



Factors Influencing The Practice Of Exclusive Breastfeeding In Three Regions Of Nigeria

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KEYWORDS

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ABSTRACT

Background

Breastfeeding is the super food for babies and is sufficient if given exclusively in the first six months of a baby's life. In Nigeria, the practice of breastfeeding is high but Exclusive Breastfeeding (EBF) rates remain low at 13%. Several interrelating factors directly or indirectly affect the decision or ability of mothers to practice EBF. The objective of this study was to assess the factors influencing EBF in Nigeria.

Methodology

A cross sectional survey among 433 mothers of children between six and twenty-four months old was conducted in urban and peri-urban/rural parts of Zaria, Abakaliki, and Ibadan. The study adopted a mixed research methodology that consisted of key informant interviews, structured questionnaires, and focus group discussions. Descriptive statistic was used to analyze the quantitative data while the themes in the qualitative data were analyzed using manual content analysis.

Results

Approximately 90% of all mothers interviewed had heard about EBF, although with variations in the exact definition of EBF as many interpreted it to be just till the start of 6 months. The practice of EBF is low - Ibadan (16%), Abakaliki (10%) and Zaria (2%). Inaccurate knowledge of EBF, occupation, antenatal care attendance, age of mothers, supportive environment from stakeholders are some factors associated with the practice of EBF.

Conclusion

The findings in this study indicate that several factors affect the practice of EBF in Nigeria. Improving the practice of EBF in the country will require a multifaceted approach and concerted efforts from stakeholders to address the deterring factors limiting its practice.

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Introduction

Exclusive breastfeeding (EBF) for the first 6 months of life improves the growth, health and survival status of newborns^{16, 1} and beyond 6 months, it promotes continued growth with the introduction of solid foods.¹⁵ Breast milk contains antibodies fortified with the capacity to improve infant immunity.^{17, 16} Aside from having benefits to the child, it also provides immense benefits to the mother; breast milk is economical, always available, delays the return of fertility and reduces the risk of developing breast and ovarian cancers.¹⁷ The World Health Organization (WHO) recommends EBF as the optimal feeding mode for young infants.¹⁷

Despite universal consensus that breastfeeding is the best way to give a child a healthy start in life, and a wealth of solid evidence of the critical role it plays in reducing child morbidity and mortality, the EBF rates are low and seem to be dwindling in Nigeria. According to the 2008 Nigerian Demographic and Health Survey (NDHS),⁸ the rate of EBF in Nigeria is estimated at 13%, which is a decline from the 2003 NDHS survey at 17%.⁹ These rates are lower than other low and middle-income countries. For instance, 37% of all infants less than six months in Mozambique are exclusively breastfed.³ Furthermore, estimates from the WHO Global data on Infant and Young Child Feeding in Nigeria shows that 22.3% of children were exclusively breastfed for less than 4 months.¹⁷

Several studies have shown that contributory factors are responsible for the observed EBF rates; including power and gender relations, shifting work patterns, cultural, religious and social norms, maternal educational level, small family size, antenatal visits, sex of infants, and geographical area.^{1, 13, 2} Traditionally, in Nigeria, as in most African countries, breastfeeding is a cultural practice.

However, the idea of EBF appears alien.¹² More so, EBF conflicts with some long-standing traditional practices, making a case for social and cultural feasibility relatively low.⁴ Therefore, this study adopted a mixed research methodology to identify factors associated with the low EBF rates in the three geo-political regions in Nigeria. Furthermore, the study seeks to describe the demographic characteristics and breastfeeding practices of mothers in the study sites.

Methodology

Research design and study sites

The study is a non-experimental research design triangulating quantitative and qualitative methods of data collection. It adopted a mixed research methodology that consisted of an interviewer-administered structured questionnaire, key informant interviews, and focus group discussions. A sample size of 433 mothers with children between ages 6 months and 2 years responded to the structured questionnaires. The questionnaire was used to elicit information on respondents' demographic characteristics, breastfeeding practices, and factors influencing their breastfeeding practices. Mothers were eligible for participation if they had children aged between 6 months and two years of age, and were living in survey areas.

