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Interprofessional Collaboration Approach as a Strategy for Stunting Prevention and Reduction: A Scoping Review

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ABSTRACT

Globally, stunting remains a health problem in children, with more than 149 million (22%) children worldwide experiencing stunting. The prevalence of stunting, despite a decline, has not yet reached the WHO target of less than 14%, a target set to achieve the Sustainable Development Goals (SDGs) by 2030. Stunting is caused by chronic malnutrition, infection, poor sanitation, and poor parenting practices that occur in the first 1,000 days of life. Efforts to prevent and accelerate stunting reduction require a multisectoral and multi-stakeholder approach. Interprofessional collaboration is recognized as an important approach for the sustainability of stunting prevention and reduction programs. This scoping review aims to determine the existing evidence on interprofessional collaboration in stunting prevention and reduction, to determine implementation strategies, the impact of implementation, success factors, and challenges encountered in stunting intervention programs.
Method: The study design is a scoping review. This title was first checked in PROSPERO to identify any similar titles. The selection of research articles used in this scoping review was conducted through a search of articles published in the following databases: PubMed, SCOPUS, Science Direct, Proquest, Google Scholar, filtering articles published between 2015 and 2025. This review identified 3,513 articles, of which 18 met the inclusion criteria.
The review identified several indicators of IPC success. Furthermore, IPC proved effective in improving mothers' and cadres' knowledge, attitudes about stunting, influencing stunting prevention behaviors, and uncovering several obstacles and challenges in interprofessional collaboration practices.

1. INTRODUCTION

According to WHO (2024), Stunting is a term for low height for age, caused by chronic or repeated malnutrition, usually related to poor socioeconomic conditions, poor maternal health and nutrition, frequent illness, and/or inappropriate feeding and care for infants in early life. Globally, according to UNICEF/WHO/World Bank Group-JCME (2023), the results of the stunting review obtained stunting data have decreased over the last decade; in 2022, there were 148.1 million, which means 22.3 percent of children under 5 years of age worldwide

experienced stunting. Almost all affected children live in Asia (52% of the global share) and 43% in Africa.

In 2024, the Indonesian Nutritional Status Survey (SSGI) was conducted, assessing the nutritional status of toddlers based on the classification of weight/age, height/age, and weight/height. The results of the 2024 SSGI revealed the prevalence of stunting. Nationally, the stunting rate was 19.8%, a decrease compared to the 2023 Indonesian Health Survey (SKI) of 21.5%. Based on age characteristics, the highest stunting rate was in the 24-35 month age group (24.2%), with a higher prevalence of males (20.8%) compared to females (18.6%). The head of the household was less educated at 30.9%, and the head of the household was a fisherman (28.3%). The majority of residences were in rural areas (22.7%), with the highest economic status (29.8%) in the lowest economic class.

According to Lestari (2023), one of the sources of stunting problems is poor nutrition in mothers and children. Lack of nutritional intake in mothers before pregnancy, during pregnancy, and in the first 1,000 days of a child's life can inhibit child growth. The results of a study in seven Southeast Asian countries found that there were thirteen predictive factors causing stunting, including child, mother, home, inadequate complementary feeding, inadequate breastfeeding, inadequate care, poor food quality, food and water security, infection, political economy, health and health services, water, sanitation, and the environment, as well as socio-cultural factors.(Togatorop *et al*., 2024) According to the Ministry of Health (2023b), stunting determinants occur in three periods, namely the prenatal, birth, and postnatal periods.

The impact of nutritional deficiencies or excesses during the 0-2 year period is irreversible, impacting a child's short- and long-term quality of life. A study by Muhammad (2021) found that stunted children have a higher risk of suspected developmental delays compared to non-stunted children. Stunted children tend to experience rapid weight gain after the age of 2, putting them at risk of becoming overweight. This condition causes stunted children to experience fat oxidation, lower energy expenditure, and insulin resistance, thus increasing the risk of diabetes, hypertension, and dyslipidemia (Soliman et al., 2021). Stunting affects long-term brain development, which then impacts cognitive abilities and school achievement. Disrupted linear growth will affect endurance and work capacity. In line with previous research, the long-term effects of stunting are also associated with decreased fat oxidation capacity, leading to the risk of obesity and degenerative diseases such as hypertension, type 2 diabetes, and cardiovascular disease (Ministry of Health, 2022b).

