

Combining Urgency and Cultural Sensitivity: Evaluating an Emergency Stunting Intervention Rooted in Local Wisdom in Indonesian Public Health Center

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Abstract. Stunting remained a critical public health challenge in Indonesia, particularly affecting rural communities. This study evaluated the efficacy of an urgent, culturally sensitive intervention to address stunting in Astambul Public Health Center, South Kalimantan, through a maternal and child program. The initiative leveraged indigenous wisdom, local nutritional resources, and cultural practices to enhance health outcomes. A mixed-methods case study design was employed. The research engaged 100 pregnant women and young children as participants. Data collection included in-depth interviews, systematic observations, and anthropometric measurements of children conducted pre-and post-intervention. The intervention utilized local nutrient-dense foods and cultural practices while emphasizing immediate action's urgency. Results showed significantly enhanced maternal understanding of balanced nutrition and increased protein and iron consumption among participants. Community leaders' involvement bolstered engagement and facilitated swift implementation. Post-intervention analysis revealed a 15% reduction in stunting prevalence within a short timeframe. This outcome underscored the potential of urgent, indigenous wisdom-based approaches in effectively mitigating stunting within rural contexts. The study concluded that emergency interventions grounded in local wisdom offered an encouraged and culturally appropriate strategy to address stunting in rural communities. It advocated for broader implementation of similar rapid-response programs across diverse regions and emphasized collaborative efforts between governmental bodies, community stakeholders, and healthcare professionals. This study contributed to the literature on culturally sensitive, urgent public health interventions and provided valuable insights for policymakers and practitioners in resource-limited settings.

Keywords: Cultural Sensitivity, Emergency, Stunting, Rooted, Public Health

1 Introduction

Stunting has remained a critical public health challenge in Indonesia, disproportionately affecting rural communities where healthcare access is often limited. This condition, defined by

impaired growth and development due to chronic malnutrition, not only hinders physical growth but also has long-term impacts on cognitive development, social participation, and economic productivity [1][2][3]. In rural regions, the prevalence of stunting is particularly pronounced, driven by factors such as poverty, food insecurity, and inadequate maternal care, which are exacerbated by geographic and infrastructural barriers to health services[4][2][5]. Addressing stunting in these settings requires comprehensive interventions that are not only medically effective but also culturally sensitive and contextually appropriate.

Recognizing the urgency of the situation, an innovative intervention was implemented at a Public Health Center in Indonesia, focusing on the "Stunting Vanish with Maternal and Child" program. This initiative was designed to be culturally sensitive, integrating indigenous wisdom and local nutritional resources to address the root causes of stunting in a way that resonates with the community's values and practices [3][1][5]. The program aimed to improve maternal and child health outcomes by leveraging locally available foods rich in essential nutrients, alongside traditional practices that have long been part of the community's health management strategies [6][2][4][1]. The intervention was not only timely but also tailored to meet the specific needs of the population, considering the socio-cultural dynamics that influence health behaviors in rural areas.

The efficacy of this intervention was rigorously evaluated to determine its impact on reducing stunting rates and improving overall health outcomes [7][4], [6]–[8]. Despite the clear benefits demonstrated by culturally sensitive interventions, the widespread implementation of such programs remains a significant challenge. This is particularly true in regions with diverse cultural practices and varying levels of resource availability. The success of the "Stunting Vanish with Maternal and Child" program at the Public Health Center highlights the potential of community-driven approaches to public health; however, scaling these interventions to other areas requires careful consideration of local contexts [9][10]. Factors such as community engagement, local leadership, and the adaptability of intervention strategies to different cultural and environmental settings are critical to replicating the program's success [8][7][9]. Moreover, there is a need for robust monitoring and evaluation frameworks to assess the long-term sustainability and impact of these interventions on reducing stunting prevalence and improving health outcomes across different populations [11][10][12].

To address these challenges, this study aims to provide a detailed evaluation of the "Stunting Vanish with Maternal and Child" program, focusing on its design, implementation, and outcomes [7][10][11][12][9]–[14]. By conducting a thorough analysis of the program's components and the contextual factors that influenced its success, this research seeks to identify key lessons that can inform the development of similar interventions in other settings. The study also aims to contribute to the broader discourse on the integration of indigenous knowledge and culturally relevant practices into public health strategies, particularly in low-resource environments. Through this evaluation, the research will provide insights into the critical elements that ensure the effectiveness and sustainability of community-based interventions in combating stunting and other public health challenges.

2 Methods

A comprehensive mixed-methods approach was employed, incorporating both qualitative and quantitative data collection techniques. This included in-depth interviews with participants, systematic observations of program implementation, and anthropometric measurements of children before and after the intervention. The research engaged 100 participants and the intervention leveraged indigenous wisdom, local nutritional resources, and cultural practices to enhance health outcomes. It emphasized the use of local nutrient-dense foods and cultural practices while stressing the urgency of immediate action. Community leaders were actively involved to bolster engagement and facilitate swift implementation. The study's design allowed for a comprehensive assessment of the intervention's impact on maternal understanding of balanced nutrition, protein and iron consumption among participants, and overall stunting prevalence within the target population. This research had been declared ethically feasible by the Ethics Commission of The Indonesian National Nurse Association.

3 Results and Discussion

The implementation of the culturally sensitive, urgent intervention in the Astambul Public Health Center yielded significant improvements in maternal understanding of balanced nutrition. Pre-intervention surveys revealed that only 32% of pregnant women could accurately describe a balanced diet. Post-intervention, this figure rose to 78% ($p < 0.001$), indicating a substantial increase in nutritional knowledge. This finding aligns with research by Dwi *et al.* [13], who reported similar improvements in maternal nutritional awareness following culturally tailored interventions in rural communities.

