Published by

British Journal of Contemporary Research

BEXFORD PUBLISHING

Determinants and Preventive Strategies of Child Malnutrition Among Under-Five Children in Langtang South Local Government Area, Plateau State, Nigeria

Original Research Article | Volume 1 | Issue 6 | 2026 | Article Number: 082

Accepted: 03 November 2026 | Published: 10 November 2026 | ISSN: 2979-8582 (Online)

Crossref : **https://doi.org/10.67693/BJCR-4MFA2LX2**

Danjuma Ahile Aku[1], Charity Otibiyen Uchu[1], Kwasen Joel Zachariah[1], Chali Nwanan Mancham[1], Chungdusu Yohanna Andrew[1], Supen Milka Shitnan[1]

[1]Department of Community Health, Plateau State College of Health Technology, Zawan, Nigeria

Correspondence: Danjuma Ahile Aku, pyelshaky2014@gmail.com

Abstract

Malnutrition remains a leading contributor to morbidity and mortality among children under five years of age, particularly in low- and middle-income countries. This study examined the causes, effects, and preventive strategies of malnutrition among children aged 0–59 months in Langtang South Local Government Area (LGA), Plateau State, Nigeria, and assessed whether caregivers' religious affiliation, occupation, and educational level were associated with perceived effects of malnutrition. A descriptive cross-sectional survey design was adopted. Structured questionnaires were administered to 200 mothers/caregivers of children under five, selected through random sampling, with items interpreted into Hausa for non-literate respondents. Data were analysed using descriptive statistics (frequencies, percentages and graph) and inferential statistics (chi-square test of independence, $\alpha = 0.05$) via SPSS version 25. Inadequate/lack of food (64%) and lack of time to feed the child (17%) were the most frequently cited causes of malnutrition, while kwashiorkor (37%) and marasmus (25.5%) were the most frequently cited effects. Exclusive breastfeeding (44%) and adequate food security (23%) were the most widely known preventive strategies, although 2% of caregivers reported no knowledge of any preventive measure. Chi-square analysis showed a statistically significant difference in perceived malnutrition effects by religious affiliation ($\chi^2 = 25.72$, df = 14, $p = 0.028$), but no significant difference by occupation ($\chi^2 = 32.27$, df = 21, $p = 0.055$) or educational level ($\chi^2 = 29.07$, df = 21, $p = 0.112$). The findings suggest that inadequate food access and caregiving time constraints, rather than a general lack of awareness, remain the principal drivers of child malnutrition in this community, and that religious affiliation — more than occupation or formal education — was associated with how caregivers perceived its effects. Community-based, culturally sensitive nutrition education and continued support for exclusive breastfeeding and household food security are recommended.

Keywords: Child Malnutrition, Under-five Children, Determinants, Preventive Strategies, Caregiver Knowledge, Langtang South LGA

© 2026 The Authors. Published by Bexford Publishing Ltd

Introduction

Childhood malnutrition remains one of the most pressing global public health challenges, particularly among children under five years of age in low- and middle-income countries (Asfaw, Wondaferash, Taha, & Dube, 2015; Glewwe & Miguel, 2015). In 2016, an estimated 52 million children under five worldwide were wasted, of whom 17 million were severely wasted; regionally, Africa alone accounted for an estimated 59 million stunted, 14 million wasted, and 10 million overweight children under five (World Health Organization [WHO], 2016). Undernutrition contributes to more than a third of the 8–11 million deaths recorded annually among children under five worldwide (Black et al., 2008).

In Nigeria, national surveys have reported that roughly 23% of children under five are stunted, 6% wasted, and 13% underweight (United Nations Children's Fund [UNICEF], 2015), a burden that, despite interventions such as school feeding programmes and primary healthcare strengthening, remains persistently high, particularly among poor, rural households (Abera, Dejene, & Laelago, 2017). The determinants of child malnutrition operate at multiple levels: immediate determinants such as dietary intake and disease, underlying determinants such as household food security, caregiving practices and access to health services, and basic determinants rooted in poverty and resource constraints (Smith & Haddad, 2000). Demographic factors including maternal age, child age, birth interval and low birth weight, alongside social factors such as maternal and paternal education, occupation, household income and religion, have all been associated with child malnutrition in different settings (Abera et al., 2017; Darteh, Acquah, & Kumi-Kyereme, 2014; Tette, Sifah, & Nartey, 2015).

