FUDMA Journal of Sciences (FJS)
ISSN online: 2616-1370
ISSN print: 2645 - 2944
Vol. 10 No. 3, February, 2026, pp 64 – 68
DOI: https://doi.org/10.33003/fjs-2026-1003-4008

ASSESSMENT OF BREASTFEEDING PRACTICES AMONG LACTATING MOTHERS IN NASSARAWA LOCAL GOVERNMENT AREA, KANO STATE

***[1,2,3,7]Lawan Yussuf Sufyanu, [2]Aminu Idi, [1]Zakiyya Ali Baba, [1]Safiya Yakubu, [2,6]Najib Ahmad Panda, [4]Harisu Saleh, [2,5]Auwal Magaji Sa'eedu, [7]Aisha Idris Ali, [1]Auwal Sani Gwarzo**

[1]Department of Nutrition and Dietetics, Federal Polytechnic Kabo, Kano State.
[2]Biochemistry department, faculty of basic medical sciences, Bayero University, Kano State.
[3]Department of Nutrition and Dietetics, school of health technology, Kano State.
[4]Department of Human Nutrition and Dietetics, Federal University of Agriculture Mubi, Adamawa State.
[5]Department of Nutrition and Dietetics, University of Maiduguri, Borno State.
[6]Department of Nutrition and Dietetics, Federal Collage of Agriculture, Kano, Kano State.
[7]Nutrition and Dietetics units, Institute of Continuing and Innovative Education Aliko Dangote University of Science and Technology, Wudil.

*Corresponding authors' email: lawanyusufsufyanu@gmail.com Phone: +2348146504818

ABSTRACT

Breastfeeding is a cornerstone of child survival, growth, and development, yet exclusive breastfeeding (EBF) rates in Nigeria remain suboptimal. This cross-sectional study assessed breastfeeding practices among 242 lactating mothers in Nassarawa Local Government Area, Kano State. Data were collected using a semi-structured, interviewer-administered questionnaire and analyzed with SPSS (version 25). Descriptive and inferential statistics, including chi-square tests, were applied at a significance level of $p<0.05$. Findings revealed that 61.6% of mothers, initiated breastfeeding within the first hour after birth, while 67.8% fed their infants colostrum. Approximately 79.3% practiced exclusive breastfeeding, though only 65.1% sustained it for the recommended six months. Responsive breastfeeding practices were mixed: 80.6% practiced rooming-in, but only 47.9% breastfed on demand. Prelacteal feeding was reported by 21% of mothers, primarily involving water, honey, and herbal preparations, contrary to WHO/UNICEF guidelines. Significant associations were observed between breastfeeding practices and maternal socio-demographic factors, including age, parity, education, income, and occupation. Mothers with higher education and stable occupations were more likely to initiate early breastfeeding, sustain EBF, and avoid harmful practices. Despite relatively high initiation and colostrum use rates, EBF duration remains below the WHO target of 50% coverage by 2025. Cultural norms, socioeconomic conditions, and maternal employment were key barriers. This study underscores the urgent need for targeted interventions to address socio-cultural and economic barriers to optimal breastfeeding. Strengthening community education, healthcare counseling, and workplace breastfeeding support can significantly improve child nutrition outcomes in the study area.

Keywords: Breastfeeding, Exclusive breastfeeding, Lactating mothers, Infant nutrition, Nassarawa LGA, Kano State

INTRODUCTION

Optimal nutrition during infancy and early childhood is essential for normal growth, development, and long-term health. Adequate feeding within the first two to three years of life is particularly critical because it helps reduce childhood morbidity and mortality, prevents chronic diseases later in life, and promotes optimal cognitive and physical development (Wronska *et al.,* 2022). Appropriate infant feeding practices therefore constitute a fundamental component of child survival strategies and public health interventions.

