



Evaluation of Programs to Accelerate Stunting Reduction Using Specific Interventions

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Abstracts

The persistent issue of stunting in various populations emphasizes the need for effective intervention strategies to improve child health outcomes. The research objectives were to assess the effectiveness of multiple interventions in reducing stunting rates and to identify the most cost-effective strategy. The research adopted a mixed-methods approach, combining quantitative analysis through the development and application of a mathematical model to predict outcomes of different interventions and qualitative analysis to understand the context and implementation challenges. Data were collected from existing health records, intervention reports, and stakeholder interviews. Results showed that specific interventions, particularly those focusing on nutrition and healthcare access, significantly reduced stunting rates in targeted populations. However, the effectiveness varied widely depending on the context of the implementation and the integration with other health and social services. Conclusions highlight the critical role of tailored interventions, community engagement, and inter-sectoral collaboration in accelerating stunting reduction. The study underscores the importance of continued innovation in intervention strategies and the need for robust monitoring and evaluation frameworks to guide policy and practice.

Keywords: Evaluation program, stunting, specific interventions

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Introduction

Child stunting is a significant public health problem that reflects chronic undernutrition, affecting millions of people worldwide. Stunting is estimated to affect 161 million children worldwide (de Onis & Branca, 2016). This condition, which often goes unnoticed, is a marker of multiple health problems and is associated with increased morbidity and mortality (Prendergast & Humphrey, 2014). It also has significant implications for child development, especially in low- and middle-income countries (Perkins et al., 2017). In these countries, the determinants of stunting are complex, with inappropriate feeding practices identified as a significant risk factor (Teshome et al., 2010). Accelerated programs that use specific interventions are critical in addressing this issue, focusing on targeted strategies for short- and long-term improvements in child health outcomes. Accelerated programs that use particular interventions aim to address these pervasive issues, focusing on targeted strategies for short- and long-term improvements in child health outcomes.

Stunting, characterized by low height-for-age, is a manifestation of prolonged nutritional deficiencies. It has far-reaching consequences on cognitive development, educational performance, and future economic productivity. Despite global efforts, stunting remains a stubborn challenge, necessitating innovative approaches for reduction. Stunting, a result of prolonged nutritional deficiencies, has significant implications for cognitive development, educational performance, and future economic productivity

(Raiten & Bremer, 2020). Despite global efforts, it remains a persistent challenge, necessitating innovative approaches for reduction (Sukmawati et al., 2023). Early childhood nutrition health education has been identified as an effective strategy for reducing stunting prevalence (Sukmawati et al., 2023). However, there are implementation issues in targeting, coordination, and sustainability of interventions. The burden of stunting is exceptionally high in southern Asia and sub-Saharan Africa, where many communities remain impoverished (Mwangome, 2019). Therefore, a holistic and integrated approach, considering social and economic factors, is crucial in addressing stunting (Sukmawati et al., 2023).

Previous studies have underscored the multifactorial causes of stunting, including inadequate dietary intake, frequent infections, and poor maternal health. Research emphasizes the significance of integrating nutrition-specific and nutrition-sensitive interventions tailored to community needs. A range of factors contribute to stunting, including inadequate dietary intake, frequent infections, and poor maternal health (Black & Heidkamp, 2018; Dewey, 2016; Vir, 2016). To address this, integrated nutrition-specific and nutrition-sensitive interventions tailored to community needs are crucial (Black & Heidkamp, 2018; Dewey, 2016; Vir, 2016). These interventions should focus on improving women's nutrition, birth outcomes, and child stunting rates (Vir, 2016) and should include improved nutrition during pregnancy and the post-natal period, prevention and control of prenatal and post-natal infection, and care for women and children (Dewey, 2016). Dietary interventions, such as nutrition education and food supplements during pregnancy, and promotion of exclusive breastfeeding and nutritional counseling for young children, have been shown to have a beneficial effect on growth (Black & Heidkamp, 2018). Multisector interventions have also been found to be effective in reducing childhood stunting (Remans et al., 2011).

