

Prevalence and Factors Affecting Exclusive Breastfeeding Practice among Nursing Mothers Accessing Routine Immunization in a Tertiary Hospital

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Abstract

➤ *Background:*

Breastfeeding is a natural, cost-effective and evidence-based nutritional activity that promotes the optimal wellbeing and survival of infants.

➤ *Objective:*

To determine the prevalence and factors affecting exclusive breastfeeding practice among nursing mothers accessing routine immunization in a tertiary hospital.

➤ *Materials and Methods:*

This was a cross-sectional descriptive study involving 333 nursing mothers attending routine immunization at a tertiary hospital in Abia State, Nigeria. Structured questionnaires were used to obtain information from consenting subjects. Data was analyzed using IBM SPSS version 20.

➤ *Results:*

The mean age of the respondents was 31±4.9 years with the age group 27-32 years having the greater proportion (52.9%). Majority were married (93.1%) and Christians (97.9%). Well over half of the respondents had attained a tertiary education, 52% were self-employed, and 57% had less than 3 living children. Hospital delivery of the current baby among the study participants was 81.1% out of which 78.4% was a normal delivery. ANC was attended by 94.9% of the mothers where 96.8% admitted to have received advice on EBF. Prevalence of EBF was 61% while 40% practiced it based on their personal decision. The major reasons for not practicing EBF were work schedule (26.7%) and painful breasts (17.2%). Marital status and educational attainment were significantly associated with practice of EBF among the mothers ($p < 0.05$) while marital status and number of living children showed significant association with place of delivery of the baby ($p < 0.05$).

➤ *Conclusion:*

In spite of the frequent campaigns on exclusive breastfeeding, the practice of EBF is still comparatively low in this study. More work still needs to be done in ensuring that the practice of exclusive breastfeeding among nursing mothers in the state corresponds with the high level of awareness.

Keywords:- Prevalence, Factors, Exclusive breastfeeding, Nursing mothers, Tertiary hospital.

I. INTRODUCTION

Each year more than 10 million children under the age of five years die, mainly from one of a short list of causes which can be prevented easily through exclusive breastfeeding, and the majority live in low-income countries.¹ It is estimated that the lives of one million infants can be saved in the developing world by promoting breastfeeding.² Exclusive breastfeeding (EBF), remains the optimal method of infant feeding³ with major benefits for both mother and child^{4,5,6,7,8}. EBF is defined as feeding breast milk only and no other liquids or solids except vitamins, mineral supplements or prescribed medication⁹, and is the recommended feeding practice for all babies before the age of six months.

Globally, it is estimated that about 38% of infants 0 to 6 months of age are exclusively breastfed¹⁰. In Sub-Saharan Africa (SSA) where the practice of breastfeeding is common, EBF rates vary widely and range from 87.3% in Rwanda to 17% in Nigeria¹¹. West and Central Africa remain the regions of the world with the highest infant mortality rates and the lowest exclusive breastfeeding rates worldwide. In Nigeria, the prevalence of exclusive breastfeeding has varied widely from 67% in Jos, North-central¹², 52.9% in Lagos, South west¹³, to 37.3% in Anambra, South East.¹⁴ In Abia state, the prevalence of exclusive breastfeeding is at a low rate of 18.6% according to a Multiple Indicator Cluster Survey in 2016.¹⁵ The national average has marginally risen from 17% to 25% as reported in the 2014 National Nutrition and Health Surveys (NNHS)¹⁶. In Nairobi, Kenya, a prevalence of 13.3% was reported for exclusive breastfeeding.¹⁷ In Egypt, 42.5% of

mothers reported exclusive breastfeeding to infants less than 4 months of age¹⁸ while in the slum areas of Dhaka, only 5% of the mothers were practicing exclusive breastfeeding for 6 months and 53% breastfed exclusively in the first month.¹⁹

In the Middle Eastern country of Al-Ain, United Arab Emirates, only 4% of mothers practiced exclusive breastfeeding during the first month of their lives.²⁰ In Iran, 82% of infants were reported to be exclusively breastfed during the first month of life, but the rate decreased to 44% and 2% at the ages of 4 and 6 months respectively.²¹ In Saudi Arabia, studies have reported a downward trend in breastfeeding practice. 24.4% of infants were exclusively breastfed at the age of 6 months. Higher rates of 27.3% and 33.1% were reported in Al-Kharj and in Dammam, respectively.²²

