



Full Length Research

Prevalence and Determinants of Acute Malnutrition among Under-Five Children (24-59 Months): A Cross-Sectional Study in Esan West Local Government Area, Ekpoma, Nigeria.

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ABSTRACT

Acute malnutrition among children under five remains a major cause of morbidity and mortality in low- and middle-income countries, including Nigeria. Early detection is essential for effective intervention. This study assessed the prevalence and determinants of acute malnutrition among under-five children in Esan West Local Government Area, Edo State. A community-based cross-sectional study was conducted among 296 randomly selected children aged 24–59 months and their mothers. Sociodemographic, health, and nutritional data were collected using an interviewer-administered questionnaire. Child nutritional status was assessed using mid-upper arm circumference (MUAC), while maternal status was assessed using body mass index (BMI). Data were analyzed using SPSS version 26. Descriptive statistics were presented as frequencies and percentages, and associations were examined using Chi-square tests at a 5% significance level. The prevalence of acute malnutrition among under-five children was 10.5%, comprising 2.7% severe acute malnutrition and 7.8% moderate acute malnutrition. Significant maternal determinants included maternal age ($p = 0.026$), marital status ($p = 0.036$), and maternal BMI ($p = 0.018$). Significant child-related determinants included sex ($p = 0.035$), preterm birth ($p = 0.019$), and low birth weight ($p = 0.041$). Acute malnutrition remains a significant health concern in Esan West LGA, affecting more than one in ten under-five children. Factors associated with this acute malnutrition include maternal age, marital status, and maternal nutritional status, along with child factors including sex, preterm birth, and low birth weight. Strengthening maternal nutrition, enhancing antenatal and postnatal care, and addressing early-life risk factors are essential for reducing malnutrition among under-five children.

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INTRODUCTION

Malnutrition refers to deficiencies, excesses or imbalances in an individual's intake of energy or nutrients (WHO, 2024). There are several forms of malnutrition, and these include two broad categories: under-nutrition and over-nutrition. Under-nutrition manifests as wasting, stunting, underweight and micro-nutrient deficiencies, whereas over-nutrition includes overweight, obesity and other diet-related noncommunicable diseases, such as diabetes mellitus, heart disease and stroke (WHO, 2024). Malnutrition is a significant public health challenge globally, especially in low- and middle-income countries (LMICs) (Buttner et al., 2023). It is one of the most critical disease burdens and has been associated with increased morbidity and mortality in both children and adults worldwide (Alaba et al., 2023). Globally, in 2022, 149 million, 45 million, and 37 million children under 5 years of age were stunted, wasted, and overweight or obese, respectively (WHO, 2024).

In LMICs, approximately 29.4%, 12.8% and 24.1% of children are stunted, wasted and underweight, respectively (Talukdar et al., 2024). As the burden of malnutrition remains a significant concern in LMICs (Buttner et al., 2023), sub-Saharan Africa is no exception to this public health challenge (Alaba et al., 2023), where it inhabits approximately one-third (59.4 million in 2022) of the total number of malnourished (stunted) children globally (Quamme and Iversen, 2022; UNICEF, 2022).

Currently, Nigeria is among the African countries contributing significantly to the burden of global malnutrition (John et al., 2024; Obasohan et al., 2024). Specifically, approximately 44% of children aged 6–59 months are estimated to suffer from malnutrition, with 38% stunted, 7% wasted, 22% underweight and 2% overweight (Obasohan et

al., 2024; Awosan, 2024). Past reports have linked the burden of childhood malnutrition to several factors, including parental and childhood factors (Amusa et al., 2023). Specifically, studies have revealed that young and adolescent mothers are more likely to have malnourished children (Ukwajunor et al., 2023; Maduforo et al., 2024).

The risk of childhood malnutrition has also been reported among poor, less educated (Obasohan et al., 2024; Ukwajunor et al., 2023) and malnourished mothers (John et al., 2024; Awosan, 2024). On the other hand, inadequate immunization status, the presence of infections, preterm delivery and breastfeeding status are child-level factors reported to strongly influence the development of childhood malnutrition (Ukwajunor et al., 2023; Musa et al., 2024). While there are established efforts to address the risk and development of malnutrition¹⁴, the burden of childhood malnutrition continues to be a major challenge in Nigeria (Obasohan et al., 2024; Sanni et al., 2024) with possibilities of physiological, intellectual, emotional, and other irreversible long-term impairments (Alflah and Alrashidi, 2023).

