

**Original Article**

Knowledge, Attitude and Determinants of Weaning Practices Amongst Nursing Mothers in Selected Communities in Moro Local Government Area, Kwara State, Nigeria

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ABSTRACT

Background: Weaning, the gradual shift from exclusive breastfeeding to complementary feeding, is vital for infant growth. Despite WHO's six-month exclusive breastfeeding recommendation, only 17% of Nigerian infants are exclusively breastfed and 11% receive a minimum acceptable diet. In Moro LGA, Kwara State, cultural beliefs, poor maternal education, and economic hardship contribute to malnutrition and child morbidity. This study assessed the knowledge, attitude, and determinants of weaning practices among nursing mothers.

Method: A descriptive cross-sectional study was conducted among 500 mothers with children aged 6–24 months. Data were collected using semi-structured questionnaires, observations, and focus group discussions. Multistage sampling was employed, and analysis involved descriptive statistics, Chi-square, and logistic regression at 5% significance. FGDs accounted for 50 participants (~10%) while Observational accounted for 100 participants (~20%) of the study. FGD was used to capture cultural influences and observations to help observe households' feeding practices.

Result: Respondents were mostly married (80%), aged 26–35 years (50%), with 20% having no formal education and 40% earning <₦30,000. While 60% identified 4–6 months as the ideal weaning age, 40% held misconceptions. Pap was the most common food (80%), though 20% introduced inappropriate adult foods. Seventy percent initiated weaning at 4–6 months, 85% received antenatal teaching, yet 60% reported cultural influence. Education ($\chi^2 = 25.6$, $p = 0.0002$), income ($\chi^2 = 18.9$, $p = 0.0008$), and cultural influence were significant predictors. Logistic regression confirmed tertiary education (OR = 2.3), income >₦70,000 (OR = 1.8), and absence of cultural influence (OR = 1.5) as determinants of timely weaning.

Conclusion: Mothers showed moderate knowledge and positive attitudes, but cultural norms, limited education, and low income hinder optimal weaning.

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Introduction

The concept of *weaning*, originating from the Anglo-Saxon term “*wenian*,” meaning “to become accustomed to something different,” was recognized as an essential developmental milestone in the life of a child (Benton, 2020). It referred to the gradual transition from exclusive breastfeeding to the introduction of complementary foods designed to meet the infant’s growing nutritional requirements (Gibson & Hotz, 2017; Black et al., 2018). This transition typically began around six months of age when breast milk alone could no longer meet the infant’s energy and nutrient needs. According to the World Health Organization (WHO, 2017), exclusive breastfeeding for the first six months of life, followed by the gradual introduction of nutrient-dense complementary foods while continuing breastfeeding up to two years or beyond, was recommended to ensure optimal growth and development. Proper weaning supported adequate nutrition, strengthened immunity, and reduced the risk of malnutrition, while inappropriate or premature introduction of complementary foods often resulted in growth faltering and increased susceptibility to infections (Dewey, 2016; Kakuma & Kramer, 2016). Globally, suboptimal breastfeeding and weaning practices had remained a significant public health challenge. The World Health Organization (2022) reported that only 44% of infants aged 0–6 months were exclusively breastfed, leading to over 800,000 deaths annually among children under five due to malnutrition-related causes. In Nigeria, the situation had been particularly concerning, with the 2018 Nigeria Demographic and Health Survey (NDHS) indicating that only 17% of infants were exclusively breastfed for the recommended six months, and just 11% of children aged 6–23 months received a minimum acceptable diet. Consequently, Nigeria recorded a high prevalence of stunting (32%) and other forms of undernutrition among children under five, placing the country among those with the highest global burden of child malnutrition.

At the local level, within Moro Local Government Area (LGA) of Kwara State, similar challenges were observed. Many nursing mothers reportedly discontinued exclusive breastfeeding earlier than recommended or introduced inappropriate complementary foods, contributing to poor child health outcomes. These practices were often influenced by limited maternal knowledge, low income, cultural beliefs, and misconceptions about breastfeeding and weaning. Some communities held strong food taboos that restricted mothers from feeding infants nutrient-rich foods, while others lacked adequate access to health education and support services.

