

**Increasing Knowledge and Skills of Mothers
with Stunted and Malnourished Toddlers in Processing Local Foods
for Nutritional Problem Solving**

Resmiati^{1*}, Yeffi Masnarivan², and Rahmi Awalina³

¹Departemen Gizi, Fakultas Kesehatan Masyarakat, Universitas Andalas,
Padang, Indonesia

²Departemen Ilmu Kesehatan Masyarakat, Fakultas Kesehatan Masyarakat, Universitas
Andalas, Padang, Indonesia

³Teknik Pertanian dan Biositem, Fakultas Teknologi Pertanian, Padang, Indonesia

* resmiati@ph.unand.ac.id

Abstract: Stunting and malnutrition are significant nutritional problems faced today. Nutritional education for mothers of toddlers is critical in addressing this challenge. This activity aims to enhance the understanding of mothers of toddlers regarding nutrition and child development and improve their skills in processing local foods for toddler meals. This activity was carried out at Posyandu Harapan Ibu 6 in Mata Air Village, South Padang District, from September 23 to October 19, 2023, involving 15 mothers of stunted and malnourished toddlers. The method used was Participatory Action Research (PAR), which included several activities such as participatory education on nutrition, child development, and parenting, the nutritional value of local foods, and family healthy menus based on local foods, as well as direct assistance in the form of local foods to be processed into healthy toddler meals. The result of this activity was an increase in the understanding of mothers of toddlers about nutrition and child development from 30% to 80%, as assessed through participatory discussions and Q&A sessions at the end of the education session. Additionally, there was an improvement in the mothers' skills in processing local foods, with an average score of 6 out of 7, evaluated from the food processing outcomes documented through photos over ten consecutive days. This activity concludes that nutrition education based on PAR effectively increases the knowledge and skills of mothers of toddlers, making it a replicable intervention model in other areas to address nutritional problems and stunting.

Keywords: education; local food; processing skills; stunting

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INTRODUCTION

Stunting, or short stature, is the linear growth retardation of children due to inadequate nutritional intake. The growth and development stage during toddlerhood plays a critical role in human life. At this phase, physical and mental health has ongoing implications for quality of life in adulthood. Unfortunately, in various regions, stunting in toddlers has become a serious issue threatening their health. Stunting not only includes physical growth retardation but can also have long-term impacts on cognition, immunity, and overall quality of life (Black et al., 2013; Ministry of Health, 2018; WHO, 2014).

Stunting is caused by multiple factors, with one contributing factor being inadequate nutritional intake during the critical growth and development period, also known as the First 1000 Days of Life, including 270 days in the womb and 730 days after birth until the child is two years old. Insufficient food intake during this period can significantly impact a child's growth and development, triggering stunting (Ministry of Health, 2018; Ruaida, 2018).

A lack of access to proper nutritional information and unbalanced eating practices can cause inadequate food intake. As the primary caregivers, mothers are crucial in ensuring children receive adequate and balanced nutrition to support optimal growth. Understanding the nutritional value of local foods and the ability to process them into healthy meals is crucial for mothers to prevent and address stunting. Therefore, providing nutritional education to mothers of toddlers is an essential and strategic action in tackling stunting (Ministry of Health, 2018; UNICEF et al., 2020; Yendi et al., 2017).

Meanwhile, direct assistance in the form of food is a tangible step in

supporting the implementation and improvement of mothers' skills. This assistance allows mothers to process it into healthy meals for their children, creating concrete opportunities to apply the knowledge gained in efforts to prevent and address stunting. Thus, direct food assistance not only provides physical resources but also plays a vital role in building the self-sufficiency of mothers in the context of child nutrition and health.

Posyandu Harapan Ibu 6 is one of the Posyandu located in Mata Air Village, within the working area of Puskesmas Rawang, Padang City. This sub-district had the highest stunting rate in Padang City in 2022 (Puskesmas Rawang, 2022). This activity aims to improve the skills of mothers with stunted and malnourished children in processing local foods as a preventive measure against stunting at Posyandu Harapan Ibu 6, Mata Air Village, South Padang District.

METHOD

The method used in this activity is PAR. The PKM approach with PAR aims to empower the community to address problems, meet practical needs, and encourage social change. This approach is not only about generating knowledge but also about taking action to bring about positive change. It serves as a tool to raise awareness and achieve change collectively (Afandi et al., 2022).