Most malnutrition surveys and interventions focused on mostly rural and conflicted regions while semi-urban areas like Ekpoma are often overlooked resulting in limited and outdated local data. However, to prevent and reduce the consequences of malnutrition in this region, early identification and regular surveillance of the specific factors associated with the development of childhood acute malnutrition are crucial. Therefore, this study assessed the prevalence and risk factors associated with acute malnutrition among children aged 24–59 months in Ekpoma.

METHODOLOGY

Study Area

The study was conducted in Ekpoma, the administrative headquarters of Esan West Local Government Area (LGA), Edo State, Nigeria. Ekpoma lies along the Benin–Auchi expressway and is bordered by Irrua to the east, Uromi to the northeast, Auchi to the north, Ujioaba to the south, and Benin City to the southwest. Major communities include Ujemen, Irukepen, Idumebo, Ihumudumu, Ujoelen, Emaudo, Eguare, Uhiele, Uke, Ukpenu, Emuhi, and Illeh. The Esan ethnic group is predominant, and the Esan language is widely spoken alongside English and Pidgin English. Ekpoma hosts several primary and secondary schools and Ambrose Alli University. Although primarily agrarian, the town also has thriving commercial activity due to its student population.

Study Design

A community-based cross-sectional study was conducted among under-five children and their mothers.

Population of Study

The study population consisted of children aged 24–59 months living in Ekpoma and their biological mothers.

Sample Size

A total of 296 children aged 24–59 months and their mothers participated in the study.

Sampling Techniques

Simple random sampling was used to select eligible children and their mothers from the identified communities in Ekpoma.

Inclusion and Exclusion Criteria

Inclusion criteria:

- Children aged 24–59 months.

- Children residing in the selected communities with their biological mothers.

Exclusion criteria:

- Children below 24 months, since immunization and IYCF indicators are generally completed by 24 months.
- Children with medical conditions that prevented accurate nutritional assessment.

Data Collection Methods

Data on demographic, socioeconomic, immunization, IYCF practices, infectious disease history, and maternal obstetric characteristics were collected using an interviewer-administered electronic questionnaire. Child nutritional status was assessed using Mid-Upper Arm Circumference (MUAC), categorized as:

<11.5 cm: Severe Acute Malnutrition (SAM);
11.5–12.4 cm: Moderate Acute Malnutrition (MAM); ≥12.5 cm: Normal

Maternal nutritional status was evaluated using Body Mass Index (BMI):

<18.5: Underweight; 18.5–24.9: Normal;
25.0–29.9: Overweight; ≥30: Obese

Ethical Clearance

Permission to conduct the study was obtained from community heads and stakeholders. Written informed consent was obtained from all participating mothers. Community entry and permission to conduct the study were obtained from local authorities and traditional leaders in Esan West Local Government Area.

STATISTICAL ANALYSIS

Data generated from the survey and anthropometric assessments were analyzed using SPSS version 26. Descriptive statistics were presented as frequencies and percentages. The Chi-square test was used to examine associations between variables, with statistical significance set at $p < 0.05$.

RESULT

Table 1 shows the parental characteristics of the children under the age of five. The parental characteristics of the under-five children revealed dominance of young adult mothers (52.4%), whereas 47.6% belonged to the middle-aged category. The majority (93.6%) of the mothers were married, whereas the remaining 6.4% were single, divorced or widowed. The maternal educational status of the children revealed that only 24.0% of their

mothers and 50.5% of their fathers had completed tertiary education. Regarding their occupational status, the table below shows that 91.9% and 95.7% of their mothers and fathers, respectively, were employed. With respect to parity, the majority (80.1%) of the mothers reported multipara, whereas the remaining 19.9% belonged to the primi-para category. The anthropometric assessment revealed that while 49.0% of the mothers

