

Core barriers to optimal breastfeeding practices among recently-delivered mothers in Ibadan, Nigeria: A mixed study

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ABSTRACT: Exclusive breastfeeding (EBF) is globally the most effective intervention for child survival and the topmost life-saving intervention for newborns. Yet, in Nigeria, only 29% of children are exclusively breastfed. WHO and UNICEF recommended initiation of breastfeeding within one hour of birth, EBF for the first six months of life and continued breastfeeding till up to two years of age or beyond with appropriate weaning practices. Mixed methodology, utilising concurrent (methodological) triangulation, was used with a descriptive cross-sectional design for the quantitative and FGD for the qualitative. Multi-stage sampling was adopted in selecting 305 respondents for the quantitative and 9 nursing mothers for the qualitative aspect. A semi-structured questionnaire and an FGD guide were used to collect data. Quantitative data was analysed using descriptive statistics, while content analysis was used to analyse data from the FGD. The mean age of respondents was 28.9 ± 5.0 years, as the majority (65.6%) were in their early adulthood (21-30 years old). They had an average number of children of $2.1 (\pm 1.1)$, where close to half (49.2%) reported the age of their last child being above 6 months. Three major themes and nine subthemes emerged from the FGD. Social barriers and personal barriers stood out as the core barriers to optimal EBF among nursing mothers. Quantitative report confirmed these core barriers in that beliefs/values and stress-related factors were mainly the determinants of optimal breastfeeding intention and practice. Social and personal barriers were core barriers to optimal EBF. Tailored interventions must be identified, designed and initiated to improve the influence of these factors for the optimal adoption of EBF, just as conflicting advice from health workers (supposed promoters of EBF) on adoption of EBF must be checked and improved upon.

Keywords: Core barriers, EBF, Ibadan, Nigeria, nursing mothers.

INTRODUCTION

Globally, Exclusive breastfeeding (EBF) is recognised as the single most effective intervention for child survival and the topmost life-saving intervention for newborns. Out of all preventive interventions, optimal breastfeeding of infants under two years of age has the greatest potential to impact child survival (WHO, 2018). A child who is exclusively breastfed is 14 times less likely to die in the first six months compared to their counterpart (Seid *et al.*, 2013; UNICEF, 2018). EBF benefits infants through protection against infection and some chronic diseases, and it leads to improved cognitive development. It is

considered an unequalled way of providing ideal food for the healthy growth and development of infants (Azeze *et al.*, 2019).

Despite the well-established benefits of EBF on child's survival, health, and development, many infants are not breastfed according to WHO and UNICEF recommendations on optimal breastfeeding practices (UNICEF, 2016). Documented evidence shows that the prevalence and duration of EBF in many countries are still lower than the international recommendations, with only 43% of newborns have breastfeeding initiated within one hour of

birth and only 39% of infants less than 6 months of age are exclusively breastfed worldwide (WHO, 2018). In Africa, between the periods of 2010-2018, EBF was recorded at a weighted average of 37.3% (Zong *et al.*, 2021) with Central and West African countries recording the lowest rate of 28% compared with 54% for the East and Southern African countries in 2014 (UNICEF, 2015). In Nigeria, however, only 29% of children are exclusively breastfed from age zero to six months, leaving a deficit of 71%, being denied the right and, by extension deny the right to survival (NPC and ICF, 2019).

Nutrition-related factors contribute to about 45% of deaths in under-five children, with optimal EBF accounting for the greatest potential to impact on child survival (Acheampong *et al.*, 2022). Over 800,000 deaths and about 10% of the global burden of disease among children under 5 years in developing countries resulted from suboptimal breastfeeding practices (WHO, 2018). The largest number of these deaths (almost 80 percent) occurred in two regions, Southern Asia (39%) followed by sub-Saharan Africa (38%) with Nigeria (9%) among the top five global countries accounting for half of all newborn deaths in the world (Cox *et al.*, 2015).

The Sustainable Development Goal (SDG) target for child mortality envisage an end to preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 deaths per 1,000 live births and under 5 mortality to at least as low as 25 deaths per 1,000 live births by 2030 (Azeze *et al.*, 2019). Thus, WHO and UNICEF recommended initiation of breastfeeding within one hour of birth, exclusive breastfeeding for the first six months of life and continued breastfeeding till up to two years of age or beyond with appropriate weaning practices (WHO, 2018). Nigeria introduced the baby friendly hospital initiative (BFHI) which resulted in some improvement in early initiation of breastfeeding (33%) however, the duration and practice of exclusive breastfeeding remains low (17%) and falls short of the estimated levels required to achieve substantial declines in childhood mortality (Ogbo *et al.*, 2015).

Avalanche of studies have been conducted on predictors/determinants of EBF. These include lack of knowledge on the benefits of EBF, aggressive promotion of breast milk substitute, lack of adequate skilled support, unsupportive breastfeeding health care practices and policies, inadequate maternity and paternity leave legislation as significant barriers to EBF (WHO, 2016); personal related barriers (negative emotional feelings, irrational thinking, perceived health risks for the baby, and perceived self-inefficacy) and social related barriers (provider-client interaction, disapproval of exclusive breastfeeding by close relatives, unfriendly workplace policies and social myths) (Acheampong *et al.*, 2019), and birth attendants, post-natal care utilization, and breast problem in the first six months of birth (Azeze *et al.*, 2019) as barriers of EBF up to six months post-delivery.

