

## **Exclusive Breast Feeding: Knowledge, Barriers and Practice among Antenatal Clinic Attendees at a Tertiary Hospital in a Developing Country**

Akera-Adegboyega A G<sup>1</sup>, Abdul F I<sup>1,2</sup>, Ezeoke G G<sup>1,2</sup>, Adeniran A S<sup>1,2</sup>, Olabinjo O A<sup>2</sup>, Lawal O B<sup>3</sup>

<sup>1</sup> Department of Obstetrics & Gynaecology, University of Ilorin Teaching Hospital Ilorin, Kwara State.

<sup>2</sup> Department of Obstetrics & Gynaecology, University of Ilorin, Ilorin, Kwara State.

<sup>3</sup>R-Jolad Multispecialty Hospital, Gbagada, Lagos

**Correspondence:** Abdul F.I, Department of Obstetrics & Gynaecology, University of Ilorin, Ilorin, Kwara State.

**Email:** abdul.if@unilorin.edu.ng **Phone:** 08037075430

### **Abstract**

**Background:** Breast milk is natural and readily available. Exclusive breast feeding has been found to be beneficial to the infants, mothers and the nation at large. However, the practice of exclusive breast feeding is suboptimal in developing and developed world. The objective of this study was to assess the knowledge, practice and barrier to practice of exclusive breast feeding among pregnant women attending antenatal clinic in University of Ilorin Teaching Hospital.

**Methods:** This was a cross-sectional study among consenting pregnant women attending antenatal clinic at the University of Ilorin Teaching Hospital. Pregnant women with at least one previous live birth were selected using simple random sampling. Data were collected with the aid of a pretested questionnaire. Sociodemographic information, information on knowledge, perception, and intention to practice exclusive breast feeding were obtained and analyzed using IBM-SPSS statistics version-23. Association between categorical variables were determined using chi-square.

**Results:** Majority of the respondents were within the age range of 30-39 years. All respondents were aware of exclusive breast feeding and 215 (86.0%) of them had good knowledge of exclusive breast feeding. The participants that had practiced exclusive breast feeding in their previous pregnancies were 151(60.4%). There was a statistically significant association between previous practice of EBF and the intention to practice it after the delivery of the index pregnancy ( $p = 0.003$ ). Resumption to work was the commonest barrier the practice of Exclusive Breast Feeding.

### **Conclusion**

Respondents had good knowledge, positive perception towards exclusive breast feeding and majority practiced exclusive breast feeding.

**Keywords:** Exclusive breast feeding, practice, perception, intention, barriers

**Introduction** by World Health Organization (WHO) as Exclusive Breast Feeding (EBF) is defined feeding an infant exclusively with breast

milk for the first 6 months of life. During this period, the infant may be given drops of vitamins, minerals and Oral Rehydration Solution, if prescribed.<sup>1</sup> Breast milk is unique as it is natural, contains antibodies, easily digestible and contains all the nutrients needed by the infant during the first 6 months of life.<sup>2</sup> The benefits of EBF include protection against diseases like diarrhea, and respiratory and urinary tract infections.<sup>3-5</sup> It provides all the nutrients needed by an infant for optimal growth and development.<sup>4,6</sup> In addition EBF improves intelligence, and reduces the risk of developing obesity and diabetes mellitus in the future.<sup>7-9</sup>

Maternal benefits include prevention of postpartum haemorrhage, rapid weight reduction after delivery and contraceptive benefit through lactational amenorrhoea.<sup>3,7,10</sup> Exclusive breast feeding also protects against ovarian cancer,<sup>11,12</sup> and reduces the risk of developing breast cancer.<sup>13-16</sup>

The WHO and United Nations Children's Fund (UNICEF) recommend early initiation of breastfeeding within 1 hour of birth; exclusive breastfeeding for the first 6 months of life and introduction of nutritionally adequate and safe complementary (solid) foods at 6 months together with continued breastfeeding up to 2 years of age or beyond.<sup>4</sup> The WHO Global Nutrition Targets are set at 50% and 70% prevalence rate for EBF By 2025 and 2030 respectively.<sup>17</sup>