Table 1. Parental Characteristics of the Under-Five Children

General Characteristics	Frequency (n)	Percent (%)
Sociodemographic Characteristics		
Mother Age		
Young adult (20-29 years)	155	52.4
Middle-age adult (40-59 years)	141	47.6
Mother Marital Status		
Single (Single, Divorced, Widowed)	19	6.4
Married	277	93.6
Mother Educational Status		
No Formal Education	6	2.0
Primary	23	7.8
Secondary	196	66.2
Tertiary	71	24.0
Father Educational Status (n=279)		
No Formal Education	3	1.1
Primary	11	3.9
Secondary	124	44.4
Tertiary	141	50.5
Mother Occupational Status		
Employed	272	91.9
Unemployed	24	8.1
Father Occupational Status (n=279)		
Employed	267	95.7
Unemployed	12	4.3
Parity		
Primipara	59	19.9
Multipara	237	80.1
Maternal BMI		
Underweight	7	2.4
Normal	145	49.0
Overweight	102	34.5
Obese	42	14.2

BMI-Body Mass Index; Parity: Number of times a woman has given birth; Primipara: a woman who has given birth once to a viable baby regardless of whether the baby is alive or stillborn; Multipara: A woman who has given birth to two or more viable babies

Table 2 shows the basic characteristics of the children under the age of five and their mothers. The age distribution of the children indicates that the majority (78.7%) of the children were preschoolers, whereas the remaining 21.3% were toddler. The gender distribution of the children revealed a dominance of females (53.0%). With respect to the birth order of the children, the majority (60.1%) were born later, and 39.9% were born first. The medical characteristics of the children revealed that 3.7% were preterm, 2.7% were born with a low birth weight, 5.7% had yet to complete their routine

Table 3 shows the associations between parental characteristics and malnutrition. While there were no significant associations between parental educational status and malnutrition ($p>0.05$), a significant association was established between malnutrition and maternal age ($p=0.028$) or marital status ($p=0.036$). Specifically, the prevalence of under-five malnutrition is significantly greater among mothers aged 20--29 years (14.2%) than among mothers aged 30--44 years (6.4%) and significantly greater among single mothers (26.3%) than among mothers who are still married (9.4%). The table also shows that the prevalence of under-five malnutrition is significantly greater among undernourished mothers (42.9%) than among mothers in the normal (9.7%) and over-nourished (9.7%) categories ($p=0.018$).

immunization, and 10.5% were reported to have experienced infectious diseases within the last two weeks. The feeding pattern revealed that early breastfeeding was initiated among 42.9% of the children; 31.4% were exclusively breastfed, and 13.2% were breastfed for up to 2 years. The anthropometric characteristics of the children revealed that while 89.5% had a normal MUAC status, 2.7% and 7.8% had severe and moderate malnutrition, respectively. In other words, 10.5% of the under-five children were malnourished.

Table 4a and 4b shows the associations between children's general characteristics and malnutrition. While a nonsignificant association was observed between child age ($p=0.852$) and birth order ($p=0.890$) and malnutrition, there was a significant association between child sex ($p=0.035$) and malnutrition. Specifically, the prevalence of malnutrition among female children was significantly greater (14.0%) than that among male children (6.5%). The prevalence of malnutrition was significantly greater among preterm children (36.4%) than among full-term babies (9.5%). The prevalence of malnutrition was significantly greater among low-birth-weight babies (37.5%) than among full-term babies (9.7%) ($p=0.041$). The table also shows nonsignificant relationships between child immunization status, the presence of infectious disease and feeding practices ($p>0.05$).

Table 2. General Characteristics of the under-five Children

General Characteristics	Frequency (n)	Percent (%)
Sociodemographic Characteristics		
Age Group		
Toddler (24-35 months)	63	21.3
Preschooler (36-59 months)	233	78.7
Gender		
Male	139	47.0
Female	157	53.0
Birth Order		
First Born	118	39.9
Later Born	178	60.1
Medical Characteristics/History		
Preterm		
Yes	11	3.7
No	285	96.3
Birthweight		
LBW	8	2.7
NBW	288	97.3
Immunization Status		
Completed	279	94.3
Uncompleted	17	5.7
Infectious Diseases (in the last 2 weeks)		
Yes	31	10.5
No	265	89.5
IYCF Practices		
Early Initiation of Breastfeeding (within 1 hour of birth)		
Yes	127	42.9
No	169	57.1
Exclusive Breastfeeding for 6 months		
Yes	93	31.4
No	203	68.6
Continued Breastfeeding for 2 years		
Yes	39	13.2
No	257	86.8
Anthropometric Characteristics (MUAC Status)		
Severe Acute Malnutrition	8	2.7
Moderate Acute Malnutrition	23	7.8
Normal	265	89.5