In light of these challenges, this study examined the knowledge, attitudes, and practices related to weaning among nursing mothers in selected communities of Moro LGA, Kwara State. The study aimed to identify factors that influenced feeding behaviors, assess the level of adherence to WHO-recommended infant feeding practices, and highlight barriers affecting proper weaning. The findings are expected to provide evidence-based insights to inform targeted community nutrition programs, improve maternal education, and support national and global goals for reducing child malnutrition and mortality in Nigeria.

Methodology

Research Design

The study employed a descriptive cross-sectional design, which is well-suited for assessing knowledge, attitudes, and practices (KAP) at a single point in time without manipulating variables (Bowling, 2018).

Target Population

The target population comprised of nursing mothers with children aged 6 to 24 months residing in the selected communities of Moro Local Government Area.

Study Area

The study was conducted in Moro Local Government Area (LGA), Kwara State, North-Central Nigeria, encompassing key communities such as Malete, Shao, Jebba, and Bode Saadu. The LGA had an estimated population of 108,792 in 2006, projected to reach approximately 150,000 by 2025, with Yoruba and Nupe as the dominant ethnic groups and minority Fulani and Hausa populations (National Population Commission, 2024; Kwara State Ministry of Health, 2024). The local economy was primarily based on subsistence farming, including yam, maize, and cassava, as well as petty trading, with fishing contributing to dietary diversity in Jebba (Ibraheem & Mokuolu, 2018).

Moro LGA’s health infrastructure included 12 functional primary health care centers (PHCs), supplemented by child welfare clinics and periodic outreach programs. These facilities provided maternal and child health services, including immunization, antenatal and postnatal care, and nutrition education, despite challenges such as understaffing, irregular drug supplies, and limited equipment (Adebayo et al., 2023; Kwara State Ministry of Health, 2024). The General Hospital in Bode Saadu served as a referral center, while community health extension workers supported rural service delivery (Ibraheem & Mokuolu, 2018).

Socio-culturally, strong community ties, traditional governance by Baales, and religious leadership influenced health-seeking behaviors. Cultural

practices, such as the early introduction of maize-based pap or herbal foods, shaped weaning practices and sometimes conflicted with WHO recommendations (Ogbo *et al.*, 2023). Literacy in the LGA was approximately 52%, with female literacy particularly low in rural areas, affecting mothers' access to health information and infant feeding practices (National Bureau of Statistics, 2024; Olatona *et al.*, 2017).

Sample Size and Participant Recruitment

The sample size was calculated using fisher's formula which is $n = \frac{Z^2 pq}{d^2}$ n minimum size sample, Z-score corresponding to desired confidence level, i.e 1.96 for 95% p is estimated prevalence using previous study of 44% (WHO, 2022) at a 95% confidence level and a 5% margin of error is 446. To accommodate possible non-response or incomplete data, a 10% allowance was added, 500 questionnaires were distributed to improve the power of the study. A multistage sampling technique was used to select five wards by simple random sampling from the eleven wards of Moro local government. From each ward five communities were selected using a simple random sampling technique. From each community a systematic random sampling technique was used to select respondents for the sample study. The first respondent was randomly selected within the sampling interval, while subsequent respondents were selected using the sampling interval until the desired sample size for each department was completed. If no eligible adult is available, the next household is approached. Advocacy

Results

Table 1: Socio-Demographic Characteristics of Respondents

Characteristic Question	Response Option	Frequency	Percentage
Age (years)	18-25	150	30
	26-35	250	50
	36-45	100	20
Marital Status	Single	50	10
	Married	400	80
	Divorced	25	5
	Widowed	25	5
Educational Level	No formal education	100	20
	Primary	150	30
	Secondary	175	35
	Tertiary	75	15
Occupation	Trader	200	40
	Farmer	100	20
	Student	50	10
	Other	150	30
Monthly Income (₦)	<30,000	200	40
	30,000-70,000	250	50
	>70,000	50	10
Number of Children	1	150	30
	2-3	250	50
	4+	100	20

