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UTILIZATION OF MORINGA LEAVES AS A LOCAL FOOD INNOVATION TO REDUCE STUNTING IN BULURI SUBDISTRICT, PALU CITY

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ABSTRACT

Stunting is a serious issue affecting child growth and development due to chronic malnutrition and recurrent infections. In Palu City, the prevalence of stunting among children under five reached 22.1% in 2023, with a target to reduce it to 14% by 2024. Achieving this target requires a comprehensive approach, including public education on the importance of stunting prevention and balanced nutrition. In addition to education, training in healthy food processing based on local food potential is also conducted, aimed at utilizing local resources rich in nutritional value. This program is implemented through step-by-step cooking demonstrations with direct community involvement. One of the food innovations introduced is the processing of moringa leaves into moringa chicken tofu balls, which are nutrient-dense to support child growth. The program has shown improvements in community knowledge and skills in processing local foods and understanding nutritional intake. However, the program has not fully achieved its target due to low awareness among mothers about balanced nutrition. Therefore, additional strategies are needed, such as continuous nutrition campaigns, strengthening community participation, and cross-sector collaboration to achieve optimal results.

Keywords: *Innovation, Moringa, Stunting*

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INTRODUCTION

Stunting is a growth and developmental disorder in children caused by chronic malnutrition and recurrent infections. In Indonesia, stunting remains a serious public health issue. Stunting hinders the growth and development process of children, affecting their education, health, and productivity in the future. Children who experience stunting are likely to have difficulty reaching optimal physical and psychomotor development. Providing complementary foods containing balanced nutrition is essential in supporting children's growth and development (Arif et al., 2023).

According to the 2022 Indonesian Nutrition Status Survey (SSGI) by the Ministry of Health, the prevalence of stunting among toddlers in Indonesia was 21.6%, a decrease of around 2.8% from 2021 when the prevalence was 24.4%. The National Medium-Term Development Plan (RPJMN) for 2020-2024 has set a target to reduce stunting to 14% by 2024. In Palu City, the stunting prevalence in 2023 was 22.1%, down from 24.7% in 2022 (Kementerian Kesehatan Republik Indonesia, 2022).

Stunting is caused by nutritional deficiencies, either during pregnancy or after the child is born (Setiyawati et al., 2022). One way to address this issue, particularly the stunting problem among toddlers in Buluri Subdistrict, is by improving health and quality of life while providing access to knowledge on new innovations that can benefit the community. One such innovation is the development of healthy local food products, which is expected to help reduce stunting rates (Pamungkas et al., 2024).

Healthy food innovation aims to develop healthier and more nutritious food

products by utilizing natural ingredients. Nutritious food includes carbohydrates, proteins, fats, vitamins, and minerals (Raksun et al., 2023). Such innovations can enhance children's nutritional intake by utilizing local food resources. Several local food products in Palu, such as Moringa, especially its leaves, have been extensively studied for their nutritional content, which includes calcium, iron, protein, vitamin A, vitamin B, and vitamin C (Marhaerani, 2021).

The utilization of Moringa leaves as a healthy, locally-based food innovation can be processed into both snacks and staple foods. Therefore, it is hoped that the community's participation in these activities will increase their knowledge about the preparation of healthy food products that are suitable for consumption, particularly for toddlers, and provide an alternative solution to address stunting in children.

OBJECTIVES

General Purpose

The general purpose of this program is to increase public knowledge and awareness of the importance of balanced nutrition and the prevention of stunting through the utilization of local resources.

Special Purpose

To enhance the community's knowledge and skills in processing local food innovations, as well as understanding the importance of nutritional intake, in order to reduce the stunting rate in Palu City.

PLAN OF ACTION

Strategy Plan

In the preparation stage, the activities to be carried out are as follows:

1. Coordination and Involvement:
 - a. Form a team with the nutrition team, KPM and Posyandu.
 - b. Hold discussions to clarify roles, objectives, and logistics for the program.
2. Menu and Demonstration Planning:
 - a. Choose simple, nutritious menus using local ingredients, particularly Moringa leaves.
 - b. Ensure cooking tools, materials, and fresh ingredients are prepared in advance.
 - c. Organize the demonstration space for a clean and effective setup.
3. Training and Knowledge Transfer:
 - a. Develop educational materials on stunting, nutrition, and the benefits of Moringa leaves.
 - b. Create simple step-by-step instructions for the community on preparing nutritious foods.

