



Knowledge, Attitude, and Practice on Child Nutritional Status Among Mothers in Obio/Akpor LGA, Rivers State, Nigeria

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Article History	Abstract
Received: 23 Jun 2026 Accepted: 28 Jul 2026 Published: 03 Aug 2026	Background: Child malnutrition remains a major public health concern in Nigeria, contributing significantly to morbidity and mortality among children under five. Maternal knowledge, attitudes, and practices (KAP) are key determinants of child nutritional outcomes. Objective: This study assessed maternal knowledge, attitudes, and practices regarding child nutrition and examined the nutritional status of children aged 0–59 months in Obio/Akpor Local Government Area (LGA), Rivers State, Nigeria. Methods: A descriptive cross-sectional study was conducted among 330 mothers selected through a multi-stage sampling technique from four Primary Health Care (PHC) centers. Data were collected using a validated interviewer-administered questionnaire (reliability coefficient = 0.87). Anthropometric measurements were obtained using standard World Health Organization (WHO) procedures. Data were analyzed using descriptive statistics, Pearson correlation, and multiple regression analysis at a significance level of $p < 0.05$. Results: Mothers demonstrated moderate nutritional knowledge (mean = 2.79 ± 0.24), with gaps in portion control and food hygiene. Attitudes were generally positive (mean = 2.74 ± 0.21), with a preference for scientific guidance. Feeding practices were moderately appropriate (mean = 2.85 ± 0.43), though deficiencies existed in exclusive breastfeeding and timely complementary feeding. Most children (69.1%) had normal nutritional status; however, 14.5% were stunted, 8.2% underweight, and 5.5% wasted. A strong positive relationship was observed between maternal KAP and child nutritional status ($R = 0.921$, $R^2 = 0.848$, $p < 0.001$). Conclusion: Maternal KAP significantly influences child nutritional status. Targeted, culturally appropriate nutrition education and interventions addressing socio-economic barriers are essential to improve child nutrition outcomes in urban Nigerian settings.
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Introduction

Child malnutrition is one of the key issues of concern in the global community, especially in low- and middle-income countries (LMICs), where it is a leading cause of childhood morbidity and death (UNICEF, 2023). Nigeria experiences a stunting level of 32 percent, 7 percent wastage, and 14 percent underweight among children under the age of five years (NPC and ICF, 2019). The 1,000 first days of a child's life are a critical period of nutritional intervention due to the irreversible nature of developmental impacts on a child in case of deficits during this period (WHO, 2021).

Maternal KAP encompasses the knowledge, attitudes and practices, which are important determinants of child nutritional status. Mothers, as primary caregivers, get to make daily decisions concerning infant feeding, dietary diversity, feeding frequency, and food preparation, which directly affect child growth and development (Sulaiman et al., 2020). Indeed, as evidenced in Nigeria, good maternal knowledge correlates with the best feeding practices, such as early breastfeeding initiation, six-month exclusive breastfeeding, and timely introduction of complementary foods (Dolapo & Olanrewaju, 2021; Seun, 2022). Nonetheless, information is not always converted into the correct practices because attitudes, which are influenced by cultural beliefs, family, and socio-economic constraints, tend to mediate behavior (Awogbenja et al., 2022).

Rivers State, in the Niger Delta region of Nigeria, is a place with unique nutritional challenges that are caused by high rates of urbanization, socio-economic disparities and cultural diversity. Obio/Akpor Local Government Area (LGA) is one of the most urbanized and densely populated regions in the state, with indigenous and migrant populations which are involved in commercial and industrial activities. Child malnutrition is still present even though access to health services is relatively better than in rural regions, implying that there is a lack of knowledge among women and the use of suboptimal feeding practices.

The literature in Nigeria indicates that there is a difference in the level of maternal KAP and the its association with the nutritional outcomes of children. Sulaiman et al. (2020) found low exclusive breastfeeding and dietary diversity in Kano State, and Seun (2022) found a discrepancy between high levels of knowledge and actual feeding behaviors in Lagos State. The results of these studies underscore the difficulty in knowledge translation to practice.

Despite the evidence on the maternal KAP and child nutrition, there is a paucity of localized data on Obio/Akpor LGA. Knowledge gaps, attitudes and practices that are context-specific require understanding

to implement effective interventions. The research will thus evaluate maternal KAP in relation to child nutrition, ascertain the nutritional status of children aged 0-59 months, and also evaluate the correlation of maternal KAP with child nutrition status in Obio/Akpor LGA, Rivers State, Nigeria.

Methodology

Study Design and Setting

A descriptive cross-sectional study design was employed in this study to examine the maternal knowledge, attitudes, and practices (KAP) on child nutrition, as well as to evaluate the nutritional status of 0-59-month-old children. The research was carried out in Obio/Akpor Local Government Area (LGA) in Rivers State, Nigeria, during the period between January and March 2026. Obio/Akpor is a very city-like and populous neighborhood with a variety of socio-economic populations and many Primary Health Care (PHC) centers.

