

Nutrition Intervention through Stunting Education on Pregnant and Breastfeeding Women Group

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ABSTRACT

Stunting is one of the public health problems that is still a concern in Indonesia with a high prevalence at both national and local levels. Based on Riskesdas 2020, the prevalence of stunting in Indonesia reached 27.67%, while the national target is 14% by 2024. To support these efforts, Tri Tunas Nasional Institute of Technology and Health in collaboration with Rumah Zakat organized a community service program entitled "Healthy Mothers, Stunting-Free Children Agent". This activity was aimed at pregnant and breastfeeding mothers in Rapokalling District, Makassar, with the aim of increasing their knowledge and awareness about stunting and how to prevent it. This program uses participatory education methods, interactive discussions, and food distribution as practical support. Evaluation was conducted through pre-test and post-test to measure knowledge improvement. Results showed a significant increase in participants' understanding of stunting and balanced nutrition, as well as behavioral changes towards a healthy diet. These findings demonstrate the importance of community-based interventions integrated with logistical support for successful stunting prevention.

ABSTRAK

Stunting merupakan salah satu masalah kesehatan masyarakat yang masih menjadi perhatian di Indonesia dengan prevalensi yang tinggi baik di tingkat nasional maupun lokal. Berdasarkan Riskesdas 2020, prevalensi stunting di Indonesia mencapai 27,67%, sementara target nasional adalah 14% pada tahun 2024. Untuk mendukung upaya tersebut, Institut Teknologi dan Kesehatan Tri Tunas Nasional bekerja sama dengan Rumah Zakat menyelenggarakan program pengabdian masyarakat bertajuk "Ibu Sehat, Agen Anak Bebas *Stunting*". Kegiatan ini ditujukan kepada ibu hamil dan menyusui di Kecamatan Rapokalling, Makassar, dengan tujuan meningkatkan pengetahuan dan kesadaran mereka tentang *stunting* dan cara pencegahannya. Program ini menggunakan metode edukasi partisipatif, diskusi interaktif, dan distribusi sembako sebagai dukungan praktis. Evaluasi dilakukan melalui pre-test dan post-test untuk mengukur peningkatan pengetahuan. Hasil menunjukkan adanya peningkatan signifikan dalam pemahaman peserta mengenai *stunting* dan gizi seimbang, serta perubahan perilaku menuju pola makan sehat. Temuan ini menunjukkan pentingnya intervensi berbasis komunitas yang terintegrasi dengan dukungan logistik untuk keberhasilan pencegahan *stunting*.

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INTRODUCTION

Stunting is a condition of failure to thrive due to chronic malnutrition, recurrent infections, and inadequate psychosocial stimulation in children, especially in the first 1000 days of life. This issue is a global concern due to its significant impact on children's physical and cognitive development. According to the World Health Organization (WHO, 2019), around 22% of children under five worldwide are stunted. In Indonesia, the prevalence of stunting in 2020 reached 27.67% (Riskasdas, 2020), with a target of reducing it to 14% by 2024 through the National Strategy for Accelerating Stunting Prevention 2021-2024 (Ministry of Health, 2021). At the local level, prevalence in some areas such as Rapokalling sub-district, Makassar, remains a major challenge.

Health education and counseling is a key strategy in stunting prevention, especially to raise awareness among the community, especially pregnant and lactating mothers, about the importance of good nutrition and parenting. According to a report from UNICEF Indonesia (2020), nutrition-sensitive and specific interventions that include nutrition education for pregnant and lactating mothers have a significant impact in preventing stunting. Health literacy programs such as the one organized by Tri Tunas Nasional Institute of Technology and Health in collaboration with Rumah Zakat in Rapokalling District is one form of implementation of this intervention.

Nutrition interventions play a crucial role in reducing stunting rates, particularly through targeted educational programs and community engagement. Effective nutrition health education, especially in early childhood, has been shown to significantly decrease stunting incidence by equipping parents and caregivers with knowledge on healthy feeding practices and meal preparation Sukmawati et al. (2023). Maternal nutrition counseling is particularly impactful, as it not only improves feeding practices but also correlates with reduced stunting prevalence among children under five (Mandati et al., 2023; Mistry et al., 2019).

Moreover, comprehensive approaches that integrate nutrition-sensitive programs—addressing broader socio-economic factors—are essential for sustainable stunting reduction. For instance, community empowerment and collaboration among stakeholders, including families and local governments, have been identified as key strategies to enhance child nutrition and health education (Sukardi et al., 2024; Jeddawi et al., 2024). Additionally, promoting exclusive breastfeeding and optimal complementary feeding practices is vital, as these behaviors directly influence child growth and development during the critical first 1,000 days of life (Susianto et al., 2022; Bhutta et al., 2020). Therefore, a multifaceted approach that combines education, community involvement, and supportive policies is necessary to effectively combat stunting.

