

## Effectiveness Of Local Wisdom-Based Interventions On Stunting Prevention: A Systematic Literature Review

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### ABSTRACT

**Background.** Stunting is a nutritional problem that has become a global health issue. The prevalence of stunting in children under five years of age in 2024 is 23.2%. To reduce the prevalence of stunting, intervention is needed.

**Objective.** This review aims to review the effectiveness of local wisdom-based interventions on stunting prevention.

**Method.** The study method is systematic literature review (SLR). Data collection was conducted by four database sources: PubMed, ScienceDirect, Google Scholar, and Ebscohost. The keywords used to search the articles were “stunting” AND “intervention” AND “local wisdom OR culture OR tradition”. Inclusion criteria were articles written in English, the latest articles published in the last 5 years (2020-2025), articles with experimental research methods, articles in the form of original articles, full text and open access. Exclusion criteria were articles irrelevant to the topic of discussion.

**Results.** Total findings of 982 articles, but only 10 articles met the inclusion and exclusion criteria. Based on 10 articles analyzed, the articles showing that Local wisdom-based interventions is associated with improvements in nutritional outcomes and reduction in stunting prevalence.

**Conclusion.** This intervention reported reductions ranged from 4–8%. Recommended for further research, it is necessary to consider and integrate local wisdom values into stunting intervention strategies.

**Keywords:** *Stunting, local wisdom, interventions, systematic review*

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### INTRODUCTION

The prevalence of stunting is defined as the percentage of children with height-for-age below –2 standard deviations from the median of the 2006 World Health Organization (WHO) growth standards, based on a sample of healthy children from various environments (1). In 2022, approximately 22.3% of children under five worldwide were stunted, reflecting chronic

malnutrition and its long-term impact on growth and development (2). Stunting also reflects a child's broader development in terms of health and cognition: children who suffer from stunting have a higher risk of death and morbidity and may also have poorer future health, education and income (3,4). Stunted growth in children remains a significant problem. Globally, it is estimated that nearly 150 million children under the age of 5 years are stunted. This represents 22% of all children

under 5 years of age. The burden of stunting is particularly severe in low- and middle-income countries, where 98% of stunted children live (5). Global stunting reduction has indeed occurred (from 26.4% in 2012 to 23.2% in 2024), but it is still far from the global target of a 40% reduction (6).

In this context, interventions based on local wisdom are an approach that is receiving increasing attention in efforts to prevent stunting (7). Local wisdom encompasses the values, practices, knowledge, and traditional resources that have developed within communities and been passed down through generations. The utilisation of local wisdom can enhance community acceptance of health programmes as they are better aligned with local culture and customs. Stunting, which has so far only been prevented through government programs in the form of health care, is not enough if it does not pay attention to cultural issues and local wisdom of the local community so that prevention can be more effective and efficient (8). Local wisdom plays a strategic role in supporting the national stunting reduction program. Local culture-based approaches are believed to be more readily accepted by communities because they align with established values and customs. Integrating local wisdom into public health programs can strengthen the sustainability of interventions, increase community participation, and expand the reach of nutrition education down to the household level (9).

Against this background, this systematic review aims to systematically assess the effectiveness of local wisdom-based interventions in reducing the prevalence of stunting among infants and young children. This review is expected to identify various forms of interventions that have been implemented, evaluate their impact on children's nutritional status, and analyse the factors supporting the success of their implementation. The results of this study are expected to provide a scientific basis for the development of stunting prevention strategies that are more contextually appropriate, sustainable, and aligned with the socio-cultural characteristics of communities across various regions.

### METHODS

This study employed a systematic literature review (SLR) design following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The literature search was conducted between October and December 2025

using four electronic databases: PubMed, ScienceDirect, Google Scholar, and EBSCOhost.

The search strategy utilized the following keywords: “stunting” AND “intervention” AND (“local wisdom” OR “culture” OR “tradition”). Inclusion criteria were: (1) articles published in English, (2) studies published within the last five years (2020–2025), (3) original research articles, (4) studies employing experimental or quasi-experimental designs, and (5) full-text and open-access articles. Exclusion criteria included articles that were irrelevant to the research topic or did not meet the inclusion criteria.

The initial search identified a total of 982 articles (PubMed: 2; ScienceDirect: 218; Google Scholar: 547; EBSCOhost: 215). After removing duplicates, incomplete texts, and irrelevant articles ( $n = 897$ ), 85 articles remained for further screening. Of these, 51 articles were excluded for not addressing the research question, and 22 articles were excluded for not meeting the inclusion criteria. Finally, 10 articles were included in the review.