In Nigeria, few peer-reviewed empirical studies have been published on barriers to the practice of EBF. Ohaeri

and Bello (2016) noted, in a multi-facility cross-sectional study carried out in Ibadan (Southwestern Nigeria), that occupation, insufficient milk, spouse's influence, influence of extended family, and inadequate time were main barriers to EBF practice. The authors concluded that participants with good knowledge of EBF were more likely to practice EBF. Furthermore, a qualitative community-based study across two Local Government Areas in Katsina State, North Western Nigeria by Joseph and Earland (2019) added the determinants of how soon a mother initiated breastfeeding to include traditional newborn care practices, the birth attendant and place of delivery; motivation to sustain EBF was influenced by the conflict between the obligation to perform traditional rites, the mother's awareness and family support while the decision making about infant feeding was influenced by the husband, grandmother, traditional birth attendant and the health workers. However, Jacdonmi *et al.* (2016) in a cross-sectional study in Plateau state noted mothers' ethnicity, marital status, religion, and time at which breastfeeding was initiated after birth, colostrum feeding and time at which counselling was received by mothers as determinants of EBF. The equivocality of findings with regard to the current barriers to EBF, as well as the current 52.6% EBF prevalence in South Western Nigeria (Adebayo *et al.*, 2021) against the WHO recommended target of 90%, calls for exploration of the core barriers to EBF. This is very critical for Oyo State in particular and South West Nigeria in general, given its seemingly poor performance in EBF.

METHODOLOGY

Design and setting

The study employed the use of mixed methodology, viz, quantitative and qualitative methods, utilising a concurrent (methodological) triangulation approach. The quantitative aspect employed the descriptive cross-sectional design. Phenomenology, which is solely concerned with the study of the experience from the perspective of the participants, was employed for the qualitative aspect.

The study was conducted in Ibadan North Local Government Area, Oyo State, one of the five (5) metropolitan local government areas of Ibadan, Oyo South Senatorial District. Participants in the study consisted of recently-delivered mothers who brought their babies under one year of age for immunizations in infant welfare clinics of the selected facilities, totalling 896.

Sampling and data collection procedure

Multi-stage sampling procedure involving three stages was employed in selecting a sampled population of 305 (based on Taro Yamane's sample size calculation) for the quantitative study according to specified inclusion criteria that included nursing mothers between the ages of 18 and

49 years, those who had a child in the last one year and are attending the three selected health facilities and have given consent. The criteria also ensured that the participants had received education on EBF. At stage one, a purposive sampling technique was adopted to select three health facilities: Adeoyo Maternity Teaching Hospital, Yemetu; Idi Ogungun Primary Health Centre, Agodi-gate; and Agbowo Primary Health Centre, Agbowo, Ibadan. At the second stage, the proportional sampling was used to estimate the number of sample units to be recruited out of the respective total available population in each of the three selected health facilities. At the third stage, the total sample of 305 nursing mothers was randomly selected using a systematic probability sampling technique with k^{th} interval ($305/896 = 1/3$). Non-probability convenience sampling procedure was used to select 9 nursing mothers, 3 each from the selected facilities, who met the inclusion criteria but were not sampled in the quantitative study.

Data for the quantitative study was collected through a self-administered questionnaire developed by the researcher based on WHO guidelines on optimal breastfeeding and weaning practices, while the FGD guide, adapted by the researcher from Breastfeeding Support and Challenges Text (American College of Obstetricians and Gynecologists (ACOG), 2021), was used to generate data for the qualitative study. All the participants could speak English or Yoruba (one of the three main Nigerian local languages). The two instruments consisted of two sections each. In addition to having socio-demographic characteristics as section A, the questionnaire has 13 items that sought information on determinants of optimal breastfeeding and weaning practices as section B, while the Focus Group Guide has questions on participants' perspectives on core barriers to EBF and weaning practices for at least 1 year post-delivery.

A research assistant was recruited and trained on the necessary skills required in dealing with human respondents and how to collect data through the administration of a questionnaire, using simple language and clearly stated questions. A total of three days, one day each, was used for data collection during antenatal visits in each selected facility. For the FGD, the discussion was conducted in a secluded area at one of the facilities – Adeoyo Maternity Teaching Hospital, a chosen convenient and central facility by the participants with privacy. The researcher prevented bias by avoiding leading questions and discussions started with informal interactions that enabled relaxed atmospheres before questions from the guide were asked. Before the questions, the group rules were read out and ensured to be understood. To ensure free expression and within-group interactions, relevant techniques were followed. The FGD lasted between an hour and a half, during which notes were taken even as discussion was audiotaped and transcribed verbatim from audio to text. Data collected in Yoruba was translated into English before transcription.

Ethical consideration

Ethical clearance was sought from the *Institutional Review Committee of the Ministry of Health, Oyo State*. Consent of all the participants was sought before recruitment into the study, and their approval was obtained before discussions were audio-taped, even as they were made aware that their participation in the study was voluntary and withdrawal at any time would not attract any form of penalty. Data presentation had no form of identification that could be related to participants because codes were used to represent participants in the study.

