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Research Article

Qualitative Investigation of Infant (birth-6 months' age) feeding practices among First Time Mothers in rural Nigeria

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Abstract

Early nutrition is crucially important for children to survive, grow and develop into healthy adults and improving nutrition in the first six months of life is widely been recognized as an international priority. This study was the first of its type in having a qualitative investigation into types and understanding of feeding practices among 24 first time mothers, half of which were practicing exclusive breastfeeding (EBF). They were randomly selected and voluntarily interviewed in primary health centers in the north and south of Nigeria using in-depth interviews and focus group discussions. The interviews and discussions were digitally voice recorded, transcribed and thematically analyzed using a constructionist approach. The study revealed a wide range of infant feeding practices that are practiced together with breast milk that include water, 'peak' liquid milk, 'pap', 'kunu giya', custard, native medicine in the first six months of age. 'Kunu giya', an alcoholic drink was practiced by the Goemai tribe.

My epistemological position as a 'social constructionist' researcher was the theoretical framework applied as it goes further than the interpretative approach by not only asking questions about people's interpretations of an issue but taking the issue with the very concept of a pre-existing reality in understanding human behavior. Settings were observed, described and interpreted, maintaining "empathic neutrality" to prevent reflexivity.

The study concluded that successful Federal Government of Nigeria strategies to improve breastfeeding need to involve health care services, communities and families. At the same time, types of infant feeding apart from exclusive breastfeeding need to be discontinued by giving mothers correct information, gaining male support for EBF, and empowering mothers in the community to be 'peer change agents for exclusive breastfeeding'.

Keywords: Infant Feeding; First-Time Mothers; Qualitative Investigation; Breast Feeding; Nigeria

Introduction

Malnutrition is one of the biggest health problems that the world currently faces and a significant public health problem in Nigeria. It is associated with nearly half of all deaths in children under 5 attributable to undernutrition, translating into the loss of about 3 million young lives a year [1]. Feeding practices during infancy are critical for the growth, development and health of a child during the first two years of life [2]. WHO recommends breastfeeding up to two years of age to ensure proper growth and development. Undernutrition puts children at greater risk of dying from common infections, increases the frequency and severity of such infections, and delays recovery [1]. The National Nutrition and Health Survey (2018) [3] conducted in Nigeria indicated that acute malnutrition levels have remained at WHO alert levels of 5-9.9%. The prevalence of Underweight among children aged 0-59 months was 19.9 percent (95% CI: 21.5-23.4), just at the margin of the 20 percent threshold for serious situation that it has been since 2014, higher than the global estimate of 15 percent but consistent with the rates in the West and Central Africa region (22%). The prevalence of stunting was 32.0 percent (95% CI: 30.7-33.4) and has remained the largest burden of malnutrition with stagnated rates of above 30 percent.

Complementary feeding is defined as the feeding of an infant with foods and liquid alongside breast milk, when breast milk alone is no longer sufficient to meet its nutritional requirements [4]. It is recommended that infants be breastfed within 30 minutes of birth and exclusively breastfed for the next six months without water, juice, or food [5]. Progress in improving infant and young child feeding practices in the developing world has been remarkably slow [6] due to several factors. Different types of feeding exist for newborns and infants in different parts of the world. This is not

surprising as people coexist under different cultures and traditions [7]. It has been reported that most children are fed complementary foods that are inadequate in quality and quantity [8] in Nigeria. Complementary feeding frequently begins too early or too late and the food given are often nutritionally inadequate and unsafe. The early introduction of other liquids or complementary foods will displace the energy and nutrients provided by breast milk rather than provide an additional source of nutrition. The target age range for complementary feeding is generally taken to be 6 to 24 months of age [9].