Notes: Mean age = 28 years; Mean number of children = 2.5.

visits were made to community leaders and health facility heads in the selected wards to inform them of the study and solicit their support

Method of Data Collection and Data Analysis

Data were collected using a semi-structured, interviewer-administered questionnaire designed to assess knowledge, attitudes, and determinants of weaning practices among nursing mothers in Moro Local Government Area, Kwara State. The instrument was reviewed by public health experts, nutritionists, and maternal health specialists to ensure relevance and adapted to the local context with input from Community Health Workers for cultural appropriateness (Bowling, 2018; Ajibola *et al.*, 2024). It comprised five sections covering socio-demographics, knowledge, attitudes, determinants, and feeding practices, and was informed by WHO KAP surveys and Nigerian studies on complementary feeding (Ajibola *et al.*, 2024; WHO, 2016). The questionnaire was translated into Yoruba and Nupe and back-translated to English to ensure accuracy (Brislin, 2015).

Ethical Considerations

Ethical Approval was reviewed and approved by the Kwara State Ministry of Health Ethics Review Committee, ensuring compliance with national research standards (Kwara State Ministry of Health, 2024). Verbal informed consent was sought and obtained from each of the participants with anonymity and confidentiality of the information obtained were assured and maintained.

Table 2: Knowledge of Weaning Practices

Characteristic / Question	Response Option	Frequency	Percentage
Ideal Age to Begin Weaning	Below 4 months	50	10
	4-6 months	300	60
	After 6 months	100	20
	Don't know	50	10
Definition of Weaning	Stopping breastfeeding	75	15
	Introducing other foods	350	70
	Giving water alone	25	5
	Don't know	50	10
Appropriate Weaning Foods	Pap	400	80
	Mashed fruits	325	65
	Adult solid food	100	20
	Breast milk	250	50
Frequency of Introduction	Once a day	150	30
	2-3 times a day	275	55
	Anytime baby cries	25	5
	Don't know	50	10
Exclusive Breastfeeding 6 Months	Yes	325	65
	No	125	25
	Not sure	50	10

Notes: Multiple responses allowed for appropriate weaning foods.

This table assesses mothers' knowledge about breastfeeding. Correct knowledge is critical for weaning, including the ideal age, definition, appropriate foods, frequency, and exclusive optimal child nutrition.

Table 3: Attitude Toward Weaning Practices

Characteristic / Question	Response Option	Frequency	Percentage
Weaning Should Start at 6 Months	Strongly agree	100	20
	Agree	250	50
	Disagree	100	20
	Strongly disagree	50	10
Cultural Beliefs Affect Weaning	Yes	300	60
	No	200	40
Taught in Antenatal Clinics	Yes	425	85
	No	75	15
Confidence in Choosing Food	Yes	300	60
	No	125	25
	Not sure	75	15
Fear of Baby Rejecting Food	Strongly agree	75	15
	Agree	175	35
	Disagree	150	30
	Strongly disagree	100	20

Table 4: Weaning Practices

Characteristic / Question	Response Option	Frequency	Percentage
Age of Weaning Initiation	Below 4 months	75	15
	4-6 months	350	70
	After 6 months	75	15
First Food Introduced	Pap	250	50
	Mashed fruits	150	30
	Amala	50	10
	Other	50	10
Frequency of Weaning Food	Once a day	125	25
	2-3 times a day	300	60
	More than 3 times	75	15
Continued Breastfeeding	Yes	400	80
	No	100	20
Source of Information	Health worker	250	50
	Family/friends	150	30
	Media	50	10
	Personal experience	50	10

This table details actual weaning practices, including timing, food choices, frequency, breastfeeding continuation, and information sources.