Data analysis

Data was processed and analysed using the Statistical Package for the Social Sciences (SPSS) version 23. Descriptive statistics were used to describe the data. Content analysis was used to process the generated data from the FGD. Firstly, the transcript was read several times by the researcher to understand the general perspectives of participants before names and phrases were attached to sentences (coding). The codes attached to sentences and phrases were the ones that captured the meanings of the data, and similar codes were then grouped to form sub-themes, and sub-themes were merged to generate major themes of core barriers. This process was managed by NVivo software after transcription and reported in themes.

RESULTS

All of the three hundred and five (305) respondents agreed to participate in the study as they filled and returned the questionnaires administered to them. Hence, 305 respondents were included in the final analysis.

Table 1 summarises the socio-demographic profile of respondents and shows that most are of the Yoruba ethnic group (94.1%), who were married (98.0%) and are of the Islamic religion (52.1%). They had a mean age of 28.9 (± 5.0) years, as the majority (65.6%) were in their early adulthood (21-30 years old), who had a secondary school certificate (59.3%) and were self-employed (69.2%). They had an average number of children of 2.1 (± 1.1), as the majority (87.9%) of the respondents reported not having more than 3 children, of which close to half (49.2%) reported the age of their last child being above 6 months.

Table 2 reveals that 24.9% and 24.3% of the nursing mothers pointed out beliefs/values and stress-related factors as determinants of optimal breastfeeding intention and practice. Others, like the nature of work, poor spousal/family support, delayed/insufficient lactation and short duration of maternity leave, accounted for 15.7%, 13.1%, 13.1% and 10.2%, respectively as determinants of optimal breastfeeding intention and practice among the respondents. Findings from logistic regression identified

Table 1. Socio-demographic characteristics of the mothers (n=305).

Variable	Response	Frequency	Percentage (%)
Age group (years) Mean $\pm$ SD =28.9 $\pm$ 5.0	Below 21	8	2.6
	21 – 30	200	65.6
	31 – 40	94	30.8
	Above 40	3	1.0
Marital Status	Single	6	2.0
	Married	299	98.0
Religion	Christianity	146	47.9
	Islam	159	52.1
Tribe	Yoruba	287	94.1
	Igbo	10	3.3
	Others	8	2.6
Educational level	Non formal	2	0.7
	Primary	16	5.2
	Secondary	181	59.3
	ND/HND	69	22.6
	BSc	37	12.1
Employment status	Private employment	58	19.0
	Civil service	18	5.9
	Self-employed	211	69.2
	Unemployed	18	5.9
Nature of work	Student	3	1.0
	Housewife	8	2.6
	Professional	30	9.9
	Artisan	102	33.7
	Others	160	52.8
Parity Mean $\pm$ SD = 2.1 $\pm$ 1.1	1-3	268	87.9
	Above 3	37	12.1
Age of last child	Below 1 month	20	6.6
	1-6 months	135	44.3
	Above 6 months	150	49.2

delayed/insufficient lactation [AOR (95%CI):0.23(0.08 – 0.72)] and beliefs/values [AOR (95%CI):0.06(0.02 – 0.24)] as predictors of optimal breastfeeding practices among the respondents

Focus group discussion

Profile of the participants

The ages of the participants ranged between 22-40 years, of which 7 were less than 30 years, suggesting they were in their early adult life. All had formal education (ranging

from secondary school to tertiary levels), where 4 had tertiary education. Of the 9 nursing mothers, 8 were gainfully employed (including self-employment), and the age of their babies ranged between 3 – 7 months. All participants were of the Yoruba ethnic group, and 5 out of the 9 were multiparous (had more than one pregnancy).

Three main themes were derived from the analysis: Cultural, Social and Personal barriers, with each theme having three subthemes. The nine subthemes included *practice of giving water, practice of giving pre-lacteal traditional medicine and glucose at birth, the belief that colostrum is dirty, perceived breast milk insufficiency, breast related factors and other health concerns for the*

Table 2. Determinants of optimal breastfeeding and weaning practices among mothers.

Determinants	Frequency (%)	
	Yes	No
Poor Spousal/family support	40(13.1)	265(86.9)
Nature of work	48(15.7)	257(84.3)
Non-availability of crèche in/near the workplace	24(7.9)	281(92.1)
Multiple births	2(0.7)	303(99.3)
Type of delivery	1(0.3)	304(99.7)
Delayed/ insufficient Lactation	40(13.1)	265(86.9)
Baby's refusal	0(0.0)	305(100.0)
Short duration of maternity leave	31(10.2)	274(89.8)
No pay maternity leave	29(9.5)	276(90.5)
Mothers unwillingness to breastfeed	1(0.3)	304(99.7)
Medical Reasons	1(0.3)	304(99.7)
Beliefs/values	76(24.9)	229(75.1)
Stress-related factors	74(24.3)	231(75.7)

mother, nursing mother's formal work schedules, family and friend's influence, health system influence, and unfriendly institutional policies and community values.