Breastfeeding represents the most effective and natural means of ensuring proper infant nutrition. Optimal child nutrition is achieved through exclusive breastfeeding during the first six months of life, followed by the timely introduction of adequate complementary foods while breastfeeding continues. In addition to its benefits for infants, breastfeeding also provides important health advantages for mothers. It contributes to postpartum infertility through lactational amenorrhea, thereby influencing birth spacing, birth intervals, and overall fertility patterns (Kemppinen *et al.,* 2022). Recognizing these benefits, the World Health Organization (WHO) recommends that infants be exclusively breastfed for the first six months of life to support optimal growth, development, and health. WHO and UNICEF further recommend that breastfeeding be initiated within the first hour after birth and continued exclusively during the first six months of life (WHO and UNICEF, 2023).

The significant influence of infant feeding practices on child survival and development is largely attributed to the unique nutritional composition and anti-infective properties of breast milk. Breast milk provides essential nutrients required for growth while simultaneously protecting infants against infections and diseases. Moreover, breastfeeding contributes to birth spacing due to its effect on maternal fertility (Huffman, 2021). The overall benefits derived from breastfeeding are influenced by factors such as the duration and intensity of breastfeeding as well as the timing of the introduction of complementary foods and liquids. Consequently, global health efforts continue to emphasize the promotion and reinforcement of appropriate breastfeeding and complementary feeding practices (Cattaneo *et al.,* 2023).

Breastfeeding practices are shaped by a complex interaction of multiple factors. These include maternal knowledge, attitudes, and practices, as well as prevailing social and cultural traditions within communities. Other determinants include the occupational demands of breastfeeding mothers, infant maturity at birth, maternal commitment to nursing, and broader socioeconomic and educational conditions within the environment. The influence of these factors varies across

populations depending on the level of social, educational, and economic development within a given community (Kemppinen *et al.,* 2022).

To promote, protect, and support breastfeeding practices globally, the World Health Organization developed the "Ten Steps to Successful Breastfeeding," which provide evidence-based guidelines for improving breastfeeding outcomes. These principles help assess the quality and effectiveness of breastfeeding practices among mothers and serve as a framework for evaluating infant feeding behavior. Despite these global efforts, there remains a paucity of studies examining breastfeeding practices and their influencing factors within many local contexts. Understanding how these determinants operate at the community level is essential for designing effective interventions.

Undernutrition remains a major contributor to child morbidity and mortality in developing countries, including Nigeria. National statistics indicate that approximately 34% of children under five years of age in Nigeria are stunted, 22% are underweight, and 7% are wasted. Although breastfeeding initiation rates are relatively high, the prevalence of exclusive breastfeeding during the first six months remains inadequate. Earlier national surveys such as the Nigeria Demographic and Health Survey (NDHS) 2013 reported that only 17% of infants aged 0–5 months were exclusively breastfed (National Population Commission, 2013). Subsequent surveys indicated some improvement, with the 2018 NDHS reporting a prevalence of 29%, while a UNICEF report documented a further increase to 34% in 2023 (NDHS and NPC, 2019). Nevertheless, these figures remain below the World Health Organization target of achieving at least 50% exclusive breastfeeding coverage by 2025 (Vidović-Roguljić and Zakarija-Grković, 2020).

Suboptimal breastfeeding practices have significant public health implications. It has been estimated that inadequate breastfeeding practices contribute to approximately 103,742 child deaths annually in Nigeria (Ogbo *et al.,* 2019; The Lancet Breastfeeding Series, 2020). Several barriers to optimal breastfeeding have been identified, including socioeconomic conditions, cultural norms, and systemic gaps in healthcare delivery (Ogbo *et al.,* 2019). In addition, harmful sociocultural practices—such as discarding colostrum, introducing water or other liquids early in infancy, and limited family or community support—further undermine optimal breastfeeding practices, particularly in settings with low maternal education levels (Adeniyi and Omole, 2018).

Regional disparities in breastfeeding practices also exist across Nigeria. Evidence indicates that exclusive breastfeeding rates vary significantly among geopolitical zones, with northern regions generally reporting lower rates than southern regions (NPC and ICF International, 2019). Despite this variation, localized data on breastfeeding practices remain limited in many communities, including Nassarawa Local Government Area of Kano State. Although national surveys such as the NDHS provide useful insights into general breastfeeding trends, they often lack the local specificity required to design targeted interventions at the community level (Federal Ministry of Health, 2021).

