

Family-based home care assistance for children at risk of stunting through nutrition interventions and healthy parenting

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Submitted: 2026-01-05; Revised: 2026-01-25; Accepted: 2026-02-02; Published: 2026-02-10

KEYWORDS:

Family-based care
Healthy parenting
Home care assistance
Nutrition intervention
Stunting prevention

ABSTRACT

Stunting remains a major public health challenge that threatens child growth and long-term human development, particularly among vulnerable families. Family-based interventions are essential to address the behavioral and environmental determinants of stunting that occur at the household level. This community service program aimed to strengthen family capacity in preventing stunting among children at risk through family-based home care assistance focusing on nutrition interventions and healthy parenting practices. The program was implemented using a structured and participatory approach consisting of five stages: socialization, training, application of appropriate technology, mentoring and evaluation, and program sustainability. Activities were conducted with families who had children at risk of stunting and were supported by community nurses and health cadres. Training emphasized balanced nutrition, age-appropriate feeding practices, dietary diversity using locally available foods, hygiene and sanitation, healthy parenting, and child growth monitoring. Simple digital educational media and mobile-based communication were used to reinforce learning and facilitate follow-up. Mentoring was carried out through regular home visits to provide individualized guidance and support behavior change. The results showed improvements in caregiver knowledge, feeding practices, healthy parenting behaviors, compliance with child growth monitoring, and utilization of simple technology after program implementation. These findings indicate that family-based home care assistance is a feasible and effective approach to strengthening family capacity for stunting prevention. Integrating nutrition education, healthy parenting support, appropriate technology, and continuous mentoring within community-based services can contribute to sustainable improvements in child nutrition practices and support long-term efforts to reduce stunting at the community level.



e-ISSN: 3032-663X

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INTRODUCTION

Stunting remains one of the most critical public health and human development challenges in Indonesia and other low- and middle-income countries (Arda et al., 2023). Defined as impaired linear growth resulting from chronic malnutrition and repeated infections during the first 1,000 days of life, stunting has long-term consequences that extend beyond physical stature (Adiaksa & Syukur, 2025). Children who experience stunting are at higher risk of delayed cognitive development, poor educational achievement, reduced productivity in adulthood, and increased vulnerability to non-communicable diseases later in life (Akib & Sriwahyuni, 2025). Despite sustained national efforts to reduce stunting prevalence, the problem persists, particularly in vulnerable households where socioeconomic limitations, inadequate caregiving practices, and limited access to health and nutrition information intersect (Ashar et al., 2025).

One of the major contributors to stunting is the inadequate quality of nutrition and suboptimal parenting practices at the household level (Aslanyan & Demirchyan, 2024). While food availability is an essential factor, evidence increasingly shows that stunting is not solely caused by insufficient food intake but also by poor feeding practices, limited dietary diversity, inadequate responsive caregiving, and inadequate hygiene and sanitation behaviors (Ayu Rahmadani et al., 2025). In many families, caregivers, especially parents, lack sufficient knowledge and skills to provide age-appropriate nutrition, monitor child growth, and respond effectively to early signs of growth faltering. This condition is often exacerbated by misconceptions about child feeding, cultural beliefs, and reliance on traditional practices that may not align with current health recommendations (Azza et al., 2025).

Conventional stunting prevention programs are frequently delivered through facility-based services, such as maternal and child health clinics or community health posts (Black et al., 2025). While these services play a vital role, their effectiveness is often constrained by limited coverage, irregular attendance, and a focus on growth monitoring rather than sustained behavioral change. Families with children at risk of stunting may face barriers such as distance, time constraints, or low motivation to attend health facilities regularly (Draper et al., 2024). Moreover, counseling provided in group settings is often generalized and may not adequately address the specific needs, challenges, and household contexts of individual families. As a result, critical opportunities for early intervention at the family level are frequently missed (Garina et al., 2024).

Home-based care assistance offers a strategic, context-sensitive approach to addressing these gaps. Family-based home care enables direct engagement with caregivers in their own living environments, allowing health workers or trained facilitators to observe daily feeding practices, hygiene behaviors, and caregiving patterns more accurately (Hijrah et al., 2025). This approach facilitates personalized nutrition interventions, tailored counseling, and practical demonstrations that are directly relevant to the family's resources and constraints. By focusing on children identified as being at risk of stunting, home care assistance allows for early, preventive action before growth failure becomes irreversible (Jeong et al., 2025).

