# Efforts to Prevent Malnutrition in Marginal Communities in Makassar City

Ahmad Syaekhu[1*], Sri Handayani[2], Sitti Hardiyanti Arhas[3]

[1] Public Administration, Universitas Sawerigading, Makassar, Indonesia
[2] Law Science, Universitas Sawerigading, Makassar, Indonesia.
[3] Administration Office Education, Universitas Negeri Makassar, Makassar, Indonesia

**Abstract:** The Indonesian government has made efforts to improve nutrition through counseling and education through community health centers, but these efforts are considered to be less effective. The aspects to be looked at are community characteristics, initial knowledge and attitudes about eating habits and environmental sanitation, and educational models for preventing malnutrition that are currently needed. Respondents in this study were 80 people. The data that has been collected is analyzed to develop an educational model design. Data analysis was carried out using percentage analysis. Based on the results of data processing that has been carried out, it was found that the average mother in marginalized communities is a mother of productive age, the number of children in marginalized communities is on average 1-2 children, feeding habits are in a good category, mothers in the community Marginal people on average have moderate knowledge about nutrition, attitudes about children's health are quite good, sanitation is in good condition, and marginalized communities want education with home visits conducted once a month.

**Keywords:** child; education; public; marginal; mother

## Introduction

The 2023 economic recession is threatening the world. The Covid-19 pandemic plus the prolonged war between Russia and Ukraine has damaged global supply chains. Inflation cannot be avoided, price increases occur. The food sector has been hit hard by rising prices. The 2030 sustainable development goals (SDGs) prioritize eliminating poverty and ending hunger (Liu et al., 2015). 163 countries signed an agreement to establish SDGs in 2015. Indonesia itself is recorded as the country with the highest number of malnourished people in the Southeast Asia region, namely 17.7 million people. According to the Global Food Security Index (GFSI) (Antriyandarti et al., 2023) Indonesia's food security index in 2022 will be at level 60.2, an improvement compared to the first two years of the pandemic. Despite improving, Indonesia's food security this year is still lower than the global

average with an index of 62.2, and below the Asia Pacific average with an index of 63.4.

An increasing population without food security is at risk of increasing the number of chronic hunger and challenges to sustainable development (Fayad, 2023). The terrible impact of hunger affects health, social and political aspects. The issue of hunger is highly emotional and politically charged (Connolly et al., 2023; Cao et al., 2022; Bowbrick, 2022; Maxwell et al., 2016). Research results show that hunger reduces the educational attainment and job quality of the first generation (Yao & Zhang, 2023; Arabi et al., 2019; Bozzetti, 2022). Millions of people died because food shortages shook the social fabric of a nation. People who are hungry are able to gather strength and movement to overthrow the government. The vote of no confidence and a sense of abandonment prompted them to make a revolution. The indications are that the

government's resilience will also be shaken. The health status of those who have been exposed to hunger for a long period of time is very detrimental.

The health of children who have experienced hunger makes them vulnerable to stunting problems (Quamme & Iversen, 2022). Research results show that, globally, stunting affects around 149.2 million children under the age of 5" (Gabain et al., 2023). So that handling stunting becomes a top global health priority. Furthermore, research conducted by (Bangelesa et al., 2023). that, "the most important determinants of stunting are socio-economic factors such as social inequality, poor economic growth and the need for better sanitation for women. Therefore, it is important for the Government to focus on improving child nutrition in Indonesia.

The Indonesian government has made efforts to improve nutrition through counseling and education through community health centers, but these efforts are considered to be less effective. The Ministry of Health found that as many as 15% of children or around 7 million children were experiencing malnutrition. Malnutrition sufferers are dominated by marginalized communities (Wells et al., 2021). Marginal communities who are discriminated against have limited access to information and public services (Von Braun & Gatzweiler, 2014) Support for this group's contribution to government programs is low. The impact is that community health development does not reach the target. Ironically, handling the problem of malnutrition in marginalized communities has not received serious attention.