Studies have shown that EBF practice is remarkably low in the developed countries while in Nigeria, the prevalence varies from location to location.<sup>18,19</sup> However, the balance of evidence tends to show that the practice of EBF remains suboptimal both in developed and developing countries.<sup>20-22</sup> In the USA, a 25% prevalence was

reported in 2018.<sup>22</sup> Another study done in the USA revealed that of the 1799 women who potentially intended to practice EBF only 34% and 9% eventually exclusively breastfed for 3 months and 6 months respectively.<sup>23</sup> According to the WHO in 2010, the prevalence of EBF across countries in Europe has remained 1%.<sup>24</sup> The 2018 Nigeria Demographic and Health Survey reported a prevalence of 29%.<sup>6</sup> The prevalence of EBF reported from previous studies in African countries includes 66.0% (Ghana),<sup>25</sup> 47.0% (Ethiopia)<sup>26</sup> and 47.2% (Nigeria).<sup>27</sup> The lower practice of EBF in the developed world is attributed to lack of strong value for the benefit of EBF, lack of social support from relatives, friends, practical assistance from health professionals and easy accessibility to formula feeds.<sup>23,28,29</sup>

The low practice of exclusive breast feeding in Nigeria and sub-Saharan Africa may be due to ignorance,<sup>18,25,30</sup> lack of access to counseling on initiating and sustaining EBF, maternal feeling of insufficient breast milk, stress and the need to resume work.<sup>19,31,32</sup> Other contributory factors include maternal levels of education, household income as well as sociocultural and religious influences.<sup>33,34</sup> From a previous study in Ilorin metropolis, only 18% of women practiced EBF.<sup>19</sup> Factors responsible for this low practice are yet to be determined in Ilorin. Thus, this study assessed the perception and practice of EBF among women attending antenatal clinic as well as factors that affect the practice and intention to practice EBF. It is hoped that this will enhance an understanding of the barriers and facilitators of the practice of EBF in our immediate environment. This will also serve as a baseline on which strategies aimed at enhancing the practice of EBF can be built.

## Methodology

### Study Area

This study was conducted in the Antenatal Clinic of the Department of Obstetrics and Gynaecology, University of Ilorin Teaching Hospital (UITH) located in Oke-Ose, Ilorin East Local Government Area of Kwara State. The University of Ilorin Teaching Hospital includes counseling on EBF right from booking and is repeated during every antenatal clinic visit. The UITH EBF counseling service is run by midwives who give out detailed descriptions of what EBF is, its advantages, likely challenges and how to overcome those challenges.

### Study design and study population

The study was a cross-sectional study conducted among pregnant women attending antenatal clinic in the University of Ilorin Teaching Hospital, Ilorin between November and December 2020. Participants were consenting pregnant women who had had at least one previous live birth. Sick pregnant women and primigravidae were excluded from the study

### Sample size calculation and sampling technique

The sample size was calculated using Fischer's formula.<sup>33</sup> 
$$n = \frac{Z^2 pq}{d^2}$$

Where n = minimum sample size, Z = standard normal deviate which corresponds to 1.96 at 95% confidence interval. P = the prevalence of exclusive breast feeding from a previous study (18%)<sup>19</sup> q = 1 – p, and d = absolute precision required (0.05).

$$n = \frac{1.96^2 \times 0.18(1-0.18)}{(0.05)^2}$$

$$n = 227$$

The minimum sample size for this study was 227. An additional 10% non-response

rate for questionnaire-based surveys gave a total of 250. Therefore, the sample size used was 250.

The pregnant women were selected using a simple random sampling technique by balloting. On average, 6 pregnant women that fulfilled the inclusion criteria were selected each working day of week during the antenatal clinic until the calculated sample size was reached and this lasted for two months.

The data for the study was collected using an interviewer-administered questionnaire which consisted of information on sociodemographic characteristics, knowledge about EBF, practice of EBF in previous pregnancies, intention to continue EBF in index pregnancy as well as factors that influence the practice of EBF. The reliability of the instrument was ascertained by carrying out a pretest among pregnant women attending antenatal clinic in the General Hospital Ilorin and necessary modifications were made to it before final administration to the respondents. The questionnaire was developed by the researchers based on the aim and objectives of the study.

Data entry and analysis was done using IBM-SPSS statistics version 23 software. Frequencies and means were generated, and Chi square was used to determine the association between previous practice of EBF and the intention to practice EBF after delivery. The level of significance was set at  $P < 0.05$  at a confidence interval of 95%, for inferential statistics.

