

EDUCATION ON PROCESSING MORINGA INTO ANTI-STUNTING DISHES FOR PKK MOTHERS IN GAMPONG NUSA

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Received: 22/07/2026 | Revised: 10/08/2026 | Accepted: 24/08/2026 | Published: 19/10/2026

Abstract

The outreach and training activities conducted in Gampong Nusa aimed to enhance understanding and knowledge regarding the use of moringa plants to reduce stunting, thereby improving public health. Data from the 2024 Indonesian Nutritional Status Survey (SSGI) placed Aceh Province among the top five regions with the highest stunting rates (28.6%), exceeding the national prevalence of 19.8%. In the same year, Aceh Besar Regency recorded a stunting prevalence of 32.3% surpassing the provincial average with 2,600 families identified as being at risk of having stunted children. Consequently, the "Anti-Stunting Moringa" (KEAS) initiative was introduced to PKK (Family Welfare Empowerment) members; the program sought to prevent new cases of stunting and raise awareness about incorporating moringa leaves into the diets of toddlers and children. The initiative featured five food items popular with this age group: moringa gyoza, moringa martabak, moringa cookies, moringa sticks, and moringa pudding. The outcomes of this community service activity are expected to be further developed to improve the nutritional intake of toddlers and children, ultimately leading to a long-term reduction in stunting rates.

Keywords: KEAS, Stunting, Counseling, Training activity, Mentoring

INTRODUCTION

Stunting is a chronic nutritional problem that requires fast and appropriate treatment (1). The high number of stunting cases in Aceh Province in 2022 (31.2%) (2–4), especially in Aceh Besar Regency in the same year (27%) (5,6), is a serious health problem. The national stunting prevalence target in 2024, which is 14% (7,8). In an effort to accelerate the handling of stunting cases, the Aceh Besar government has implemented various interventions such as the formation of the Stunting Reduction Acceleration Team (TPPS), upgrading and training for village cadres, midwives and family support groups at risk of stunting, and the Foster Parents of Stunting Children (BAAS) program to provide 1 egg every day for three months (7,9–11).

The innovation program is also implemented namely GEMA ASI (Community Movement for Exclusive Breastfeeding), CS Kober (preventing stunting in at-risk groups), socialization and provision of iron tablets for adolescent girls in schools and Islamic boarding schools, JATMIKO (picking up and dropping off pregnant women at risk), and mentoring special classes for pregnant and breastfeeding mothers (3,12–14). However, these efforts have not been able to provide maximum results, until December 2023 the number of stunted toddlers is still high (15). The menu served in the Gampong Nusa for toddlers and children is still less attractive (Picture 1). Another problem is that local plants that have high nutritional value such as moringa have not been cultivated properly so that their growth is not maintained and affects the quality of the primary and secondary metabolites of the plant.



Picture 1. The Menu Served in the Gampong Nusa

The potential for floral diversity in Gampong Nusa is high; this is supported by the topography of the area comprising hills and rice fields and the fact that the majority of the population works as farmers. The availability of land allows for the cultivation of diverse plant species; consequently, appropriate land management specifically the planting of beneficial local phytopharmaceutical crops like Moringa (which helps prevent stunting) would significantly support government efforts to reduce the stunting prevalence in Aceh Besar to below 14%. One local plant with great potential for preventing stunting and offering other pharmacological benefits is the *Moringa oleifera* (16–21)

Moringa leaves contain plant-based protein, macro- and micronutrients, folic acid, and various minerals such as Fe, Na, Ca, and beta-carotene as well as vitamins E and C and antioxidants. These nutrients can enhance amino acid regulation, strengthen the immune system, prevent infections, and provide anti-inflammatory, antioxidant, and anti-anemia effects (4,19,22). Utilizing this local plant for stunting prevention and cultivation requires support through the application of science and technology, particularly to enhance the skills of PKK groups and to develop a variety of Moringa based products as a local solution for preventing stunting.

METHOD

1. Place and Time

The Community service activity was conducted at the Gampong Nusa Center on 27, 28 June, 2026

2. Target Audience

The target for this program is PKK mothers. So far, the toddler and child food menu is very simple, unattractive and not varied. Therefore, the intervention model of providing toddler and child food menus with the addition of moringa leaf flour is expected in the long term to reduce stunting cases in Gampong Nusa.