Cultural barriers

Cultural barriers to EBF as a theme emerged from the aggregation of subthemes *practice of giving water, the practice of giving pre-lacteal traditional medicine and glucose at birth, and the belief that colostrum and breast milk is dirty.*

The practice of giving water at birth: The traditional belief that the baby has an obligatory requirement for supplementary water to quench its thirst necessitates giving water while waiting for the letting down of breast milk. It is also believed that water promotes the infant's normal development. Even though few mothers met the WHO recommendation of initiating breastfeeding within 30 minutes to 1 hour after delivery, the delay or non-initiation of breastfeeding at birth by some was due to the waiting for the let-down of breast milk, which they believed could take up to three days.

"What we know is that the baby, while in the womb, traditionally births in water from which it drinks and excretes. Babies have the desire to always quench their thirst, and giving them water while waiting for the letting down of breast milk is always the norm." **FG4, 24 years.**

"The making of 'ta, ta, ta' sound is usually a response to thirst and giving of water not only quenches the thirst but promotes the infant's normal development." **FG7, 29 years.**

The practice of giving pre-lacteal traditional medicine and glucose at birth: A belief that breast milk is

insufficient is the most common reason for introducing non-breast milk foods. Mothers in Ibadan North believe in giving pre-lacteal traditional medicine and glucose, and it is considered a norm to supplement breastfeeding from birth.

"I was informed in the hospital, when we came for antenatal clinic, they said that we should breastfeed our children from birth to six months, only breast milk, but for the letting down of the breast milk, a traditional medicine is often given to women who just gave birth in our community." **FG2, 30 years.**

"For the breast milk to start coming out for the baby to suck, it could take two days, to some even three days after delivery. But if we are given this traditional medicine, it makes the coming faster and then even purifies the breast milk when it finally comes. During the waiting, glucose water is given to the baby for sustenance." **FG5, 29 years.**

The belief that colostrum is dirty: At first birth, all the multiparous nursing mothers discarded colostrum. They were told that it is the norm because colostrum is dirty, looking like pus, and a baby can contract diseases from it. According to them, colostrum is the wash-out of the breast milk to make the perceived bad milk good for the baby.

"You know newborn babies are fragile, and fore milk (referring to colostrum) is meant to wash out all accumulated dirt in the mother. It is reasonable and best traditional practice to have it thrown away. Anything other than this, the baby could be exposed to a danger that we were warned of." **FG1, 27 years.**

"Yes, we were told during antenatal care visits that the first milk (colostrum) is rich in nutrients and antibodies. The explanation seems ok, but discarding this first milk that looks like pus, and easily discouraging to give to a fragile

being like the newborn baby, is what our parents did, and their babies turned out well.” FG3, 25 years

Social barriers

Social barrier as a major theme emerged after the following sub-themes were aggregated: Significant others' influence, influence of the health system, unfriendly institutional policies and community values.

Significant others' influence: Nursing mothers' significant others, such as husbands, mothers, mothers-in-law, grandmothers, other family members, and friends, constitute a great influence on the nursing mothers' desire for exclusive breastfeeding. Participants maintained that even when they desired to practice EBF, family members gave their children other foods without their consent. Many of the participants indicated that their EBF practice was interrupted by the visit of their mothers or mother-in-law in-law who must always come around after childbirth for 'omugo' (a term describing the period of nursing an infant and the nursing mother).

“My grandmother, who would always name my children after family members who have died, claiming that they are the ones returning as my children, does not support feeding a baby with breast milk only for six months. So, she will insist I add water and give certain food to make sure my children remain strong and wise as the people they are named after.” FG8, 22 years.

“Some food and water should be added to the baby's meal right from the beginning. That is what my older sisters do, even sisters to my husband, and I think I must follow what my nuclear family is doing. Their children are all looking healthy.” FG1, 27 years.

“I was giving my baby only breast milk until my fellow nursing mothers, who are my friends, made me feel like I was suffering. They insisted that not giving water to the child makes the child always wanting to suck breast because of thirst”

The influence of mother-in-law on the nursing mothers' husbands and directly on the nursing mothers themselves was strong to the extent that their choice does not matter.

“Based on the emphasis at ANC on EBF I do plan to initiate, sustain EBF when I deliver but my mother in-law will always insist on giving my baby water and some food even when I would plead with her not to. She would say that water and some soft food for babies is good.” FG5, 29 years.

Influence of health system: Conflicting advice from healthcare workers including doctors and nurses, as well

as poor EBF education and counselling, were barriers to EBF practices by nursing mothers. Mothers stated that they got flexible messages on EBF practice from different healthcare workers so they felt there could be moderations to EBF.

“A midwife who is also a mother advised me to give my baby formula milk and water until my milk starts flowing.” FGD4, 24 years

“A doctor insisted while I wait for my breast milk to start flowing, I can give my baby water and glucose especially immediately after delivery.” FGD6, 26 years.

“When we were asked on the progress of EBF at the immunization visit, I said it was not strictly EBF and I think my baby is doing fine with the mixed feeding, and the nurse said ok, that's fine.” FGD8, 22 years.

“A doctor friend at the ANC clinic told me that EBF is for mothers who cannot hygienically take care of their baby. And for a working class mother like me, I can afford formula feeding since EBF is mostly equated to low social standing in the community.” FGD3, 25 years.

Some nursing mothers who would want to clear these conflicting advises asserted that the unfriendly and hostile attitude of nurses whom they see relatively more often would not permit interrogative discussions in this regard. This behavior prevented them from seeking information that would have allowed them to make informed decisions regarding EBF.