Nutrition interventions delivered through home care are particularly effective when combined with healthy parenting education (Mehta et al., 2025). Healthy parenting encompasses responsive feeding, stimulation, emotional support, and consistent caregiving routines that support optimal child growth and development. Parents play a central role in shaping children's dietary habits, health behaviors, and developmental

outcomes (Ode Novi Angreni et al., 2024). Strengthening parental capacity through structured education, mentoring, and continuous support is therefore essential. When parents understand the importance of balanced nutrition, appropriate feeding frequency, food preparation hygiene, and responsive interaction, they are more likely to adopt sustainable behaviors that protect children from chronic malnutrition (Pienaa et al., 2025).

In the Indonesian context, where stunting is closely linked to social determinants such as poverty, education level, and household food security, integrated home-based interventions are especially relevant. Community-based home care programs can complement existing national stunting reduction strategies by reinforcing messages delivered at health facilities and ensuring their practical application at home. Furthermore, such programs contribute to equity by reaching families who are less likely to access routine services, thereby reducing disparities in child nutrition and development outcomes. Therefore, family-based home care assistance through nutrition interventions and healthy parenting represents a promising and urgently needed strategy for stunting prevention among children at risk. By addressing both nutritional intake and caregiving behaviors within the household context, this approach has the potential to produce more sustainable and meaningful improvements in child growth. This community service initiative aims to strengthen family capacity, enhance parental knowledge and skills, and ultimately reduce stunting risk among vulnerable children through integrated, home-centered support.

METHOD

This community service program was implemented using a structured, participatory, and family-centered approach to prevent stunting among children at risk. The method was designed to strengthen family capacity through integrated nutrition interventions and healthy parenting practices delivered at the household level. Program implementation was carried out in several sequential stages, including socialization, training, application of appropriate technology, mentoring and evaluation, and program sustainability, to ensure effective implementation, measurable outcomes, and long-term impact within the community.

Table 1. Stages of Community Service Implementation

Stage	Objective	Activities	Outputs
Socialization	To increase awareness and gain community commitment in stunting prevention	Coordination with local stakeholders and community meetings to introduce program objectives, benefits, family roles, and to identify children at risk of stunting.	Increased community understanding of stunting, family willingness to participate, and a list of target families
Training	To improve the knowledge and skills of caregivers and facilitators	Training on balanced nutrition, age-appropriate feeding, food diversity, hygiene practices, child growth monitoring, and healthy parenting using interactive methods	Improved caregiver knowledge and skills; trained facilitators; educational materials distributed
Application of Technology	To support nutrition education and monitoring through appropriate technology.	Use of simple digital growth monitoring tools, mobile-based nutrition messages and reminders, and visual educational media for caregivers	Improved access to nutrition information; enhanced monitoring of child growth; continuous communication with families
Mentoring and Evaluation	To ensure proper implementation and measure program effectiveness	Regular home visits; observation of feeding and caregiving practices; individualized counseling; process and outcome evaluation using questionnaires and growth records	Improved parenting and feeding practices; documented changes in caregiver behavior and child growth indicators
Program Sustainability	To ensure continuity and long-term impact of the program	Strengthening community cadres' roles; integration with existing health programs; provision of monitoring tools and guidelines; promotion of family and community ownership	Sustainable community-based activities; continued family engagement; contribution to long-term stunting prevention

RESULT AND DISCUSSION

RESULT

The community service activities were implemented as planned through a series of structured stages involving families with children at risk of stunting. The results demonstrate improvements in caregiver participation, knowledge, and practical skills related to nutrition interventions and healthy parenting practices. Program implementation also led to positive changes in household feeding behaviors and increased awareness of child growth monitoring, indicating that family-based home care assistance is a feasible and effective approach for stunting prevention at the community level.

