


REVIEW ARTICLE

Prevalence of Malnutrition Among Under 5 Years Children in Nigeria: A
Review of Urgent Calls for Public Health Interventions

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DOI: [https://doi.org/10.70851/jfines.2026.3\(1\).89.96](https://doi.org/10.70851/jfines.2026.3(1).89.96)

ABSTRACT

Malnutrition remains a critical public health crisis in Nigeria, particularly among children under five years, contributing to approximately 45% of under-five mortality and imposing substantial economic burdens estimated at 11% of gross domestic product. This narrative review synthesizes evidence from 13 studies published between 2010 and 2025, drawing on national surveys and regional analyses to examine the prevalence, determinants, and trends of undernutrition (stunting, wasting, underweight), micronutrient deficiencies, and the emerging double burden of malnutrition. Prevalence rates indicate 32-37% stunting, 7-10% wasting, and 22-29% underweight nationally, with stark regional disparities highest in northern states (up to 57% stunting in the Northwest). Key risk factors include low maternal education, household poverty, inadequate complementary feeding, infections, and conflict-driven food insecurity. Despite interventions like community-based management of acute malnutrition (CMAM), coverage remains low, treating only 20% of severe cases. Projections for 2025 forecast an additional 1 million children at risk of acute malnutrition amid climate shocks and economic instability. Urgent multisectoral actions, integrating nutrition-sensitive agriculture, maternal education, and conflict mitigation, are essential to meet World Health Organization targets by 2025 and avert irreversible developmental losses. This review underscores the ethical imperative for scaled-up, equity-focused public health responses to safeguard Nigeria's future generations.

Article history

Received;

6 December, 2025

Revised;

28 February, 2026

Accepted;

29 February, 2026

Keywords

Prevalence,
Malnutrition,
Under 5 Years
Children,
Public Health
Interventions

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Peer review under responsibility of Journal of Food Innovations,
Nutrition, and Environmental Sciences.

A Publication of EcoScribe Publishers company Limited,
Uganda.

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1. INTRODUCTION

Under 5 years malnutrition among children continues to be a major public health challenge globally and disproportionately affects low- and middle-income countries (WHO, 2019). In Nigeria, undernutrition contributes substantially to child illnesses, death, marred cognition growth, as well as decrease in the economical productiveness (Black et al., 2013; UNICEF, 2023). National estimates indicate that Nigeria has one of the largest burdens of stunted children worldwide, reflecting persistent socioeconomic inequalities, food insecurity, and unequal access to health and nutrition services (Global Nutrition Report, 2024). Malnutrition among children under five years is driven by immediate factors like poor dietary consumption and infections, with inherent determinants including parental literacy level, family income, sanitation, and ability to obtain healthcare services (Adekanmbi et al., 2013; Obasohan et al., 2024). These determining factors vary across geopolitical zones and contribute to the marked regional disparities consistently reported in national surveys and subnational studies (Akombi et al., 2019; Adesuyi et al., 2021).

The dual load of malnutrition with its coexistence alongside undernutrition and overweight/obesity further complicates Nigeria's nutritional landscape, with overweight prevalence in select southern states by 2024, indicating a nutrition transition amid urbanization and processed food proliferation (John et al., 2024; Alamu et al., 2020). Micronutrient deficiencies, including anaemia, vitamin A shortfall, and iron deficiency, compound these issues, impairing immune function and exacerbating morbidity (Harika et al., 2017). Risk factors are multilevel: child-level (e.g., low birth weight, diarrheal episodes), maternal/household-level (e.g., low education, large family size, poor sanitation), and contextual (e.g., rural residence, geopolitical instability) (Obasohan et al., 2024; Wambua et al., 2025). In northwest and northeast Nigeria, IPC estimates nearly **5.4 million** children 0 – 59 months are suffering from acute malnutrition and are likely to continue through 2025, underscoring the failure to meet WHO's 40% stunting reduction target (Integrated Food Security Phase Classification (IPC), 2024). Economically, this equates to \$11 billion in annual GDP losses, perpetuating intergenerational poverty (Horton & Steckel, 2013).

Nigeria has implemented various interventions targeting specific nutrition and sensitivity, including community-based management of acute malnutrition (CMAM) and micronutrient fortification programmes. However, available evidence suggests that programme coverage and integration remain uneven across regions (UNICEF, 2023; Global Nutrition Report, 2024).