“The strong face the nurse is holding cannot allow me tell her the confusion I am facing regarding EBF. I am even afraid to approach her because I know she will be rude to me when I do so. In clinic, all one needs to do is listen to them.” FGD1, 27 years.

“With the way nurses call us all names just for being pregnant I can bet that they will not entertain questions from me as they could shout at me before I even finish talking.” FGD5, 29 years.

Unfriendly institutional policies and community values: Existing institutional policies and community value system seem not to promote EBF among working and schooling nursing mothers. The absence of paternity leave, short duration of maternity leave, community belief system that EBF is equated with low socioeconomic status and inflexible workplace policies were viewed by working nursing mothers as negatively influencing their attitudes towards EBF.

The short duration of maternity leave of 3 months does not allow a working mother to stay at home for a long time after delivery for EBF. When we return to work or school, there

are no provisions to allow mothers to take time off to breastfeed their babies during working or schooling hours. Hence, the choice of EBF becomes difficult.” FGD9, 40 years.

“At school or working environment, the public space would seem inappropriate to bring out breast for breastfeeding. The lack of provision for nurseries even makes this difficult.” FGD4, 24 years.

“I am currently undergoing a master's degree during which sometimes we could stay in class for a lecture of 3 hours straight, no break before another lecturer and I am asked to breastfeed exclusively for six months. How is this possible? How can my baby be waiting in hunger and thirst till I finish lecture to attend to him? All these make the choice of EBF impossible.” FG3, 25 years.

“Hmmm...come to think of it. I think working nursing mothers and those in the high social class should be exempted from EBF in this era of the variety of formula feeding. Once you can afford formula feeding, you should be allowed to go for it. By the way, the feed nurtures healthy babies as well, if not even better. We know in the community that EBF is for the poor, those who cannot afford the baby food from the shop.” FGD7, 29 years.

Personal barriers

Aggregate of subthemes as perceived breast milk insufficiency, breast related factors and other health concerns for the mother and nursing mother's formal work schedules form the theme personal barriers.

Perceived breast milk insufficiency: Concerns about the sufficiency of their breast-milk was reported by the nursing mothers and this constituted a barrier to them practicing optimal EBF. According to them, breast milk does not contain water and enough nutrients, therefore depriving the baby of additional water and food in the first six months. They questioned the benefits of EBF as exemplified with the extracts below:

“Forget about the nonsense nurses are talking about. Breast milk cannot possibly contain all the required nutrients for a period of 6 months for a new born baby. If the baby does not take foods other than breast milk, I am afraid the baby will be deprived of a lot of nutrients for his development. A mother must just have to do what is expected by adding food and water as well.” FGD8, 22 years.

“My breast is too watery and does not look rich in nutrients. So, I give him water and also formula milk.” FGD3, 25 years.

Some nursing mothers even rationalized their actions of not ensuring EBF insisting advocates of EBF know of its

insufficiency but prefer it still because of the hygienic concerns of handling baby's food preparation and administration among many nursing mothers.

“The insufficiency of breast milk should easily warrant the inclusion of other foods for newborn babies, but for the mothers who do not know how to keep the feeding bottles of the babies neat or hygienically handle the food preparation, EBF is now obviously advocated.” FGD6, 26 years.

Breast related factors and other health concerns for the mother: After delivery, there is a waiting period for breast milk to start coming out. Some mothers stated that they could not afford to keep their babies hungry by waiting for the milk to start coming out, so they had to give water and glucose while waiting. Nursing mothers who reported this frustration stated thus:

“I watched my baby crying and making sounds indicative of thirst yet breast milk was not coming out so I gave formula milk and water for the first few days after delivery.” FGD9, 40 years.

Breast conditions like engorgement, soreness, cracks, or painful nipples were barriers to babies being breastfed exclusively. These conditions occurring within the few weeks after delivery necessitated the introduction of alternative foods earlier than anticipated, with some mothers not even attempting EBF at all.

“I don't know why I usually have swollen breast after delivery. The swelling and the accompanying pains prevents me from EBF.” FGD2, 30 years.

Nursing mothers who admitted being sick after delivery introduced other foods to their infants because of the debilitating effects of the sickness making them unable to breastfeed their infants exclusively.

“I had fever and was too weak to even breastfeed my child after delivery.” FGD6, 26 years.

Few nursing mothers believed that a mother who practice EBF will lose too much weight aside the sagging of the breast which has negative impact on their self-body image. Being mostly educated and employed, they believed they should look beautiful and attractive even in marriage.

“I know it is the right of our babies to be breastfed, but breastfeeding is such a draining activity. Aside making one lose weight it also sags the breast making a young woman looking unattractive and older than her age. So, a little break from EBF for alternative foods is the way.” FGD2, 30 years.

Nursing mothers' formal work schedules: EBF among working-class mothers seems difficult, as they complained

that the time-consuming nature of EBF makes it difficult to integrate it into their work schedule. So, they chose alternative feeding as it gives them laxity to integrate activities.

"I work from 8am - 4pm. I cannot possibly carry my baby to work." FGD 7, 29 years.