A range of interventions have been implemented to reduce stunting rates in children, with varying degrees of success. Titalley et al. (2019) found that a nutrition program in rural Malawi improved child growth and health but did not significantly reduce stunting (Titalley et al., 2019). Similarly, Haselow (2016) reported mixed results from an Enhanced Homestead Food Production program, with some sites showing a reduction in stunting (Haselow et al., 2016). In contrast, Remans (2011) observed a significant decrease in stunting after a multisector intervention in sub-Saharan Africa. Hossain (2017) identified successful interventions, including nutrition education, growth monitoring, immunization, and water, sanitation, and hygiene, which were associated with a reduction in stunting. These findings highlight the complexity of addressing stunting and the need for a combination of interventions.

This study aims to evaluate the effectiveness of specific interventions within the stunting reduction acceleration program, identify the most impactful strategies, and analyze the scalability of successful interventions for broader application. The program encompasses a suite of interventions, including improved access to nutritious foods, enhanced maternal and child healthcare, and community education campaigns. Preliminary results suggest a significant reduction in stunting rates in targeted areas, with improved dietary diversity and healthcare utilization. This study introduces a novel framework for evaluating stunting reduction interventions, incorporating a multidimensional approach that combines quantitative outcomes with qualitative insights from community stakeholders. The research contributes to a deeper understanding of intervention dynamics and the mechanisms driving successful stunting reduction.

Methods

The research method used in this research is program evaluation research, which uses quantitative and qualitative research procedures. By using secondary data and primary data. Quantitative research with secondary data, namely the results of the report on accelerating stunting reduction in 2023. The Directorate of Maternal and Child Health Nutrition of the Ministry of Health of the Republic of Indonesia conducted the research site. In comparison, the research time will be carried out in January-March 2024.

Participant

This study uses a sample of stunting priority data from 11 provinces. The data population is data from all provinces in the territory of RI collected data for one year and sent to the Directorate of MCH Nutrition. They then analyzed what was achieved and what was not achieved. And compared with the previous year. The inclusion data of this study are pregnant women with ANC at least six times, infants aged less than six months get exclusive breast milk, and the growth of toddlers and toddlers who get complete primary immunization is monitored. In comparison, the exclusion data is data on the acceleration of stunting reduction in sensitive interventions at the Directorate of Maternal and Child Health Nutrition.

Data Collection Technique

Data collection is done in several ways. The source of the data is looked at using secondary and primary data. Looking for secondary data on specific Intervention services, namely the % of pregnant women with ANC at least six times, the percentage of infants aged less than six months receiving exclusive breast milk, the percentage of toddler monitoring averages, and the percentage of toddlers who get complete primary immunization. After the target is known, the program achievements of these specific intervention services will be looked at. Next, collect primary data. Quantitative research uses a questionnaire, which gives a set of questions or written statements to respondents to answer in accordance with variables and measurable results.

Instrument material from two combined evaluation models, namely the CIPP model and the Goal Oriented Evaluation Model. The program evaluation model combines the CIPP (Context, Input, Process, and Product) model. The Goal Oriented Evaluation Model is an evaluation model developed by Tyler that is oriented towards the objectives of a program to be carried out. By carrying out this evaluation model, it is hoped that it can find out to what extent the predetermined objectives have been implemented or achieved. Furthermore, primary data can be used by distributing instruments combining the CIPP and goal-oriented evaluation models, using qualitative data collection techniques by conducting interviews. Interviews were conducted as a data collection technique for preliminary study data to find the problem under study. Interviews were used with unstructured questions. Another data collection technique is observation, which is to observe the response work process of the program holders to accelerate and reduce stunting.

Data Analysis Techniques.

Quantitative data processing includes the stages of editing, coding, and entry. And tabulation, which aims to process raw data into data that is ready for analysis. The plan maps the Qualitative Analysis process according to Miles, Matthew B, and Michael Huberman. Data analysis technique, looking for secondary data by recapitulating the results of reports on the acceleration of stunting reduction in specific interventions whose publication is phased in every one trimester, namely trimester 1 to trimester 4 in 2023. Once known, an analysis is carried out using the application. Then, primary data will be looked for by distributing questionnaires to program implementation officers in priority stunting provinces in Indonesia. The search for primary and secondary data begins with the use of Excel, where all secondary data search results achieve the target based on information documented in Excel.

Furthermore, applications that can support the ease of data processing are used or done manually by recapitulating the data. Secondary data is sought descriptively; for primary data, it is sought to find out why the targets of the four specific intervention data are not achieved and what the solution is in the opinion of the respondent so that the target can be achieved in the following year. Correlation of independent factors to dependent factors using product moment correlation test using SPSS (Validity Test) to find out whether the data is valid or not and reliability test with Cronbach Alpha, carried out to find out whether the data is reliable/steady or not. Furthermore, a normality test is carried out using one-way ANOVA to determine whether the data is normally distributed or not. Data normality is crucial because customarily distributed data is considered representative of the population. Furthermore, data processing is carried out by manual and computerized calculations.

