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Factors associated with exclusive breastfeeding among mothers seen at the University of Nigeria Teaching Hospital

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Background. Exclusive breastfeeding (EBF) of babies for 6 months, as recommended by the Baby Friendly Hospital Initiative (BFHI), remains a well-recognised childhood survival strategy of great benefit in reducing infant and under-5 mortality rates.

Objectives. To evaluate the correlation of certain socio-demographic and cultural factors with the ability of mothers to practise EBF for 6 months.

Subjects and methods. Two hundred mothers were interviewed about their knowledge of EBF and their behaviour regarding breastfeeding. The factors associated with constraints on, and motivations for, EBF were tabulated using the chi-square and Student's *t*-tests.

Results. Of 184 respondents, more than 90% had adequate knowledge of EBF. Thirty-nine (21.2%) practised EBF for all their children, while 95 (51.6%) mothers had never practised EBF with any child. Among those who provided EBF, a high maternal educational level, small family size (≤4 children) and absence of opposing family beliefs were important factors. Most subjects were from the upper and middle socio-economic classes (43.6% and 53.8% respectively). Among the 95 women who never attempted EBF, a large family size, personal decision-making and family opposition, especially from grandmothers (41.1%), played significant roles.

Conclusion. The EBF rate in our environment was very low despite a high level of knowledge among mothers. Efforts must be intensified to reiterate the benefits of EBF and address the identified hindrances, via health education of the broader community to enlist family support for breastfeeding mothers. There is also a need for fewer progeny.

Exclusive breastfeeding (EBF) is defined as the exclusive intake of breastmilk by an infant from its mother or wet nurse, or expressed milk with no addition of any liquid or solids apart from drops or syrups consisting of vitamins, mineral supplements or medicine, and nothing else.[1] It is one of the cardinal components of the Baby Friendly Hospital Initiative (BFHI) aimed at protecting, promoting and supporting breastfeeding for optimal maternal and child health, and is part of the 1990 Innocenti Declaration which states that all governments should create an environment enabling women to practise EBF for the first 6 months of life and to continue breastfeeding with adequate complementary foods for up to 2 years.[1,2]

EBF rates (EBFR) reported in national surveys[3,4] and from different centres[5-7] have been rather low (0 - 53.9%), despite the promotion of BFHI programmes in these health institutions, which is thought to be because of several factors in the mothers' environments. These factors could be social, physical, biological and psychological, and may impact positively or otherwise on the ability and willingness of women to practise EBF. Some researchers have proposed that lack of suitable facilities outside of the home, inconvenience, conflicts at work, family pressure and ignorance adversely affect the willingness of women to practise EBF.[7,8] The need to return to work or school has also been implicated as a factor interfering with EBF.[7,9] Various misconceptions by mothers have also been noted to adversely EBF; these include beliefs that breastmilk is insufficient or of poor quality, and that the baby does not gain weight adequately or is thirsty.[7,10] A previous study[10] in the Enugu area had noted an EBF rate of 33.3% for up to the first 4 months after delivery.

Our study aimed at establishing the factors that affect EBF practices up to 6 months after delivery (as is currently recommended) among mothers seen at the University of Nigeria Teaching Hospital (UNTH) Enugu, Nigeria.

Subjects and methods

The study was carried out from May to October 2006 at the Paediatrics Clinics of the UNTH, which is the foremost health institution in Enugu state and was designated 'baby-friendly' in 1992. The details and benefits of EBF are communicated to mothers during antenatal clinic visits and immunisations and in all paediatric clinics. There is, however, no established breastfeeding support group.

Verbal consent was obtained from the mothers. An average of 35 patients are seen per day, with about 20 new cases. Among those who gave consent, 1 in 3 mothers was selected. Children born before 1992 or in hospitals where EBF was not being promoted, those who were less than 6 months old at the time of the study, and those who were not brought by their mothers, were excluded from the study.

A structured questionnaire which was self-administered by literate mothers and interviewer-administered for those who could not read, was used. The questionnaire was administered by one of the authors (UOU) with the assistance of two female junior residents after training. Information obtained included

maternal age, educational level, family size, presence in the family of extended family members during the first 6 months of the baby's life, and the number of other children who were exclusively breastfed. Also assessed were reported reasons for being able to practise EBF or not, such as the need to return to work or school, or demands by the husband. The mother's perception of the quality and quantity of breastmilk and weight gain of her baby was also determined. The fraction of children who received EBF among all those who were breastfed was expressed as a percentage to give the EBFR. The socio-economic status of patients was determined according to the method recommended by Olusanya *et al*.[11] These factors were related to actual practice (EBFR) to seek possible associations.

Data were analysed using the Statistical Package for Social Sciences (SPSS), version 11.0. Means and proportions were compared using Student's *t*-test and the chi-square test. A *p*-value of <0.05 was taken as significant.