Study Population and Sampling

The population of the study was mothers whose children were aged between 0-59 months living in Obio/Akpor LGA. The Cochran formula of finite populations was used to decide on the sample size of 330 individuals based on an estimated clinic attendance of about 1,200 mothers.

A multi-stage sampling technique was employed:

- **Stage 1:** Simple random sampling (balloting) was used to select four (4) wards from the seventeen (17) wards in the LGA.
- **Stage 2:** One PHC center was randomly selected from each chosen ward.
- **Stage 3:** Proportionate allocation was used to assign approximately 83 respondents to each selected PHC center.
- **Stage 4:** Simple random sampling was used to recruit eligible mothers attending immunization and well-child clinics.

The inclusion criteria were mothers who were living in the area of the study and whose children were 0-59 months old, and informed consent had been given. Mothers who were critically ill or had cognitive impairment were excluded.

Data Collection Instruments

The structured interviewer-administered questionnaire was used to gather the necessary data in a six-section questionnaire that included the following: socio-demographic characteristics, nutritional knowledge, attitudes, feeding practices, influencing factors and anthropometric measurements. The scale was a 4-point Likert scale where items of knowledge, attitude and

practice were strongly agree (4) to strongly disagree (1). Instrument content validity was determined by expert consideration with nursing and public health experts. The test-retest method was used to determine the reliability of the instrument across 33 mothers in one of the LGAs and the correlation coefficient of Pearson was 0.87, which showed a high internal consistency.

Data Collection Procedure

The questionnaire was administered via face-to-face interviews by trained research assistants, such as nurses and local dialect speakers where needed, in English or local dialects. The anthropometric measurements were done in accordance with the standard World Health Organization (WHO) procedures. The weight was measured to the nearest 0.1 kg using calibrated digital scales, and the length (in children younger than 2 years old) or height (in children older than 2 years old) was measured to the nearest 0.1 cm using the relevant measuring boards or stadiometers. To be accurate, all measurements were repeated and averaged.

Data Analysis

IBM SPSS Statistics version 26.0 was used to analyze the data. The maternal KAP and children's nutritional status were summarized with descriptive statistics (means, standard deviations, frequencies and percentages). WHO growth standards were used to categorize the nutritional status as follows: Stunting: Z-score of height-age (HAZ) = below -2 SD. Underweight: Z-score of weight-for-age (WAZ) < -2 SD. Wasting: Z-score weight-height (WHZ) < -2 SD. To test how maternal KAP (independent variables) and child nutritional status (dependent variable) are related, inferential statistics were used (Pearson correlation and multiple linear regression analysis). The statistical significance was determined to be $p < 0.05$.

Ethical Considerations

The Research Ethics Committee of the University of Port Harcourt gave ethical approval to this study. The management of the identified Primary Health Care centers was also contacted, and permission to collect data was granted before the data was collected. Informed consent was signed by all the participants in writing after clarifying the purpose and procedures of the study.

The research was carried out in line with the ethical principles of the Declaration of Helsinki. Participants were kept confidential and anonymous by coding their identities and all data were stored safely and only accessed by the research team.

Results

Socio-Demographic Characteristics of Respondents

The study included 330 mothers. As shown in Table 3.1, the majority of respondents were aged 31–40 years (38.48%), followed by those aged 20–30 years (35.76%). The majority of the respondents were tertiary educated (60.61%), with only 2.24% having no formal education. In terms of occupation, 30.91% were self-employed, followed by 24.24% in the private sector and 14.85% unemployed. The percentage of married people was very high (67.88). Almost half of the people surveyed (49.39%) lived in 4–6 household sizes. In terms of income, 45.15% earned below ₦60,000 monthly.

Table 1: Sociodemographic Data of Mothers (n = 330)

Category	Frequency	Percentage (%)
Age (years)		
20–30	118	35.76%
31–40	127	38.48%
41+	85	25.76%
Highest Level of Education		
No formal education	8	2.24%
Primary	44	13.33%
Secondary	78	23.64%
Tertiary	200	60.61%
Occupation		
Unemployed	49	14.85%
Student	21	6.36%
Self-employed	102	30.91%
Public sector	78	23.64%
Private sector	80	24.24%
Marital Status		
Single	45	13.64%
Married	224	67.88%
Separated/Divorced	26	7.88%
Widowed	35	10.60%
Household Size		
1–3 members	78	23.64%
4–6 members	163	49.39%
7+ members	89	26.97%
Number of Children < 5 Years		
1	85	25.76%
2	143	43.33%
3+	102	30.91%
Monthly Household Income (₦)		
< 30,000	52	15.76%
30,000–59,999	97	29.39%
60,000–99,999	81	24.55%
≥ 100,000	100	30.30%

Level of Maternal Knowledge Regarding Child Nutrition

Table 2 indicates that mothers had an average level of knowledge about child nutrition, with the mean value being 2.79 with a standard deviation of 0.24. The best scores in the knowledge were in recommended daily food servings (mean = 3.14) and regular meal timing (mean = 3.14). But, the scores obtained were lower on portion control (mean = 2.61) and knowledge of iron-rich foods (mean = 2.61), which means that there are significant knowledge gaps.

