

Child Feeding Practices and Nutritional Outcomes of 0-23 Months Children in Three Local Government Areas of Ibadan, Nigeria

***Adepoju O.T. and Adejare A.A.**

Department of Human Nutrition and Dietetics, Faculty of Public Health, College of Medicine. University of Ibadan, Ibadan, Oyo State, Nigeria.

*Corresponding author: tholadejo@yahoo.com Phone number: 08033257333

ABSTRACT

Background: Poor infant feeding practices significantly impact infant and young child survival and nutritional status.

Objective: The study investigated under-two-year-old child feeding practices and nutritional outcomes in three Local Government Areas (LGAs) of Ibadan, Nigeria.

Methodology: The descriptive cross-sectional study involved the selection of participants from Egbeda, Ona-Ara, and Ibadan North LGAs using an interviewer-administered questionnaire to obtain information on sociodemographic characteristics, knowledge and practice of infant and young child feeding (IYCF), and child anthropometry using Kobo Collect. Data was analyzed using descriptive statistics, Chi-square test, and WHO-Anthro at $p < 0.05$.

Results: Mothers' mean age was 29.6 ± 6.2 years, 93.5% were Yoruba, 83.3% had at least secondary education. Most (96.8%) were married, 88.2% reported being aware of IYCF practice, and 99.7% reportedly breastfed their index child. Many (43.1%) infants were breastfed within one hour, 38.1% within 24 hours, and 18.7% after 24 hours of birth. Early breastfeeding initiation was higher in Ibadan North (45.2%) compared with Ona-Ara (42.2%) and Egbeda (42.0%) LGAs. Overall, 23.7% of infants were fed something other than breast milk, 52.6% mothers started complementary feeding by 6 months, while 22.9% started before 6 months. There was no significant association between IYCF component practice and underweight ($p > 0.05$). Children bottle-fed before 6 months were 2.12 times more likely to be stunted (OR 2.12; 95% CI 1.039 – 4.315).

Conclusion: Participants' knowledge of infant and young child feeding practices was high, but compliance was poor. An enlightenment programme targeted at promoting early breastfeeding initiation and exclusive breastfeeding is needed in the study area.

Keywords: Child feeding practices, Breastfeeding initiation, Exclusive breastfeeding, Nutritional outcomes.

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INTRODUCTION

In many developing countries of the world, mothers' low knowledge and information regarding food choices, feeding, and healthcare-seeking practices have a significant impact on their children's nutritional outcomes. Poor infant feeding practices, such as late breastfeeding initiation, less than six months of exclusive breastfeeding, and insufficient complementary feeding from six months to 24 months, have a

significant impact on infant and young child survival, growth, and development, nutritional status, morbidity, and mortality (1).

Infant and Young Child Feeding (IYCF) practices in Nigeria are still below expected levels despite several national and sub-national initiatives that have been put forth to promote, safeguard, and support optimal IYCF practices, as well as numerous amendments and improvements in national legislation, responses from the health

system, and community-level development. To improve Nigerian mothers' existing feeding habits, community and facility-based participation, as well as wider standalone/integrated IYCF policy implementations are important (2). More than 80% of newborns do not receive colostrum and milk within one hour of birth; only 27% of 0–5 month infants are exclusively breastfed, and thus, majority of the children are introduced to complementary foods before the age of six months, earlier than the WHO/UNICEF recommendation that mothers exclusively breastfeed their children, thereby predisposing these children to unhygienic feeding conditions and illness vulnerability (3).

The National Demographic and Health Survey data from 2013 to 2018 show that stunting has followed a similar pattern and has increased from children less than 6 months to 24-35 months and declined in children 48-59 months. The prevalence of stunting increased from 15.7% among children less than 6 months to 41% among children 18-23 months and to a peak of 45.7% among children aged 24-35 months, which declined to 37.3% among children 48-59 months (4). Similarly, it increased from 19% among children less than 6 months to 42.1% in children 18-23 months and to a peak of 47% among children aged 24-35 months, which declined to 35% among children 48-59 months in 2018. This trend has clearly shown a gap in the transition between the period of breastfeeding and the pre-school age (5). Mothers' nutrition and health knowledge is very helpful in protecting young children from situations that can negatively affect their height and weight scores, such as diarrhoea episodes (brought about by poor hygiene) and early introduction of liquids other than breastmilk to young children, poor complementary feeding, and more under-fives per mother due to limited knowledge of family planning methods (6). It has been reported that pre-lacteal feeds were given to one in every four infants, and honey, brown sugar from sugarcane, clarified butter, leaf/root extracts, and other traditional drinks are examples of pre-lacteal feeds given to newborns apart from breast milk before breast-feeding is established or before breast milk comes in, usually on the first day of life (7, 8).

