European Journal of Nutrition & Food Safety

12(9): 103-115, 2020; Article no.EJNFS.60903
ISSN: 2347-5641

Knowledge, Practice and Problems of Exclusive Breastfeeding among Mothers Attending the Outpatient Clinic of a Baby Friendly Hospital Initiative Designated Hospital in Port Harcourt, Nigeria

T. G. Okari[1*], J. E. Aitafo[1], U. Onubogu[1] and B. A. West[1]

[1]Department of Paediatrics, Rivers State University Teaching Hospital, Port Harcourt, Rivers State, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. Author BAW drafted the study design and protocol. All authors were all involved in sample collection. Author JEA was responsible for the literature search. Author UO responsible for data cleaning and statistical analysis. Author TGO was responsible for producing and editing all manuscripts. All authors read and approved the final manuscript.

Article Information

DOI:10.9734/EJNFS/2020/v12i930290
Editor(s):
(1) Dr. Rasha Mousa Ahmed Mousa, University of Jeddah, Saudi Arabia.
Reviewers:
(1) Merdaci Slimane, University Djillali Liabès of Sidi Bel Abbés, Algeria.
(2) Vanshika Joshi, Sadhu Vaswani College of Nursing, India.
(3) Miljana Z. Jovandaric, Clinical Center of Serbia, Serbia.
Complete Peer review History: http://www.sdiarticle4.com/review-history/60903

Original Research Article

Received 02 July 2020
Accepted 07 September 2020
Published 18 September 2020

ABSTRACT

Background: Exclusive breastfeeding (EBF) provides all an infant requires for optimal growth and development in the first six months of life. Although most babies are breastfed in Nigeria, only 23% are exclusively breastfed. This study was carried out to ascertain the knowledge, practice and problems associated with EBF amongst mothers attending the Rivers State University Teaching Hospital (RSUTH).
Methods: A 5-month cross sectional study was carried out in the Paediatric outpatient clinic (POPC) of RSUTH. A total of 343 mothers were randomly recruited and a pre-tested structured questionnaire administered after obtaining informed consent.

**Corresponding author: Email: yogee007ng@gmail.com;*

Results: Ninety eight percent of the mothers had heard of EBF, 88% knew of its content and 80.2% knew that the duration of EBF was for 6 months. Only 46.4% exclusively breastfed their babies for 6 months and about 66% of participants knew of its benefits to both mother and child. Breastfeeding was commenced within 1 hour of delivery by 40.8% of mothers and pre-lacteal feeds given by 34.1% of mothers. Tertiary education, attending antenatal clinic and hospital delivery were significantly associated with good knowledge of EBF, while hospital delivery and multiparous women with at least 4 pregnancies were significantly associated with good EBF practice. Common challenges to EBF were perception that breast milk was insufficient for the babies (17.5%) and the need for mothers to return to work (9.3%).

Conclusion: Knowledge of EBF was high among mothers attending the POPC in RSUTH but the EBF rate was suboptimal. Increased health education on the importance of EBF, the provision of creches at work places and the extension of maternity leave is advocated.

Keywords: Knowledge; practice; problems; exclusive breastfeeding; Port Harcourt.

1. INTRODUCTION

Exclusive breastfeeding (EBF) is defined by World Health organisation (WHO) as an infant receiving only breast milk without food, drink and water [1]. It provides all of an infant's nutritional requirements for optimal growth and development in the first six months of life [2]. It also provides natural immunization that reduces the risk of an infant developing respiratory infections and diarrhoeal disease, thus reducing both morbidity and mortality [1,3]. The maternal benefits of EBF include improved child spacing, prevention of post-partum haemorrhage and depression, in addition to a reduction in the risks for type II diabetes, breast and ovarian cancers [4].

Advocates of breastfeeding have noticed a global decline in the practice of EBF particularly amongst mothers in developing countries [5]. Although in Nigeria almost all babies are breastfed, the practice of EBF is not as common with only 23% of infants being exclusively breastfed for six months [6,7]. Factors that have been implicated for this trend include ignorance, low maternal education, non-vaginal birth, socio-cultural beliefs, maternal health, mother's need to return to work, inadequate work-based support, poor spousal and family support for EBF [8,9,10].

Some studies on breastfeeding have been reported in Port Harcourt and the EBF rates for 6 months reported were suboptimal at 11.7% in 2013 by Yaguo-Ide et al. [11] and 22.5% by Alex Hart et al. [12] in 2014. Besides, while the study by Alex-Hart et al. [12] assessed EBF practice and problems associated with it in Choba community in Rivers State, Nigeria, it did not assess the knowledge of the mothers on exclusive breastfeeding. On the other hand, the study by Yaguo Ide et al. [11] was institution based and assessed the knowledge and practice of exclusive breastfeeding among mothers with infants but failed to identify the problems associated with EBF. Given the importance of EBF in optimal infant nutrition and reduction of childhood morbidity and mortality; and the fact that the last evaluation of EBF was carried out some years back, this study was undertaken to ascertain an improvement or otherwise in the knowledge, practice and problems associated with EBF amongst mothers in Port Harcourt, attending the Rivers State University Teaching Hospital (RSUTH), a baby friendly hospital initiative hospital in Port Harcourt, Nigeria.

