

A Cross-Sectional Study of Determinants of Exclusive Breastfeeding among Working Mothers in Enugu

Abstract

Introduction: The practice of exclusive breastfeeding (EBF) has remained low despite its benefits. This is worsened when the woman has to combine breastfeeding with work in order to support her family. **Objective:** The objective was to determine the factors influencing EBF among working mothers in Enugu, South-eastern Nigeria. **Materials and Methods:** This was a questionnaire-based study of 315 nursing mothers in postpartum period, attending the immunisation centres of the Institute of Child Health of both University of Nigeria Teaching Hospital and Enugu State University Teaching Hospital. The information obtained was analysed using SPSS version 22. A *P* value of less than 0.05 was considered statistically significant. **Results:** Although 82.5% (*n* = 260) of the respondents were aware of EBF recommendation, only 69% (*n* = 217) practised EBF. A majority of the mothers (87%) initiated breastfeeding within 1 h of delivery. Ninety-nine percent of the mothers did not have workplace facilities (such as breastfeeding rooms, nursery, refrigerator, and privacy) that support breastfeeding practice. The main reasons for not practising EBF were pressure of work (40.8%, *n* = 40/98) and medical conditions (32.7%, *n* = 32/98). Low parity (*P* = 0.018) and registration for antenatal care in the hospital (*P* = 0.009) were significantly associated with EBF. **Conclusion:** The prevalence of EBF among working mothers in Enugu South-Eastern Nigeria is still suboptimal; thus there is a need for policy change in order to remove or mitigate associated factors. A multi-institutional national survey on the determinants of EBF among working mothers across the six geopolitical zones of the country may be necessary.

Keywords: Antenatal, child health, exclusive breastfeeding, mothers, parity

Introduction

Exclusive breastfeeding (EBF) within the first 6 months of life as recommended by World Health Organization (WHO) is one of the optimal ways of feeding infants.^[1-3] It is also recommended that breastfeeding should also continue after 6 months of life with adequate complementary foods for up to 2 years of age or beyond.^[4]

EBF is a method of feeding infants with only the breastmilk (directly from the breast or expressed) in the first 6 months of life and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines.^[5,6] The most effective means of infant nutrition is the mother's milk, and its provision for the first 6 months has been proven to be beneficial to both the mother and her baby.^[5,7] It provides the baby immunity against viruses and bacteria from its rich antibodies contents.^[7]

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Other advantages of breastfeeding for the baby include the brain development and enhancement of cognitive performance and reduce the chances of infants developing noncommunicable diseases such as obesity, hypertension, cardiovascular disease, and diabetes later in life.^[7-9] Maternal advantages of breastfeeding include birth spacing and special bonding between mother and child and reduce the risk of type 2 diabetes and ovarian and breast cancer in the mother.^[7,8] Breastfeeding has remained the healthiest and least expensive feeding method required by infants.^[5] These benefits necessitated the current recommendation that “*all mothers should feed their infants solely with breastmilk, exclusively of any other nutritional sources, for the first 6 months of their infant life.*”^[9]

Despite the importance of EBF, it has been reported that only about 38% of infants globally are exclusively breastfed for 6 months of life.^[2,7] In Nigeria, the prevalence of 19% has been reported.^[8]

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Efforts to promote EBF have not yielded the desired results because of some challenges affecting breastfeeding.^[10] The challenges noted to affect breastfeeding practices include breast engorgement, insufficient breast milk production, cracked nipples, short maternity leave period, emotional stress, difficulties associated with combining breastfeeding and other maternal responsibilities, and so on.^[10] Previous studies showed that EBF was associated with hospital delivery, mode of delivery, women's intention to breastfeed, and so on.^[10] Other factors that affect EBF practice include maternal age, formal educational level, health condition of the mother or the baby, occupation, marital status, and infant age.^[4,8,10]

Although EBF until 6 months is recommended, however, this can be challenging for the working mothers.^[1] Quite a number of mothers find it difficult to continue EBF after returning to work.^[1] It has been noted that women who are not working breastfeed for a longer time compared with those who are employed.^[1,9] This is because women who are not working spend more time with their infants and can easily breastfeed them than those who do not have time because of work.^[9] Combining breastfeeding with paid work can be challenging and usually associated with the cessation of EBF.^[11] It has been reported that though most of the working mothers leave the hospital practising EBF, they quickly abandon EBF because of work and employment; however, breastfeeding is usually not completely abandoned.^[11]