Breastfeeding practices differ widely across regions due to variations in cultural beliefs, maternal knowledge, and caregiver orientation toward infant feeding (Abolurin *et al.,* 2021). Successful breastfeeding is generally defined by adherence to WHO guidelines, including early initiation, exclusive breastfeeding during the first six months, and the maintenance of infant health and nutritional adequacy throughout the breastfeeding period (UNICEF and WHO, 2023; Lambrecht *et al.,* 2019).

Despite the recognized benefits of breastfeeding and modest improvements in national exclusive breastfeeding rates, Nigeria continues to fall short of the WHO target of achieving at least 50% coverage by 2025. Sociodemographic factors such as maternal education, income level, and occupation, as well as entrenched cultural norms, strongly influence breastfeeding practices. These challenges are often compounded by inadequate healthcare support systems and limited maternity protection policies in both rural and urban settings, including areas such as Nassarawa Local Government Area in Kano State.

Given these challenges, localized research is essential to understand the specific breastfeeding behaviors, barriers, and enabling factors within individual communities. Such evidence is crucial for developing culturally appropriate and context-specific strategies to support breastfeeding mothers. Therefore, this study aimed to assess breastfeeding practices among lactating mothers in Nassarawa Local Government Area of Kano State, with particular focus on breastfeeding initiation, exclusivity, and duration. The findings are expected to provide evidence that can guide interventions aimed at improving breastfeeding practices and ultimately enhancing infant nutrition and child health outcomes in the study area.

MATERIALS AND METHODS

Methodology

The area of study was Nassarawa local government area of Kano state which was created from the former Kano Municipal Local Government in 1987. Nassarawa is one of the forty-four local government areas of Kano state and is located in the central part of Kano state. A Cross-sectional study design was employed for this research study, which involves data collected at a defined time.

Multi-stage proportional sampling (Burtless and perna, 1991; Donner and Kish, 1987; Kish, 1965) was used for recruitment of the participants. The ward in the local governments was used as cluster and population of each ward was used to allocate number of respond for each after calculating the total number of respondents for the study. The wards in the local government are: Dakata, Gama, Gawuna, Giginyu, Kaura–Goje, Kawaji, Hotoro North, Hotoro South, Tudun Wada, Gwagwarwa and Tudun Murtala. A suitable sample size of mothers with their infants was chosen using the formula: $n = Z^2 P (1-P)/ d^2$ (Cochran, 1977; Naing *et al.*, 2006), with a confidence interval of 95% and precision of 5%.

An interviewer administered semi-structured questionnaire was used in data collection, where participants respond to questions from the researcher as contained in questionnaire. The key indicators used to assess the practices were early initiation, colostrum feeding, exclusive breastfeeding, and use of prelacteal feeds. The questionnaire was administered by the investigator with some assistants according to study protocol. Ethical approval clearance was obtained from Health Research Ethics Committee, Kano state Ministry of Health. A copy of the duly signed approval letter by the Kano state Ministry of Health was attached at the end. Similarly, the consents of any research respondents were obtained prior to the beginning of interview, the aim, purposes and importance of the research was explained to the respondents and required to sign his consents.

Quantitative data analysis was adopted for this research. Data from the questionnaire was analyzed using Statistical Package for Social Sciences (SPSS), version 25 (Tabachnick and Fidell, 2013). Descriptive statistics such as Simple frequency and percentages was used to presents socio-demographic, socio-economic characteristics of the respondents and key breastfeeding practices. Similarly, some inferential statistical

method was used to analysed association and differences between different variables. essentially, two-tailed chi-square test was used to assess association with regards to adopting appropriate breastfeeding practices in terms of their Age, parity, income level, educational status and employment status etc. This means that significant differences and association between the respondents e.g. based on Age, educational level, parity, income level, employment status, anthropometrics etc. A p-value of <0.05 was considered significant in all analyses.

