

## Original Research Article

# Factors associated with low rate of exclusive breastfeeding among mothers in Enugu, Nigeria

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## ABSTRACT

**Background:** Exclusive breastfeeding has proven to be beneficial both to maternal and child health hence its adoption as a policy for infant feeding in most countries especially developing nations. Its practice has remained low despite the high levels of awareness of exclusive breastfeeding. The study set out to find out the possible reasons that have limited the translation of knowledge of exclusive breastfeeding to action by nursing mothers in an urban city in Nigeria.

**Methods:** A self-administered structured questionnaire was used to collect data from 304 mothers attending immunization clinics of the Institute of maternal and child health in Enugu, Southeast Nigeria.

**Results:** Awareness of exclusive breastfeeding was 98% with an exclusive breastfeeding rate of 26%. The commonest non-human milk given to infants was water- given in the first week of life. Post-natal support from lactation experts and family, beliefs about the sufficiency of human milk and subsequent refusal of complementary foods were major challenges to successful exclusive breastfeeding. Maternal age and education did not determine exclusive breastfeeding.

**Conclusions:** Exclusive breastfeeding rates have remained low in Nigeria. Lack of family support and the belief that human milk is not sufficient food for the less-than-six-months-old infant were major challenges to exclusive breastfeeding.

**Keywords:** Challenges, Exclusive breastfeeding, Nigeria

## INTRODUCTION

Exclusive breastfeeding is of immense benefits both to infant and maternal health. It is the optimal feeding method for infants less than 6 months of age. However, it is more than infant feeding because it is also beneficial to other family members, the community and the society. It protects against common childhood illnesses and also has long term protective benefits such as lower risk of obesity

later in life. The benefits of exclusive breastfeeding can be measured both in resource poor and affluent societies.<sup>1</sup>

According to United Nation Children's Fund (UNICEF), breastfeeding has the potential to avert 13% of all under-five deaths in West and Central Africa.<sup>2</sup> Exclusive breastfeeding rates have remained low in most parts of the world. Campaigns such as Baby Friendly Hospital Initiatives (BFHI) and a UNICEF - introduced world breastfeeding week were aimed at increasing

breastfeeding rates. Sadly, despite these interventions, there hasn't been any significant improvement in exclusive breastfeeding rates especially in developing countries. Reported rates in the literature range from 2% to 3% in Bulgaria and Chad to 50% and 54% in Guatemala and Afghanistan respectively in 2010.<sup>3</sup>

The prevalence rate in East Asia and Pacific has remained unchanged at around 30% during the past 20 years except China. Despite breastfeeding's recognized advantages over artificial feeding, many high-income countries in the middle east region (Bahrain, Kuwait, Qatar, Oman, UAE and Saudi Arabia) maintain exclusive breastfeeding rates below 35% (12% in Qatar, Kuwait; 31% in Oman; 31% in Saudi Arabia and 34% in Bahrain and the UAE).<sup>5</sup>

The rate of 28% in the West and Central African region still leaves a lot to be desired.<sup>3</sup> In Nigeria, exclusive breastfeeding rates for the years 2003, 2008 and 2011 were 17.2%, 13.1%, and 15.1% respectively.<sup>4</sup> The low rate of exclusive breastfeeding even in the presence of volume of policies, programmes and campaigns is probably contributing to the high level of infant mortality in countries like Nigeria. There is a disconnect between the level of awareness and rate of practice of exclusive breastfeeding in many regions. This may suggest that there may be other reasons that make exclusive breastfeeding of infants difficult despite the immense benefits. Determining the cause of this disparity between knowledge and practice is essential if the rates of exclusive breastfeeding would be improved. This would also help in the evaluation of the breastfeeding policies of different countries. This formed the basis of this study.

## METHODS

This was a cross sectional descriptive study of mothers attending the immunization clinics of the Institute of Maternal and Child Health of the University of Nigeria Teaching Hospital Enugu, South East Nigeria. The institute, located at the centre of Enugu among other things, offers immunization clinics, medical consultations, health education, school health services and training of health workers in Enugu metropolis and environs. It is also involved in medical research on maternal and child health. It has an average monthly mother-baby pair attendance of 538.