Plateau State, and rural local government areas within it such as Langtang South, continue to experience nutritional vulnerabilities that are not well captured by national or state-level statistics. Community-level evidence is needed to understand local causes and perceived effects of malnutrition, the extent to which caregivers are aware of preventive strategies, and whether socio-demographic characteristics such as religion, occupation and education shape these perceptions. This study therefore investigated the causes, effects and preventive strategies of malnutrition among children aged 0–59 months in Langtang South LGA, Plateau State, Nigeria, and examined whether perceived effects of malnutrition differed significantly according to caregivers' religious affiliation, occupation, and educational level.

Research Objectives

i. To determine caregivers' perceived causes of malnutrition among children under five years in Langtang South LGA.
ii. To determine caregivers' perceived effects of malnutrition among children under five years in Langtang South LGA.
iii. To assess caregivers' knowledge of preventive strategies against malnutrition among children under five years in Langtang South LGA.
iv. To determine whether perceived effects of malnutrition differ significantly according to caregivers' religious affiliation, occupation, and educational level.

Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

i. H01: There is no statistically significant difference in the perceived effects of malnutrition among children under five years based on caregivers' religious affiliation.
ii. H02: There is no statistically significant difference in the perceived effects of malnutrition among children under five years based on caregivers' occupation.
iii. H03: There is no statistically significant difference in the perceived effects of malnutrition among

© 2026 The Authors. Published by Bexford Publishing Ltd

children under five years based on caregivers' educational level.

Theoretical Framework

This study was guided by two complementary frameworks: the UNICEF conceptual framework for the causes of child malnutrition, and the Ecosystem Model of Nutrition.

UNICEF Conceptual Framework

The UNICEF conceptual framework classifies the causes of malnutrition as immediate (dietary intake and disease), underlying (household food security, caregiving practices, and the health environment), and basic (societal resources, poverty and access to services), with factors at one level influencing those above and below it (Smith & Haddad, 2000; UNICEF, 2015). The framework demonstrates that the causes of malnutrition are multi-sectoral, spanning food, health and caregiving practices, and provides a structured basis for analysing the causes identified by caregivers in this study.

The Ecosystem Model of Nutrition

The Ecosystem Model of Nutrition, developed by Sims, Paolucci and Morris (1972), conceptualises the child's nutritional status as shaped by three interacting levels: the environment (socio-cultural, biophysical and technological), the family, and the child. The model has since been applied to nutrition education, school-based healthy eating promotion, and obesity interventions (Golden & Earp, 2012). It is well suited to this study because it accounts for both individual-level caregiving behaviour and the broader social environment — including religious and cultural norms — that shape how malnutrition is perceived and addressed within a household.

Methods

Study Design

A descriptive cross-sectional survey design was employed, drawing on primary data collected through structured questionnaires and secondary data from published literature to contextualise the findings.

Study Area

Langtang South LGA was created from the former Langtang North LGA on 27 August 1991, with its headquarters at Mabudi, approximately 250 km south-east of Jos, the Plateau State capital. The LGA covers a land area of about 1,006 km^2 and, according to the 2006 National Population Census, had a population of 105,173 (53,111 males and 52,062 females), most of whom reside in rural communities. The predominant ethnic group is the Taroh, alongside Ngas, Youm, Montol, Goemai, Mwaghavul and Igbo settlers. The area has a warm climate, with a dry season from November to March and a wet season from April to October, and mean temperatures of about 22–36°C. Farming is the main occupation, supplemented by trading, fishing, blacksmithing, and other crafts.

Population and Sampling

The target population comprised mothers and other primary caregivers of children aged 0–59 month's resident in Langtang South LGA. A sample of 200 caregivers was selected using random sampling.