A prevalence of 30% for exclusive breastfeeding was reported among women in the rural areas of Bangladesh.²³ A community-based study among mothers in rural Haryana, India reported a prevalence of 10% for exclusive breastfeeding.²⁴ The benefits of breastfeeding are well known and include optimized infant growth and reduced death rates.^{25, 26} It is one of the oldest practices recommended by all religions and it is the universally endorsed solution in the prevention of early malnutrition.²⁷ Equally, it protects against infection in infancy.²⁸ Breastfeeding is a natural, cost-effective and evidence-based nutritional activity that promotes the optimal wellbeing and survival of infants.^{29, 30} Breastfeeding has been shown to protect infants from several morbidities in infancy and early childhood including acute respiratory infections, diarrhea and other gastrointestinal conditions.^{29, 31} As well, benefits of breastfeeding has been documented for the mother; breast and ovarian cancer risk prospects are reduced among mothers who gave exclusive breast milk correlates with weight loss that prevented early cardiac morbidity and mortality.³²

Several recommendations have been made by concerned international bodies in order to protect and sustain the act of breastfeeding:

The American Academy of pediatrics (AAP) and the American Academy of Family Physicians (AAFP) similarly recommends exclusive breastfeeding for the first 6 months of life, continuing at least through the infant's first birthday, and as long thereafter as is mutually desired.^{4, 33}

The American College of Obstetricians and Gynecologists (ACOG) recommends 6 months of exclusive breastfeeding for all infants.³⁴

The World Health Organization (WHO, 2017) and (UNICEF, 2017) have offered an even stronger recommendation: Initiation of breastfeeding within the first hour after birth: exclusive breastfeeding for the first 6 months : and continued breastfeeding for two years or more, together with safe, nutritionally adequate, age appropriate, responsive complementary feeding starting in the sixth month.

It is worthy of note that West and Central Africa remains the region of the world with the highest infant mortality rates and the lowest EBF rates worldwide. A mother's decision to practice EBF for the first six months is affected by several factors, including socio-demographic such as maternal age, educational status and wealth quantiles, place of delivery, maternal and child-related factors^{35,36,37,38, 39}.

II. MATERIALS AND METHODS

This was a cross-sectional descriptive study carried out during the Breastfeeding week (1st-7th August, 2017). The respondents were made up of nursing mothers accessing routine immunization at Abia State University Teaching Hospital (ABSUTH), Aba. ABSUTH is one of the two tertiary health institutions in Abia State, located in the commercial city of Aba in Abia State. A pre-tested self/interviewer-administered questionnaire was used to obtain data on socio-demographic characteristics of respondents, reproductive information, practice of EBF and reasons for non-practice of EBF. A total of 350 questionnaires were randomly administered to consenting participants while 333 were returned correctly filled.

Data obtained were entered and analyzed using IBM SPSS version 20. Categorical variables were summarized in frequency distribution tables and numerical variables by mean and standard deviation. The Chi-square test was used to demonstrate associations between variables. Multivariate Logistic regression was also done on variables which were significant at univariate analysis. The level of statistical significance was set at $p < 0.05$ and confidence level of 95%.

Ethical approval for the study was obtained from the Ethics and Research Committee of Abia State University Teaching Hospital (ABSUTH), Aba.

III. RESULTS

VARIABLE	FREQUENCY (N=333)	PERCENTAGE (%)
Age group (in years)		
15-20	3	0.9
21-26	48	14.4
27-32	176	52.9
33+	106	31.8
Marital status		
Single	13	3.9
Married	310	93.1
Widowed	4	1.2
Divorced	6	1.8
Number of children		
<3	190	57.1
3+	143	42.9
Religion		
Christianity	326	97.9
Islam	7	2.1
Educational status		
Primary or less	23	6.9
Secondary	116	34.8
Tertiary	194	58.3
Occupation		
Unemployed	75	22.5
Self employed	173	52.0
Civil servant	85	25.5
Social habits		
Alcohol intake	61	18.3
Smokes cigarettes, heroine etc		
Keeps boyfriends	3	0.9
Not applicable	2	0.6
	267	80.2

Mean age= 31±4.9 years

Table 1:- Socio-demographic variables of respondents

Table 1 above shows the socio-demographic variables of the respondents. Majority of the study participants (52.9%) were in the 27-32 years age group with a mean age of 31± 4.9 years and most were married (93.1%) with 42.9% having at least 3 children. Nearly all the respondents (97.9%) were Christians, a higher proportion of respondents (58.3%) had tertiary education while 173/333 (52%) were self employed. About 80% of the respondents had none of the social habits studied though 18% admitted to alcohol consumption.

