



**SCOPING REVIEW: THE IMPACT OF LOCAL SUPPLEMENTARY FEEDING
MANAGEMENT POLICY ON IMPROVING NUTRITIONAL STATUS OF
CHILDREN UNDER FIVE**

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ABSTRACT

Malnutrition among children under five remains a significant public health challenge worldwide, particularly in regions with limited access to adequate nutrition. Local supplementary feeding programs have been widely implemented as a strategy to address this issue. However, the effectiveness of these programs is highly dependent on the management policies governing their implementation. Despite the importance of this topic, the literature on the specific impact of these management policies on improving the nutritional status of children under five is fragmented and lacks comprehensive analysis. This study aims to map the literature related to the impact of local supplementary feeding management policies on improving the nutritional status of children under five. The first thousand days of life (1000 HPK) is a critical period that can permanently affect a child's health and development. Despite ongoing efforts to address nutritional issues, such as stunting, challenges remain in the implementation of effective policies. A scoping review method was applied to explore various studies and related literature, focusing on the impact of nutritional interventions, policies, and local supplementary feeding management. This research was conducted through a systematic literature review, analyzing peer-reviewed articles, reports, and case studies on local supplementary feeding programs. The study focused on identifying the key management policies and their influence on the nutritional outcomes of children under five. Data were synthesized to uncover trends, effective strategies, and gaps in the existing research. The findings underscore the critical need for an integrated approach in nutrition programs, combining effective policy management, community involvement, and sustained resource allocation. Such an approach is essential to optimize the impact of supplementary feeding programs and ensure sustainable improvements in the nutritional status of young children. Future research and policy development should prioritize multi-sectoral collaboration and evidence-based interventions to address persistent challenges in child nutrition.

Keywords: children under five; local supplementary feeding management; nutritional status

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INTRODUCTION

Currently, nutrition issues in children under five remain alarmingly high, positioning them as a priority problem to address. The 2018 Riskesdas data indicates a prevalence of wasting in children under five at 10.2% and underweight at 17.7%. Similarly, the 2022 SSGI data reveals a prevalence of underweight at 17.1% and wasting at 7.7%. These figures underscore the ongoing burden of malnutrition and highlight the critical need for targeted and effective interventions. Local supplementary feeding management policies play a pivotal role in addressing these challenges by ensuring the efficient implementation, resource allocation, and sustainability of nutrition programs aimed at improving the nutritional status of young children (Hadju et al., 2023)

Since 2010, this movement has been internationally known as Scaling Up Nutrition, and in Indonesia, it has evolved into the Gerakan Nasional Pangan Sehat to accelerate nutrition improvement during the first thousand days of life (Gerakan 1000 HPK). Specific indicators

to assess the achievement of nutrition interventions include protection for pregnant women against iron deficiency, folic acid, and chronic energy and protein deficiency (KEK), ensuring adequate protein for breastfeeding mothers, ensuring children under two receive breast milk containing sufficient protein and iron, and managing diarrhea.

Stunting is one of the global nutrition issues, particularly in low-income and developing countries. Stunting is problematic because it is associated with an increased risk of illness and death, suboptimal brain development, delayed motor skills development, and hindered mental growth. Some studies show that stunting-related risks include lower academic achievement, increased risk of obesity, greater vulnerability to non-communicable diseases, and a higher risk of degenerative diseases. Over the last two decades, efforts to address stunting have been ongoing, though globally, the percentage of children experiencing stunting has shown a decline. This study aims to map existing literature on the trends and impact of local supplementary feeding management policies on improving the nutritional status of children under five, using a scoping review method. While prior research has explored the effectiveness of supplementary feeding programs, there remains a lack of comprehensive analysis on how management policies influence program outcomes. Additionally, existing studies often focus on specific regions or interventions, leaving gaps in understanding broader trends and best practices. This scoping review addresses these gaps by synthesizing evidence to provide a holistic overview of policy relevance, implementation challenges, and their impact on child nutrition.

METHOD

This study uses the scoping review method. A scoping review allows for broader questions and exploration of related literature, rather than focusing on providing answers to more narrowly defined questions. Scoping reviews offer less depth but a broader conceptual scope. In terms of research methodology, scoping reviews are considered to have a higher level than straightforward literature reviews or integrative reviews, but not as in-depth as Cochrane or Johanna Briggs model systematic reviews. The final product of a scoping review is usually a narrative presentation, with minimal or limited statistical information. Its purpose is to synthesize research on a specific topic by mapping or articulating what is known about key concepts, sourced from various references such as research study results, grey literature, and expert opinions. The process of mapping or diagramming information about the topic illustrates what is known and the points where gaps in knowledge exist. A completed scoping review can serve as a starting point of rich information for further investigation to understand and contribute to research, education, practice, and policy. There are five steps to explain the research findings: 1) identifying the research question, 2) identifying relevant studies, 3) study selection, 4) mapping data, and 5) compiling, summarizing, and reporting results (Sabrina & STIE Indonesia Malang, n.d.)