Results

From the 200 mothers interviewed, 16 questionnaires were dropped because of insufficient information in several fields, making analysis difficult. The remaining 184 women had 620 children. Of these, 570 fulfilled the inclusion criteria. The number of children per family ranged from 1 to 10. Distribution according to socio-economic status showed an approximately equal proportion (33.7%, 35.5% and 31.0%) for the upper, middle and lower classes respectively. There were 79 women with tertiary education, 75 with secondary education, and 29 with lower than secondary education; data were missing in one case.

The age distribution showed that 27, 51, 42 and 48 women were in the age ranges ≤25, 26 - 30, 31 - 35 and ≥36 years, respectively. In 16 cases, the mothers were either unsure of their ages or data were missing.

In 153 (83.2%) out of 184 families, an extended family member was present at times after delivery of the child that coincided with initiation or maintenance of breastfeeding. Only 24 mothers had no extended family member living with them. These data were missing in 7 cases. Of the 184 mothers, 173 (94%) correctly defined EBF, and 167 (90.8%) knew that it should be practised for 6 months, in line with current recommendations. Fig. 1 shows the various EBFRs and the percentage of women who achieved those levels. The overall 6-month EBFR for the study group was 32.4%. Only 39 (21.2%) women practised EBF for all their children, while 95 (51.6%) did not practise EBF for any child.

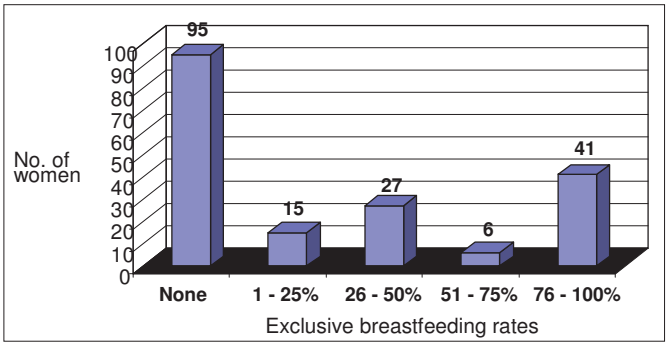

Fig. 1. Distribution of women according to EBFRs.

Socio-demographic characteristics and the different EBFRs achieved by different socio-economic classes are shown in Table I. Women who had fewer children had higher EBFRs but a statistically significant difference was noted between those with 1 - 2 or 3 - 4 children, and those with ≥5 children (p<0.001). Mothers ≤25years or ≥36years had lower EBFRs in comparison with those in between these ages. Higher maternal education apparently favours better EBF performance, especially among women with at least secondary school education. Although

TABLE I. SOCIO-DEMOGRAPHIC FACTORS AFFECTING EBF

Factor	Frequency	Mean EBFR % (SD)	*p*-value
No. of children			
1 - 2	81	42.6 (46.2)	0.151
3 - 4	60	32.3 (37.9)	0.001*
≥5	43	13.2 (20.4)	0.0001*
Maternal age			0.001*
≤25	27	16.7 (33.9)	0.114
26 - 30	51	49.1 (44.4)	0.038*
31 - 35	42	35.7 (39.5)	0.0001*
≥36	48	20.9 (32.3)	0.593
Maternal education			
Above secondary school	79	47.9 (42.9)	0.001*
Secondary school	75	26.2 (30.0)	0.002*
Below secondary school	29	7.2 (23.3)	0.001*
Socio-economic status			
Upper	62	43.1 (40.9)	0.773
Middle	65	40.9 (44.8)	0.0002*
Lower	57	11.2 (40.3)	0.0001*
Extended family presence			
Yes	153	33.8 (40.3)	0.558
No	24	28.6 (40.9)	
Family opposition			
Yes	54	6.16 (16.3)	0.0001*
No	130	43.3 (42.3)	

*Statistically significant; *p*-values based on Student's *t*-test.

women who had extended family members living with them had higher EBFRs, this was not statistically significant.

Of the 39 women who practised EBF for all their children, 15 (38.5%) reported no work-related interruptions during the period of breastfeeding; 24 were self-employed and had to give up work for a while; 21 (53.8%) maintained their own weight (i.e. did not gain weight excessively) while practising EBF; 37 (94.9%) believed that their supply of breastmilk was sufficient, while 2 had doubts at some point but were reassured after consulting a health worker. Interestingly, 37 (94.9%) mothers who believed that their babies were gaining weight adequately and so were encouraged to continue with EBF, also had no family opposition.

Reasons found among the 95 women who had a 0% EBFR included: family opposition, insufficient breastmilk, and a feeling that the baby was not gaining enough weight, but which was never reported to health workers was ascertained in 11 (11.6%) out of 95 cases. The belief that certain women's breastmilk was of poor quality and should not be given to the baby was reported in 2 (2.1%) out of 95 cases. Two women mentioned their inability to give adequate attention to their husband as a reason for not practising EBF.