2. MATERIALS AND METHODS

It was a 5-month cross sectional study carried out in the Paediatric outpatient clinic (POPC) of the Rivers State University Teaching Hospital (RSUTH), Port Harcourt, Nigeria from June 1st to October 30th 2017. The Paediatric outpatient clinic which consist of specialist clinic(s) and a general outpatient clinic is run every day with consultant(s), residents and house officers in attendant.

The Rivers State University Teaching Hospital owned by the Rivers State Government is one of the two tertiary hospitals in Rivers State, south-south geo-political zone in Nigeria. It is a 375 bedded hospital and serve as referral to all the 23 Local Government Areas of the state, general hospitals, private hospitals as well as neighboring states. It was designated Baby Friendly Hospital Initiative (BFHI) in 1998.

Mothers attending the clinic with their children were consecutively recruited into the study. The inclusion criteria were mothers whose index child

was aged 0-24 months and who gave consent to participate in the study. Mothers who did not give consent to participate in the study or whose index child was above 2 years were excluded so as to minimize recall bias.

The sample size was calculated using the formula: $n = z^2 (pq)/e^2$.

Where n= minimum sample size, z = 1.96 set at 95% confidence interval, p = prevalence of exclusive breastfeeding in Port Harcourt (22.5%), [12] q = 100-p and e = margin of sampling error tolerated at 5%. The sample size $n = (1.96)^2 \times 22.5\% \times (100 - 22.5)/ (5)^2 = 268$. Allowance for attrition (20%) = 54. Minimum Sample size is 268+54 = 322. The minimum sample size for the study was three hundred and twenty two mother-child pair.

An average of five mothers with children aged 0-24 months attending the POPC were randomly recruited four out of the five clinic days until the sample size was completed. The procedure was thoroughly explained to the mothers after which verbal informed consent was obtained from them. A structured pre-tested interviewer administered questionnaire was used to obtain information on biodata, knowledge, practice and problems associated with EBF from the mothers.

Questions to access knowledge of EBF were individually marked and correct answers were given 5 marks each, yielding a total of 35 marks for 7 questions. This was converted to percentage scores and any score of 80% and above was graded as having sufficient knowledge, while scores less than 80% were accessed as insufficient knowledge.

For assessment of EBF practice, three questions assessed the degree of practice namely; when you commenced breastfeeding after birth, anything given before breast milk and what type of feed did your child receive in the 1st 6months of life. Correct answers were given 5 marks each, yielding a total of 15 marks which was converted to percentages and any score of 80% and above was assessed as good practice while scores less than 80% were assessed as suboptimal or poor practice.

Social class was determined using the classification by Olusanya et al. [13] The total social class ranged from 1-5 in order of descending privileges and divided into upper, middle and lower socio-economic classes.

The data was computed into an excel spreadsheet and analyzed using IBM SPSS statistics version 23. Results were presented in frequency tables, percentages and bar charts. P values ≤ 0.05 were considered significant at 95% confidence interval.

3. RESULTS

A total of 343 mothers were included in the study. The mean age of the mothers was 31.7±4.6 years. Majority of them were married 336(98%) mostly para one and two 240(70%), had tertiary education 199(58%), belonged to the middle social class 199(58%) and worked away from home 269(78.4%). Most of them 334(99.4%) also had antenatal care (ANC) in pregnancy and 287(83.7%) had hospital deliveries. Their children were mostly males 201(58.6%), aged between 0 to 6months 134(39.1%), and they were also the 1st to 2nd born of their mothers 245(71.4%) with normal nutritional status 258(75.2%), Table 1.

Ninety-eight percent of the women interviewed had heard of exclusive breastfeeding and the major source of their information was from health care workers (86.6%), Seven people heard of breastfeeding from more than one source. Only 80.2% knew that exclusive breastfeeding should be done for 6months and 88% knew that it constituted of only breast milk with no other added fluid or feeds. The fact that EBF had benefits for both the mother and child was known by only 66.2% of the mothers. The commonly known benefits of EBF to the mother were its role in uterine involution (24.5%), economical value (23.6%) and contraception (10.5%). Majority, 62.4% knew that it was very nutritious for the child but only 10.5% knew about its role in brain development of children, Table 2.

Overall, 291(84.8%) of the mothers had good knowledge of exclusive breastfeeding. Mother's attainment of tertiary education (OR: 2.3 (CI 1.2-4.2) P=0.005), attending antenatal sessions (OR: 7.6 (CI 1.9-29.4) P=0.0006) and having a hospital delivery (OR: 2.18(CI 1.1-4.3) P=0.025) were significantly associated with good knowledge of exclusive breastfeeding while being of low socio economic class (OR: 0.3(CI 0.14-0.88) P=0.021) was significantly associated with a decrease in knowledge of EBF, Table 3.