Maternal education is considered to have an impact on the quality of care provided to children, the acquisition of important skills and their right implementation, the appropriate use of health

services, and the ability to maintain a clean and healthy environment. Educated women were said to engage more successfully in their surroundings to ensure proper care and fundamental needs are met (9). In Nigeria, primary education does not include a component of public health nutrition, but courses on nutrition are included in junior secondary curricula. More than half of women in rural Nigeria never attended school, and a higher percentage of girls drop out before they turn 15 years old, depriving them of the fundamental knowledge of health and nutrition (10). A facility-based study conducted in Ibadan North Local Government Area of Oyo State to check whether mothers' knowledge and practice of child survival strategies affect the nutritional status of their children found that 77% mothers had knowledge of exclusive breastfeeding while 67.5% practiced it (11). Children who were exclusively breastfed were 6.7 times less likely to become obese than children who were not exclusively breastfed, whereas children who resided in urban LGAs were 2.7 times more likely to be obese or overweight than those who lived in rural LGAs (12).

Long-established social norms and cultural values, some of which are detrimental to the nutritional status of children, particularly those under the age of five, dictate infant and childcare practices in various States across the country; and in the Northern part of the country, despite the fact that more educated women had their children immunized more than less educated women, the educational position of the mothers did not appear to influence the health status of the children (13). The understanding of the underlying mechanisms of the association between maternal characteristics, especially education and use of nutrition education, may inform educational programmes that can improve infant and young child feeding in Nigeria. This study was carried out to investigate maternal characteristics and ability to effectively employ appropriate infant and young child feeding practices and their association with nutritional outcomes of under-two children in two peri-urban and one urban Local Government Area of Oyo State, Nigeria.

METHODS

A cross-sectional study showing mothers/caregivers with children aged 0 to 23 months was carried out in Egbeda, Ona-Ara (both peri-urban), and Ibadan North Local Government Areas of Ibadan. A total of 600 mother-child pair respondents with at least 40 respondents per

ward were recruited using a three-stage cluster random sampling technique. A validated, semi-structured, interviewer-administered questionnaire was administered using the Kobo Collect App on smartphones and tablets to collect information on socio-demographic characteristics, infant and young child feeding knowledge and practices among mothers, maternal Body Mass Index (BMI), and Minimum Dietary Diversity for Women (MDDW).

The length and weight of recruited children were taken using the Seca length-board and weighing scale for children, respectively, while mothers' height and weight were taken for the determination of Body mass index (BMI) using a stadiometer and bathroom scale, respectively (14, 15), and interpreted as:

Underweight: BMI < 18.5 Kg/m², Normal weight: 18.5 Kg/m² – 24.9 Kg/m², Overweight: ≥25 Kg/m² to ≤ 30 Kg/m²; Obese: BMI ≥ 30 Kg/m².

The feeding practice indicators developed by WHO were used to assess infant and young child feeding practices.

An interview with the mothers of index children was conducted at their home to ensure privacy, using the feeding practice indicators developed by WHO to assess IYCF practices. Optimal feeding practice was assessed through compliance with WHO recommended practices such as timely initiation, introduction of complementary food at six months, minimum meal frequency (three meals/day and four times/day for children aged 6-8 months, and 9 months and above respectively), and minimum meal diversity (four or more food groups within 24 hours) (14, 15).

Ethical approval for the study was obtained from the University of Ibadan/University College Hospital Institution Ethics Review Board (Approval number: UI/EC/23/0023). Permission and consent were sought from the Ministry of Health and the Primary Health Centres in the selected wards at the points of entry to the communities.

Data was summarized and analyzed using descriptive statistics, regression analysis, and the Chi-square test. All statistical analyses were performed using STATA (version 16.0) and a significance level set at $p < 0.05$.