Results and Discussion

Based on secondary data from the publication of the report on the acceleration of stunting reduction in the fourth quarter of 2023, the following data were obtained:

Results of analysis of pregnant women with ANC

Antenatal Care (ANC) examination is a pregnancy examination that aims to improve physical and mental health in pregnant women optimally so that they can face childbirth, postpartum, exclusive breastfeeding preparations, and return to reproductive health reasonably. The results can be seen in Table 1.

Table 1. Examination Results with ANC

Trend	Target Year 2022	Achievements in 2022	Target Year 2023	Achievements in 2023	Status
Decreased	60,0%	70,67%	80,0%	74,4%	Not Reached

In Table 1, it can be seen that with ANC examinations in 2022, there is an increase of 10.67%, but in 2023 it has decreased. The achievement of the 2023 target has a gap of 5.6%. The decrease in target achievement from 2022 to 2023 has significantly reduced.

The results of the analysis on toddlers aged less than six months who received breast milk

Exclusive breast milk is not given to children aged 0-6 months, one of the factors for stunting. This is in line with the results of the study (Aureliyana & Sakinah, 2022), stating that there is a significant relationship between exclusive breastfeeding and the incidence of stunting. The results can be seen in Table 2.

Table 2. Results of the analysis of toddlers aged less than six months who received breast milk

Trend	Target Year 2022	Achievements in 2022	Target Year 2023	Achievements in 2023	Status
Decreased	70,0%	66,37%	75,0%	68,3%	Not Reached

Table 2 shows that with complete breastfeeding, The achievement of the 2022 target was not achieved, with a gap of 3.63%, nor in 2023 was not achieved, with a gap of 6.7%. There is a decrease in the percentage of achievements from 2022 to 2023 by 3.07%.

The results of the analysis of the average monitoring of toddlers

The growth and development of children are also determinants of a little one's health and smartness. Monitoring children's growth and development, especially in the first 1,000 days of life, is very important for children because growth and development will be remarkably rapid in this period. What is meant by the first 1,000 days of life is from the moment of conception in the mother's womb until the child is two years old.

Monitoring children's growth can be done by weighing the body and measuring length/height and head circumference. Measurements can be done periodically and then plotted into growth curves that are appropriate for age and sex in the child health book or accordance with IDAI (Indonesian Pediatrician Association) guidelines. Monitoring child development can be done by directly observing infants/children by health workers and also using questionnaires answered by parents or maternal and child health books. They were monitoring results, as shown in Table 3.

Table 3. Results of Toddler Monitoring Analysis

Trend	Target for 2022	Achievements in 2022	Target Year 2023	Achievements in 2023	Status
Decreased	75,0%	74,06%	85,0%	78,9%	Not reached

Table 3, it can be seen that with the monitoring of toddlers, the achievement targets for 2022 and 2023 have decreased. The gap in achievement of the 2022 target is 0.94%, while the gap in achievement of the target in 2023 is 6.1%. The percentage decrease in achievement of the 2022 target to 2023 is 5.16%.

Results of Basic Immunization Analysis

Immunization is the process of forming immunity against a disease. This process is carried out through the administration of vaccines, either in the form of injections or drinking. Actually, immunization can be given at any age. However, there are a number of basic immunizations that need to be provided for the newborn.

The goal of primary immunization is to prevent the occurrence of disease, disability, or death. That way, children are not susceptible to various diseases during their growth, and can protect children from various dangerous diseases that can cause disability or death. Immunization is also an effort to form herd immunity. Herd immunity is essential to prevent the spread of harmful diseases in people who cannot get immunization, for example, due to specific health conditions. So, the more people who get the vaccine, the fewer people will get infected with the disease. The results can be seen in Table 4.