This study, the source used is an electronic database, considering that the database summarizes many reputable journals, making the search for literature through electronic databases more effective and efficient. The chosen electronic database was searched using the Publish or Perish software with the ScienDirect database. The criteria used in the literature search process are described in Table 1. The period covered is 10 years, from 2014 to 2024. This 10-year period is considered sufficient to track the relevance of research management in the field of human resources as it captures recent trends, evolving policies, and advancements in the field. Over the past decade, there have been significant shifts in both the research landscape and the implementation of human resource management practices, driven by new technological developments, policy changes, and emerging challenges. This timeframe allows for the identification of long-term trends and provides a comprehensive understanding of how research management practices have adapted to these changes, ensuring the inclusion of the

most current and relevant studies. The selected publication type is articles published in both Indonesian and English. Geographical region is not limited to specific countries. All empirical studies from various countries were included in the criteria, as long as they met the other predefined inclusion criteria. The data from these studies were mapped and analyzed using a thematic analysis approach, which allowed for the identification of recurring themes, patterns, and key insights related to the impact of local supplementary feeding management policies on the nutritional status of children under five. This approach facilitated a comprehensive understanding of the various strategies and challenges across different contexts. Additionally, narrative synthesis was used to summarize and integrate the findings, highlighting key trends, gaps, and implications for policy and practice.

Table 1.
Inclusion Criteria

Criteria	Inclusion	Description
Period	2014-2024	Observation of articles in the last 10 years
Language	Indonesian and English	Published in Indonesian and English
Publication Type	Article	Research articles
Geographical Area	All	All countries

Table 2.
Exclusion Criteria

Criteria	Exclusion	Description
Period	Articles published before 2014	Articles published outside the 10-year period
Language	Articles in languages other than Indonesian and English	Articles not published in these two languages
Publication Type	Non-research articles, such as editorials, reviews, or opinions	Articles without research findings
Geographical Area	No exclusions based on region	All regions are included

RESULT

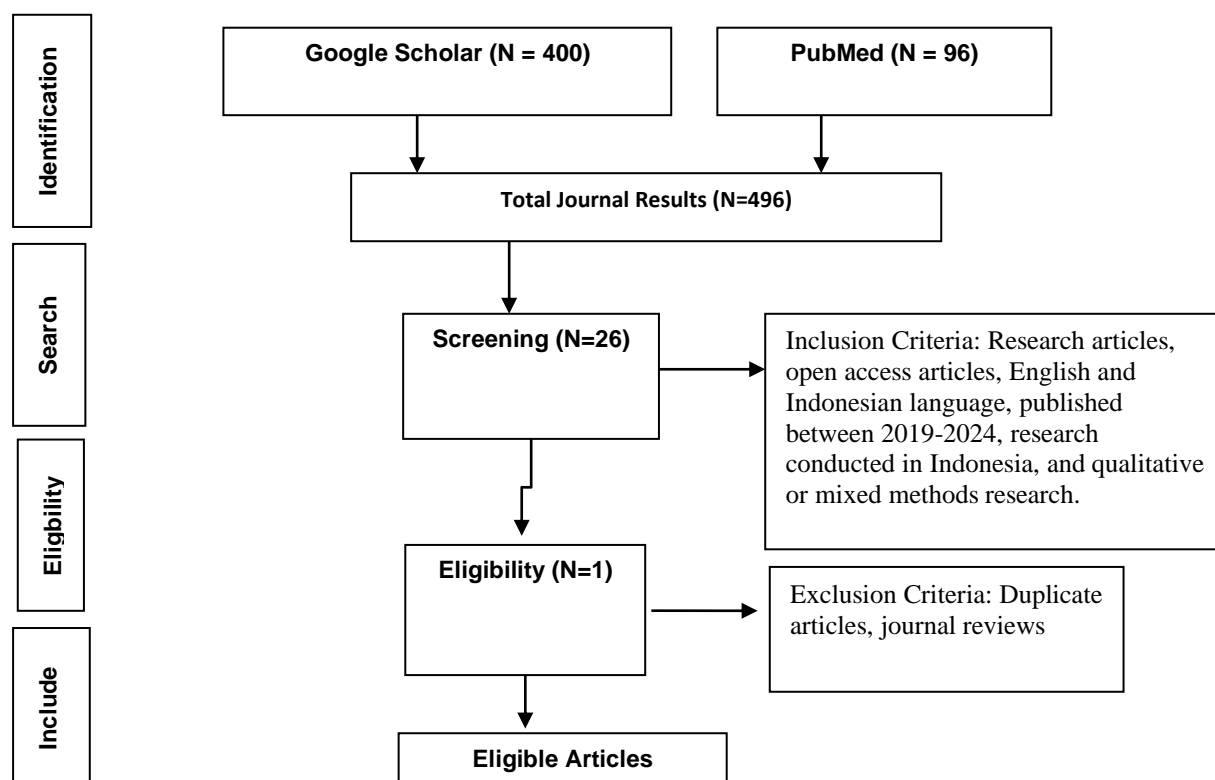


Figure 1. Stages of Article Search and Selection Leading to Reviewed Articles

Based on the literature review, 26 articles were found that relate to the management policy of local supplementary feeding and its impact on improving the nutritional status of children under five. The details of the contents of these articles are shown in Figure 1 below. The article selection process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which include the following steps: 1) Identification: Collecting relevant articles through database searches; 2) Screening: Reviewing titles and abstracts to eliminate duplicates and irrelevant articles; 3) Eligibility: Evaluating articles based on inclusion and exclusion criteria; 4) Inclusion: Including articles that meet the criteria for further analysis.