Instrument for Data Collection

Data were collected using a structured, interviewer-administered questionnaire developed by the researcher and organised into four sections: (A) socio-demographic characteristics, (B) perceived causes of malnutrition, (C) perceived effects of malnutrition, and (D) knowledge of preventive strategies. Questions were prepared in English but interpreted into Hausa for caregivers without formal education, to ensure

© 2026 The Authors. Published by Bexford Publishing Ltd

comprehension.

Validity and Reliability

Content validity was established by basing questionnaire items on the study's research questions and relevant literature. Reliability was supported by comparing responses obtained during pilot administration with those obtained in the main survey, which showed consistent response patterns.

Ethical Considerations

Verbal informed consent was obtained from all participants after the purpose of the study was explained. Respondents were assured that their information would be treated confidentially and used solely for academic purposes.

Data Analysis

Data were analysed using SPSS version 25. Descriptive statistics (frequencies and percentages) addressed the research objectives on causes, effects and preventive strategies, while the chi-square test of independence ($\alpha = 0.05$) was used to test the three hypotheses on differences in perceived effects of malnutrition by religious affiliation, occupation, and educational level.

Results

Socio-demographic Characteristics of Respondents

Table 1 presents the socio-demographic characteristics of the 200 caregivers surveyed.

Table 1: Socio-demographic characteristics of respondents (n = 200)

Parameter	Sub-category	Frequency	Percentage (%)
Age	20–30 years	69	34.5
	31–40 years	60	30.0
	41–50 years	43	21.5
	51–60 years	28	14.0
Sex	Male	50	25.0
	Female	150	75.0
Education	Primary	51	25.5
	Secondary	87	43.5
	Tertiary	39	19.5
	Other/Informal	23	11.5
Marital Status	Married	113	56.5

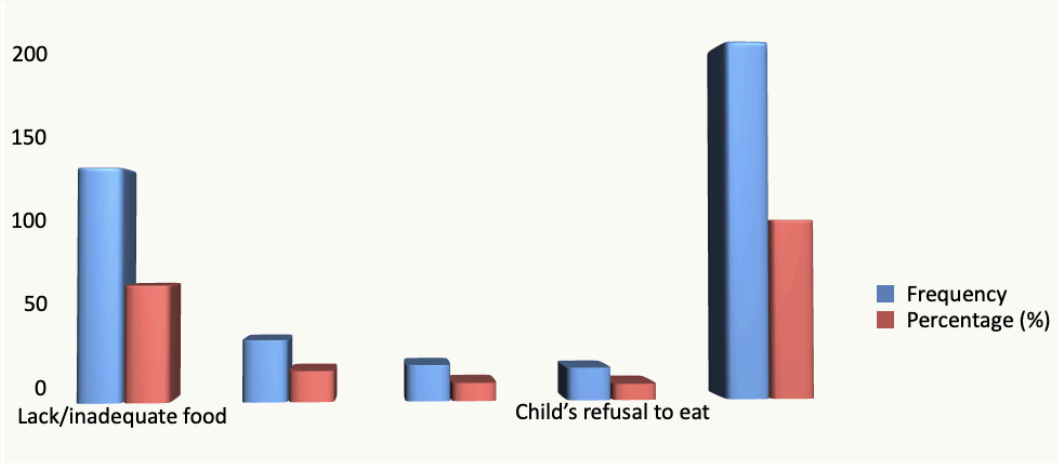
© 2026 The Authors. Published by Bexford Publishing Ltd

	Single	71	35.5
	Divorced	4	2.0
	Widowed	12	6.0
Occupation	Business/Trading	101	50.5
	Health Worker	43	21.5
	Civil/Public Servant	29	14.5
	Student	27	13.5
Religion	Christianity	120	60.0
	Traditional	64	32.0
	Islam	16	8.0

Most caregivers (75.0%) were female, and over half (56.5%) were married. Secondary education was the most common attainment (43.5%), and business/trading was the most common occupation (50.5%). Christianity was the predominant religious affiliation (60.0%), followed by traditional religion (32.0%) and Islam (8.0%).

