

Optimizing the Role of Primary Health Workers in the Implementation of Stunting Policies at the Village Level

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ABSTRACT

Introduction: Stunting remains a persistent public health challenge in Indonesia, affecting child growth, cognitive development, and long-term productivity. Despite national policy efforts, gaps in implementation at the primary health care level continue to limit program effectiveness, particularly in community engagement and service utilization. This community service program aimed to strengthen the implementation of stunting prevention policies through a primary health care approach by enhancing the capacity of health workers and community health cadres, and improving household-level practices.

Methods: A participatory approach was applied involving 50 participants, including health workers, cadres, and mothers of children under five. The program consisted of training sessions, nutrition education, mentoring of at-risk families, and routine growth monitoring over three months. Evaluation was conducted using pre- and post-test assessments, structured observations, and questionnaires.

Results: The intervention resulted in a marked increase in knowledge scores (from 62.4 to 84.7). Appropriate feeding practices improved from 46% to 78%, while attendance at posyandu services increased from 58% to 85%. Early improvements in child growth indicators were observed, with 64% of children showing better weight-related outcomes.

Conclusion: Strengthening primary health care capacity and community engagement effectively supports the implementation of stunting prevention policies. This approach demonstrates potential as a scalable model for accelerating stunting reduction in similar settings.

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INTRODUCTION

Stunting remains a significant public health problem at both global and national levels. Globally, reports from UNICEF, the World Health Organization (WHO), and the World Bank indicate that millions of children under five years of age experience stunting, which adversely affects physical growth, cognitive development, and future productivity. In Indonesia, the prevalence of stunting remains relatively high, although a declining trend has been observed in recent years (Alderman et al., 2025). Data from the Indonesian Nutritional Status Survey (SSGI) indicate that the national prevalence is still above the target set in the National Medium-Term Development Plan (RPJMN) (Arqam et al., 2026). This condition highlights the need for strengthened efforts, particularly in the implementation of policies at the community level (Anthonj et al., 2025).

Stunting reduction efforts in Indonesia have been integrated into multisectoral policies through a convergence approach involving both nutrition-specific and nutrition-sensitive interventions (Astuti et al., 2025). However, a major challenge lies in implementation at the primary health care level. Community health centers serve as the frontline of health services and play a strategic role in delivering promotive and preventive interventions, growth monitoring, and nutrition education (Ataullahjan et al., 2025). In addition, community health cadres are essential in reaching target populations, particularly pregnant women and children under five (Bhattacharjee et al., 2026).

Despite these efforts, several challenges persist among community partners. These include limited capacity of health cadres to deliver evidence-based education, suboptimal utilization of child growth monitoring data, and low community compliance in accessing services (Bhutta, Islam, et al., 2025). Furthermore, inappropriate infant and young child feeding practices remain prevalent and contribute to the risk of stunting (Bhutta, Keats, et al., 2025). These issues indicate a gap between policy formulation and its practical implementation at the community level (Dickson et al., 2024).

The primary health care (PHC) approach is highly relevant in addressing these challenges, as it emphasizes comprehensive, continuous, and community-oriented services (Efobi et al., 2024). Strengthening the capacity of health workers and cadres, along with empowering communities, is expected to enhance the effectiveness of policy implementation (Garina et al., 2024). Community-based interventions that actively involve local participation have been shown to improve health outcomes and program sustainability (Golden et al., 2025).

Based on these considerations, this community service program is designed to strengthen the implementation of stunting reduction policies through a primary health care approach. The main focus includes capacity building for health workers and cadres, nutrition education for families, and mentoring of households at risk of stunting. The objectives of this program are to improve the knowledge and skills of health workers and cadres in stunting prevention, to enhance appropriate child feeding practices based on balanced nutrition principles, and to strengthen community engagement in utilizing primary health care services. In addition, this program aims to develop a community-based intervention model that can be replicated in similar settings.

METHOD

This community service program was implemented through six structured steps to ensure systematic execution and measurable outcomes.

Step 1: Activity Design

The program adopted a participatory and capacity-building design grounded in the primary health care (PHC) approach. It focused on strengthening the roles of health workers and community health cadres through training, mentoring, and community engagement to support effective stunting prevention.

Step 2: Location and Time

The activities were conducted in the working area of a community health center in Indonesia, targeting communities with a relatively high prevalence of stunting. The program was implemented over a three-month period, from February to April 2026.

Step 3: Target Participants

The program involved 50 participants, consisting of health workers, community health cadres, and mothers of children under five years of age, particularly those identified as being at risk of stunting.