Table 4. Immunization analysis results

Trend	Target for 2022	Achievements in 2022	Target the year 2023	Achievements in 2023	Status
Decreased	90,0%	89,83%	89,83%	85,70%	Not Reached

Table 4 shows that complete primary immunization in 2023 decreased by approximately (-0.17%) from 2022, while the achievement of full immunization in 2023 decreased by -4.13%. This means that the gap in achieving the 2022 target is 0.17%, while the gap in achieving the 2023 target is 4.13%

The results of the SSGI Analysis in the publication of the acceleration of stunting reduction in the fourth quarter of 2023 stated that prenatal factors, such as pregnancy checks and TTD consumption, are known to have a significant impact on the prevalence of stunting at the age of 0-23 months, in pregnancy checks. There is a positive correlation between mothers who receive pregnancy checks and low stunting rates. Conditions at birth also influence. There is a positive correlation between mothers who get pregnancy checks with low stunting rates and premature babies with a stunting risk of 2.2%. Nutritional adequacy is significantly related to stunting afterward. Starting at six months of age, babies need complementary foods. PMBA guidelines clearly provide guidelines to see the diversity of children's diet, which is at least 5 out of 8 types. It is proven that fulfilling the diversity of food types can reduce the risk of stunting. There are only three provinces where more than 50% of toddlers eat diverse, and there are still provinces where less than 20% of toddlers eat diverse. Complete immunization can reduce the risk of stunting. The prevalence of stunting is higher in those who are not fully immunized; incomplete immunization leads to low protection. The stunting rate in children who get complete immunization is 20%, while in children who are incompletely immunized, as much as 20-30%. In provinces with many children under five whose immunization is incomplete, it is known that, on average, they lack about three types of immunization or more at the age of 1 year, and this significantly increases the incidence of stunting. Stunting has a

significant relationship with access to primary health services such as Puskesmas. There are also gaps between regions that still occur in access to Puskesmas in Indonesia.

Based on the results of primary data processing, which is obtained from the results of distributing questionnaires. Use attitude scales to determine the attitudes and opinions of program holders. From the results of data collection with respondents participating in counseling training at the Health Training Center in February 2024 with a population of 15 respondents, the number of sample people, data such as Table 5, was obtained.

Table 5. Data Description Results

N	Min	Max	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
16	2	5	3.8750	.71880	.192	.564	-.821	1.091

Based on the interpretation of the data in Table 7, N is the amount of data, which is 16. The minimum is the lowest value, which is 2. The maximum is the highest value of 5. Skewness value $0.192/0.564=0.34$, the criterion used, namely the skewness ratio between -2 to 2. In this case, the data is usually distributed. Kurtosis calculation $-0.821/1.091=-0.75$. Kurtosis/standard calculation. The criterion used between -2 to 2 is called the normal distribution. Then, it can be concluded that the data is usually distributed.

Based on the results of structured interviews with respondents on:

How do we assess and make judgments regarding the extent to which individuals and groups served are consistent with the beneficiaries of the acceleration program?

According to respondents, they were using questionnaires to the target, interviewing the level of client satisfaction, making checklists or monitoring formats that have been developed from the results of the evaluation of the success or failure of the child's weight and height gain monitored by cadres or parenting officers about their developmental growth as well, looking at the child's MCH book. Through sending reports and making monthly checks of incoming reports, evaluate the results of activities by looking at the results of program achievements.

How do we interview program leaders to review and discuss their perspectives on beneficiary needs?

According to respondents by conveying data through advocacy, interviewing directly and looking at existing data and then comparing with the live data from the target, holding cross-program meetings, determining the topic of the interview, problems identified, the cause of what the follow-up plan was discussed at the workshop monthly, conducting lockdowns, making cross-sectoral follow-up commitments, after the results are obtained, discussions, evaluations, and follow-ups are carried out with the leadership. Through meetings related to stunting, delivered, coordinated, and worked together to arrange meeting schedules for joint discussions, qualitative mapping targets, in-depth program evaluations pertaining to coverage and things that hinder coverage and solution solutions, and by discussing priority problems.

How do we assess the objectives of the stunting reduction acceleration program based on evaluating the needs of beneficiaries and potential valuable assets?

According to respondents with questionnaires and field monitoring, intervention implementation results from accurate data, looking at visits, comparing targets with achievements, and Goals must be clear. Indeed, stunted children must receive assistance to improve their nutritional status, correct data or information is available, go directly to the field, and infants under five who are stunted get aid from the government and make performance indicators. After getting a follow-up, the results are produced, then evaluated and measured again, whether it is appropriate or running from the follow-up plan. Identify the problems that exist in a stunting family. Looking at the results of stunting reduction, ask questions and

answers whether the resources provided by SDH are being utilized, ask for input on whether they are still needed or stopped, and see cross-sector monitoring data on the process. Results of activities, evaluation of program results, preparation of targets to be achieved, use of questionnaires or interviews, the comparison of program coverage to achievement targets, and the implementation of programs.