RESULTS

Maternal characteristics

The characteristics of mothers of children 0–23 months in the selected LGAs are shown in Table 1.

The overall mean age of participants was 29.6 ± 6.2 years (Egbeda 30.3 ± 6.2 , Ona-Ara 28.8 ± 6.1 , Ibadan North 29.5 ± 6.2 years). Most (93.5%) of the respondents were Yoruba, 63.2% completed secondary school, 20.2% had tertiary education, 14.8% completed primary school education, and 1.8% had no formal education. Almost all (96.8%) respondents were married, and 90.2% lived with their husbands. More than half (54.04%) of the husbands completed secondary education, 34.6% had tertiary education, 8.8% had primary education, while 2.6% had no formal education. More than half (54.0%) of the respondents were Muslim, while 46.0% were Christian. The majority (61.3%) of the respondents had a family size of 4–6 members, while 31.8% had 1–3 people. 95.3% were self-employed, 3.0% were civil servants, while 1.7% were full-time housewives. Half (51.3%) of the participants earned between ₦21000 - ₦50000, 19.8% earned ₦51000 - ₦80000, 17.5% earned > ₦80000.

One-tenth (11.5%) of the participants consumed 2–4 food groups, 60.5% consumed 5–7 food groups, while 28.0% consumed 8 or 10 food groups. About ten percent (10.5%) of the mothers were underweight, 59.0%, 19.7% and 10.8% had normal weight, overweight, and obese, respectively.

Infant feeding knowledge of mothers

Table 2 shows the information on infant feeding knowledge of mothers with children 0–23 months. Most mothers (88.2%) have heard about infant and young child feeding practices, and their major source of information was from antenatal clinics/hospitals. Most mothers (91.5%) from the three LGAs attended antenatal clinics, 76.0% attended weekly, while 23.7% attended once a month. The majority (63.0%) of the participants accepted that infants should be given colostrum, 16.0% said that infants should not be given colostrum, while 21.0% declared that they did not know whether infants should be given colostrum or not.

Also, 78.3% respondents knew that a newborn baby should be put to the breast within one hour after birth, 6.0% knew that infants should be breastfed after one hour, 9.8% agreed to 24 hours after birth, while 3.2% did not have an idea. Most (88.3%) knew that infants should be breastfed exclusively for six months, 5.6% mentioned five months and below while 4.0% did not know at all.

Table 1a: Characteristics of mothers of children 0–23 months and children in the selected LGAs

Maternal Characteristics	Egbeda 200 (%)	Ona-Ara 200 (%)	Ibadan-North 200 (%)	Overall 600 (%)
Age (years)				
16-25	49 (24.5)	69 (34.5)	64 (32.0)	182 (30.3)
26-35	107 (53.5)	101 (50.5)	99 (49.5)	307 (51.2)
36-46	44 (22.0)	30 (15.0)	37 (18.5)	111 (18.5)
Mean age	30.3 ± 6.2	28.8 ± 6.1	29.5 ± 6.2	29.6 ± 6.2
Level of education				
Completed Primary school	16 (8.0)	40 (20.0)	33 (16.5)	89 (14.8)
Completed Secondary school	120 (60.0)	143 (71.5)	116 (58.0)	379 (63.2)
Tertiary Institution	63 (31.5)	15 (7.5)	43 (21.5)	121 (20.2)
No education	1 (0.5)	2 (1.0)	8 (4.0)	11 (1.8)
Ethnic group				
Hausa	-	-	15 (7.5)	15 (2.5)
Igbo	6 (3.0)	1 (0.5)	12 (6.0)	19 (3.2)
Yoruba	191 (95.5)	199 (99.5)	171 (85.5)	561 (93.5)
Others	3 (1.5)	-	2 (1.0)	5 (0.8)
Marital status				
Single/unmarried	5 (2.5)	-	4 (2.0)	9 (1.5)
Married	188 (94.0)	199 (99.5)	194 (97.0)	581 (96.8)
Separated/Divorced	5 (2.5)	1 (0.5)	1 (0.5)	7 (1.2)
Widowed	2 (1.0)	-	1 (0.5)	3 (0.5)
Lives with the husband				
Yes	162 (86.2)	184 (92.5)	178 (91.8)	524 (90.2)
No	26 (13.8)	15 (7.5)	16 (8.3)	57 (9.8)
Gender of children				
Male	107 (53.50)	101 (50.50)	88 (44.00)	296 (49.33)
Female	93 (46.50)	99 (49.50)	112 (56.00)	304 (50.67)
Age (months)				
0-5	44 (22.00)	42 (21.00)	46 (23.00)	132 (22.00)
6-11	44 (22.00)	53 (26.50)	61 (30.50)	158 (26.33)
12-17	44 (22.00)	54 (27.00)	39 (19.50)	137(22.83)
18-23	68 (34.00)	51 (25.50)	54 (27.00)	173 (28.83)
Children's Dietary Diversity Score				
0-3	82 (41.00)	109 (54.50)	87 (43.50)	278 (46.33)
4-6	87 (43.50)	72 (36.00)	81 (40.50)	240 (40.00)
7-9	31 (15.50)	19 (9.50)	32 (16.00)	82 (13.67)
Place of delivery				
Health facilities	131 (65.50)	103 (51.50)	122 (61.00)	356 (59.33)
Neighborhood Midwives	52 (26.00)	78 (51.50)	59 (29.50)	189 (31.50)
Home/Self	17 (8.50)	19 (9.50)	19 (9.50)	55 (9.17)

