects Code	BB//U	Nutritional Status	TB//U	Nutritional Status
1	-1,53	Normal	-1,89	Normal
2	- 0,32	Normal	- 0,80	Normal
3	-0,55	Normal	-1,85	Normal
4	- 2,5	Underweight	- 2,77	Stunted
5	1,85	Normal	0,81	Normal
6	- 0,81	Normal	- 1,10	Normal
7	-1,84	Normal	-1,10	Normal

Source: Primary Data 2020

Table 2. Subjects Characteristic

Variabel	n	%
Mother's Education		
SD	1	14,29
SMP	3	42,85
SMA	1	14,29
Diploma/Bachelor	2	28,57

Source: Primary Data 2020

BB//U (zscore close to -2 SD), and 2 respondents at risk of stunting (zscore close to -2 SD), the rest have normal nutritional status (Table 1 and 2).

In-depth interviews were conducted with all respondents related to parenting related to child feeding and respondents' nutritional knowledge as well as in-depth interviews with nutritionists who handle the Puskesmas program in the research area. Questions to respondents covered several aspects, namely, nutritional knowledge consisting of knowledge about balanced nutrition and correct feeding patterns according to the age of toddlers, and parenting practices applied by caregivers to toddlers to support the process of growth and development including breastfeeding, provision and feeding.

4 Discussion

4.1 Parental Nutrition Knowledge of Toddler Feeding Practices

Based on the results of interviews with all respondents, 6 out of 7 respondents did not know about the definition of stunting and its impact on children. It can be seen from the respondents' answers when asked about the definition of stunting and its impact.

"It was explained by the posyandu at the posyandu, but I forgot. But it's like being malnourished, isn't it?"

“Stunting whose weight doesn’t go up and doesn’t go down? Children who are 1 year old but their weight and height are not the same. But I don’t know what caused it.”

“Stunting also I have never heard of before”.

“Those are toddlers who are malnourished, don’t eat enough nutritious food, then babies whose scales go up and down.”

“I don’t know what stunting is, at the posyandu it seems that no one has ever told them.”

All respondents have not been able to fully answer the types of nutrients contained in food, and there are still doubts in answering.

“What, vitamins, minerals, carbohydrates”.

“Protein, fat, what it’s like, I forgot”

“Carbohydrates, vitamins”.

“Don’t know”.

“Rice, iron, that’s all”.

“Vegetables, vitamins, the same, what else?”.

Most of the respondents have not been able to explain about a balanced nutrition pattern, which is illustrated by the following answers.

“Just eat healthy food like that”.

“Don’t know”.

“Food should be 4 healthy 5 perfect”

However, all respondents already understand how to process food properly so that the nutrients contained in food are not lost, namely by not washing food ingredients and cooking for too long. Nutrition knowledge between respondents who have stunting toddlers and respondents who have toddlers with normal nutritional status is almost the same, most of them do not understand the concept of balanced nutrition properly, but are able to mention several types of nutrients even though they cannot explain in detail. One of the factors thought to cause a lack of nutritional knowledge, including the low level of maternal education. According to several studies, low maternal education has an effect on the incidence of stunting. Children with low maternal education have a 3.27 times higher risk of stunting [3, 4, 9]. The mother’s role in deciding the food menu for the family is influenced by the mother’s education and knowledge of nutrition and has been shown to be a risk factor for stunting [12].

There are many factors that cause stunting. Factors that affect the nutritional status of children under five include genetics or parental inheritance and external factors such as the socioeconomic level of the family, knowledge of health and nutrition, parenting patterns, utilization of health services, and nutritional intake. All of these factors are interrelated, so when one of them is not optimal, it can lead to disturbances in child growth and development [8, 10].

Interviews were also conducted with volunteer health workers at the research site. Volunteers revealed that in general, local people still rarely consume a complete diet consisting of staple foods, side dishes, vegetables, and fruit. Each meal, the menu served only consists of staple foods and side dishes or staple foods and vegetables. People think that a good diet is varied even though it only consists of 2 types of food, namely staple food and side dishes, staple food and vegetables. This is caused by economic factors and lack of knowledge related to nutrition (Fig. 1).