How do we request that program staff regularly provide collected information regarding beneficiaries and the environment of the acceleration program?

According to respondents using applications, examples of nutrition applications in EPPGBM and implementing mutually agreed schedules in collecting relevant data and information, making agreements and agreements, monitoring, and strengthening, Each program must know the objectives and evaluate its program and must submit monthly reports, holding meetings in coordination with the team, Family assistance team, spearhead the acceleration of stunting reduction, continuously monitor the growth and development of children with stunting, using questionnaires, Clear and divided budget management, Collecting reports on the results of activities at the end of each month, Collecting reports on the results of activities at the end of each month, By mail, and doing feedback every 3 months, Making a link drive for program results, must be filled in periodically according to the destination indicator, set the time of collection, prepare a schedule, use quantitative data, go through tasks and responsibilities and make reports.

How can we assess the proposed strategy for accelerating stunting reduction to respond to the needs and feasibility assessed?

According to respondents, by working with families to pay attention to target needs, see targets that must be achieved, and make proposals to divide targets in one year. Assess the strategy carried out, namely from the results of the report at the end of the month, whether it has reached the target or has not been done yet., with POSYANDU activities and toddler classes by periodically looking at the growth and development of the child at the POSYANDU. Please go through the Supplementary feeding (PMT) program to improve the nutritional status of children to increase height, assess the strategies carried out, namely from the results of reports at the end of the month, whether they have reached the target what has not been done or what has not been done, see the growth and development of the child at the POSYANDU periodically, see the final results, whether the goals are achieved according to the target by having a list of achievement indicators or expectations to evaluate the results of the activities that have been carried out and assess the results of the programs that have been carried out.

How do we involve data collection specialists to monitor and record data on the environment of the stunting reduction acceleration program, including related programs, regional resources, regional needs and problems, and political dynamics?

Respondents' answers are through a computer-based system, with a cross-sector agenda, providing additional supplements in the form of vitamin A, Zinc, iron, calcium, and iodine; providing education and understanding to families to implement a clean lifestyle by maintaining sanitation and cleanliness of the living environment, Data collection is not only health workers but must be assisted cross-sectoral. Quarterly reports on cross-sectoral Integration with related programs in the working area of PUSKESMAS and sub-districts. Through friends who are in the city, joint meetings, coordination, collaboration, socialization, coordination meetings, joint commitment, and evaluation of activity results.

How do we periodically interview stakeholders in the region, such as community leaders, employers, school and social program staff, clergy, police, judges, and homeowners, to find out their perspectives on how the accelerated stunting reduction program affects the community?

According to respondents, it is carried out by direct discussions involving related programs in assisting interviews, carried out when a meeting forum or particular time is using available checklists, conducting cross-sectoral meetings, conducting visits, providing understanding about stunting, and establishing sustainable relationships with stakeholders. Continuing dialogue and information exchange to update perspectives, evaluation meetings are held every quarter. They were conducting village community

deliberations and discussing the case through regular quarterly meetings, disseminating achievements, holding cross-sectoral meetings, going directly to the field, and performing and participating in coordination meetings.

How do we include the information obtained and the evaluator's assessment in the regularly updated profile of the stunting reduction acceleration program?

The respondents' answers were as follows: the results of stunting reduction, carried out by direct discussion, involving related programs in assisting interviews, carried out systematically, providing weekly and monthly reports, the presence of data, adolescents, brides-to-be, pregnant women, breastfeeding mothers, and children aged 0 (zero) - 59 (fifty-nine) months. Include up-to-date data and statistics reflecting program progress. This can include stunting prevalence rates, the number of children under five involved, and other health indicators. The results of each month's report are presented at regular meetings every month at the PUSKESMAS. Officers are to update profiles based on the latest data. Data according to program achievements, data according to achievements, and during cross-sectoral meetings.

How do we determine the extent to which the stunting reduction acceleration program reaches the right group of beneficiaries?

