Original Research

Sociodemographic predictors of knowledge and practice of exclusive breastfeeding among mothers attending primary health centres in Ethiope West, Delta State Nigeria.

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Abstract

Background: A mother's sociodemographic characteristics influence her practice of breastfeeding and are vital in determining the overall well-being of the baby. This study assessed the sociodemographic predictors of the knowledge and practice of exclusive breastfeeding among lactating mothers attending primary health centres in Ethiope West LGA of Delta State.

Methodology: This cross-sectional questionnaire-based study was conducted among 360 mothers of children aged 6-15 months attending six primary health centres in Ethiope West Local Government Area of Delta State. Data was collected on sociodemographic factors, knowledge, and practice of exclusive breastfeeding among mothers. There were 8 questions that assessed the knowledge of exclusive breastfeeding. A mother was assessed to have good knowledge of exclusive breastfeeding when she answered correctly at least 6 out of the 8 questions. Data was analyzed using IBM SPSS Version 26.0.

Results: The respondents were aged 15-41 years with the majority (47.4%) being 20-29 years and a mean age of 28.92±6.89 years. They were mainly Urhobos (62.8%), married (78.9%), with about half (50.6%) of the participants in the lowest social class and about 43.3% having at least a secondary education. Most (78%) respondents had a good knowledge of exclusive breastfeeding but only about one-third (36%) were exclusively breastfed. Logistic regression analysis showed the odds of practicing EBF to be about twice in married women compared to the unmarried (AOR= 1.90, 95% CI= 1.007-3.591, p=0.014) and that the level of education was predictive of knowledge of EBF (AOR= 12.89, 95% CI= 4.006-40.901; p=0.001).

Conclusion: Despite the good knowledge of EBF, its practice was poor with marital status being the most important predictor of EBF.

Keywords: Predictors; Breastfeeding; Primary Health Centres; Sociodemographic Characteristics; Nigeria,

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Introduction

Breastfeeding is a socially accepted practice worldwide and one of the most significant health interventions that when practiced optimally, will contribute to the attainment of some Sustainable Development Goals (SDGs).[1] It is known to be the healthiest, easiest, and cheapest meal that meets the nutritional requirements of newborns and infants.[2] It is considered the safest and most complete nutritional source for infants because it is a balanced meal containing all the essential fats, carbohydrates, proteins, vitamins, minerals, immunogenic factors, and antibodies needed for infants to thrive and resist infections.[3]Despite the usefulness of breastfeeding to infants, it has to be done the right way to achieve maximum benefits. Exclusive Breastfeeding (EBF) is defined as the practice of only giving an infant breast milk for the first 6 months of life (no other food or water except oral rehydration solutions, drops, and syrups).[4] The World Health Organization recommends that infants be exclusively breastfed for the first 6months of life, after which complementary feeds should be introduced and breastfeeding continues until at least 2years of age.[4]Exclusively breastfed infants have all the required nutrients for appropriate growth in the first 6-months of life. They are also less likely to develop infections, asthma, obesity, and neurodevelopmental problems.[4] According to the Global Breastfeeding Scorecard for 2023, the prevalence of exclusive breastfeeding was 48% globally, 37% in sub-Saharan Africa, and 29% in Nigeria.[5]

Several factors have been reported to affect the practice of breastfeeding, and these factors vary from one study to another. In a study in North-Western Nigeria, colostrum was culturally considered to be unsafe due to its appearance, and as a result, babies were fed on animal milk, honey, or washouts from writings of the Koran on slates while awaiting the coming of the clean milk.[6] In another study in Kwara, North-Central Nigeria, mothers perceived that breast milk was not adequate for infants and as a result introduced infant's formulas as substitutes.[7] Also, Olabisi et al wrote that infants received herbal medicinal preparations as pre-lacteal meals for protection from illness and evil spirits.[8] Ethiope West LGA of Delta state is a semi-urban area largely inhabited by the indigenous Urhobo-speaking people. Large polygamous families, low literacy levels, and teenage pregnancy are some issues observed in communities in Ethiope West LGA that may affect the knowledge and practice of exclusive breastfeeding. This study thus assessed the sociodemographic predictors of knowledge and practice of exclusive breastfeeding among mothers in Ethiope West LGA of Delta State with the aim of improving the knowledge and practice of exclusive breastfeeding.