Infant feeding practices of mothers with children 0–23 months

In Table 3, the infant feeding practices of mothers with children 0–23 months in selected LGAs are as shown. Breastfeeding prevalence among mothers was very high (99.7%) in all the LGAs. However, only 43.1% of them initiated breastfeeding within one hour of birth, 38.1% within 24 hours, and 18.7% started breastfeeding after 24 hours. Early initiation of breastfeeding within one hour of birth was slightly higher in

Ibadan-North LGA (45.2%) compared with Egbeda (42.0%) and Ona-Ara (42.2%) LGAs.

The majority (76.3%) of respondents did not give their infants any form of fluid except breast milk, while 23.7% of infants received something other than breast milk, with Egbeda LGA having the highest percentage (29.0%) followed by Ona-Ara (21.5%) while Ibadan North LGA had the lowest percentage (20.5%). Among other fluids given to infants, water was the most common choice (40.9%), followed by infant milk formula (24.7%) and other liquids.

Table 1b: Characteristics of mothers of children 0–23 months in the selected LGAs

Maternal Characteristics	Categories	Egbeda Freq (%)	Ona-Ara Freq (%)	Ibadan-North Freq (%)	Overall Freq. (%)
Spouse's Level of Education	Completed Primary school	6 (3.2)	31 (15.58)	14 (7.2)	51 (8.8)
	Completed Secondary school	89 (47.3)	126 (63.32)	99 (51.0)	314 (54.0)
	Tertiary Institution	91 (48.4)	37 (18.59)	73 (37.6)	201 (34.6)
	No education	2 (1.1)	5 (2.51)	8 (4.1)	15 (2.6)
Religion	Christianity	110 (55.0)	75 (37.5)	91 (45.5)	276 (46.0)
	Muslim	90 (45.0)	125 (62.5)	109 (54.5)	324 (54.0)
Household Size	1-3	61 (30.5)	68 (34.0)	62 (31.0)	191 (31.8)
	4-6	128 (64.0)	115 (57.5)	125 (62.5)	368 (61.3)
	7-10	11 (5.5)	15 (7.5)	13 (6.50)	39 (6.5)
	11-12	-	2 (1.0)	-	2 (0.4)
Occupation	Civil servant	10 (5.0)	4 (2.0)	4 (2.0)	18 (3.0)
	Self-employed	185 (92.5)	195 (97.5)	191 (95.5)	572 (95.3)
	Housewife	5 (2.5)	1 (0.5)	5 (2.5)	10 (1.7)
Monthly income (₦)	< 20000	18 (9.0)	32 (16.0)	19 (9.5)	69 (11.5)
	21000 - 50000	101 (50.5)	99 (49.5)	107 (53.5)	307 (51.2)
	51000 - 80000	40 (20.0)	43 (21.5)	36 (18.0)	119 (19.8)
	> 80000	41 (20.5)	26 (13.0)	38 (19.0)	105 (17.5)
Minimum Dietary Diversity Women	2-4	24 (12.0)	31 (15.5)	14 (7.0)	69 (11.5)
	5-7	117 (58.5)	125 (62.5)	121 (60.5)	363 (60.5)
	8-10	59 (29.5)	44 (22.0)	65 (32.5)	168 (28.0)
	<18.5	18 (9.0)	30 (15.0)	15 (7.5)	63 (10.50)
BMI	18.5-25	113 (56.5)	125 (62.5)	116 (58.0)	354 (59.00)
	25-30	39 (19.5)	34 (17.0)	45 (22.5)	118 (19.7)
	>30	30 (15.0)	11 (5.5)	24 (12.0)	65 (10.8)