Table 1. Characteristics of study population

Variable	Frequency n=343(%)
Mother's Age (years)	
<20	1(3)
20 – 29	115(33.5)
30 – 39	198(57.7)
40 – 49	22(6.4)
Undisclosed	7(2.0)
Marital status	
Married	336(98.0)
Single	7(2.0)
Mothers level of education	
Tertiary	199(58.0)
Secondary	128(37.3)
Primary	13(3.8)
No formal education	3(0.9)
Social class Score	
1 - 1.7 (upper)	65(19)
1.8 - 3.3(Middle)	252(73.5)
3.4 – 5(low)	26(7.6)
Mothers' occupation	
Housewife	74(21.6)
Working class	269(78.4)
ANC Registered	
Yes	334(97.4)
No	2(0.6)
Not stated	7(2.0)
Delivery place	
Hospital	285(83.1)
Traditional birth attendant	46(13.4)
Primary health care center	2(0.6)
Home	4(1.2)
Undisclosed	6(1.7)
Gender of Children	
Male	201(58.6)
Female	142(41.4)
Age of children (months)	
0-6mths	134(39.1)
7-12mths	86(25.1)
13-18mths	33(9.6)
19-24mths	90(26.3)
Birth order of index child	
1^{st} to 2^{nd}	245(71.4)
3^{rd} to 4^{th}	85(24.8)
5^{th} to 6^{th}	13(3.8)
Mother's Parity	
1 to 2	240(70.0)
3 to 4	89(25.9)
5 to 6	13(3.8)
>6	1(0.3)
Weight for Age Z score of children	
>2 (overweight)	15(4.4)
2 to -2 (normal nutrition)	258(75.2)
<-2 to -3(moderate malnutrition)	39(11.4)
<-3(severe malnutrition)	31(9.0)

Table 2. Knowledge of exclusive breastfeeding

Variable	Frequency
Heard of exclusive breastfeeding before	
Yes	336(98)
No	7(2.0)
Where exclusive breastfeeding was heard from	
Health worker	297(86.6)
Relatives	22(6.4)
Media	15(4.4)
School	7(2.0)
Church	2(0.6)
What is the duration of exclusive breastfeeding	
≤ 3months	22(6.4)
4 months	11(3.2)
5 months	9(2.6)
6 months	275(80.2)
> 6 months	8(2.3)
Do not know	18(5.2)
What is the content of exclusive breastfeeding	
Only breast milk	302(88.0)
Breast milk and water	29(8.5)
Breast milk and cereal	3(0.9)
Do not know	9(2.6)
Who benefits from breast milk	
Baby only	91(26.5)
Baby and mother	227(66.2)
Mother only	10(2.9)
Don't really know	15(4.4)
What advantages of EBF to the mother do you know**	
Uterine involution	84(24.5)
Economical	81(23.6)
Contraception	36(10.5)
Prevent cancer of the breast	16(4.7)
Makes mum fatter by increasing her appetite	20(5.9)
Convenient	19(5.5)
What advantages of EBF to the child do you know**	
Nutritious	214(62.4)
Gives immunity to diseases	112(32.7)
Helps brain development	36(10.5)

**EBF-Exclusive breastfeeding **(Results are not mutually exclusive)*

Breastfeeding was commenced more than 1 hour after delivery by 197(57.4%) of the mothers. The common reasons for delaying commencement of breastfeeding by greater than 1 hour after delivery were believing than the breast milk has not started flowing 71(20.7%), baby's ill health 46(13.4%) and post-operative recovery from caesarian section delivery 39(11.4%). Pre-lacteal feeds were given by 117(34.1%) and the common pre-lacteal feeds were glucose solution 80(23.3%) and water 28(8.2%), Table 4. Some babies were given more than one type of pre-lacteal feeds. Only 159(46.4%) of the children received breast milk only in their first 6months of life and the common reasons for not giving breast milk exclusively were that breast milk did not seem to be enough 60(17.5%), it was common practice within the community to add other feeds to breast milk in the first 6months 36(10.5%) and to enable the mother go back to work 32(9.3%) Fig. 1.

The practice of exclusive breastfeeding was good in 59(17.2%) of the mothers while

284(82.8%) had poor practice. Hospital delivery was significantly associated with good practice of EBF (OR: 13.9(CI 1.8- 10.2 P=0.0008) while being the (1st born child OR: 0.4(0.2- 0.8) P=0.007) and having a malnourished child (OR: 0.3(0.16 - 0.9) P=0.01), were associated with a decrease in prevalence of good practice. Mother's parity also significantly affected the quality of practice of EBF as being a primiparous mother was associated with a decrease in good practice in EBF (OR: 0.47(CI 0.25 – 0.87 P=0.016) while multiparous mothers who had ≥ 4 pregnancies were more likely to have good practice of EBF (OR: 2.43(CI 1.15 – 5.13 P=0.017), Table 5.

4. DISCUSSION

There was a very high awareness of exclusive breastfeeding in this study as 98% of mothers had heard about exclusive breastfeeding. This finding compares favorably with other studies in Kano (95.2%) [14] and Osogbo (97.6%), [15] in Nigeria, probably because these studies were also carried out in urban areas and majority of the women who participated in these studies had tertiary level of education as observed in our study. Oche et al. [3] in Sokoto however reported that only 60% of women in their study had heard about EBF, a percentage far lower than our result, probably because the study was conducted in a semi-urban community in the northern part of Nigeria and only 5% of the mothers in their study had attained tertiary education. In studies reported from other countries like Ethiopia, [16] Saudi Arabia [17] and Italy, [18] 82%, 65.7% and 64.6% of mothers had heard of EBF respectively. The observed difference to our study may be attributable to differences in geographical locations and cultural orientation.