Stunting management efforts in health programs are carried out through specific interventions and stunting-sensitive interventions. Specific interventions are carried out on the direct causes of stunting, and sensitive interventions on the indirect causes. Multicausal stunting requires multisectoral and multi-stakeholder involvement, and collaboration between several professions, carried out using a life-cycle approach for women. Stunting prevention must be carried out before the pre-incubation period. Stunting prevention is carried out from the female adolescent phase, pregnancy, and the first 1,000 days of life. In addition, providing additional food, premarital and nutritional counseling must also be carried out. These prevention efforts are closely related to behavioral factors. Based on the framework of the causes of the problem, mothers/women are included in the priority target category for stunting prevention.

According to Estiwidani's research (2021), interprofessional collaborative practices have an impact on improving stunting prevention behavior in families during the first 1,000 days of life at the Gedangsari II Community Health Center in Gunungkidul Regency. There was a difference in the average increase in stunting prevention behavior at pre-post levels between the intervention and control groups (p-value) at the Gedangsari II Community Health Center in Gunungkidul Regency. Interprofessional Collaboration (IPC) can optimize and strengthen the health service system, thereby improving health status. A strategy that can be implemented through IPC to prevent stunting is to optimize the role of each profession according to their respective competencies. This is a challenge in efforts to accelerate stunting reduction, towards zero new stunting by 2030. Based on this, this review aims to determine the form and results of interprofessional collaboration as a strategy to prevent and reduce stunting.

2. METHODS

a. Design Study

This research method is a scoping review. According to Davis et al. (2009), this method synthesizes evidence with the aim of mapping the scope and scope of the literature on a topic, mapping key concepts, types of evidence, and identifying gaps. In general, the stages in this scoping review are: 1) identifying the research question, 2) identifying relevant studies, 3) selecting relevant studies based on inclusion and exclusion criteria, 4) mapping data from selected studies, 5) compiling and summarizing the results (Levac et al. 2010). This review is reported in a narrative that is descriptive and exploratory in nature, and does not assess the quality of studies like a systematic review.

b. Search Strategy

The title of this scoping review has been checked in PROSPERO first to see if there are similar titles, although this review is not a systematic review. The selection of articles used in this study was done by searching articles published in the databases: PubMed, SCOPUS, and Science Direct, Proquest, and Google Scholar. The search was done independently. In the database, the search was done using keywords ("stunting" OR "child growth faltering") AND ("interprofessional collaboration" OR "multisectoral approach" OR "teamwork" OR "cross- sector") AND ("nutrition" OR "public health" OR "community health"). while in the Science Direct database, the search was limited to using 8 keywords, namely ("stunting" OR "child growth faltering") AND ("interprofessional collaboration" OR "multisectoral approach" OR "teamwork") AND ("nutrition" OR "public health" OR "community health"). The article search was completed by October 2025.

c. Eligibility criteria

The inclusion criteria for this study are: 1) The literature is the result of research in the field of social science, 2) The literature is indexed in reputable databases and/or GARUDA, 3) Research in the last 10 years, 4) Research on the topic of interprofessional collaboration and stunting, 5) Qualitative and quantitative research design, 6) English and/or Indonesian. The exclusion criteria are as follows: 1) The literature is not available in full text, 2) the topic is not relevant, 3) other languages

d. Study Selection

Articles obtained through systematic searches were imported into the citation manager, Mendeley, and then uploaded to the web-based application Rayyan AI for management, duplication checking, screening, and data extraction. The first screening stage involved reviewing the title; the second stage involved reading the abstract of each article to determine whether the study met the inclusion criteria. The third stage involved filtering using full text for extraction. Two reviewers read the full text of the articles to select those eligible for inclusion in the study and those excluded from the study.

e. Data Extraction and Assessment

From each article, the following information was systematically taken: 1) article title, 2) Author,

