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Case Report

Lactation preparation for pregnant women to prevent stunting

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ABSTRACT

Background: Stunting, caused by chronic malnutrition during a child's first 1000 days, remains a pressing public health issue in Indonesia. Affecting one in three children under five, stunting hampers physical growth and cognitive development, posing long-term socio-economic risks. The Indonesian government has introduced strategies focusing on maternal and child health, particularly through improving nutrition and healthcare access. However, rural areas face challenges like limited healthcare services and inadequate nutrition education.

Case presentation: This program was implemented in Sungai Tabuk, a rural village with high stunting prevalence. The program aimed to educate pregnant women on lactation management and breastfeeding to improve early infant nutrition. Village cadres facilitated pregnancy classes that combined education with hands-on breastfeeding practice. Pre-intervention tests indicated substantial gaps in knowledge, especially about exclusive breastfeeding, while post-intervention assessments showed marked improvements in participants' understanding and skills.

Discussion: The involvement of cadres was instrumental in ensuring community participation and sustained educational outcomes. Post-program evaluations revealed that 93% of participants demonstrated improved lactation knowledge and breastfeeding techniques. This highlights the effectiveness of educational interventions in increasing maternal competence, which can lead to better child health outcomes and stunting reduction. However, the program's short duration and exclusion of other key family members, such as fathers and grandparents, were noted limitations.

Conclusion: The program successfully enhanced maternal knowledge and breastfeeding practices as part of stunting prevention efforts. While the results are promising, ongoing support, inclusion of broader family members, and integration with other socioeconomic interventions are necessary for long-term success in reducing stunting in rural communities.

1. Background

Stunting is a critical public health issue, characterized by impaired growth and development due to chronic malnutrition, particularly during the first 1,000 days of life. Children suffering from

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stunting tend to be significantly shorter than their peers and may exhibit delayed cognitive development and learning challenges. These long-term effects can hinder both their individual potential and overall national human capital development (United Nations Children's Fund (UNICEF) et al., 2023). The consequences of stunting are not limited to physical growth but extend to impairments in mental development, which can have a lasting impact on a child's future socioeconomic prospects and productivity (United Nations Children's Fund (UNICEF) & World Health Organization (WHO), 2019).

Globally, stunting affects more than 149 million children under the age of five, particularly in low- and middle-income countries. In Indonesia, the prevalence is alarming, with three out of ten children under five classified as stunted (United Nations Children's Fund (UNICEF) et al., 2023). This statistic underscores the urgency of addressing stunting as part of the nation's broader development goals. The Ministry of Health, Indonesia, emphasizes that stunting is a reflection of long-term nutritional deficiencies, poor maternal health, and inadequate healthcare access, especially for pregnant women and infants. Without comprehensive interventions, stunted children may be trapped in a cycle of poverty, low educational attainment, and reduced employment opportunities (Ministri of Health, 2021).

To combat this issue, the Indonesian government has outlined a comprehensive strategy, which includes five pillars to prevent and reduce stunting. These pillars focus on ensuring visionary leadership with strong commitments to nationwide behavioral change, educational programs, integrated efforts at every level of governance, the promotion of good nutrition and food security, and continuous monitoring and evaluation to assess progress and outcomes (Ministri of Health, 2021). This multi-pronged approach aims to reduce the national stunting rate by integrating both specific and sensitive nutrition interventions. The five pillars of this national strategy also align with global recommendations on stunting prevention, emphasizing a holistic, multisectoral approach (Andriani & Islamy, 2023; Endah Yani et al., 2023; Setianingsih & Hussain, 2023).

Specific nutrition interventions are aimed directly at the first 1,000 days of life, a critical period for growth and development. These short-term, high-impact interventions include improving maternal and infant nutrition through programs such as exclusive breastfeeding, proper complementary feeding practices, and micronutrient supplementation. The goal is to ensure that infants receive the nutrients essential for healthy growth, particularly during their formative months (Setianingsih & Hussain, 2023). For instance, research shows that exclusive breastfeeding for the

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first six months of life significantly reduces the risk of stunting by providing infants with optimal nutrition and immune protection (Fatmawati et al., 2024; Nathalia et al., 2024).

On the other hand, sensitive nutrition interventions address the broader socioeconomic determinants of stunting. These interventions aim to create supportive environments for good nutrition, focusing on areas such as food security, access to healthcare, water and sanitation, and educational programs that target the broader community (Sukardi et al., 2024). These efforts are designed to extend beyond the immediate target of infants and mothers to include the entire population, ensuring long-term sustainability. The emphasis on education as a key sensitive intervention has been particularly prominent, with community outreach and educational programs aimed at raising awareness about the importance of nutrition, proper feeding practices, and overall family health (Fatmawati et al., 2024; Nathalia et al., 2024).