Previous studies have shown the effectiveness of nutrition education approaches for pregnant and lactating women in improving awareness and behavior related to healthy eating. For example, Lestari et al. (2021) found that education programs for pregnant women in remote areas were able to improve their understanding of stunting prevention measures. However, the limitations of these programs often lie in their narrow coverage and lack of ongoing support, such as regular monitoring and consistent distribution of logistics (Kurniawan et al., 2022).

The main objective of this counseling is to increase the knowledge and awareness of the community, especially pregnant and lactating women about stunting, so that they can take appropriate preventive measures and are encouraged to adopt healthy behavior patterns for the realization of a bright generation. This counseling also plays a role in educating the community about the importance of cooperation between individuals, families, and communities in efforts to prevent and control stunting. With effective health counseling, it is hoped that the prevalence of stunting can decrease, and people can live in optimal health and give birth to a generation free from growth disorders. This counseling also supports government programs in efforts to control and prevent stunting at the national level.

METHODS

This community service program uses the Asset-Based Community Development (ABCD)

approach, which focuses on exploring local potential to support health interventions. The targets of the program are pregnant and breastfeeding mothers who live in Rapokalling Sub-district, Makassar, with the criteria for participants including 12-36 weeks of pregnancy or having children under 24 months of age. The selection of participants was done purposively, considering socio-economic status and the level of risk for stunting.

Rumah Zakat itself is a national amil zakat institution owned by the Indonesian people that manages zakat, infaq, sadaqah, and other humanitarian funds through a series of integrated programs in the fields of education, health, economy, and environment, to realize the happiness of people in need. The synergy between the lecturers, residents, and Rumah Zakat enabled the effective implementation of this activity, where pregnant and lactating mothers not only gained knowledge, but also logistical support that helped them apply the knowledge gained in their daily lives, especially in limited economic conditions.

The stages of community service activities with the title "Healthy Mothers, Stunting-Free Children's Agents" begin with planning activities Tri Tunas National Institute of Technology and Health conducts meetings with related parties (Rumah Zakat) to plan the technical implementation of the program, location, and material to be delivered. Furthermore, Rumah Zakat provides literacy classes for lecturers about stunting in groups of pregnant and breastfeeding mothers who are the target of the program so that they are included in the category of basic food recipients.

The material prepared includes a basic understanding of stunting, causative factors, the importance of maternal and child nutrition, and practical tips for providing healthy food with limited budget. Furthermore, an interactive discussion was held after the Stunting education was completed. After the material delivery session at each meeting, an interactive discussion was conducted with a participatory approach where the lecturer invited participants to share personal experiences related to the challenges, they face in providing adequate nutrition for their children, especially in conditions of economic limitations (See Figure 1).

Changes in participants' knowledge were measured using pre-test and post-test. The pre-test was conducted before the education session began to assess participants' initial knowledge level. The post-test was conducted after the educational session was completed to evaluate the improvement in understanding. The results of this test were analysed quantitatively using the paired t-test statistical test to determine the significance of changes in knowledge.

RESULTS AND DISCUSSION

This activity was attended by 50 participants consisting of pregnant women (n=30) and breastfeeding mothers (n=20). Most of the participants were between 20-35 years old, with a high school education (60%) and a job as a housewife (70%). The sociodemographics of the participants are presented in Table 1.

Table 1. Sociodemographics of Participants

Variables	Frequency (%)
Age (20-35 Years)	40 (80%)
Last education (high school)	30 (60%)
Occupation (housewife)	35 (70%)

The pre-test results showed that the participants' initial level of knowledge about stunting was low (mean score: 50.2). After the education session, the post-test results showed a significant increase in participants' knowledge (mean score: 85.4). This improvement was tested using a paired t-test statistical test with $p < 0.05$, which showed a significant difference before and after the intervention Table 2.

Table 2. Comparison of Pre-test and Post-test Scores

Measurement Stage	Average Score	p Value
Pre-test	50.2	
Post-test	85.4	< 0,05



Figure 1. Interactive Education Process and Food Distribution to Support Healthy Eating Practices

The results of this study indicate that interactive education-based interventions can significantly improve the knowledge of pregnant and lactating women regarding stunting prevention. This is in line with the findings of Lestari et al. (2021), which shows that educational programs can increase mothers' understanding of healthy eating patterns. This increase in knowledge is accompanied by changes in food consumption behavior, which is supported by the distribution of basic necessities as a direct stimulus. However, as stated by Kurniawan et al. (2022), the sustainability of this behavior change is often a challenge, especially among people with economic limitations. To overcome this, cross-sectoral synergy is needed, including the involvement of local governments and health facilities, to monitor children's nutritional status regularly.