Four key informant interviews and two focus group discussions were conducted among mothers and health workers in each study site to complement findings from the quantitative analysis. The qualitative component consisted of four categories of respondents: (1) Mothers who had successfully completed the practice of EBF (2) Mothers who started but dropped out of practicing EBF before the baby was six months old (3) Mothers who had knowledge of EBF but refused to

practice it and (4) health workers who work in post-natal or delivery wards.

Also, mothers could participate if their babies were aged between six months and one year. In order to explore the cultural variations that may affect the practice of exclusive breastfeeding, three geopolitical zones in Nigeria were purposively selected to represent the three ethnic groups (Yoruba, Igbo, Hausa). Furthermore, states with popular tertiary hospital were randomly selected because of the exit interviews.

Data collection was carried out in Oyo, Ebonyi, and Kaduna states with a mix of sites in urban and peri-urban/rural communities. These study sites include Ibadan North (urban), Ibadan South West(peri-urban/rural), Abakaliki(urban), Izzi(peri-urban/rural) and Milgoma (urban), Ban-Zazzau (peri-urban/rural).

Sampling and Sample Size

This was a cross-sectional study. A sampling formula for proportion was used to estimate a total sample size of 433 for this cross-sectional study with a sample size of 106, 103, and 224 for Kaduna, Ebonyi and Ibadan respectively.

$$\text{Sample size formula} = \frac{Z^2 * p * q}{d}$$

Where;

Z= 95% Confidence Level: 1.96

p: Percentage of EBF

q: 1-p

d: 5 % Sampling error: 0.05

Table: Socio-demographic characteristics of respondents in the three geopolitical areas

	North West (Zaria)	South East (Ebonyi)	South West (Ibadan)
% EBF (from MICS 2007)	6.7	6.5	15.7
p: proportion EBF state what figure was used in calaculation	0.067	0.065	0.157
q: (1-p)	0.933	0.935	0.843
Z: 95% Confidence level	1.96	1.96	1.96
d: 5% Sampling error	0.05	0.05	0.05
Sample size calculated	96.1	93.4	203.4
10% Non response rate	10	9	20
Sample Size + non-response rate	106	103	224
Total Sample Size	433		

Using simple random sampling technique, interested and eligible mothers completed the informed consent form and were enrolled to participate in this study. Non-probability sampling technique was used for the key informant interviews and focus group discussion. The key informants were identified and selected from the health workers who worked in the postnatal delivery section of the hospital in the study locations. Participants of the focus group discussions were significant others that can influence the practice of exclusive breastfeeding; the focus groups were fathers and grandmothers.

Data collection and Analysis

Retrospective information on mothers practicing EBF and factors influencing its practice was collected using a structured interviewer-administered questionnaire. The questionnaire was developed in English and was administered in the local languages when necessary. Also, a structured discussion guide was used to collect information from mothers and health workers on factors influencing the practice of EBF. Trained researchers administered the questionnaire and conducted the interviews and focus group discussions. Respondents were informed that participation would be voluntary and confidential prior to the start of the survey. Data was cleaned, checked for quality, and analyzed using Statistical Package for Social Science (SPSS).

Descriptive statistics (frequencies and percentages) were calculated. The qualitative data were transcribed and analyzed systematically for domain themes through systematic sorting and labeling ideas as they appeared and reappeared. Emerging trends were analyzed according to the research objectives.

Results

Descriptive Analysis

Socio-demographic characteristics of respondents in the three geopolitical areas are presented in table I. A total of 433 respondents were interviewed, with 46% and 54% living in urban and peri-urban/rural areas respectively. Among the study samples, the proportion of respondents from rural area is slightly higher than the urban.

