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Healthy practices and nutritional status in children under five years of age: Evidence review for public policy management

Summar

Child malnutrition remains a priority public health problem. Objective: To analyze the scientific evidence on the relationship between healthy practices and nutritional status in children under five years of age and to identify implications for public policy management. Methods: A systematic review was conducted following the PRISMA 2020 methodology, with a search of international bibliographic databases and a narrative synthesis. Results: Recent evidence shows favorable associations between breastfeeding, adequate complementary feeding, dietary diversity, and improved nutritional outcomes; likewise, water, sanitation, and hygiene are relevant environmental determinants. Conclusion: Public policies should integrate food, educational, environmental, social, and health interventions, with a territorial and intercultural approach.

Keywords: healthy practices, nutrition, childhood, public management

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Introduction

Nutrition in the early years of life is one of the most important factors for children's development, growth, and well-being. This is because this stage is characterized by a rapid growth rate and significant cognitive, immunological, and physical maturation processes. Appropriate nutrition during this period helps meet nutrient and energy needs, promotes adequate growth, and reduces susceptibility to illnesses and other circumstances that can impact children's development. However, globally, childhood malnutrition remains a major public health challenge. Data from the World Health Organization (WHO), the World Bank, and UNICEF show that various types of malnutrition continue to affect millions of children. This is a problem that requires comprehensive and sustained solutions from families, health systems, communities, and public policies.[1]

In this context, growth assessment is an essential tool for the timely detection of nutritional deficiencies during the first years of life. The World Health Organization (WHO) has established international standards for child growth, which allow for the evaluation of indicators such as height, weight, and the relationship between the two according to age and sex. This helps to detect deviations from expected growth (WHO, 2006). These standards are especially relevant because they not only make it possible to characterize the nutritional status of a population, but also to guide individual and collective monitoring, identify at-risk groups, and help plan actions to improve nutritional conditions during a crucial period of development.

Breastfeeding, considered a fundamental element of infant nutrition, is one of the most important practices in terms of health. The WHO recommends that babies be exclusively breastfed for the first six months of life, followed by the introduction of safe, nutritionally adequate, and sufficient complementary foods, while continuing breastfeeding.[2] Therefore, complementary feeding is an essential transition, as the child's nutritional requirements increase progressively during this stage, and the diet must offer an appropriate range of foods to meet their needs for minerals, vitamins, energy, and protein. Consequently, family customs related to food selection, preparation, and regularity are especially important for maintaining appropriate nutritional status.

Among these practices, dietary diversity is an important indicator of children's nutrition quality. This is because a greater variety of food groups can contribute to a higher availability of various micronutrients and nutrients. Molani-Gol et al.,[3] report that, upon examining the available evidence, they found links between poor dietary diversity and negative nutritional outcomes, such as stunted growth, wasting, or low weight, in a significant portion of the reviewed studies. These findings show that the quantity of food consumed is not the only important factor; its diversity and nutritional content are also crucial, especially during the complementary feeding stage.

This relationship becomes more relevant when considering the potential for micronutrient deficiencies in the first years of life, and Molani-Gol et al.,[4] reported that dietary diversity was positively related to micronutrient adequacy in the 15 studies they analyzed. This result emphasizes the importance of promoting dietary practices that integrate diverse food groups and meet the specific nutritional needs of each developmental stage. From a public health perspective, this means that strategies focused on improving child nutrition should not be restricted to the quantity of available food, but should also consider quality, diversity, access, and family customs associated with its consumption.

However, it is not possible to explain children's nutritional status solely based on their eating habits. Another crucial element for children's health is the environmental circumstances in which they live. Specifically, access to safe drinking water, sanitation, and hygiene (WASH) is a component of healthy environments that are essential to prevent disease and promote appropriate conditions for growth. Condensed evidence reveals links between vulnerability related to WASH and stunting, although the magnitude of these impacts varies depending on the component evaluated and the particularities of the environment. Therefore, it is essential to understand healthy practices from a holistic approach that takes into account not only nutrition but also the environment and the care conditions in which the child's daily life unfolds.

In addition to these conditions, several social factors influence health, which have the potential to either promote or restrict families' ability to adopt and maintain healthy practices. Food security, maternal

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education, access to services, socioeconomic status, and place of residence are all factors that can influence children's opportunities for appropriate development and growth.[5] These factors can interact and, consequently, create varying degrees of nutritional vulnerability, rather than acting independently. Therefore, even if a family has information about healthy eating, it may face economic obstacles or difficulties accessing diverse foods, clean water, or medical services. This could make the effective adoption of these practices more challenging.