Educational initiatives play a crucial role in stunting prevention, particularly in increasing maternal knowledge about nutrition and child care. Studies have shown that higher maternal education levels are correlated with better child health outcomes, including reduced stunting rates (Marshan, 2023; Rezaeizadeh et al., 2024). In rural and urban settings alike, a mother's knowledge about breastfeeding, complementary feeding, and general child nutrition is a significant determinant of her child's nutritional status (Ananta et al., 2023). Effective educational programs should therefore target not only mothers but also community health workers and family members, who can act as key support systems in promoting healthy practices.

In light of these challenges, the role of community health initiatives becomes paramount. For example, the use of village health workers, or "cadres," has proven to be effective in educating mothers and families about stunting prevention and healthy child-rearing practices (Permatasari, 2022). These local community health advocates are trained to provide accurate information and practical advice, making them a vital part of the national stunting reduction strategy. Empowering these cadres with up-to-date knowledge and skills ensures that they can effectively disseminate important health messages, ultimately contributing to improved public health outcomes (Javanparast et al., 2018).

The holistic approach employed by the Indonesian government highlights the need for a coordinated effort among various stakeholders, including national and local governments, healthcare providers, community organizations, and academic institutions. Academics, in particular, play a crucial role in providing evidence-based strategies for stunting prevention, ensuring that public health policies are informed by the latest research. Their involvement is key to bridging the

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gap between scientific knowledge and practical implementation in communities (Permatasari, 2022).

2. Case presentation

Multiple studies have identified a range of factors contributing to stunting, emphasizing the multifaceted nature of the issue. Among these, maternal knowledge about nutrition and child care emerges as one of the key determinants. Research highlights that factors such as maternal education, family income, exclusive breastfeeding, complementary feeding practices, micronutrient intake (e.g., zinc and iron), a history of infectious diseases, and genetic factors significantly influence the likelihood of stunting in both urban and rural areas (Marshan, 2023; Rezaeizadeh et al., 2024). Specifically, the level of maternal knowledge regarding nutrition has been identified as a significant contributor to the nutritional status of children. Mothers who are better informed about proper breastfeeding practices and complementary feeding tend to raise children with better growth outcomes, reducing the risk of stunting (Berutu et al., 2024; Lubis & Tioman Deliana, 2024).

The village of Sungai Tabuk, where this program was implemented, faces challenges similar to those found in other rural regions of Indonesia. Limited access to healthcare services, a lack of nutritional education, and widespread poverty are all factors that have exacerbated the stunting problem. In many cases, families are unaware of the importance of early nutrition, including exclusive breastfeeding and timely complementary feeding, which are crucial during the first 1,000 days of a child's life (Utomo, 2018).

The community service program was designed to address these gaps by providing education and practical training to pregnant women in the village. The program specifically focused on improving maternal knowledge about lactation management and breastfeeding techniques as a means of preventing stunting. Village health workers, or cadres, were instrumental in identifying pregnant women and facilitating their participation in the program. These cadres acted as liaisons between the academic team and the local community, helping to build trust and ensure high levels of engagement (Permatasari, 2022).

The activities were carried out through a series of pregnancy classes in the village. These classes included both educational presentations and hands-on demonstrations of proper breastfeeding techniques. The aim was to equip participants with the knowledge and skills needed to manage lactation effectively, which would, in turn, support optimal infant nutrition and prevent stunting. Prior to the intervention, participants completed a pre-test questionnaire designed to

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assess their knowledge of lactation management and breastfeeding practices (Berutu et al., 2024; Lubis & Tioman Deliana, 2024). The pre-test results revealed significant gaps in knowledge, underscoring the need for continued education in these areas.

A total of 15 pregnant women participated in the program, all of whom were from low-income households. This demographic was specifically targeted due to the high correlation between poverty and stunting prevalence (Komalasari et al., 2020). Most of the participants reported a lack of prior education on proper breastfeeding techniques and expressed a willingness to learn. This is consistent with findings from other rural areas, where limited access to healthcare information is a major barrier to improving child health outcomes (Permatasari, 2022).

Post-intervention, participants were asked to complete a post-test questionnaire to evaluate the effectiveness of the program in enhancing their knowledge and skills. The results indicated a marked improvement in understanding, with most participants demonstrating significant gains in their ability to properly manage lactation and apply correct breastfeeding techniques. This aligns with previous studies showing that targeted educational interventions can significantly improve maternal knowledge, which in turn positively affects child health outcomes (Aridiyah et al., 2015).