Table 3.
Scoping Review: The Impact of Local Supplementary Feeding Management Policy on Improving Nutritional Status of Children Under Five

Researcher(s), Year	Objective	Population	Method	Findings
(Chandradewi1 & Adiyasa2, 2021)	To improve the nutritional status of schoolchildren through local food-based supplementary feeding (PMT-AS) by providing guidance on the preparation of snacks for children	10 housewives and 20 elementary school children at SDN1 Karang Bayan.	A community service activity using a combination of practical and lecture methods. A pre- and post-intervention assessment was conducted on the knowledge and skills of mothers regarding PMT, and the nutritional status of children was measured using Z-scores. The impact was analyzed using the Wilcoxon test.	The results showed a significant improvement in the average knowledge and skills of mothers, from 52 to 75 ($p=0.005$). Additionally, the nutritional status of the children improved from undernutrition to normal ($p=0.000$). The intervention in biscuit-making for PMT successfully increased the nutritional intake of schoolchildren, leading to an improvement in their nutritional status.
(Irwan, 2019)	The objective of this community service activity is to improve the nutritional status of children under five (underweight and stunted) in Bukit Tingki village through the provision of modified supplementary feeding (PMT), using locally available and affordable ingredients.	The target population for this study includes 11 children under five years of age in Bukit Tingki village who have been identified as experiencing malnutrition, including undernutrition and stunting.	This study uses a qualitative approach through a community service model involving the provision of modified PMT. The method includes Focus Group Discussions (FGD) as part of a training session for health cadres. The activity lasted for 2 days, focusing on the preparation and distribution of supplementary feeding made from locally sourced ingredients like pumpkin, corn, and others.	he use of modified PMT based on local ingredients can be an effective alternative program for addressing stunting and malnutrition in rural areas.

Researcher(s), Year	Objective	Population	Method	Findings
(Purbaningsih & Ahmad Syafiq, 2023)	To evaluate the effectiveness of providing supplementary feeding made from local ingredients on the weight gain of children under five.	The study was conducted in Taktakan Village, Taktakan District, Serang City, Banten, with a sample size of 105 children under five who are experiencing weight faltering, underweight, or malnutrition.	This study is quantitative	The study found that the p-value was 0.0005, which is less than the alpha level (0.05), indicating a significant difference in the weight of children before and after receiving supplementary feeding made from local food ingredients for 14 days.
(Hadju et al., 2023)	This study aims to examine the impact of local supplementary feeding (PMT) on changes in the nutritional status of children under five.	This study focuses on children under five, specifically those facing nutritional issues, as identified in various studies reviewed.	A literature review was conducted using Google Scholar as the database.	Local food-based supplementary feeding can be an important supplementation strategy to tackle malnutrition problems in young children.
(Pibriyanti et al., 2024)	he purpose of this activity is to reduce the risk of stunting in toddlers by increasing the knowledge of mothers about fulfilling their toddlers' nutritional needs through the provision of modified supplementary feeding (PMT) made from local foods. The activity also aims to educate mothers using video media and booklets on how to utilize locally available, affordable, and nutritious ingredients.	The study involved 30 mothers of toddlers, divided into two groups, with 15 mothers in each group.	This is an educational intervention study that used video media and booklets to educate the participants. The participants were given a pretest and posttest consisting of 15 questions to measure changes in knowledge. Modified PMT was provided using four local ingredients: eggs, chicken, catfish, and tilapia. Data analysis focused on comparing knowledge levels before and after the education intervention, as well as assessing the impact of the PMT.	The study found no significant difference in the average knowledge levels between the groups given interventions using video education media and booklets.
(Sinaga et al., 2023)	The purpose of this community service program is to monitor the consumption of supplementary feeding for toddlers	The study involved toddlers in the age group of 6-59 months in Kebon Baru urban village, as well as	This is a community-based intervention study that included	The results showed that some toddlers with nutritional problems had not received the full amount of supplementary feeding, specifically

Researcher(s), Year	Objective	Population	Method	Findings
	with nutritional problems in Kebon Baru urban village, provide counseling to parents, and assess the nutritional status of toddlers by measuring weight gain.	their parents.	monitoring supplementary feeding consumption, providing counseling to parents of toddlers, and assessing the nutritional status of toddlers using the weight-for-age indicator. Data were collected through observations and counseling sessions, followed by measuring weight gain before and after the intervention.	protein.
(Wiliyanarti et al., 2022)	The purpose of this study was to determine the educational effect of providing supplementary food based on local ingredients on the knowledge of mothers of stunting toddlers using animated video media.	The population in this study was mothers of stunting toddlers in Pamekasan, with a sample size of 65 respondents selected through purposive sampling.	This is a pre-experimental study with a One Group Pretest-Posttest design.	Before the education, 39 respondents (60%) had insufficient knowledge. After the intervention, 29 respondents (44.61%) demonstrated good knowledge.
(Khoirul Waroh et al., 2019)	This study aimed to explore the impact of the Supplementary Feeding Program (PMT) on reducing stunting and improving the nutritional status of toddlers.	The study focused on toddlers who are at risk of stunting, particularly those with a length or height that is more than two standard deviations below the median of the WHO child growth standards.	The study was based on the analysis of data from the Basic Health Research (Riskesdas) from 2007 to 2018, which highlighted the prevalence of stunting in Indonesia.	Stunting in Indonesia has remained a significant problem, with fluctuating prevalence rates from 2007 to 2018.
(Wati, n.d.)	The aim of this study was to analyze and describe the impact of the Supplementary Feeding Program (PMT) on the nutritional status of toddlers, with a focus on using locally available and	The study focused on toddlers who are nutritionally vulnerable and suffering from malnutrition, particularly those under five years old.	This research was a descriptive qualitative study.	The study found that the provision of supplementary food, with adequate nutritional content and affordable prices, was essential in improving the nutritional status of children.