Using 17% as the prevalence of exclusive breastfeeding in Nigeria, the minimum calculated sample size was 217. A total of 350 questionnaires were distributed with only 304 retrieved giving 87% retrieval rate. Ethical consent was obtained by the researchers from the University of Nigeria Teaching Hospital health research and ethics committee (HREC). Consent was also obtained from the mothers after explaining the purpose of the study.

The study tool was a 25-items structured self-administered questionnaire developed by the researchers and reviewed by a panel of experts for validity. This was

pre-tested at the children outpatient clinic of university of Nigeria teaching hospital Enugu and necessary adjustments were made for clarity. Mothers were consecutively enrolled for the study at every immunization day for one month. The contents of the questionnaire were interpreted by researchers for mothers who could not read nor understand English. Exclusive breastfeeding was defined as giving infants only human milk for 6 months, for infants more than 6 months old, and having received only human milk from birth till date for infants less than 6 months old.

This was done using IBM SPSS version 20 Chicago Illinois. The 304 questionnaires were analyzed, descriptive and inferential statistics were calculated in line with the study objectives. The level of significance was set at 0.05 and 95% confidence interval calculated. Results were presented in tables.

## RESULTS

The mean age of the mothers was 26.6 years with an age range of 19-50 years. The occupations of the mothers are trading (30%) and civil service (27.3%) with 83 (27.3%) unemployed. Among the employed, 120 were self-employed while 101 had formal jobs. Ninety percent of the mothers had secondary and above education with 97.3% of them married (Table 1).

Two hundred and ninety-seven mothers (98%) of the study participants had their pregnancies supervised. The supervision of these pregnancies was in a hospital in 239 (80.5%) of the study participants while 7 (2.3%) of the women were unsupervised while pregnant. Nurses supervised 51 (17.2%) of the pregnancies while 7 (2.3%) were attended to by traditional birth attendants. Only 210 (69%) of the study participants delivered their babies in the hospital while 36 (11.8%) of the mothers were delivered of their babies by traditional birth attendants.

Awareness of exclusive breastfeeding among the respondents was 98%. Health facility was the most common source (n=220, 73.8%) of information on exclusive breastfeeding. Majority of the respondents (263) were taught benefits of exclusive breastfeeding and how to breastfeed during their antenatal visits. They were also taught that human milk could be expressed and stored (n=248), and how to express and store human milk (n=234).

Exclusive breastfeeding was practiced by 79 study participants giving a rate of 26%. The most common non-human milk feeds given to the babies before six months were water (36.9%), infant formula (19.7%) and glucose powder mixed with water (10.2%). About 55 % of these mothers gave this water in the first week of life and continued thereafter.

Among mothers who were older than 35 years (n=68), 23% breastfed exclusively while 77% of those who were

35 years and less practiced exclusive breastfeeding ( $p=0.086$ ,  $OR=1.06$ ,  $95\% CI=0.57-1.95$ ). Exclusive breastfeeding was practiced by 14% ( $n=11$ ) of the respondents with primary or less education while 86% ( $n=67$ ) of those with above primary education breastfed

exclusively ( $p=0.08$ ,  $OR=0.46$ ,  $95\% CI=0.22-1.110$ ). Only 34.6% of the unemployed study participants breastfed exclusively while 65% ( $n=51$ ) of the employed ones exclusively breastfeed (Table 1).

**Table 1: Factors affecting exclusive breastfeeding.**

Challenges	Exclusive breast feeding		P value	OR	95% C.I for OR
	No-n (%)	Yes-n (%)			
<b>Mother's age</b>					
≤ 35	176 (77.9)	60 (76.9)	0.862	1.056	0.572-1.950
>35	50 (22.1)	18 (23.1)			
<b>Mother's occupation</b>					
Unemployed	56 (24.8)	27 (34.6)	0.094	0.622	0.357-1.085
Employed	170 (75.2)	51 (65.4)			
<b>Mother's occupation</b>					
Employed	77 (45.3)	24 (47.1)	0.824	0.931	0.497-1.744
Self employed	93 (54.7)	27 (52.9)			
<b>Mother's education</b>					
None/primary	17 (7.5)	11 (14.1)	0.088	0.495	0.221-1.110
Post primary	209 (92.5)	67 (85.9)			
<b>Marital status</b>					
Married	220 (97.3)	75 (96.2)	0.595	1.467	0.358-6.010
Single/separated	6 (2.7)	3 (3.8)			
<b>Father's education</b>					
None/primary	27 (11.9)	14 (17.9)	0.184	0.620	0.307-1.254
Post primary	199 (88.1)	64 (82.1)			