VARIABLE	FREQUENCY (N=333)	PERCENTAGE (%)
Place of delivery		
At home	3	0.9
Church	2	0.6
Maternity	58	17.4
Hospital	270	81.1
Mode of delivery		
Normal(SVD)	261	78.4
C/S	72	21.6
Birth weight of baby (kg)		
<2.5	24	7.2
≥2.5	309	92.8
Birth order		
1 st child	100	30.0
2 nd child	96	28.8
3 rd child	73	21.9
4 th child or higher	64	19.2

Sex of baby		
Boy	161	48.3
Girl	172	51.7
Did you attend ANC?		
Yes	316	94.9
No	17	5.1
If Yes, were you advised on breastfeeding?	n=316	
Yes	306	96.8
No	10	3.2

Table 2:- Reproductive Information

Table 2 is on Reproductive information of the mothers. A high proportion; 270/333 (81.1%) delivered their current baby in a hospital while less than 1% had home delivery. Over three-quarters (78.4%) of the mothers had a normal spontaneous vaginal delivery (SVD) and 92.8% had babies weighing ≥ 2.5 kg at birth. In birth order, 30% of the current babies was a “1st child”, 28.8% “2nd child”, 21.9% “3rd child” and 19.2% “4th child” or higher. More than half of the mothers (51.7%) had a baby girl and a high proportion of them (94.9%) attended Antenatal clinic where 96.8% said they were advised on exclusive breastfeeding.

VARIABLE	FREQUENCY (N=333)	PERCENTAGE (%)
Did you give colostrum?		
Yes	300	90.1
No	33	9.9
Did you do EBF		
Yes	203	61.0
No	130	39.0
If Yes, for how long?	n=203	
Up to 3 months	51	25.1
4 months	24	11.8
5 months	6	3.0
6 months	117	57.6
>6 months	5	2.5
Who or what encouraged your decision?*	n=276	
Mother	39	14.1
Mother-in-law	15	5.4
Husband	58	21.0
Media	27	9.8
Neighbor	8	2.9
Personal decision	111	40.2
Members of religious group	4	1.4
Health worker	14	5.1
If No, what did you give? *	n=159	
Breast milk + water	75	47.2
Breast milk + formula	58	36.5
Breast milk + pap	21	13.2
Pap+ formula	5	3.1
Did you give pre-lacteals?		
Yes	174	52.3
No	159	47.7

*Multiple response

Table 3:- Practice of EBF

Table 3 above is on practice of EBF. Most mothers ((90%) gave their babies colostrum; however, only 61% of them practiced EBF. Out of those who practiced EBF, 57.6% did the recommended 6 months of exclusive breast feeding. Those that practiced EBF were encouraged by their personal determination (40.2%), husbands (21%) and mothers (14%). Mothers who did not do EBF reported giving their babies breast milk and water (47.2%), breast milk and formula milk (36.5%) and breast milk and pap (13.2%). Slightly above half of the respondents (52.3%) gave pre-lacteals to their babies prior to commencing breast feeding.