Table 5: Determinants of Weaning Practices

Characteristic / Question	Response Option	Frequency	Percentage
Education Affects Weaning	Yes	275	55
	No	150	30
	Not sure	75	15
Income Determines Food	Yes	300	60
	No	200	40
Cultural/Religious Influence	Yes	325	65
	No	175	35
Working Status Affects Timing	Yes	250	50
	No	250	50
Desire for More Education	Yes	400	80
	No	100	20

This table examines perceived factors influencing weaning practices, including education, income, culture, work, and desire for education.

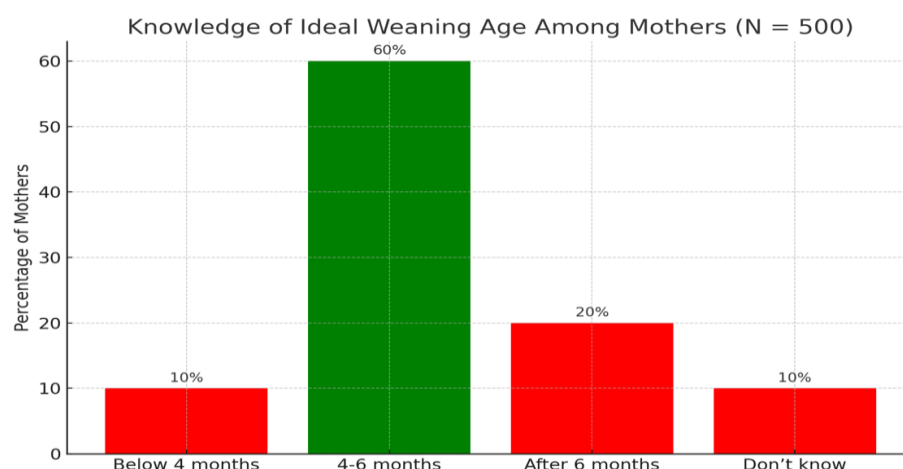


Fig 1: Knowledge of Ideal Weaning Age Among Mothers (N=500)