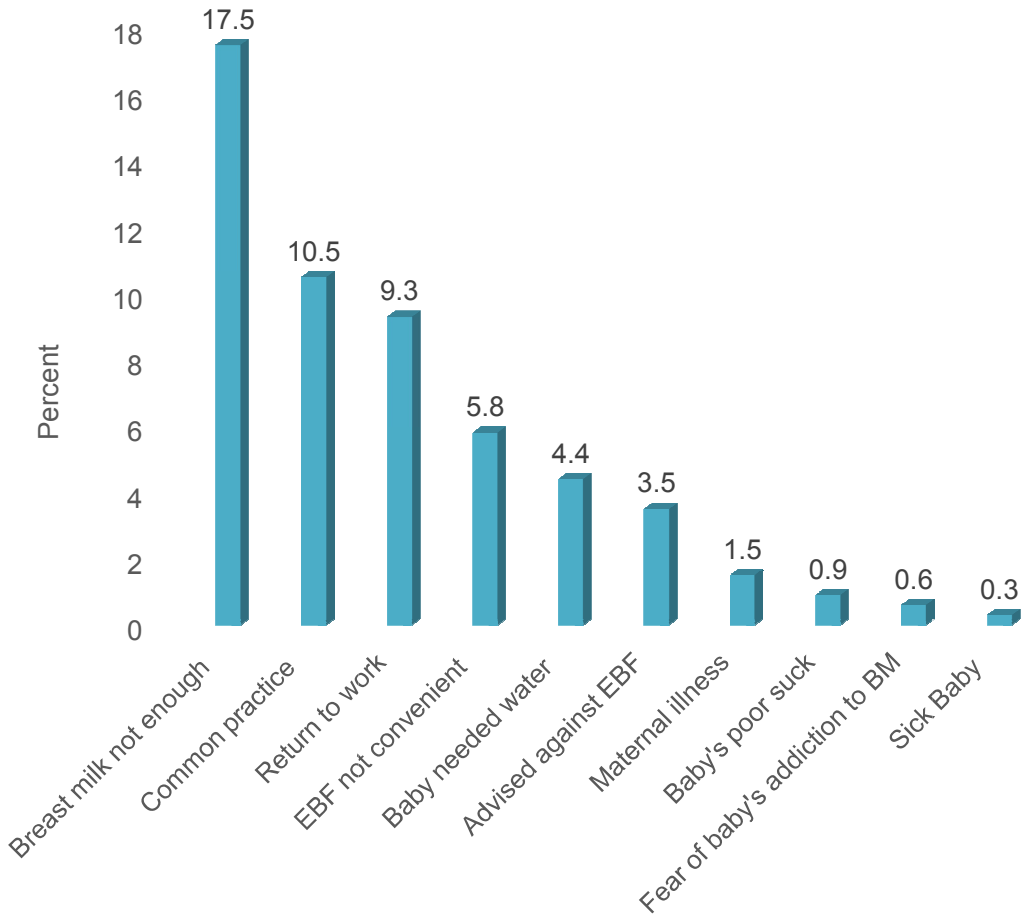

Fig. 1. Reason for not giving only breast milk in the 1st 6months

Table 3. Factors associated with good knowledge

Variable	Good Knowledge N (%)	OR	95% CI	P Value
Maternal age > 30yrs				
Yes	186(84.5)	1.0	0.5 - 18	0.98
No	98(84.4)			
Marital status				
Married	287(85.4)	4.3	0.9 - 20.23	0.07
Single	4(57.14)			
Mother with 3°education				
Yes	178(89.5)	2.3	1.2 - 4.2	0.005
No	113(78.4)			
Low socioeconomic class				
Yes	18(69.2)	0.3	0.14 - 0.88	0.021
No	273(86.1)			
Mother occupation				
House wife	70(86.4)	1.18	0.57 - 2.42	0.65
Working	221(84.3)			
Attended Antenatal care				
Yes	287(85.9)	7.6	1.9 - 29.4	0.0006
No	4(44.4)			
Hospital delivery				
Yes	249(86.7)	2.18	1.09 - 4.37	0.025
No	42(75)			
Child's Birth order 1st to 2nd born				
Yes	207(86.5)	1.4	0.76 - 2.63	0.26
No	84(81.5)			
Mother's parity (one)				
Yes	120(85.1)	1.03	0.56 - 1.88	0.90
No	171(84.7)			
Mother's Parity (≥ 4)				
Yes	34(87.5)	1.2	0.46 - 3.34	0.6
No	257(84.5)			
Child malnourished				
Yes	59(84.2)	0.96	0.4 -1.98	0.91
No	229(84.8)			

In comparison to our study that showed health care workers were the major source of EBF information to nursing mothers, the same observation was also reported in other studies in Nigeria, [3,14,15,19,20] Ethiopia, [16] and Saudi Arabia [17]. This is important as it becomes imperative for health care workers to be updated in their knowledge of EBF, so that the right information is disseminated at all times. The role of the media in the dissemination of the information on EBF is minimal when compared to that of health workers as only 4.4% of mothers assessed their information from media sources in this study. This result was comparable to the 5.5-8.5% role of the media as also observed in other studies in Nigeria [15,19]. However, in Kano State, [14] Bayelsa State, [20] Nigeria, and Mbedelle in South Western Ethiopia, [21] the contribution of the media in the dissemination of the information in EBF were much higher at 17.2%, 10.4% and 29.1% respectively. It is important for the media to be involved in the dissemination of information on EBF as they tend to have a wider reach and besides, it has the capacity to reach women that fail to register for antenatal care with the right information on EBF.