Perceived Causes, Effects, and Preventive Strategies

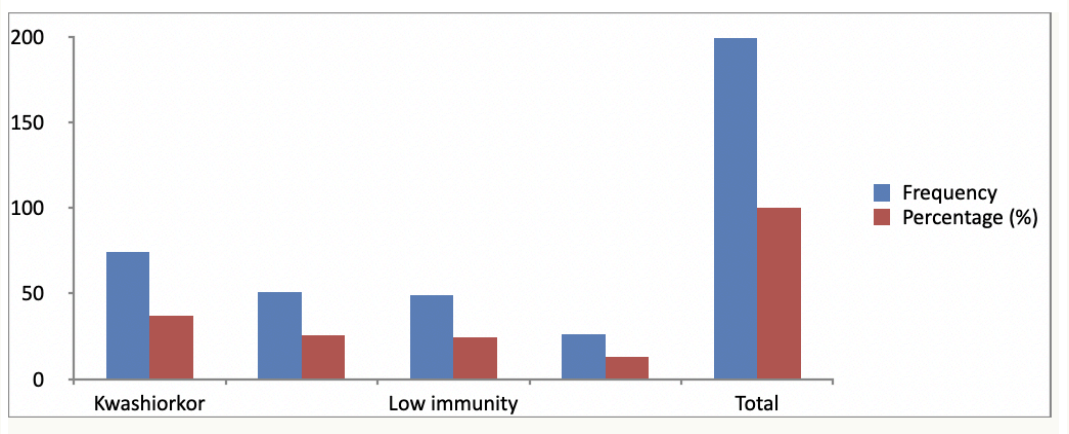
Graph 1: Perceived causes of malnutrition (n = 200)



The graph shows that lack/inadequate food was the most common perceived cause of malnutrition, indicating that most caregivers linked malnutrition mainly to food shortage. Lack of time to feed the child was the second most cited cause, while childhood illness and child's refusal to eat were less frequently mentioned.

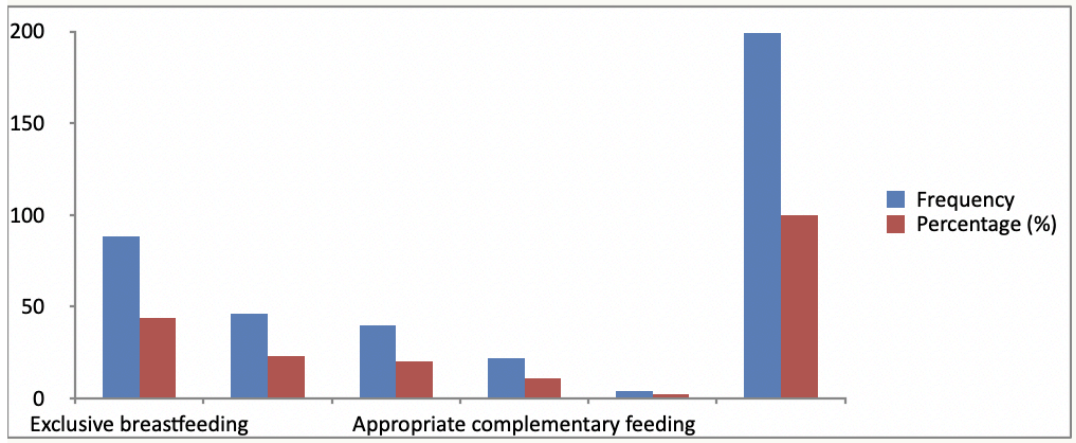
© 2026 The Authors. Published by Bexford Publishing Ltd

Graph 2: Perceived clinical manifestations and effects of malnutrition (n = 200)



The graph reveals that kwashiorkor was the most commonly recognized clinical manifestations and effect of malnutrition, followed by marasmus. This suggests that caregivers were more aware of the severe clinical forms of malnutrition. Low immunity was also commonly identified, while general illness/disease was the least reported effect.

Graph 3: Knowledge of preventive strategies for malnutrition (n = 200)



The graph shows that exclusive breastfeeding was the most widely known preventive strategy. This was followed by adequate food security and prevention of diarrhoea and infection. Appropriate complementary feeding was less well known, and only a few respondents said they did not know any preventive measure.