Underweight: BMI < 18.5 Kg/m², Normal weight: 18.5 Kg/m² – 24.9 Kg/m²,
Overweight: ≥25 Kg/m² to ≤ 30 Kg/m²; Obese: BMI ≥ 30 Kg/m².

The majority (69.8%) of mothers (Egbeda 64.0%, Ona-Ara 70.0%, and Ibadan North 75.5%) were still breastfeeding their children as at the time of the study, 29.8% had stopped breastfeeding. Among participants who had stopped breastfeeding, 12.9% stopped between 9 and 12 months, and 83.8% stopped between 15 and 18 months.

Overall, 11.9% of mothers (12.4% Egbeda, 16.1% Ona-Ara and 6.87% Ibadan North LGAs) started complementary feeding of their children before three months, 12.5% mothers (9.9% Egbeda, 11.4% Ona-Ara and 16.3% Ibadan North LGAs) started before five months, 56.1% (60/1%, 44.2%, and 62.6%) started after six months, while 19.5% (17.6%, 28.8%, and 14.2%) of mothers started complementary feeding of their children after seven months and beyond for Egbeda, Ona-Ara and Ibadan North, respectively

There was a significant difference in the proportion of initiation of complementary feeding before 6 months, at 6 months, and after 6 months among the LGAs ($p < 0.05$). The frequency of feeding infants with complementary foods differs significantly between the LGAs ($p < 0.05$).

Nutritional outcomes among children 0-23 months

Nutritional outcomes among children 0-23 months across Local Government Areas are shown in Table 4. The mean prevalence of child stunting was 43.7%, with the highest prevalence in Ona-Ara LGA (46.0%) and the least in Egbeda LGA (41.5%).

The majority (73.2%) of the children had normal weight-for-height, 10.5% were wasted, 8.0% were overweight, and 8.3% were obese. Prevalence of wasting was significantly different among the LGAs, Ibadan North having the highest value

(14.5%), followed by Ona-Ara (10.0%) and Egbeda (7.0%), ($p < 0.05$); while prevalence of overweight/obesity was highest in Ibadan North (17.0%) followed by Egbeda (16.0%) and Ona-Ara (14.0%). The majority (79.5%) of the children had normal weight, 20.5% were underweight (Ibadan North 23.5%, Ona-Ara 19.5%, Egbeda 17.5%).

Association between IYCF practices and nutritional outcomes

Table 5 reveals the association between IYCF practices and nutritional outcomes. There was no significant association between the components of IYCF practices and stunting and underweight ($p > 0.05$).

