

NUTRITIONAL CONTROL OF COASTAL COMMUNITIES WITH INNOVATIVE FOOD PRODUCTS OF REBON SHRIMP NUGGETS IN RANTAU PANJANG VILLAGE, PANTAI LABU SUB-DISTRICT

*¹Atika Ayu, ²Yulia Tri Utami, ³Lutfiah Ramadhani, ³Anggita Utari, ⁴Hermalia Putri, ⁵Mughni Muizza, ⁶Saumy Ramadini, ⁷Syafran Arrazy
Universitas Islam Negeri Sumatera Utara, Medan, Indonesia^{1,2,3,4,5,6}
Student of Prefectural University of Kumamoto, Kumamoto, Japan⁷
E-mail address: atikaayuhariyanti@gmail.com

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ABSTRACT

Stunting remains a serious challenge in improving child health in coastal areas, particularly among vulnerable groups such as toddlers. Inadequate intake of protein and micronutrients during the first 1000 days of life can have long-term consequences on children's growth and development, while also widening gender disparities in access to adequate nutrition. This study aims to explore the utilization of local food—specifically rebon shrimp (kecepe)—as an innovative nutritional product accepted by housewives to prevent stunting in toddlers in Rantau Panjang Village, Pantai Labu Subdistrict. A descriptive qualitative approach was employed, involving 30 housewives and the village head as key participants. Data were collected through in-depth interviews, observations, and focus group discussions (FGDs), and analyzed thematically. The findings show that processing kecepe into tempe-shrimp nuggets provides a highly nutritious, easily prepared, and child-friendly local food solution. This innovation not only improves children's protein intake but also creates opportunities for empowering women as key actors in household food security. In conclusion, child-friendly and mother-accepted local food-based interventions can serve as a sustainable nutrition strategy to address stunting in coastal communities.

Keywords: *Child; Stunting; Rebon Shrimp; Nutrition; Local Food.*

Introduction

Childhood is a critical stage of development that is highly sensitive to environmental factors, particularly nutritional status. During the toddler years, children experience rapid physical growth and brain development, requiring adequate and high-quality nutritional intake (Ramadhan et al., 2024). Inadequate nutrient intake during the golden period of the First 1,000 Days of Life (HPK) poses a

high risk of linear growth disorders such as stunting, which has long-term consequences on a child's health and cognitive abilities.

According to the World Health Organization (WHO, 2020), stunting is defined as a height-for-age that falls below -2 standard deviations on the WHO child growth chart. This condition reflects chronic undernutrition and recurrent infectious diseases, particularly during the HPK period. The Indonesian Ministry of

Health (2022) notes that stunting not only hinders child development but also exacerbates social disparities, including gender inequality in access to health and nutrition.

National data indicate that the stunting prevalence in Indonesia reached 21.6% in 2022, a decrease from 24.4% in the previous year. However, it remains categorized as a moderate public health issue (Tarmizi, 2024). In North Sumatra Province, the prevalence stood at 21.1% in 2022, placing it 19th out of 34 provinces in Indonesia (Annur, 2024). This figure implies that one in five children under five in the region still faces growth retardation.

The causes of stunting are multifactorial, ranging from low nutritional knowledge and recurring chronic infections to inequitable access to nutritious food within households (Yuwanti et al., 2021). In many cases, gender inequality lies at the root of nutritional issues. Women—especially housewives in coastal areas—play a crucial role in determining household dietary patterns, yet often lack sufficient access to nutrition information or decision-making authority regarding food consumption (Sari et al., 2023). Therefore, empowering women within household food systems is essential to break the intergenerational cycle of stunting.

Several nutrition-based interventions have been implemented, such

as prenatal education classes, pre-marital counseling for at-risk couples, and nutrition-sensitive programs involving agriculture, social protection, and women's empowerment (Setiawati & Firdaus, 2023). One particularly effective and sustainable approach is the utilization of local food sources in nutrition improvement programs. Local foods such as marine fish, moringa leaves, and rebon shrimp are rich in protein and micronutrients and are widely accessible in coastal communities (Mahdiah et al., 2024).

Rantau Panjang Village in Pantai Labu Subdistrict is one such coastal community with abundant marine resources, including rebon shrimp (kecepe), which have not been fully optimized to support household food security (Marbun et al., 2019). Furthermore, limited nutrition education and food processing skills contribute to the low consumption of nutritious foods among children. Therefore, local food innovations such as rebon shrimp nuggets could serve as acceptable and nutritious alternatives for children, while also being independently produced by housewives.

By involving women as the primary processors and change agents at the household level, the development of rebon shrimp nuggets addresses not only child nutrition issues but also promotes active female participation in community-based

nutrition control. This study is essential in assessing the acceptance and impact of local food innovations as a gender- and child-focused stunting prevention strategy in coastal communities.

Method

This mini research employed a qualitative descriptive approach. The study aimed to explore community perceptions regarding stunting and opinions on processed foods that are considered suitable for children to prevent stunting. The focus of the study was a food product in the form of nuggets made from a local ingredient widely available in Rantau Panjang Village, Pantai Labu Subdistrict—namely rebon shrimp—as a nutritional intervention to address stunting.

