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Infant and Young Child Feeding Practices among mothers of under-two years in a Community in Akwa Ibom State, Nigeria

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Abstract

Background: Infant and Young Child Feeding (IYCF) practices are essential to the survival and healthy development of children below 24 months of age. Poor IYCF practices contribute to malnutrition and child mortality, particularly in low- and middle-income countries. This study aimed to describe IYCF practices and determinants of good practices in a community in Akwa Ibom State, Nigeria.
Methods: A community based descriptive cross-sectional study was carried out among 193 mother-child pairs aged 0–23 months. Data was collected using a self-administered structured questionnaire and were analyzed using descriptive statistics, chi-square tests, and multi-variable logistic regression.
Results: Only 30.6% of the 49 infants aged 0-5 months received exclusive breastfeeding. Among 144 children aged 6-23 months. 61.1% met minimum dietary diversity, 58.3% and 57.6% met minimum meal frequency and minimum acceptable diet (MAD) respectively. Overall, 50.6% of the 193 mothers had good IYCF practices. Significant factors associated with good practices were; caregiver's age, education, marital status, household income, and age of the child ($p < 0.05$). Children aged 6–8 months (aOR; 5.08, $p = 0.003$) and 9–11 months (aOR; 3.54. $p=0.016$) had higher odds of MAD than infants age 0-5 months.
Conclusion: Complementary feeding practices in this community surpasses the national figure, but exclusive breastfeeding rates remain low. Sociodemographic characteristics and income of the caregiver significantly influence IYCF behaviors. Community targeted interventions such as counselling through support groups, maternity protection, and income support may improve IYCF practices especially exclusive breastfeeding.

Keywords: IYCF, Practices, Determinants, Akwa Ibom

Introduction

Infant and Young Child Feeding (IYCF) practices, particularly in the first two years of life, are essential to achieving optimal growth, health, and development in children. The World Health Organization recommends early initiation of breastfeeding, exclusive breastfeeding for the first six months, and safe complimentary age-appropriate meals with continued breastfeeding to at least two years[1,2].

Globally, about 44% of 0-6 months are exclusively breastfed, and less than 25 % of 6-23 months in most countries meet the criteria for minimum acceptable diet. This poor feeding practices is responsible for the significant burden of child malnutrition which leads to irreversible deficits in cognitive development and future economic productivity, susceptibility to infections and mortality[2,3,4]. It is estimated that poor feeding practices contribute to approximately 45% of deaths among children under the age of five[5].

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Despite the introduction of several national health policies and nutrition interventions[6], Nigeria continues to struggle with poor child nutrition indicators, for instance Exclusive breastfeeding (EBF) rate has remained at 29% from 2018-2023[7,8], minimum acceptable diet (MAD) 11%[8].

In Akwa Ibom State, Multiple indicator cluster

(MIC) survey of 2021 reported EBF rate of 18.4%[9], which is below the national averages of 29% of the 2018 national demographic and health survey (NDHS)[7] and MIC survey[9]. Only 8% of children aged 6–23 months received a (MAD) in 2018[7] and 12.9% in 2021[9]. Additionally, about 20% of children were stunted, 4.2% were wasted, and 9% were underweight, these figures are better than national average as stated in the NDHS 2018[7]. This malnourished children are at risk of dying before the age of 5 years, living with poor intelligent quotient and also prone to chronic diseases later in Life[2].

These findings suggest that many children in Akwa Ibom state are not receiving adequate nutrition during the critical early years of life. The contextual factors influencing the feeding behaviour include maternal knowledge, poor access to health care and cultural beliefs, limited access to diverse food[10].

While national surveys such as the Nigeria Demographic and Health Survey (NDHS) provide important data, they often lack the detailed information needed to guide state-level interventions. This study will bridge the evidence gap in IYCF practices in a typical community of Akwa Ibom state. The findings of the study will guide the community leaders, health workers and other stakeholders in developing a tailored interventions that can improve IYCF practices and invariably the child health outcomes in the community and by extension in the state. Understanding the current realities of these feeding practices is not just an academic exercise; it's crucial for safeguarding the health and future of the state's next generation.

This study aimed to determine the exclusive breastfeeding rate of children 0-5 months, describe the IYCF feeding practices and identify factors associated with appropriate feeding practice among children 0-23 months in a community in Uyo LGA of Akwa Ibom State.

Materials and Methods

This study was conducted in Obio offot, a community located in ward 6 in Uyo Local government of Akwa Ibom State in the Niger delta region of Nigeria. The community has a population of 4,252 and 1,319 households, from the household listing exercise that was carried out. The community is about 5-7km away from the University of Uyo teaching hospital, a 500 bed tertiary health facility that offers specialized care to the state and its environs. There is a level 2 primary health facility serving the community and the entire ward and there is a good network of roads connecting the community to the state's world class stadium and Federal secretariat .