### Ethical consideration

Ethical approval was obtained from the Ethics Committee of the University of Ilorin Teaching Hospital, Ilorin Nigeria and informed consent was obtained from each participant. All data obtained from the

study was kept confidential. Respondents' participation was voluntary and they were informed of their right to withdrawal from the study at any time if they so wished.

### Results

Two hundred and fifty questionnaires were administered, filled and returned giving a response rate of 100%. Participants between the age range of 30-39 years were the highest; 119(47.6%). One hundred and thirty-four (53.6%) of the respondents were carrying their second pregnancy. The level of education of the majority of the pregnant women was tertiary; 193 (77.2%) and only 3(1.2%) had no formal education. Among the pregnant women, 72(29.0%) were self-employed, 64(25.0%) were civil servants and 55(22.0%) were teachers. Husbands of the respondents that had tertiary level of education were the highest; 208(83.2%), and 110(44.0%) were civil servants. Most of the respondents lived in urban area; 203(81.2%). Table 1

One hundred and eighty-six (74.4%) of the respondents got the information about EBF during counseling in antenatal clinic. Two hundred and twenty-five (90.0%) of them knew the correct interval for the initiation of breast feeding after delivery. Almost all the participants; 247(98.8%) knew the correct definition of EBF. Overall, 215(86.0%) of the participants had good knowledge of EBF. One hundred and fifty-one participants (60.4%) had practiced EBF before. Table 2

One hundred and nine (72.2%) of the respondents were motivated to practice EBF because it increases the child's immunity, 96 (63.6%) did so because breast milk is natural and it is readily available, 81(53.6%) and 69(45.7%) of the respondents did so because exclusive breast feeding confers natural contraception and reduces the risk of having some cancers respectively. Among the 99 respondents who did not practice EBF after their last deliveries, forty-eight (48.5%) were because of resumption to work, 43 (43.4%) were due to the fear of their breasts sagging while the fear of sickness was the reason for not practicing EBM among 23 (23.2%) respondents. Table 3

Two hundred and thirty-nine (95.6%) of the pregnant women had the intention to practice exclusive breast feeding and planned to do so for at least 6 months. Factors that motivated their intention to practice exclusive breastfeeding included increase in child immunity; 185(77.4%), its natural origin and ready availability; 173 (72.4%), cheapness and the bonding it gives to mother and child relationship; 165 (69.0%), its natural contraceptive value; 138 (57.7%) and its effect in reducing the risk of some cancers in the mother; 106 (44.4%). Table 4

From Table 5, there was a statistically significant association between previous practice of EBF and the intention to practice EBF after delivery of index pregnancy ( $p = 0.003$ ).

**Table 1: Socio-demographic characteristics of respondents**

<b>Variables</b>	<b>Frequencies</b>	<b>Percentage</b>
<b>Age Group</b>		
<20	8	3.2
20 – 29	106	42.4
30 – 39	119	47.6
40 – 49	17	6.8
<b>Order of pregnancy</b>		
Second	134	53.6
Third	63	25.2
Fourth	27	10.8
Fifth and above	26	10.4
<b>Level of education of mother</b>		
None	3	1.2
Primary	2	0.8
Secondary	52	20.8
Tertiary	193	77.2
<b>Occupation of pregnant mothers</b>		
Civil servant	64	25.0
Teacher	55	22.0
Professional	42	17.0
Self Employed	72	29.0
Housewife	17	7.0
<b>Level of education of husband</b>		
Primary	5	2.0
Secondary	35	14.0
Tertiary	208	83.2
None	2	0.8
<b>Husband's occupation</b>		
Civil servant	110	44.0
Teacher	28	11.2
Professional	47	18.8
Self employed	65	26.0
<b>Residence</b>		
Rural Area	47	18.8
Urban Area	203	81.2

**Table 2: Knowledge and practices of exclusive breast feeding**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Knowledge</b>		
Poor	35	14.0
Good	215	86.0
<b>EBF is beneficial to baby</b>		
Yes	240	96.0
No	10	4.0
<b>Sources of information</b>		
Radio	17	6.8
Television	35	14.0
Antenatal clinic	186	74.4
In-Laws	2	0.8
Friends	10	4.0
<b>Time interval of delivery and first breast milk</b>		
30 minutes	150	60.0
1 hour	75	30.0
2 hours	14	5.6
3 hours	11	4.4
<b>Definition of exclusive breast feeding</b>		
Correct	247	98.8
Incorrect	3	1.2
<b>Practiced EBF before</b>		
Yes		
No		
Total	151	60.4
	99	39.6
	250	100.0