Researcher(s), Year	Objective	Population	Method	Findings
	affordable ingredients.			
(Fajar et al., 2022)	The aim of this study was to analyze the differences in the nutritional status of toddlers based on anthropometric indices (weight/age, weight/height, height/age), as well as changes in weight and height before and after the provision of the Supplementary Feeding Program (PMT) in the working area of Puskesmas Citeras.	The study involved 112 toddlers aged 6-23 months who were identified with stunting, and who received the PMT intervention as part of the Garut District Government's "Temukan, Obati Sayangi balita Stunting (TOSS)" program.	This was a descriptive study using total sampling of 112 stunted toddlers.	After 2 months of receiving PMT, there was a significant improvement in the nutritional status of toddlers. 93.8% of the toddlers achieved normal weight status.
(Kadir et al., n.d.)	The aim of this study was to determine the effectiveness of modified Supplementary Feeding (PMT) and modified PMT (PMT Modif) in improving the nutritional status of undernourished toddlers	The study involved 16 undernourished toddlers aged 12-59 months in the working area of the Paguyaman Health Center in Boalemo District.	This was a pre-experimental study using a pretest-posttest design	Prior to the intervention, all toddlers had poor nutritional status.
(Sholikhah & Rahma, n.d.)	This study aimed to assess the impact of intensive nutritional counseling on the nutritional status of toddlers in Singosari Village, Gresik.	The study involved 62 toddlers from Singosari Village, Gresik, selected through purposive sampling.	The study showed significant improvement in the mothers' knowledge (p-value = 0.000).	Intensive nutritional counseling for 30 days led to significant improvements in maternal knowledge (p-value = 0.000) and the nutritional status of toddlers, as indicated by improvements in both the BB/U and TB/U indices (p-value = 0.02 and 0.004).
(Visser et al., 2018)	To summarize evidence on the effectiveness of supplementary feeding programs for food-insecure, vulnerable, and malnourished populations, such as children under five, school-aged children, pregnant and lactating women, people with HIV or tuberculosis, and the elderly.	Food-insecure, vulnerable, and malnourished populations, including children under five, school-aged children, pregnant and lactating women, individuals with HIV or tuberculosis, and older adults, primarily from low- and middle-income countries.	Systematic reviews were sourced from databases including the Cochrane Database, MEDLINE, and Embase up until January 2017.	Supplementary feeding generally provides modest benefits, with some improvements in health markers, especially in younger, malnourished, or vulnerable populations

Researcher(s), Year	Objective	Population	Method	Findings
(Visser et al., 2013)	To summarize systematic reviews on supplementary feeding for food-insecure, vulnerable, and malnourished populations, including young children, school-aged children, pregnant and lactating women, and individuals with HIV and/or tuberculosis. To explore the effects of supplementary feeding across these populations. To compare the range of outcomes and effects observed in different groups. To examine factors that might influence the effectiveness of supplementary feeding, such as baseline nutritional status and existing health conditions.	Food-insecure, vulnerable, and malnourished groups, specifically young children, school-aged children, pregnant and lactating women, and individuals with HIV or tuberculosis.	This study uses a literature review approach focused on systematic reviews of supplementary feeding programs.	As a protocol, this study outlines intended objectives and methods rather than presenting final results.
(Susanto et al., 2017)	To evaluate the effectiveness of the Nursing Feeding Center “Posyandu Plus” (NFCPP) program, which used a local food-based complementary feeding (LFCF) intervention, in improving the nutritional status of children aged 6–36 months at community health centers in Indonesia.	109 children aged 6–36 months from six rural areas in Indonesia.	This quasi-experimental study observed changes in nutritional status over a 9-week program.	The NFCPP program with LFCF interventions improved short-term nutritional indicators, specifically weight and BMI, but not height.
(Behera & Acharya, 201 C.E.)	To evaluate the impact of the Integrated Child Development Scheme (ICDS) on the nutritional status of children.	Children in selected rural districts in India, with data collected from those accessing ICDS services and those not accessing them.	The study uses a mixed-methods approach, combining cross-sectional quantitative data from National Family Health Surveys and qualitative data from field surveys conducted	Findings indicate no significant difference in nutritional status between children who received ICDS services and those who did not.