3) Year of Publication, 4) Research method (qualitative, mixed method, review, cross-sectional, quasi-experimental), 5) Location, 6) Research outcome/results

3. RESULTS AND DISCUSSIONS

a. Result

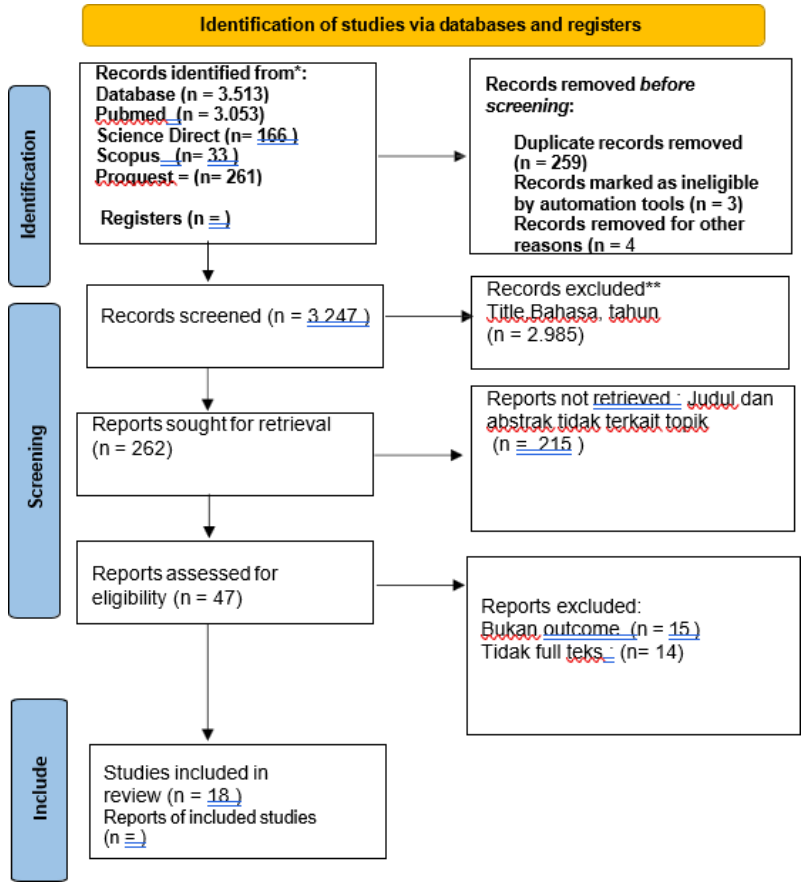

Figure 1. PRISMA Diagram

a. Selected articles

No	Title	Researchers	Year	Method	Location	Outcome
1	Modeling environmental interactions and collaborative interventions for childhood stunting: A case from Indonesia	Astuti SJW *et al.*	2025	Phenomenological study	Indonesia	The results of this study indicate that the success of stunting reduction efforts depends on effective collaboration between various stakeholders. This research highlights that social capital, consisting of social networks, collective norms, and trust, plays a crucial role in strengthening stunting reduction efforts. Further research is needed to explore the specific impact of social capital in other contexts in Indonesia and to develop intervention models that are more adaptive to local social and cultural dynamics.
2	Impact of Interprofessional and Interagency Collaboration in US Child Welfare Systems: A Scoping Review	Phillips J. *et al.*	2025	Scoping Review	United States of America	Most studies find that collaboration results in better outcomes, although findings for client outcomes are more variable than for professional outcomes. Conclusion: The Literature provides a diverse understanding of how collaboration can impact clients and professionals in child welfare, but more studies with a strong conceptual foundation and rigorous research design are needed. Further research is also needed to clarify which components of collaboration are most important and which outcomes are influenced by collaboration.