The appropriate duration of EBF in our study was 6 months in line with World Health organization's recommendation, [22] and the knowledge of the appropriate duration of EBF was high as 80.2% of mothers knew that children should be exclusively breastfed for 6 months. This was comparable to 77.5% reported among bankers in Lagos Nigeria [9] and 71.6% in Italy [18] but higher than 68.4% reported in Kano [14] and 59.7% in Bayelsa State, [20] Nigeria, 28%

among teachers in Saudi Arabia, [23] and 34.7% in Mizan Aman, Ethiopia [24].

In this study, 26.5% of the women knew that EBF was beneficial to their children and 26.9% to the mothers while majority 66.2% said EBF was beneficial to both mother and child. In a study carried out in Bayelsa, 31.3% of the mothers also knew that EBF was beneficial to them and 71.3% were aware of the benefits of EBF to the child [19]. However, Yaguo-Ide et al. [11] in Port Harcourt reported that 69% of the women interviewed in their study knew of one or more benefits of EBF to the mother but the study did not explore their knowledge of the benefits of EBF to children. No study demonstrated that mothers were aware that EBF was beneficial to both mother and child as observed in this study and not just independently to only the mother or child.

Table 4. Practice of exclusive breastfeeding

Variable	Frequency (%)
When you commenced breastfeeding after birth	**N =343**
Within 1hour	140(40.8)
>1-24 hours	81(23.6)
>24hours	116(33.8)
Did not breastfeed	3(0.9)
Can't remember	3(0.9)
Reason for commencing breastfeeding >1hr after delivery	
Breast milk not flowing	71(20.7)
Sick baby	46(13.4)
Delivered via C/S so mum still recovering post op	39(11.4)
No reason	15(4.4)
Baby not sucking	12(3.5)
Sleeping baby	11(3.2)
Mother waiting to be cleaned up from labour ward	7(2.0)
Post delivery fatigue	6(1.7)
Post partum medical complications	6(1.7)
Anything given before breast milk	
Yes	117(34.1)
No	226(65.9)
Types of pre-lacteal feeds given**	
Glucose solution	80(23.3)
Water	28(8.2)
Breast milk substitute	10(2.9)
Undisclosed	9(2.6)
Reason for Pre-lacteal feeds	
Breast milk not flowing	61(17.8)
Mum not ready to breastfeed	24(7.0)
Baby not sucking	6(1.7)
Felt baby needed water	4(1.2)
Baby was sick	2(0.6)
Undisclosed	20(5.8)
What type of feed did your child receive in 1st 6months	
Breast milk only	159(46.4)
Breast milk and water	50(14.6)
Breast milk and cereal	43(12.5)
Breast milk and infant formula (BMS)	40(11.7)
Breast milk and Pap	39(11.4)
Breast milk substitute only	5(1.5)
Breast milk and solid food	2(0.6)
Undisclosed	5(1.5)

***Variables that are not mutually exclusive*

Table 5. Factors associated with good practice of exclusive breastfeeding

Variable	Good practice N (%)	OR	95% CI	P
Maternal age > 30yrs				
Yes	35(15.91)	1.1	0.6 - 2.0	0.7
No	98(84.4)			
Mother with 3°education				
Yes	33(16.6)	1.1	0.6 - 1.9	0.7
No	26(18.1)			
Low socioeconomic class				
Yes	5(19.2)	1.1	0.4 - 3.2	0.8
No	54(17.0)			
Mother occupation				
House wife	11(13.6)	0.7	0.3 - 1.4	0.3
Working	48(18.3)			
Hospital delivery				
Yes	58(17.7)	13.9	1.8-10.2	**0.0008**
No	1(1.8)			
Child's Birth order 1st born				
Yes	16(10.88)	0.4	0.2 - 0.8	**0.007**
No	43(21.9)			
Mother's parity (one)				
Yes	16(11.3)	0.47	0.25 – 0.87	0.016
No	43(21.3)			
Mother's parity (≥ 4)				
Yes	12(30.8)	2.43	1.15 – 5.13	0.017
No	47(15.5)			
Child malnourished				
Yes	6(8.5)	0.3	0.16 - 0.9	0.01
No	52(19.2)			

About 10.5% of the mothers were aware of the contraceptive benefit of EBF and this compares with the 14% awareness reported among women in a tertiary health centre in India [25]. But there was however a higher awareness of the contraceptive benefit of EBF (43%) as reported by Alade et al. [26] in South-West Nigeria and 76.7% among women with their babies attending primary health care centre in Saudi Arabia [17]. While 24.4% of the women in this study were aware of the benefit of EBF in uterine involution, 88% were aware of this benefit in Saudi Arabia study [17]. Although majority of the women who participated in both studies had tertiary education, the differences in their awareness level could be a function of the details of EBF information the mothers received in the different countries and the fact that about 65% of the participants in the Saudi Arabia study had EBF counselling sessions. While almost a quarter of the women in this study identified the economic benefits of EBF, other studies did not explore the economic benefits of EBF.

