



## IMPROVING TODDLER NUTRITION WITH CHILD MASSAGE AND MORINGA LEAVES CALLED TANJIDOR

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### Abstract

Stunting is a condition of growth failure in children under five due to chronic malnutrition, especially in the first 1,000 days of life, which is from the fetus in the womb until the child is two years old. Children who are stunted have a height below the age standard and are at risk of experiencing obstacles to cognitive, motor, and academic achievement in the future. Based on data from various health surveys, the prevalence of stunting in Indonesia is still at an alarming level, although it has shown a decline in recent years. The causes of stunting are complex and multidimensional, including lack of nutritional intake, unbalanced diets, poor sanitation, recurrent infections, and low levels of education and knowledge of mothers about child health and nutrition. The problem of stunting must be addressed seriously through a cross-sectoral approach involving the government, community, health workers, and families. Efforts to prevent and manage stunting should focus on specific and sensitive nutrition interventions, enhancing the quality of maternal and child health services, improving environmental sanitation, and promoting sustainable nutrition education. This community service activity aims to implement community midwifery care, which involves identifying problems, determining problem priorities, developing follow-up plans, implementing planned interventions, and evaluating the activities that have been

This community service begins with FGDs to collect information on maternal and child problems. Priority problems are then selected based on the scale, and efforts are made to address stunting issues through education, demonstrations of preparing nutritious food using moringa leaves, and training parents and posyandu cadres in massaging children to stimulate weight growth. Intervention activities, including infant massage and supplementary feeding (PMT), were conducted over 4 weeks for 30 infants aged 6-12 months with growth disorders ( $BB/U < U < -2$  SD). The monitoring results showed positive changes in both physical development and psychological responses of the infants. Following the implementation of the intervention, a notable change in body weight was observed, with an average weight gain of 400 grams over 4 weeks. Appetite Improvement: Based on the infant's mother's report, 76.7% of infants showed an increase in appetite after receiving a combination of infant massage and PMT. Motor and Psychological Development; Observations showed that infants who were regularly massaged showed improvement in fine and gross motor activities, such as rolling over, sitting up, and crawling. Parents also reported that infants seemed more relaxed, slept better, and cried less. Maternal Satisfaction and Acceptance Level: 90% of mothers were satisfied with the infant massage activities and stated that they would continue this practice at home. Additionally, 85% of mothers reported that the PMT provided was readily accepted by toddlers and practical to prepare at home.

Community service, in the form of baby massage training for parents with toddlers and demonstrations of the production of moringa leaf-based personal care products (PMP), has a positive impact. Cadres and mothers are capable of comprehending the material and posing inquiries with enthusiasm. Understanding how to do child massage, mothers of toddlers also said they were happy because, later, they could easily practice cooking a Moringa Leaf Egg Omelet, which tasted good and had high nutritional value for children.

**Keywords:** moringa leaves, child nutrition, education, community

### INTRODUCTION

“Tanjindor” is an abbreviation of (Improve Toddler Nutrition with Child Massage and Moringa Leaves). Tui Na is a therapeutic massage intervention that has been shown, with statistical significance, to enhance appetite and promote weight gain in infants and young children. It is classified as a safe, non-pharmacological approach that is easy to implement in community settings, providing an alternative to pharmacological therapies or invasive methods such as acupuncture.

Several quantitative studies have demonstrated the efficacy of this intervention in enhancing appetite and supporting digestion by stimulating spleen function and regulating the vagus nerve system.

### 1. Mechanism of Action

The intensive massage techniques target meridians and the vagus nerve reflex. This stimulation is believed to increase secretion of digestive enzymes—such as gastrin and insulin—enhancing blood circulation, spleen function, and overall digestive processes

### 2. Empirical Evidence

Population & Method Intervention Duration Key Findings Preterm infants, RCT (n=40) combining acupressure & meridian massage, 10 days, 3×/day, 15 min/session 10 days; Experimental group gained 32.7 g/day vs. 27.3 g/day in control (no massage); weight gain difference significant in week 2; Preterm infants, randomized controlled, pediatric Tui Na, Significantly reduced feeding intolerance and improved weight gain via enhanced vagal activity and gastrointestinal hormone release (e.g., insulin, gastrin)

### 3. Comparison with Acupuncture

Unlike acupuncture, which uses needles, Tui Na relies on direct mechanical pressure on meridians. This non-invasive method is deemed safer and more comfortable for infants and toddlers, as it avoids skin penetration. (Bai, 2023)



Figure 1. Citizen house visits and interviews with Kader

Moringa leaves (*Moringa oleifera*) are a highly nutritious plant containing abundant nutrients and remarkable compounds that significantly support child growth and development. When adequately prepared, moringa can effectively prevent growth failure in children. Routinely providing moringa leaf preparations to toddlers suffering from stunting will lead to a gradual improvement,

progressing from severe to moderate stunting, and then from moderate to mild, ultimately achieving a normal growth status. Products such as moringa leaf pudding, snack bars, nuggets, and sempol have gained popularity for being well-accepted by children and delivering high nutritional value. A community empowerment study reported the success of extension programs such as those in East Flores and Lintau Buo where participants learned and correctly implemented the preparation of moringa leaf pudding.