Data extraction was conducted systematically using a standardized form, including information on author, year of publication, study design, sample characteristics, type of intervention, and key findings related to stunting outcomes.

The methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools appropriate for each study design (randomized controlled trials, quasi-experimental studies, and qualitative studies). Each study was evaluated based on criteria such as clarity of objectives, methodological rigor, validity of analysis, and potential bias. Studies were categorized into high, moderate, and low quality, and only studies with moderate to high quality were included in the final synthesis.

Data were analyzed using a narrative synthesis approach. Findings from the included studies were systematically summarized and compared to identify patterns, similarities, and differences in the effectiveness of local wisdom-based interventions on stunting prevention.

### Ethics approval

Ethical approval was not required as this study is a systematic literature review using published data.

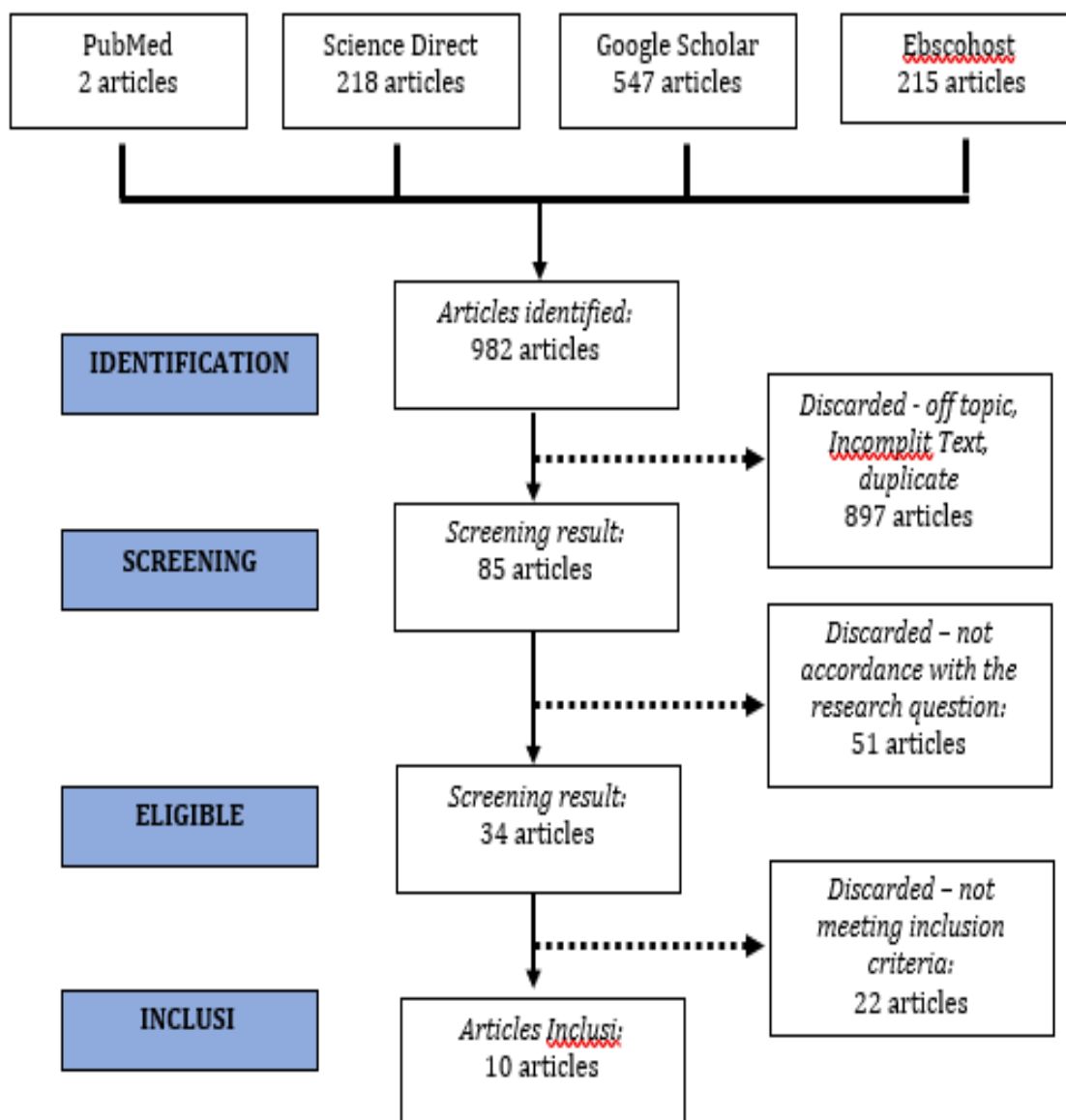


Figure 1. PRISMA Flowchart

**RESULTS**

**Study Selection**

The study selection process followed the PRISMA guidelines. A total of 982 articles were identified through database searching (PubMed: 2; ScienceDirect: 218; Google Scholar: 547; EBSCOhost: 215). After removing duplicates, incomplete records, and irrelevant articles (n = 897), 85 articles were screened based on titles and abstracts.