3	Facilitators and barriers to interprofessional collaboration among health professionals in primary healthcare centers in Qatar: a qualitative exploration using the "Gears" model.	El-Awaisi *et al*.	2024	Qualitative	Qatar	The study found a spectrum of factors influencing IPC, categorized into four main domains: macro, meso, micro, and individual levels, each with relevant barriers and facilitators. Key challenges identified included a lack of communication skills, inadequate professional competence, and power imbalances.
4	The Importance of Interprofessional Collaboration (IPC) Guidelines in Stunting Management in Indonesia: A Systematic Review	Sentika R. *et al*	2024	Systematic Review	Indonesia	This review included 52 articles. Interprofessional Collaboration (IPC) has been shown to play a significant role in reducing stunting prevalence. Training improves the knowledge of health workers, which aids in early detection and prevention of stunting. These studies highlight the positive impact of IPC in reducing stunting across various regions. Policymakers are encouraged to adopt a comprehensive strategy involving collaboration, financial support, and effective program implementation.
5	Expert Consensus on Interprofessional Collaboration (IPC) Guidelines on Stunting Management in Indonesian Primary Healthcare (Puskesmas)	Sentika R. *et al*	2024	Expert Consensus	Indonesia	An agreement was reached on the focus of interventions on the life cycle, particularly the first 1,000 days of life, and the importance of transforming primary health care services. Strategies to enhance collaboration include leadership from the head of the community health center, clear role allocation, regular coordination meetings, and periodic interprofessional training.

6	The effectiveness of community-based interprofessional education for undergraduate medical and health promotion students	Suwanchatchai C. *et al.*	2024	Pre-post-posttest design	Thailand	The results showed significant improvements in collaborative competencies before and after the 2-week training. Gender stratification analysis showed improvements after CBIPE training for all subscales in women, while scores on the communication, collaboration, conflict management, and team functioning skills segments were significantly higher at post-training assessments among men.
7	FINCA – a conceptual framework to improve interprofessional collaboration in health education and care	Witti MJ *et al.*	2023	Hypothesis and Theory Article	German	The core of FINCA is observable collaborative activity (sharing of information and foundation, negotiating, organizing, and carrying out interprofessional activities; maintaining communication) that can be used to assess individuals' cognitive and social skills. This framework is based on a combination of three theoretical streams from educational psychology research on collaborative learning: (1) the development of diagnostic competencies, (2) collaborative scripts, and (3) collaborative problem-solving skills.
8	Enhancing interprofessional collaboration and interprofessional education in women's health	Baecher L. *et al*	2022	Review Article	USA	This objective provides a historical perspective on how interprofessional collaboration and interprofessional education have been key aspects of clinical and educational programs, enhancing patient care and student development. Opportunities are suggested for

						integrating interprofessional education into women's health education programs across the organization.
9	Interprofessional Collaborative Practice and Health Workers Retention at Remote Primary Health Care: case study from Nusantara Sehat team-based program 2022,	Soewondo. *et al.*	2022	Qualitative exploratory	Indonesia	These findings revealed several challenges in promoting collaborative practice, including high community demand for curative services, unclear division of tasks between NSTs and local PHC staff, and inadequate support from health facilities. IPC curricula have not been incorporated into pre-service education and in-service training before NSTs.
10	Perspectives of Healthcare Professionals Toward Interprofessional Collaboration in Primary Care Settings in a Middle Eastern Country.	El-Awaisi *et al.*	2021	Cross Sectional	Qatar	Healthcare workers in primary care settings have demonstrated a willingness and readiness to engage in interprofessional collaboration. However, providing training and education to foster and support interprofessional collaborative practice is crucial. Key perceived barriers include leadership and support, time commitment, and resource constraints.
11	The Effectiveness of the Interprofessional Collaboration (IPC) Program on The Attitude of Mothers and Health Cadres on Stunting at Puskesmas Karanganom Klaten Central Java Republic of Indonesia	Astuti., *et al*	2021	Quasi-experiment	Indonesia	The results of data analysis showed that the average value of mothers' attitudes towards stunting changed from 9.68 to 16.52 (p=0.001), the attitudes of cadres increased from 76.53 to 87.53 (p=0.001). Interprofessional collaboration is effective in improving the attitudes of mothers and health cadres towards stunting. The IPC program effectively influences the way mothers think and act. This is indicated by significant differences in the actions and