Lactation experts had visited 27.2% ( $n=52$ ) of the mothers, among these 6.4% ( $n=5$ ) breastfed exclusively while 29% ( $n=73$ ) of those with no contact with lactation experts practiced exclusive breastfeeding. About 25% ( $n=75$ ) of the mothers had creches/provisions to keep their babies close by while at work. Among these, 24% ( $n=12$ ) breastfed exclusively while 39 (76%) of those without such provisions at work breastfed exclusively.

Intermittent breaks for breastfeeding during work was given to 33.6% ( $n=102$ ) but 41% of those with such opportunities breastfeed exclusively. Intention to breastfeed exclusively was expressed by 75% of the mothers however only 26% eventually did, while 14% ( $n=11$ ) of those who never planned to breastfeed exclusively did.

The study participants admitted to having challenges with exclusive breastfeeding (53%,  $n=161$ ) though 14% ( $n=23$ ) of these eventually breastfed exclusively. The challenges to exclusive breastfeeding listed by the respondents include that human milk is not enough to sustain the baby during the "said" period. Other challenges to exclusive breastfeeding were also expressed by the respondents (Table 2).

## DISCUSSION

The mean age of the mothers represents the peak of child bearing age. Similarly, their occupations reflect the workforce of the state where majority are civil servants followed by trading. This study was done in the state capital and this may explain why most of the respondents had at least secondary education. It may also be the reason why most of the pregnancies (98%) were hospital supervised i.e. there is better access to health care when compared to rural areas. It was noted that pregnancies that were supervised in hospitals were delivered by traditional birth attendants. This trend was also reported in Kenya.<sup>6,7</sup> The reason may not be unconnected to the current economic recession in the country making proper health care less affordable.

However, hospital delivery (69%) is higher than national average of 35%, but lower compared to previous reports.<sup>8,9</sup> Awareness of EBF was high as has been reported in other studies in Nigeria and beyond.<sup>9-11</sup> Although some reports from Zimbabwe and China demonstrated low awareness of 30% and 20% respectively.<sup>12,13</sup> Health facilities have remained the major source of information on exclusive BF as Aijubuah documented.<sup>14</sup> EBF rate of the respondents was quite low

compared to the level of awareness. This trend is also not new.<sup>9,11,15</sup>

**Table 2: Challenges of exclusive breastfeeding.**

Challenges	Exclusive breast feeding		P value	OR	95% C.I for OR
	No-n (%)	Yes-n (%)			
<b>Ever been visited by breast feeding experts?</b>					
Yes	47 (20.8)	5 (6.4)	0.006	3.834	1.466-10.025
No	179 (79.2)	73 (93.6)			
<b>Do you have a creche in your work place?</b>					
Yes	71 (31.4)	14 (17.9)	0.074	2.094	1.101-3.983
No	155 (68.6)	64 (82.1)			
<b>Breaks or concession times at office to breastfeed?</b>					
Yes	93 (41.2)	28 (35.9)	0.414	1.249	0.733-2.128
No	133 (58.8)	50 (64.1)			
<b>Did you plan to breastfeed exclusively?</b>					
Yes	161 (71.2)	67 (85.9)	0.012	0.407	0.202-0.819
No	65 (28.8)	11 (14.1)			
<b>Breast milk not enough for baby</b>					
Yes	75 (33.2)	6 (7.7)	< 0.001	5.960	2.478-14.336
No	151 (66.8)	72 (92.3)			
<b>Baby always crying</b>					
Yes	79 (35.0)	4 (5.1)	< 0.001	9.942	3.505-28.202
No	147 (65.0)	74 (94.9)			
<b>I had to resume work</b>					
Yes	42 (18.6)	9 (11.5)	0.155	1.750	0.809-3.784
No	184 (81.4)	69 (88.5)			
<b>Child would refuse other foods later</b>					
Yes	40 (17.7)	6 (7.7)	0.039	2.581	1.049-6.348
No	186 (82.3)	72 (92.3)			
<b>I had C/S</b>					
Yes	29 (12.8)	5 (6.4)	0.128	2.149	0.802-5.763
No	197(87.2)	73 (93.6)			
<b>No support from my mother/mother-in-law</b>					
Yes	61 (27.0)	6 (7.7)	0.001	4.436	1.834-10.729
No	165 (73.0)	72 (92.3)			
<b>My husband did not encourage me</b>					
Yes	50 (22.1)	6 (7.7)	0.007	3.409	1.400-8.302
No	176 (77.9)	72 (92.3)			
<b>Fear of weight gain</b>					
Yes	35 (15.5)	6 (7.7)	0.089	2.199	0.887-5.449
No	191 (84.5)	72 (92.3)			