A community-based descriptive cross sectional study was carried out among all mother-child pairs (0-23 months). A total of 196 mothers were identified following the household listing exercise and 193 were recruited into the study. The others were not available during the exercise or refused to give consent.

A questionnaire was adapted from the tool used in the assessment of IYCF practice designed by Federal ministry of health for routine data collection. It had 29 items questions across different sections of socio-demographic characteristics of the mother and child, feeding practices and hygiene. The tool was interviewer administered by trained final year medical students to the mothers in the community from house to house, lasting over a period of three weeks.

The data was analysed using STATA version 14[11]. Categorical variables were summarized using frequencies and percentages and continuous variables using appropriate measures of central tendency and measures of dispersion. Relationship was determined using chi square at 5% level of significance.

The outcome variables were; the proportion of children 0-5 months who are on exclusive breastfeeding, proportion of children 6-23 months who are still on breastfeeding, proportion of children 6-23 months with minimum dietary diversification (at least 5 of the 8 classes in the last 24 hours), proportion of children 6-23 months with adequate complementary feeding for his/her age (meal-frequency) as shown below;

Proportion of children 6-23 months who had adequate meal frequency for his/her age and also

Table 1: Meal frequency for 6-23 months based on breastfeeding status

Age in months	Meal frequency	Breastfeeding status
6-8	3	Still breastfeeding
9-23	4	Still breastfeeding
6-8	4 (including milk/yogurt)	Not breastfeeding
9-23	5 (including milk/yogurt)	Not breastfeeding

has the minimum dietary diversification is said to meet Minimum acceptable diet (MAD).
Good IYCF practice consists of children 0-5 months who were on exclusive breastfeeding, and children 6-23 with MAD
Ethical consideration: The ethical committee of the University of Uyo Teaching Hospital gave ethical clearance and written informed consent was received from the caregivers before the commencement of the research.

Results

A total of 193 mother-child pairs were recruited into the study. Table 2 shows that the mean age of caregivers was 28.9±6.1 years, and the majority were married (80.3%) with secondary or tertiary education (44.6% and 46.1%, respectively). Most caregivers were traders (38.3%) or artisans (17.1%), and 52.3% of the children were male. The median age of the children was 10 month with IQR of 5-14 months. About 25% (49/193) of the children were below 6 months, 32.6% were between 6 and 11months and 42% (81/193) between 12 to 23

Table 2: Socio demographic characteristics of the respondents

Socio demographic characteristics	Frequency (n=193)	Percentages
Age of the caregiver (years)		
Less than 20	13	6.7
20-29	95	49.2
30-39	77	39.9
40 and above	8	4.2
Mean (SD)= 28.9 (6.1)		
Marital status		
Single	36	18.7
Married	155	80.3
Previously married	2	1.0
Level of education		
Primary	18	9.3
Secondary	86	44.6
Tertiary	89	46.1
Occupation		
Students/Apprenticeship	30	15.5
Trader	74	38.3
Farmer	31	16.1
Artisan	33	17.1
Unemployed	14	7.3
Others	11	5.7
Sex of the child		
Male	101	52.3
Female	92	47.7
Age of children (months)		
0-5	49	25.4
6-8	30	15.5
9-11	33	17.1
12-23	81	42.0
Median age (IQR)= 10 (5-14)		

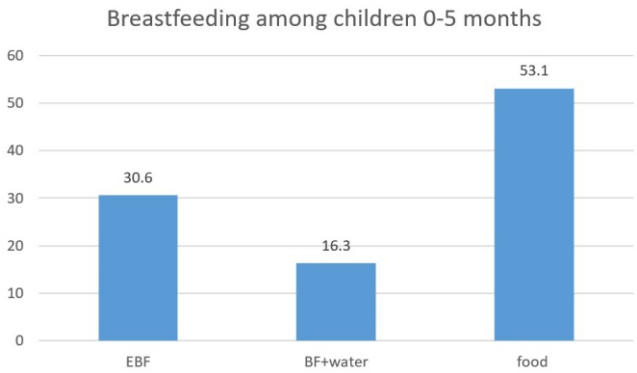

Fig. 1 Bar chart showing the proportion of 0-5 months on exclusive breastfeeding, breast feeding with water only and breastfeeding with food and water (BF=breastfeeding)

Table 3: Month at which complementary feeding was introduced to children 6-23 months