A comparison of the demographic characteristics between the two EBFR extremes showed that mothers who provided 100% EBFR had fewer children, were from the upper and middle socio-economic classes, and had higher educational levels. Significantly, more women among the 0% EBFR group were in the extreme age ranges. There was no significant difference in terms of presence or absence of extended family members between the two groups. Forty-five out of 95 women with 0% EBFR reported family opposition to EBF, which came mainly from grandmothers (Table II). Among women with 0% EBFR, fewer women (5 out of 28 (11.85%)) who had more than secondary education were affected by family opposition, compared with those of lower education (Table III).

Discussion

The EBFR of 32.4% in this study was unacceptably low but approximates that reported by other workers in Nigeria;[5-7,10] this is in spite of the high level of knowledge about EBF, indicating that some detracting factors may be at play.

Smaller family size had a positive effect on EBF among women with ≤4 children per family, who achieved higher EBFRs than those with ≥5 (p<0.001). None of the other studies examined this factor. However, it is self-evident that mothers can cope better with the demands of EBF when they have fewer babies who are well spaced out; this reduces the likelihood of 'burn-out' and maternal exhaustion.

A higher maternal educational level was noted to favour EBF; similar findings were made by other workers.[7,10,12] Improved maternal education enhances mothers' understanding and appreciation of the demands and benefits of EBF, and empowers them to resist external interferences and pressures.

TABLE III. DISTRIBUTION OF MOTHERS WITH 0% EBFR ACCORDING TO EDUCATIONAL LEVEL AND FAMILY OPPOSITION

	Family opposition		
Educational level	Yes	No	Total
Above secondary school	5	23	28
Secondary school	24	16	40
Below secondary school	15	11	26
Total	44	50	94

$\chi 2$ = 13.46; degree of freedom (df) = 2; p = 0.001.

TABLE II. COMPARISON OF WOMEN WITH 100% AND WITH 0% EBFR

Socio-demographic characteristic	100% EBFR	0% EBFR	Chi-square	p-value
No. of children				
1 - 2	29	41	14.64	<0.0001*
3 - 4	10	29		
≥5	-	25		
Maternal age				
≤25	3	21		
26 - 30	19	19	14.09	0.003*
31 - 35	9	18		
≥36	5	27		
Maternal education				
Above secondary school	27	28	20.6	<0.001*
Secondary school	11	40		
Below secondary school	1	26		
Socio-economic status				
Upper	17	22	22.13	<0.001*
Middle	21	31		
Lower	1	42		
Extended family presence				
Yes	33	75	0.141	>0.5
No	5	14		
Family opposition				
Yes	0	45	27.81	0.0001*
No	39	50		

*Statistically significant.

The presence of extended family members did not seem to have any significant effect on EBFRs.[7] However, on enquiring about direct family opposition to EBF, a significant number of women with no EBF experience (0% EBFR) gave an affirmative response, while none of those who had exclusively breastfed all their babies (100% EBFR) had ever experienced opposition. Similar findings have been documented by other workers,[7,9] which has led to suggestions for a shift to 'baby-friendly' household initiatives rather than hospital initiatives.

Women who were relatively young (≤25 years) or old (≥36 years) had a lower EBFR compared with those aged between 26 and 35 years, which may be due to inexperience on the part of the younger women, who are also more easily influenced by family pressure. On the other hand, the older women might have had more children and were distracted by their occupation, family duties and school involvement; this corroborates findings by other workers[7,9] and is in agreement with them, and it is thought that breastfeeding breaks or extended maternity leave should be instituted for working mothers for the first 6 months after delivery.[7]

In our study, 53.8% of the women who never practised EBF believed that their breastmilk was insufficient for their babies. This belief was noted by some workers[7,13] as one of the most common reasons for failing to continue EBF, when excessive crying was erroneously thought to indicate hunger. Only a few mothers (11%) who thought that their baby was not gaining weight adequately did not present for medical consultation, but the fact that they did not do so suggests that it might not have been an issue of serious concern. It has been demonstrated that, though EBF babies gain weight faster than those fed otherwise in the first 3 months of life, they experience a lag in their subsequent rate of weight gain.[5] This apparent lag is due to their more healthy and active nature, and need not be a cause for concern.[5,14,15]

The erroneous belief of a woman's breastmilk not being good, as reported in only two cases, shows the need for health workers to investigate local beliefs so as to improve education about EBF.[16] Only two women reported an inability to continue EBF owing to demands by their husbands for attention; whether this was due to physical exhaustion or otherwise was not ascertained – but there is a local belief that if a nursing mother has sex, it interferes with the safety and effectiveness of breastfeeding.

Our findings suggest the need to empower women via better education and information on the benefits of EBF, while dispelling the related myths.

Our findings suggest the need to empower women via better education and information on the benefits of EBF, while dispelling the related myths. Smaller family sizes and supportive family members improve the likelihood of women practising EBF.

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