In comparison to this study that showed 32.7% awareness on the ability of EBF to protect children from infectious diseases, Peterside et al. [20] reported that 35% of the mothers in their study were aware of this advantage. It however contrasts with a lower 21.5% reported by Alade et al. [26] in Nigeria and a higher 74.4% reported by Ayed et al in Saudi Arabia [17]. The observed differences could be as a result of the participants ability to recall the information they had received and the extent of the information they received on EBF.

Overall, majority (80%) of women in this study had good knowledge of EBF based on their ability to respond appropriately to the questions used for scoring. In contrast, only 55% of those in in Saudi, [17] 37.1% of those in Ayete, South-West Nigeria [26] and 45.8% reported by Mogre et al. [27] in Ghana had good knowledge of EBF. The differences observed in these studies is not surprising as each study used different criteria to assess the knowledge of women on EBF. There is therefore a need to develop standardized protocol to assess knowledge on EBF.

It is pertinent to note that attainment of tertiary education, assessing antenatal care and a

mother delivering her baby in the hospital were factors significantly associated with good knowledge of EBF in this study. Nyanga et al. [28] in their study in Kenya also reported a positive correlation between tertiary education and good knowledge of EBF.

The world health organization recommends that breastfeeding should be commenced within 1 hour of delivery [2]. In line with this recommendation, 40.8% of mothers in this study commenced breastfeeding within 1 hour of delivery. This finding correlates with the 39.4% and 45% reported by Nukpezah et al. [29] in Ghana and Sultania et al. [25] in India. This result is however lower than the 53%-64.6% reported in other studies conducted in Nigeria [3,11] and Ethiopia [21]. It was however higher than the 31% reported by Al Banali in Saudi Arabia [23]. The differences in the values obtained could be as a result of geographical variability and the methodologies used. The Saudi Arabia study was conducted among female school teachers whose babies had access to infant formula after delivery in the hospital and only 8.6% of the mothers attended breastfeeding classes. Perhaps if the hospitals in Saudi Arabia attained the Baby Friendly Hospital Initiative status, then the use of infant formulas in the hospitals would have be eliminated and more children would have been put to the breast.

More worrisome is the reasons given by the mothers for not initiating breastfeeding within one hour of delivery as the commonest reason given was that breast milk of the mother who had just given birth to a baby was not flowing. This was also the commonest reason given by respondents in the study conducted by Oche et al in Kware, Sokoto State, Nigeria [3]. The perceived flow or lack of flow of breast milk immediately after delivery should not hinder mothers or health workers from putting the newborn baby to the breast as the suckling process of the baby and the skin-skin contact between mother and child promotes the flow of breast milk from the breast [30,31]. While the initial flow may be low as the initial breast milk is colostrum, there is a need to educate and assure mothers and health care workers that it is rich enough to sustain the child and that continued suckling of the child on the breast will subsequently increase breast milk production [32].

Although 80% of the mothers in this study were aware of the proper duration of exclusive breastfeeding, only 46.4% of them actually breastfeed their babies for 6 months. This disparity between awareness and practice was also reported by other researchers [3,17,20,23]. This disparity could be as a result of the various real time challenges nursing mothers face in the course of nursing their babies.

The prevalence rate of exclusive breastfeeding for 6 months observed in this study compares to the observed 43.6% reported by Wolde et al. [21] in a study carried out in Ethiopia. There is a better EBF practice in this study compared to the earlier studies in Port Harcourt carried out about 3-4years before this study, that reported EBF prevalence of 11.7% [11] and 22.5% [12]. This probably highlights the fact that dissemination of EBF information by health workers and media outlets is yielding results, although there is still room to do more. The EBF rate for 6 months obtained in this study was also higher than the 26.9% reported by Peterside et al. [20] and 31% by Oche et al. [3] in Bayelsa and Sokoto States in Nigeria. The differences could be geographical as this study was conducted in an urban centre while the Bayelsa and Sokoto state studies were carried out in rural and semi urban centres respectively. Furthermore, the reported exclusive breastfeeding rate in this study was much higher than the 7.3%-8.6% reported in different studies in Saudi Arabia [17,23] and 33.3% reported in an Italian study [18] probably because these studies were carried out in developed countries and mothers in these countries had more access to breast milk substitutes than the women in our study.

Overall, only 17.2% of the respondents were assessed as having good practice which is suboptimal. Hospital delivery and multiparity were factors significantly associated with good practice of EBF in this study, probably because of the support such mothers would have received from health workers while in the hospital. Besides, the multiparous mother probably has more experience with breastfeeding and is more able to make the choice to exclusively breastfeed her baby than the primiparous mother.

The commonest reason given by mothers for not exclusively breastfeeding for 6 months in this study was the perception by mothers that breast milk alone was not enough for the growth and development of the child. This was also the commonest reason given by mothers as reported by Peterside et al. [20] in Bayelsa, Nigeria. In contrast however, work related reasons (46.2%)

was the commonest reason given by mothers in Saudi Arabia, [23] while it represented 9% of the reasons given for non EBF for 6 months in this study. The much higher work-related reasons given by Saudi mothers could be attributed to the fact that the study involved only teachers. There is however a need to educate breastfeeding mothers on adequacy of breast milk to sustain growth and development of the newborn infant in the first 6 months of life [32] and alternate ways of continuing EBF while at work, like the use of expressed breast milk while the mother is at work [33,34]. Also important is the need for the provision of comfortable creches at the work place, so that mothers can comfortably breastfeed their babies while at work [35,36].