Month	Frequency (n=144)	Percentage
1	26	18.0
2	25	17.4
3	23	16.0
4	18	12.5
5	21	14.6
6	16	11.1
7	9	6.2
Not yet introduced	6	4.2

Table 4: Frequency distribution of type of complementary diet received by children 6-23 months in the last 24 hours

Types of Complementary food	Frequency (n=144)	Proportion
Cereals/tubers	139	96.5
Fish/meat	123	85.4
Legumes and nuts	121	84.0
Milk yoghurt and cheese	95	66.0
Green leaves and Vitamin A fruit	99	68.8
Eggs	87	60.4
Other fruits and vegetables	85	59.0
Continue breastfeeding	82	56.9
At least five different classes (minimum dietary diversification)	88	61.1

Table 5: The percentages of 6-23 children who were still on breastfeeding and on appropriate complementary feeding

	Frequency (n=144)	Percentage
Proportion of children 6-23 months still on breastfeeding	82	56.9
Proportion of children 6-23 months on regular feeding	84	58.3
Proportion of children on MAD IYCF 6-23 months	83	57.6
	Frequency (n=193)	
Proportion of infants and young child on good IYCF practices (0-23 months)	98 (83+15)	50.8

Table 6: Factors associated with the uptake of minimum acceptable diet among children 0-23 months

Factors	IYCF practices n (%)		Total (n=193)	Statistical Indices
	Good (n=98)	Poor (n=95)		
Age of the caregiver (years)				
Less than 20	2 (15.4)	11 (84.6)	13 (6.7)	Df=3
20-29	42 (44.2)	53 (55.8)	95 (49.2)	P value=0.002+*
30-39	50 (64.9)	27 (35.1)	77 (39.9)	
40 and above	4 (50.0)	4 (50.0)	8 (4.2)	
Marital status				**Df=1**
Single	9 (23.7)	29 (76.3)	38 (19.6)	X^2 =13.8959
Married	89 (57.4)	66 (42.6)	155 (80.3)	P value <0.0001+*
Level of education				Df=3
Primary	8 (44.4)	10 (55.5)	18 (9.3)	X^2=9.8892
Secondary	34 (39.5)	52 (60.5)	86 (44.6)	P value=0.007*
Tertiary	56 (62.9)	33 (37.1)	89 (46.1)	
Occupation				
Students/Apprenticeship	19 (43.2)	25 (56.8)	44 (22.0)	Df=5
Trader	41 (55.4)	33 (44.6)	74 (38.3)	P value=0.730
Farmer	15 (48.4)	16 (51.6)	31 (16.1)	
Artisan	18	15 (45.5)	33 (17.1)	
Others	5 (45.5)	6 (54.5)	11 (5.7)	
Household income (Naira)				
Less than 30,000	19 (29.7)	45 (70.3)	64 (33.2)	Df=2
30,001-100,000	68 (61.8)	42 (38.2)	110 (57.0)	X^2 =17.1391
Above 100,000	11 (57.9)	8 (42.1)	19 (9.8)	P value<0.0001*
No of older Children				Df=2
None	44 (57.1)	33 (42.9)	77 (39.9)	X^2 =3.7411
1-2	39 (43.3)	51 (56.7)	90 (46.6)	P value=0.154
3 and above	15 (57.7)	11 (42.3)	26 (13.5)	
Sex of the child				Df=1
Male	54 (53.5)	47 (46.5)	101 (52.3)	X^2 =0. 6126
Female	44 (47.8)	48 (52.2)	92 (47.7)	P value=0.434
Age of the child (months)				
0-5	15 (30.6)	34 (69.4)	49 (25.4)	Df=3
6-8	20 (66.6)	10 (33.3)	30 (15.5)	X^2 =12.4505
9-11	20 (60.6)	13 (39.4)	33 (17.1)	P value=0.006*
12-23	43 (53.1)	38 (46.9)	81 (42.0)	

* significant P value; df=degree of freedom

months.

Fig.1 shows that 30.6% (15/49) of children 0-5 months were currently on exclusive breastfeeding and the rest had introduced water only or water and food. At first month of life 18% of the caregivers had introduced water and/or home-based meals at 4 months not less than 60% were on complimentary diet (Table 3).

Table 4 shows that cereals/tubers were the most common type of complimentary food given by the care givers 96.5%, followed by fish/meat (85.4%) and legumes/nuts (84.0%), and about 60% of the children were still on breastfeeding. Adequate meal frequency was seen in 58.3% and 61.1% met the minimum dietary diversification. Good practice of IYCF was seen in 50.8% (98/193) of mothers practicing exclusive breastfeeding and those who provided MAD. (Table 5)

Good practice of IYCF was significantly associated with caregiver's age (p=0.002), marital status (p<0.0001), education (p=0.007), income (p<0.0001), and child age (p=0.006). Children aged 6–8 months (aOR: 5.08, p=0.003) and 9–11 months (aOR: 3.54, p=0.016) were significantly more likely to meet MAD compared to 0–5 months based on the result in tables 6 and 7.