In Nigeria, research by Okwori (2011) [10] showed that 'on the question of age, time and type of food given before six months, 70% gave herbs/water, 12% gave water and pap, 5% gave infant formula/fresh cow milk, 3% gave honey/sugar, while 10% fully breastfed'. This is in line with the 2018 Nigeria Demographic and Health Survey (NDHS) collected data showed only 42 percent of children under 6 months of age are exclusively breastfed (EBF) [8]. However, evidence for the benefit of breastfeeding in the first six months of life is compelling. Only breast milk offers infants and young children complete nutrition, early protection against illness, and safe, healthy food - all at once. Better breastfeeding offers triple value: better health for mothers and temporary contraception as well as improvements in child survival and health. Breastmilk provides the infant with all his or her nutritional requirements for growth and development [11].

A study done in Haiti with 'key informant interviews indicated that infants are given herbal teas, water, sugar water, and oil from the "pelma christi" palm to expel the meconium soon after birth. They concurred that even breastfed children should be fed other liquids and/or foods at least once a day. The liquids (primarily teas) are recommended primarily to prevent or to treat colics while the foods (primarily gruels made from salty or sweet crackers cooked with water and sugar) were often intended to provide some respite from breastfeeding to the lactating mother. The gruels were also intended to "give strength" and comfort the infants so that they could sleep well. Heavier foods such as rice, cornmeal, millet, beans and meat (i.e., family staple foods) were not considered appropriate for children between 0 and 6 months of age' [12].

This qualitative research study was appropriate as most of the research in Nigeria on this topic 'has been quantitative in nature and centred around knowledge, attitudes and practices of breastfeeding. Breastfeeding is widely practiced, none of the babies was exclusively breastfed and the practice of discarding colostrum and replacing it with a wide range of prelacteal feeds was common' [13]. This paper highlights the different infant feeding practices of first time mothers in two different parts of the country (North and South of Nigeria). Studying the experiences of types of infant feeding through appreciative inquiry in different parts of this diverse country will contribute to the development of strategies for interventions for future programs and policies to support and enable women to breastfeed better.

Methods

- **Study design:** Qualitative exploratory interview and analysis techniques were used to explore types of feeding among less than 6 month infants born to first time mothers. Green and Thorogood, 2004[14] stated these mentioned techniques are best for the study of practices and behaviors.
- **Sampling:** Nigeria is made up of 36 states and the Federal Capital territory. This study was conducted in two states- one in the north (Plateau state) and the other in the south (Edo state) of the country. Random sampling was employed in the selection of the LGA and the Primary Health Centre (PHC) in each state by choosing from a bottle of papers (that had all the names for the LGA in the latter case and PHCs for the former). The selection of the LGA was followed by the selection of the PHC.

A mix of purposive and cluster sampling was used to identify and recruit 24 willing participants aged 18 years and above (Table 1 and 2). Using inclusion criteria of first-time mothers who have adopted breastfeeding for 3-6 months, 6 respondents from Plateau State in Northern Nigeria and 6 in Edo state in the Southern part of the country were selected as respondents who practiced EBF. In a similar manner, 12 non-EBF first time mothers who are practicing mixed feeding or not giving breastmilk at all were selected, 6 in Plateau state and 6 in Edo state.

At the designated rural Primary Health Centre (PHC) in each state, 3 out of 6 respondents were randomly selected from each EBF and non-EBF respondents' clusters, for the short In-Depth Interviews (IDIs) in each state and the same number of respondents for the Focus Group Discussions (FGDs). Random sampling technique to choose three participants from each cluster was done using 2 bottles of papers (numbers of which were equal to numbers in each cluster out of which 3 indicated 'participant' and the rest of the papers blank. The FGDs followed the 'Short Interviews'. At each primary health centre (child welfare clinic) verbal invitations was given by appropriate staff to all participants booked for the proposed date of data collection.

Pilot-testing of interview guide was done on two exclusively feeding first-time mothers (one from Plateau State and one from Edo state). With the permission of the participants, an audio tape recorder was used to record the discussion while a note taker took notes to compliment the recordings.