The familiar demographic pattern for women of reproductive age is clearly shown in the age distribution of mothers; about half of the mothers are between the ages of 20 and 29 years, which is usually the peak fertility period for women. While 72% are self-employed in Ibadan, a lower percentage of the mothers are in the same category in Ebonyi and Zaria.

Irrespective of the educational level and employment status, about seventy percent of the respondents in this study earn below N20, 000 per month. Approximately, nine out of ten of the respondents are married and mostly in monogamous marriages.

Reasons for practicing and discontinuing EBF

Various reasons were given for the practice and non-practice of EBF in the study areas. Among those mothers who reported practicing EBF, the most commonly reported reasons were: breast milk is nutritious and ensures proper growth and development.

Reasons for discontinuing EBF are: breast milk is not enough, non-satisfaction of the baby with breast milk, and the baby is 6 months old. Figure 1 shows key factors influencing the practice of EBF mentioned in the qualitative study.

Table II: Demographic characteristics of respondents across study sites in Nigeria, 2013

Characteristics	ALL n=433	Ibadan (SW) n=224	Ebonyi (SE) n=103	Zaria (NW) n=106
	%	%	%	%
Residence				
Peri-Urban/Rural	54.7	54.0	50.5	60.4
Urban	45.3	46.0	49.5	39.6
Mother's Age				
15-19	3.5	1.3	3.0	8.5
20-24	17.4	16.5	25.0	12.3
25-29	35.1	35.7	38.0	31.1
30-34	28.1	29.5	26.0	27.4
35-39	12.6	12.9	5.0	18.9
40 and above	3.3	4.0	3.0	1.9
Highest Education				
None	5.1	0.4	4.9	15.1
Primary	16.4	10.3	30.1	16.0
Secondary	37.0	48.9	29.1	19.8
Tertiary	41.4	40.4	35.9	49.1
Occupation				
Student	8.1	5.4	10.8	11.3
Unemployed	4.9	2.2	14.7	0.9
Self employed	54.4	72.8	43.1	26.4
Government employed	12.5	7.6	10.8	24.5
Private organization employed	8.6 10.0	9.4 2.2	10.8 3.9	4.7 32.1
Full time house wife	1.6	0.4	5.9	0
Others				
Monthly income				
Below ₦1,000	3.5	1.0	6.5	5.7
₦1,000 - ₦10,999	51.2	51.5	51.1	50.9
₦11,000 - ₦20,999	16.7	22.5	10.9	10.4
₦21,000 - ₦50,999	17.4	16.7	17.4	18.9
₦51,000 - ₦100,000	5.5	5.9	3.3	6.6
Above ₦100,000	5.7	2.5	10.9	7.5
Marital status				
Single	2.3	2.2	1.9	2.8
Married	97.0	97.8	97.1	95.3
Otherwise	0.7	0	1.0	1.9
Type of Marriage				
Monogamy	82.5	88.8	90.1	61.5
Polygamy	17.5	11.2	9.9	38.5