Tests of Hypotheses

Chi-square tests of independence were conducted to examine whether caregivers' perceived effects of malnutrition differed according to religious affiliation, occupation, and educational level. The results are presented in Table 5.

Table 5: Chi-square test of association between socio-demographic characteristics and perceived effects of malnutrition

Variable	χ^2 (calc.)	Df	χ^2 critical (0.05)	p-value	Decision (H0)
Religious affiliation	25.72	14	23.69	0.028	Rejected — significant

© 2026 The Authors. Published by Bexford Publishing Ltd

Occupation	32.27	21	32.67	0.055	Not rejected — not significant
Educational level	29.07	21	32.67	0.112	Not rejected — not significant

There was a statistically significant association between religious affiliation and perceived effects of malnutrition, χ^2 (14) = 25.72, p = 0.028. Since the calculated chi-square value was greater than the critical value, the null hypothesis was rejected.

However, there was no statistically significant association between occupation and perceived effects of malnutrition, χ^2 (21) = 32.27, p = 0.055. Although this result was close to the 0.05 significance level, it did not meet the criterion for statistical significance. Therefore, the null hypothesis was not rejected.

Similarly, there was no statistically significant association between educational level and perceived effects of malnutrition, χ^2 (21) = 29.07, p = 0.112. The null hypothesis was therefore not rejected.

Discussion

The predominance of female caregivers (75.0%) with secondary (43.5%) or primary (25.5%) education, and the concentration of caregivers in trading/business rather than salaried employment (50.5%), is consistent with the broader Nigerian pattern in which mothers bear primary responsibility for child feeding and often have limited formal education and irregular income (Abuya, Ciera, & Kimani-Murage, 2012). This context may constrain both the time and resources available for consistent, adequate child feeding.

Consistent with evidence from Ethiopia and Ghana, inadequate or insufficient food access, rather than a general lack of awareness, was the leading perceived cause of malnutrition in this study (Abera et al., 2017; Asfaw et al., 2015). The prominence of kwashiorkor and marasmus among perceived effects, ahead of low immunity, suggests that caregivers in this community more readily recognize the visible, protein-energy manifestations of malnutrition than its immunological consequences and observation with implications for how nutrition education messages should be framed locally.

On preventive strategies, awareness of exclusive breastfeeding and food security was relatively high, though not universal. Global evidence shows that caregiver knowledge of exclusive breastfeeding does not always translate into consistent practice (Black et al., 2008; Glewwe & Miguel, 2015), and this gap between knowledge and practice was not directly measured in the present study, representing an area for further research.

The significant association found between religious affiliation and perceived effects of malnutrition (χ^2 = 25.72, p = 0.028) may reflect denominational or faith-based differences in dietary norms, fasting practices, or health-seeking behaviour that shape how caregivers interpret and describe the physical effects of malnutrition in this community. By contrast, the absence of a significant association for occupation and educational level should be interpreted with caution rather than as evidence that these factors are unimportant: the p-value for occupation (0.055) was only marginally above the conventional threshold, and the cross-tabulations for both variables involved multiple response categories that may have produced cells with small expected frequencies, which can reduce the reliability of the chi-square test. Larger, multi-site studies would help clarify whether occupation and education are genuinely unrelated to caregiver perceptions in this population, or whether this study was under-powered to detect an association close to the significance threshold.

© 2026 The Authors. Published by Bexford Publishing Ltd

Conclusion

Inadequate food access and limited caregiving time, rather than a general lack of awareness, were the most commonly cited immediate causes of child malnutrition among caregivers surveyed in Langtang South LGA. Most caregivers were aware of exclusive breastfeeding and food security as preventive measures, but a meaningful minority still lacked any preventive knowledge. Perceived effects of malnutrition differed significantly according to caregivers' religious affiliation, but not according to occupation or educational level. Addressing child malnutrition in this community may require interventions that engage religious and community structures alongside conventional health and education channels.