The role of local health workers in this intervention cannot be understated. Studies have shown that community-based health programs, when led by well-trained local advocates, can lead to significant improvements in public health metrics, including reductions in stunting prevalence (Permatasari et al., 2020). In Sungai Tabuk, the involvement of cadres not only facilitated the delivery of the educational content but also helped sustain the community's interest and engagement throughout the program.

3. Discussion

The initiative, through lactation preparation for pregnant women to prevent stunting (ID: persiapan laktasi ibu hamil untuk cegah stunting [Perlak Bumil Ceting]) approach, targeted pregnant women in a region where nutritional education and healthcare access are limited. The data show that maternal knowledge and practice improved considerably post-intervention, aligning with previous research that highlights the impact of educational interventions on reducing the risk of stunting (Permatasari, 2022).

The results of the pre-test demonstrated that the majority of participants lacked sufficient knowledge regarding lactation management and breastfeeding practices. This finding is consistent with national data showing that many mothers in rural areas lack access to adequate healthcare

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information, which can directly impact their ability to provide optimal nutrition for their infants (Marshan, 2023; Rezaeizadeh et al., 2024). Exclusive breastfeeding, a well-documented intervention to prevent stunting, was also a focus of the program. The success of the Perlak Bumil Ceting program in improving knowledge of this practice is particularly significant, as exclusive breastfeeding for the first six months of life is essential for child growth and immune protection (Fatmawati et al., 2024; Nathalia et al., 2024).

The post-test results revealed a marked improvement in maternal knowledge, with 93% of participants demonstrating a higher understanding of lactation management and breastfeeding techniques. This is in line with studies that indicate educational interventions can significantly increase both knowledge and practical skills among mothers (Asmi & Cahya Mulat, 2024). The Perlak Bumil Ceting program's focus on hands-on demonstrations and continuous support from local health workers or "cadres" further ensured the sustainability of the knowledge gained. Empowering cadres as agents of change has proven to be a successful strategy in many community health programs, allowing for ongoing support and monitoring beyond the initial intervention (Permatasari, 2022).

The importance of continuous education is also underscored by the program's impact. The sustained improvement in maternal knowledge suggests that periodic reinforcement of the information provided is essential for long-term behavior change. Studies show that while a single intervention can improve knowledge, behavior change often requires multiple touchpoints and consistent reinforcement over time (Komalasari et al., 2020). The continued involvement of cadres will likely play a critical role in maintaining the progress made, ensuring that mothers continue to apply the breastfeeding techniques and nutritional knowledge acquired during the program.

Despite these successes, there are still challenges that need to be addressed. One of the primary limitations of the Perlak Bumil Ceting program is the relatively short duration of the intervention. Sustained behavioral changes, particularly in nutrition and child care, require long-term support and periodic refresher courses. Additionally, while the program focused on pregnant women, other influential family members, such as fathers and grandparents, were not actively involved. Their inclusion in future programs could enhance the overall effectiveness, as family dynamics play a crucial role in decision-making regarding infant feeding practices (Permatasari, 2022).

Furthermore, addressing stunting requires a multifaceted approach. In addition to education, there is a need to improve access to clean water, sanitation, healthcare services, and food security,

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all of which are critical factors in reducing stunting rates (Utomo, 2018). Thus, while the Perlak Bumil Ceting program effectively increased maternal knowledge, it should be integrated into a broader strategy that includes these other essential elements to achieve sustainable progress.

4. Conclusion

The Perlak Bumil Ceting initiative successfully improved maternal knowledge and skills related to lactation and breastfeeding, which are crucial in the fight against stunting. The program's success highlights the importance of continuous community-based education, the involvement of local health workers, and the need for integrated approaches that address the broader determinants of stunting.

5. Conflict of interest

All authors declare no conflict of interest.

6. References

Andriani, R., & Islamy, L. O. S. (2023). Effectiveness of the sensitive nutrition intervention program in accelerating stunting reduction in Baubau City [in Indonesia]. *Poltekita : Jurnal Ilmu Kesehatan*, *17*(3), 812–820. https://doi.org/10.33860/jik.v17i3.3377

Asmi, A. S., & Cahya Mulat, T. (2024). Education of pregnant women to increase mothers' knowledge and attitudes regarding exclusive breastfeeding [in Indonesia]. *Jurnal Pengabdian Masyarakat Edukasi Indonesia*, *1*(1), 22–28. https://doi.org/10.61099/jpmei.v1i1.34

Berutu, R. E., Rosmiati, R., Emilia, E., Haryana, N. R., & Ingtyas, F. T. (2024). Maternal knowledge of balanced nutrition and maternal feeding practices associated with stunting in children aged 24-60 months in the Puskesmas Siempat Rube working area [in Indonesia]. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, *7*(7), 1878–1883. https://doi.org/10.56338/mppki.v7i7.5288