Women working in Nigeria's civil service under 2004 Nigerian Labour Law had the right to 3-month maternity leave as long as she can provide the certificate that she should not or cannot work.^[12] However, the maternity leave was recently increased in 2008 from 12 weeks to 16 weeks to allow mother and baby enough recuperation time in terms of breastfeeding.^[12] Such mothers on maternity leave are paid their full salaries. Therefore, mothers who work in government facilities are given 16 weeks maternity leave, but the self-employed, such as traders, may not have such luxury of time and may be tempted to resume work earlier because of financial pressure especially with the dwindling economy. Even for government workers, breastfeeding facilities are usually not provided, thereby impacting negatively on EBF.^[9] Thus, the support in the work place, including the provision of resources in place of work and childcare centres, is important and plays a positive role in the duration of breastfeeding among the working mothers so that they can continue breastfeeding even after maternity leave ends.^[1,9]

Despite the benefits of EBF, there is limited data on factors affecting breastfeeding among working mothers in Enugu who have to work for the economic survival of their families while providing nutrition to their babies via breastfeeding.^[13] This study therefore aimed at determining the factors influencing EBF among working mothers in Enugu, South-eastern Nigeria.

Materials and Methods

Ethical approval

The ethical approval was obtained from the University of Nigeria Teaching Hospital (UNTH) Health Research Ethics Committee (Ref. UNTH/CSA/329/Vol.5). Informed consent was obtained from the respondents, and they were reassured of the confidentiality of the information obtained.

Study design

This was a cross-sectional study of 315 consecutive nursing mothers in their postpartum period, attending the immunisation centres of the Institute of Child Health of both UNTH and Enugu State University Teaching Hospital (ESUTH) from July 2019 to September 2019. The Institute of Child Health of UNTH and ESUTH immunisation centre offers childhood immunisation programmes three times in a week. The women come from different parts of Enugu, irrespective of place of delivery, and immunisation is mostly free.

The sample size was calculated using the formula, $n = \frac{Z^2 pq}{d^2}$, where p was set as 31.4% from the previous study.^[9] The minimum sample size thus calculated was 329 participants.

The instrument for data collection was a semi-structured questionnaire containing open- and close-ended questions adapted from previous studies.^[1,2,7,9] This was administered during immunisation clinics via convenience sampling and was interviewer-administered. The questionnaire was pretested on 20 participants prior to the commencement of the study. The inclusion criteria included breastfeeding mothers with single babies less than 6 months old and employed in any form of work, whereas the exclusion criteria included mothers with babies more than 6 months old, mothers with multiple babies like twins, mothers who were not breastfeeding at all, as well as those who failed to give their consent.^[2,7] Eligible and consenting working mothers who were available at each immunisation centre were consecutively recruited until the total sample size was attained.^[2]

Definition of terms

EBF was defined as feeding infants with only breast milk, without supplemental liquids or solids except for liquid medicine and vitamin or mineral supplements in the first 6 months of life.^[11]

Working mother was defined as nursing mothers in any form of occupation,^[7] i.e., formal paid employment (both private and public sectors) and self-employment.^[13]

Medical condition was defined as conditions such as retroviral disease, breast cancer, mastitis, and cracked nipples.

Social classification of the participants

The social classification of the participants was defined by Olusanya *et al.*,^[14] which is based on the level of education of the woman and her husband's occupation as shown below:

Social classification by Olusanya *et al.*^[14] is given below:

A. Husband		B. Wife	
Score	Occupation	Score	Education
1	Professionals	0	University
2	Middle level	1	Secondary
3	Unskilled	2	Primary

Thus, the social class of each participant was then determined by the sum of scores A and B to give social classes I–V. Upper socioeconomic class was defined as those belonging to social classes I and II, whereas low socioeconomic class was defined as those in social classes III–V.^[15]

Data analysis

The data were analysed using SPSS for windows version 22 (SPSS Inc., Chicago, IL). Statistical analysis was both descriptive and analytical. Logistic regression and chi square were used to analyse discrete variables. A *P* value of less than 0.05 was considered statistically significant.

Results

Of the 329 questionnaires administered, 95.7% (*n* = 315) of the respondents had complete data and formed the basis for analysis. The remaining 4.3% (*n* = 14) of respondents were excluded because of incomplete data.

All the respondents were Christians (*n* = 315, 100%), 216 (68.6%); tertiary level of education, 164 (52.1%); and government (State and Federal) workers, whereas 151 (47.9%) were self-employed. Further details of the sociodemographic characteristics of the respondents are shown in Table 1.