Table 2: Level of Maternal Knowledge on Child Nutritional Status

No	Knowledge Item	Mean	SD
1	Importance of a balanced diet	2.51	1.00
3	Exclusive breastfeeding (first 6 months)	2.80	0.16
5	Benefits of fruits and vegetables daily	2.73	0.14
6	Differentiating healthy/unhealthy fats	2.90	0.15
8	Reading nutrition labels	3.00	0.41
9	Concept of portion control	2.61	0.01
10	Identifying symptoms of malnutrition	3.00	0.11
11	Recommended daily servings of food groups	3.14	0.32
13	Role of protein in growth and repair	2.64	0.81
14	Importance of iron-rich foods	2.61	0.01
17	Importance of regular meal times	3.14	0.32
18	Basic food hygiene and safety practices	2.64	0.41
Grand Mean and SD		2.791	0.239

Maternal Attitudes Towards Child Nutrition

The total mean score on the attitude scale was 2.74 with a standard deviation of 0.21 signifying a general positive inclination towards child nutrition practices (Table 3). The respondents were very keen on scientific principles as opposed to traditional beliefs (mean = 3.10). Nonetheless, the moderate agreement with family influence (mean = 2.83) indicates that cultural factors continue to affect the attitudes.

Table 3: Attitudes of Mothers Towards Child Nutrition

No	Attitude Statement	Mean	SD
1	Exclusive breastfeeding is the best practice	2.51	0.11
2	Early water/herbal drinks harm baby's health	2.71	0.12

3	Essentiality of animal-source foods	2.60	0.76
5	Family (e.g., mother-in-laws) know better than professionals	2.83	0.14
6	Balanced diet is too expensive/unnecessary	2.70	0.15
7	Nutrition plays key role in physical/mental development	2.81	0.25
8	Willingness to invest/spend more on nutrition	3.00	0.31
10	Preference for scientific guidelines over traditions	3.10	0.11
Grand Mean and SD		2.739	0.211

Child Feeding Practices Adopted by Mothers

According to Table 4, there were moderate appropriate feeding practices, with a mean score of 2.85 with the standard deviation of 0.43. Some of the positive practices were following consistent meal schedules (mean = 3.10) and the desire to eat homemade meals (mean = 3.12). There were, however, low scores in exclusive breastfeeding (mean = 2.91) and timely initiation of complementary feeding (mean = 2.81).

Table 4: Child Feeding Practices Commonly Adopted

No	Feeding Practice	Mean	SD
1	Exclusive breastfeeding for the first 6 months	2.91	0.31
2	Introduction of solids at 6 months	2.81	0.12
5	Introduction of water/herbal drinks before 6 months	2.63	0.24
6	Feeding based on a routine/set meal times	3.10	0.85
8	Avoiding sugary foods and drinks	3.10	0.71
9	Following advice of health workers	2.51	0.61
10	Preference for homemade meals over processed foods	3.12	0.71
Average Mean and SD		2.851	0.431

Nutritional Status of Children (0–59 months)

Table 5 provides the nutritional assessment, which reveals that 69.1% of children were in normal nutritional status. Nevertheless, 14.5% were stunted, 8.2% were underweight, and 5.5% were wasted. Only a very small percentage (2.7%) was overweight. Table 3.5: Child Nutritional status (n = 330).

Table 5: Nutritional Status of Children (n = 330)

Indicator	Frequency	Percentage (%)
Normal nutritional status	228	69.1%
Stunted (HAZ < -2 SD)	48	14.5%
Underweight (WAZ < -2 SD)	27	8.2%
Wasted (WHZ < -2 SD)	18	5.5%
Overweight (WHZ > +2 SD)	9	2.7%

Relationship Between Maternal KAP and Nutritional Status

Table 6 indicates a positive relationship between child nutritional status and maternal KAP ($R = 0.921$). The coefficient of determination ($R^2 = 0.848$) shows that maternal knowledge, attitudes and practices can explain 84.8 percent of the variation in child nutritional outcomes.