						attitudes of health cadres before and after IPC.
12	Interprofessional collaboration practice is an effort to increase behavior prevention of stunting in families with the first 1000 days of life	Estiwidani & Hernayati.	2021	True experimental	Indonesia	Interprofessional Collaborative Practice (IPCP) has an impact on improving stunting prevention behavior in families during the first 1000 days of life at the Gedangsari II Community Health Center, Gunungkidul Regency.
13	Efforts to Reduce the Risk of Stunting Through an Interprofessional Collaboration (IPC) Approach	Mulyanti & Astuti.	2020	Quasi experiment	Indonesia	Effective interprofessional collaboration to improve the knowledge, attitudes, and behavior of mothers of toddlers under two years old (baduta) in an effort to prevent the risk of stunting and improve nutritional status.
14	The relationship between interprofessional education and healthcare professionals' attitudes towards teamwork and interprofessional collaborative competencies	Stadick JL	2020	Mixed Method	US	Quantitative results showed a positive correlation between self-reported attitudes toward working in teams and collaborative competencies, as well as a positive correlation between the type of interdisciplinary education (IPE) program attended and their ability to interact interdisciplinarily. Qualitative findings identified three categories: (1) Communication, which includes two subcategories, Effective Communication and Ineffective Communication, (2) Values, and (3) Roles.
15	Factors influencing intersectoral delivery actions to address infant stunting in Bogotá, Colombia – a mixed methods case	N.Botero., *et al*	2020	Mixed method	Colombia	Results: This intervention requires cross-sector collaboration. Political will, motivated human resources, and recognition that improved health is the result of collaboration.

	Study					These are factors that facilitate cross-sectoral action. Cross-sectoral action is limited by difficulties in engaging the health sector, communication challenges related to the decentralization of regional health services, and administrative barriers. Implementation of cross-sectoral public health interventions can be threatened by a lack of coordination and management skills.
16	Factors Associated With Interprofessional Collaboration for Handling Stunting in Children	Utami S., *et al*	2019	Cross-sectional	Indonesia	Personal factors enhance interprofessional collaboration in managing stunting in toddlers. Good knowledge, positive attitudes, and beliefs about interprofessional collaboration are crucial for effective interprofessional practice. The better the knowledge, attitudes, and beliefs about interprofessional collaboration, the better the implementation.
17	Competing Discourses: Educators' and Children Welfare Workers' Perspectives on Interprofessional Collaboration	Levine KA	2019	Qualitative	Canada	The findings in the research are as follows: a. In the context of cross-professional collaboration, there are differences in the sense of position between professions (power asymmetry) that are sensitive to discuss openly. b. At the organizational level, differences in discourse between professions reflect the rigidity of strong professional cultural boundaries. Each profession has a different understanding and emphasis on the tasks and goals of its practice, which gives rise to conflicts in priorities and

						perspectives on tasks. c. In the realm of professional practice, differences in professional perspectives are clearly visible, which reinforces the fact that there is still a lack of understanding about each person's role and duties. d. In the relational realm, there are marked differences in the perspectives of each profession regarding respect for privacy and confidentiality.
18	Interprofessional collaboration to improve professional practice and healthcare outcomes (Cochrane Review)	Reeves *et al.*	2018	Systematic Review	Global	Given that the certainty of the evidence from the included studies was rated low to very low, there is insufficient evidence to draw clear conclusions about the impact of IPC interventions. However, given the challenges health professionals face when collaborating in clinical practice, it is encouraging that research on interventions to improve IPC has increased since this review was last updated. While this field continues to grow, further, more rigorous, mixed-methods studies are needed. Future studies should focus on longer acclimatization periods before evaluating newly implemented IPC interventions, and use longer follow-up to gain a deeper understanding of the impact of IPC on clinical practice.