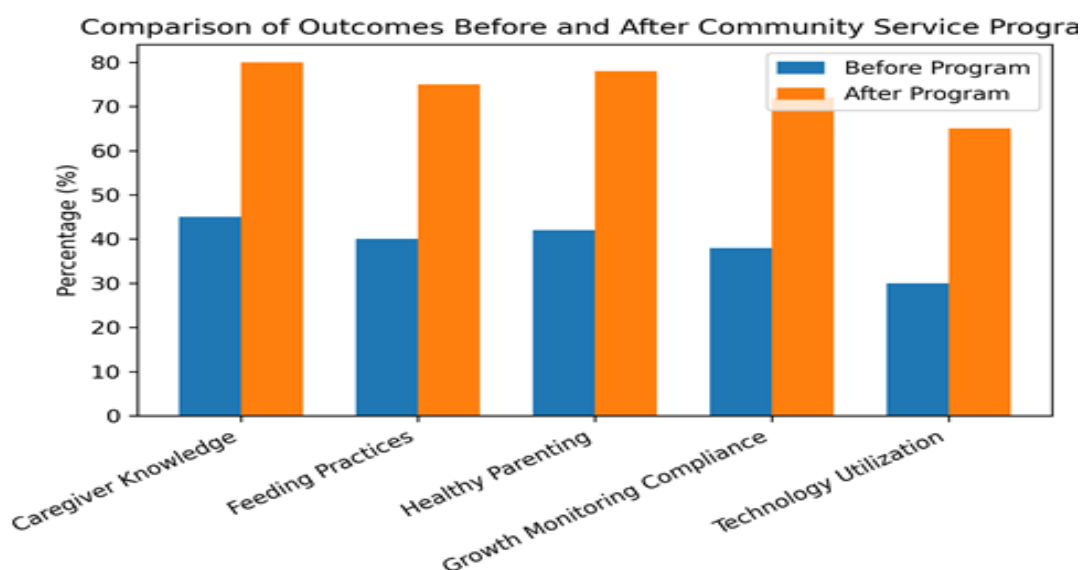


Figure 1. Comparison of Outcomes Before and After the Community Service Program

The figure illustrates a clear improvement across all key indicators following the implementation of the family-based home care assistance program. Caregiver knowledge, feeding practices, healthy parenting behaviors, compliance with child growth monitoring, and utilization of simple technology all increased substantially after the intervention. These findings indicate that integrated nutrition education, healthy parenting training, and continuous home-based mentoring effectively strengthened family capacity and supported stunting prevention efforts among children at risk.

The community service program that implemented family-based home care for children at risk of stunting demonstrated positive, meaningful outcomes. The results indicate that integrated nutrition interventions combined with healthy parenting education effectively improved caregiver knowledge, feeding practices, and parenting behaviors within the household setting. Families showed increased awareness of the importance of balanced nutrition, age-appropriate feeding, hygiene practices, and regular child growth monitoring.

The application of simple, accessible technology supported continuous learning and improved caregiver engagement, enabling families to monitor their child's growth better and apply recommended nutrition practices. Regular mentoring through home visits

played a critical role in reinforcing behavioral changes, addressing family-specific challenges, and ensuring consistent implementation of healthy practices. This approach allowed facilitators to provide personalized guidance and strengthen family confidence in caring for children at risk of stunting.

Overall, the program confirms that a family-centered, home-based intervention is a feasible and effective strategy for stunting prevention at the community level. By empowering families as the primary agents of change, the program contributes to sustainable improvements in child nutrition and caregiving practices. These findings support integrating family-based home care assistance into broader community health and stunting-reduction initiatives to enhance long-term child growth and development outcomes.

DISCUSSION

The findings of this community service program demonstrate that family-based home care assistance is a practical approach to improving nutrition-related behaviors and healthy parenting practices among families with children at risk of stunting. The observed improvements across key indicators, caregiver knowledge, feeding practices, healthy parenting behaviors, growth monitoring compliance, and technology utilization highlight the value of integrating nutrition education, personalized mentoring, and home-based interventions within the household context.

One of the most significant outcomes of the program was an increase in caregivers' knowledge of child nutrition and stunting prevention (Rosyada et al., 2025). Before the intervention, a limited understanding of balanced nutrition, appropriate feeding frequency, and food diversity was commonly observed among caregivers. After participating in structured training sessions and receiving continuous mentoring, caregivers demonstrated improved comprehension of nutritional needs during early childhood. This finding reinforces the importance of education as a foundational component of stunting prevention, as knowledge is a critical prerequisite for informed decision-making and behavior change within families (Setiawati et al., 2025).