The disparity reported between the level of awareness and knowledge and the practice of EBF raises questions as to whether there are yet to be discovered factors making it difficult for mothers to breastfeed exclusively despite being aware of the benefits. This is particularly important in sub-Saharan Africa where infant morbidity and mortality are still high with under nutrition underlying these deaths.<sup>16,17</sup>

Water was the most common non-human milk feed given and reasons advanced were that human milk is food and water is needed to digest it. Also, that the hot weather makes it necessary to feed with additional water. Water is also readily available, and cheap compared to other non-breast feeds. This may also have contributed to this practice which should be actively discouraged as the quantity of breast milk drunk by the infant with a very

limited stomach capacity is further reduced leading to a higher risk of malnutrition.

The type of non-breast feeds given to these infants was similar to other reports.<sup>11,14</sup> Younger women (<35years) breastfed exclusively more than the older mothers though this was not significant statistically. This may be due to the likelihood that younger women have lower parities and therefore have less demand on their time. Also, the older mothers are more likely to have developed a career / business and more financially empowered to afford human milk substitutes. Age and education were not also significant determinants of EBF in this study (Table 1), unlike some other studies in Nigeria, England, and United States which strongly associated these factors with EBF.<sup>14,18,19</sup>

The availability of the services of lactation experts and presence of crèches at the workplace did not significantly influence the practice of EBF unlike the report by Patel.<sup>20</sup> Intention to breastfeed exclusively was high though this was not followed up postpartum. Thus, it is very necessary for expectant mothers to be properly counseled and followed-up post -partum to address any real or perceived challenges concerning sustaining exclusive BF.

The belief that breast milk alone was not enough food for babies less than 6 months of age and results in continuous crying has consistently remained a challenge to the practice of exclusive breastfeeding in emerging economies.<sup>9,21</sup> The national policy stimulates the provision of appropriate information on nutrition counseling which needs to widely available to reduce this belief. There is also a need for health workers to emphasize the adequacy of human milk for less-than-six-month-old infant as stipulated in the policy on breastfeeding. More so, majority of pregnant mothers (97.2% in this study) would meet a health worker at some point.

Resumption of work and subsequently refusal of other feeds in their absence by infants who have previously been on human milk alone was another challenge reported by the mothers. Just two Nigerian states have adopted a six-month paid maternity leave to support working breastfeeding mothers unlike what is obtained in developed nations. Most organizations offer between six weeks and 3 months with no opportunity for unpaid leave. Beyond this period, the mother stands the risk of losing her job.

The current breastfeeding policy in Nigeria does not provide any legal framework to protect mothers working outside their homes who want to breastfeed exclusively for six months.<sup>22</sup> Lack of capacity (power, refrigerators) to express and store human milk for feeding of the babies in their absence was another challenge expressed by the respondents. These are real concerns also documented by Onah as the weather is usually hot and the expressed human milk at risk of infection.<sup>11</sup> Influence of partners

and mothers-in-law has been reported previously as a significant challenge to the practice of EBF.<sup>9,21</sup> This makes it necessary to make infant feeding counseling sessions community programs as child care decisions in traditional African and Arabian communities depend more on the male partner and his family.<sup>23</sup> However, with education, they can be the ones to champion EBF as it offers some benefits to everyone.

## CONCLUSION

The identification of the limitations that prevent mothers from progressing from awareness and intention to breastfeed exclusively to practice would help in appraising current policies and programs and possibly re-strategizing with the aim addressing these challenges and making it more feasible to achieve higher rates of EBF.

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