Fig. 1. Daily menu of subjects

Source: Primary Data 2020.

4.2 Parenting Patterns on Toddler Feeding Practices

From interviews conducted with parents of toddlers who are stunted and underweight, the following results were obtained. During pregnancy, the mother routinely drank the milk of pregnant women and consumed vegetables and animal side dishes, but from the results of laboratory examinations, the mother was declared anemic.

"Yes, I drink pregnant women's milk. Eat vegetables too, rice is the main food, the side dishes are mostly fish and chicken."

"Those are toddlers who are malnourished, don't eat enough nutritious food, then babies whose scales go up and down."

"I don't know what stunting is, at the posyandu it seems that no one has ever told them."

Based on the results of interviews with respondents who have stunted toddlers, it is known that mothers during pregnancy are anemic and there is a family in the same household who smokes. The daily diet does not always contain complete nutrients, as indicated by the following sentences expressed by the respondents.

"(Eat everyday) Yes, it's like normal food, vegetable rice and the side dish is fish if you have it, sometimes tofu tempeh. (Foodstuffs) Sometimes I buy, sometimes I get it from the garden too"

For triangulation of sources, researchers conducted interviews with nutritionists at the Aji Kuning Health Center who oversee 9 Posyadu including those in the research location and surrounding areas. The nutritionist stated that in the Sebatik Tengah area, the stunting assessment was also included in the assessment of malnutrition and under-nourishment, but under these conditions the provision of food was somewhat disrupted because the average livelihood of residents in the research location was farmers and fishermen whose economic conditions included farmers. Lower middle class. Regarding family parenting, in general, many people are not aware of nutrition. This is probably caused by middle to lower economic factors that limit people's purchasing power for

daily food. In particular, buying food during pregnancy and after giving birth is a bit difficult, coupled with the use of two currencies with a higher rupiah value than the ringgit. For access to food, nutritionists revealed that it is actually not difficult, it's just that it is constrained by people's purchasing power. In addition, in general, the education of the surrounding community is still low, ranging from elementary school to junior high school. Stunting occurs if there is a long-term nutritional deficiency since the fetus is still in the womb. It is known that the low level of maternal education (SMP), the lower birth weight of toddlers (2700 g)[1], the mother has anemia, there is a smoking family [2], and the poor family diet are risk factors for causing the occurrence of stunting in toddlers [11].

Exclusive breastfeeding coverage in Sungai Limau Village and Aji Kuning Village is known to be 60% and most of the respondents have given breast milk for up to 6 months, but there are still only up to 3 months old toddlers because they feel that there is not enough breast milk so they are given formula milk and early MP ASI. For respondents who gave MP-ASI earlier, the nutritional status of children under five was still normal but below the green line in the KMS graph and the z-score TB//U -1.85 so they had to be careful not to fall into stunting status.

The third interview was conducted with volunteer health workers at the research location. Volunteers revealed that apart from economic problems and nutritional knowledge, which were one of the causes of the suboptimal practice of feeding children with nutrition, hygiene, water and sanitation problems were also problems at the research site. The main sources of water for the surrounding community come from rainwater and rivers. People use this water source for cooking, drinking, bathing, urinating and defecating. In the dry season, water sources only come from rivers and tend to recede somewhat. The problem of limited water sources makes households rarely process food menus that use a lot of water such as soup, soup, and so on. Clean water and environmental sanitation is one of the determining factors causing stunting, children who drink less clean water are at risk of stunting three times higher than families who consume clean water [12] (Fig. 2).

Source: Primary Data 2020.



Fig. 2. Water source of subjects

5 Conclusion

Knowledge of maternal nutrition in research locations related to balanced nutrition is still lacking and is constrained by economic problems so that the practice of daily feeding, especially for toddlers, is still not optimal. The limited availability of clean water and sanitation is also an obstacle in the practice of healthy feeding.

To be able to optimize stunting prevention programs, breastfeeding support programs need to be improved, then cross-programme and cross-sectoral collaboration also needs to be implemented, such as involving community leaders so that they can assist the Puskesmas staff program. It is also recommended that village programs include programs for sustainable stunting and malnutrition, not only from a promotive aspect.

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