This review is led by the UNICEF Conceptual Framework for the Determinants of Child Malnutrition, which provide comprehensive explanation of the multifactorial causes of undernutrition. The framework categorises the determinants of child malnutrition into 3 interconnected stages: immediate, underlying, and basic causes. Immediate causes

include inadequate dietary intake and disease; underlying causes comprise household scarcity of food, shortage of care and feeding patterns, poor environmental hygiene, as well as limited way to obtain quality healthcare services; while basic causes associate with broader socioeconomic, political, and structural conditions that shape resource distribution and access to opportunities. This framework is particularly relevant to the Nigerian context, where disparities in maternal education, household wealth, place of residence, sanitation, and ability to obtain healthcare services consistently reported in the Nigeria Demographic and Health Survey, interact to influence child nutritional outcomes. By adopting this model, the present review synthesises evidence not only on the preponderance of stunting, wasting, and underweight but also on the associated proximal and distal determinants. In addition, the framework supports a multisectoral interpretation of malnutrition by recognising that sustainable improvements in child nutrition require coordinated actions across the health, agriculture, education, social protection, and water, sanitation, and hygiene (WASH) sectors. The use of this theoretical lens strengthens the analytical structure of the review, guides the organisation of the results, and informs the policy-relevant discussion of intervention gaps.

Although several studies have examined specific aspects of child malnutrition in Nigeria, there is a need for an updated synthesis of recent Nigeria-focused evidence that clearly distinguishes national survey findings from subnational studies and programme or modelled estimates. Such clarity is essential for accurately understanding trends, identifying key determinants, and assessing intervention gaps. Therefore, this narrative review synthesizes empirical studies published between 2010 and 2025 to:

1. Summarize the prevalence of divergent forms of nutritional deficiency amongst children under 5 years in Nigeria.
2. Identify major determinants across child, maternal, household, and contextual levels.
3. Examine the reported coverage and implementation gaps in major nutrition interventions.

2. METHODOLOGY

2.1 Study design

This study is a narrative synthesis of research on under 5 years children (0 – 59 months) in Nigeria. The review focused on studies published between January 2010 and December 2025.

2.2 Search strategy

A structured search was conducted in Scopus, ScienceDirect, PubMed, Web of Science, and Google Scholar. Last search was concluded on 10 December 2025. Search terms combined keywords related to malnutrition,

under-five children, and Nigeria. Keywords combined MeSH terms and Boolean operators (AND/OR).

A sample of PubMed search string is provided below: ("malnutrition" OR "undernutrition" OR "stunting" OR "wasting" OR "underweight" OR "SAM" OR "micronutrient deficiency") AND ("children under 5" OR "under-five") AND ("Nigeria" OR "Nigerian") AND ("prevalence" OR "risk factors" OR "interventions" OR "trends"). List of eligible studies references were also screened to identify additional relevant articles.

2.3 Eligibility criteria

2.3.1 Inclusion criteria

Studies were included if they were conducted in Nigeria, involved children aged 0–59 months (under 5 years), reported prevalence, determinants, or nutrition intervention outcomes, and were published between 2010 and 2025. Primary studies and secondary analyses of national datasets were eligible.

2.3.2 Exclusion criteria

Studies based primarily on data collected before 2010 and studies conducted outside Nigeria were excluded. Earlier studies and multi-country reviews were used only for contextual discussion and were not included in the final synthesis.

2.4 Study selection

The database search yielded 300 records, of which 150 duplicates were excluded. Titles and abstracts of 150 studies were scrutinised, and 137 full-text articles were checked for eligibility. Full-text articles were removed mainly due to non-Nigeria setting, pre – 2010 data, out of scope, or lack of relevant interventions and outcomes. 13 studies met the inclusion criteria and were added to the final synthesis. Flowchart below show search and screening strategy.

Records identified (300) → Duplicate removed (150) → Screened (150) → Excluded (137) → Eligible (13) → Included (13)

2.5 Data extraction and synthesis approach

Data extracted included authors information, study design, sample size and settings, key findings, and conclusion. A thematic narrative synthesis was conducted, and findings were grouped into national estimates, subnational evidence, determinants, and intervention gaps.