Levels		Plateau	EDO		Total
		12 participants	12 participants		24
1ST	6 Non EBF	6 EBF	6 Non EBF	6 EBF	24
2ND	3 IDI + 3FGD	3 IDI + 3FGD	3 IDI + 3FGD	3 IDI+3FGD	24
IDI	R1, R2, R3 are IDI	R4, R5, R6 are IDI	R7, R8, R9 are IDI	R10, R11, R12 are IDI	
FGD	R1F, R2F, R3F are FGD	R4F, R5F, R6F are FGD	R7F, R8F, R9F are FGD	R10F, R11F, R12F are FGD	
	6 involved in the FGD (R1F, R2F, R3F, R1F, R2F, R3F) in Plateau		6 involved in the FGD in Edo (R7F, R8F, R9F, R10F, R11F, R12F)		

Table 1: Table outlining Sampling Technique.

- **Data Collection:** Semi structured one-to-one in-depth interviews of 40-60 minutes took place at the health centre after the FGDs. Interviews were recorded with participants' permission and transcripts made.
- **Analysis:** Framework or thematic analyses was used. Initial themes were constructed from the questions, participant responses grouped under each question and salient points extracted from each of their responses to develop codes. Second level of analysis looked at further grouping of these extracted responses into emerging themes.
- **Ethics:** Ethical approval process involved written approval from the Local Government. Due to the illiteracy levels present among rural women, participants were asked to give verbal consent (informed consent content was explained in local language for those that didn't understand English) prior to interviews commencing.

S/NO	Age (year)	Residence	Ethnicity	Occupation	Education	Married (m) Single (s)	Place of delivery	ANC attendance
R1	20	Rukuba	Rukuba	H/wife	Secondary	M	Home	No
R2	15	Rukuba	Rukuba	H/wife	Primary	M	Home	No
R3	22	Bassa	Ankwai	Farmer	Secondary	M (Goamai)	Home	No
R4	21	Rukuba	Miango	Petty trader	Secondary	M	Public Hosp	Yes
R5	19	Rukuba	Amo	H/wife	Primary	M	Public Hosp	Yes
R6	21	Rukuba	Rukuba	Petty trader	Primary	M	Public Hosp	Yes
R7	24	Warrake	Warrake	Hotel Assistant	Primary	S	Private Hosp	No
R8	22	Warrake	Warrake	Student	Secondary	S	Home (TBA)	No
R9	20	Warrake	Warrake	Farmer	Primary	M	Home	No
R10	24	Warrake	Warrake	Petty trader	Primary	M	Public Hosp	Yes
R11	22	Warrake	Warrake	Farmer	Secondary	M	Public Hosp	Yes
R12	20	Warrake	Warrake	Shopkeeper	Secondary	M	Public Hosp	Yes
R1F	23	Bassa	Goemai	Veg seller	NIL	M	Home	No
R2F	21	Rukuba	Rukuba	Fruit seller(market)	Primary	M	Home	No
R3F	19	Rukuba	Rukuba	Farmer	Secondary	M	Home	No
R4F	20	Jengre	Amo	Petty trader	Primary	M (Amo)	Public Hosp	Yes
R5F	23	Bassa	Rukuba	Petty trader	Secondary	M	Public Hosp	Yes
R6F	19	Rukuba	Rukuba	Farmer	Primary	M	Public Hosp	Yes
R7F	21	Warrake	Warrake	Student	Secondary	M	Home	No
R8F	20	Warrake	Afuze	Hotel Assistant	Secondary	S	Home	No
R9F	19	Warrake	Ihieve	Farmer	Primary	M	Home	No
R10F	19	Warrake	Ihieve	Petty trader	Secondary	M	Public Hosp	Yes
R11F	22	Warrake	Warrake	Shopkeeper	Secondary	M	Public Hosp	Yes
R12F	23	Warrake	Warrake	Fishmonger	Secondary	M	Public Hosp	Yes

Table 2: List of Participants involved in Focus Group Discussions and In-Depth Interviews.

Results

This study aimed at investigating types of infant feeding in rural Nigeria among 24 first time mothers whose demographic characteristics varied as follows. Three were unmarried and ages of the respondents ranged from 15-24 years with an average of 21 years (See Table 1). Among the 24 respondents for the FGDs (R1F-R12F) and short In-depth Interviews (RI-R12), all were from the interview locations but three had married outside their tribes. Two were married to men from the Amo tribe and one to the Goamai tribe.