DISCUSSION

The demographic characteristics revealed that two-third of the respondents' age ranges from 21 to 30 years which is an indication that the respondents who participated are within their reproductive years, a finding similar to that of Bhandari *et al.* (2019) who reported age range of 20- 29.9 (69% of the participants) in their study. Almost all of the respondents were married, which supports the fact that married women are more likely to breastfeed their children optimally compared to unmarried women (Machila *et al.*, 2021). About three-fifths had a secondary school certificate, indicating that the respondents can read and write, and this is in line with findings of Chekol *et al.* (2017) that reported majority (89.5%) of their study participants attended secondary school. Slightly above two-thirds were self-employed, a similar finding to that of Bhandari *et al.* (2019), where 76.4% of mothers were not formally employed, as self-employed mothers tend to breastfeed more than formally employed mothers.

Following the analysis, three major themes and nine subthemes emerged. Cultural barriers (practice of giving water, practice of giving pre-lacteal traditional medicine and glucose at birth and the belief that colostrum is dirty), social barriers (significant others influence, influence of health system, unfriendly institutional policies and community values), and personal barriers (perceived breast milk insufficiency, breast related factors and other health concerns for the mother, nursing mother's formal work schedules) were the perceived barriers to EBF with social and personal barriers remaining the core barriers to optimal EBF among the nursing mothers. This is consistent with studies conducted in Ghana (Acheampong *et al.*, 2022; Ayawine and Ae-Ngibise, 2015), South Africa (Jama *et al.*, 2017), Tanzania (Maonga *et al.*, 2016) and Nigeria (Ejie *et al.*, 2021), where most participants' accounts revealed personal and social-related factors constituting barriers to the adoption of EBF, irrespective of the parity of the nursing mothers. This finding is strongly supported by the nursing mothers in the quantitative study who reported that beliefs/values, delayed/insufficient lactation and stress-related factors (personal barriers), as well as poor spousal/family support (social barrier) were determinants of optimal breastfeeding intention and practice.

With participants being working-class nursing mothers, most reported unfriendly institutional policies such as short duration of maternal leave, conflicting schedules at the

workplace, as well as divergent breastfeeding advice from health workers, as discouraging factors to EBF. In Nigeria, despite the recommendation for extended maternity leave of six months, institutions of government across levels, as well as the private sector, have yet to implement the directive. Workplace policies perceived as baby-friendly by mothers, as documented in other studies, have been found to influence positive attitudes towards EBF (Acheampong *et al.*, 2022; Bai *et al.*, 2012; Rojjanasrirat and Ferrarello, 2013), with these attitudes translating to positive behaviour of breastfeeding mothers being able to breastfeed successfully for a longer duration (Kozhimannil *et al.*, 2016). This is further supported by findings from a quantitative study where the nature of work and short duration of maternity leave were reported as determinants of EBF. It is noteworthy that the majority of the health professionals (regarded as the change agents) have, to a greater extent, varied opinions regarding EBF. They, therefore, often provide conflicting messages, which are confusing to the mothers. This is consistent with the findings of Jama *et al.* (2017) who identified this extended family pressure and having to make decisions based on contradictory advice i.e. grandmother versus health personnel, lack of autonomy and decision-making power of the mothers, as some of the challenges of implementing EBF in Africa. Breastfeeding is a time-consuming and detailed activity that requires flexible and work-friendly policies. This calls for improvement in workplace policies such that breastfeeding mothers are given breaks, shorter working hours, and longer maternity leaves necessary to promote EBF.

Furthermore, perceived breast insufficiency was expressed by participants as circumstance that is viewed as negatively affecting their decision to exclusively breastfeed their babies, consistent with the quantitative findings that identified delayed/insufficient lactation [AOR (95%CI):0.23(0.08 – 0.72)] and beliefs/values [AOR (95%CI):0.06(0.02 – 0.24)] as predictors of optimal breastfeeding practices among the participants.

This finding agrees with findings of Kimani-Murage *et al.* (2011), Wanjohi *et al.* (2016), Srikanth *et al.* (2017) and Acheampong *et al.* (2022), where the mothers were not confident enough in the ability of breast milk to provide sufficient nutrients for the growth and development of their babies. This lack of confidence in the sufficiency of breast milk became obvious when nursing mothers refused EBF in the first six months, considering it as life-threatening to their babies since breast milk does not contain water and enough nutrients (Acheampong *et al.*, 2022). This is noteworthy of the gaps in the impact of health talks at ante-natal and postnatal clinics on the nutritional content and values of breast milk. Hence, a health talk that is structured, adequate in content and format of delivery must be ensured by the nurses and midwives during ante-natal and postnatal clinics.

More so, study findings revealed the influence of family members and friends as barriers to the adoption of EBF

among nursing mothers in the present study setting. Nursing mothers were mostly influenced by their mother-in-laws and grandmothers, who would easily give water and other baby foods to ensure the baby left in their care is satisfied. This direct interference in EBF and indirect interference of insisting nursing mothers introduce water and other baby foods in feeding their babies was also observed by Horwood *et al.* (2019), Wainaina *et al.* (2018), Matare *et al.* (2019) and Ejie *et al.* (2021), who reported similar findings. This shows a setting or society where the collective goal takes precedence and where grandmothers, mothers and fathers collectively make the decision about childcare. Thus, attempts at improving the nursing mothers' attitudes towards EBF at ante-natal and postnatal clinics alone are not enough EBF promotional strategy, but also include several other family members such as grandmothers, mothers and the heads of the households as a category of adopters whose opinions tend to influence decision-making about EBF adoption. This category of adopters could be accessed in their communities by the community health nurses and midwives for an improved EBF promotional education capable of encouraging adoption by nursing mothers.