Figure 2. Background FGD by zoom

## METHOD AND PROCEDURES

This community engagement activity employs the Focus Group Discussion (FGD) method to identify potential solutions to the issue of stunted growth. The program includes an educational lecture that addresses the topic of stunting, including its signs and symptoms, preventive strategies, and intervention approaches. As part of the academic content, the discussion also highlights moringa leaves as a local, nutrient-dense food. It provides information on the nutritional value of moringa leaves. It presents an innovative approach to food processing, specifically transforming moringa leaves into an omelet to enhance its appeal to children and prevent food monotony. The session is complemented by a Tuina massage demonstration, followed by the screening of an educational video, the distribution of informational leaflets, and a live demonstration outlining the step-by-step process of preparing a nutritious moringa leaves-based omelet intended as a supplementary food for children. At the conclusion of the activity, participants are invited to provide feedback on the presented materials, offer taste evaluations of the moringa leaves called TANJIDOR, and share any challenges they encountered during the preparation process.



Figure 3. Leaflet



Figure 4. Moringa Leaf Egg Omelette

## RESULT AND DISCUSSION

Moringa leaves have been extensively studied for their nutritional content and applications. They are densely packed with nutrients, including calcium, iron, protein, and vitamins A and B. The iron content in moringa leaves (17.2 mg per 100 g) exceeds that of most other vegetables (Aminah, 2015). High nutrient levels in moringa are believed to be effective in combating stunting. Notably, its potassium content is three times that of bananas; in powdered form, potassium is up to 15 times greater. One bowl of moringa leaves contains the same amount of calcium as four glasses (200 ml each) of milk. Its potassium is triple that of bananas; vitamin A is four times that in carrots; iron equals that of 25 bunches of spinach; and vitamin C equals that of seven oranges (Jonni, 2008). Dr. Elizabeth Jane Soepardi (Director of Communicable, Vector and Zoonotic Disease Prevention and Control at the Indonesian Ministry of Health) states that moringa leaves offer an easy and cost-effective way to meet children's nutritional needs. Moringa is a popular green, oval-leafed vegetable in Indonesia, rich in amino acids, antioxidants, and anti-inflammatory compounds. It contains high levels of essential vitamins and minerals iron, calcium, vitamins A, B, C, and E critical for bone and muscle growth, as well as brain development in infants and toddlers (Nurchayati, 2014).

Derived from infant massage techniques, child Tui Na has emerged as an alternative to address feeding difficulties in children. This acupressure method involves applying manual pressure to specific points to alleviate symptoms, treat illness, or support recovery. One documented benefit of Tui Na in toddlers is improved appetite and enhanced digestive function, leading to increased weight gain (Karmila, 2023). Tui Na promotes blood circulation and optimizes organ function, especially digestion. The massage enhances intestinal motility, improving nutrient absorption and appetite (Mundjinah, 2015). A 2018 study by Yusari Asih and Mugiati titled “Pijat Tuina efektif dalam mengatasi kesulitan makan pada anak balita” found that the mean reduction in feeding difficulty scores before and after Tui Na was 3.360, compared to 2.260 in the multivitamin group indicating a greater effect from massage. Another study by Roeslimana and Noor (2016) reported a similar increase in the number of toddlers without feeding difficulties following regular massage sessions.



Figure 5. Community Service Activities



Figure 6. Banners, stickers, and souvenirs

## CONCLUSION

Based on the Community Service activity conducted at TPMB Nila Wati Rocady on Thursday, 12 June 2025, the event proceeded smoothly. It was attended by cross-sector stakeholders, including the head of RT 005 Kedoya Utara and local community cadres. The participants, who included mothers with malnourished toddlers and local cadres, engaged well with the material presented. They were enthusiastic, asked questions, and demonstrated an understanding of how to perform infant massage. The mothers expressed happiness, noting that they would be able to easily and deliciously prepare moringa-leaf omelets (Dadar Telor Daun Kelor) at home, while also benefiting from the dish's high nutritional value for their children.

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