Step 4: Pre-Implementation Stage

This stage included a situational analysis, coordination with local stakeholders, identification of target participants, and preparation of educational materials and evaluation instruments.

Step 5: Implementation Stage

The implementation phase consisted of training sessions for health workers and cadres, nutrition education for families, mentoring of at-risk households, and regular growth monitoring of children. Interactive methods such as discussions, demonstrations, and counseling were utilized to enhance engagement and knowledge transfer.

Step 6: Evaluation Stage and Instruments

Program evaluation was conducted using both quantitative and qualitative approaches. Pre-test and post-test instruments were used to measure changes in participant knowledge. Structured observation checklists assessed behavioral practices, while questionnaires were administered to evaluate participant satisfaction and overall program effectiveness.

RESULT

The implementation of this community service program yielded measurable improvements in knowledge, behavioral practices, and selected nutritional indicators. Quantitative findings from the pre-test and post-test assessments revealed a substantial increase in participants' knowledge scores. The average score increased from 62.4 before the intervention to 84.7 after the intervention, reflecting improved understanding of stunting prevention, appropriate infant and young child feeding practices, and growth monitoring.

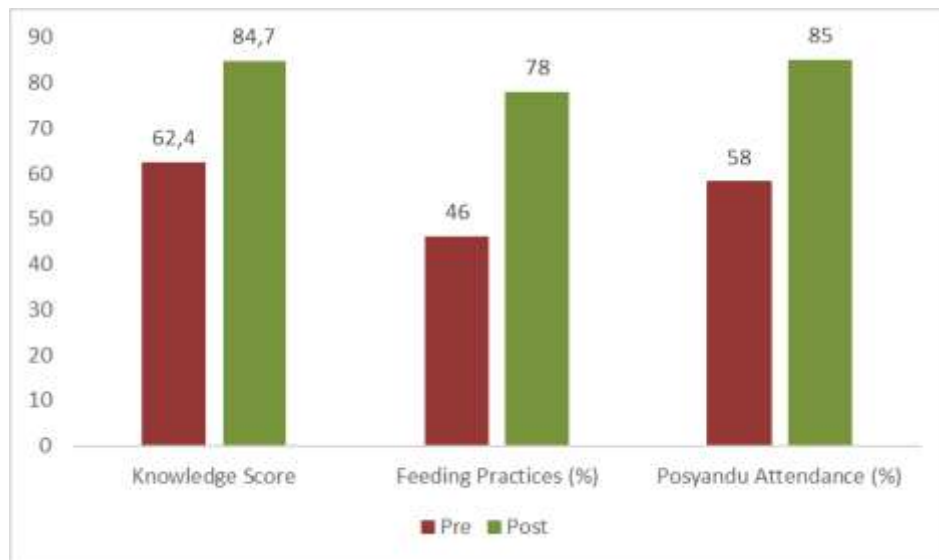


Figure 1. Pre–Post Intervention Comparison of Key Indicators

These results indicate a consistent upward trend across all measured variables. The improvement in knowledge suggests that the training and mentoring approach effectively enhanced participants' cognitive understanding. More importantly, the observed behavioral changes particularly in feeding practices and service utilization demonstrate that knowledge translation into practice occurred at the household level.

From a nutritional perspective, monitoring data showed early positive shifts in child growth indicators. Although stunting reduction requires long-term intervention, approximately 64% of children exhibited improvement in weight-related indices, suggesting initial recovery from growth faltering. This finding highlights the importance of early and continuous intervention through primary health care mechanisms. The results can be interpreted as evidence that strengthening the capacity of frontline health actors contributes significantly to improved community health outcomes. Increased engagement with posyandu services further reinforces the role of primary health care as an accessible and trusted platform for preventive interventions. These findings are consistent with existing literature. Previous studies have demonstrated that community-based interventions integrating education, mentoring, and routine monitoring are more effective than single-component strategies in addressing stunting. Research also emphasizes that improving caregiver knowledge alone is insufficient unless accompanied by supportive systems that facilitate behavioral change. The observed improvements in this program align with global recommendations advocating integrated, community-driven approaches to reduce chronic malnutrition.

Overall, the program provides empirical support for the effectiveness of a primary health care approach in accelerating stunting prevention efforts. The combination of capacity building, community engagement, and continuous monitoring appears to be a practical and scalable strategy in similar contexts.

DISCUSSION

The findings of this community service program demonstrate that a primary health care (PHC)-based approach can effectively improve knowledge, behavioral practices, and early nutritional indicators related to stunting prevention. The observed increase in knowledge scores among health workers and community health cadres suggests that structured training and mentoring interventions are capable of strengthening frontline capacity. This is particularly important in the context of Indonesia, where cadres play a central role in bridging formal health services and community-level engagement (Kajjura et al., 2025).