5. CONCLUSION

The knowledge of EBF among mothers attending the Paediatric outpatient clinic in Port Harcourt, Nigeria is high, with good knowledge of EBF significantly associated with tertiary education, ANC attendance and hospital delivery. Early initiation of breastfeeding was poor in addition to the high prevalence in the use of pre-lacteal feeds. Although there was an improvement in the EBF rates from previous studies in Port Harcourt, the rate obtained in this study was still suboptimal at 46.4%. Multiparous women with at least four pregnancies and mothers who delivered their babies in the hospital significantly had good EBF practices. The commonest reasons for not exclusively breastfeeding were mother's perception that breast milk alone is not enough for the baby in the first six months of life, a common practice in the community to add other feeds apart from breast milk in the first six months of life and the need for the mothers to resume work.

Health education of mothers on the dangers of pre-lacteal feeds and importance of EBF will not only further improve the knowledge of breastfeeding but also the practice. Provision of crèches at all work places, increased advocacy on the extension of maternity leave for mothers from 3 months to 6 months and teaching mothers how to express and store breast milk for their babies while at work would improve EBF among mothers in Rivers State, Nigeria.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard, respondents' consent has been collected and preserved by the author(s).Ethical approval was obtained from the Rivers State Health Research Ethics Committee.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. Cochrane Database Syst Rev. 2012;2012(8): CD003517.
Published 2012 Aug 15.
DOI:10.1002/14651858.CD003517.pub28: CD003517
2. Fewtrell MS, Morgan JB, Duggan C, Gunnlaugsson G, Hibberd PL, Lucas A et al. Optimal duration of exclusive breastfeeding: What is the evidence to support current recommendations? Am J Clin Nutr. 2007;85(2):635S-38S.
3. Oche MO, Umar AS, Ahmed H. Knowledge and practice of exclusive breastfeeding in Kware, Nigeria. Afr Health Sci. 2011;11(3): 518-23.
4. World Health Organisation. Ten facts on breastfeeding. Geneva, Switzerland: World Health organization; 2017.
5. Balogun MR, Okpalugo OA, Ogunyemi AO, Sekoni AO. Knowledge, attitude and practice of breastfeeding: A comparative study of mothers in urban and rural communities of Lagos, Southwest Nigeria. Niger Med J. 2017;58:123-30.
6. National population Commission. Nigerian Demographic and Health Survey. National population Commission. Federal Republic of Nigeria, Abuja; 2008.
7. National Bureau of Statistics (NBS) and United Nations Children's Fund (UNICEF). Multiple indicator cluster survey 2016-17, Survey Findings report. Abuja: National Bureau of statistics and United Nations Children's Fund; 2017.
8. Onah S, Osuorah DI, Ebenebe J, Ezechukwu C, Ekwochi U, Ndukwu I. Infant feeding practices and maternal socio-demographic factors that influence practice of exclusive breastfeeding among mothers in Nnewi South-East Nigeria: A cross-sectional and analytical study. Int Breastfeed J. 2014;9:6.
Published 2014 May 20.
DOI:10.1186/1746-4358-9-6.