**Table 3: Motivations for the previous exclusive breast feeding and reasons for not practicing EBF**

<b>Variables</b>	<b>Yes (%)</b>	<b>No (%)</b>
Motivations n = 151		
Previous experience	69 (45.7)	82 (54.3)
It is natural and readily available	96 (63.6)	55 (36.4)
Cheap and strengthens bonding with mother	87 (57.6)	64 (42.4)
Breast feeding is a natural contraceptive method	81 (53.6)	70 (46.4)
It reduces the risk of some cancers in mothers	69 (45.7)	82 (54.3)
Increases immunity and protects the child	109 (72.2)	42 (27.8)
It increases the intelligence of the child	68 (45.0)	83 (55.0)
Reasons for not practicing EBF: n = 99		
Resumption to work	48 (48.5)	51 (51.5)
EBF is too stressful	40 (40.4)	59 (59.6)
Don't want breast to sag	43 (43.4)	56 (56.6)
EBF is against culture	35 (35.4)	64(64.5)
EBF is against religion	35 (35.4)	64(64.5)
Breast milk substitute	28 (28.3)	71 (71.7)
Breast feeding is for the poor	26 (26.3)	73(73.7)
Fear of sickness	23 (23.2)	76 (76.8)

Multiple options allowed

**Table 4: Intention and motivation to practice EBF**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
Intend to practice EBF after delivery		
Yes	239	95.6
No	11	4.4
Duration of intended EBF practice ( months)	n=239	
6	221	92.5
>6	18	7.5
Motivations for EBF n=239		
Its natural and readily available	173 (72.4)	66 (27.6)
Cheap and strengthens relationship with mother	165 (69.0)	74 (31.0)
Breast feeding is a natural contraceptive method	138 (57.7)	101 (42.3)
It reduces the risk of some cancers in mothers	106 (44.4)	133 (55.6)
Increases immunity and protects the child	185 (77.4)	54 (22.6)
It increases the intelligence of the child	140 (58.6)	99 (41.4)
It helps in early teeth eruption	121 (50.6)	118 (49.3)
Previous experience	82 (34.3)	157 (65.7)

**Table 5: Association between willingness to practice EBF and previous practice of EBF**

Intention to practice EBF	Previous practice		Total	$\chi^2$	P-value
	Yes (%)	No (%)			
Yes	149 (98.7)	90 (90.9)	239	8.574	0.003
No	2 (1.3)	9 (9.1)	11		
Total	151	99	250		

### Discussion

Majority of the participants were between the age group of 31-39 years. This is higher than the age range reported from studies in Kano,<sup>27</sup> Ghana,<sup>25</sup> and southern Asia.<sup>36</sup> Most of the respondents were self-employed which is similar with the report from a study among pregnant and postnatal women in Gambia where majority of the participants were also self-employed.<sup>37</sup>

It is worthy of note that all the participants in this study were aware of exclusive breastfeeding. The finding is however slightly higher than the report from Osun State Nigeria,<sup>38</sup> Lagos State Nigeria<sup>18</sup> and Ethiopia.<sup>26</sup> This result reflects the fact that the study was done in a tertiary hospital where EBF is included in the counseling and it is done holistically right from booking for antenatal care.<sup>39</sup>

This study also revealed that majority of the pregnant women knew the correct definition of EBF which is similar to what was reported from a study in Ogun State,<sup>40</sup> where nearly all the nursing mothers could explain exclusive breastfeeding correctly. However, the finding in this study is higher than what was obtained from Kano,<sup>27</sup> and also contrasts with the report from Yobe State<sup>41</sup> where less than a third of the respondents knew the correct definition of EBF. The differences could be due to differences in study locations as that study was conducted in a rural area where access to information as well as antenatal services are limited. In this study, majority of the

respondents that knew what exclusive breastfeeding entails also agreed that breast feeding should be initiated within one hour of delivery. This is close to what was obtained from a previous study.<sup>41</sup> Most of the participants had good knowledge of EBF which is similar to the report from Lagos and Ghana where participants also demonstrated high knowledge of EBF.<sup>5,18</sup>