Further full-text assessment resulted in the exclusion of 51 articles that did not address the research question and 22 articles that did not meet

the inclusion criteria. Finally, 10 studies were included in the qualitative synthesis. The detailed study selection process is illustrated in Figure 1 (PRISMA flowchart).

**Study Characteristics**

The 10 included studies consisted of various research designs, including randomized controlled trials (RCTs), quasi-experimental studies, qualitative studies, case-control studies, and systematic reviews.

Most studies were conducted in low- and middle-income countries, particularly in community-based

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settings. The interventions varied but generally included: culturally tailored nutrition education, utilization of local food resources, community engagement through traditional or religious leaders. The target populations primarily involved mothers, caregivers, and children under five years of age. The duration and intensity of interventions varied across studies, influencing the magnitude of outcomes. A detailed summary of study characteristics is presented in Table 2.

### Quality Assessment

The methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI)

critical appraisal tools. Overall, the quality of studies ranged from moderate to high: randomized controlled trials demonstrated low risk of bias, quasi-experimental and qualitative studies showed moderate risk of bias, mainly due to limitations in randomization, confounding control, and generalizability, systematic reviews included in this study demonstrated high methodological rigor, with clear search strategies and transparent reporting. Only studies with at least moderate quality were included in the final synthesis to ensure the reliability of findings. The detailed quality appraisal results are presented in Table 1.

**Table 1. Methodological Quality Assessment (JBI Appraisal)**

No	Author (Year)	Study Design	JBI Quality	Risk of Bias Summary	Key Appraisal Outcome
1	Elis et al. (2020)	Quasi-experimental	Moderate	Moderate risk	Clear objectives, good intervention design, but limited randomization and confounding control
2	McKune et al. (2020)	Randomized Controlled Trial	High	Low risk	Strong RCT design, appropriate randomization, low selection and performance bias
3	Zubair et al. (2026)	Systematic Review	High	Low risk	Clear PRISMA methodology, transparent inclusion criteria, robust synthesis approach
4	Alfianti et al. (2023)	Mixed-methods systematic review	Moderate–High	Moderate risk	Good integration of qualitative and quantitative data, limited methodological consistency across included studies
5	Lewa et al. (2022)	Systematic Review	High	Low risk	Well-structured review with clear search strategy and synthesis framework
6	Sutarto et al. (2022)	Qualitative (Phenomenology)	Moderate	Moderate risk	Strong contextual insight, but limited generalizability and potential researcher bias

No	Author (Year)	Study Design	JBI Quality	Risk of Bias Summary	Key Appraisal Outcome
7	Pratiwi et al. (2025)	Qualitative exploratory	Moderate	Moderate risk	Good thematic findings, but small sample and limited external validity
8	Marume et al. (2022)	Case-control study	Moderate–High	Moderate risk	Appropriate comparison groups, but residual confounding possible
9	Taofik et al. (2026)	Qualitative study	Moderate	Moderate risk	Strong policy insight, but subjective interpretation and limited transferability
10	Marni et al. (2023)	Mixed-methods (quasi-experimental + qualitative)	High	Low–Moderate risk	Strong design with pre-post control group, some limitation in qualitative integration

### Synthesis of Findings

The findings of this review indicate that local wisdom-based interventions are consistently associated with improvements in nutritional outcomes and reductions in stunting-related indicators among children under five years of age. Across the included studies, several key intervention components were identified:

#### 1. Culturally tailored nutrition education

Interventions that integrated local beliefs and practices into health education improved maternal knowledge, feeding behavior, and child care practices.

#### 2. Utilization of local food resources

The incorporation of locally available, nutrient-rich foods increased dietary diversity

and reduced dependence on external food sources.

#### 3. Community and cultural engagement

Involvement of religious leaders, traditional authorities, and community figures enhanced program acceptance, trust, and participation.