LBW: Low birth weight babies <2.5kg at birth; NBW: Normal Birth weight \geq 2.5kg) at birth. IYCF-Infant and young child. MUAC: Mid-Upper-Arm Circumference.

Table 3: Prevalence of Acute Malnutrition of Infants by Parental Sociodemographic and Anthropometric Status

Parental	MUAC		P-value
	Acute Malnutrition (%)	Normal (%)	
Maternal age			
20-29 years	22 (14.2)	133 (85.8)	0.028*
30-44 years	9 (6.4)	132 (93.6)	
Marital Status			
Married	26 (9.4)	251 (90.6)	0.036*
Single (Single, Divorced, Widowed)	5 (26.3)	14 (73.7)	
Maternal Education Status			
Low Education (Secondary or Less)	23 (10.2)	202 (89.8)	0.802
High Education (Tertiary)	8 (11.3)	63 (88.7)	
Paternal Education Status			
Low Education (Secondary or Less)	17 (12.3)	121 (87.7)	0.140
High Education (Tertiary)	10 (7.1)	131 (92.9)	
Maternal BMI			
Undernutrition	3 (42.9)	4 (57.1)	0.018*
Normal	14 (9.7)	131(90.33)	
Overnutrition	14 (9.7)	130 (90.3)	

Table 4a: Malnutrition Status of Under-five Children

General Characteristics	MUAC		P-value
	Acute Malnutrition (%)	Normal (%)	
Child's Age			
Toddler (12-35 months)	11.1	56 (88.9)	0.852
Preschooler (36-59 months)	24 (10.3)	209 (89.7)	
Child's Gender			
Male	9 (6.5)	130 (93.5)	0.035*
Female	22 (14.0)	135 (86.0)	
Birth Order			
First Born	12 (10.2)	106 (89.8)	0.890
Later Born	19 (10.7)	159 (89.3)	
Preterm Birth			
Yes	4 (36.4)	7 (63.6)	0.019*
No	27 (9.5)	258 (90.5)	
Child's Birth Weight			
Low Birth Weight (LBW)	3 (37.5)	5 (62.5)	0.041*
Normal Birth Weight (NBW)	28 (9.7)	260 (90.3)	
Child Immunization Status			
Completed	29 (10.4)	250 (89.6)	0.695
Uncompleted	2 (11.8)	15 (88.2)	

Table 4b. Malnutrition Status of Under-five Children (Continued)

General Characteristics	MUAC		P-value
	Acute Malnutrition (%)	Normal (%)	
Presence of Infections			
Yes	5 (16.1)	26 (83.9)	0.346
No	26 (9.8)	239 (90.2)	
Early Initiation of Breastfeeding			
Yes	12 (9.4)	115 (90.6)	0.618
No	19 (11.2)	150 (88.8)	
Exclusive Breastfeeding (6-month)			
Yes	11 (11.8)	82 (88.2)	0.606
No	20 (9.9)	183 (90.1)	
Continued Breastfeeding (to 2 years)			
Yes	6 (15.4)	33 (84.6)	0.269
No	25 (9.7)	232 (90.3)	

DISCUSSION

The study investigated the prevalence and determinants of acute malnutrition among a community-based sample of under-five children (specifically 24–59 months of age) in Ekpoma, Esan West Local Government Area,

Nigeria. The investigation included both childhood and maternal risk factors. Using mid-upper-arm circumference (MUAC), this study revealed that while 89.5% of the children under five years of age had a normal MUAC status, 10.5% of the children were acutely malnourished. The prevalence of acute malnutrition in this study is relatively lower than that reported in other similar studies conducted in Danko-Wasagu, Kebbi (15.5%) (Mada et al., 2020), Onueke, Ebonyi (31.2%) (Nweke et al., 2024), Edo Central (35.0%) (Peter et al., 2023) and rural households in southwestern Nigeria (44.0%) (Adeyonu et al., 2022).