3. RESULTS

Thirteen Nigeria – focused empirical studies published between 2010 and 2025 met the inclusion criteria. These included secondary analyses of national survey data and

cross-sectional studies conducted in different geopolitical zones.

3.1 Prevalence of Malnutrition

3.1.1 National Estimates

The 2018 Nigeria Demographic and Health Survey reported a national prevalence of 37% for stunting, 22% for underweight, and 7% for wasting among children under five years (Global Nutrition Report, 2024; Integrated Food Security Phase Classification (IPC), 2024; Akombi et al., 2019; Obasohan et al., 2024). These remain the most nationally representative estimates within the review period.

3.1.2 Subnational Variations

Subnational studies consistently reported higher prevalence in northern regions and rural areas, with lower levels observed in southern and urban populations (Adesuyi et al., 2021; Ogunniyi et al., 2023; Abdullahi et al., 2025; Save the Children, Nigeria; 2024). Gender and socioeconomic disparities were also evident, with higher undernutrition among children from poorer households who has mothers with lower levels of educational literacy (Obasohan et al., 2024).

3.2 Multiple anthropometric failure

Analyses of national nutrition survey data indicate that a substantial proportion of children experience multiple forms of anthropometric failure, highlighting overlapping nutritional deficits (Alarape et al., 2022; Global Nutrition Report, 2024; Integrated Food Security Phase Classification (IPC), 2024).

3.4 Determinants of Malnutrition

At the child level, increasing age, low birth weight, recent illness, and suboptimal breastfeeding practices were consistently associated with undernutrition (Obasohan et al., 2024). Maternal and household determinants included low maternal education, poor household wealth status, short birth intervals, large household size, and inadequate sanitation (Adekanmbi et al., 2013; Adesuyi et al., 2021). Contextual factors such as rural residence and regional inequalities further increased vulnerability (Akombi et al., 2019; Abdullahi et al., 2025).

3.5 Nutrition Interventions and Implementation Gaps

Available programme reports indicate that community-based management of acute malnutrition (CMAM) and nutritional fortifications were implemented in Nigeria; however, coverage remains uneven, particularly in conflict-affected and rural areas (UNICEF, 2023; Global Nutrition Report, 2024; Integrated Food Security Phase Classification (IPC), 2024). Commonly reported barriers include funding constraints, insecurity, and weak

Table 1. Summary of Included Studies

S/N	Authors (Year)	Study Design	Sample Size & Settings	Key Findings	Conclusion
1.	John et al., (2024)	Scoping review	73 studies; nationwide (national and subnational).	Stunting 7.2 - 61%; wasting 1 - 29%; underweight 5.9 - 42.6%; anaemia 55.2% - 75.1%; vitamin A deficiency 5.3 - 67.6% highest in North-West/North-East; poor complementary feeding and low maternal education as key drivers.	Multiple early childhood malnutrition existence on a wide disparity in the northern region; individual, household, community, and regional intervention in needed to address this public health issues.
2.	Obasohan et al., (2024)	Cross sectional survey/Multilevel logistic regression	7,770 children; NHDR, NDHS, 2018; nationwide.	Stunting 38%; wasted 7%, underweight 22%, 2% overweight, prevalent in the north.	Rising fear of dual problem of nutritional deficiency; multilevel policies required.
3.	Nwankwo et al., (2022)	Systematic review	11 studies; 2000 – 2022, nationwide.	Undernutrition 1% - 43.3%; underweight 43.3%; wasting 29.3%; stunting 41% rural-urban gaps evident.	Under 5 undernutrition is a huge public health issues; multi-level and multidisciplinary intervention are required.
4.	Akombi et al., (2019)	Trends analysis	22,217 children; NDHS 2003 – 2013, nationwide.	Factors contributing to stunting, wasting and underweight are child’s and mother’s age, maternal education, working status, household wealth index, type of residence, socioeconomic inequalities, geopolitical zone (prevalent in the northern region).	To address child undernutrition, there is a need for maternal education improvement, adoption of effective social protection policies particularly in rural communities.
5.	Ogunniyi et al., (2023)	Cross-sectional study	327 children; southwest, Nigeria.	Prevalence of underweight 30.6%; overweight 2.1%.	Urgent nutritional intervention is needed to address the prevalence of malnutrition.
6.	Adesuyi et al., (2021)	Secondary data analysis	LSMS/GHS; 2015-2016, nationwide.	Stunting 37.8%; underweight 20.3%, wasting 9.6%; prevalent in the northern region; prevalent in the northern region.	Socioeconomic status as primary modifiable determinant; increment of income of the poorest society.
7.	Adekanmbi et al., (2013)	Multilevel analysis	28,647 children; NDHS 2013, nationwide.	46% stunting variances from individual/household/community factors.	Personal and societal positions components are important determining factors responsible for stunting in children; multilevel interventions bridging scales needed.