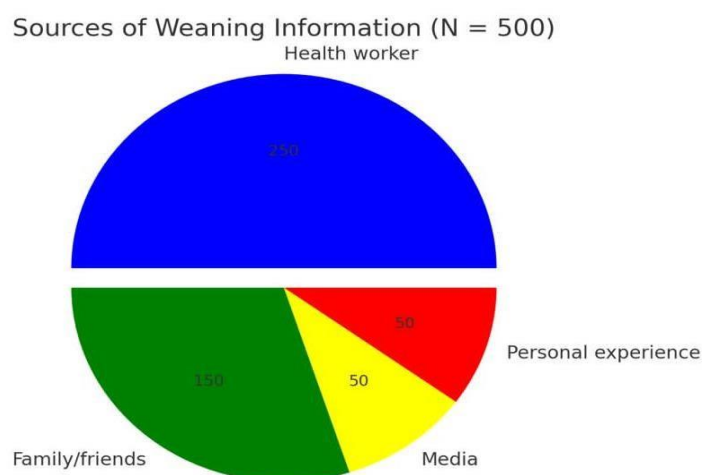


Fig 2: Sources of Weaning Information

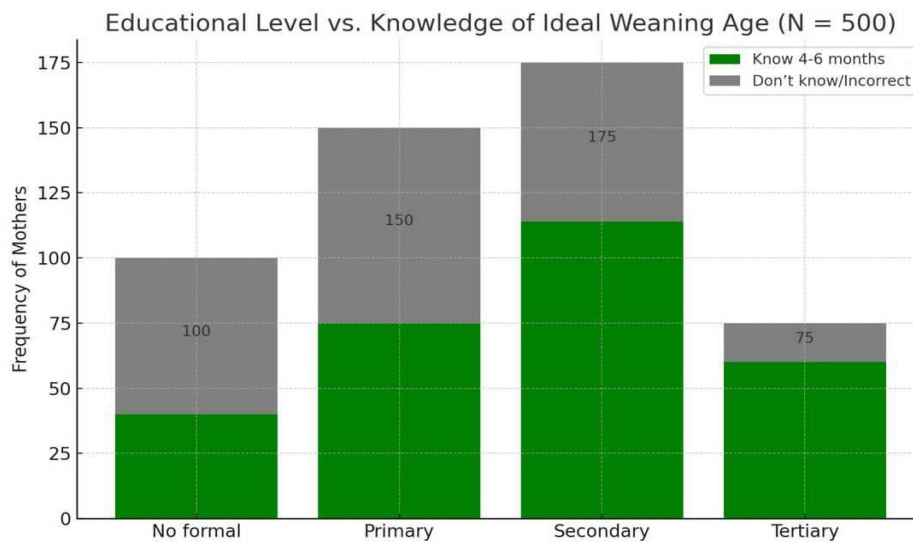


Fig 3: Educational Level Versus Knowledge of Ideal Weaning Age (N=500)
The relationship between maternal education and knowledge of the ideal weaning age (4– 6 months).

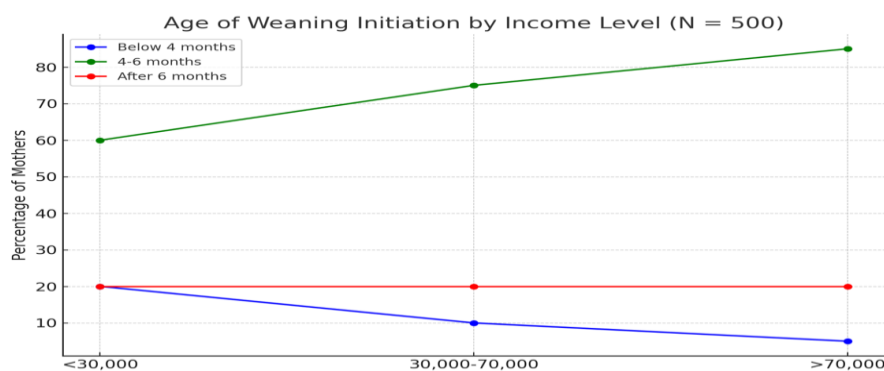


Fig 4: Age of Weaning Initiation by Income Level (N=500)

Income appears to impact adherence to recommended weaning practices, likely due to better access to healthcare, nutrition counseling, or maternity resources in higher-income households. However, the

static trend for late weaning across all income groups suggests other factors (like cultural beliefs or misinformation) might be influencing this behavior

Table 6: Education Level and Knowledge of Ideal Weaning Age

Education Level	Percentage of Mothers (%)	Knowledge of Ideal Weaning Age
No Formal Education	48%	Know 4–6 months
Tertiary	95%	Know 4–6 months

$\chi^2 = 25.6$, $p = 0.0002$ (Significant)

Table 7: Income and Appropriate Weaning Food

Monthly Income	Percentage of Mothers (%)	Appropriate Weaning Food
< ₦30,000	35%	Don't know
> ₦30,000	95%	Know

$\chi^2 = 18.9$, $df = 2$, $p = 0.0008$ (Significant)

Discussion

The study in Moro Local Government Area (LGA) assessed weaning practices among 500 nursing mothers with children aged 6–24 months, using interviewer-administered questionnaires, household observations, and focus group discussions. Analyses included descriptive statistics, Chi-square tests, and logistic regression to examine socio-demographic factors, knowledge, attitudes, and determinants of weaning practices.

Findings indicated that 60% of mothers correctly identified 4–6 months as the appropriate age for initiating complementary feeding, consistent with WHO recommendations (WHO, 2017, 2023). However, 40% either reported inappropriate ages or were uncertain, and 15% misunderstood weaning as complete cessation of breastfeeding. While 65% practiced exclusive breastfeeding for six months, 25% did not, reflecting gaps between knowledge and behavior (Kakuma & Kramer, 2016; Dewey & Brown, 2016). These results highlight partial awareness of optimal weaning practices and the need for enhanced maternal education.