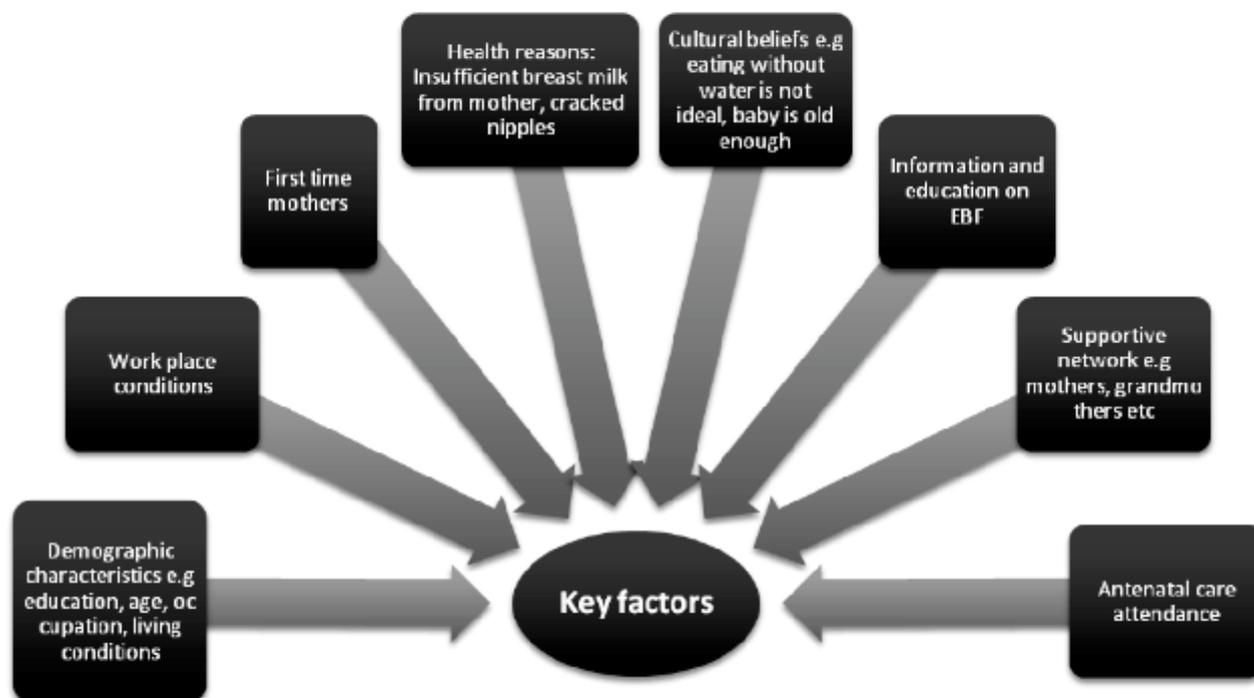


Figure 1: Framework for the reasons for low rates of EBF in study sites

Knowledge and Perceptions of EBF

The EBF rates found across the sites were 16%, 10%, and 2% for in Ibadan, Abakaliki, and Zaria respectively. In this study, a significant proportion of mothers mistook the message of EBF “till the 6th month” to mean 'getting to the 6th month, that is, the beginning of the 6th month'. It is observed that If those who did not complete 6 months (but completed 5 months) of exclusive breastfeeding were included, the rates would have been 54%, 61%, and 45% respectively for Ibadan, Abakaliki, and Zaria as shown in Figure 2.

Table III describes the knowledge and perception of respondents with respect to EBF. Majority (>90%) of the respondents have heard about EBF across all sites. While there were variations in the study locations, at least five out of ten respondents

defined “EBF” correctly. The correct definition from mothers clearly stated that “EBF is feeding newborn with breast milk for six months from birth without any other drink or food”. These were mothers who answered correctly questions about initiation of EBF (within 30 minutes after delivery), the duration (6 months), and exclusivity of breastfeeding (breast milk only). In the words of some of the mothers:

Giving breast milk only for 6 months, no water or any other food
 (Rural Zaria mother with 18months old baby)

You breastfeed the baby with breast milk for 6 months without adding water or food
 (Rural Ibadan mother with 9months old baby)

Examples of incorrect definition include:

“Balance diet for the baby”

(Urban Ibadan mother with 9months old baby)

“Breast feeding the baby alongside other food types and water”

(Urban Ebonyi mother with 12months old baby)

On examining the perceived supportive attitude of stakeholders on EBF, a lower percentage (<52.9%) was observed in Zaria across non-health related stakeholders (husbands, in-laws, religious leaders) as compared to other zones, ranging from 67.7% - 93.7%. With the exception of Ibadan, most of the discussants in the grandmother FGDs perceived that EBF is good for babies and support their daughters/daughters-in-law in practicing it. All the fathers that participated in the FGDs stated that they have heard of EBF before, however some fathers in Zaria did not fully support it. This is buttressed in the responses below:

Well my opinion about EBF is that it is very important for mothers to exclusively breastfeed their children because first it is all nourishing, it contains all that is required for the good growth of every child. Secondly, it brings closeness, it makes mother and child so close, God has made it so right from the creation of the earth. Thirdly, practically from experience I have discovered that children, my children who were breastfed properly behave better than those who were heavily fed with breast milk or who were fed with ordinary milk on my own opinion I strongly encourage mother to breastfeed their children.