The majority of marginalized communities in Makasar City are located in coastal areas (Syaekhu et al., 2019; Malik et al., 2021). The three sub-districts with high marginal percentages are Tallo, Tamalate and Pannakukang sub-districts. All three have the same topographic criteria as coastal areas. An initial study in three families in Panakukkang District found many nutritional problems. 34 children were reported to still be experiencing malnutrition, 93 children were malnourished, 103 children were stunted and 102 children were wasted. It is feared that children's nutritional needs will become increasingly inadequate considering that the chaotic economic conditions have not yet recovered. The threat of a recession in 2023 has the potential to make it even more difficult to fulfill children's nutrition

This research aims to design the development of a participatory-based educational model for preventing malnutrition in marginalized communities. Apart from that, researchers also established a nutrition care post as a forum for community consultation and sharing. In this way, continuous prevention can be achieved applied. Therefore, the formulation of the problem in this research is what is the participatory-based educational model for

preventing malnutrition in marginalized communities in Makassar City?

Several researchers have previously examined poor nutrition, such as that carried out by Zahrulianingdyah (2013) who developed a nutrition training model for marginalized groups. However, this solution is only appropriate for pregnant women. It cannot yet be applied to prospective brides, post-natal mothers and families of children and toddlers. Furthermore, research conducted by Sinaga & Simanjuntak (2020), also focused on detecting early symptoms of malnutrition. Then research conducted by Shakhshir et al. (2023), focuses on mapping the location of malnutrition cases. There is no research that focuses on education for the community, so finding the right educational model that helps people improve nutrition from the family, so this research is important to do.

## Method

This research is a quantitative research to provide an overview of nutrition provision in marginalized communities. Data collection was carried out through observation, interviews and documentation in group discussion forums (GDF). Respondents came from marginal communities in three sub-districts in the city of Makassar, namely Panakukkang, Tamalate and Tallo. The aspects to be looked at are Community characteristics, Initial knowledge and attitudes about eating habits and environmental sanitation, Education models for preventing malnutrition that are currently needed. Respondents in this study were 80 people. The data that has been collected is analyzed to develop an educational model design. Data analysis was carried out using percentage analysis by first determining the interval length for each category according to the number of choices provided in the research questionnaire.

## Result and Discussion

Data collection was carried out regarding questionnaires that had been distributed to respondents. The questionnaire consists of respondent characteristics, characteristics and data on toddlers, household income, feeding habits, knowledge about nutrition, attitudes towards providing nutrition, environmental sanitation conditions, and educational methods expected by the community.

The respondents in this study were 80 respondents, but to anticipate incomplete (missing) data, 120 data were collected, to replace incomplete

data. Personal characteristics are categorized into 4 classes, category determination is carried out using the class length formula (k). The oldest respondent is 42 years old, and the youngest respondent is 18 years old.

The characteristics of respondents based on age are dominated by housewives aged 30 to 35 years as many as 30 people or 37.5 percent, mothers aged 24-29 years as many as 27 people or 33.8 percent, aged 18-23 years as many as 15 people or around 18. 8 percent and 8 people aged 36-42 years or 10 percent. For more details, it is presented in Figure 1:
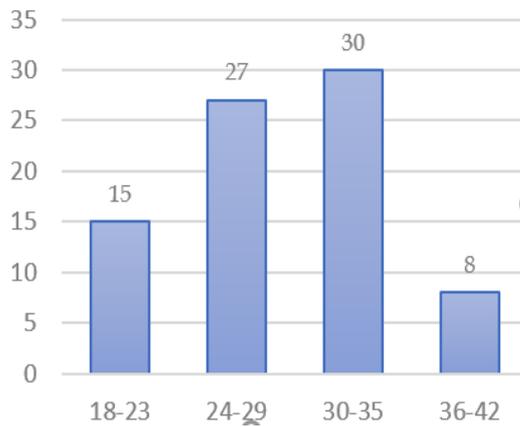