b. Discussion

According to WHO (2024), Stunting is a term for low height for age, caused by chronic or repeated malnutrition, usually related to poor socioeconomic conditions, poor maternal health and nutrition, frequent illness, and/or inappropriate feeding and care for infants and children in early life. According to the Ministry of Health (2022b) in the Decree of the Minister of Health of the Republic of Indonesia number HK.01.07/MENKES/1928/2022 concerning National Guidelines for Medical Services for the Management of Stunting, stunting is short or very short stature based on Length/height for age less than -2 SD on the WHO growth curve, caused by chronic malnutrition related to low socioeconomic status, poor nutritional intake and maternal health, history of repeated illness and inappropriate feeding practices for infants and children. To diagnose stunting must be established based on anamnesis, physical examination, and anthropometric measurements. The presence of risk factors and red flags must be sought. It is necessary to distinguish between shortness, which is a normal variant, and pathological conditions.

Stunting has impacts that affect a child's quality of life in the short and long term. Short-term impacts include stunted growth, impaired brain development, cognitive and motor impairments, and suboptimal physical size for their age (UGM, 2022). Stunted children are at high risk of developmental delays, mostly in motor function (Muhammad, 2021). Other impacts include the risk of being overweight, developing diabetes, hypertension, and dyslipidemia (Soliman et al., 2021).

The Sustainable Development Goals, through the target of stunting prevalence in children under 5 years, must be achieved at 14% by 2024 (BKKBN, 2021), but have not been able to meet expectations. The achievement of strategic indicators still has not reached the target, including the coverage of ANC for pregnant women and pregnant women consuming iron tablets (TTD). The target and goal of accelerating stunting reduction is achieved through the implementation of the 5 pillars in the national strategy for accelerating stunting reduction. The 5 pillars are; 1) Increasing commitment and vision of leadership in ministries/agencies, provincial governments, district/city governments, and village governments 2) Increasing communication of behavior change and community empowerment 3) Increasing the convergence of specific and sensitive interventions in ministries/agencies, provincial governments, district/city governments and village governments 4) Increasing food and nutrition security at the individual, family, and community levels 5) Strengthening and developing systems, data, information, research and innovation.

The National Action Plan for Accelerating Stunting Reduction utilizes three approaches: an integrated nutrition intervention approach, a multisectoral and multistakeholder approach, and a family-based approach for risk of stunting. The integrated nutrition intervention approach encompasses specific nutrition interventions and sensitive nutrition interventions, which focus on the incubation period of stunting. Multisectoral and multistakeholder involvement encompasses coordination and collaboration between the government, private sector, universities, non-governmental organizations, professional organizations, religious organizations, development partners, the mass media, and other civil society groups (BKKBN, 2021).

According to the Ministry of Health (2022b), stunting prevention consists of primary (promotive) prevention, secondary prevention, and tertiary prevention. Due to the complexity and multicausal causes of stunting, as well as the various risk factors for stunting, stunting prevention and management efforts require comprehensive and integrated efforts through early prevention throughout a woman's life cycle. The lifecycle

approach to health is a concept that emphasizes prevention and early intervention at every stage of life, starting from the intrauterine period, early childhood, adolescence, youth, middle age, and old age. This approach aligns with the determinants of stunting, which occur in three periods: prenatal, birth, and postnatal (Ministry of Health, 2023). Women are most likely to continue the "tradition" of stunting because they will eventually become mothers. Women who experience stunting during childhood are more likely to have stunted offspring, a phenomenon known as stunting syndrome (Sari, 2021).

Efforts to accelerate stunting prevention need to target both direct and indirect causes through a comprehensive approach that includes specific nutrition interventions carried out by the health sector and sensitive nutrition carried out by various sectors/programs. In implementing interventions, all parties are expected to understand their respective roles and the need for collaboration to accelerate stunting prevention (BAPENAS, 2018). Stunting prevention intervention activities encounter various obstacles in their implementation, including the limited capacity of program organizers. Based on this, in terms of stunting prevention, involvement and collaboration between various professions are important strategies to address the causes and break the chain.