(FGD Grandmother in Enugu)

We advise them to take the advice of health practitioners as regard infant feeding as they will not give them harmful advice and it will assist them preserve their health and their babies.....

Generally daughter in-laws are less likely to implement your advice, my daughter recently had a set of twin, I had a difficult time trying to get her exclusively breast feed and stop all other fluid/water. Her paternal relations on account of this accused me of being inhumane and unfair to the baby, but I told them it is not inhumane or unfair. I advice that when a baby cries or is fussy, they should not conclude it is as a result of inadequacy of breast feeding but rather they should seek advice from a doctor. Similarly when a mother develops a problem she should not stop breast feeding but seek medical advice on how to surmount the problem.

(FGD Grandmothers in Zaria)

However some did not agree as stated below:

My daughter-in-law was practicing this exclusive breastfeeding, she wasn't giving her baby anything even water, but breast milk, I told her it wasn't good, it's like eating without drinking water, anyway, she insisted that the doctor told her not to give the baby water. I have never heard of such before, I don't agree with it at all. The baby should drink water even if it is once a day.....

No we don't support it; we advise them to give their babies water. How would you feel if you eat and you don't drink water? You just need to make sure it is good water, water that is pure.

(FGD Grandmothers in Ibadan)

Furthermore, the table III shows that at least five out of ten of the respondents believed that EBF would make their babies healthy. There were regional variations in some of the perceived

benefits of EBF. Immunity/prevention against diseases was one important benefit mentioned in Ebonyi and Zaria while child's intelligence was mentioned in Ibadan. This was also buttressed during the in-depth interviews held with mothers that practiced EBF:

I breastfed (baby's name) with breast milk only no water for six months, not as I fed his elder sister that is I gave her water and breast milk and she always suffered illness like diarrhea. We went to hospital every time she was sick, and we were advised to avoid giving water to babies under six months as it causes diarrhea in them. I then decided to practice EBF for my new baby and is now healthy and okay.... His health and her health are different, he is healthier than her; more energetic, and appears sharper than her.

(Mother that completed EBF, Zaria rural area)

It is because I was told that it is very good for the baby, that it makes the baby's brain very sharp and to be free from sickness.... He is free from sickness, he is very sharp, he lives happily”

(Mother that completed EBF, Ebonyi urban area)

Some of the things I benefited from it is that

I was not buying drugs for my baby. My baby is very sharp, strong and the breast milk I am feeding my baby with is coming from my body ... I am not buying it and also I am not buying food [formula feeds] for my baby

(Mother that completed EBF, Ibadan urban area)

Also, mothers' occupation has an effect on the practice of EBF. For instance, the North West region had the highest proportion (16.2%) of mothers who felt that their occupations affected their ability to practice EBF as compared to 6.5% and 8.7% of mothers in the South West and South East regions respectively. The source of information on EBF, which could also be a determinant of the accuracy of the definition of the EBF concept, is also highlighted in table II. From across the three sites, more than 85% of respondents received information on EBF from hospitals/health centre. However, there are variations with mass media as a type source of information: Zaria (60.8%), Ebonyi (9.3%) and Ibadan (25.3%).