Arifin, Nurjannah, & Sudirman (2023) emphasized that community empowerment is very effective in preventing stunting, especially among young mothers in rural areas. This research shows that community-based programs involving interactive education can improve mothers' understanding of the importance of nutrition and maternal health during pregnancy and breastfeeding. Community-based education has been shown to strengthen mothers' awareness of healthy dietary practices and the importance of early stunting prevention to support optimal child development.

Another study found that community-based interventions had a significant impact on reducing child stunting in Indonesia. This review showed that a collaborative approach involving various elements, including health institutions, communities and families, plays an important role in increasing awareness and understanding of the nutrition needed for child development. In addition, the review emphasized the need for increased educational programs targeting pregnant and lactating mothers as an effective way to prevent stunting in the community (Kurniawan, Sari, & Hakim, 2022). One study highlighted the success of an educational program for pregnant women in increasing knowledge related to stunting prevention. This educational program, specifically designed for mothers in remote areas, provided a deeper understanding of the dangers of stunting and prevention measures. Through this intervention, there was a significant increase in awareness among mothers about the important role of a balanced diet and health during pregnancy, which can directly affect children's development in the first 1000 days of life (Lestari, Utami, & Rahmawati, 2021).

Nugroho & Prasetyo (2020) discussed the important role of interactive education in health promotion programs for young mothers as part of stunting prevention efforts. This study emphasizes that interactive and participatory educational methods, such as group discussions and simulation activities, provide more effective results in changing behavior and increasing understanding of child health and adequate nutrition. This method facilitates mothers to better understand the importance of nutrition since pregnancy as a preventive effort against stunting. This is in line with Wulandari & Hastuti's (2019) research which shows that mothers' knowledge about stunting can be significantly improved through community intervention programs. Their research highlights how educational interventions at the community level can change mothers' mindsets regarding the importance of good nutrition during pregnancy and breastfeeding. The program underscores that by improving

access to accurate health information, especially among young mothers, communities can play an active role in reducing the prevalence of stunting in Indonesia through healthier and nutrition-conscious behavior change.

Addressing stunting at the village level is critical due to its multifaceted nature, which encompasses nutritional, educational, and socio-economic factors. Stunting, primarily caused by chronic malnutrition during the first 1,000 days of life, necessitates community awareness and proactive measures to mitigate its prevalence (Azizah et al., 2023; Mulyanti & Astuti, 2023). Empowering local health workers and village officials is essential, as their involvement significantly enhances support for nutritional interventions and breastfeeding practices, which are vital for stunting prevention (Setianingsih & Hussain, 2023; Syafrawati et al., 2023).

Moreover, the role of community participation, including the utilization of village funds, is pivotal in implementing effective stunting prevention programs (Indra & Khoirunurrofik, 2022; Prabasari et al., 2022). Educational initiatives aimed at mothers and caregivers can improve knowledge and practices related to nutrition, thereby fostering healthier growth in children (Dolifah et al., 2021; Mustikawati et al., 2024). Furthermore, the establishment of structured communication channels among health cadres, midwives, and community members can facilitate timely interventions and monitoring of children's growth (Saadah et al., 2023; Danefi et al., 2024). Thus, prioritizing stunting prevention at the village level not only addresses immediate health concerns but also contributes to long-term community development.

The limitations of this program are the relatively short duration of implementation and limited area coverage. The program has also not integrated a long-term monitoring mechanism to assess the sustainability impact on stunting prevalence. Future studies could consider using digital technologies to monitor participants' behavior more efficiently, such as mobile-based applications that support continuous nutrition education. Even so, this activity shows that community-based approaches, such as the one in Rapokalling sub-district, can be an effective model for stunting intervention. The program not only increases knowledge, but also encourages positive behavior change in participants. This study makes an important contribution to the literature on community-based stunting interventions in Indonesia.

CONCLUSION

The community service program "Healthy Mother, Stunting-Free Child Agent" implemented by ITEKES Tri Tunas Nasional in collaboration with Rumah Zakat showed an increase in knowledge and awareness of pregnant and lactating mothers in Rapokalling District about stunting prevention. The program successfully provided education on the importance of balanced nutrition through interactive methods and basic food support, which enabled participants to apply the knowledge in their daily diet. As a result, there were positive changes in understanding and behavior related to nutrition among the mothers involved.

To achieve sustainable impact, there is a need for follow-up through regular monitoring and further education sessions. It is also recommended that the program be expanded to other areas with high stunting prevalence. Future steps include collaboration with government and health institutions to strengthen continuous monitoring of child nutrition, as well as encouraging the formation of a community of mothers who support each other in maintaining a healthy lifestyle. Through this initiative, it is hoped that the stunting rate in the region can continue to be reduced in accordance with national targets.

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