It was also reported in this study that breast-related factors such as swelling, sores, and pains were significant barriers to optimal EBF. Consistent with findings of Ejie *et al.* (2021), nursing mothers reported that nipple pain, especially during the first 2 weeks of breastfeeding, was among the factors that forced them to introduce alternative foods earlier than anticipated. Some mothers stated that they did not attempt EBF because the cracks around their nipples and the accompanying pains prevented them, so they had to introduce formula milk. This suggests improved holistic care for mothers at antenatal and postnatal clinics in preparation for optimal EBF. Mothers with above history of breast-related conditions must always be identified during antenatal visits, and appropriate preventive intervention should be designed for them to prevent the development of such conditions post-delivery.

Conclusion

Social barriers (significant others' influence, influence of health system, unfriendly institutional policies and community values) and personal barriers (perceived breast milk insufficiency, breast-related factors and other health concerns for the mother, nursing mother's formal work schedules) stood out in this study as core barriers to optimal EBF. Therefore, tailored interventions by all promoters of EBF must be identified, designed and initiated to improve the influence of these factors for the optimal adoption of EBF in the setting of the present study, in particular, and beyond in general. The conflicting advice from the nurses and midwives (the supposed change agent) on the adoption of EBF as reported in the study must be taken with great concern for improvement by the

practicing body (National Association of Nigerian Nurses and Midwives (NANNM)) as well as by the regulating agency (Nursing and Midwifery Council of Nigeria (NMCN)).

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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REFERENCES

- Acheampong, A. K., Ganga-Limando, M., & Aziato, L. (2022). Qualitative exploration of perceived barriers of exclusive breastfeeding among pregnant teenagers in the Greater Accra Region of Ghana. *BMC Public Health*, 22(1), 1885.
- Adebayo, A. M., Ilesanmi, O. S., Falana, D. T., Olaniyan, S. O., Kareem, A. O., Amenkhenan, I. F., Alele, F. O., Afolabi, A. A., Omotoso, B. A., & Ayodeji, O. O. (2021). Prevalence and predictors of exclusive breastfeeding among mothers in a Semi-Urban Nigerian Community: A cross-sectional study. *Annals of Ibadan Postgraduate Medicine*, 19(1), 31-39.
- American College of Obstetricians and Gynecologists. (2021). Breastfeeding Challenges: ACOG Committee Opinion, Number 820. *Obstet Gynecol*, 137(2), e42-53.
- Ayawine, A., & Ayuurebobi, K. (2015). Determinants of exclusive breastfeeding: a study of two sub-districts in the Atwima Nwabiagya District of Ghana. *The Pan African Medical Journal*, 22, 248.
- Azeze, G. A., Gelaw, K. A., Gebeyehu, N. A., Gesese, M. M., & Mokonnen, T. M. (2019). Exclusive breastfeeding practice and associated factors among mothers in Boditi Town, Wolaita Zone, Southern Ethiopia, 2018: A Community-Based Cross-Sectional study. *International Journal of Pediatrics*, 2019(1), 1483024.
- Bai, Y. K., Wunderlich, S. M., & Weinstock, M. (2012). Employers' readiness for the mother-friendly workplace: An elicitation study. *Maternal and Child Nutrition*, 8(4), 483-491.
- Bhandari, S., Thorne-Lyman, A. L., Shrestha, B., Neupane, S., Nonyane, B. A. S., Manohar, S., Klemm, R. D., & West, K. P. (2019). Determinants of infant breastfeeding practices in Nepal: a national study. *International Breastfeeding Journal*, 14, 1-17.
- Chekol, D. A., Biks, G. A., Gelaw, Y. A., & Melsew, Y. A. (2017). Exclusive breastfeeding and mothers' employment status in Gondar town, Northwest Ethiopia: a comparative cross-sectional study. *International breastfeeding journal*, 12, 1-9.
- Cox, K. N., Giglia, R. C., & Binns, C. W. (2015). The influence of infant feeding attitudes on breastfeeding duration: evidence from a cohort study in rural Western Australia. *International Breastfeeding Journal*, 10, Article number 25.
- Ejie, I. L., Nwabanne, A. T., Nwabisi, D. C., Akudolu, G. V., Mbonu, O. G., & Ekwunife, O. I. (2021). A qualitative study on