Ananta, S. D., Krisnana, I., & Tri Lestari, W. (2023). The relationship between maternal knowledge level and feeding practices with dietary patterns in stunted children. *Jurnal EduHealth*, *14*(3), 1393–1399. https://doi.org/10.54209/jurnaleduhealth.v14i3.2762

Endah Yani, R. W., Ma'Rufi, I., & Andini, U. H. (2023). The role of health care workers of Kedungrejo Public Health Center in stunting reduction strategy. *International Journal of Integrated Medical Research*, *10*(03), 83–88. https://doi.org/10.57181/ijoimr/vol10i03/124

Fatmawati, Meldawati, Palimbo, A., & Mahdiyah, D. (2024). Effect of demonstration-method counseling on the understanding of correct breastfeeding techniques among pregnant women. *Health Sciences International Journal*, *2*(2), 60–73. https://hsij.anandafound.com/journal/article/view/25

Javanparast, S., Windle, A., Freeman, T., & Baum, F. (2018). Community health worker programs to improve healthcare access and equity: Are they only relevant to low- and middle-income countries? *International Journal of Health Policy and Management*, *7*(10), 943–954. https://doi.org/10.15171/ijhpm.2018.53

Health Sciences International Journal (HSIJ)
Vol. 2, No. 2, August 2024, pp. 169 – 176
ISSN: 3026-5037 DOI: https://doi.org/10.71357/hsij.v2i2.42

Komalasari, K., Supriati, E., Sanjaya, R., & Ifayanti, H. (2020). Factors causing stunting in toddlers [in Indonesia]. *Majalah Kesehatan Indonesia*, *1*(2), 51–56. https://doi.org/10.47679/makein.202010

Lubis, B., & Tioman Deliana. (2024). The relationship of mother's knowledge level and mp-asi feeding patterns and baby's nutritional status age 6-12 months at Rantang Health Center [in Indonesia]. *JURNAL KEBIDANAN KESTRA (JKK)*, *6*(2), 205–211. https://doi.org/10.35451/jkk.v6i2.2088

Marshan, J. (2023). *Maternal education and children's well-being: Evidence from four pacific countries*. https://doi.org/10.56506/UZVO7244

Ministri of Health. (2021). *Pocketbook - Results of the 2021 Indonesian Nutritional Status Study (SSGI) at the national, provincial, and district/city levels* [in Indonesia]. Ministri of Health. https://www.badankebijakan.kemkes.go.id/buku-saku-hasil-studi-status-gizi-indonesia-ssgi-tahun-2021/

Nathalia, A., Rahmawati, D., Nastiti, K., & Salmarini, D. D. (2024). Factors influencing the occurrence of exclusive breastfeeding failure in six-month-old infants. *Health Sciences International Journal*, *2*(2), 96–103. https://hsij.anandafound.com/journal/article/view/31

Permatasari, C. (2022). Early marriage and the risk of stunting in toddlers at Kertek 2 Health Center, Wonosobo Regency [in Indonesia]. *HIGEA*, *6*(1), 31–37.

Rezaeizadeh, G., Mansournia, M. A., Keshtkar, A., Farahani, Z., Zarepour, F., Sharafkhah, M., Kelishadi, R., & Poustchi, H. (2024). Maternal education and its influence on child growth and nutritional status during the first two years of life: a systematic review and meta-analysis. *EClinicalMedicine*, *71*, 102574. https://doi.org/10.1016/j.eclinm.2024.102574

Setianingsih, T., & Hussain, N. (2023). Analysis of the completeness of specific nutritional interventions as an effort to prevent stunting: an observational study. *Padjadjaran Journal of Dentistry*, *35*(3), 237. https://doi.org/10.24198/pjd.vol35no3.50724

Sukardi, S., Nashihah, D., & Maulana, I. N. H. (2024). Empowering communities for sustainable stunting prevention: A comprehensive approach to enhance child nutrition and family health education. *Inovasi Kurikulum*, *21*(2), 1125–1136. https://doi.org/10.17509/jik.v21i2.68846

United Nations Children's Fund (UNICEF), & World Health Organization (WHO). (2019). *UNICEF-WHO low birthweight estimates: Levels and trends 2000–2015*. World Health Organization.

United Nations Children's Fund (UNICEF), World Health Organization (WHO), & International Bank for Reconstruction and Development/The World Bank. (2023). *Levels and trends in child malnutrition: UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates: Key findings of the 2023 edition*. UNICEF & WHO.

Utomo, B. S. (2018). Together we prevent stunting [in Indonesia]. *WartaKesmas-Ministry of Health*, 6–7.