The relatively lower prevalence of acute malnutrition in Ekpoma may be attributed to its semiurban status, where adequate health services, improved maternal education, and

food availability are better assured than in rural areas (Salisu et al., 2024) such as Danko-Wasagu and Onueke. This study revealed that 2.7% and 7.8% of the under-five children were severely and moderately malnourished, respectively. Similar studies have reported a higher incidence rate of moderate acute malnutrition (MAM) than severe acute malnutrition (SAM). Specifically, studies conducted in northern and southern Nigeria reported 0% SAM and 15.5% MAM (Mada et al., 2020) and 2.6% SAM and 28.6% MAM, respectively (Nweke et al., 2024). While the prevalence of SAM is low, the higher rate of MAM still represents a widespread nutritional challenge among children under five years of age and highlights the urgent need for early interventions to prevent morbidity and mortality (Udoh et al., 2024; Behairy et al., 2025).

The assessment of the factors associated with acute malnutrition among children under five revealed that maternal age was an important contributor. Specifically, this study revealed that the burden of acute malnutrition was

significantly greater among mothers aged 20-29 years (10.8%) than among mothers aged 30-44 years (5.9%). This observation is consistent with a study conducted among under-five children in Ethiopia, where the burden of acute malnutrition in under-five children was inversely related to maternal age (Areba et al., 2024). Studies from Cameroon (Tchuente et al., 2024) and Nepal (Ghimire et al., 2020) also reported similar trends in the associations between maternal age and acute undernutrition among under-five children. The higher prevalence of under-five malnutrition among younger mothers, especially those younger than 30 years, may be linked to combinations or interactions of different factors, including nutritional and socioeconomic factors.

Young mothers may experience nutrient competition between their own nutritional needs and those of their developing fetus, thus increasing the chance of childhood malnutrition (Akter and Nishu, 2025). On the other hand, young mothers, especially those in their twenties, often experience low or unstable earnings from entry-level job (University of Bath, 2017), which may limit their ability to afford nutrient-dense foods. Another maternal factor found to influence the development of acute malnutrition among under-five children is marital status.

This finding is consistent with other similar studies conducted in Africa. An Ethiopian case-control study reported that divorced or separated marital status was a significant predictor of acute malnutrition among children under-five (Jebero et al., 2023). The greater prevalence of acute malnutrition among single mothers in this study (26.3% compared to 9.4% for married mothers) may be linked to the socioeconomic and resource challenges commonly associated with single parenting, which can include financial constraints and a

lack of partner support (University of Bath, 2017) which may make it harder for them to afford nutritious foods. Single mothers are often overburdened with the responsibilities of two parents (Chavda and Nisarga, 2023) and may also struggle to access resources owing to a lack of partner support (Clark et al., 2024).. Conventionally, balancing work and childcare allows limited time, especially for the planning and preparation of healthy foods, and this effect is usually doubled among single mothers (Chavda and Nisarga, 2023). This significant finding, the higher prevalence of acute malnutrition among children of single mothers is explained by these compounding challenges, including socioeconomic vulnerability, lack of partner support, and limited time for optimal meal preparation.

The present study revealed that parental educational status was not significantly associated ($p>0.05$) with acute malnutrition. In contrast, studies conducted in Nigeria and Ethiopia have shown that less educated parents are more likely to have undernourished under-five children (Jebero et al., 2023; James, 2022; Mihret et al., 2023). Reports from similar studies in Asia, particularly Pakistan and Nepal, also revealed significantly higher odds of under-five undernutrition among less educated parents (Ghimire et al., 2020; Shahid et al., 2022). While education remains the foundation for optimal health (Raghupathi and Raghupathi, 2020), the lack of a significant relationship between educational status and undernutrition may be linked to the type of education/degree received. Some fields of study are medical and health-related, whereas others, such as business administration and theatre art, may focus less on health-related subjects. The difference in the education system, especially in fields with less emphasis on health and nutrition, may result in more educated parents showing no significant difference from those with less education in

preventing childhood malnutrition (Raghupathi and Raghupathi, 2020).