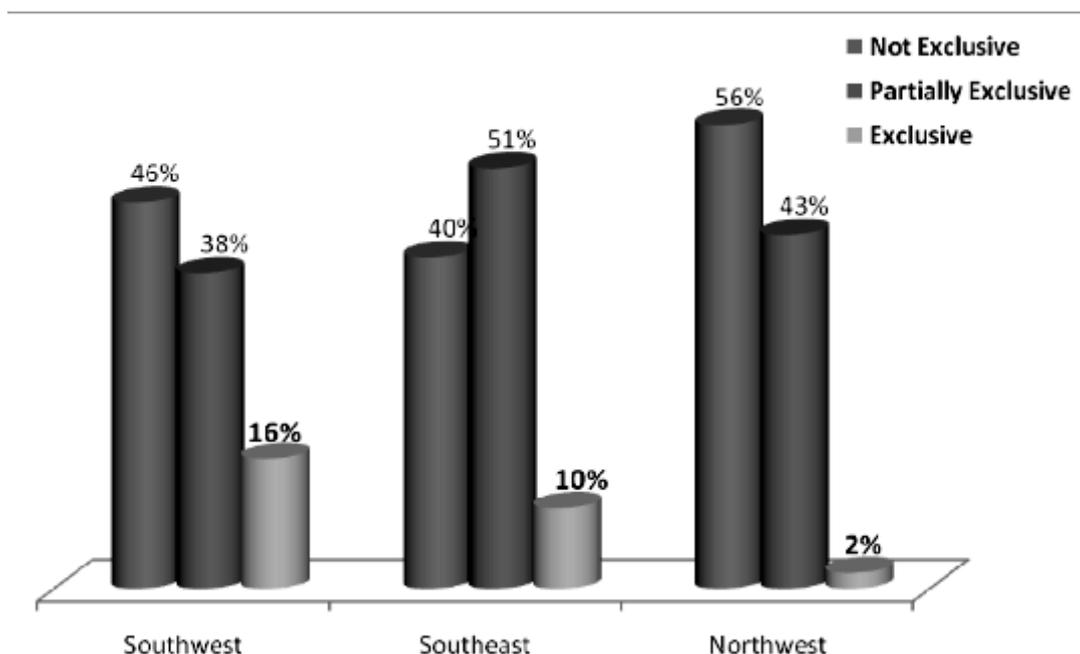


Figure 2: Pattern of newborn and infant breastfeeding

Table III: Mothers' Knowledge and perceptions of EBF by study sites in Nigeria, 2013

Selected characteristics	Ibadan (SW) n=224 %	Ebonyi (SE) n= 103 %	Zaria (NW) n=106 %
Ever heard of EBF			
Yes	98.0	97.0	97.0
No	2.0	3.0	3.0
Definition of EBF			
Defines EBF correctly	58.0	87.0	68.0
Defines EBF incorrectly	42.0	13.0	32.0
Perception of mothers on supportive attitude of stakeholders on EBF			
Doctors	87.8	88.2	76.5
Nurse	98.7	94.1	76.9
Midwife	99.1	92.2	78.8
Husband	93.7	80.2	52.9
Parents	89.5	72.5	52.0
In-laws	86.0	72.3	32.6
Other relatives	76.2	73.2	58.9
Religious leader	69.3	67.7	11.6
Friends	87.0	78.4	40.2
Perceived benefits of EBF			
Healthy babies	49.6	59.8	67.7
Economical/cheap	17.8	2.3	2.1
Prevention against diseases	14.1	34.5	25
Intelligence	29.8	2.3	2.1
Nutritious	13.1	1.1	3.1
Perception of EBF on occupation of respondent			
Jobs affect ability to do EBF	6.5	8.7	16.2
Took maternity leave	54.7	85.6	43.8
Take baby to work	87.4	59.8	58
Workplace has any facility for babies	79.5	39.5	32.6
Sources of information or support for exclusive breastfeeding across study sites			
Hospital/ Health centre	90.5	84.5	92.2
Mass Media	25.3	9.3	60.8
Friends and relatives	10	2.1	19.6
Religious centre	1.8	1.0	0
School	3.2	12.4	0