Types of infant feeding and reasons for practices

Respondents from the two study sites practiced different types of feeding for infants below 6 months of age. On analysis, it was seen that in both study locations, apart from exclusive breastfeeding, water, pap, diluted liquid 'peak milk' and native medicine were used together with breast milk as other feeding choices (A1-A6). The tribe of Goemai in Plateau state also used 'kunu giya', literal translation into English being 'kunu that is alcoholic' as an infant feeding choice. In Edo state, custard was also a feeding choice for infants below six months of age.

- **Water**: Water was an infant feeding choice as 6 respondents pointed out. It was being used with breastmilk to satisfy thirst created by environmental exposure, incorrect perception of the composition of breast milk, peer influence and cultural beliefs.
- **Satisfy thirst:** *"The water (fidgeting) helps the baby by quenching thirst"." When I go to farm and the weather is hot, I have to give my baby water to drink" R1. "I give it when it is hot outside, and one is sweating a lot"." I give it when she is thirsty R2F…….. It satisfies thirst". "My sister at home has to give her water when she cries…. which means she is hungry" R1F.*
- *Water is given as R3F said 'my baby given the day he was born' and R1 and R1F said '…from when he was a week old' to which R2F agreed. R7 said 'a few days after he was born' while R9 was 'from any age'. Frequency of giving water varied from 'when thirsty'-R7 to R1 'once a day' but 'when hot, do give water more frequently, maybe even four times.*
- **Peer influence:** *"I used to see my friends giving their children water so I haven't seen the need to stop giving him water in between" R3F.*
- **Incorrect perception of the composition of breast milk:** *"But when it is hot, I do give water more frequently, maybe even four times. When the weather is hot, the breast milk becomes thicker. It becomes more thick than the normal consistency which is also thick" R1.*
- **Cultural belief:** *"…my mother –in-law or my sister-in-law gives her {opens her bag to show the 'akamu' (a thick white semi fluid) in a feeding bottle}. They follow it up with water because of the thickness of the mixture – to make it more liquid so that the baby will not choke. In addition, when it is hot, I do give water" R1, R1F.*
- "Has your cultural background affected whether you start or continue to exclusively breastfeed?". *"Of course. My people were against it…My mother was insisting when the weather is hot, I should give water to the baby to ….my mother, mother-in-law giving my baby (water)…". "…Our tradition allows and it is normal to give a baby water" R7.*
- **Pap as an infant feeding choice with breast milk**: *Pap was used 'to satisfy hunger….satisfy her…as she grows…gets more hungry…need for more food' (R2); a view also held by R2F 'breast milk and water alone cannot satisfy my baby…. you see he is quite big even when he was born'. Cultural beliefs also convinced R7F: 'one should give pap….my mother used it for all of us and we have survived well'. Commonly given from 4th month of age (R2 and R1F) but R4F noted that 'traditionally all babies take it from six months…. Even those that practice EBF like me'.*
- *'Akamu' as pap is known in the local dialect, 'brown in colour' (R1F) (from millet), 'a thick white semi fluid' (from maize) is made 'from millet or maize' (R2 and R5F). 'It is soaked overnight and then ground followed by sieving, allowing the mixture to settle and then taking the filtrate. The filtrate is allowed to settle - which forms the akamu. A bit of it is then taken when the 'pap' is to be prepared and poured into boiling water stirring all the time.' (R5F and R8F).*
- **Diluted liquid peak milk an infant feeding choice with breast milk:** *R1 observed in the past that 'the women also gave the baby diluted peak milk'; so did R1F- 'they dilute the peak milk and add a little sugar'. R8 actually practiced it: 'At times I give diluted peak milk….at 4 months.*
- **Custard as an infant feeding choice with breast milk:** *R7 and R8 in the study location of Warrake used custard as a feeding choice for their babies less than 6 months old: 'I am giving breast milk, custard and water' and so did R8F 'occasionally custard… started custard at 4 months' and R7 at 3 months.*
- **Native medicine an infant feeding choice with breast milk***: '…… The baby was having greenish stools last week and we went to the traditional doctor – he gave us some native medicine to give the baby' – R2. So also did R9F: 'We use a lot of traditional medicine in the village. It is because the people do not know the dangers it does to the small babies' and R3F: 'For the minor ailments I do'. Poverty also plays a role in the decision to go for native medication - 'If the babies are not well as they don't have much money they go for traditional medicine' (R10)*
- **'Kunu Giya' an infant feeding choice with breast milk**: *Cultural beliefs dating back 'generations'- 'I learnt from my husband's mother' for the tribe of 'Goamai' (R1F) '(Ankwai), that is, people from the three local government areas of Mikan, Shendam and Quanpan give their children'(R3) kunu giya. It is made*