Table 1: Distribution of Breastfeeding Practices Among Lactating Mothers in Nassarawa LGA (n=242)

Breastfeeding Practice	Frequency (n=242)	Percentage (%)
Prelacteal feeding	50	20.66
Early initiation	149	61.57
Colostrum use	164	67.77
Exclusive breastfeeding	192	79.34
Adequate duration of exclusive breastfeeding	125	65.10
Introduction of complimentary foods at six (6) months	171	70.66
Rooming-in	195	80.58
Breastfeeding on-demand	116	47.93
Feeding with breast milk substitutes	116	47.93
Use of pacifiers/artificial teats	95	39.26
Adequate frequency of breastfeeding per day	65	26.86
Mixed breastfeeding	113	46.69
Personal hygiene (washing hand/nipple)	148	61.16
Continuous breastfeeding up twenty-four (24) months	168	69.42
Weaning at two years of age	106	43.80

Table 2: Associations Between Breastfeeding Practices and Selected Socio-demographic Variables (Chi-square Test).

Breastfeeding Practice	Independent/demographic variables					
	χ^2(df)					
	Age	Tribe	Daily meal	Parity	BF. Counselling.	Educational level
Prelacteal feeding	17.04 (2) *	21.09 (4) *	25.41 (3) *	37.45 (3) *	21.61 (1) *	15.99 (3) *
Early initiation	6.20 (2) *	8.94 (4)	1.64 (3)	7.45 (3)	2.60 (1)	1.30 (3)
Colostrum use	1.19 (2)	11.43 (4) *	2.692 (3)	1.83 (3)	0.88 (1)	8.37 (3) *
Exclusive breastfeeding	0.98 (2)	6.70 (4)	0.80 (3)	11.33(3) *	3.48 (1) *	8.81(3) *
Adequate duration of exclusive breastfeeding	4.75 (6)	19.9(12) *	26.45 (9) *	13.76 (9) *	6.12 (3)	15.24 (3) *
Introduction of complimentary foods at six (6) months	0.87 (2)	4.27 (4)	23.75 (3) *	1.56 (3)	6.70 (1) *	8.34 (3) *
Rooming-in	6.39 (2) *	18.24 (4) *	7.06 (3)	4.11 (3)	0.28 (1)	10.21 (3) *
Breastfeeding on-demand	3.60 (2)	8.63 (4)	23.57 (3) *	8.08 (3) *	8.29 (1) *	9.16 (3) *
Feeding with breast milk substitutes	5.58 (2)	3.91 (4)	1.33 (3)	6.24 (3)	0.14 (1)	2.60 (3)
Use of pacifiers/artificial teats	1.95(2)	1.12 (4)	9.09 (3) *	2.44 (3)	0.10 (1)	3.06 (3)
Adequate frequency of breastfeeding per day	2.25 (6)	54.4(12) *	39.55 (9) *	12.35 (9)	9.15 (3) *	13.49 (3)
Mixed breastfeeding	14.78 (2) *	23.16 (4) *	61.32 (3) *	33.73 (3) *	57.75 (1) *	14.43 (3) *
Personal hygiene (washing hand/nipple)	1.61 (2)	16.24 (4) *	7.88 (3) *	2.26 (3)	0.02 (1)	7.78 (3)
Continuous breastfeeding up twenty-four (24) months	6.10 (2) *	8.16 (4)	9.13 (3) *	4.99 (3)	1.81 (1)	9.41(3) *
Weaning at two years of age	0.56 (2)	2.502 (4)	12.29 (3) *	1.536 (3)	0.14 (1)	7.90(3) *

χ^2 = Chi-Square test statistics, df = Degree of freedom, Bf counselling = Breastfeeding counselling received by mother, * Statistically significant at p <0.05

RESULTS DISCUSSION

The study assessed breastfeeding practices among 242 lactating mothers in Nassarawa LGA. Table 1 presents the distribution of key practices and their associations with maternal socio-demographic and socio-economic variables.

Prelacteal Feeding

About 21% of mothers reported giving prelacteal feeds, including water (24%), commercial milk (19%), honey (16%), dates (17%), and herbal preparations. This practice contradicts WHO/UNICEF recommendations against prelacteals due to risks of diarrhea and reduced colostrum utilization (WHO and UNICEF, 2003). Similar prevalence has been reported in Nigeria and other African settings (Prentice, 2022; Mbada *et al.*, 2013). The practice showed significant associations with maternal age, parity, tribe, education, and occupation (p<0.05).