Although 82.5% (*n* = 260) of the respondents were aware of EBF, only 69.0% (*n* = 217) practised EBF.

Ninety percent (*n* = 234/260) of the respondents got information about EBF from health professionals and 5.8% (*n* = 15/260) from fellow mothers, whereas 4.2% (*n* = 11/260) got the information from the media.

Concerning knowledge about the time of initiation of breastfeeding after delivery, majority, 84.8% (*n* = 267/315), felt the right time was within 30 min after delivery, whereas 15.2% (*n* = 48/315) believed breastfeeding should be started after 48 h.

A majority of the mothers (87%, *n* = 274/315) initiated breastfeeding within 1 h of delivery, whereas 88.9% (*n* = 280) gave their babies the colostrum.

Table 1: Sociodemographic characteristics of the respondents

	Frequency	Percent
Age group (years)		
≤25	44	14.0
26–30	106	33.7
31–35	122	38.7
36–40	35	11.1
41–45	8	2.5
Residence		
Urban	302	95.9
Rural	13	4.1
Occupation		
Self-employed	151	47.9
Salary earner	164	52.1
Marital status		
Married	313	99.4
Single	2	0.6
Religion		
Christianity	315	100.0
Tribe		
Igbo	300	95.2
Others	15	4.8
Level of education		
Primary	21	6.7
Secondary	78	24.8
Tertiary	216	68.6
Parity		
1–4	293	93.0
>4	22	7.0
Socioeconomic status		
1	131	41.6
2	76	24.1
3	35	11.1
4	55	17.5
5	18	5.7

Table 2: Reasons for not practising EBF

	Frequency	Percent
Stressful	2	2.0
I do not want to	19	19.4
Work	40	40.8
Breastmilk insufficiency	5	5.1
Medical condition	32	32.7
Total	98	100.0

A majority of the women (99%, *n* = 312/315) did not have workplace facilities (such as breastfeeding rooms, nursery, refrigerator, and privacy) that support breastfeeding practice.

All the formal paid employees (*n* = 164/315) had at least 3 months maternity leave.

The main reasons for not practising EBF were work (40.8%, *n* = 40/98) and medical conditions (32.7%, *n* = 32/98). Other reasons are shown in Table 2.

Table 3: Association between EBF and occupation among working mothers

Occupation	EBF		χ^2	P value
	Yes, n (%)	No, n (%)		
Self-employed	108 (71.5)	43 (28.5)	0.939	0.333
Formal employee	109 (66.5)	55 (33.5)		

Table 4: Factors associated with EBF

	Practice of EBF		P value	OR	95% CI for OR
	Yes, n (%)	No, n (%)			
Age group (years)					
≤35	189 (69.5)	83 (30.5)	0.566	1.220	0.619–2.403
>35	28 (65.1)	15 (34.9)			
Parity					
1–4	207 (70.6)	86 (29.4)	0.018	2.888	1.203–6.936
>4	10 (45.5)	12 (54.5)			
Socioeconomic					
Upper class	138 (66.7)	69 (33.3)	0.239	0.734	0.439–1.228
Lower class	79 (73.1)	29 (26.9)			
Where did you register for antenatal					
Hospital	188 (72.0)	73 (28.0)	0.009	2.220	1.219–4.043
Health centre	29 (53.7)	25 (46.3)			
Who attended to you during antenatal visits					
Skilled birth attendant	209 (69.0)	94 (31.0)	0.865	1.112	0.327–3.783
Nonskilled birth attendant	8 (66.7)	4 (33.3)			
Mode of delivery					
Vaginal delivery	145 (69.4)	64 (30.6)	0.792	1.070	0.647–1.769
Caesarean section	72 (67.9)	34 (32.1)			
Any complications during and after delivery (such as bleeding, hypertension/pre-eclampsia)					
Yes	17 (81.0)	4 (19.0)	0.224	1.997	0.654–6.100
No	200 (68.0)	94 (32.0)			

There was no significant association between EBF and occupation of the working mothers ($\chi^2 = 0.939$, $P = 0.333$) [Table 3].

Parity was significantly associated with EBF ($P = 0.018$). Mothers with parity 1–4 were almost three times more likely to practise EBF than those with parity of 5 or more (OR = 2.888, 95% CI = 1.203–6.936). Working mothers who registered for antenatal care in the hospital were two times more likely to practise EBF than those who registered in a health centre ($P = 0.009$, OR = 2.220, 95% CI = 1.219–4.043) [Table 4].