The primary research subjects were 30 housewives with children, while the village head served as a key informant to provide supporting insights. The data collection process consisted of two main stages. The first stage involved identifying local food ingredients used in the community of Rantau Panjang Village. The second stage consisted of in-depth interviews with the village head to gain a deeper understanding of shrimp resource management and to draw conclusions about the nutritional issues, particularly stunting, prevalent in the community.

Results

Based on observations, tempe-rebon shrimp (*kecepe*) nuggets are a type of food product made from mashed tempeh and rebon shrimp that are mixed together to create a savory taste and a golden-yellow appearance. These nuggets can be frozen or preserved for 2 to 3 days.

The main ingredients of the rebon shrimp nuggets include: shrimp (800 grams), medium-sized tempeh (6 pieces), carrots (100 grams, mashed), which are then combined with spices such as rebon shrimp (*kecepe*) (100 grams), shallots (36 cloves), and garlic (2 packs). The mixture is then stirred and combined with eggs (6), wheat flour (320 grams), and sago flour (450 grams).

For the coating process, the nuggets use additional ingredients such as: sufficient water, wheat flour, and bread crumbs. The steps for preparing the nuggets are as follows:

1. Mash the rebon shrimp (*kecepe*), shallots, garlic, and nutmeg. Then sauté the mixture until fragrant, and add pepper, salt, and chopped scallions.



2. Mash the tempeh, shrimp, and carrots. Then mix them with the previously blended spices.



3. Add the eggs, wheat flour, sago flour, salt, and pepper, then mix until the dough is smooth and no longer too sticky.



4. Place the dough on a greased tray and flatten it evenly, then steam for 25 minutes.



5. Steam until fully cooked. Then, cut the nugget into rectangular pieces, coat them with bread crumbs, and fry until golden brown.

Discussion

The findings of this study reveal that the innovation of a local food product—tempeh and rebon shrimp (kecepe) nuggets—was well received by both children and housewives in Rantau Panjang Village. The involvement of housewives as the primary processors in the food production process reinforces the gendered role of women in ensuring child nutrition at the household level. This aligns with the findings of Wulandari and Hasanah (2022), who stated that women's participation in household food consumption decisions significantly contributes to family nutritional resilience.

The acceptability of the tempeh–rebon shrimp nuggets was not only evident in terms of sensory attributes but also in nutritional value. Rebon shrimp are rich in animal protein, iron, calcium, and vitamin A—micronutrients that are crucial in the prevention of stunting (Atmaja et al., 2021). This is supported by Damayanti (2022), who emphasized that marine-based local foods have great potential in fulfilling children's nutritional needs, particularly in coastal areas with limited access to fortified foods.

In the context of child health, stunting is a complex chronic nutrition issue that requires a cross-sectoral approach. The present study demonstrates that a community-based, nutrition-sensitive approach—particularly through the active

engagement of housewives—can directly improve children's food intake. Lestari (2021) highlighted that women play a critical role in shaping healthy eating behaviors within the family.

Beyond nutrition, the empowerment of women through local food processing training also contributes to improving household economic resilience. This indicates that gender-based interventions not only target child health improvements but also support women's economic independence (Astuti & Ramadhan, 2022).

Furthermore, the active participation of housewives helps strengthen local food systems and promotes the sustainable use of natural resources. This strategy is considered more adaptive and relevant for coastal communities, which often possess rich food biodiversity yet face structural challenges such as poverty and limited access to healthcare services (Prasetyo & Widodo, 2023).

The approach employed in this study also shows that local nutrition education and training can enhance mothers' nutrition literacy and children's preferences for healthier food choices. This is consistent with findings from Kurniawan and Yuliani (2023), who emphasized that nutrition programs rooted in cultural and gender contexts tend to achieve more sustainable success.

In conclusion, local food innovations such as rebon shrimp nuggets hold great promise as community-based interventions that are effective in reducing stunting and empowering women in coastal regions. The strengthening of public policies that support the development of local food products, along with the integration of gender-responsive approaches in child nutrition programming, must be continuously encouraged.

Conclusions

Shrimp nuggets are an excellent choice for a nutritious, easy-to-make, and delicious snack or side dish. In addition to their culinary appeal, shrimp nuggets may also play a role in preventing stunting. Research has shown that the consumption of animal protein, such as shrimp, can be effective in preventing stunting from an early age. This type of food product also strengthens the gendered role of women in meeting children's nutritional needs at the household level.

One of the primary causes of malnutrition is the lack of adequate food intake required for normal growth in young children. Inadequate food supply is closely related to food availability within households. A persistent lack of household food security can result in undernutrition or stunting. Stunting is a serious public health issue. The nutritional status of children

under five is directly affected by their daily intake of nutrients. Children with insufficient intake of protein and calcium are more likely to experience growth impairment, resulting in undernutrition and short stature. Protein is an essential nutrient that, although not primarily used as an energy source, plays a vital role in repairing and replacing damaged body tissues and cells.

A study conducted by Atmaja et al. (2021) on the incidence of stunting in children aged 1–5 years found that children with low protein intake had a higher tendency to experience stunting. Specifically, in Rantau Panjang Village, where this research took place, 25% of children aged 1–5 years with low protein intake were found to be stunted. This evidence supports the idea that the local production of shrimp-based food, such as *kecepe* (rebon shrimp) nuggets, is highly appropriate and relevant to address nutritional problems in the community.

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