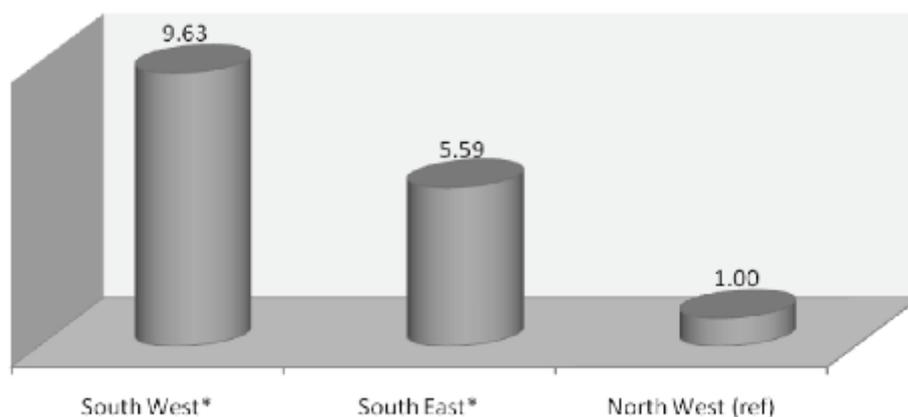


Figure 3: Odds ratio of EBF in the different zones

Table IV: Exclusive breastfeeding rates by selected demographic characteristics of respondents

Characteristics	Ibadan (SW) % n=?	Ebonyi (SE) %	Zaria (NW) %
Residence			
Rural	23.1	9.6	3.1
Urban	6.8	9.8	0.0
Mother's Age			
Below 30	12.5	10.6	1.8
30 and above	19.2	8.8	2.0
Highest Education			
None /Primary	33.3	8.3	0.0
Secondary	12.8	16.7	4.8
Tertiary	14.4	5.4	1.9
Occupation			
Student/ Unemployed/ Full time	21.7	5.6	2.1
housewife	14.1	9.1	3.6
Self employed	18.4	18.2	0.0
Paid employed			
Monthly income			
₦10, 000 and Below	15.9	9.4	1.7
₦11, 000 - ₦20, 999	13.0	10.0	0.0
₦21, 000 - ₦50, 999	11.8	18.8	5.0
Above ₦50, 000	11.8	0.0	0.0
Type of Marriage			
Monogamy	13.1	11.0	3.1
Polygamy	36.0	0.0	0.0
Baby is first			
Yes	17.3	16.0	4.5
No	14.7	7.7	1.2
Ever attended ANC class or support group			
Yes	15.9	10.1	2.0
No	0.0	0.0	0.0

Factors influencing the Practice of EBF

Figure 3 shows the odds of practicing EBF at the study sites. The odds of practicing EBF in the South West is about nine times that of the North West and about five times that in the South East. This further buttresses the prevalence rates found. Table IV shows a further examination of some selected background characteristics of respondents on the practice of EBF. The rates of EBF, although low, were higher among respondents in rural areas in Ibadan (23.1%) and Ebonyi (9.6%) as compared to Zaria (3.1%). Older mothers practiced EBF in Ibadan (19.2%) and Zaria (2.0), with the exception in Ebonyi. Educational attainment, though important, is not so substantial to EBF in the South West. However, it is key in the North West as those with no formal education are shown to have lower

rates of EBF. Another significant finding is that mothers whose index baby is first, attended ANC class, and defined EBF correctly, were found to have higher rates in the practice of EBF than other indicators influencing the practice of EBF. In the South West, it is clearly demonstrated that mothers who are not employed practiced EBF than those who were self and paid employed. The situation is, however, different in the South East and North West Nigeria. Table V shows the various reasons given for the non-practice of EBF in the study areas. Among those mothers who reported practicing EBF, the most commonly reported reasons for discontinuing EBF are: breast milk is not enough and non-satisfaction of the baby with breast milk.