Protein and iron consumption among participants showed marked increases post-intervention. Daily protein intake rose from an average of 45g to 65g ($p < 0.01$), while iron intake increased from 10mg to 18 mg per day ($p < 0.001$). These improvements were attributed to the introduction of local, nutrient-dense foods and culturally appropriate dietary practices. The efficacy of leveraging indigenous food sources in nutrition interventions is consistent with findings by Indra *et al* [12], who observed comparable results in their study of rural Southeast Asian communities.

Anthropometric measurements of children revealed a significant reduction in stunting prevalence within the study population. Pre-intervention, 32% of children under five were classified as stunted (height-for-age Z-score < -2). Post-intervention, this prevalence decreased to 17%, representing a 15% reduction in stunting rates ($p < 0.001$). This rapid improvement surpasses the average rate of stunting reduction reported in similar short-term interventions [13][14][11], highlighting the potential effectiveness of urgent, culturally grounded approaches.

The involvement of community leaders proved instrumental in facilitating swift implementation and high engagement rates. Attendance at educational sessions increased from 65% in the first week to 92% by the end of the intervention period. This finding corroborates the importance of community leadership in health interventions, as emphasized by Indra *et al* [12] in their meta-analysis of community-based health programs. Moreover, qualitative data from in-depth interviews revealed a

high level of acceptability and perceived benefit among participants, with 85% reporting increased confidence in their ability to provide adequate nutrition for their children.

The results demonstrated significant improvements in nutritional knowledge among mothers, increased consumption of protein and iron-rich foods, and a notable reduction in stunting prevalence. These findings highlight the effectiveness of culturally adapted interventions in addressing complex public health challenges, particularly in settings where conventional health services may be less effective [13][14][12][11].

The findings of this study demonstrate the efficacy of an urgent, culturally sensitive intervention in addressing stunting within the context of a rural Indonesian community. The significant improvements in maternal nutritional knowledge, dietary intake, and child growth outcomes underscore the potential of approaches that combine emergency response tactics with indigenous wisdom. This aligns with the growing body of evidence supporting the integration of cultural competence in public health interventions [12][11][10][9][14]. The rapid 15% reduction in stunting prevalence observed in this study surpasses the average rates of improvement reported in similar short-term interventions, suggesting that the urgency-driven, culturally rooted approach may offer a more effective strategy for combating stunting in resource-limited settings.

The marked increase in maternal understanding of balanced nutrition post-intervention highlights the importance of culturally appropriate education in effecting behavioral change. This finding corroborates the work of Shibre *et al* [10], who emphasized the critical role of tailored health communication in improving maternal and child health outcomes. The success of utilizing local nutrient-dense foods and cultural practices in improving protein and iron intake among participants demonstrates the potential of leveraging indigenous resources in nutrition interventions. This approach not only enhances nutritional status but also promotes sustainability and community ownership of health initiatives, as noted by Walker *et al* [15] in their study of rural Southeast Asian communities.

The instrumental role of community leaders in facilitating swift implementation and high engagement rates aligns with the principles of community-based participatory research (CBPR). The increased attendance at educational sessions and the high level of acceptability reported by participants suggest that the involvement of local leadership enhances the credibility and relevance of health interventions. This finding is consistent with the meta-analysis by Walker *et al.* and Gluning *et al* [16][15], which identified community engagement as a key factor in the success of nutrition programs in low-resource settings. The rapid implementation and positive outcomes achieved in this study challenge the notion that effective stunting interventions necessarily require long-term strategies, suggesting that urgent, targeted approaches can yield significant results in a shorter timeframe.

However, it is important to acknowledge the limitations of this study. The relatively small sample size and the focus on a single community may limit the generalizability of the findings to other contexts. Additionally, the short-term nature of the intervention raises questions about the sustainability of the observed improvements. Future research should explore the long-term impacts of such urgent interventions and investigate their effectiveness across diverse cultural and geographical settings. Furthermore, the potential for unintended consequences of rapid interventions, such as disruption of local food systems or cultural practices, warrants careful consideration and further study [16][17][18][19][20]–[26].

Despite these limitations, the study's findings have important implications for policy and practice in stunting prevention and mitigation. The success of this culturally sensitive, urgent intervention suggests that similar approaches could be effectively implemented in other rural communities facing high stunting prevalence. Policymakers and public health practitioners should consider incorporating elements of indigenous wisdom and cultural sensitivity into emergency nutrition programs. Moreover, the study underscores the importance of collaborative efforts between governmental bodies, community stakeholders, and healthcare professionals in addressing complex public health challenges. Future research should focus on developing scalable models for implementing such interventions across diverse regions while maintaining cultural relevance and community engagement [27]–[34].

4 Conclusions

In conclusion, this study demonstrates the efficacy of an urgent, culturally sensitive intervention in addressing stunting within a rural Indonesian community. The significant improvements in maternal nutritional knowledge, dietary practices, and child growth outcomes underscore the potential of approaches that combine emergency response tactics with indigenous wisdom. The 15% reduction in stunting prevalence within a short timeframe highlights the effectiveness of leveraging local resources and cultural practices in public health interventions. While the study's limited scope and short-term nature warrant caution in generalizing the results, the findings offer promising insights for policymakers and practitioners in resource-limited settings. Future research should focus on assessing the long-term sustainability of such interventions, exploring their applicability across diverse cultural contexts, and developing scalable models that maintain cultural relevance and community engagement. This study contributes valuable evidence to the growing body of literature on culturally sensitive, urgent public health interventions and provides a foundation for innovative approaches to combating stunting in rural communities worldwide.

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