Exclusive breastfeeding practice during the first six months of an infant's life is the most effective intervention for providing balanced nutrition and prevent childhood mortality and morbidity.<sup>2</sup> The proportion of participants who had practiced exclusive breast feeding in this study was higher than the target of at least 50% rate of EBF in the first 6 months of life according to the Global Nutrition Targets 2025 breastfeeding policy.<sup>17</sup> The result is however lower than the EBF practice reported from studies in Ghana<sup>27,33</sup> but higher than the findings from other studies in Kware Sokoto,<sup>42</sup> and Anambra States,<sup>28</sup> both in Nigeria and Bangladesh,<sup>2</sup> Gambia,<sup>27</sup> and Ethiopia.<sup>26</sup> The difference in the level of practice may be due to the differences in the cultural, economic, and socio-demographic characteristics as well as the variation in sample size. Also, the practice of EBF in this study was higher than what was reported from a previous study in Ilorin metropolis.<sup>19</sup> Another reason for the high level of practice in this study is that majority of the participants were self-employed who may have sufficient time for their babies and hence



are able to practice EBF since they are their own boss and don't need to report to someone else.

The number of participants that had practiced EBF from this study contrast with what was obtained from the developed countries like USA and UK.<sup>23</sup> In a study carried out in the UK, 34% of the participants were still breastfeeding at 6months; however, only 1% breastfed exclusively.<sup>43</sup> This is attributed to lack of strong value for the benefit of EBF, lack of social support from relatives, friends, practical assistance from health professionals and easy accessibility to formula feeds.<sup>23,28,29</sup>

From this study, factors that respondents alluded to as having encouraged the practice of EBF in the past were the potential to increase child immunity, breast milk being natural, its cheapness and ready availability, and increased mother and child bonding. Another motivation for the practice of EBF by respondents was the awareness of its protection against ovarian and breast cancers.

Resumption to work was the commonest reason for not practicing EBF followed by not wanting their breasts to sag and EBF being stressful. These militating factors against the practice of EBF were also reported from other studies in Nigeria.<sup>25,28,32</sup>

In contrast, administration of pre-lacteal feeds and mode of delivery were the reason for not practicing EBF in a study done in Abuja.<sup>44</sup> The findings in this study reflect the fact that more than half of the participants were working class women who were required to resume work after 4 months of maternity leave. Also, this category of women may not find a conducive environment at workplace to sustain the practice of EBF. Reports from studies in developed countries like USA

and UK emphasize lack of social support as the main reason for not practicing EBF.<sup>23,29,30,45</sup> Also, another reason for the huge difference in the perception and practice of EBF between the developed and developing countries may be because formula feeds are readily available and affordable with suboptimal practice of baby friendly hospital in developed countries.

Majority of the pregnant women had the intention to practice EBF. If they actually do so, it will be an improvement from the practice in the preceding pregnancy, suggesting a positive impact of the EBF counseling program of the University of Ilorin teaching hospital. This finding is lower compared to what was reported from a study in Malaysia.<sup>46</sup> The report from this study is however higher compared to what was obtained in a study in Enugu.<sup>47</sup> The reasons stated for having such intention were the potential to increase child immunity, breast milk being natural, its cheapness and ready availability, and increased mother and child bonding. Another study has also shown that such an attitude is one of the strongest predictors of breastfeeding initiation and duration.<sup>48</sup>

This study revealed a high knowledge and practice of EBF and positive perception towards EBF. The study also showed that respondents' awareness of the preventive role of EBF in many cancers in women is low. A limitation of this study is its reliance on the women's recall of past breast feeding activities which may be subject to recall bias. However emphasis was laid on the immediate past pregnancy to minimize the recall bias.

### **Conclusion**

The study population had good knowledge and majority practiced of EBF. Also, a

large majority had the intention to practice EBF after delivery of the index pregnancy.

A comparison of intention to breast feed and actual breastfeeding done by repeating the same questionnaire in a longitudinal study during the third trimester as was done in this study and 6 months after delivery to the same set of respondents would confirm those who truly practice EBF. It is also important to increase awareness of EBF as a preventive measure against cancers in women.

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