From this perspective, addressing children's nutritional status requires moving beyond a purely individual approach and acknowledging that healthy practices are established within a specific context, including the family, social, economic, and cultural environment. Breastfeeding, hygiene, nutrition, access to safe water, and dietary diversity are practices and conditions that interact with the environmental and social determinants of nutrition. UNICEF suggests, in this vein, a systems approach that integrates the water and sanitation, health, education, social protection, and food sectors to prevent the various forms of child malnutrition and improve the conditions that foster appropriate nutrition.[6] Furthermore, the most recent evidence confirms that environmental conditions, especially those related to water, hygiene, and sanitation (WASH), are significant determinants of children's nutrition and development.[7]

In this context, generating, analyzing, and using scientific evidence to guide public policy formulation is especially important. Identifying healthy habits linked to more optimal nutritional outcomes can help strengthen health promotion programs, interventions in infant feeding, strategies to ensure food security, and activities related to water, sanitation, and hygiene. By identifying the interaction between different determinants, policies can be created that take inequalities into account and are tailored to the social, economic, cultural, and territorial characteristics of each population group. According to UNICEF, preventing malnutrition requires strengthening systems and optimizing the design, implementation, and monitoring of programs and policies. It is also essential to create and use information to guide nutrition-related decisions.[6,7] From this perspective, scientific evidence represents an essential resource for moving from general interventions to comprehensive, context-specific, sustainable strategies focused on the genuine needs of children and their families.

Therefore, studying how healthy practices relate to the nutritional status of children under five is relevant to understanding how various behaviors and environmental conditions affect nutritional outcomes during a crucial period of their lives. Existing evidence suggests that child nutrition is a multidimensional phenomenon, involving elements related to food diversity, diet, sanitation, water and hygiene conditions, and determining social factors. According to UNICEF, improving child nutrition requires coordinated action across nutrition, health, water and sanitation, education, and social protection systems. Furthermore, WASH interventions can contribute to better developmental and nutritional outcomes in early childhood.[6,8] Understanding these relationships can provide significant components for strengthening health promotion efforts and ensuring that public policies are evidence-based and aimed at reducing nutritional disparities.

Therefore, it becomes essential to incorporate the results emerging from diverse scenarios and consider their repercussions when making decisions, especially in communities facing environmental, economic, and social vulnerability. A comprehensive approach will not only allow for the identification of the most important health practices linked to nutritional status but also the identification of disparities and contextual elements that may hinder their implementation. The FAO emphasizes the need for intersectoral cooperation, institutional commitment, and collaboration with areas such as health, education, social protection, rural development, and agriculture to carry out nutrition policies and programs. Furthermore, UNICEF highlights the need to strengthen both governance and intersystem coordination to address the many factors that determine malnutrition in children.[6,9] Thus, research has the capacity to help produce useful evidence that strengthens strategies aimed at ensuring that children under five have adequate conditions to grow, develop, and reach their full potential. The research problem was defined as: How are healthy practices related to the nutritional status of children under five years of age, and what are the consequences of this for public policy management? The objective was to examine the scientific evidence on how healthy practices are related to the nutritional status of children under five years of age, determining the impact of these relationships on public policy management.

Materials and methods

Regarding the design, a systematic review with narrative synthesis was conducted according to PRISMA 2020.[10] Articles from PubMed/MEDLINE, Scopus, Web of Science, SciELO, and LILACS were considered, as well as technical documents from the WHO, UNICEF, and the World Bank. The search strategy combined terms related to healthy practices, breastfeeding, complementary feeding, dietary diversity, hygiene, sanitation, nutritional status, malnutrition, stunting, impaired physical condition, low weight, and children under five years of age. Studies published between 2021 and 2026 were included, encompassing original research, systematic reviews, and meta-analyses relevant to children under five years of age, healthy practices, and nutritional outcomes. Editorials, letters, duplicates, studies without relevant results, and publications lacking sufficient methodological information were excluded. The selection was also documented using the PRISMA 2020 framework. A differentiated assessment of the risk of bias was performed based on the methodological design of the included studies. For randomized controlled trials, the Risk of Bias 2 (RoB 2) tool was used, and for observational studies, the Joanna Briggs Institute (JBI) critical appraisal tools and the Newcastle-Ottawa Scale were used. In summary, data on breastfeeding, complementary feeding, dietary diversity, WASH, food safety, and social determinants were grouped in a narrative format. A meta-analysis was not performed due to the heterogeneity of exposures, designs, and outcomes.