Table 2: Infant feeding knowledge of mothers with children 0–23 months

Infant Feeding Knowledge	Egbeda	Ona-Ara	Ibadan-North	Overall
	200 (%)	200 (%)	200 (%)	600 (%)
Respondent hearing about Infant and Young Child Feeding Practices				
Yes	183 (91.5)	170 (85.0)	176 (88.0)	529 (88.2)
No	17 (8.5)	30 (15.0)	24 (12.0)	71 (11.8)
Source of information				
Antenatal Clinic/Hospital	158 (86.4)	137 (80.6)	151 (85.8)	446 (84.3)
Neighborhood midwives	15 (8.2)	27 (15.9)	17 (9.7)	59 (11.2)
Religious gathering	2 (1.1)	1 (0.6)	3 (1.7)	6 (1.1)
Radio/TV/Family/others	8 (4.4)	5 (2.9)	5 (2.84)	18 (3.4)
Attendance at the antenatal clinic				
Yes	190 (95.0)	177 (88.5)	182 (91.0)	549 (91.5)
No	10 (5.0)	23 (11.5)	18 (9.0)	51 (8.5)
Regular attendance at the antenatal clinic				
Once in week	142 (74.7)	157 (88.7)	118 (64.8)	417 (76.0)
Once a month	47 (24.7)	19 (10.7)	64 (35.2)	130 (23.7)
Once in three months	1 (0.5)	-	-	1 (0.2)
Less than once in three months	-	1 (0.6)	-	1 (0.2)
Fed child with colostrum				
Don't know	39 (19.5)	40 (20.0)	47 (23.5)	126 (21.0)
No	28 (14.0)	40 (20.0)	28 (14.0)	96 (16.0)
Yes	133 (66.5)	120 (60.0)	125 (62.5)	378 (63.0)
Breastfeeding initiation for newborns				
Don't know	5 (2.5)	8 (4.0)	6 (3.0)	19 (3.2)
Immediately after birth/ before 1 hour	167 (83.5)	140 (70.0)	163 (81.5)	470 (78.3)
After 1 hour	10 (5.0)	22 (11.0)	4 (2.0)	36 (6.0)
Hours after birth	13 (6.5)	21 (10.5)	25 (12.5)	59 (9.8)
After 24hours	5 (2.5)	9 (4.5)	2 (1.0)	16 (2.7)
Duration of exclusive breastfeeding				
≤ 5 months	15 (7.5)	9 (4.5)	10 (5.0)	34 (5.7)
6 months	174 (87.0)	181 (90.5)	175 (87.5)	530 (88.3)
>6 months	4 (2.0)	2 (1.0)	6 (3.0)	12 (2.0)
Don't know	7 (7.5)	8 (4.0)	9 (4.5)	24(4.0)

Table 3: Infant feeding practices of mothers with children 0–23 months in selected LGAs

Infant Feeding Practices	Egbeda 200 (%)	Ona-Ara 200 (%)	Ibadan-North 200 (%)	Overall 600 (%)
Practices				
Breastfeeding of index child				
Yes	200(100.0)	199 (99.5)	199 (99.5)	598 (99.7)
No	-	1 (0.5)	1 (0.5)	2 (0.3)
Time of initiating breastfeeding after birth				
Within one hour of birth	84 (42.0)	84 (42.2)	90 (45.2)	258 (43.1)
Within 24 hours	72 (36.0)	80 (40.2)	76 (38.2)	228 (38.1)
After 24 hours	44 (22.0)	35 (17.6)	33 (16.6)	112 (18.7)
Giving the infant any drink within the first hour after delivery				
Yes	58 (29.0)	43 (21.5)	41 (20.5)	142 (23.7)
No	142 (71.0)	157 (78.5)	159 (79.5)	458 (76.3)
Type of drink given				
Water	20 (34.5)	25 (58.1)	13 (31.7)	58 (40.9)
Herbal Concoction	-	-	1 (2.4)	1 (0.7)
Milk formula e.g. Cerelac, SMA, Nan	20 (34.5)	3 (7.0)	12 (29.3)	35 (24.7)
Other liquids	18 (31.0)	15 (34.9)	15 (36.6)	48 (33.8)
Breastfeeding continuity				
Yes	128 (64.0)	140 (70.0)	151 (75.5)	419 (69.8)
No	72 (36.0)	59 (29.5)	48 (24.0)	179 (29.8)
Not breastfed at all	-	1 (0.5)	1 (0.5)	2 (0.3)
Infant age when breastfeeding was stopped				
9 months	2 (2.8)	2 (3.4)	1 (2.1)	5 (2.8)
12 months	11 (15.3)	4 (6.8)	3 (6.3)	18 (10.1)
15 months	37 (51.4)	30 (50.9)	18 (37.5)	85 (47.5)
18 months	18 (25.0)	21 (35.6)	26 (54.2)	65 (36.3)
21 months	3 (4.2)	1 (1.7)	-	4 (2.2)
23 months	1 (1.4)	1 (1.7)	-	2 (1.1)
Feeding complementary food				
Yes	164 (82.0)	164 (24.5)	157 (78.5)	485 (80.7)
No	36 (18.0)	36 (75.5)	43 (21.5)	116 (19.3)
When complementary feeding was started				
Before 3 months	20 (12.4)	24 (16.1)	10 (6.8)	54 (11.9)
Before 5 months	16 (9.9)	17 (11.4)	24 (16.3)	57 (12.5)
6 months	97 (60.1)	66 (44.2)	92 (62.6)	255 (56.1)
7- 9 months	24 (15.0)	32 (21.4)	18 (12.2)	74 (16.3)
10- 12 months	4 (2.6)	11 (7.4)	3 (2.0)	18 (3.2)
Frequency of feeding with complementary foods in the past 24 hours				
1 time	17 (10.4)	24 (14.6)	14 (9.0)	55 (11.3)
2 times	26 (15.9)	31 (18.9)	26 (16.6)	83 (17.1)
3-4 times	52 (31.7)	47 (28.7)	49 (31.4)	148 (30.5)
> 4 times	64 (39.0)	48 (29.3)	60 (38.4)	172 (35.5)
Not at all	5 (3.0)	14 (8.5)	8 (5.1)	27 (5.6)