from 'Millet or sorghum. It is a four-day procedure which is laborious and takes time… the mixture is allowed to ferment for days which almost certainly then means it is alcoholic in nature' (R3 and R1F). It is given to 'a newborn, though for this age it is not common (….) but commonly from 6 weeks of age' (R3). To 'children like five months as they (the women) start going to the farm. Also, it is used by families to wean the child' (R1F). 'It makes them more alert, satisfies their hunger and they sleep peacefully for a long period' (R3)

Practicing exclusive breastfeeding

- **Antenatal Attendance**: All the respondents that practiced EBF had attended Antenatal clinic (ANC) during the pregnancy of their baby.
- **Information got on EBF:** The different locations where information on EBF was first got were:
- *'Since I was coming for ANC, the nurse used to talk to all of us here as a group that breastfeeding only should be practiced. She explained the advantages of breastfeeding. (…..). and the disadvantages of giving water, akamu' (R4)*
- *'It was during the pregnancy when the nurses told us of the benefits of breastfeeding' (R12)*

Benefits of EBF outlined were

'It makes my baby strong' and R1, R2 and R3*: 'healthy'. The benefits of breast feeding were talked about-you don't need to prepare it, is free, it creates and strengthens the bond between mother and child, protects the baby against disease…… Because it is healthy for my baby and satisfies him. It makes me happy too and satisfied.*

*We were told so when we came to ANC of the benefits of EBF- it is good for the health of mother and child, prevents some diseases and cancers and is convenient and you don't buy it (*R6)

It improves the baby's health and mine. It is more convenient as you don't have to use any utensils to prepare it, is free, the baby is satisfied, can be given as soon as the baby is hungry as it doesn't waste time to prepare, prevents pregnancy. (ummm..) For me it also calms the baby (R10)

How did you conclude that EBF 'calms the baby'? *My neighbour was not practicing EBF and I noticed my baby cries less and smiles more* (R10)

Contrary to what people think, breast milk has 90% water content. So even giving water to a baby before 6 months of age is not necessary. It has a lot of nutrients, all of them that protects the baby from illness. (R12F)

A respondent, R4, noted that benefits of 'breastfeeding' were explained to her during ANC but not 'exclusive breast feeding'.

Recalling the benefits of breastfeeding also revealed other methods of child spacing. Among the Amo tribe of Jengre, Bassa Local Government Area of Plateau State, roots of natural herbs used for 'lalle'- decorating palms and feet, for traditional ceremonies like weddings were being used as medication for abortions and contraception as respondents pointed out. This herb plant, 'henna', has the botanical name 'Lawsonia Innermis'.

Traditional method of child spacing among women of the Amo tribe in Jengre, Plateau State

- **R5:** *However, the fact that breastfeeding also is a method of 'preventing getting pregnant' she did not agree with. She said our tribe uses the powder of the roots of the 'Henna' plant to prevent pregnancy and for abortions. …….. I used to see my mother prepare it though I haven't. The roots are crushed to pulp, dried and ground to a powder. Then the powder is mixed with water and then boiled for 5 minutes. After that when it cools, we sieve the mixture and then drink the solution leaving the filtrate.*
- **R6F:** *Yes. There is the root of the traditional thing they put on the hands and feet called 'lalle' that we use*
- **R1F:** *Yes, my mother-in-law used it when she was young and was talking of it the other day. Some say it also causes abortion if one is pregnant. Women of the Amo tribe use it a lot.*
- **R5F:** *How do they prepare it?*
- **R1F:** *They grind the root, boil it and when it boils and cool, take the top part leaving the filtrate behind. Is the top part …the liquid that is used.*
- **R4F:** *That's true. But you know majority of the Amo people, around Jengre, do not believe in modern medicine for family planning.*