Methods

This cross-sectional study which involved the use of an interviewer-administered pre-tested questionnaire was carried out from August 2022 to November 2022 among mothers who attended PHC in Ethiope West Local Government Area (LGA) of Delta State. Delta State is in the southern part of Nigeria and has 25 local government areas. Ethiope West LGA selected for this study has 3 towns, 61 clans and eleven Primary Health Centers (PHCs). The towns include Oghara which has 5 PHCs, Jesse with 4 PHCs, and Mosogar with 2 PHCs. The PHCs carry out immunization clinics, antenatal services and treatment of common childhood diseases. Each PHC sees between 40-60 patients per clinic. The antenatal clinics runs on Tuesday and the immunization visit is on Thursday.

Participants were mothers of children aged 6-15 months old while mothers who had chronic illnesses that prevented breastfeeding were excluded from the study. The sample size was determined using Cochran's formula n= Z^2pq/d^2, where p = 0.287 according to the report by the NDHS [9], q=0.713, d= 0.05, and Z= 1.98. The minimum sample size obtained was 321, however, to increase the power of the study, 360 participants were recruited. Six PHCs (about 50% of the number of PHCs) were selected by proportionate allocation, i.e. 3 PHCs from Oghara, 2 PHCs from Jesse, and 1 PHC from Mosogar were selected through a simple random sampling method. Ethical approval was obtained from the Health Research and Ethics

Committee (HREC) in DELSUTH (HREC/ PAN/ 2022/ 050/0503). Approval was also obtained from the PHC coordinator and the PHC unit.

An interviewer-administered structured questionnaire was used to collect data for this study. The questionnaire included sections on socio-demographic variables, knowledge, and exclusive breastfeeding practice among mothers. Socio-demographic parameters such as age group, marital status, mother's level of education and mother's occupation, father's level of education and occupation were obtained. The socio-economic status of the family was determined using the Oyedeji Social Classification system.[10] Eight questions were used to determine knowledge of EBF. A score of 1 was assigned to correctly answered questions and the total knowledge score was 8. Mothers who scored 6 and above were said to have good knowledge while mothers who scored below 6 had poor knowledge. The questionnaire was pretested among 20 mothers in Sapele LGA and analyzed to determine the clarity, reliability, and validity of the tool.

Mothers who were recruited were counselled on the study and informed written consent was obtained from them. The research assistants were the community health extension workers at the PHCs and they ranged from 2-5 in number. They were trained for 2 days by the investigator on the administration of the questionnaire during the initial visits to the facility. After which they were allowed to administer the questionnaire under the supervision of the investigator. On the day of data collection, mothers were recruited based on the order of their presentation provided they met the inclusion and exclusion criteria. Data collection was simultaneously carried out by the research assistants in the 6 PHCs while the principal investigator carried out the oversight function of the 6 PHCs during the period of data collection. Sixty participants were recruited from each PHCs over the period of 4 months. The principal investigator during the oversight function, ensured that questionnaires were properly filled, and incomplete questionnaires were discarded.

Data Analysis
Data was analyzed using the IBM Statistical Package for Social Sciences (SPSS) program Version 26.0. Descriptive and inferential statistics were done. The Chi-square test was used for inferential statistics to determine a significant association between the dependent and independent variables, and binary logistic regression to determine the sociodemographic predictors of exclusive breastfeeding practice. A p-value of <0.05 was statistically significant.

Result
The women were aged 15-41 years with a modal age of 20-24 years (24.4%) and a mean age of 28.92 ±6.89 years. The majority (62.8%) were Urhobos, married (78.9%), Christians (91.9%), and had at least one child (28.9%). Half (50.6%) of the participants were in the lowest social class and 43.3% had at least a secondary education as seen in table 1.

More than two-thirds (78%) of the mothers had good knowledge about exclusive breastfeeding, while the remaining 22% had poor knowledge. The proportion of women who exclusively breastfed for the first six months was 36%.

Analysis was done to determine the association between sociodemographic characteristics and the knowledge of EBF. Sociodemographic characteristics significantly associated with the knowledge of exclusive breastfeeding using inferential statistics were religion (p=0.015), level of education (p=0.001), social class (p=0.001) and the number of children (p=0.048) as seen in table 2.