Overall, the reported reduction in stunting prevalence ranged from 4% to 8%, depending on the intervention design, duration, and socio-cultural context.

The synthesis suggests that culturally adapted interventions are more effective than standard approaches due to their alignment with community values and practices, contributing to better sustainability and behavioral change.

**Table 2. Summary of Article Findings**

No	Author	Title	Objective	Study Design	Findings
1	Andi Elis et al., 2020	The Role of Presenting Exclusive Breastfeeding for The Prevention of Stunting Based on The Culture of Tudang Sipulung	To determine the effect of education on exclusive breastfeeding for the prevention of stunting based on the Tudang Sipulung culture in Makassar, Indonesia	Quasi-experimental study, pre-test and post-test with a control group design	Culture-based health education using the Tudang Sipulung approach was associated with improved maternal behavior regarding exclusive breastfeeding for stunting prevention.
2	Mckune et al., 2020	Behavior Change, Egg Consumption, and Child Nutrition: A Cluster Randomized Controlled Trial	To test the impact of an intervention to change tailored to local culture to increase egg consumption among children.	Randomised Controlled Trials (RCT)	Behavioral change intervention increased egg consumption and decision-making regarding egg consumption, while also contributing to a reduction in overweight incidence among children.
3	Zubair et al., 2026	The Effect of Culturally-Based Interventions on Stunting Prevention Efforts in Children Aged 0–5 Years: A Systematic Literature Review	To analyze and synthesize existing evidence on the effectiveness of culturally-based interventions in stunting prevention among children aged 0–5 years, and to identify how cultural approaches influence nutritional status improvement and child growth outcomes.	This study is a Systematic Literature Review (SLR) conducted following established guidelines (e.g., PRISMA framework). Relevant studies were identified through electronic databases such as PubMed, Scopus, and Google Scholar using predefined keywords related to <i>culturally-based interventions</i> and <i>stunting prevention</i> .	Culturally based interventions improved child feeding practices by increasing consumption and dietary diversity of nutrient-rich local foods such as eggs, fish, and traditional agricultural products, and were more acceptable due to alignment with local traditions and norms.
4	Alfianti et al., 2023	Cultural perspectives of stunting prevention: A systematic review	To evaluate the relationship between dietary patterns, stunting and overweight in pre-school children.	Mixed methods quantitative and qualitative research	The use of local resources and cultural engagement, including traditional foods and involvement of community leaders, was recommended to improve nutrition and strengthen stunting prevention efforts.

No	Author	Title	Objective	Study Design	Findings
5	Lewa et al., 2022	Prevention Of Stunting Through Cultural Approaches And Local Wisdom	To explore and synthesize evidence on the role of cultural approaches and local wisdom in the prevention of stunting among children under five years old, and to identify how culturally grounded practices contribute to improved child nutrition and growth outcomes.	This study is a Systematic Literature Review (SLR) conducted using a structured approach based on established guidelines (e.g., PRISMA framework).	Cultural approaches and local wisdom were identified as supportive strategies for stunting prevention by improving nutritional practices, increasing community acceptance, and enabling sustainable behavioral change.
6	Sutarto et al., 2022	Qualitative Study of Local Cultural Wisdom and Health Services on Stunting Events	To explore how local cultural wisdom and health service practices influence the occurrence of stunting in children, and to identify cultural beliefs and healthcare system factors that affect stunting prevention and management.	This study uses a qualitative research design with a phenomenological approach.	Cultural beliefs influenced child feeding practices, where some traditional food taboos limited nutrient intake, while local wisdom could both support and hinder health interventions depending on community understanding.
7	Pratiwi et al., 2025	Exploring The Local Food Consumption And Knowledge Retention For Stunting Prevention	To explore local food consumption patterns and the level of knowledge retention in the community related to stunting prevention, and to understand how food culture and nutrition knowledge influence dietary behavior in children.	Qualitative or exploratory study	Local food consumption remained dominant, while gaps were identified between knowledge and practice, with food culture strongly influencing behavior and knowledge retention remaining a challenge.
8	Marume et al., 2022	Dietary patterns and childhood stunting in Zimbabwe	To identify dietary patterns for children aged 6–59 months and to confirm the relationship between the identified dietary patterns and stunted growth in children and socio-demographic variables	Case-Control Study	Dietary patterns, particularly low intake of animal-source foods, were associated with higher risk of stunted growth and were influenced by socio-demographic factors such as child age and family structure.