The practice of Interprofessional Collaboration (IPC) has been known in health services for decades and has received a positive response. In the last 15 years, the IPC concept has been known to be very effective in overcoming medical errors. In areas with low levels of public health, there are services centered on patients and families; the IPC model is expected to be able to provide better care for the wider community (Franklin et al, 2015). According to Babiker et al (2014), IPC is two or more health professionals who work together as a team that have the same goals, commitment, and mutual respect between one profession and another. WHO defines interprofessional collaboration as "Cooperation and communication between various professions in providing integrated and coordinated health care" (Askar & Hasfat, 2023). Research results show that collaborative practice can improve access and coordination of health services, the use of appropriate medical personnel, health outcomes for people with chronic diseases, improve the quality of care, and patient safety.

The results of the study by Sentika R. *et al*. (2024) obtained the following consensus: 1. Accelerating stunting reduction needs to be done with a life cycle approach, especially in the first 1000 days of life. Consensus 2: Transformation of primary care (Puskesmas) is the first pillar in the transformation of the Indonesian health system. Consensus 3: Interprofessional collaboration is important in stunting management in Puskesmas. Consensus 4: Puskesmas require an interprofessional collaboration strategy to achieve optimal goals. In accordance with the 4th consensus, the role of health professionals in stunting management at the Puskesmas level is identified, namely the role of doctors, midwives, nutritionists, nurses, and Public Health experts. Consensus 5: Guidelines are needed as a reference for interprofessional collaboration in Puskesmas. The complexity of stunting requires a multidisciplinary approach, so interprofessional collaboration is crucial for effective management and prevention. The proposed guidelines help describe roles and encourage collaboration. These guidelines can serve as a common reference, ensuring all health workers have a standardized understanding of stunting management.

Why is interprofessional collaboration necessary? Can't stunting be addressed by each sector? According to Astuti *et al.* (2021), the implementation of the IPC program is effective in improving the attitudes of mothers and cadres. IPC can influence the way mothers think and act about stunting, as shown by the statistical change in the average value for mothers from 9.68 to 16.52, and the increase in cadre attitudes from 76.53 to 87.53. This marks a significant difference before and after the implementation of IPC. The results of research in Gunung Kidul Regency conducted by Estiwidani & Hernayati (2021) found that Interprofessional Collaborative Practice (IPCP) has an impact on improving stunting prevention behavior in families during the first 1,000 days of life. There is a difference in

the average increase in stunting prevention behavior before and after between the intervention and control groups (p-value <0.05). IPCP can increase stunting prevention behavior up to 27-fold, which is controlled by the variable of the number of family members. Interprofessional Collaborative Practice (IPCP) has an impact on improving stunting prevention behavior in families during the first 1,000 days of life.

Similar results of interventions on mothers of toddlers and cadres at the Karanganom Klaten Community Health Center, the IPC program has been proven to improve knowledge, attitudes, and behaviors regarding stunting and nutrition in toddlers. The IPC program can reduce the risk of stunting by improving knowledge, attitudes, and behaviors regarding nutrition in toddlers. These behavioral changes can prevent the risk of stunting and improve nutritional status. Astuti *et al*. (2025) explained that the success of stunting reduction efforts depends on effective collaboration between various stakeholders. The results of the review by Phillips J. et al. (2025) explained that most studies found that collaboration resulted in better outcomes, although client outcome findings were more varied than professional outcomes, and which components of collaboration were most important and which outcomes were influenced by collaboration still require further study.

Study results highlighted several important strategies for reducing stunting. Interprofessional Collaboration (IPC) has been shown to play a significant role in reducing stunting prevalence. Training improves the knowledge of health workers, which aids in early detection and prevention of stunting. These studies emphasize the positive impact of IPC in reducing stunting in various regions. Policymakers are encouraged to adopt a comprehensive strategy involving collaboration, financial support, and effective program implementation. Comprehensive and critical interprofessional teamwork projects require clear communication protocols, integrated care pathways, regular team meetings, and clearly defined roles and responsibilities across all health-related disciplines. (Sentika R. et al., 2024).

The implementation of interprofessional collaboration is influenced by personal factors, which consist of knowledge, attitude, self-confidence, cooperation, and communication to improve interprofessional collaboration (Utami S. *et al*, 2019**).** The better the knowledge, attitudes, and beliefs about interprofessional collaboration, the better the implementation of interprofessional collaboration**.** According to research (Babiker A et al., 2014), the components of effective teamwork are open communication, a comfortable environment, having clear goals, clear roles and tasks for team members, mutual respect, sharing responsibility for the team's success, and balancing the participation of each team member.