Table 1: Sociodemographic Characteristics of Mothers.

Characteristics	Frequency(n=360)	Percent (100%)
Age		
15-19	32	8.9
20-24	88	24.4
25-29	83	23.0
30-34	83	23.1
35-40	51	14.2
41 and above	23	6.4
Mean (SD) = 28.92 (±6.89) years		
Level of education		
None	26	7.2
Primary	53	14.7
Secondary	156	43.4
Tertiary	125	34.7
Marital Status		
Unmarried	76	21.1
Married	284	78.9
Number of Children		
One	104	28.9
Two	87	24.2
Three	87	24.2
Four and above	82	22.8
Religion		
Islam	9	2.5
Christianity	331	92.0
Traditionalist	16	4.4
Others	4	1.1
Social class		
Social class 1	1	0.3
Social class 2	60	16.7
Social class 3	7	1.9
Social class 4	110	30.6
Social class 5	182	50.6
Tribe		
Urhobo	226	62.8
Itsekiri	20	5.6
Isoko	37	10.3
Ijaw	22	6.1
Ibo	30	8.3
Others	25	6.9

Table 2: Associations between Sociodemographic Characteristics and knowledge of EBF

Variables	Knowledge, n (%)		χ^2	df	P-value
	Good	Poor			
Age					
15-19	21 (65.6)	11 (34.4)	9.486	5	0.091
20-24	63 (71.6)	25 (28.4)			
25-29	63 (75.9)	20 (24.1)			
30-34	71 (85.5)	12(14.5)			
35-40	42 (82.4)	9 (17.6)			
41and Above	20 (87.0)	3 (13.0)			
Level of education					
None	11 (42.3)	15 (57.7)	Fisher's exact		**<0.001**
Primary	30 (56.6)	23 (43.4)			
Secondary	123 (78.8)	33 (21.2)			
Tertiary	116 (92.8)	9 (7.2)			
Marital status					
Unmarried	50 (65.8)	26 (34.2)	8.011	1	**0.005**
Married	230 (81.0)	54 (19.0)			
No of children					
One	76 (73.1)	28 (26.9)	7.884	3	**0.048**
Two	62 (71.3)	25 (28.7)			
Three	71 (81.6)	16 (18.4)			
Four and above	71 (86.6)	11 (13.4)			
Religion					
Islam	5 (55.6)	4 (44.4)	10.483	3	**0.015**
Christianity	264 (79.8)	67 (20.2)			
Traditionalist	8 (50.0)	8 (50.0)			
Others	3 (75.0)	1 (25.5)			
Social class					
Social class 1	1 (100)	0 (0.0)	Fisher's exact		**<0.001**
Social class 2	55 (91.7)	5 (8.3)			
Social class 3	4 (57.1)	3 (42.9)			
Social class 4	94 (85.5)	16 (14.5)			
Social class 5	126 (69.2)	56 (30.8)			
Tribe					
Urhobo	180 (79.6)	46 (20.4)	4.542	5	0.474
Itsekiri	14 (70.0)	6(30.0)			
Isoko	26 (70.3)	11(29.7)			
Ijaw	16 (72.7)	6 (27.3)			
Ibo	26 (86.7)	4(13.0)			
Others	18 (72.0)	7 (28.0)			

Analysis was done to determine the association between sociodemographic characteristics and the practice of EBF. Being married (p=0.003) and having more children (p=0.025) were significantly associated with the practice of EBF as seen in table 3.

Table 3: Associations between Sociodemographic Characteristics and the Practice of EBF