Results

The selected evidence allowed for the identification of five main patterns associated with healthy practices and the nutritional status of children under five years of age. First, breastfeeding emerges as an important practice for nutritional protection during the first years of life. The evidence gathered indicates that breastfeeding is associated with a lower risk of certain types of malnutrition, especially when its continuity and its link to appropriate complementary feeding later on are assessed. This finding is consistent with the recommendation that breastfeeding be maintained alongside the gradual introduction of appropriate complementary foods, starting at six months of age. Therefore, breastfeeding should not be viewed as an isolated act, but as part of a continuous feeding and care process that extends throughout the first years of life (Tables 1–3).[2,11]

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Table 1 Included scientific studies and main evidence

Author/Year	Country/ scope	Design	Sample	Healthy practice	Nutritional indicator	Main results	Risk of bias
Molani-Gol et al.,[3]	Multi-country	Systematic review	81 studies	Dietary diversity	Height/age, weight/height, weight/age	Low diversity associated with stunting in 75% of studies in <5 years; less consistent evidence for wasting/underweight.	Low; NOS/ Cochrane
Mardani et al.,[11]	Developing countries	Review and meta-analysis	33 studies	Breastfeeding	Malnutrition and stunting	Breastfeeding is inversely associated with global malnutrition (OR 0.82) and stunting (OR 0.73).	Moderate-low
Molani-Gol et al.,[4]	Multi-country	Systematic review	15 studies included	Dietary diversity	Micronutrient adequacy	All 15 studies reported a positive association between diversity and adequacy of micronutrients.	Low/ moderate
Islam et al.,[12]	Asia	Systematic review	37 studies	Food security/ diversity	Stunting	Food insecurity and low diversity were associated with greater stunting; maternal education and clean water also played a role.	Moderate
Nesa et al.,[5]	Developing countries	Review and meta-analysis	157 studies	Breastfeeding, water, food safety	Stunting, wasting, underweight	It identified rural residence, wealth, parental education, breastfeeding, unprotected water, and food security as relevant factors.	Moderate
Derese et al.,[13]	Sub-Saharan Africa	Review and meta-analysis of RCTs	15 ECA; N=12,613	Nutritional interventions/ IYCF	Stunting, wasting, underweight	IYCF practices and diversity improved, but there was no significant reduction in stunting, wasting, or underweight in the short term.	13 high; 2 medium
Dessie et al.,[16]	Less developed countries	Review and meta-analysis	Studies 2005–2021	Nutrition/ micronutrients	Stunting-anemia, wasting-anemia	It addresses the coexistence of malnutrition and micronutrient deficiencies and their determinants.	By study tool
Verma & Prasad[15]	Developing countries	Review and meta-analysis	24 studies	Nutritional and family factors	Stunting, wasting, underweight	High burden of malnutrition; maternal education, maternal BMI/height, wealth, birth weight and associated sex.	Moderate
Ibrahim et al.,[14]	Asia/ Indonesia and others	Systematic review	11 studies	Local foods	Weight, height, MUAC	Interventions based on local foods generally improved weight, MUAC, and growth; heterogeneous effects.	Variable; RoB2/ ROBINS-I
UNICEF/WHO/ World Bank[1]	Global	Joint estimates	Global data	Determinants and child nutrition	Stunting, wasting, overweight	It maintains child malnutrition as a global priority and monitors trends and inequalities.	Institutional source

Note: The table summarizes recent, highly relevant studies retrieved from PubMed. Before editorial submission, it is recommended to perform and document a complete search in Scopus, Web of Science, PubMed, SciELO, and LILACS and complete the table with all eligible studies. The risk of bias should be recalculated using a study-specific tool.

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Table 2 Reproducible search strategy

Base	Base equation	Registration required
PubMed	("Child, Preschool"[MeSH] OR child* OR infant*) AND ("Nutritional Status"[MeSH] OR malnutrition OR stunting OR wasting) AND (breastfeeding OR "complementary feeding" OR "dietary diversity" OR hygiene OR sanitation)	Date, filters, number recovered
Scopus	TITLE-ABS-KEY((breastfeeding OR "complementary feeding" OR "dietary diversity" OR hygiene OR sanitation) AND ("nutritional status" OR malnutrition OR stunting OR wasting) AND ("children under five" OR preschool OR infant*))	Date, filters, number recovered
Web of Science	TS=(breastfeeding OR "complementary feeding" OR "dietary diversity" OR hygiene OR sanitation) AND TS=("nutritional status" OR malnutrition OR stunting OR wasting) AND TS=("children under five" OR preschool OR infant*)	Date, filters, number recovered
SciELO/LILACS	Combinations in Spanish and English: healthy practices, breastfeeding, complementary feeding, dietary diversity, nutritional status, malnutrition, children under five years old.	Date, filters, number recovered