Table 6: Regression Model Summary

Model	R	R Square	Adjusted R-Square	Std. Error
1	0.921	0.848	0.784	10.52176

Discussion

The research paper focused on the maternal knowledge, attitudes and practices (KAP) of child nutrition and how it relates with the nutritional status of children at the age of 0-59 months old in Obio/Akpor LGA, Rivers State. The results suggest that the levels of maternal KAP are moderate, with gaps in the most important areas that can be identified, and maternal KAP has a strong correlation with child nutritional outcomes.

This study found that the maternal nutritional knowledge was moderate (mean = 2.79 ± 0.24), which agrees with other studies that were carried out in Nigeria. As an example, Seun (2022) achieved quite high scores in nutritional knowledge of mothers in Lagos State, and Dolapo and Olanrewaju (2021) also noted the moderate scores in Ogun State. The current study, however, has determined that there are very serious gaps in the practical sides of nutrition especially on portion control and knowledge on iron rich foods. These gaps indicate that general awareness on nutrition exists, but lacks more specific and practical knowledge on how best to feed the children. The identification highlights the importance of more practical and skills-based nutrition education in primary health care environments.

The maternal feelings towards child nutrition were mostly positive (mean = 2.74 ± 0.21) and a significant preference was observed towards scientific advice rather than traditional beliefs. This indicates that there is a greater acceptance of modern health information by mothers in urban areas. Nonetheless, the fact that the family members, especially the older ones, continue to influence the decision-making process of the mother suggests that cultural norms remain an important factor

in the decision-making process of mothers. Awogbenja et al. (2022) also found similar results, observing that the socio-cultural factors tend to mediate the knowledge-into-practice translation process. As such, interventions that seek to enhance child nutrition must not only focus on mothers but also include the important family members who can affect feeding choices.

The results of child feeding practices reported a moderate degree of compliance with the recommended practices (2.85 ± 0.43). Good habits like frequent eating schedules and the choice of homemade meals were motivating. Nonetheless, exclusive breastfeeding and timely complementary feeding were found to be practiced in an inoptimal way. The results are aligned with national and regional research, which revealed low compliance with the best practices in infant feeding even among people who are well aware of them (Sulaiman et al., 2020). The introduction of water or herbal beverages at a tender age, as seen in this research, is a sign of consistent cultural practices that are not in line with the guidelines. This shows that there is a very essential disparity between knowledge and real behavior and therefore behavior-oriented interventions.

The nutritional status examination indicated that most of the children (69.1%) were of normal nutritional status, although a large percentage were stunted (14.5%), underweight (8.2%), or wasted (5.5%). Stunting is not as high as the national data that is reported by NPC and ICF (2019), but it is still concerning because it is a sign of chronic undernutrition. The comparatively low levels of malnutrition in the city compared to the countryside can be explained by the ease of accessing health services and food markets in cities. But the fact that a large percentage of children (2.7) are overweight, indicates the developing dual malnutrition trap, which is becoming more evident among urban populations.

The first notable observation made in this study is that there is a strong positive relationship between maternal KAP and child nutritional status ($R = 0.921$, $R^2 = 0.848$). This demonstrates that child nutritional outcome variation is significantly explained by maternal KAP. The result is in line with the existing literature that has indicated the strong role of maternal knowledge and practices in defining the outcomes of child health (Nafista et al., 2023; Dolapo and Olanrewaju, 2021). The strong explanatory power, which is found in this study,

implies that enhancing maternal KAP may play a key role in curbing malnutrition in children.

Moreover, it was discovered that socio-cultural and economic aspects played a significant role in maternal KAP. Cultural beliefs (mean = 3.55) and economic constraints (mean = 3.41) were found as significant obstacles to the best feeding practices. The results are consistent with the available literature, which puts emphasis on the importance of poverty, food insecurity, and cultural norms in the determination of nutritional behaviors. These structural barriers must be addressed to have sustainable improvement in child nutrition. Economic empowerment strategies and culturally sensitive education programs should thus be included in the interventions.

Conclusion

This study assessed maternal knowledge, attitudes and practices (KAP) in child nutrition and nutritional status of children aged 0-59 months in Obio/Akpor LGA, Rivers state. Results indicated moderate level of KAP having the gaps in portion control, food hygiene, exclusive breast feeding and timely complementary feeding. Most children were in normal nutritional condition, but the presence of stunting, underweight and wasting shows that there are persistent nutritional problems.

The high positive correlation between maternal KAP and child nutritional status shows the significance of maternal behavior in the determination of child health outcomes. Socio-cultural factors, as well as economic limitations, however, restrict optimal feeding practices.

To enhance child nutrition, specific, culturally relevant, and practical measures should be implemented to put knowledge into practice. The long-term solutions to improve child nutrition are strengthening nutrition education at the primary health care level, including family members, and tackling the economic barriers.

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