- factors affecting exclusive breastfeeding practice among nursing mothers in south-east Nigeria. *Journal of Current Biomedical Research*, 1(4), 40-69.
- Horwood, C., Jama, N. A., Haskins, L., Coutsooudis, A., & Spies, L. (2019). A qualitative study exploring infant feeding decision-making between birth and 6 months among HIV-positive mothers. *Maternal & Child Nutrition*, 15(2), e12726.
- Jacsonmi, I., Suhainizam, M. S., Suriani, I. B., Zoakah, A. I., & Jacsonmi, G. R. (2016). Determinants of Exclusive breastfeeding continuity among mothers of infants under six months in Plateau State, Nigeria. *International Journal of Health Sciences and Research*, 6(4), 2249-9571
- Jama, N. A., Wilford, A., Masango, Z., Haskins, L., Coutsooudis, A., Spies, L., & Horwood, C. (2017). Enablers and barriers to success among mothers planning to exclusively breastfeed for six months: a qualitative prospective cohort study in KwaZulu-Natal, South Africa. *International Breastfeeding Journal*, 12, Article number 43.
- Joseph, F. I., & Earland, J. (2019). A qualitative exploration of the sociocultural determinants of exclusive breastfeeding practices among rural mothers, North West Nigeria. *International Breastfeeding Journal*, 14, Article number 38.
- Kimani-Murage, E. W., Madise, N. J., Fotso, J. C., Kyobutungi, C., Mutua, M. K., Gitau, T. M., & Yatich, N. (2011). Patterns and determinants of breastfeeding and complementary feeding practices in urban informal settlements, Nairobi Kenya. *BMC Public Health*, 11, Article number 396.
- Kimani-Murage, E. W., Wekesah, F., Wanjohi, M., Kyobutungi, C., Ezeh, A. C., Musoke, R. N., Norris, S. A., Madise, N. J., & Griffiths, P. (2015). Factors affecting actualisation of the WHO breastfeeding recommendations in urban poor settings in Kenya. *Maternal & Child Nutrition*, 11(3), 314-332.
- Kozhimannil, K. B., Jou, J., Gjerdingen, D. K., & McGovern, P. M. (2016). Access to workplace accommodations to support breastfeeding after passage of the Affordable Care Act. *Women's Health Issues*, 26(1), 6-13.
- Machila, C. M., Karonjo, J., Mogere, D., & Kariuki, P. (2021). Level of awareness of the benefits, socio-demographic and cultural factors influencing exclusive breastfeeding among mothers attending MCH clinic in Tudor sub county hospital. *International Journal of Community Medicine and Public Health*, 8(5), 2150.
- Matare, C. R., Craig, H. C., Martin, S. L., Kayanda, R. A., Chapleau, G. M., Kerr, R. B., Dearden, K.A., Nnally, L. P., & Dickin, K. L. (2019). Barriers and opportunities for improved exclusive breast-feeding practices in Tanzania: household trials with mothers and fathers. *Food and Nutrition Bulletin*, 40(3), 308-325.
- Maonga, A. R., Mahande, M. J., Damian, D. J., & Msuya, S. E. (2016). Factors affecting exclusive breastfeeding among women in Muheza District Tanga northeastern Tanzania: a mixed method community based study. *Maternal and Child Health Journal*, 20, 77-87.
- National Population Commission, NPC/Nigeria and ICF/USA (2019). Nigeria Demographic and Health Survey 2018, Abuja, Nigeria, and Rockville, Maryland, USA.
- Ogbo, F. A., Agho, K. E., & Page, A. (2015). Determinants of suboptimal breastfeeding practices in Nigeria: evidence from the 2008 demographic and health survey. *BMC Public Health*, 15, 1-12.
- Ohaeri, B. M., & Bello, S. S. (2016). Exploring the barriers to exclusive breastfeeding in Ibadan North Local Government Area, Oyo State, Nigeria. *African Journal of Midwifery and Women's Health*, 10(4), 162-167.
- Rojanasasirrat, W., & Ferrarello, D. P. (2013). Evaluating attitudes toward workplace support for breastfeeding among hospital managers. *Clinical Lactation*, 4(4), 141-147.
- Seid, A. M., Yesuf, M. E., & Koye, D. N. (2013). Prevalence of Exclusive Breastfeeding Practices and associated factors among mothers in Bahir Dar city, Northwest Ethiopia: a community based cross-sectional study. *International Breastfeeding Journal*, 8, Article number 14.
- Srikanth, L., Subbiah, K., & Srinivasan, S. (2017). Beliefs and practices of newborn feeding in tribal areas of India: a decennary review. *International Journal of Community Medicine and Public Health*, 4(2), 281-285.
- UNICEF (2015). Committing to child survival: A promise renewed: Progress Report 2015. UNICEF.
- UNICEF (2018). Nutrition-breastfeeding. Unite for children. Retrieved from https://www.unicef.org/nutrition/index_24824.html.
- Wainaina, C. W., Wanjohi, M., Wekesah, F., Woolhead, G., & Kimani-Murage, E. (2018). Exploring the experiences of middle income mothers in practicing exclusive breastfeeding in Nairobi, Kenya. *Maternal and Child Health Journal*, 22, 608-616.
- Wanjohi, M., Griffiths, P., Wekesah, F., Muriuki, P., Muhia, N., Musoke, R. N., Fouts, H. N., Madise, N. J., & Kimani-Murage, E. W. (2016). Sociocultural factors influencing breastfeeding practices in two slums in Nairobi, Kenya. *International Breastfeeding Journal*, 12, Article number 5.
- WHO (2016). Nutrition: Exclusive breastfeeding. In. WHO 2016 Press release. Geneva, Switzerland.
- Zong, X. N., Wu, H., Zhao, M., Magnussen, C. G., & Xi, B. (2021). Global prevalence of WHO infant feeding practices in 57 LMICs in 2010–2018 and time trends since 2000 for 44 LMICs. *EClinicalMedicine*, 37, 100971.