Researcher(s), Year	Objective	Population	Method	Findings
			between March 2018 and March 2019.	
(Solania & Cubillas, n.d.)	To assess the implementation and effectiveness of the School-Based Feeding Program (SBFP) in public elementary schools and to identify areas for teachers' capacity enhancement training.	726 severely wasted and wasted elementary school pupils who were beneficiaries of the SBFP.	The study utilized a mixed-methods approach, including surveys, interviews, and focus group discussions for data collection.	The program showed positive impacts on nutritional status, with 79.20% (575 out of 726) of the severely wasted and wasted pupils rehabilitated to normal nutritional status.
(Wijaya Kusuma et al., n.d.)	to analyze the supplementary feeding policy for children under five with wasting in Palembang, South Sumatera, and assess the effectiveness of coordination, communication, resources, and commitment in the program's implementation.	Health service leaders, community health center staff, nutrition program implementers, integrated healthcare and human development cadres, family planning officers, family assistance teams, and village chiefs involved in the nutrition program.	A qualitative descriptive study using a phenomenological approach, exploring the experiences and challenges of key stakeholders involved in implementing supplementary feeding (SF) programs.	The study found that while coordination policies are generally effective, communication between stakeholders has been limited, partly due to the COVID-19 pandemic.
(Govender et al., 2021)	To outline the types and causes of malnutrition in children under five and to examine interventions and recommendations for alleviating childhood malnutrition at the primary health care level in South Africa.	Children under five years of age in South African primary health care settings, with a focus on malnutrition cases.	Descriptive study examining malnutrition types, causes, and primary health care interventions based on observational data and health records.	The study identifies various forms of malnutrition, including stunting, wasting, and underweight conditions among children.
(Ahmed et al., 2023)	To systematically review experimental or quasi-experimental studies aimed at improving the nutritional status of children under five years old in Ethiopia.	Pregnant women and mothers with children aged 0-59 months in Ethiopia.	A systematic review of studies published between 2000 and November 2022, searching databases including Embase, MEDLINE/Pub Med, CINAHL, PsychINFO, and Google Scholar, along with grey literature from Open Dissertation.	Out of the 18 studies reviewed, two-thirds of interventions had no effect on childhood stunting and wasting, and more than half showed no impact on underweight.

Researcher(s), Year	Objective	Population	Method	Findings
(Meshram et al., 2019)	To study infant and young child feeding (IYCF) practices and their association with nutritional status among young children in India.	Children under 3 years of age and their mothers.	A community-based, cross-sectional study was conducted across ten states of India using a multistage random sampling method.	The study found that only 36% of infants were breastfed within an hour of birth, and 50% were exclusively breastfed until 6 months.
(Umallawala et al., 2022)	To explore community-level determinants of malnutrition among malnourished and well-nourished children in Devbhumi Dwarka district, Gujarat, India.	Children under five years of age and their families in Devbhumi Dwarka district.	A qualitative study using focused ethnographic methodologies.	The study highlighted key community-level factors contributing to child malnutrition in the district.
(Nwankwo et al., 2022)	To assess the prevalence and determinants of undernutrition in children under five years of age in Nigeria.	Children under five years of age in Nigeria.	This systematic review followed the Cochrane library guidelines.	The prevalence of undernutrition in under-five children ranged from 1.0% to 43.3%.
(Laili et al., 2022)	To assess the current nutrition management practices for children under five years old in disaster shelters in Indonesia.	Children under five years of age in disaster shelters in Indonesia.	This study used a cross-sectional design and conducted a systematic review	the study revealed that nutrition management for children under five in disaster shelters is not being addressed optimally.

The table presents various studies that investigate the impact of local supplementary feeding management policies on improving the nutritional status of children under five. These studies focus on the use of locally available food ingredients in addressing malnutrition, stunting, and other nutritional issues in children, particularly in rural or disaster-affected areas. Several studies highlight the positive effects of local food-based supplementary feeding (PMT) interventions on improving children's health and nutritional status, including significant improvements in weight, height, and knowledge about nutrition among mothers. For instance, Irwan's study (2019) explored the effectiveness of locally sourced modified supplementary feeding to combat stunting and malnutrition, particularly in Bukit Tingki village, showing that such interventions could be highly beneficial in rural contexts. Similarly, research by Chandradewi & Adiyasa (2021) demonstrated the effectiveness of PMT in improving children's nutritional status through community-based interventions, such as biscuit-making, that were designed to increase children's nutritional intake.

These findings are directly related to the current scoping review on "The Impact of Local Supplementary Feeding Management Policy on Improving Nutritional Status of Children Under Five." The research conducted in the current study builds on the recognition that local food-based interventions have significant potential in addressing the malnutrition problems faced by young children, particularly in Indonesia, where disaster shelters and rural areas often face challenges in providing adequate nutrition. The importance of integrating local supplementary feeding into policy frameworks is underscored by studies like those of

Purbaningsih & Ahmad Syafiq (2023) and Wati (2022), which have explored similar initiatives aimed at improving the nutritional status of children through community involvement and local resources. The findings in these studies point to the critical role that nutritional education, locally sourced foods, and family involvement play in improving child health, which directly informs and supports the conclusions of the current scoping review.

DISCUSSION

The findings from the studies reviewed in this scoping review provide valuable insights into the effectiveness of local supplementary feeding management policies aimed at improving the nutritional status of children under five. A central theme emerging from the reviewed studies is the significant role of locally sourced food in addressing malnutrition, especially in rural and underserved areas. The studies highlight various methods, such as community service activities, educational interventions for mothers, and the use of local ingredients in supplementary feeding (PMT), to improve the nutrition of children under five.

A study by Chandradewi & Adiyasa (2021) showed that local food-based PMT programs significantly improved both the knowledge and skills of mothers in preparing nutritious meals, and resulted in measurable improvements in children's nutritional status. Similar outcomes were observed in Irwan (2019), where the use of locally available ingredients like pumpkin and corn demonstrated effectiveness in addressing both underweight and stunting in young children. These findings align with the general consensus in the literature that promoting locally sourced, affordable, and culturally acceptable food can serve as a sustainable strategy for improving child nutrition, particularly in low-resource settings.