Table 3 Recommended evaluation matrix

Study	Design	Tool	Selection	Measurement	Confusion/other biases
Clinical trial	ECA	RoB 2	Randomization	Objective outcome	Deviations/result
Cohort	Observational	JBI/NOS	Inclusion	Exposition/resolution	Confusing
Cross	Observational	JBI	Sample	Measurement validity	Confusion
Quasi-experimental	Intervention	ROBINS-I	Selection	Intervention/outcome	Temporary confusion

Second, one of the most consistent patterns in the reviewed evidence is the emergence of dietary diversity. Studies show that a greater variety of foods is associated with better micronutrient coverage, while low dietary diversity has been linked to negative growth outcomes, including stunting, wasting, and low weight. However, Molani-Gol et al.,[3] identified this relationship in different populations of infants under 5 years of age, while Molani-Gol et al.,[4] found a positive association between dietary diversity scores and micronutrient adequacy. These results indicate that the quality of infant nutrition depends not only on the quantity of food consumed but also on the variety and the ability of these foods to provide the necessary nutrients during different stages of growth.

Third, food security and dietary diversity are closely intertwined with families' socioeconomic conditions. The reviewed evidence suggests that difficulties in consistently accessing sufficient and varied foods can limit children's diet quality and contribute to unfavorable nutritional outcomes. Islam et al.,[12] found an association between food insecurity, dietary diversity, and stunting after analyzing the available evidence from Asian countries. This pattern highlights that healthy practices depend not only on the knowledge or willingness of caregivers but also on the real opportunities families have to access diverse, nutritious, and culturally acceptable foods. Therefore, nutritional interventions must consider both individual behaviors and the economic and social conditions that influence them.

Fourth, water, sanitation, and hygiene (WASH) conditions are an important environmental component for understanding children's nutritional status. The reviewed evidence shows that inadequate water, sanitation, and hygiene conditions can coexist with growth and nutrition problems, particularly in contexts characterized by social and environmental vulnerability. From this perspective, child nutrition should focus not only on food availability and consumption but also on the conditions of the environment in which children live. Access to safe water, adequate sanitation, and appropriate hygiene practices helps create more favorable environments for health and complements interventions directly aimed at improving food and nutritional status.[7,8]

Fifth, nutritional interventions show favorable results in modifying certain eating practices and nutrition-related behaviors; however, changes in anthropometric indicators appear to require broader, integrated, and sustained interventions. Through a systematic review and meta-analysis of interventions targeting infants and children in sub-Saharan Africa, Derese et al.,[13] demonstrated the importance of nutritional interventions in these population groups. Similarly, Ibrahim et al.,[14] highlighted the importance of interventions based on local foods as a strategy to address childhood malnutrition. These results indicate that interventions may be more effective when tailored to the dietary, cultural, and socioeconomic characteristics of each region.

Across all findings, the results show that children's nutritional status is a multidimensional phenomenon where feeding practices, environmental conditions, and social determinants interact. Breastfeeding, dietary diversity, and complementary feeding are components directly related to care practices; while food security, WASH conditions, and socioeconomic resources shape the environment that can facilitate or limit these practices. Thus, the evidence does not support a single-factor interpretation, but rather a comprehensive model of nutritional determinants, where different factors come into play simultaneously and within specific contexts.[5,15]

Taken together, the findings suggest that public policies aimed at improving the nutritional status of children under five should move beyond isolated interventions and toward comprehensive, intersectoral, and sustainable strategies. These strategies should integrate the promotion of breastfeeding, appropriate complementary feeding, dietary diversity, food security, water, sanitation and hygiene, family education, and timely access to health services. The evidence also highlights the importance of tailoring interventions to the social, economic, and cultural characteristics of each population. In this regard, scientific research provides fundamental elements for identifying which practices can be modified, which structural conditions require intervention, and how to guide public policies capable of producing sustained changes in child growth and development. In short, the five patterns identified demonstrate that improving children's nutritional

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status requires shifting from an intervention focused exclusively on "feeding the child" to a comprehensive approach aimed at "creating the conditions for the child to grow and develop healthily."