Discussion

This qualitative study explored the different types of infant feeding practices among first time mothers in two rural locations, one in the north (Plateau state) and the other in the southern part (Edo state) of Nigeria. Nigeria is diverse in socio-cultural characteristics with a population of approximately 140 million and the study therefore brought out different values attached to infant feeding types apart from breastfeeding. In addition, different experiences and perceptions of exclusive breast feeding brought out the significance of the complex interaction between individual, societal and environmental determinants ('rainbow' diagram:) as described by the Dahlgren and Whitehead, 1991 model by Naidoo and Wills, 2001 [15]. This research does not assume that the findings are applicable to the entire population. Instead, by discussing issues with reference to the reviewed literature it provides insight into issues pertinent to the public. The strengths and limitation of the study and its public health relevance are also highlighted.

Breast milk which is 90% water consists of: nutrient proteins, non-protein nitrogen compounds, lipids, oligosaccharides, vitamins, minerals, hormones, enzymes, growth factors and protective

agents. It has 10% solids for energy and growth [16]. In Nigeria, breastfeeding remains a culturally accepted practice. The study revealed a wide range of infant feeding practices as alternatives taken with breast milk that included water, pap, diluted liquid 'peak milk', custard, native medicine and 'kunu giya'. As with the 2018 NDHS survey of Nigeria, plain water was the commonest infant feeding practice for infants less than six months of age.

A previous study by Davies-Adetugbo (1997) [17] also documented 'introduction of complementary foods as early as two months because of perceived lactation insufficiency. The commonest supplement is a watery maize porridge of low nutrient density'. 'Pap', as it is known locally is still being given to breastfeeding babies less than six months of age.

Replacement milks like evaporated full-cream milk or powdered full-cream milk have been recommended as feeding options for infants of HIV-infected mothers but with additional water, sugar and micronutrients. In the study, however, respondents using evaporated full cream 'peak' milk were not serving it with additional nutrients as recommended even if they were HIV positive.

The practice of giving 'Kunu giya' to infants, a cultural norm with the Goamai tribe of Plateau state is an interesting finding. 'Kunu giya' is a locally brewed drink with alcoholic content that is consumed widely by all ages of the Goamai tribe of Plateau state. From the literature search for this study, no past documentation regarding this was found. Other parts of Africa have similar practices like the use of 'herbs and teas' [18,19] to breastfeeding babies.

The practice of using a bottle with a nipple is still being used for infant feeding as also seen in the 2018 NDHS survey and 'poses a risk of illness to the child'.

Breastfeeding choices are ultimately a mother's individual decision. Factors motivating infant feeding choices and behaviour are an interplay of individual, societal - socio-cultural, economic and environmental determinants. 'Several misconceptions about breastfeeding exist providing barriers to successful feeding' [20]. Authors in Africa [18,19,21]. have aptly documented that water given to breastfeeding babies facilitates hydration in the hot climate. However, research [22] in Peru with environmental temperatures of between 26 and 33 degrees C (similar to Nigeria) has proven that 'healthy infants can maintain an adequate hydration status while exclusively breast fed'. Gibney., *et al*. (2004) [20] also indicated that 'healthy infants who consume enough breast milk to satisfy their energy needs receive, with a considerable safety margin, enough fluid to satisfy their fluid requirement, even in hot and dry environments'.

Similar to the findings of this study [20,21], also pointed out 'mothers fear of the breast milk being insufficient in quantity' as a barrier to exclusive breastfeeding. Breast-milk quantity can be kept up by frequent suckling of the breast. However, lower milk production has been observed in some malnourished groups of women [23], which might create a need for the introduction of complementary foods at an age that is closer to 4 than 6 months.