Attitudinal data revealed that 70% of mothers supported weaning at six months, yet 30% favored earlier or later initiation due to cultural norms or family pressure. About 60% acknowledged cultural and familial influence on feeding decisions, illustrating the role of traditional beliefs in shaping maternal practices (Ogunjimi *et al.*, 2018). Confidence in food preparation was moderate, with 40% expressing uncertainty, underscoring the importance of building maternal self-efficacy through practical demonstrations and community guidance (Rosenstock, 2016; Dewey, 2016). Education, income, and culture emerged as significant predictors of weaning practices. Logistic regression showed that mothers with tertiary education were over twice as likely to practice timely weaning compared to those with no formal education. Income also influenced food choice: higher-income mothers provided nutrient-rich foods such as mashed fruits, whereas low-income mothers relied heavily on *pap*, a starchy staple (FAO, 2018; Gibson & Hotz, 2017). Cultural norms, particularly advice from grandmothers and community elders, further affected both timing and method of weaning (Ogunjimi *et al.*, 2018).

To improve weaning practices, the study recommends community-based nutrition education targeting mothers, families, and traditional leaders to address cultural barriers. Practical interventions, including cooking demonstrations using locally available, nutrient-dense foods and home-based support from community health workers, are necessary to enhance maternal confidence and adherence to WHO

guidelines. Economic interventions, such as food subsidies or vouchers for low-income households, may also improve access to diverse complementary foods (Dewey & Brown, 2016; Agyekum *et al.*, 2022). In conclusion, while Moro LGA shows progress in exclusive breastfeeding and timely weaning relative to national averages, gaps in knowledge, attitudes, and socio-economic constraints persist. Addressing these factors through culturally sensitive, community-centered, and resource-supported interventions is essential to optimize infant nutrition and reduce malnutrition-related risks.

Conclusion

This study highlights that while awareness of recommended weaning practices is generally present among caregivers, consistent and correct application remains limited due to behavioral, cultural, and environmental barriers. Knowledge alone does not guarantee positive attitudes or proper feeding practices. Caregivers often face challenges such as misconceptions about appropriate foods, limited household resources, and lack of sustained support from health workers.

The findings emphasize that effective interventions must go beyond information dissemination. They should integrate culturally sensitive behavior change communication, practical demonstrations of age-appropriate complementary foods, and continuous caregiver support. Strengthening the role of community health workers, mothers' groups, and local leaders is essential to reinforce positive practices and dispel myths.

Monitoring outcomes such as dietary diversity, minimum meal frequency, and child growth indicators will ensure accountability and guide program adjustments. Ultimately, improving weaning practices requires a holistic approach that combines education, supportive environments, and regular follow-up, thereby reducing malnutrition and enhancing child survival in the community.

Recommendation

Duration: 12 months total to capture seasonality effects on food availability and illness.

Phase 1 (Month 0–2): Planning, tool adaptation, training, baseline survey.

Phase 2 (Month 3–9): Implementation of behavior change activities + quarterly monitoring.

Phase 3 (Month 10–12): Endline survey, qualitative evaluation, dissemination.

Caregivers/households: Primary implementers of feeding and hygiene practices; partners in co-design.

Community health workers (CHWs): Counseling, household visits, growth monitoring, data collection, referral.

Facility-based health staff (PHCs): Antenatal/postnatal nutrition counseling, sick-child care, vitamin/mineral supplementation, data validation.

Community leaders and women's groups: Mobilization, cultural alignment, myth-busting, peer support (mother-to-mother groups).

Local government/Ministry of Health (nutrition unit): Oversight, integration with IYCF policies, supply assurance (micronutrient powders, deworming).

NGOs/CSOs: Technical support, training materials, supervision, independent monitoring.

Academic partners: Study design, tools, analysis, and dissemination; ensure ethical compliance.

Media/IEC teams: Radio, posters, social media for sustained messaging aligned with IYCF.

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