Variables	Prevalence, n (%)		χ^2	df	P-value
	Yes (EBF)	No (EBF)			
Age					
15-19	12 (37.5)	20 (62.5)	2.605	5	0.761
20-24	27 (30.7)	61 (69.3)			
25-29	32 (38.6)	51 (61.4)			
30-34	31 (37.3)	52 (62.7)			
35-40	20 (39.2)	31 (60.8)			
41and Above	6 (26.1)	17 (73.9)			
Level of education					
None	9 (34.6)	17 (65.4)	7.751	3	0.051
Primary	10 (18.9)	43 (81.1)			
Secondary	60 (38.5)	96 (61.5)			
Tertiary	49 (39.2)	76 (60.8)			
Marital status					
Unmarried	16 (21.1)	60 (78.9)	8.843	1	**0.003**
Married	112 (39.4)	172 (60.6)			
No of children					
One	25 (24.0)	79 (76.0)	9.369	3	**0.025**
Two	32 (38.8)	55 (63.2)			
Three	38 (43.7)	49 (56.3)			
Four and above	33 (40.2)	49 (59.8)			
Religion					
Islam	4 (44,4)	5 (55.6)	4.361	3	0.225
Christianity	121 (36.6)	210 (63.4)			
Traditionalist	2 (12.5)	14 (87.5)			
Others	1 (25.0)	3 (75.0)			
Social class					
Social class 1	0 (00.0)	1(100.0)	4.020	4	0.403
Social class 2	24 (40.0)	36 (60.0)			
Social class 3	2 (28.6)	5 (71.4)			
Social class 4	45 (40.9)	65 (59.1)			
Social class 5	57 (31.3)	125 (68.7)			
Tribe					
Urhobo	73 (32.3)	153 (67.7)	3.956	5	0.556
Itsekiri	7 (35.0)	13 (65.0)			
Isoko	16 (43.2)	21 (58.8)			
Ijaw	8 (36.4)	14 (63.6)			
Ibo	12 (40.0)	18 (60.0)			
Others	12 (48.0)	13 (52.0)			

Further analysis using binary regression showed that formal education was the most important predictor of the knowledge of EBF (AOR= 12.89, 95% CI= 4.006-40.901, p=0.0001) as seen in table 4. Additionally, being married was the most important predictor of the practice of EBF (AOR= 1.90, 95% CI= 1.007-3.591, p=0.014) as seen in table 5.

Table 4: Regression Analysis of Sociodemographic Predictors associated with Knowledge of EBF

Variables	P value	COR (95% CI)	P value	AOR (95% CI)
Level of Education				
None	0.000	**Reference**	<0.001	**Reference**
Primary	0.000	17.58 (6.261-49.335)	<0.001	12.89 (4.066-40.901)
Secondary	0.000	9.88 (4.144-23.561)	<0.001	7.39 (2.723-20.043)
Tertiary	0.002	3.46 (1.586-07.540)	0.014	2.93 (1.240- 6.916)
Marital Status				
Unmarried		**Reference**		**Reference**
Married	0.005	2.22 (1.266-3.873)	0.333	1.39 (0.714-2.708)
No of children	0.746	0.75 (0.594-0.937)	0.137	0.82 (0.627-1.066)
Religion				
Islam	0.025	**Reference**	0.460	**Reference**
Christianity	0.512	2.40 (0.175-3.879)	0.480	2.89 (0.153-54.532)
Traditionalist	0.815	0.76 (0.078-7.436)	0.833	1.32 (0.103-16.845)
Others	0.383	3.00 (0.255-35.334)	0.462	2.80 (0.180- 43.585)
Social class				
Social class 1	0.001	**Reference**	0.045	**Reference**
Social class 2	1.000	0.00 (0.000)	1.000	0.00 (0.000)
Social class 3	0.001	0.21 (0.078-0.539)	0.297	0.56 (0.191-1.658)
Social class 4	0.503	1.69 (0.366-7.791)	0.137	3.59 (0.666-19.396)
Social class 5	0.002	0.38 (0.207-0.709)	0.016	0.44 (0.229- 0.857)

Table 5: Regression Analysis of Sociodemographic Factors associated with the Practice of EBF

Variables	P value	COR (95% CI)	P value	AOR (95% CI)
Marital Status				
Unmarried	0.000	Reference	0.048	Reference
Married	0.004	2.44 (1.339-4.452)	0.014	1.90 (1.007-3.591)
Level of Education				
None	0.063	Reference	0.202	Reference
Primary	0.662	1.218 (0.503-2.948)	0.758	1.15 (0.471-2.814)
Secondary	0.010	2.772 (1.276-6.025)	0.073	2.09 (0.933-4.680)
Tertiary	0.900	1.032 (0.637-1.672)	0.671	0.90 (0.547-1.475)
No of children	0.774	0.774 (0.638-0.939)	0.050	0.82 (0.669-1.000)