No	Author	Title	Objective	Study Design	Findings
9	Taofik et al., 2026	Cultural governance and policy implementation in public health: Accelerating stunting reduction in East Lombok through social integration and institutional capacity	To examine how cultural governance, social integration, and institutional capacity influence the implementation of public health policies in accelerating stunting reduction in East Lombok.	Qualitative research design	Cultural governance, social integration, and institutional capacity were found to support stunting reduction by strengthening community engagement and improving sustainability of public health programs.
10	Marni et al, 2023/ Indonesia	Cultural communication strategies of behavioral changes in accelerating stunting prevention: a systematic review	To analyse the influence of cultural communication in stunting prevention efforts in Kupang Regency, NTT, Indonesia	Sequential mixed-methods approach with a phenomenological approach and a pre-test and post-test with control group design	Cultural communication through religious leaders significantly improved maternal awareness, motivation, intention, and parenting practices related to stunting prevention ( $p < 0.05$ ).

**DISCUSSION**

Local culture plays an important role in shaping health-related behaviors and is widely recognized as a determinant of dietary practices, childcare, and daily routines that influence child growth and development (10). In the context of stunting prevention, these cultural factors are closely linked to parenting and feeding practices that are transmitted across generations within communities (11).

The results of this review are consistent with previous studies indicating that culturally tailored interventions are more effective than standard approaches in changing health behaviors. Studies have shown that interventions aligned with local beliefs and practices are more likely to be adopted and maintained at the household level, leading to sustained improvements in feeding practices and child nutrition outcomes. Furthermore, similar findings have been reported in global nutrition interventions, where community-based and culturally adapted strategies

demonstrated higher effectiveness in improving dietary diversity and reducing malnutrition.

Stunting prevention through a local wisdom approach refers to efforts that integrate cultural values into health interventions, recognizing that nutrition-related behaviors are strongly influenced by socio-cultural norms. The use of local food-based knowledge is considered beneficial because it is affordable, accessible, and culturally acceptable within communities (12). From a preventive perspective, stunting can also be addressed through culturally grounded approaches that align health messages with local beliefs and practices, thereby improving acceptance and behavior change (13).

The findings of this systematic review indicate that local wisdom-based interventions are generally associated with improvements in nutritional outcomes and reductions in stunting-related indicators among children under five years of age. Across the included studies, interventions were implemented through culturally tailored nutrition education, utilization of local food

resources, and engagement of community leaders, demonstrating that cultural integration is a consistent component in successful interventions.

Cultural alignment appears to enhance the effectiveness of interventions by increasing community acceptance and participation. Several studies highlight that interventions embedded in local norms are more easily adopted compared to standardized approaches, as they are compatible with household decision-making processes and social structures (14). In addition, nutrition education delivered through culturally familiar settings has been shown to improve maternal knowledge and feeding practices, contributing to sustainable behavioral change.

The use of local food systems is another important mechanism identified in this review. Evidence shows that incorporating locally available nutrient sources improves dietary diversity and reduces reliance on external food assistance (15). Moreover, culturally tailored behavior change interventions have been reported to increase the consumption of nutrient-dense foods among children, indicating measurable improvements in dietary behavior (16).

Community involvement also plays a central role in the success of these interventions. Engagement of religious leaders, traditional authorities, and community figures enhances trust, strengthens communication, and improves program uptake at the household level (17). This is consistent with global evidence showing that trust in local authority figures significantly influences health-seeking behavior, particularly in rural and resource-limited settings (18). Therefore, collaboration between health systems and community structures is essential to ensure effective and sustainable implementation.

Despite these positive findings, the evidence base is limited by heterogeneity in study

designs, intervention types, and outcome measurements. Many included studies were conducted at local or small-scale levels, which limits generalizability. In addition, variability in methodological quality affects comparability across studies. Therefore, future research should focus on stronger experimental designs, standardized indicators, and long-term evaluations to strengthen the evidence base.

Overall, this review suggests that integrating local wisdom into stunting prevention strategies is a promising and contextually appropriate approach to improving child nutrition outcomes. However, further high-quality evidence is still required to confirm its effectiveness across different populations and settings.

## CONCLUSION

Local wisdom based interventions are associated with improved nutritional practices and reductions in stunting-related outcomes among children under five years of age. These interventions, which include culturally tailored education, utilization of local food resources, and community leader engagement, demonstrate strong potential for improving the effectiveness and sustainability of stunting prevention programs. However, due to variability in study design and methodological quality, further high-quality experimental research is required to strengthen the evidence base.

### Approval For Publication

All authors approved the final manuscript for publication.

### Availability Of Data

Data used in this study are available from published articles.

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