This activity was conducted at Posyandu Harapan Ibu 6, Mata Air Village, South Padang District, from September 23 to October 19, 2023. The participants were 15 mothers of toddlers with stunting and malnutrition. The activity began with an educational session on September 23, covering topics such as child care, the nutritional value of local foods, and healthy family menus based on local foods. The team then prepared a 10-day menu for toddlers, which was consulted with the local health

centre (puskesmas).

To enable mothers to immediately apply the knowledge they had gained and improve their skills in preparing healthy and nutritious meals for their children, the service team provided direct assistance in raw food ingredients to be processed over ten days according to the prepared menu.

The results of this activity were assessed through the improvement in the mothers' understanding during discussions and Q&A sessions on child nutrition issues, child development, and the nutritional value of food. Additionally, the improvement in the mothers' skills in processing local foods was evaluated based on the food processing outcomes documented through photos sent via WhatsApp over ten consecutive days. These photos reflected the practical implementation of the knowledge gained during the activity. They provided a tangible picture of the mothers' positive changes in cooking skills, creativity, and menu planning, which were scored from 1 to 7.

RESULTS AND DISCUSSION

The PAR approach in this activity aimed to empower the community to address malnutrition issues, including stunting, through the active

participation of the local community. The PAR approach has been widely applied and proven effective in mobilizing communities to conduct health campaigns, particularly in raising awareness among the community regarding stunting prevention (Farida et al., 2022; Musfiroh et al., 2022).

This community service activity consisted of two main activities: educational sessions and the provision of food assistance. These activities catalysed the local community to actively participate in the practical application of the theory obtained through tangible actions. The target community gained sufficient knowledge and skills in presenting healthy and nutritious food for children to prevent and address malnutrition, including stunting.

Education for Mothers of Toddlers:

The educational session, which covered topics such as child care, the nutritional value of local foods, and healthy family menus based on local foods, was held on September 23, 2023. It was conducted from 9:00 AM to 3:00 PM at Posyandu Harapan Ibu 6, located at the youth post in Koto Kaciak, Mata Air Village. Three different speakers presented the material according to their expertise. Documentation of activities is shown in Figure 1.



Figure 1 (a) Child care education, (b) Food composition education, and (c) Education on healthy and nutritious menus for toddlers

The activity was conducted using a lecture method with PowerPoint

presentations. The lecture method is easy and commonly used in health promotion. It involves verbally transferring knowledge or information from the educator to the target group during a meeting. This method suits large groups or audiences (15 people or more) (Manalu, 2022; Notoatmodjo, 2016).

The educational activity proceeded smoothly and successfully, achieving significant outcomes. This educational session increased the understanding of mothers of toddlers from 30% to 80% regarding the importance of proper childcare and the provision of nutritious and balanced food for the growth and development of children. The educator assessed this improvement directly through discussions and Q&A sessions at the end of the educational session.

These results are consistent with the activities conducted by Zalfani et al., which found that education using the lecture method and PowerPoint presentations can increase mothers' knowledge about preventing malnutrition and stunting (Zalfani et al., 2022). Additionally, the results align with the activities conducted by Sumartini, which demonstrated that lectures can enhance mothers' understanding of the importance of balanced nutrition and proper feeding practices and increase participants' knowledge of early detection of stunting (Priyantini, 2022; Sumartini et al., 2023).

Education is the first step in changing an individual's behaviour. With proper understanding, individuals can integrate the knowledge they have gained into their daily lives, forming new awareness and adopting healthier or more productive behaviours. A deep understanding of a concept, especially in the context of nutritional education as described in stunting prevention activities, provides a strong foundation for individuals to make better choices

regarding diet and health.

With the correct understanding of the nutritional value of local foods and practical skills in processing them, individuals can implement small but significant changes in their daily eating habits. Education not only provides information but also motivates individuals to take positive actions. Therefore, through proper understanding, individuals can become agents of change for themselves and their surrounding communities.

The importance of education lies not only in increasing knowledge but also in shaping a mindset that is more aware of the impact of decisions on health and well-being. Effective education equips individuals to make sustainable choices, create long-term impactful changes, and ultimately change behaviour to be more positive and aligned with the goals of preventing or improving a condition, such as stunting, in this case.