The problem of stunting is very complex and requires a multidisciplinary approach, so interprofessional collaboration is vital for effective prevention and management. According to the results of the implementation evaluation, IPC has several barriers that hinder optimal collaboration, namely 1) structural barriers, 2) professional barriers, 3) educational barriers, and 4) organizational barriers. Some concrete challenges faced by health workers include: limited human resources and high workloads, lack of an integrated information system, cultural and language barriers, lack of structured collaboration mechanisms, and conflicting program priorities (Sentika et al, 2024). Challenges in implementing collaboration were also found by Soewondo et al. (2022) in the Healthy Archipelago Team (NST), namely unclear division of tasks between NST and local Community Health Center staff, and inadequate support from health facilities. The IPC curriculum has not been included in pre-service education and in-service training before the NST.

A study conducted by El-Awaisi (2024) in Qatar revealed factors influencing interprofessional collaboration categorized into four main domains, each accompanied by relevant barriers and facilitators. Macro factors are the influence of organizational policies on IPC, including those related to rules and regulations set by the

organization/government. Meso factors are utilizing technology to improve communication. Obstacles found, namely, communication is hampered by the use of health information systems, organizational dynamics, obstacles that hinder IPC are hierarchical systems. Micro factors, obstacles found, namely, limited time for health workers for documentation, sharing knowledge, which has the potential to affect patient health outcomes. The next obstacle is the lack of clarity in the scope of practice that causes misunderstandings. The fourth domain is individual factors, obstacles found in this factor are patient perceptions that nurses are subordinate to general practitioners. This perception places an additional workload on general practitioners.

A similar thing was stated byLevine KA (2019) found in his research that, in the context of cross-professional collaboration, there are differences in the sense of position between professions (power asymmetry) that are sensitive to discuss openly. Each profession has a different understanding and emphasis on the tasks and objectives of its practice, which gives rise to conflicts in priorities and perspectives on tasks. In the realm of professional practice, differences in professional perspectives are clearly visible, which reinforces the continued lack of understanding of each profession's roles and duties. Meanwhile, in the relational realm, there are clear differences in the perspectives of each profession regarding respect for privacy and confidentiality. Therefore, to prepare healthcare workers for interprofessional collaboration, El-Awaisi et al. (2021) argue that it is important to provide training and education to foster and support interprofessional collaborative practice.

Reeves *et al*. (2018) recommend that IPC studies focus on longer acclimatization periods before evaluating newly implemented IPC interventions, and use longer follow-up to gain a deeper understanding of the impact of IPC on clinical practice. Investment in community health worker training and support systems is emerging and critical to program success, alongside the need for standardized protocols and guidelines to ensure consistent implementation across settings. Sentika R. *et al*. (2024b) recommend the development and implementation of comprehensive interprofessional collaboration guidelines to standardize and optimize stunting prevention approaches. Another study provides a historical perspective on how interprofessional collaboration and interprofessional education have been key aspects of clinical and educational programs, improving patient care and student development. Therefore, it is suggested that there are opportunities to integrate interprofessional education into women's health education programs across organizations (Baecher L. et al., 2022).

4. CONCLUSION

Stunting remains a health problem in Indonesia and globally. Efforts to prevent and reduce stunting are recommended using a life-cycle approach within the first 1,000 days of life (HPK), targeting both direct and indirect causes, and programs implemented through specific and sensitive stunting interventions. The multicausal nature of stunting necessitates multi-sectoral,multi-stakeholder interventions across multiple disciplines. Interprofessional collaboration has proven effective in improving knowledge, attitudes, and behaviors to prevent and reduce stunting. In its implementation, various obstacles and challenges have been identified, and various factors influence collaboration between professions, necessitating standards and guidelines for implementing interprofessional collaboration. Training and coaching for health workers are recommended to address various obstacles and challenges in collaboration.

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