9. Osibogun OO, Olufunlayo TF, Oyibo SO. Knowledge, attitude and support for exclusive breastfeeding among bankers in Mainland Local Government in Lagos State, Nigeria. Int Breastfeed J. 2018; 13:38.
Published 2018 Aug 22
DOI:10.1186/s13006-018-0182-9
10. Agho KE, Dibley MJ, Odiase JI, Ogbonmwan SM. Determinants of exclusive breastfeeding in Nigeria. BMC Pregnancy Childbirth. 2011;11:2.
DOI:10.1186/1471-2393-11-2
11. Yaguo-Ide LE, Uchenwa-Onyenegecha TA. Knowledge and practice of exclusive breastfeeding among mothers seen at the University of Port Harcourt Teaching Hospital. Am J Public Res. 2018;6(1):32-36.
DOI: 10.11648/j.ajhr.20180601.15
12. Alex-Hart BA, Opara PI. Infant and young child feeding practices in three communities in Obio-Akpor Local Government Area. Sch. J. App. Med. Sci. 2015;3(1B):100-104.
13. Olusanya O, Okpere E, Ezimokhai M. The importance of socio-economic class in voluntary fertility control in a developing country. W Afr J Med. 1985;4: 205-212.
14. Aliyu AM, Shehu M. Knowledge attitude and practice of exclusive breastfeeding among multigravid women attending antenatal clinic in Aminu Kano University Teaching Hospital. IOSR J Nurs Health Sci. 2016;5(6):59-74.
15. Odu S, Ayo Deji S, Amu E, Aduayi V. knowledge, attitude and practice of exclusive breastfeeding among mothers attending an infant welfare clinic in Osogbo, Osun State, Nigeria. Eur J Prev Med. 2016;4(2):39-43.
DOI: 10.11648/j.ejpm.20160402.13
16. Alamirew MW, Bayu NH, Tebeje NB, KassaSF. knowledge and attitude towards exclusive breastfeeding among mothers attending antenatal and immunization clinic at Dabat Health Center, Northwest Ethiopia: A cross-sectional institution based study. Nurs Res Pract. 2017;2017: 6561028.
DOI:10.1155/2017/6561028.
17. Ayed AAN. Knowledge, attitude and practice regarding exclusive breastfeeding among mothers attending primary health care centers in Abha city. Int J Med Sci Public Health. 2014;3:1355-63.
18. Cascone D, Tomassoni D, Napolitano F, Di Giuseppe G. Evaluation of knowledge, attitudes, and practices about exclusive breastfeeding among women in Italy. Int. J. Environ. Res. Public Health. 2019;16:2118.
DOI:10.3390/ijerph16122118
19. Abasiattai AM, Etukumana EA, Nyong E, Eyo UE. Knowledge and practice of exclusive breastfeeding among antenatal attendees in Uyo, Southern Nigeria. Gaziantep Med J. 2014;20(2).
DOI: 10.5455/GMJ-30-45779
20. Peterside O, Kunle-Olowu OE, Duru CO. Knowledge and practice of exclusive breastfeeding among mothers in Gbarantoru community, Bayelsa State, Nigeria. IOSR J Dent Med Sci. 2013; 12(6):34-40.
21. Wolde T, Diriba G, Wakjira A, Misganu G, Negesse G, Debela H et al. knowledge, attitude and practice of exclusive breastfeeding among lactating mothers in Bedelle town, South Western Ethiopia: Descriptive cross-sectional study. Researcher. 2014;6(11):91-97.
22. World Health Organization. Global strategy for infant and young child feeding. Geneva, Switzerland: World Health Organization; 2003.
23. Al-Binali: Breastfeeding knowledge, attitude and practice among school teachers in Abha female educational district, southwestern Saudi Arabia. Int Breastfeed J. 2012;7:10.
DOI:10.1186/1746-4358-7-10
24. Tadele N, Habta F, Akmel D, Deges E. Knowledge, attitude and practice towards exclusive breastfeeding among lactating mothers in Mizan Aman town, Southwestern Ethiopia: descriptive cross-sectional study. Int Breastfeed J. 2016;11: 3.
DOI 10.1186/s13006-016-0062-0
25. Sultania P, Agrawal NR, Rani A, Dharel D, Charles R,Dudani R. Breastfeeding knowledge and behavior among women visiting a tertiary care center in India: A cross-sectional survey. Ann Glob Health. 2019;85(1):64.
DOI: https://doi.org/10.5334/aogh.2093
26. Alade O, Musibau AT, Frederick Oshiname FO, Arulogun OS. Exclusive breastfeeding and related antecedent factors among lactating mothers in a rural community in Southwest Nigeria. Int J Nurs Midwifery. 2013;5(7):132-38.
DOI: 10.5897/IJNM2013.0111

27. Mogre V, Dery M, Gaa PK. Knowledge, attitudes and determinants of exclusive breastfeeding practice among Ghanaian rural lactating mothers. Int Breastfeed J. 2016;11:12.
Published 2016 May 17
DOI:10.1186/s13006-016-0071-z
28. Nyanga NM, Musita C, Otieno A, D Kaseje. Factors influencing knowledge and practice of exclusive breastfeeding in Nyando District, Kenya. Afr J Food Agric Nutr Dev. 2012;12(6): 6632-45.
29. Nukpezah RN, Nuvor SV, Ninnoni J. Knowledge and practice of exclusive breastfeeding in the tamale metropolis of Ghana. Reprod Health. 2018;15:140.
Available:https://doi.org/10.1186/s12978-018-0579-3.
30. Oddy WH. Breastfeeding in the first hour of life protects against neonatal mortality. J Pediatr. 2013;89(2):109–11.
31. Crenshaw JT. Healthy birth practice: Keep mother and baby together—It's best for mother, baby, and breastfeeding. J Perinat Educ. 2014;23(4):211–7.
32. Godhia ML, Patel N. Colostrum - its composition, benefits as a nutraceutical - a review. Curr Res Nutr Food Sci. 2013;1(1): 37-47
DOI:http://dx.doi.org/10.12944/CRNFSJ.1.1.04
33. Pang WW, Bernard JY, Thavamani G, et al. Direct vs. expressed breast milk feeding: Relation to duration of breastfeeding. Nutrients. 2017;9(6):547.
Published 2017 May 27.
DOI:10.3390/nu9060547
34. Mote A, Jeewon R. Importance of exclusive breastfeeding and complementary feeding among infants. Curr. Res. Nutr Food Sci J. 2014;2(2):56-72.
35. MohdSuan MA, Ayob A, Rodzali M. Childcare workers' experiences of supporting exclusive breastfeeding in Kuala Muda District, Malaysia: A qualitative study. Int Breastfeed J. 2017;12:2.
Published 2017 Jan 6.
DOI:10.1186/s13006-016-0095-4
36. Eke GK, Nte AR. Promoting breastfeeding in workplaces: Experiences with the crèche at the University of Port Harcourt Teaching Hospital, Southern Nigeria. Eur J Nutr Food Safety. 2019;11(3):136-142.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/60903