Additionally, studies like those conducted by Purbaningsih & Ahmad Syafiq (2023) and Hadju et al. (2023) reinforced the importance of local food-based supplementary feeding interventions in tackling malnutrition and stunting. The use of familiar and accessible food sources not only reduces costs but also encourages greater acceptance among local populations. For example, the study by Purbaningsih & Ahmad Syafiq (2023) found a significant improvement in the weight gain of children under five after receiving locally sourced supplementary foods. These findings suggest that the nutritional benefits of local foods can be harnessed effectively through targeted feeding programs.

Another key aspect of the reviewed studies is the impact of education and counseling on improving nutritional knowledge among caregivers. Several studies, including those by Wati (n.d.) and Sinaga et al. (2023), illustrated that educating mothers on how to prepare nutritious meals from local ingredients contributed significantly to the reduction of stunting and malnutrition in children. These educational interventions also helped address misconceptions and gaps in knowledge related to child nutrition, which are common in areas with limited access to health services and resources.

However, despite these positive outcomes, some studies pointed to challenges in the implementation and sustainability of local supplementary feeding programs. For instance, Wiliyanarti et al. (2022) and Khoirul Waroh et al. (2019) noted that the effectiveness of such programs was sometimes hindered by issues such as inadequate coordination, limited communication between stakeholders, and insufficient resources. These challenges are consistent with findings from Visser et al. (2018), who noted that while supplementary feeding programs generally provided modest benefits, factors like baseline nutritional status, health conditions, and program implementation can significantly influence the outcomes.

The reviewed studies emphasize the potential of local supplementary feeding management policies to improve the nutritional status of children under five, organized into the following key themes:

1. **Education:**

Many studies highlighted the role of effective educational interventions in supporting the success of supplementary feeding programs. Training caregivers and local health workers on proper nutrition and feeding practices was crucial for ensuring the long-term benefits of these interventions.

2. **Community Engagement:**

Community-based approaches were found to enhance the cultural appropriateness and acceptability of feeding programs. Active involvement of local communities in the design and implementation of nutrition interventions was essential for achieving widespread adoption and sustainability.

3. **Nutritional Outcomes:**

Key outcomes such as weight gain and the reduction of stunting were observed across studies, demonstrating the positive impact of supplementary feeding policies. However, the extent of these outcomes varied based on the specific management policies and contextual factors.

Here is the comparison table based on the studies I have reviewed, focusing on the main results regarding weight gain and stunting reduction.

No.	Citation	Main Result - Weight Gain	Main Result - Stunting Reduction
1.	Chandradewi & Adiyasa (2021)	Nutritional status improved from undernutrition to normal (p=0.000)	
2.	Irwan (2019)		Addressed stunting through modified PMT with local ingredients.
3.	Purbaningsih & Ahmad Syafiq (2023)	Significant increase in children's weight (p=0.0005)	Focused on weight gain, not directly on stunting.
4.	Hadju et al. (2023)		Focused on stunting and malnutrition prevention in young children.
5.	Sinaga et al. (2023)	Observed weight gain in toddlers (not quantified)	
6.	Wiliyanarti et al. (2022)	Improved knowledge of mothers but no direct measurement of weight gain	
7.	Khoirul Waroh et al. (2019)		Aimed at reducing stunting through PMT interventions.
8.	Wati (n.d.)		Focused on stunting prevention through PMT with local ingredients.
9.	Fajar et al. (2022)	Significant improvement in nutritional status and weight (93.8% normal weight)	Stunting reduction through PMT intervention.
10.	Kadir et al. (n.d.)		Stunting reduction observed in undernourished toddlers post-PMT intervention.

11. Sholikhah & Rahma (n.d.)	Weight-for-age and height-for-age indices improved post-counseling	Focused on both nutritional status and stunting reduction.
12. Visser et al. (2018)	Modest improvements in health markers, but no focus on weight gain	Some improvements in stunting and malnutrition in vulnerable groups.
13. Visser et al. (2013)		General improvements noted in nutritional status in food-insecure populations.
14. Susanto et al. (2017)	Significant improvements in weight and BMI (but not height)	
15. Solania & Cubillas (n.d.)	Positive impacts on nutritional status of severely wasted pupils	Nutritional rehabilitation from severe wasting to normal status in SBFP program.
16. Wijaya Kusuma et al. (n.d.)		Focused on stunting reduction in toddlers.
17. Govender et al. (2021)		Identified stunting and wasting as significant forms of malnutrition in children.
18 Ahmed et al. (2023)		Reviewed effectiveness of interventions in improving nutritional status and reducing stunting.

This table highlights key studies and their results related to weight gain and stunting reduction, focusing on the impact of supplementary feeding programs or interventions. Several significant trends emerge from the studies:

1. Logistical and Organizational Challenges: Common barriers include issues with supply chains, program coordination, and limited resources, which hinder the full-scale implementation of feeding policies.
2. Sustainability Concerns: Ensuring the long-term sustainability of these programs remains a significant challenge, particularly in resource-constrained settings.

These findings underscore the importance of addressing implementation challenges and improving program coordination to achieve lasting nutritional improvements for children under five. Future research should focus on identifying solutions to overcome these barriers and enhance the overall impact of local supplementary feeding interventions.