8.	Owoaje et al., (2014)	Cross-sectional study	600 children; Ibadan, South-West Nigeria.	Risk factors for undernutrition are socio-economic status, maternal income and education, household monthly expenditure, place of residence, birth orders, incomplete child's immunisation.	The multiplicity of risk factors associated with undernutrition needs a multidisciplinary approach in developing preventive strategies to address it.
9.	Alamu et al., (2020)	Cross-sectional study	660 women/children; selected population.	Stunting 37.4%; wasting 13.1%; maternal body mass index (BMI): (underweight 9.0%; overweight 23.2%; obese 9.3%).	Coexistence of undernutrition among children and overnutrition in mothers; addressing emerging double burden of malnutrition need active nutrition surveillance.
10.	Abdullahi et al., (2025)	Cross-sectional study	270 households; 2025, Minna, Nigeria.	Prevalence of stunting 10%; underweight 20%, wasting 18.5%; male undernourished 53.9%; female undernourished 41.5%; higher malnutrition in rural area 66.1%, compared to urban area 28.3%.	Gender and geographical disparities in the prevalence of malnutrition; nutrition education is necessary to mitigate the malnutrition prevalence.
11.	Alarape et al., (2022)	Secondary data analysis	19,471 children; NNHS, 2018, nationwide.	Multiple anthropometric failures (AF); stunting 17.7%; stunting and underweight 13.9%; stunting, wasting, and underweight 3.5%; prevalent in the northern region than the southern region.	Multiple anthropometric failures (AF) is a common problem among under-5 children; supportive prevention, and early identification are essential to mitigate it.
12.	Anigilaje et al., (2025)	Retrospective study; 2010-2011, Makurdi	Underweight 12.1%; wasting 33.5%; stunting 54.4%.	HIV doubles malnutrition risk among under 5 years old children.	Programmatic HIV-nutrition services interventions towards reducing undernutrition.
13.	Sawyer et al., (2013)	Comparative study	210 children; rural Bayelsa State.	Wasting 5% - 20%; underweight 9.5% - 17.1%; stunting 10.5% - 24.8%.	Undernutrition is dominant in the localised regions.

integration with other nutrition-sensitive sectors such as agriculture and WASH

4. DISCUSSION

This synthesized evidence from 13 studies confirms that undernutrition remains one of the key health challenges facing diverse population especially under 5 years children in Nigeria, with persistently eminent national prevalence and substantial regional and socioeconomic inequalities. These discoveries aligned with former multilevel analyses which highlight the interaction of child, maternal, household, and contextual determinants (Adekanmbi et al., 2013; Obasohan et al., 2024).

The eminent burden observed in northern and rural areas reflects broader structural inequalities in poverty, education, and ability to obtain healthcare and nutritional services (Akombi et al., 2019; Adesuyi et al., 2021). The coexistence of diverse anthropometric shortfalls in many children underscores the need for integrated rather than single indicator approaches to nutrition programming (Alarape et al., 2022). Although several nutrition interventions are being implemented, their impact is constrained by limited coverage and implementation challenges, particularly in underserved settings (UNICEF, 2023).

Strengths and Limitations

A key potency of this review is its concentrate on Nigeria-specific empirical studies and the clear distinction between national and subnational evidence. However, the narrative design and reliance on cross-sectional studies limit causal interpretation.

CONCLUSION

Under 5 years malnutrition in Nigeria remains a significant challenges to the health of the population, characterized by high national prevalence and marked regional and socioeconomic inequalities. Addressing this burden will require strengthened multisectoral implementation of existing nutrition strategies and improved access to services in high-burden populations.