Direct Assistance with Local Food

Direct assistance in the form of local food is a tangible encouragement for mothers of toddlers to practice the knowledge they have gained through previous education directly. This activity was carried out from October 10-19, 2023, provided in 3 terms or once every three days. The food assistance included raw and fresh ingredients for side dishes, vegetables, and fruits. This assistance was intended to meet the children's daily needs (three meals a day) per the Recommended Dietary Allowance (RDA).

Before the food assistance was given, mothers were reminded about the menu they would prepare each day for ten days based on the previous educational materials. The local health centre (puskesmas) prepared this 10-day menu.

The direct provision of local food to toddler mothers is expected to enhance their practical skills in preparing healthy and nutritious meals to prevent and

resolve nutritional issues and stunting. This direct assistance is not only a material aspect but also an investment in community empowerment. Through hands-on experience in processing local food ingredients, mothers can practice the nutritional knowledge acquired during the educational sessions.



Figure 2 Provision of food assistance

The results of the direct food assistance activity provided tangible encouragement to implement positive changes in daily eating habits, especially in improving the skills of mothers of toddlers in processing local foods. This aligns with research conducted by Iswanto, which found that providing free programs, including food assistance, is a driving factor for the

community to actively participate in stunting prevention activities (Iswanto, 2021).

The success of this activity was measured by the improvement in the mothers' skills in preparing and presenting food for their children, with a score ranging from 1 to 7. This evaluation was conducted by monitoring the daily menus photographed by each mother over the ten days. These photos were sent via a WhatsApp group to the service team as concrete evidence of the practical skills implemented during the educational activities.

The results of this evaluation provide a direct overview of positive changes in daily eating habits, illustrating the tangible efforts of mothers in applying the knowledge gained to improve their children's nutrition. Figures 5 to 7 were the main focus of the evaluation to assess the variety of menus, the use of local food ingredients, and the adherence to nutritional principles and menus taught during the educational activities. Overall, the evaluation results indicated an improvement in the mothers' skills in preparing toddler meals, with an average score of 6 out of 7 during the activity.



Figure 3 (a) First day's menu prepared by mothers, (b) Ninth day's menu prepared by mothers, and (c) Tenth day's menu prepared by mothers

This food assistance created a supportive environment for mothers to integrate their understanding of nutrition into their daily practices,

enabling them to prepare menus that meet the nutritional needs of toddlers. This direct assistance also acted as a catalyst in overcoming economic

barriers that mothers might face, ensuring access to quality food ingredients. Thus, mothers could directly experience the positive impact of the changes they made in

selecting and preparing healthy food. Table 1 shows the menu prepared by the team for the mothers to create and serve over 10 consecutive days.

Table 1 10-Day Menu Prepared by Mothers

No	Healthy Nutritious Toddler Menu
1.	Rice + Rolled Omelette with Tofu + White Gourd & Carrot Curry + Fruit
2.	Rice + Quail Egg Soup + Steamed Tofu + Fruit
3.	Rice + Salted Fish Pangek + Tofu Fritter + Stir-Fried Water Spinach + Fruit
4.	Rice + Fried Catfish + Stir-Fried Bean Sprouts & Tofu + Fruit
5.	Rice + Chicken Curry + Fried Tempeh + Stir-Fried Eggplant + Fruit
6.	Rice + Fried Tilapia + Tempeh Fritter + Stir-Fried Sponge Gourd + Fruit
7.	Rice + Fish with Touco Sauce + Tofu Martabak + Stir-Fried Long Beans + Fruit
8.	Rice + Quail Egg White Curry & White Gourd & Corn + Crispy Fried Tempeh + Fruit
9.	Rice + Chicken Stew + Fried Tofu + Capcay + Fruit
10.	Rice + Beef Soup + Tempeh Mendoan + Fruit

Through this approach, the activities carried out over ten days are expected to serve as a foundation for long-term behavioural changes, enabling mothers to independently continue practising the skills they have acquired even without direct supervision. This is expected to create sustainable changes in eating habits and nutritional patterns, making a tangible contribution to the local community's prevention and eradication of stunting.

CONCLUSION

PAR-based activities, such as participatory education and food assistance, were effective in increasing the knowledge of toddler mothers from 30% to 80%. Additionally, these activities improved the mothers' skills in preparing toddler meals, with an average score of 6 out of 7 over 10 consecutive days. This activity can serve as a model intervention replicated elsewhere to address nutritional issues and stunting.

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