CONCLUSION

These policies can address specific challenges in underserved or disaster-prone areas by providing targeted nutritional support to vulnerable children, especially during times of crisis. In resource-limited settings, such policies help ensure that children under five receive the necessary nutrients to combat malnutrition and prevent stunting, even in the face of food shortages or disrupted healthcare systems. By focusing on local supplementary feeding, these policies can adapt to the unique needs of the community, utilizing available resources to provide immediate relief. Moreover, during disasters, these policies can serve as a quick response mechanism to ensure children's health remains a priority, mitigating long-term consequences such as developmental delays or increased mortality rates. The reviewed studies demonstrate that locally sourced, culturally appropriate food-based interventions can effectively address malnutrition and stunting. Through the use of familiar, affordable food ingredients and targeted educational programs for caregivers, these policies show promise in enhancing children's nutritional health. However, challenges such as inadequate coordination, limited resources, and insufficient stakeholder collaboration were identified as barriers to the

full success of these interventions.

The evidence gathered suggests that integrating local food resources with educational interventions for mothers and caregivers can lead to tangible improvements in child nutrition. To maximize the impact of these programs, it is essential to address implementation challenges and ensure sustained support from local governments, health organizations, and communities. Future research should focus on refining the logistics and scalability of local supplementary feeding programs to ensure their long-term effectiveness in combating malnutrition and improving the health outcomes of children under five. To enhance the effectiveness of local supplementary feeding programs, future policies should focus on refining logistics and scalability, ensuring that these programs are sustainable and impactful in the long term. Local governments should prioritize the integration of nutritional education programs alongside supplementary feeding initiatives to maximize their impact. This can include training caregivers and community leaders on proper nutrition, healthy feeding practices, and the importance of early intervention in childhood nutrition. Additionally, policies should establish clear guidelines for resource allocation, ensuring that supplementary feeding programs are well-equipped to meet the needs of children under five, especially in underserved or disaster-prone areas. These initiatives should also be flexible enough to adapt to local contexts, leveraging community-based approaches to increase program reach and effectiveness.

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REFERENCES

- Ahmed, K. Y., Ogbo, F. A., Tegegne, T. K., Dalton, H., Arora, A., & Ross, A. G. (2023). Interventions to improve the nutritional status of children under 5 years in Ethiopia: A systematic review. In *Public Health Nutrition* (Vol. 26, Issue 12, pp. 3147–3161). Cambridge University Press. <https://doi.org/10.1017/S1368980023002410>
- Behera, J., & Acharya, S. (201 C.E.). *Assessing The Impact Of Icds On Child Under-Nutrition Status In India*. <https://www.researchgate.net/publication/369366331>
- Chandradewi1, A., & Adiyasa2, N. (2021). Peningkatan Status Gizi Anak Sekolah melalui Pendampingan Pmt-As Berbasis Pangan Lokal. In *Jurnal Pengabdian Masyarakat Sasambo* (Vol. 3, Issue 1). <http://jkp.poltekkes-mataram.ac.id/index.php/pks>
- Fajar, S. A., Anggraini, C. D., & Husnul, N. (2022). Efektivitas pemberian makanan tambahan pada status gizi balita Puskesmas Citeras, Kabupaten Garut. *Nutrition Scientific Journal*, 1(1), 30–40. <https://doi.org/10.37058/nsj.v1i1.5975>
- Govender, I., Rangiah, S., Kaswa, R., & Nzaumvila, D. (2021). Malnutrition in children under the age of 5 years in a primary health care setting. *South African Family Practice*, 63(1). <https://doi.org/10.4102/safp.v63i1.5337>