**Figure 1.** Age of Respondents

The number of respondents' children varied from 1 to 6 children, category determination was also carried out using class length (K), which was divided into 3 categories. The consideration for choosing 3 categories related to the number of children recommended by the government is 2, so the class length is 2, so the number of categories selected is 3 namely 1-2, 3-4, and 5-6. The results of data processing showed that the number of respondents' children from 1 to 2 was 49 families, 3 to 4 children were 29 families, and 5 to 6 children were 2 families. For more details, it is presented in Figure 2:
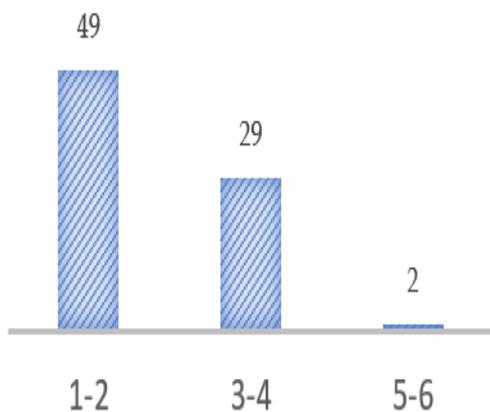


**Figure 2.** Number of Respondent Children

There were 15 respondents who had children at a young age, according to a study by Field et al. (Field et al., 2006) showed that young mothers are more prone to depression. The female sex that became the focus of the research was 39 children, while the male sex was 41 children. Furthermore, the age of the child is divided into 3 categories, namely 0-1, 2-3, and 4-5. The age of children who were the focus of the research was dominated by 0-1 years old at 50%, 2-3 years old at 37 percent, and 4-5 years old at 13 percent. For more details, it is presented in Figure 3:
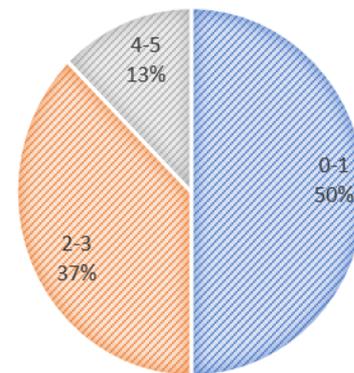


**Figure 3.** Child's Age

Next, the child's weight is determined based on the class length (K) formula. The lightest body weight is 2 kg, and the heaviest is 21 kg. The most dominant child weight was 7-11 kg for 43 children, 2-6 kg for 20 people, 12-16 kg for 14 people, and 17-21 for 3 people. For more details, it is presented in Figure 4:
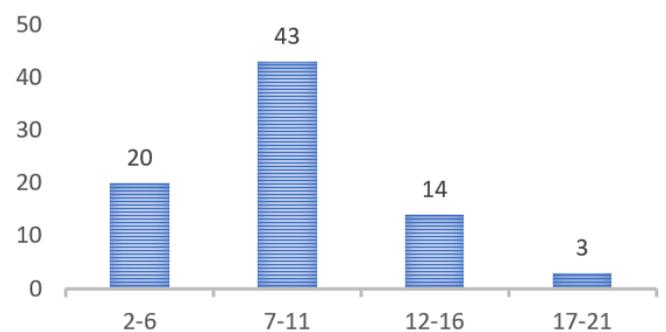


**Figure 4.** Child's Weight

Height was also determined using class length with the lowest value being 48 cm and the highest being 110 cm. However, there were also respondents who did not know the length of the child. For more details, it is presented in Figure 5:
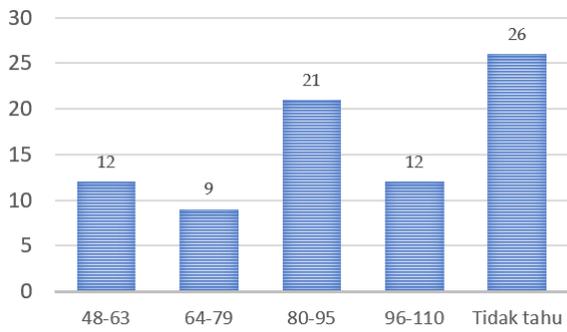
**Figure 5.** Child's height

Furthermore, the dominant income of parents is Rp. 2.200,000-Rp. 3,700,000, namely 37 respondents, and an income of Rp. 600,000- Rp. 2,100,000 as many as 35 respondents, Rp. 3,800,000- Rp. 5,300,000 as many as 6 people, and income Rp. 5,400,000 -Rp. 7,000,000 as many as 2 respondents. For more details, it can be seen in Figure 6:



**Figure 6.** Parents' Income

In order to achieve the research objectives, 5 indicators were used, namely feeding habits, maternal knowledge about nutrition, maternal attitudes regarding child health, environmental sanitation and educational methods needed by the community. Feeding habits were measured in relation to washing hands before eating, the type of food given, healthy foods such as vegetables and fruit, complementary foods for breast milk, and giving formula milk. The research results show that in general children's feeding habits are in the good category.
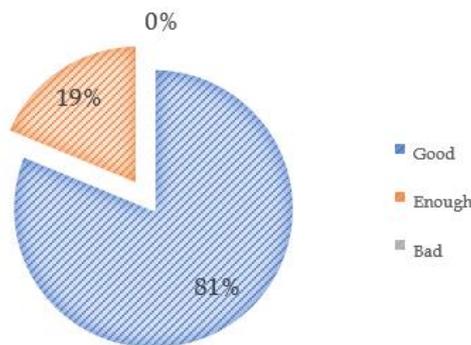


**Figure 7.** Feeding Habits

The results showed that the mother's feeding habits were good but there were still 19 percent of respondents who were in the sufficient category of feeding. In detail, there are still 4% of mothers who do not wash their children's hands when they want to eat, this is not done because the mother bribes the child. However, the age of toddlers is the age when children have very active movements, and can touch food with dirty hands. Furthermore, there are 2.5 percent of mothers who provide additional food to their children from birth, and there are 4 percent of mothers who provide additional food to children from the age of 2 months.

There were 12.5 percent of mothers (having children over 6 months old) who did not accustom their children to consuming fruits as well as vegetables on the grounds that their children did not like them. And there are 41.25 percent of mothers who give formula milk before the age of 1 year because the mother works and the milk produced by the mother is only a little, so formula milk helps. This result is in line with the results of a study conducted by (Flax et al., 2021) that mothers use some of their limited funds to buy unhealthy food (eg packaged or fried snacks) for their children. Food intake is one of the most proximal factors affecting the nutritional status of children and mothers (Saleh et al., 2021). The results of the FGDs conducted showed that children who cannot eat vegetables because they do not like them can modify their food by making the vegetables look more attractive (Hasan et al., 2021).

Mother's knowledge about providing nutrition to children is in the medium category (Prasetyo et al., 2023). However, there were still 12 respondents who had low knowledge regarding knowledge of providing nutrition to children. For more details, it can be seen in Figure 8:
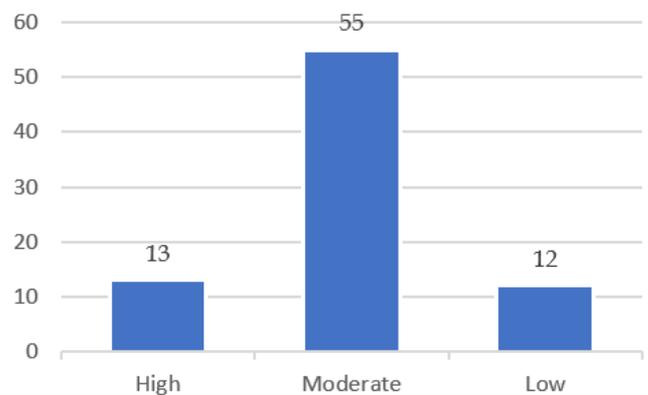


**Figure 8.** Parents' knowledge regarding nutrition

The research results showed that 57.5 percent of parents did not know that balanced nutrition was good for children's growth and development. 53.75

percent of parents already know the function of nutrition, 72.50 percent of mothers already know the function of carbohydrates. 62.50 percent of mothers already know the types of food that contain animal protein. Meanwhile, 80 percent of mothers already know the types of food that contain vegetable protein. 62.50 percent of mothers already know their child's normal body shape.