The substantial improvement in knowledge is consistent with existing evidence indicating that capacity-building interventions significantly enhance the effectiveness of health promotion activities (Makwela et al., 2026). However, knowledge improvement alone does not automatically translate into behavioral change (Nyarko et al., 2024). In this program, the concurrent increase in appropriate feeding practices and posyandu attendance indicates that the intervention successfully facilitated the translation of knowledge into action. This suggests that combining education with practical mentoring and continuous engagement is essential to achieve meaningful outcomes (Orimadegun et al., 2025).

The increase in appropriate infant and young child feeding practices reflects improved caregiver awareness and decision-making (Yang et al., 2025). Previous studies have highlighted that inappropriate feeding practices, particularly during the first 1,000 days of life, are among the most critical determinants of stunting (Otoo et al., 2025). By addressing this through targeted education and direct mentoring, the program was able to influence daily practices at the household level (Ranganathan et al., 2025). This aligns with global recommendations emphasizing behavior change communication as a key component of stunting reduction strategies (Prayitno et al., 2025).

Similarly, the improvement in posyandu attendance demonstrates enhanced community participation in preventive health services (Widiastuti et al., 2024). Regular attendance at posyandu is crucial for early detection of growth faltering and timely intervention (Rosyada et al., 2026). The increase observed in this program indicates that strengthening trust, accessibility, and perceived relevance of primary health care services can significantly improve utilization (Sentika et al., 2024). This finding is supported by studies showing that community engagement and culturally appropriate approaches are critical factors in increasing service uptake (Silaen et al., 2025).

Although the intervention period was relatively short, early improvements in child growth indicators were observed. While stunting is a chronic condition that requires long-term intervention, short-term gains in weight-related indicators can serve as early signals of improved nutritional status (Suprpto, 2026). This finding suggests that the intervention has the potential to contribute to longer-term reductions in stunting if sustained over time. It also reinforces the importance of continuous monitoring and follow-up within PHC systems (Supranoto et al., 2025).

From a systems perspective, the results highlight the importance of integrating policy implementation with local capacity strengthening (Suprpto et al., 2024). One of the persistent challenges in stunting reduction efforts is the gap between national policy frameworks and local-level execution. This program demonstrates that empowering frontline actors particularly health workers and cadres can help bridge this gap. By equipping them with the necessary knowledge and skills, policies can be translated into actionable interventions that are responsive to community needs.

The findings are in line with a growing body of literature emphasizing the effectiveness of integrated, community-based approaches in addressing stunting. Interventions that combine education, service delivery, and community participation tend to yield better outcomes compared to fragmented or single-component strategies. Moreover, the PHC approach ensures that interventions are not only accessible but also sustainable, as they are embedded within existing health systems.

Despite these positive outcomes, several limitations should be acknowledged. The relatively short duration of the intervention limits the ability to assess long-term impacts on stunting prevalence. In addition, the sample size was limited to a specific community, which may affect the generalizability of the findings. Future programs should consider longer implementation periods and broader coverage to validate and scale up the intervention model. Overall, this program provides practical evidence that strengthening primary health care systems, combined with community empowerment, can enhance the effectiveness of stunting prevention efforts. The integration of training, mentoring, and routine monitoring offers a feasible and scalable model that can be adapted in similar contexts. Continued investment in frontline capacity and community engagement will be essential to sustain progress and achieve national stunting reduction targets.

CONCLUSION

This community service program demonstrates that a primary health care-based approach can effectively improve knowledge, behavioral practices, and early nutritional indicators related to stunting prevention. The increase in knowledge among health workers and community health cadres was accompanied by positive changes in caregiving practices, particularly in appropriate child feeding and increased utilization of posyandu services. These findings indicate that strengthening frontline capacity and engaging communities are critical components in translating policy into effective action at the local level. Although the intervention period was relatively short, the observed improvements in growth indicators suggest promising early progress toward better nutritional outcomes.

To ensure sustainability, it is recommended that similar programs be integrated into routine primary health care activities, with continuous training and supervision for health workers and cadres. Strengthening collaboration between local stakeholders, including community leaders and health institutions, is also essential to maintain community participation. In addition, periodic monitoring and evaluation should be conducted to track long-term impacts and inform program refinement. Scaling up this

model to other high-risk areas may contribute to accelerating national efforts in reducing stunting prevalence.

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Conflict of Interest

The authors declare that there are no conflicts of interest related to this community service program. This work was conducted in the absence of any commercial or financial relationships that could be interpreted as a potential conflict of interest.

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