Discussion

The reported EBF rate among working mothers in our study was 69%, and it was compared with studies by Tampah-Anah *et al.* and Diji *et al.*, both from Ghana,^[3,10] in which they reported 66.7% and 64%, respectively. However, lower EBF rates have been reported. A study done showed the prevalence of EBF among working mothers to be 17.5%.^[7] Other reported EBF rates range between 2% and 31.4%.^[9,16] Though the reported EBF rate is high when compared with those from other previous studies, it still falls below WHO targeted rate of 90%.^[10] This shows that there

is a need for more effective strategies to be put in place to encourage more women in order to reach the desired rate to maximise outcomes.^[10]

Although, a majority (82.5%) of the respondents were aware of EBF, only 69% practised it. A similar study reported that despite almost 100% awareness of EBF, the practice of EBF at 6 months was very low.^[11]

A majority of the working mothers in the current study initiated breastfeeding within 1 h of the delivery. This observation was also noted in a previous study carried out among city-dwelling professional working mothers in Ghana.^[11] This early initiation of breastfeeding could have been responsible for the relatively high EBF rate observed in this study. More so, the women had a good knowledge of breastfeeding.

There was hardly any presence of workplace facilities such as breastfeeding rooms, nursery, refrigerator, and privacy that support breastfeeding practice. Similarly, a study done in Egypt showed that none of the women reported any workplace facilities that support breastfeeding except for nursing breaks in some sectors.^[17] Most working mothers may have to spend over 8 h at work and may not be able to

carry their babies to work, thereby having limited time to spend with their babies and breastfeed them.^[18] Working in a supportive environment can lead to a higher rate of EBF. Other factors that need to be put in place for successful EBF among working mothers include decreasing working hours after resuming from maternity leave, daycare facilities, as well as proper training on the correct breast milk expression technique.^[17]

Although the formal workers in this study had the luxury of maternity leave (at least 3 months), there was no significance difference in the EBF rate among formal paid employees and women who were self-employed.

Parity was associated with EBF in our study. Multiparous women were more likely to practise EBF compared with grand-multiparous women. This was similar to a previous study in India.^[19] This may be attributed to the fact that a grand-multiparous women may be overwhelmed by the pressure from home and other children and may not be able to practise EBF. Also increased maternal confidence as a result of previous successful breastfeeding experiences from other pregnancies as well as negative outcomes from the introduction of complementary foods may also be contributing factors to multiparity being associated with EBF.^[20]

The mode of delivery was not significantly associated with EBF in our study; however, operative delivery was identified as a strong barrier to EBF in a similar study.^[19]

Women who registered and had their antenatal care in a hospital were more likely to practise EBF when compared with those who registered in health centres. This result was in congruence with a previous study where having antenatal care in community health centre was a barrier to EBF.^[19] This may be as a result of adequate counselling of the mothers regarding EBF during the antenatal period, thereby getting the correct knowledge about EBF.^[19] There is improved knowledge about the nutritional values of breast milk as well as attitudinal changes on infant feeding with the attendance of antenatal clinic.^[18]

Experience of complications during pregnancy or delivery did not have any significant association with EBF in our study. This was at variance with a similar study where the development of health problems in mothers related to pregnancy and childbirth resulted in lower EBF rates.^[19] A similar study also showed that caesarean births led to lower EBF rates, and this maybe because the mothers would usually continue with the breastmilk substitute they started with.^[9]

It is not too surprising that the EBF rate obtained in our study was relatively high when compared with other rates because a majority of the women had a good knowledge of EBF, had tertiary level of education, and belonged to the upper social class. Mothers who were aware of the EBF recommendations of 6 months were more likely to breastfeed exclusively than mothers who were unaware.^[9]

A majority of the women who were aware of EBF got their information from the healthcare professional. This shows that healthcare professionals are educating women to a large extent in our environment. However, more work needs to be done to achieve the recommended rate.

Limitations

This research had some limitations. There could have been some elements of recall bias as data were dependent on the mother's recollection. Other limitations included the use of convenience sampling method, noncapturing of the place of delivery, and no allowance for attrition in sample size calculation.

Conclusion

The prevalence of EBF among working mothers in Enugu South-Eastern Nigeria is still suboptimal; thus, there is a need for policy change in order to remove or mitigate associated factors. A multi-institutional national survey on the determinants of EBF among working mothers across the six geopolitical zones of the country may be necessary.

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Conflicts of interest

There were no conflicts of interest.

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