RECOMMENDATIONS

1. Strengthen multisectoral implementation of national nutrition policies, particularly in high-burden regions.
2. Expand maternal education and behavioural modification interventions to improve newborn and younger children's nutritional habits.
3. Improve integration of nutrition-specific and nutrition-sensitive programmes.
4. Enhance routine nutrition surveillance for evidence-based planning.
5. Prioritize equitable service delivery in rural and conflict-affected areas.

Implications of the Study

Policy Implications

The persistence of stunting, wasting, and underweight across multiple regions, coherent with national estimates from the NDHS, indicates that child malnutrition in Nigeria remains a structural and equity-driven public health challenge. The marked subnational disparities highlight the need for geographically targeted nutrition policies rather than uniform national strategies. Strengthening multisectoral interventions that integrate nutrition into primary health care, societal security programmes, nutritional systems, water, sanitation, and hygiene (WASH), and female education is critical. Policies that improve maternal education, household economic capacity, and food security will have long-term effects on child nutritional outcomes.

Public Health Implications

The high burden of stunting, wasting, and underweight in under 5 years children in Nigeria, consistent with the Nigeria Demographic and Health Survey, underscores a persistent health challenge to the populace with lifelong consequences for child survival and human capital development. The observed regional and socioeconomic inequalities call for targeted, equity-driven nutrition interventions. Integrating growth monitoring, optimal newborn and younger children's feeding support, micronutrient supplementation, and community-based management of acute malnutrition (CMAM) into primary health care services are essential. In addition, multisectoral actions that improve maternal education, household food security, and water, sanitation, and hygiene will be critical for achieving sustainable reductions in child malnutrition.

Practice Implications

The findings underscore the importance of scaling up evidence-based interventions at community and primary healthcare levels, including (1) monitoring of growth and health promotion, (2) infant and younger children feeding (IYCF) counselling, (3) micronutrient supplementation, and (4) management of acute malnutrition. Health workers should prioritise early identification of at-risk children, particularly those with low birth weight, recurrent infections, and those from low-income households. Context-specific behaviour change communication strategies are also required to improve complementary feeding practices.

Research Implications

The review reveals a concentration of cross-sectional studies and limited longitudinal and intervention research. Future studies should (1) adopt longitudinal and mixed method designs to establish causal pathways, (2) generate more data from under-researched regions, (3) examine the effectiveness of nutrition-sensitive interventions, and (4) improve standardisation in reporting nutritional indicators. There is also a need for more subnational analyses using

recent NDHS datasets to monitor progress and guide resource allocation.

Future Directions

Future studies should adopt longitudinal and intervention designs to clarify causal pathways and assess the effectivity and scalability of specific nutritional sensitive programmes. More regionally representative research is needed to complement national data from the Nigeria Demographic and Health Survey and guide subnational planning. Standardised measurement of nutritional indicators will enhance comparability across studies. In addition, implementation and cost-effectiveness research should focus on community-based delivery platforms and context-specific drivers of malnutrition to inform targeted, equity-focused policies and allotment of resources.

DECLARATIONS

ETHICS APPROVAL

Not Applicable: Ethical approval was not required for this study because it is secondary research.

CONFLICT OF INTEREST (COI)

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

AOO: Source for articles, literature review, conceptualising, overall project supervision, manuscript writing, corresponding, submission, proofreading.

MOO: Source for articles, literature review, proofreading.

OBE: Source for articles, literature review, proofreading.

OOO: Source for articles, literature review, proofreading.

TTE: Source for articles, literature review, proofreading.

AI/LLM USE DISCLOSURE

Language editing only: AI/LLM tools were used for language editing and grammar improvement. (Tool: [ChatGPT version 1.2 & Quillbot version 1.0], Purpose: language polishing). The authors reviewed and took full responsibility for the content.

List of Abbreviations and Meaning

AF: Anthropometric Failure

BMI: Body Mass Index

CMAM: Community-based Management of Acute Malnutrition

GDP: Gross Domestic Product

GHS: General Household Study

HIV: Human Immunodeficiency Virus

IPC: Integrated Food Security Phase Classification

LSMS: Living Standards Measurement Study

NDHS: Nigeria Demographic and Health Survey

NHDR: National Human Development Report

NNHS: National Nutrition and Health Survey

SAM: Severe Acute Malnutrition

UNICEF: United Nations Children Emergency Fund

WASH: Water, Sanitation, and Hygiene

WHO: World Health Organisation

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