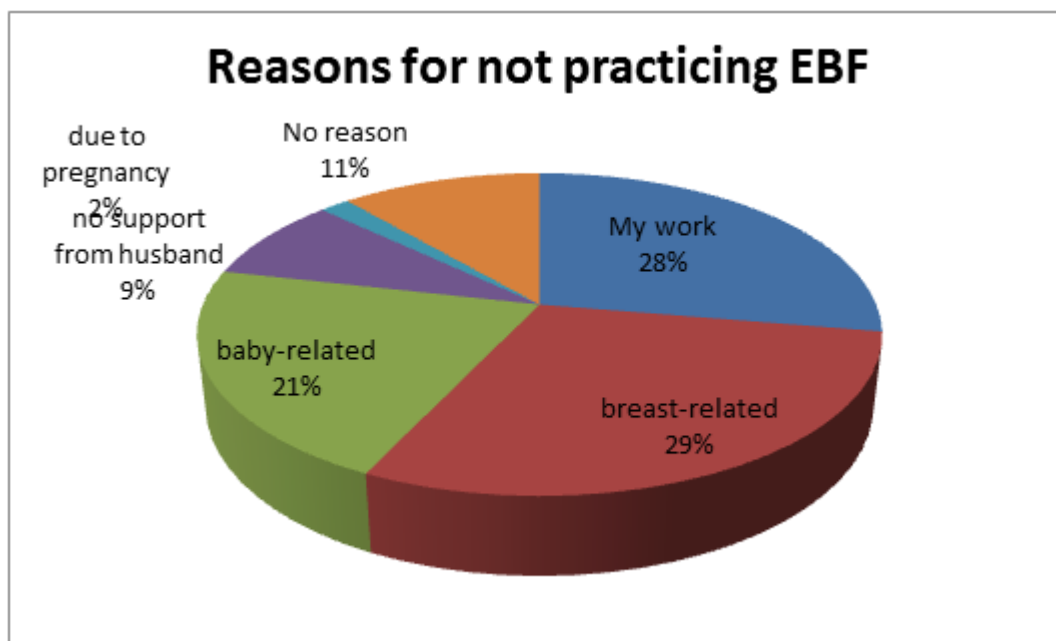


Fig 1:- Reasons for not practicing EBF

Some of the reasons given for not practicing EBF include; breast-related factors (29%) such as painful breasts, “sour” breast milk, too little milk production and breast abscess; work (28%), baby-related factors (21%) and no support from husband (9%).

VARIABLES	Non-Health facility N=5 n (%)	Health facility N=328 n (%)	χ^2	p-value
Age group (in years)				
15-20	0 (0.0)	3 (100.0)	2.303*	0.713
21-26	1 (2.1)	47 (97.9)		
27-32	2 (1.1)	174 (98.9)		
33+	2 (1.9)	104 (98.1)		
Marital status				
Single	1 (20.0)	12 (3.7)	10.373*	0.040**
Married	3 (60.0)	307 (93.6)		
Separated/divorced	1 (20.0)	5 (1.5)		
Widowed	0 (0.0)	4 (1.2)		
Number of children				
1	0 (0.0)	99 (30.2)	10.208*	0.005**
2	0 (0.0)	91 (27.7)		
3	1 (20.0)	75 (22.9)		
4	2 (40.0)	44 (18.9)		
>4	2 (40.0)	19 (5.8)		
Educational status				
None	0 (0.0)	9 (2.7)	5.825*	0.100
Primary	1 (20.0)	13 (4.0)		
Secondary	3 (60.0)	113 (34.5)		
Tertiary	1 (20.0)	193 (58.8)		
Occupation				
Unemployed	3 (60.0)	72 (22.0)	3.637*	0.102
Self employed	2 (40.0)	171 (52.1)		
Civil servant	0 (0.0)	85 (25.9)		

*Fisher’s Test

**Significant

Table 4:- Socio-demographic variables and Place of delivery of mothers

Table 4 above shows the relationship between socio-demographic variables and place of delivery. Statistically significant differences existed between marital status (p=0.040), present number of children (p=0.005) and place of delivery.

VARIABLES	Practice of EBF		N=130	No χ^2 n (%)	p-value
	Yes N=203 n (%)				
Age group (in years)					
15-20	2 (1.0)		1 (0.8)	6.610*	0.068
21-26	27 (13.3)		21 (16.2)		
27-32	99 (48.8)		77 (59.2)		
33+	75 (36.9)		31 (23.8)		
Marital status					
Single	4 (2.0)		9 (6.9)	7.492*	0.039**
Married	192 (94.6)		118 (90.8)		
Separated/divorced	3 (1.5)		3 (2.3)		
Widowed	4 (2.0)		0 (0.0)		
Number of children					
1	58 (28.6)		41 (31.5)	0.847*	0.932
2	54 (26.6)		37 (28.5)		
3	48 (23.6)		28 (21.5)		
4	30 (14.8)		16 (12.3)		
>4	13 (6.4)		8 (6.2)		
Educational status					
None	2 (1.0)		7 (5.4)	14.804*	0.002**
Primary	6 (3.0)		8 (6.2)		
Secondary	62 (30.5)		54 (46.6)		
Tertiary	133 (65.5)		61 (46.9)		
Occupation					
Unemployed	43 (21.2)		32 (24.6)	0.921*	0.631
Self employed	105 (51.7)		68 (52.3)		
Civil servant	55 (27.1)		30 (23.1)		

*Fisher’s Test

**Significant

Table 5:- Socio-demographic variables and Practice of EBF

Table 5 is on socio-demographic variables and the practice of EBF. Statistical significant difference was found between marital status (p=0.039), educational status (p=0.002) and practice of EBF.