Discussion

The knowledge of EBF among mothers was good (78.0%) and 36.0% of these mothers practiced EBF. Similarly, Ahmed et al reported an EBF prevalence rate of 34.8% in Sokoto metropolis in North-Western Nigeria.[11] Ella et al reported a lower prevalence of 14.6% in rural communities of Cross River State, Southern Nigeria.[12] Ella et al also reported a high knowledge of EBF (83.0%) despite the low practice of EBF though Ahmed et al in their study did not assess knowledge of EBF. In another study in Kaduna, North-Western Nigeria, 86.6% mothers had good knowledge and 70.0% practiced EBF.[13] In a meta-analysis of studies in East Africa, 84.4% of mothers were aware of EBF, and 55.5% practiced EBF.[14] Most of these studies show that there is a weak association between the knowledge of EBF and the practice of EBF. The sociodemographic characteristics of these mothers may account for this weak association.

The study showed that Christian mothers had significantly good knowledge of EBF compared to mothers who practice Islam and traditional religion. This finding also corresponds with the study by Adepoju et al in Ibadan, Nigeria where they reported that the Islamic religion encouraged pre-lacteal feeding.[15] Religion has a major influence on its followers and could be a driver for behavioural change. It is therefore necessary to involve religious leaders in promoting, supporting, and sustaining EBF.

This study also showed that married mothers had more knowledge of EBF and that marriage was the most important predictor of the practice of EBF. This may be related to the fact that married women are more likely to attend antenatal services than single women.[16] Married women have support from their immediate family and their spouses that will encourage early booking and follow-up during antenatal services. Single women are more likely to be faced with the challenges of the sociocultural and socioeconomic issues surrounding the pregnancy that they may give less attention to the care of themselves and the pregnancy. Additionally, the present study also showed that married women were twice more likely to practice EBF than single women. Maluneh also reported that married women were 1.26 times more likely to breastfeed than single women.[17] Besides the health misfortune that could

befall these infants of single mothers who did not practice EBF, they are mothers are at risk of conditions that could have been prevented by EBF such as breast cancer, ovarian cancer, type 2 diabetes mellitus and hypertension.

The study also showed that more educated mothers had more knowledge of EBF than less educated mothers and this has also been reported in the past.[18] The reason for this finding is not obvious from the study but it is probably due to the language of communication during antenatal services. The less educated mothers may not understand and comprehend the full weight of the educational sessions given during antenatal services since they are taught in the English language. This can be an area of research to explore if more women will prefer to be given this educational session in their local languages for better understanding. The study also revealed that the higher social class mothers had more knowledge of EBF, and this may not be unconnected to the role of education. Some studies have associated good knowledge and eventual practice of EBF with wealth, stating that the wealthier the family, the higher the likelihood of the mother practicing EBF.[19] Though the present study showed that the level of education was the most important predictor of the knowledge of EBF among mothers, however, marriage is the most important predictor of the practice of EBF in the community.

The study has also shown that the higher the number of children the mothers had, the more knowledge they had on EBF. This can be attributed to the experience of the benefits of exclusive breastfeeding of the other children. Also, women with more than one child must have attended antenatal care several times and were most probably engaged in lectures and practical training on breastfeeding carried out at the health centers. Some previous studies in China and Saudi Arabia had similar findings. [20,21] This thus shows that primipara mothers need more teaching sessions and more support to achieve EBF as reported by Ihudiebube-Splendor et al. [22]

Although other studies have indicated that exclusive breastfeeding increases with the age of the mother, it was not among the findings in the present study, and this may be due to the under-representation of older mothers in the study population as only 20% of them were older than 35years of age. Manyeh et al in their study in Southern Ghana showed that the age of mothers had a significant association with the practice of exclusive breastfeeding.[22,23]

Conclusion
The prevalence of exclusive breastfeeding was low despite the good knowledge possessed by most mothers. Mothers who had higher levels of education, more children, and were married had more knowledge of EBF, however, the most important predictor of the practice of EBF was marriage. Therefore, single mothers will require more support during antenatal care and following delivery to achieve EBF.

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