3. Steps in partner issues

To overcome partner constraints, the activities carried out were to provide counseling on the benefits of Moringa and the required dosage and training in cooking 5 toddler and child food menus (KEAS) that were added with Moringa leaf flour and in the long term as support for the Government's program in reducing stunting cases.

4. Implementation Method

The implementation of this activity begins with conducting observations and is continued with socialization to partners in the form of counseling and training(1,23–29). The methods implemented are as follows:

- a) **Pre-PKM preparation and initial audience:** The team conducted a survey to the pkm location to see stunting data and local plants with high nutritional value as nutrients to prevent stunting and to find out the food menu served to toddlers and children. The purpose of this pre-activity is to identify important aspects and evaluate the problems and needs of partners. The team also conducted an audience with the head of the PKK mother and collected comprehensive information regarding the conditions and other things needed for the implementation of pkm.

- b) **Socialization:** The team provided counseling to partners regarding Moringa leaves, nutritional composition, efficacy, appropriate dosage and planting techniques.
- c) **Training in cooking toddler and children's food menus with additional Moringa flour:** The team distributed booklets containing food menu recipes, namely moringa gyoza, moringa martabak, moringa cookies, moringa sticks, and moringa pudding. Participants were divided into 5 groups according to the menu to be cooked and then the participants were trained to cook the food. The team selected the 2 best participants from each menu group.

5. Partner Participation

Partners participate in all activities starting from providing stunting data, food menus consumed by toddlers and children, local plants that grow in the partner area. Partners are given counseling and training on the KEAS products, namely the use of moringa flour in foods that toddlers and children like. Partners are expected to be able to apply this intervention innovation to villages in their work areas, especially during integrated health posts so that in the long term it can reduce stunting cases.

RESULTS AND DISCUSSION

The empowerment activities in Gampong Nusa were conducted over a two-day period. On June 27 and 28, 2026, the team held an outreach session for members of the PKK (Family Welfare Empowerment) group, providing information on the high prevalence of stunting and the proposed intervention models. Additionally, the team presented information on a local plant moringa leaves (Figure 2) that is highly nutritious and effective in preventing stunting. This outreach aimed to share knowledge regarding the benefits of local plants found in Gampong Nusa, highlighting their potential to reduce stunting rates while supporting government programs.



Picture 2. Socialization of KEAS product

The activities conducted on June 27 and 28, 2026, involved the distribution of booklets and posters, as well as an explanation of the KEAS innovation to be demonstrated and participants took part in training on the use of used-cooking-oil stoves and wood-fired ovens. (Figure 3).



Picture 3. The PKM team provided training on the use of used cooking oil stoves.

The KEAS innovation aims to enhance the partners' skills in preparing appealing food enriched with moringa powder that appeals to toddlers and children. The team hopes that this intervention model can be adopted by the partners, particularly within activities organized by the PKK (Family Welfare Empowerment) group (Picture 4), as a means to improve the nutritional status of toddlers and children and, in the long term, reduce cases of stunting. Subsequently, the community service team provided equipment including a used-cooking-oil stove and an oven as assets for the PKK women, which are highly useful for creating KEAS products.



Picture 4. The PKM team provided training on make the KEAS product

The outcomes of this activity are: 1. Increased knowledge among the PKK mothers of Gampong Nusa regarding the use of moringa leaves in meals for toddlers as a measure to combat stunting. 2. Enhanced skills among PKK mothers in preparing food dishes incorporating moringa powder. 3. The partners gained culinary innovations utilizing moringa leaf powder in meals for toddlers and children (moringa martabak, moringa gyoza, moringa cookies, moringa sticks, and moringa pudding). (Picture 4).



Picture 4. Food Menu Variations of KEAS innovation

CLOSING

Conclusion

The PKM team extends its gratitude to the DPPM of the Ministry of Higher Education, Science, and Technology for funding the PKM activities through the BIMA grant, as well as to LLDikti Region XIII (Aceh) and the LPPM of Abulyatama University for ensuring the success of this initiative. We also thank the Head of the Nusa Village PKK, Mrs. Nur Rahmi, for her active role in coordinating the PKK members to participate in these empowerment activities.

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