Recommendations

- Community-based nutrition education, including mother-to-mother peer education, should address food-related misconceptions (such as taboos around eggs, meat and fish) alongside guidance on adequate feeding practices.
- Given the significant association found between religious affiliation and perceived effects of malnutrition, health authorities should engage religious and traditional leaders as partners in culturally sensitive nutrition messaging.
- Exclusive breastfeeding for the first six months, with continued breastfeeding and timely, adequate complementary feeding thereafter, should continue to be promoted through health facilities and community outreach.
- Primary healthcare and community health workers should be trained in the Integrated Management of Childhood Illness (IMCI) approach to reduce the infection–malnutrition cycle.
- Government and local authorities should support household food security for example, through agricultural extension services and livelihood support targeted at women, who form the majority of primary caregivers given that inadequate food was the leading perceived cause of malnutrition.

Limitations

- This was a single-LGA, cross-sectional descriptive study; findings describe caregiver perceptions at one point in time and do not establish causal relationships.
- The study relied on caregivers' reported perceptions rather than clinical or anthropometric measurement of the children themselves, and so does not directly establish the prevalence of stunting, wasting or underweight in this population.
- The chi-square analyses involved cross-tabulations with multiple response categories, which may have produced cells with small expected frequencies, particularly for occupation and educational level; these results should be interpreted with appropriate caution.
- Details of the sampling frame and response rate were not fully documented in the original study and would benefit from fuller reporting in future research.

References

Abera, L., Dejene, T., & Laelago, T. (2017). Prevalence of malnutrition and associated factors in children aged 6–59 months among rural dwellers of Damot Gale district, south Ethiopia: A community-based cross-sectional study. *International Journal for Equity in Health*, *16*(1), 111–122.

Abuya, B. A., Ciera, J., & Kimani-Murage, E. (2012). Effect of mother's education on child's nutritional status in the slums of Nairobi. *BMC Pediatrics*, *12*(1), 80–89.

© 2026 The Authors. Published by Bexford Publishing Ltd

Asfaw, M., Wondaferash, M., Taha, M., & Dube, L. (2015). Prevalence of undernutrition and associated factors among children aged between six to fifty-nine months in Bule Hora district, South Ethiopia. *BMC Public Health*, *15*(1), 41–52.

Black, R. E., Allen, L. H., Bhutta, Z. A., Caulfield, L. E., de Onis, M., Ezzati, M., ... & Maternal and Child Undernutrition Study Group. (2008). Maternal and child undernutrition: Global and regional exposures and health consequences. *The Lancet*, *371*(9608), 243–260.

Darteh, E. K. M., Acquah, E., & Kumi-Kyereme, A. (2014). Correlates of stunting among under-five children in Ghana. *BMC Public Health*, *14*(1), 504.

Glewwe, P., & Miguel, E. A. (2015). The impact of child health and nutrition on education in less developed countries. *Handbook of Development Economics*, *4*, 3561–3606.

Golden, S. D., & Earp, J. A. L. (2012). Social ecological approaches to individuals and their contexts: Twenty years of Health Education & Behavior health promotion interventions. *Health Education & Behavior*, *39*(3), 364–372.

Sims, L. S., Paolucci, B., & Morris, P. M. (1972). A theoretical model for the study of nutritional status: An ecosystem approach. *Ecology of Food and Nutrition*, *1*(3), 197–205.

Smith, L. C., & Haddad, L. (2000). Overcoming child malnutrition in developing countries: Past achievements and future choices (Food, Agriculture, and the Environment Discussion Paper 30). International Food Policy Research Institute (IFPRI).

Tette, E. M., Sifah, E. K., & Nartey, E. T. (2015). Factors affecting malnutrition in children and the uptake of interventions to prevent the condition. *BMC Pediatrics*, *15*(1), 189.

United Nations Children's Fund. (2015). UNICEF's approach to scaling up nutrition for mothers and their children (Discussion paper). Programme Division, UNICEF, New York.

World Health Organization. (2016). World health statistics 2016: Monitoring health for the SDGs, sustainable development goals. World Health Organization.

© 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the **Creative Commons Attribution (CC BY 4.0) licence** (https://creativecommons.org/licenses/by/4.0/)