Improvements in feeding practices further indicate that enhanced knowledge translated into practical application at the household level. Caregivers reported adopting more age-appropriate feeding routines, increasing dietary diversity using locally available foods, and paying greater attention to food hygiene. These changes are particularly relevant, as inappropriate feeding practices and monotonous diets are well-documented contributors to chronic malnutrition and growth faltering. The home-based nature of the intervention allowed facilitators to observe real-life feeding behaviors and provide tailored guidance, making recommendations more feasible and contextually relevant (Sharma et al., 2025).

Healthy parenting behaviors also showed notable improvement following program implementation. Responsive feeding, positive caregiver–child interaction, and consistent caregiving routines were increasingly practiced by families. This finding underscores the interconnectedness of nutrition and parenting in child growth and development. Stunting is not solely a nutritional issue but is closely linked to psychosocial stimulation and

caregiving quality. By integrating healthy parenting education into nutrition interventions, the program addressed multiple determinants of child growth simultaneously, thereby enhancing its overall effectiveness (Suprpto, 2022).

Another significant result was the increased compliance with child growth monitoring. Families became more attentive to tracking their children's growth and to recognizing early signs of faltering growth. Regular monitoring enables timely intervention before stunting becomes irreversible, particularly during the critical first 1,000 days of life. The combination of education, mentoring, and simple monitoring tools helped demystify growth indicators and empowered caregivers to take a more proactive role in their children's health (Ula et al., 2025).

The application of simple and accessible technology also contributed positively to program outcomes. Mobile-based messaging and digital growth monitoring tools facilitated continuous communication between facilitators and families, reinforced key messages, and supported behavior maintenance beyond face-to-face interactions. Technology served as a complementary tool rather than a replacement for direct engagement, enhancing the reach and consistency of educational efforts. This finding is consistent with growing evidence that appropriate technology can strengthen community-based health interventions when adapted to local capacities and needs (Yang et al., 2025).

The success of the mentoring component highlights the importance of sustained, personalized support in achieving behavioral change. Regular home visits allowed facilitators to build trust, identify household-specific barriers, and provide solutions that aligned with family resources. Rather than adopting a directive approach, mentoring emphasized collaboration and empowerment, which likely contributed to higher caregiver engagement and program adherence. This participatory approach aligns with community service principles that prioritize capacity building and community ownership (Zeldman et al., 2025).

From a broader perspective, the results support the relevance of family-centered interventions in addressing complex public health challenges such as stunting. Facility-based services alone may be insufficient to achieve lasting behavioral change, particularly among vulnerable families facing socioeconomic constraints. Home-based assistance bridges the gap between health services and daily family practices, ensuring that knowledge is translated into action within the household environment (Zhao et al., 2025).

Despite the positive outcomes, several considerations should be noted. The program relied on short-term observation of behavioral changes, and long-term follow-up is needed to assess the sustainability of these improvements and their impact on child growth outcomes. Additionally, the effectiveness of the intervention may vary depending on community context, facilitator capacity, and family motivation. These factors should be considered when scaling up or replicating the program in different settings.

Overall, the discussion of results indicates that an integrated, family-based home care program combining nutrition interventions, healthy parenting education, appropriate technology, and continuous mentoring is a promising strategy for stunting prevention. The program demonstrates that empowering families through direct engagement and

context-sensitive support can lead to meaningful improvements in caregiving practices. Integrating this approach into existing community health and stunting-reduction initiatives may enhance program effectiveness and sustain improvements in child growth and development at the community level.

CONCLUSION

The family-based home care assistance program effectively improved caregiver knowledge, feeding practices, healthy parenting behaviors, and compliance with child growth monitoring among families with children at risk of stunting. The integration of nutrition interventions, healthy parenting education, appropriate technology, and continuous home-based mentoring proved to be a feasible and impactful approach for strengthening family capacity in stunting prevention. This community-centered strategy highlights the importance of empowering families as key actors in promoting optimal child growth and development.

It is recommended that family-based home care assistance be integrated into routine community health and stunting prevention programs to enhance early intervention at the household level. Future initiatives should emphasize sustained mentoring, capacity building of community health workers, and the use of simple digital tools to support monitoring and education. Long-term follow-up and program expansion across diverse community settings are also recommended to ensure sustainability and broader impact on child nutrition and development outcomes.

Acknowledgment

The authors would like to express their sincere gratitude to all families, community health workers, and local stakeholders who actively participated in and supported the implementation of this community service program. Appreciation is also extended to the affiliated institution for its support and facilitation of this activity.

Conflict Of Interests

All authors declare no conflict of interest in this community service program.

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