Table 4: Nutritional outcomes among children 0-23 months across Local Government Areas

Anthropometric Characteristics	Stunting (%)	Normal (%)			Mean Z-score	SD
Egbeda	83 (41.5)	117 (58.5)			-1.69	1.71
Ona-Ara	92 (46.0)	108 (54.0)			-2.10	1.75
Ibadan-North	87 (43.5)	113 (56.5)			-1.90	1.64
Overall	262 (43.7)	338 (56.3)				
Weight-for-Height	Wasting (%)	Normal (%)	Overweight (%)	Obese (%)		
Egbeda	14 (7.0)	154 (77.0)	17 (8.5)	15 (7.5)	0.31	1.95
Ona-Ara	20 (10.0)	144 (72.0)	14 (7.0)	14 (7.0)	0.51	2.32
Ibadan-North	29 (14.5)	141 (70.5)	17 (8.5)	17 (8.5)	0.04	2.10
Overall	63 (10.5)	439 (73.2)	48 (8.0)	50 (8.3)	0.29	2.13
Weight-for-Age	Underweight (%)	Normal (%)				
Egbeda	36 (18.0)	164 (82.0)			-0.75	1.45
Ona-Ara	40 (20.0)	160 (80.0)			-0.85	1.46
Ibadan-North	47 (23.5)	153 (76.5)			-1.08	1.58
Overall	123 (20.5)	477			-0.89	1.50

Table 5: Association between IYCF practices and nutritional outcomes

IYCF Practices	Stunting		Underweight	
	OR (lower, upper) 95% CI	P value	OR (lower, upper) 95% CI	P value
Initiation of Breastfeeding				
Within 1 hour of birth	0.83 (0.439, 1.552)	0.552	1.09 (0.494, 2.416)	0.828
After & within 24 hours post-delivery				
Provision of any food or drink other than breast milk within the first hour of delivery				
Yes	0.85 (0.398, 1.831)	0.684	0.89 (0.399, 2.315)	0.804
No				
Commenced Complementary Feeding				
At 6 months	0.71 (0.381, 1.313)	0.273	0.54 (0.240, 1.240)	0.129
Before or After 6 months				
Termination of breastfeeding				
More than 1 year	0.42 (0.160, 0.073)	0.073	0.78 (0.265, 2.311)	0.658
Less or equal 1 year				

DISCUSSION

Many of the mothers were within the age of thirty years, with a mean age of 29.6 ± 6.2 years, and most of them were married. The age range of the respondents in this study is similar to the result from Ogun State, Nigeria (16), and Uganda (17), (Table 1). The respondents were mostly of the Yoruba ethnic group, and this is in line with a study from two Local Government Areas of Ibadan (18), where almost all participants were married and Yorubas. Negligible proportion of the respondents and their spouses had no formal education, while the majority completed at least secondary education, and most of them lived with their husbands. This is similar to the findings of (19) and (18) from Ibadan, Nigeria. Almost half of the respondents practiced Christianity, and the majority had a family size of between four and six. This finding is in line with the result of (19). Most of the respondents were employed in one form or the other, the majority of them being self-employed, with about half of them earning between 21000 - 50000/month and about one-third earning above 50000/month. The monthly income of the respondents is similar to that reported by (18). About one-tenth of mothers had less than the minimum dietary diversity-women (MDD-W) intake, while the rest met the MDD-W of five and above dietary diversity, likewise, one-tenth were underweight, more than half had normal nutritional status, about 20% were overweight and 10% were obese, corroborating the report of National Food Consumption and Micronutrient Survey of 2021 that prevalence of overweight and obesity among women of reproductive age in Oyo State is 32.0% (20) (FGoN and IITA, 2024).