Implementation

In detail, each activity is explained as follows:

1. Held an initial meeting with the nutrition team, KPM, and posyandu cadres to clarify roles and plan activities.
2. Identified and sourced materials and tools, preparing logistics and location arrangements.
3. Conducted a food preparation demonstration on how to use Moringa leaves and local ingredients for balanced meals.
4. Demonstrated easy-to-follow cooking steps for participants to replicate at home.

5. Distributed healthy food products from the demo to stunted children, ensuring the application of new knowledge.

Setting

This intervention activities were held at Buluri Village, Ulujadi District, Palu City.

Target

The target participants are Mothers with Children Under Five in Buluri Village and Children Affected by Stunting.

RESULTS AND DISCUSSION

The intervention activities for food innovation began with coordination between the nutrition team, KPM, and posyandu cadres to identify local foods with the potential to be developed into highly nutritious products to address stunting in Buluri Village, Ulujadi District. Buluri Village, Palu City, experienced an increase in stunting prevalence from 1.82% in 2022 to 7.10% in 2023, with 26 children identified as stunted based on e-PPGBM data from Anuntodea Tipo Health Center. The low awareness of the community about the importance of nutrition is the main factor causing the high rate of stunting. To address this issue, continuous efforts are needed to improve access to balanced nutrition, healthcare, as well as education and awareness about nutrition. Healthy food innovations based on local ingredients are expected to develop nutritious food products and support the improvement of health status.

The Buluri Village area in Palu City has local potential that can be developed. However, the community here still lacks extensive knowledge to utilize it. One of the local potentials in Buluri Village is the Moringa. Moringa is a plant

with high nutritional content that is very beneficial for health, and thus, its utilization as a nutritional source can help address nutrition issues in Buluri Village. It is processed into snacks, specifically Moringa Chicken Tofu Balls.



Figure 1. Moringa Chicken Tofu Balls Product Innovation

By utilizing this local potential, it is expected that the people of Buluri Village can optimize their resources as a source of nutrition and increase their awareness of the importance of nutrition (Setiyono et al., 2020). Moringa has high nutritional content, providing health benefits and addressing malnutrition problems. The micronutrient content of Moringa includes 7 times more vitamin C than oranges, 4 times more vitamin A than carrots, 4 times more calcium than milk, 3 times more potassium than bananas, and 2 times more protein than yogurt. Therefore, Moringa can be added to food as a fortification to increase its nutritional value (Andriani et al., 2023).

The lack of community awareness about nutrition and the utilization of local potential prompted cooking demonstrations and socialization on making Moringa Chicken Tofu Balls. This activity aims to increase knowledge about utilizing local resources to prevent stunting and improve nutritional value. In addition

to its benefits for preventing stunting, Moringa Chicken Tofu Balls also have economic potential if processed and packaged properly. The success of food products should not only be evaluated based on consumer preference but also on their nutritional content, so that local potential can be optimally used to prevent nutritional problems, particularly stunting (Nadimin & Lestari, 2019).



Figure 2. Socialization of Moringa Nutritional Value

This activity targeted mothers with toddlers, pregnant women, posyandu cadres, and midwives. Mothers with toddlers were chosen because they can directly practice making the food at home for their children, while posyandu cadres and village midwives are important for disseminating information to the community about reducing stunting. Although the activity went smoothly and participation was good, the number of participants was still limited due to a lack of awareness about the importance of balanced nutrition for toddlers, particularly those identified as stunted. It is hoped that the community will pay more attention to the importance of balanced nutritional intake to support children's growth and development.

CONCLUSION

The food innovation intervention activities in Buluri Village, Ulujadi

District, Palu City, proceeded well, but did not meet the expected target. This was due to a lack of awareness about the importance of balanced nutrition for toddlers. This was evidenced by the low participation in the activity, particularly from those identified as stunted.

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