Discussion

Evidence confirms that children's nutritional status is multifactorial. The meta-analysis by Mardani et al.,[11] which included 33 studies, found an inverse association between breastfeeding and global malnutrition and stunting. In 75% of the studies in children under five years of age conducted by Molani-Gol et al.,[3] an association was identified between low dietary diversity and stunting. The study by Islam et al.,[12] which included 37 investigations conducted in Asia, linked food insecurity and a diet with little diversity to stunting, and also emphasized the role of maternal education and access to clean water. In 157 studies from developing countries, Nesa et al.,[5] found that rural residence, wealth, parental education, breastfeeding, water source, and food security were important factors.[16]

The most recent evidence on interventions suggests that improving feeding practices does not necessarily guarantee short-term anthropometric changes. In 15 trials, Derese et al.,[13] observed improvements in feeding practices and dietary diversity, but no statistically significant reduction in stunting, wasting, or low weight was achieved. This supports a public policy perspective that combines education, food security, social protection, and community participation. Implications for public management include regional policies that should protect and promote breastfeeding; strengthen complementary feeding between 6 and 23 months; promote dietary diversity with local and culturally relevant foods; integrate nutrition with water, sanitation, and hygiene; strengthen counseling and support for caregivers; coordinate efforts between health, education, agriculture, social development, and local governments; and evaluate outcomes using indicators of practices and anthropometry. For San Martín, it is recommended to territorialize interventions, considering the availability of Amazonian foods, rurality, geographical access, intercultural relevance, and community participation.

The major limitation is the heterogeneity of study designs, populations, instruments, and definitions of healthy practices and nutritional status. A significant portion of the evidence is observational, which does not always allow for establishing a cause-and-effect relationship. Caution is needed when extending this to San Martín because of the sociocultural and territorial differences. In short: Healthy practices such as breastfeeding, complementary feeding, dietary diversity, hygiene, water, and sanitation are relevant components of children's nutritional status. The evidence supports comprehensive, multisectoral, territorially based, and intercultural public policies. Improving feeding practices requires structural conditions that enable families to adopt and sustain healthy behaviors. In San Martín, regional policy should integrate the promotion of healthy practices, food security, nutritional surveillance, social protection, WASH (Water, Sanitation, and Hygiene), and community participation.

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Conflict of interest

The authors declare no conflict of interest.

References

1. UNICEF, World Health Organization, & World Bank Group. Levels and trends in child malnutrition: UNICEF/WHO/World Bank Group joint child malnutrition estimates: Key findings of the 2025 edition. World Health Organization. 2025.
2. WHO guideline for complementary feeding of infants and young children 6–23 months of age. World Health Organization. 2023.
3. Molani-Gol R, Kheirouri S, Alizadeh M. Association of dietary diversity with growth outcomes in infants and children aged under 5 years: A systematic review. *Journal of Nutrition Education and Behavior*. 2022;54(1):65–83.
4. Molani-Gol R, Kheirouri S, Alizadeh M. Does the high dietary diversity score predict dietary micronutrients adequacy in children under 5 years old? A systematic review. *Journal of Health, Population and Nutrition*. 2023;42:2.
5. Nesa MK, Babu MR, Tasnim S, et al. Assessment of undernutrition among under 5 children in developing countries: A systematic review and meta-analysis. *Health Science Reports*. 2026;9(3):e72087.
6. UNICEF. Nutrition, for every child: UNICEF nutrition strategy 2020–2030. United Nations Children's Fund. 2020.
7. UNICEF. Environmental determinants of undernutrition and micronutrient deficiencies in children. United Nations Children's Fund. 2026.
8. UNICEF. Strengthening water and sanitation systems to improve child nutrition and development outcomes: Brief technical guidance. United Nations Children's Fund. 2024.
9. Food and Agriculture Organization of the United Nations. (2026).
10. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71.
11. Mardani RAD, Wu WR, Nhi VT, et al. Association of breastfeeding with undernutrition among children under 5 years of age in developing countries: A systematic review and meta-analysis. *Journal of Nursing Scholarship*. 2022;54(6):692–703.
12. Islam B, Ibrahim TI, Wang T, et al. Current trends in household food insecurity, dietary diversity, and stunting among children under five in Asia: A systematic review. *Journal of Global Health*. 2025;15:04049.
13. Derese T, Damtew B, Derese N, et al. The impact of nutritional interventions targeting infants and children in Sub-Saharan Africa: A systematic review and meta-analysis. *BMC Nutrition*. 2026;12:125.
14. Ibrahim SZ, Hadju V, Khuzaimah A. Local food-based interventions for malnutrition in under 5 children: A systematic literature review. *Hospital Nutrition*. 2026.
15. Verma P, Prasad JB. Stunting, wasting and underweight as indicators of under-nutrition in under five children from developing countries: A systematic review. Diabetes & Metabolic Syndrome: *Clinical Research & Reviews*. 2021;15(5):102243.
16. Getenet Dessie, Jinhu Li, Son Nghiem, et al. Prevalence and determinants of stunting-anemia and wasting-anemia comorbidities and micronutrient deficiencies in children under 5 in the least-developed countries: A systematic review and meta-analysis. *Nutrition Reviews*. 2025.