This study also established a significant association ($p=0.018$) between maternal nutritional status (BMI) and childhood acute malnutrition. Here, the burden of acute malnutrition is significantly greater among malnourished mothers than among those who are normal or over-nourished. Similar observations were also reported in studies conducted in Uganda (Odei Obeng-Amoako et al., 2021) and Bangladesh (Das et al., 2022), where malnourished mothers are more likely to have acutely malnourished children. The significant association observed in these studies may be attributed to the fact that malnourished mothers usually have suboptimal nutrient stores during pregnancy, which may lead to poor foetal growth, low birth weight, and increased risk of acute childhood malnutrition (Young and Ramakrishnan, 2021). Malnourished mothers are also less likely to produce adequate quantity and quality breastmilk to support infant and young child nutrition, thus increasing the risk of acute childhood malnutrition (Falize et al., 2024).

With respect to child-level risk factors, this study found that child's age was not significantly associated with acute undernutrition ($p<0.05$). This is an indication that child age may not always be a direct determinant for the development of acute childhood malnutrition, primarily due to uniform vulnerability across the age group. Children between the ages of 2 and less than 5, due to their high nutritional requirements for growth and development that is consistent (Faizen and Rouster, 2023), may experience similar vulnerability, thus minimizing the age-related differences in the prevalence of acute malnutrition.

While a nonsignificant association was also reported in a study conducted among under-five children in Akwa-Ibom, Nigeria (James, 2022), findings from similar studies conducted in Ethiopia (Seboka et al., 2021; Ahmed et al., 2022), Nepal (Hossain et al., 2020) and Pakistan (Shahid et al., 2022) revealed that early under-five children had significantly greater odds of developing acute malnutrition than older children did. The inconsistencies in the relationship between age and acute malnutrition observed between this study and reports from Ethiopia, Nepal, and Pakistan may be due to variation in the study population. In this study, infants under 24 months of age were excluded to ensure adequate evaluation of infant and young feeding practices (IYCF), which typically cover the first two years of life. Other studies may have captured children less than 24 months of age—a high-risk age bracket to acute malnutrition compared with children between 24 months and 59 months (Anato, 2022; Chama et al., 2024)—and this explains why age-related differences in the prevalence of acute malnutrition are more amplified in these studies.

This study revealed no significant ($p=0.890$) association between birth order and acute malnutrition. In contrast, other studies conducted in Pakistan (Shahid et al., 2022) and Ethiopia (Areba et al., 2024) suggested that later-born children are more likely to experience acute malnutrition than firstborn children are. The inconsistency in these associations may be attributed to variations in the criteria used to define acute malnutrition among children under-five years of age. While this study used the mid-upper-arm circumference (MUAC), the studies conducted in Ethiopia and Pakistan utilized the weight-for-height Z score (WHZ) developed by the World Health Organization (WHO). This study revealed non-significant relationships between

immunization status, the presence of infection and acute malnutrition among children under five years of age, although empirical evidence has consistently shown a strong link between infections and acute malnutrition. Reports from Ethiopian studies revealed that children with diarrhoea were more likely to develop acute malnutrition (Jebero et al., 2023; Ahmed et al., 2022). A pooled analysis study carried out among under-five children in Haiti, Burkina Faso and Madagascar also suggested that children with diarrhoea had a significantly greater odds of developing acute malnutrition (Nassur et al., 2022). The lack of significant associations between infection and acute malnutrition in the present study may be attributed to misclassification of infection status, which may have resulted from reliance on mothers' recall of recent illness. Like the presence of infections, no significant associations ($p > 0.05$) were found between children's feeding practices, including exclusive breastfeeding, early initiation of breastfeeding, or continued breastfeeding for up to two years, and acute malnutrition. In contrast, reports from subsequent studies (Ghimire et al., 2020; Jebero et al., 2023; James, 2022; Mihret et al., 2023) revealed that suboptimal breastfeeding practices can be a major contributor to acute malnutrition among under-five children. While early initiation of breastfeeding, exclusive breastfeeding for 6 months and continued breastfeeding for up to 2 years are widely promoted and recommended for optimal growth in children (Goldshtein et al., 2025), several factors may have contributed to the absence of a significant relationship with acute malnutrition in this study.