Table V: Summary of Reasons for decision on EBF

Reasons	Ibadan (SW)	Ebonyi (SE)	Zaria (NW)
<i>Practice EBF</i>			
• Proper growth, development and Intelligence			
• Nutritious			
<i>Non practice of EBF</i>			
• Breast milk not enough			
• Hungry and not yet satisfied			
• Baby is already six month			

Mentioned in the qualitative analysis

Discussion

This study identifies key factors directly or indirectly influencing the rates of exclusive breastfeeding in Nigeria. Also, knowledge and perception of mothers of the practice of EBF were examined. The findings show that background characteristics of respondents including social,

health, cultural, and work related conditions play a critical role in the initiation and practice of breastfeeding for up to 6 months.

The result reveals that the knowledge and correct understanding of the concept of EBF does not automatically translate into practice. In the study, many first time mothers, many mothers who

attended ANC, and many mothers who could correctly define EBF practiced breastfeeding their babies for 6 months. Furthermore, the increasing age of mothers play a vital role in the practice of EBF especially in Ibadan and Zaria, (as EBF rates among mothers aged 30 and above was higher than rates among mothers younger than 30). These findings are supported by a study on the association of increasing age and likelihood of practicing EBF⁷. Educational attainment is another important factor affecting the practice of breastfeeding in Zaria, with EBF rates in more educated mothers being higher. Some studies have reported that mothers with higher education were more likely to exclusively breastfeed than those with lower education^{7,11}. However, these findings differ from studies that show that education plays no role in exclusive breastfeeding.^{6,10}

Clearly, younger mothers and women with lower educational attainment need to be targeted with interventions on infant feeding practices. Background characteristics have an important impact on subsequent decisions on breastfeeding. There is a need for efforts to target repeat mothers, and mothers who do not attend ANC in making an informed decision regarding the practice of EBF.

Of great importance would be the accuracy and consistency in the definition, concept and components of EBF, specifically the duration of EBF. While it is clear that EBF should be practiced for the first six months of life, there seems to be much confusion about whether complementary foods should begin at the start of the sixth month or at the end. This 'partially exclusive' group accounted for 38%, 51%, and 43% of the study population in Ibadan, Ebonyi and Zaria respectively. This confusion could have affected the actual practice of EBF in the study areas as well as interpretation of survey data. It is possible that the low rates observed

are due to these inconsistencies.

There are several limitations to the study. The study sites were chosen with consideration to available expertise to implement the study given that the EBF rates across the country (as found in MICS/NDHS) are not too different. These also influenced the hospital-based design of the study. Also, the small sample size can result in saturation of findings and are likely to represent findings in the study sites, but findings would not be generalizable to the geo-political zones or the country as a whole. As such, mothers in the sample may not be representative of the whole population of new mothers in the study sites. Comparing breastfeeding practices between sites should be made with caution, as sample sizes were relatively small even across sites. For the qualitative strand of the study, it is possible that respondents expressed what they believed as appropriate or socially desirable responses to fit the context of the study objectives. Those mothers who did not visit the health facilities may have different characteristics from those who visited. Mothers were asked what age their child would be given food, yet the responses may not have reflected actual practice. In addition there is a possibility of recall bias from respondents who participated in the study.

The findings here suggest programs should focus on behavioral interventions, health education, and strengthen key community stakeholders with a view to limiting factors reducing EBF. Furthermore, girl-child education should be encouraged as the results show that educated mothers practice EBF more, perhaps because of their ability to access and grasp information. Appropriate Information, Educational, and Cultural (IEC) materials in the local languages should be developed and placed strategically at service delivery points or birthing centers including TBA and religious midwives

centers. Further studies should be commissioned to explore the views and experiences on EBF on a wider scale with coverage in other geopolitical zones not covered in the study. Finally, workplace baby friendly policies should be supported, enacted or enforced as appropriate in public and private institutions to create a healthy, conducive and supportive environment that will encourage EBF practices by working class nursing mothers.

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