Early Initiation and Colostrum Feeding

Early initiation within the first hour was practiced by 61.6%, and 67.8% fed colostrum. These rates align with international targets, although still below optimal coverage. Comparable findings were reported in Ethiopia (65%) and Ghana (Tadele, 2021; Adokiya *et al.*, 2023). Colostrum use was significantly associated with maternal tribe, religion, education, and income (p<0.05).

Exclusive Breastfeeding (EBF)

Exclusive breastfeeding was reported by 79.3% of respondents, but only 65.1% sustained it for the recommended six months. While higher than national averages (NPC and ICF, 2019), this remains below the WHO 2025 target of 50% coverage sustained through six months. Significant associations existed between EBF practices and parity, education, marital status, and occupation ($p<0.05$).

Responsive Breastfeeding

Rooming-in was practiced by 80.6%, but only 47.9% breastfed on demand. Avoidance of pacifiers was reported by 61%. These findings indicate partial adoption of responsive feeding practices. Comparable trends were observed in Kenya (Mbugua *et al.*, 2020) and South Africa (Mchiza *et al.*, 2020). Age, education, and occupation were significantly associated with rooming-in and breastfeeding on demand ($p<0.05$).

Breastfeeding Frequency and Duration

About 55% of mothers breastfed 6–8 times daily, and 69.4% continued breastfeeding up to 24 months. These findings are consistent with WHO guidelines recommending breastfeeding on demand and continuation beyond two years. Daily frequency and continuation to 24 months were significantly associated with maternal age, parity, occupation, and income ($p<0.05$).

Complementary Feeding

Timely introduction of complementary foods at six months was reported by 70.6%. However, early introduction was common among certain groups, influenced by maternal education, occupation, and religion ($p<0.05$).

Personal Hygiene

About 61.2% of mothers reported washing their hands before breastfeeding, but nipple washing was less frequent. Proper hygiene practices were significantly associated with parity, tribe, education, and income ($p<0.05$), highlighting gaps in awareness.

Mixed Feeding and Use of Substitutes

Nearly half of the mothers (46.7%) practiced mixed feeding, while 47.9% reported using breastmilk substitutes. Both practices were significantly associated with income, occupation, and education ($p<0.05$), suggesting socioeconomic influence on feeding choices.

In essences, beneficial practices such as early initiation, colostrum use, and EBF were fairly high but fall short of WHO targets while armful practices like prelacteal feeding, mixed feeding, and early complementary feeding remain prevalent, and that maternal socio-demographic and economic characteristics particularly education, parity, income, and occupation were strong predictors of breastfeeding practices.

CONCLUSION

The study revealed encouraging progress in early initiation and colostrum feeding practices among mothers in Nassarawa LGA. However, exclusive breastfeeding duration remains inadequate, with many mothers introducing complementary foods earlier than recommended. Harmful practices, such as prelacteal feeding, persist due to cultural beliefs and limited awareness. Socioeconomic status, maternal education, occupation, and parity significantly influenced breastfeeding behaviors. Mothers with higher education and consistent healthcare access were more likely to sustain EBF, while low-income and working mothers faced greater challenges. Overall, while breastfeeding is widely practiced, critical gaps remain in sustaining exclusivity and promoting responsive feeding.

RECOMMENDATIONS

1. Community-Based Education: Launch culturally sensitive campaigns targeting families to discourage prelacteal feeding and reinforce the benefits of colostrum and EBF.
2. Healthcare Support: Train healthcare workers to intensify antenatal and postnatal counseling on breastfeeding practices.
3. Policy and Workplace Interventions: Introduce supportive maternity protection policies, workplace lactation rooms, and flexible schedules for working mothers.
4. Address Cultural Barriers: Engage religious and community leaders in correcting misconceptions about breastfeeding.
5. Monitoring and Evaluation: Implement routine tracking of breastfeeding indicators at the LGA level to inform interventions.