Beyond 6 months, breastmilk may contribute minimally to the energy and nutritional needs that are required to prevent acute malnutrition, and at this age, the growth and development of a child rely heavily on diversified diets (Syeda

et al., 2021; Mathosi et al., 2025). Unlike chronic malnutrition, acute malnutrition, a rapid-onset condition that usually occurs over a short period of time, may be influenced more by recent dietary intake, infections, or socioeconomic factors (WHO, 2024) rather than just breastfeeding practices from infancy (Katoch, 2022; Manzoor and Saeed, 2021; Bekele et al., 2021).

This study revealed that the prevalence of acute malnutrition was significantly greater among females than among males ($p = 0.035$). This observation is consistent with other reports from Pakistan (Shahid et al., 2022), Nigeria (James, 2022), and Nepal (Hossain et al., 2020). While male children are particularly vulnerable to acute malnutrition biologically at birth (Thompson et al., 2021; Haq et al., 2022), the greater burden among females under five years of age in these studies may be attributed to cultural and social gender disparities in feeding and care-giving (Thompson, 2021). Specifically, some societies in LMICs provide preferential treatment, including food allocation to male children (Meerman and Aberman, 2024). and consequently, may predispose girl children to acute malnutrition.

This study established significant association between preterm birth ($p = 0.019$), low birth weight ($p = 0.041$), and acute malnutrition among children under five years of age. In this study, the prevalence of acute malnutrition was significantly lower among children born at full term (9.5%) than among preterm children (36.4). The prevalence was also significantly lower among children with normal birth weight (9.7%) than among children with low birth weight (37.5%). These observations supported previous African studies conducted in South Africa (Mathosi et al., 2025) and Ethiopia (Menalu et al., 2021) where children born prematurely experienced a greater burden of

acute malnutrition than did full-term children, and a study from Pakistan, where low birth weight babies had greater odds of developing acute malnutrition (Abbas et al., 2021). The increased malnutrition rate among children born before term may be due to several biological factors (Indrio et al., 2022). Preterm babies are usually born at low birth weights (Okwaraji et al., 2024) with an underdeveloped digestive system (Indrio et al., 2022). This may reduce their ability to absorb nutrients and consequently increase their vulnerability to acute malnutrition.

LIMITATIONS OF THE STUDY

This study has several drawbacks. The use of a cross-sectional design in this study may limit the ability to establish an actual cause-and-effect relationship. However, the observed associations observed in this study cannot be interpreted as causal relationships.

In the present study, edema was not considered in the definition of acute malnutrition, as the study focused only on anthropometric rather than clinical indicators. While the MUAC is sufficient for identifying acute malnutrition in population-based studies, not considering edema may limit the ability to detect some cases of severe acute malnutrition. The exclusion of children under 24 months limits the generalizability of the findings to all under-five children. The use of BMI alone for maternal nutritional status may not capture micronutrient deficiencies adequately, which is relevant to child nutrition.

CONCLUSION

In conclusion, this community-based study found that acute malnutrition remains a significant public health challenge among children aged 24–59 months in Esan West Local Government Area, Nigeria. The study identified several maternal and child factors that significantly influence acute malnutrition

in this population. The maternal factors include maternal age, marital status, and poor maternal nutritional status while the child factors included female gender, preterm birth, and low birth weight.

These findings demand the need for targeted public health interventions focusing on improving maternal nutritional status before and during pregnancy, promoting optimal care for female children, and supporting mothers facing socioeconomic challenges (e.g., single mothers) to mitigate the burden of under-five acute malnutrition in this region.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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AUTHORS' CONTRIBUTIONS

1. Jasanya, O. J contributed to study design, data collection, and manuscript drafting.
2. Jasanya, O. A assisted with data analysis and interpretation.
3. Peter, M. B supervised the study, guided data interpretation, and critically revised the manuscript for intellectual content.
4. Fasinas, S.C participated in literature review and data entry.
5. Bola-Bello, A. provided support in statistical analysis and contributed to manuscript writing.
6. Ayegbusi, B. T contributed to formatting, referencing, and final editing of the manuscript.

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