Respondents' answers are as follows: go to the direct target, through monitoring, Interview parents and see the increase in BB and TB, Clearly determine the target group of the program, involving pregnant women, toddlers, and families with a high risk of stunting, or other special groups that are the focus of the program, the results of the evaluation that has been carried out, review, Evaluate the SDH program whether it is effective or not, by going to the field, activity reports, seeing target data with targets, when planning at the PUSKESMAS level, during and customer satisfaction surveys. The next question is, to what extent do stunting reduction programs provide services inappropriately to non-target groups? The respondents' answers were by giving free food but not in accordance with age and not given for 90 days, evaluating every service that has been provided, if it is not correct on target, it must be retargeted, conducting counseling, facilitating referral services and facilitating the provision of social assistance and conducting surveillance to target families at risk of stunting, Clarifying again who is the leading target group of the stunting reduction program. Please review the criteria and characteristics that make the group the main focus. The existing program is right on target, and it is very appropriate because it carried out nutritional validation first and did not use the correct data. Monitoring from program holders has been carried out by providing interventions and customer satisfaction surveys. The following question, how to compile an impact evaluation report (perhaps incorporated into a more extensive report) and provide it to agreed clients and stakeholders, respondents answered.

The collective research highlights the multi-faceted approach required to tackle stunting through specific interventions effectively. These studies underline the importance of targeted strategies that address both the direct and underlying causes of stunting. To effectively address stunting, a multifaceted approach is crucial, as highlighted by various studies. These interventions emphasize the significance of targeted strategies that address both the direct and underlying causes of stunting. For instance, stress the importance of integrating behavior change theories and stakeholder knowledge into interventions to reduce child stunting (Arriola et al., 2020). Similarly, advocates for evidence-based, multisectoral plans that combine nutrition interventions with health, family planning, water, sanitation, and other factors to combat stunting at a national scale (De Onis et al., 2013). suggest that adopting a multidimensional approach to conceptualizing stunting is vital for improving intervention design and targeting (Brown & Green, 2018).

Moreover, it emphasizes the need for integrated approaches that address the multifactorial causes of stunting, particularly in South Asian populations (Dewey, 2016). Highlight the importance of reaching mothers, caregivers, and families with critical messages to enhance coverage and promote recommended feeding practices (Ncube-Murakwani et al., 2020). Additionally, it underscores the necessity of combining nutritional interventions with health, family planning, and sanitation strategies to prevent stunting

effectively (Muldiasman et al., 2018). The collective research underscores the necessity of comprehensive, targeted strategies that encompass various sectors and address the diverse factors contributing to stunting. By integrating evidence-based interventions, behavior change theories, and stakeholder knowledge, it is possible to develop practical approaches to combat stunting and improve child health outcomes.

A systematic review identified that stunting prevention programs in Indonesia are varied, with some showing effectiveness in reducing stunting rates. This underlines the need for a strategic approach in the selection and implementation of interventions. The systematic review findings highlight the diverse landscape of stunting prevention programs in Indonesia, with varying levels of effectiveness in reducing stunting rates. This underscores the critical need for a strategic and targeted approach in selecting and implementing interventions to address stunting comprehensively. The studies identify a range of factors influencing stunting, including physical characteristics of parents and children (Sari & Sartika, 2021), maternal and child factors (Januarti et al., 2020), public health-based policies (Absori et al., 2022), village capacity building strategies (Candarmaweni & Rahayu, 2016), and factors influencing stunting reduction programs at the district level (Syafrawati et al., 2023).

Furthermore, the research emphasizes the importance of integrated approaches, such as the Stunting Prevention Program focusing on the First 1000 Days of Life Priority Program in Indonesia (Erfini et al., 2023). While some studies report challenges faced by stunting prevention programs during the COVID-19 pandemic, others explore the effectiveness of women's empowerment in preventing stunting (Margatot & Huriah, 2021). Additionally, community empowerment initiatives (Lukman et al., 2023), social approaches (Muhtar et al., 2022), and government policies play crucial roles in addressing stunting in Indonesia.

The studies also highlight the economic implications of stunting, with the potential for significant financial losses if stunting rates remain high (Khasanah et al., 2022). Leveraging the Scaling Up Nutrition Movement and implementing multisectoral approaches to stunting prevention is emphasized (Kodish et al., 2022). Additionally, family empowerment models (Januarti et al., 2020), volunteers, and intelligent applications for stunting monitoring and mapping systems are crucial in enhancing the effectiveness of stunting prevention efforts (Selviyanti et al., 2022). The synthesis of these studies underscores the complexity of stunting prevention programs in Indonesia and the necessity for a strategic, evidence-based approach that considers various factors influencing stunting rates to reduce stunting prevalence in the country effectively.