REFERENCES

Abolurin, O. O., Oyelami, O. A., Oseni, S. B., Akinlosotu, M. A., Sodeinde, K. J., and Adekoya, A. O. (2021). Relationship between breastfeeding practices and nutritional status of children aged 6–24 months in South-west Nigeria. Annals of Health Research, 7(2), 179–189.

Adeniyi, O. V., & Omole, O. B. (2018). Barriers to exclusive breastfeeding among mothers in Nigeria: A qualitative study. International Breastfeeding Journal, 13(1), 11.

Adokiya, M. N., Bukari, M., Ndago, J. A., Kuganab-Lem, R. B., Garti, H., Konlan, M. Y., and Ali, Z. (2023). Exclusive breastfeeding among beneficiaries of a nutrition enhancement programme and its associated factors in Ghana. PLoS One, 18(5), e0286546.

Cattaneo, A., and Arendt, M. (2023). Building an Evidence Base for the Protection and Support of Breastfeeding. Journal of Human Lactation, 39(3), 380–384.

Federal Ministry of Health. (2021). National strategy for infant and young child feeding in Nigeria 2021–2025. Abuja, Nigeria.

Huffman, S. L., Piwoz, E. G., Vosti, S. A., & Dewey, K. G. (2014). Babies, soft drinks and snacks: a concern in low-and middle-income countries. Maternal and Child Nutrition, 10(4), 562-574.

Kemppinen, L., Mattila, M., Ekholm, E., Huolila, L., Pelto, J., Karlsson, H., & Karlsson, L. (2022). Gestational anemia and maternal antenatal and postpartum psychological distress in a prospective FinnBrain Birth Cohort Study. BMC Pregnancy and Childbirth, 22(1), 704.

Mbada, C. E., Olowookere, A. E., Faronbi, J. O., Oyinlola-Aromolaran, F. C., Faremi, F. A., Ogundele, A. O., & Augustine, O. A. (2013). Knowledge, attitude and techniques of breastfeeding among Nigerian mothers from a semi-urban community. BMC Research Notes, 6(1), 552.

Mbugua, S., et al. (2020). Rooming-in and breastfeeding outcomes in Kenya. *Journal of Nursing Research, 28(3), e45.*

Mchiza, Z. J., et al. (2020). Breastfeeding frequency and duration among South African mothers. *African Journal of Midwifery and Women's Health, 10(2), 53–60.*

National Population Commission. (2013). Nigeria demographic and health survey 2013. Abuja, Nigeria: NPC and ICF International.

Nigeria Population Commission. (2019). Nigeria demographic and health survey 2018. NPC, ICF.
Nist, M. D. (2025). Progress and Challenges in Global Breastfeeding Rates. MCN: *The American Journal of Maternal/Child Nursing, 50(1), 55.*

Ogbo, F. A., Okoro, A., Olusanya, B. O., Olusanya, J., Ifegwu, I. K., Awosemo, A. O., and Page, A. (2019). Diarrhoea deaths and disability-adjusted life years attributable to suboptimal breastfeeding practices in Nigeria: findings from the global burden of disease study 2016. *International Breastfeeding Journal, 14(1), 4.*

Prentice, A. M. (2022). Breastfeeding in the modern world. Annals of Nutrition and Metabolism, 78(Suppl. 2), 29-38.

Tadele, N. (2021). Knowledge, Attitude and Practice towards Exclusive Breastfeeding among Lactating Mothers, Mizan Aman Town, Southwestern Ethiopia: Descriptive Cross-sectional Study. Convergence Chronicles, 2(6), 468-479.

Vidović Roguljić, A., & Zakarija-Grković, I. (2020). Infant and Young Child Feeding in Croatian Nursing Programs: A Cross-Sectional Analysis. *Croatian Nursing Journal, 4(1), 127-133.*

World Health Organization & United Nations Children's Fund. (2024). Improving the health and wellbeing of children and adolescents: guidance on scheduled child and adolescent well-care visits.

World Health Organization. (2023). Global gestational weight gain standards project: Study-level eligibility criteria (Phase 1 report).

Wronska, M. D., Coffey, M., & Robins, A. (2022). Determinants of nutrition practice and food choice in UK construction workers. Health Promotion International, 37(5), daac129.