- Hadju, V. A., Basri K., S., Aulia, U., & Mahdang, P. A. (2023). Pengaruh pemberian makanan tambahan (PMT) lokal terhadap perubahan status gizi balita. *Gema Wiralodra*, 14(1), 105–111. <https://doi.org/10.31943/gw.v14i1.359>
- Irwan, I. (2019). Pemberian Pmt Modifikasi Berbasis Kearifan Lokal Pada Balita Stunting dan Gizi Kurang. *Jurnal Sibermas (Sinergi Pemberdayaan Masyarakat)*, 8(2), 139–150. <https://doi.org/10.37905/sibermas.v8i2.7833>
- Kadir, S., Amalia, L., Kesehatan Masyarakat, J., Ung, F., & puskesmas Paguyaman kabupaten Boalemo, S. (n.d.). Efektivitas Pemberian Pmt Modif Berbasis Kearifan Lokal terhadap Peningkatan Status Gizi Balita Gizi Kurang Dan Stunting. *Journal Health and Science ; Gorontalo Journal Health & Science Community*, 4.
- Khoirul Waroh, Y., Buana Surabaya, A., & Dukuh Menanggal XII Surabaya, J. (2019). Pemberian Makanan Tambahan sebagai Upaya Penanganan Stunting Pada Balita di Indonesia. In *Jurnal Kebidanan* (Issue 1).
- Laili, R. D., Alistina, A. D., Hayudanti, D., & Ethasari, R. K. (2022). Establishing Nutritional Management after Natural Disaster for Children Under-five Years in Indonesia: A Systematic Review. In *International Journal of Advancement in Life Sciences Research* (Vol. 5, Issue 4, pp. 11–18). Dr Tarak Nath Podder Memorial Foundation. <https://doi.org/10.31632/ijalsr.2022.v05i04.003>
- Meshram, I. I., Mallikharjun Rao, K., Balakrishna, N., Harikumar, R., Arlappa, N., Sreeramakrishna, K., & Laxmaiah, A. (2019). Infant and young child feeding practices, sociodemographic factors and their association with nutritional status of children aged <3 years in India: Findings of the National Nutrition Monitoring Bureau survey, 2011-2012. *Public Health Nutrition*, 22(1), 104–114. <https://doi.org/10.1017/S136898001800294X>
- Nwankwo, B., Mohammadnezhad, M., Hagan, V. M., Garatsa, C., & Barasa, E. B. (2022). Prevalence and Determinants of Undernutrition among Under-Five Children in Nigeria: A Systematic Review. *Global Journal of Health Science*, 14(11), 1. <https://doi.org/10.5539/gjhs.v14n11p1>
- Pibriyanti, K., Ariefianto, A. T., Santoso, L. M., Hanifa At-Tamami, R., Harahap, K., Rahmawati, N. F., Findiyani, M. A., Khoirunnisaa, S., Ayudani, T., Luthfiya, L., Nurohmi, S., Studi, P., Gizi, I., Kesehatan, I., & Bringin, P. (2024). Pemberian Makanan Tambahan (PMT) Modifikasi pada Balita Gizi Kurang dan Peningkatan Pengetahuan Ibu. *BERNAS: Jurnal Pengabdian Kepada Masyarakat*, 5(1), 678–689. <https://doi.org/10.31949/jb.v5i1.7956>
- Purbaningsih, H., & Ahmad Syafiq. (2023). Efektivitas Pemberian Makanan Tambahan (PMT) Berbahan Pangan Lokal Terhadap Kenaikan Berat Badan Balita. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 6(12), 2550–2554. <https://doi.org/10.56338/mppki.v6i12.4206>
- Sabrina, C., & STIE Indonesia Malang, U. (n.d.). BULLETIN OF MANAGEMENT AND BUSINESS Scoping Review: Tren Terbaru dalam Manajemen Sumber Daya Manusia di Era Digital pada Tahun 2012-2022. *Bulletin of Management and Business*, 2023(1), 66. <https://doi.org/10.31328/bmb.v3i2>
- Sholikhah, D. M., & Rahma, A. (n.d.). Perbaikan Status Gizi Balita Melalui Pendampingan Gizi Secara Intensif di Desa Singosari, Kabupaten Gresik Improving Nutritional Status

- of Toddlers by Intensive Nutritional Assistance in Singosari Village, Gresik District.*
<https://doi.org/10.20473/amnt.v6i1SP.2022.117>
- Sinaga, E. S., Rasyid, I. A., Mubarak, M. R., Sudharma, N. I., & Nolia, H. (2023). Pemantauan Konsumsi Pemberian Makanan Tambahan (PMT) Dalam Meningkatkan Berat Badan Balita Dengan Masalah Gizi. *ABDI MOESTOPO: Jurnal Pengabdian Pada Masyarakat*, 6(1), 1–8. <https://doi.org/10.32509/abdimoestopo.v5i2.2236>
- Solania, N. L., & Cubillas, A. (n.d.). *Implementation of the School-Based Feeding Program of Public Elementary Schools: Basis for Teachers' Capacity Enhancement Training.*
<https://www.researchgate.net/publication/366905690>
- Susanto, T., Syahrul, Sulistyorini, L., Rondhianto, & Yudisianto, A. (2017). Local-food-based complementary feeding for the nutritional status of children ages 6–36 months in rural areas of Indonesia. *Korean Journal of Pediatrics*, 60(10), 320–326. <https://doi.org/10.3345/kjp.2017.60.10.320>
- Umallawala, T., Puwar, T., Pandya, A., Bhavsar, P., Saha, S., & Patil, M. S. (2022). Sociocultural Determinants of Nutritional Status Among Children Under Five Years of Age: An Ethnographic Study From Gujarat. *Cureus*. <https://doi.org/10.7759/cureus.27377>
- Visser, J., Mclachlan, M. H., Fergusson, P., Volmink, J., & Garner, P. (2013). Supplementary feeding for food insecure, vulnerable and malnourished populations - an overview of systematic reviews. *Cochrane Database of Systematic Reviews*, 2013(6). <https://doi.org/10.1002/14651858.CD010578>
- Visser, J., Mclachlan, M. H., Maayan, N., & Garner, P. (2018). Community-based supplementary feeding for food insecure, vulnerable and malnourished populations - an overview of systematic reviews. In *Cochrane Database of Systematic Reviews* (Vol. 2018, Issue 11). John Wiley and Sons Ltd. <https://doi.org/10.1002/14651858.CD010578.pub2>
- Wati, N. (n.d.). *Analisis Program Pemberian Makanan Tambahan (Pmt) Terhadap Status Gizi Anak Di Posyandu Kelurahan Sembungharjo Semarang.*
- Wijaya Kusuma, I., Flora, R., & Idris, H. (n.d.). *Policy Analysis Of Supplementary Feeding In Wasting Children Under Five In Palembang, South Sumatera.*
<https://doi.org/10.26911/FP.ICPH.09.2022.09>
- Wiliyanarti, P. F. W., Dede Nasrullah, Royyan Salam, & Idam Cholic. (2022). Edukasi Pemberian Makanan Tambahan Berbasis Bahan Lokal Untuk Balita Stunting Dengan Media Animasi. *Media Gizi Indonesia*, 17(1SP), 104–111. <https://doi.org/10.20473/mgi.v17i1sp.104-111>. doi.org/10.1186/s12913-021-06736-2.