Discussion

The study revealed that infant and young child feeding practices in this community were relatively better than the national averages. The good practices in the community included continuity of breastfeeding between 6 and 23 months, the minimum meal frequency for age, and MAD in 6-23 months. However, the practice of exclusive breastfeeding rate in the community with early introduction of food and water is a poor practice.

The proportion of infants aged 0–5 months exclusively breastfed (30.6%) is similar to the national average (29%) reported in the 2018 NDHS[7] but far below the global target of 50% by 2025[12]. The EBF in this study is far below 42% which was previously reported in some facility based studies in Uyo[13] and Ogbomoso[14]. This low figure may be attributed to cultural beliefs favoring early water or food introduction, misconceptions about breast milk alone not being sufficient to sustain the child, or inadequate maternal counseling[10]. Early introduction of complementary feeding was evident, with only 11.1% initiating it at the recommended 6 months. This is quite low compared to 24.7% that was reported in a community in Cross River state[15], and the 51% reported in Ijebu ode south west Nigeria[16]. This poor practice undermines the nutritional and immunological benefits of exclusive breastfeeding[2].

Twenty hour dietary recall among 6-23 months showed there was a higher consumption of staple foods like cereals/tubers/grains in about 97% of the children, followed by fish/meat in 85% of cases. A 24-hour recall in a similar study in the south western part of Nigeria, reported 93% to have consumed tuber/grains, followed by diary products in 51% of cases[16]. The intake of eggs (60.4%). Non Vitamin A rich fruits and vegetables (59%) is relatively low in this study and raises concern for micro nutrient deficiencies.

About 61% of the children 6-23 months achieved the minimum dietary diversity (MDD), while more than half of the respondents met the minimum meal frequency and MAD requirement. A facility based study in south western Nigeria, reported similar MAD of 57.6%, but the MDD is higher than the one in this study[17], being a tertiary facility the participants do not reflect the picture at the community. Though the MAD in this study is higher than the NDHS national average of 11%[7], the analysis of 2021 multiple indicator survey data, reported a national average of MAD of 59% and 61.8% as south -south regional average[18], which are both higher that the 57.6% seen in this study. This shows an obvious increase in the proportion of MAD from 2018 to 2021 suggesting better complementary feeding practices, possibly owing to increase in awareness and availability of various food groups.

Significant associations were found between good IYCF practice and key socio-demographic variables such as caregiver's age, marital status, education level, household income, and child age. Older caregivers (30–39 years), married women, and those with tertiary education were more likely to provide minimum acceptable diets. This aligns with previous studies indicating that maternal education and socioeconomic status play a crucial role in determining child nutrition outcomes[4,19] Household income have a very strong relationship with good practice suggesting the importance of economic empowerment in promoting food security and dietary adequacy.

Interestingly, logistic regression identified the age of the child as a significant predictor of good IYCF practices. Children aged 6–8 months and 9–11 months were significantly more likely to benefit from good practice than those aged 0–5 months. This is similar to the findings reported in a study across four west African countries[20] This further strengthen the fact that the feeding practice for children 0-5 months is poor owing to the low EBF rate; however, sustaining appropriate feeding up to 23 months remains essential.

Although factors like occupation and sex of the child were not statistically significant, the trends suggest potential underlying influences worth exploring further using a qualitative research approach. Notably, many children did not meet both minimum diet diversification and meal frequency requirements, highlighting the gap between knowledge and practice among caregivers.

This study completely depended on the ability of the caregivers to recall various practices prior to the study and there are no means to verify the information given. The factors assessed in this study are not comprehensive enough, additional research will be necessary to explore other possible factors

In conclusion, these findings underscore the importance of targeted nutrition education on; promotion of exclusive breastfeeding, delayed introduction of complementary feeding until six months, and interventions to improve diet quality. Strengthening community-based IYCF counseling through support groups, integrating livelihood support for mothers of children under-2, and addressing sociocultural barriers could help improve nutritional outcomes.

Conflict of Interest: There is no conflict of interests.

Author's Contributions:

MO, AO conceptualize the study, UV, OF, AU did literature review, AI, AE AO designed the questionnaire, all authors administered the questionnaires, MO, AO, EA undertook data analysis and result interpretation, MO developed the final draft and all authors approved of the final copy.

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