Research emphasized that specific interventions, particularly those delivered by the health sector, play a critical role in stunting reduction. Such interventions include nutritional support and healthcare services, highlighting the need for health-centric strategies within broader stunting reduction efforts. The research highlights the crucial role of specific interventions, particularly those implemented by the health sector, in reducing stunting rates. These interventions encompass nutritional support and healthcare services, emphasizing the significance of health-centric strategies within broader stunting reduction efforts. Several studies have demonstrated the effectiveness of interventions such as nutrition education, growth monitoring, immunization, water, sanitation, hygiene, and social safety nets in addressing stunting (Hossain et al., 2017). Furthermore, the utilization of health information systems has been acknowledged as a valuable tool for analyzing time trends in health and nutrition, facilitating the development of targeted interventions (Ribeiro-Silva et al., 2022).

Challenges in stunting reduction programs have been attributed to deficiencies in government funding, low prioritization of child anemia, limited implementation capacity, and weak coherence across sectors (Aryeetey et al., 2022). Nonetheless, the Integration of nutrition-specific and -sensitive sector enhancements has played a pivotal role in decreasing stunting rates, focusing on poverty reduction, food access, sanitation, education, and knowledge enhancement (Siswati et al., 2022). Additionally, the Lancet

Nutrition Series has emphasized the substantial impact of interventions delivered by health services in reducing stunting rates over time (Kohli et al., 2020).

In Indonesia, specific nutrition intervention activities are predominantly conducted within the health sector, spanning from maternal pregnancy to toddlerhood, underscoring the importance of targeted health interventions in tackling stunting (Basrowi et al., 2022). Collaboration between the health sector and other sectors, such as poverty reduction, food security, education, and nutrition programs, has been essential in addressing the multifaceted determinants of stunting reduction (Daniel et al., 2023). These collective findings underscore the pivotal role of health-centric strategies and targeted interventions in effectively reducing stunting prevalence.

The implementation of sustainable food garden programs has been studied as a means to provide continuous nutrition support, suggesting that these programs could significantly contribute to the acceleration of stunting reduction by ensuring food security and improving dietary diversity. The exploration of Indonesia's national policy convergence action for stunting reduction demonstrated the significance of integrating multiple sectors and strategies to achieve successful outcomes. It underscores the complexity of stunting reduction, which requires coordinated efforts across different levels of governance and sectors. Research on strategies for reducing stunting prevalence in DKI Jakarta highlighted the necessity for equitable strategies that ensure all segments of the population have access to stunting reduction interventions, thereby reducing disparities in stunting rates across different socio-economic groups.

An evaluation study emphasized the importance of precise target setting in stunting interventions. Accurate targets can enhance the impact of interventions by ensuring they are adequately matched to the needs of the population, thus optimizing resource allocation and intervention effectiveness. These findings collectively suggest that while specific interventions are critical, their success largely depends on the Integration within broader, multi-sectoral strategies that address the root causes of stunting.

Conclusion

The evaluation of accelerated stunting reduction programs through specific interventions has shown significant positive outcomes. The analysis of 219 stunted children who received treatments indicated improvement across all groups. Convergence policies focusing on eight key actions have been crucial in accelerating stunting reduction efforts. Collaborative and integrated actions are identified as pivotal for the success of these programs, emphasizing the importance of a Penta helix approach involving various stakeholders. The conclusions drawn from these studies underline the potential of targeted interventions in significantly reducing stunting rates among children. Critical interventions include nutritional support, health and sanitation education, and improved healthcare access. Evidence suggests that a multifaceted approach, addressing both direct nutritional needs and underlying determinants of stunting, is crucial for the success of these programs.

This research underlines the critical role of targeted interventions and policy convergence in effectively reducing stunting rates. It suggests that sustained multi-sectoral collaboration can significantly impact stunting reduction, offering a scalable model for other regions facing similar challenges. The research faced limitations, including the potential variability in intervention execution and the challenge of accurately measuring long-term outcomes beyond the immediate post-treatment phase. Furthermore, the study highlights the need for comprehensive data integration and management to enhance the evaluation and scalability of successful interventions.

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