Mothers' attitudes regarding children's health are in the quite good category, this is based on the opinions of 50 mothers (Klerks et al., 2021), And there are even 3 mothers whose children's health is in the poor category. There are 7.5 percent of family heads who do not consume a variety of foods. As many as 5 percent of family heads do not monitor their weight regularly. As many as 3.75 percent of family heads rarely consume meat, fish, tempeh, tofu or eggs. Based on the results of further interviews, the mothers only consumed meat during the Eid al-Adha (qurban) holiday. There are 2.50 mothers who do not consume vegetables and fruit, 2.50 mothers are lazy about washing their hands before eating. There are 15 percent of mothers who never do light exercise, as many as 15 percent of mothers think that clean living habits do not necessarily prevent disease, there are 25 percent of mothers who think that fruit and vegetables are not beneficial for the body, there are 22.5 percent of mothers who state that Fast food does not need to be limited to prevent the risk of obesity, and there are 3.75 mothers who do not adopt a balanced diet. For more details, it is presented in Figure 9:
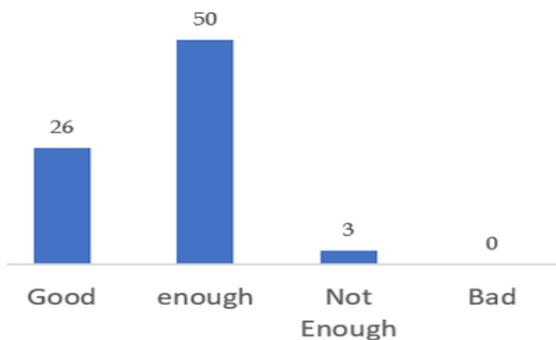
**Figure 9.** Attitudes Regarding Children's Health

Based on data from 80 respondents, environmental sanitation at the research location is in the good category with a percentage of 80%. However, there are still 3.75 percent of respondents' houses that have dirty and smelly water. There are 23.75 percent of respondents whose distance to the water source and MCK is more than 10 meters, there are 33.75 percent of family heads who still use cemplung latrines, 11.25 percent of households use latrines without roofs, 38.75 percent of latrines residents are not watertight, there are 7.50 percent of households who do not provide soap in the latrines, there are 42.50 percent of households who have dishwashing facilities not equipped with running water faucets, there are 3.75 percent of mothers who use cutlery not in good condition clean, 31.25 percent of mothers leave the place where food is served always open, 21.25 percent of the people do not have refrigerators to store food, 33.75 percent of the people have drains with a lot of garbage, 32.50 percent drain waste water from the room open bathroom, 31.25 percent of people do not have closed garbage disposal, 51.25 percent of residents' houses have rats running around. For more details, conditions regarding environmental sanitation are presented in Figure 10:
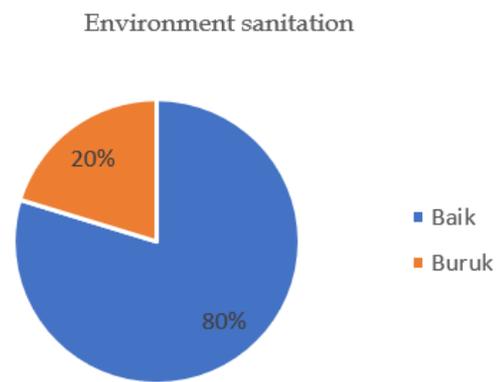
**Figure 10.** Community Environmental Sanitation

Conditions cleanliness and perception of the vitamin and energy content of food are of the utmost importance when cooking (Farris et al., 2020). The important thing for mothers to do when feeding their children is to pay attention to cleanliness and the nutritional content of food, so mothers must have sufficient knowledge of nutrition to fulfill this. Water, sanitation and hygiene services are often promoted as essential services for community empowerment (Dickin et al., 2021; Mitra et al., 2022; Muanda et al., 2020). Sanitary practices are influenced by several factors including safety concerns, poor facility conditions, lack of privacy and choice (Gambrill et al., 2020; Zhou et al., 2022).

Furthermore, the results of the study showed that 91.25 percent of the community wanted education through home visits conducted once a month related to providing nutrition. Based on the results of the FGD it was found that currently the government does not Provide Supplemental Feeding (PSF) for the poor who have toddlers, prevention is only focused on socializing the prevention of malnutrition and 0% stunting.

## Conclusion

Based on the results of data processing that has been carried out, it was found that the average mother in marginalized communities is a mother of productive age, the number of children in marginalized communities is on average 1-2 children, feeding habits are in the good category, mothers in the community Marginal people on average have moderate knowledge about nutrition, attitudes about children's health are quite good, sanitation is in good condition, and marginalized communities want education with home visits conducted once a month.

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