The principal source of information in all three LGAs was antenatal clinics or hospitals, while the other notable source of IYCF information was the neighborhood (Table 2). Various media channels and religious gatherings were also mentioned. This finding is in line with the report of (21), where respondents had good knowledge about IYCF through clinic visits and religious leaders. This highlights the importance of healthcare facilities, healthcare providers, religious leaders, and community outreach programmes in disseminating knowledge about infant feeding practices. Most participants were aware that a child should be fed colostrum, breastfeeding should start immediately after birth, and knew that exclusive breastfeeding should last for 6 months. This finding agrees with other reports (21, 19, 18). The percentage awareness of breastfeeding practices among participants in this

study is lower than the findings of Ara et al (22), where most mothers were aware of the importance of colostrum to newborns, and 94% were aware that breastfeeding should be initiated within 1 hour of birth.

Little insignificant differences were observed in the results for the LGAs in all the parameters studied. Overall, the majority of participants were knowledgeable about IYCF practices. This finding is similar to the findings of (23), and (24; 22) on knowledge, attitude, and practices of breastfeeding among mothers, where over 80% were reported to have adequate knowledge; and higher than that of Tadesse et al., (25) and Kigaru et al (26) where relatively lower level of IYCF knowledge was reported. Mothers who were knowledgeable about IYCF recommendations were more likely to have better feeding practices. The insignificant disparities observed in IYCF knowledge among the LGAs are believed to be due to the level of exposure to IYCF information from the antenatal/postnatal clinics (27). Mothers who had antenatal care follow-up are more likely to be counselled by IYCF professionals, thus improving their knowledge level (28). Ona-Ara respondents scored lowest in most of the parameters considered, though it fared better in some aspects. Almost all respondents reportedly breastfed their children for various periods of time ranging from nine months to 24 months, but less than half of them initiated breastfeeding within one hour of delivery of their babies, while more than one-third initiated breastfeeding within 24 hours (Table 3). Water was the liquid given to infants during breastfeeding practices, followed by other liquids and commercial infant formulas. This finding is closely related to that of (21).

Many of the participants had inadequate IYCF practices. Despite the relatively high level of exposure of participants to IYCF, their IYCF practice remained poor. This finding is indicative of the fact that improving knowledge alone may not significantly promote IYCF practices. Similar results were obtained in the study of (22), where the majority of the mothers reportedly recorded suboptimal levels of IYCF practices. There were significant disparities in the IYCF practice level across the three LGAs.

Severe and moderate stunting, wasting, and underweight existed among the infants and young children in the study area, with overweight and obesity prevalence of 8.0% and 8.5%, respectively (Table 4). The prevalence of overweight obtained in this study is higher than 5.2% reported for

Ifewara (29) but much lower than the value reported by (30) for two Local government Areas of Ibadan, while the prevalence of obesity in this study is very similar to 8.6% reported by (31) but much lower than the value reported by (30).

There was no significant association between the components of child feeding practices assessed and the nutritional status of the children. Campbell et al. (22) also reported no significant association between the components of child feeding practices and stunting, wasting, and underweight in their study.

CONCLUSION

Almost all participants breastfed their children, and the early initiation of breastfeeding is high. More than half of the participants breastfed their children for a minimum of six months before introducing complementary food. Participants were very knowledgeable and understood the importance of appropriate feeding practices for infants and young children in the studied communities, but the practice was low. Continuous education on the importance of initiation of breastfeeding within the first hour of birth, exclusive breastfeeding for six months, and providing support to nursing mothers will ensure improved, optimum breastfeeding and complementary food choices.

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