Alternative infant feeding options were considered by some in this study due to the perception that a growing child needs additional nutrients than that in breast milk. However, studies have shown that 'during the first six months of life, average breast milk intakes for population of infants range between 700 and 800ml per day in both low-income and industrialized countries, an amount that is adequate to meet average nutritional needs' [24] (Dewey and Brown, 2003).

Okolo, Adewunmi and Okonji (1999) [13] found that of those who attended ANC, only 33.3% received instructions on EBF. This supports what some of the respondents noted. Instructions are given on importance of breastfeeding and not specifically on EBF. In addition, incorrect interpretation or a lack of awareness on the correct facts contributes as a barrier to successful exclusive breastfeeding. Other agents that fuel this are health care providers in the private health facilities and the TBAs that give out incomplete or inaccurate information on exclusive breastfeeding, to first time mothers. 'Postnatal care offers an excellent opportunity to find out how the mother is getting along with her baby' [25] was also noted in the results of the study.

Importantly, however, was the fact that all the respondents who practiced EBF in this study had attended ANC at the health facility.

'Breastfeeding is not only a natural way of feeding children but also a parenting system that is practiced differently in diverse cultures depending on the ecological conditions and cultural values. Cultural theories of child development and appropriate childcare have an impact on breastfeeding patterns' [26] thoughts also expressed by respondents in this study. Family beliefs coupled with cultural norms have a significant influence on first time mothers in their decision to mix-feed their babies that included pressures by village elders and families to supplement because it is a traditional practice [27].

Benefits of exclusive breastfeeding are many[20] and beyond energy and nutrients include protection against certain diseases-diarrhea, ear infection, and respiratory infection [28] promotes cognitive development and enhances emotional support; saves money[11] and is always available [29].

An interesting finding among the women of Amo tribe was the use of the roots of '*Lawsonia Innermis*'for abortions and as a method for child spacing that was mentioned when the benefits of EBF was discussed

Breastfeeding is the right of every woman worker and breastfeeding mothers in the workplace need to be supported by their employers. Those that do not want to bear the short-term cost of providing benefits to nursing mothers[11] need to be identified and efforts made to reverse their attitude. Governments can promote public health and womens status by encouraging businesses to improve conditions for breastfeeding in the workplace- provide clean and safe places to store breast milk.

Professionally mediated peer support can improve the early breastfeeding outcomes of duration of exclusive breastfeeding and satisfaction with breastfeeding. Health professionals need to develop and maintain relationships with adolescent mothers to provide the range of support required by them to continue breastfeeding.

Conclusion

In Nigeria, breastfeeding remains a culturally accepted practice. However, exclusive breastfeeding remains low as mixed feeding in the first six months of life is practiced. A cultural practice norm of the Goamai tribe in Plateau state of giving 'kunu giya' to their infants has influenced the uptake of the practice of EBF. Benefits of EBF are many but cultural beliefs in traditional family spacing methods as in the use of the roots of **'*Lawsonia Innermis*'** by the Amo tribe in Jengre, Plateau state has also influenced the choice of practicing EBF.

First time mothers in this study who practiced exclusive breastfeeding were motivated by knowing the benefits of exclusive breastfeeding. All the women in the study that were practicing exclusive breastfeeding had attended ANC.

Successful strategies to improve breastfeeding include health care services, communities and families, and government. Health care services are an important point of contact, an opportunity that government should focus on. By increasing ANC attendance and emphasizing effective follow-ups in the post partum period will go a long way to improve breastfeeding practices. The results imply a need for health education that starts with the health workers themselves and addresses the cultural context of the mothers' fears about EBF. In addition, supporting mothers in the workplace by enacting appropriate policies will be necessary. Mothers also need information, support, and empowerment in the community and at home.

As this study has been limited to first time mothers' feeding practices of infants in rural Nigeria, more studies are needed to assess the awareness of exclusive breastfeeding to nurses and other paramedical health workers, and possibly the fathers, to promote breastfeeding among our illiterate mothers in developing countries.

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