Independent Variable	Place of delivery					
	Health facility	Non-health facility	Crude odds ratio(cOR)	P value	Adjusted odds ratio(aOR)	P Value
Marital status						
Married	307	3	1		1	
Other status	21	2	0.10(0.02-0.65)	0.02*	0.11(0.02-0.68)	0.02*
Age group						
30 & below	15	25	1		1	
31 & above	25	9	1.41(0.233-8.56)	0.708	1.34(0.22-8.41)	0.75
Educational status						
Primary or less	22	1	1		1	
Secondary & above	306	4	3.48(0.37-32.46)	0.27	3.35(0.34-33.45)	0.31

*Statistically significant

Table 6:- Multivariate logistic regression of place of delivery using predictor factors identified in univariate logistic regression

Table 6 shows odds ratios for predictors of place of delivery from univariate and multivariate logistic regression at 95% confidence interval (C.I.).Univariate analysis was done for marital status, educational level, age and current number of children. Only marital status showed a statistical association at univariate level.On adjustment during multivariate logistic regression analysis, only marital status was a significant predictor of place of delivery of the mothers.

Practice of EBF						
Independent Variable	Yes	No	Crude odds ratio(cOR)	P value	Adjusted odds ratio(aOR)	P Value
Marital status						
Married	192	118	1		1	
Other status	11	12	1.73(0.73-4.10)	0.21	1.76(0.75-4.16)	0.20*
Occupation						
Unemployed	43	32	1		1	
Employed	165	98	0.99(0.58-1.69)	0.97	0.90(0.53-1.51)	0.68
Educational status						
Primary or less	8	15	1		1	
Secondary & above	195	115	0.31(0.13-0.78)	0.01	0.33(0.13-0.80)	0.02*

*Statistically significant

Table 7:- Multivariate logistic regression of practice of EBF using predictor factors identified in univariate logistic regression

Table 7 shows odds ratios for predictors of practice of EBF from univariate and multivariate logistic regression at 95% confidence interval (C.I.). Univariate analysis was done for marital status, educational level, age and occupation. Only educational level showed a statistical association at univariate level. On adjustment during multivariate logistic regression analysis, both marital status and educational level were significant predictors of practice of EBF among the mothers.

IV. DISCUSSION

In this study, we investigated the prevalence and factors influencing the practice of exclusive breastfeeding among nursing mothers. We found that prevalence of EBF practice among women attending immunization clinic in ABSUTH was (61%), comparable with 52% reported among mothers in Lagos, Nigeria¹³ and 67.0% among urban Jos women of Plateau state, Nigeria¹². However, the findings in this study was low compared to the WHO recommended EBF coverage of 90%⁴⁰, but higher than the findings from a Tanzanian study that observed an EBF prevalence of 24.4%⁴¹ and 33.5% in Nnewi, south-eastern Nigeria³⁸. The reason for this relatively high rate of EBF in our study may be because the study was conducted in a baby friendly hospital where most of the respondents had received the current breastfeeding education. It is also possible that these differences might be due to the different methodologies used in estimating EBF rates in different studies⁴². Therefore, there is need to implement and intensify breastfeeding promotion programs that will promote EBF, even within urban settlements.

Some factors have been known to influence the practice of EBF. In our study, we found that being married and having a tertiary education had strong influence on practice of EBF. Mothers who were married were 2 times

more likely to practice EBF whereas those with higher educational attainment were 0.33 times more likely to practice EBF than other marital status. Some Ghanaian studies have also reported a higher practice of EBF in mothers with higher level of education.^{43, 44, 45} Positive influence of higher education on the practice of EBF was also reported in an Indian study.⁵⁰ Also in an Ethiopian study, it was found that mothers who received infant feeding counseling were more likely to exclusively breastfeed their babies than those who did not received infant feeding counseling.⁵¹

We found that a comparably high percentage of women who attended ANC (94.9%) also underwent breastfeeding counseling (96.8%). This finding is so, given that counseling on EBF is recommended for all pregnant women as early as the first trimester. This is however in contrast with what was reported in the Gambia where mothers who underwent EBF counseling during ANC was 34.4%⁴⁶. A similar lower rate was reported by two Tanzanian studies^{41, 47}, an Ethiopian study⁴⁸ and in the US⁴⁹. This means that a lot still need to be done to encourage the practice of Exclusive breastfeeding among women of child-bearing age in Africa.

V. CONCLUSION AND RECOMMENDATIONS

The lower practice of exclusive breastfeeding observed in this study means that more effort should be put in by health workers in promoting the huge benefits of exclusive breastfeeding to both mother and child. Repeated teaching on exclusive breastfeeding to women attending ante natal Clinics should be mandatory and efforts geared towards follow up of these mothers well into the post natal period to ensure continued practice of EBF.

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