Original Research Article

Early initiation of breastfeeding and Prelacteal Feeding Among Women Attending Postnatal Clinic in the University of Port Harcourt Teaching Hospital

ABSTRACT

One of the World Health Organization and the United Nations Children's Fund recommendations for improved feeding of infants and young children is breastfeeding. This study aimed to investigate the knowledge of breastfeeding, the practice of early initiation of breastfeeding and the practice of prelacteal feeding in Port Harcourt, Rivers state. This cross-sectional study was conducted among 249 women attending the six-week postnatal clinic in Port Harcourt, Rivers State South-South Nigeria. The data collection was done using a questionnaire. The Statistical Product and Services Solutions version 25.0 was used for data analysis. A total of 167 (67.1%) knew that breastfeeding should be commenced within one hour of birth and 73 (29.3%) knew prelacteal feeding should not be practiced. Breastfeeding together with prelacteal feeding was commenced within one hour of birth by 59 (23.7%) of respondents. The prevalence of prelacteal feeding in this study was 30.9%. The practice of prelacteal feeding was significantly associated with early initiation of breastfeeding ($p=0.022$; $X^2=7.655$), mode of delivery ($p=0.008$; $X^2=9.691$), and baby's birth weight ($p=0.005$; $X^2=10.779$). In conclusion, there is poor practice of early initiation of breastfeeding and high prevalence of prelacteal feeding. Interventions should focus on encouraging women to initiate breastfeeding early and educating them on the disadvantages of prelacteal feeding.

Keywords*: Breastfeeding, Early initiation of breastfeeding; Prelacteal feeding, University of Port Harcourt Teaching Hospital.*

UNDER PEER REVIEW

INTRODUCTION

Breast milk is the most reliable source of optimal nutrition in infants [1]. Breast milk is freely available, easily digestible, and contains all the nutritional requirements for the baby [2]. The antibodies in breast milk provide the necessary immune support against both acute and long-term diseases [1,3]. Studies have shown that breastfeeding can prevent malnutrition, diarrhoea and pneumonia in infants, thereby decreasing the risk of morbidity and mortality from these diseases [4,5]. Breastfeeding helps the mother bond with her baby, promotes contraction of the uterus after birth and acts as a form of contraception [6]. Breastfeeding is preventive for ovarian [7] and breast cancer [8].

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) endorsed the global strategy for infant and young child feeding [9]. An important part of this strategy is breastfeeding exclusively, adequate, and safe introduction of complementary feeding at the appropriate time. [1]. The global strategy also recommends continued breastfeeding for up to two years and beyond [9]. To encourage the practice of exclusive breastfeeding for six months and continued breastfeeding for two years and beyond, the WHO has described the first hours and days of a newborn infant's life as a critical window for providing mothers with the support they need to establish and sustain breastfeeding. Immediate and uninterrupted skin-to-skin contact, initiation of breastfeeding within the first hour of life, giving only breast milk to the infant, breastfeeding as often and as long as the baby wants, avoiding pre-lacteal feeding, and avoiding the use of teats and pacifiers will encourage exclusive breastfeeding and continued breastfeeding for two years and beyond [1].

Although the importance of establishing and sustaining breastfeeding during the first hours and days of an infant's life is known, the utilization of this critical window has been poor. WHO recommends that every baby should be breastfed within one hour of birth [10]. However, global data shows that only 44% of neonates receive breast milk within one hour of birth [1,11]. Demographic Health Survey in West Africa shows that the prevalence of early initiation of breastfeeding is 43% [12]. In Edo state, southern Nigeria only 44.5% of women initiate

UNDER PEER REVIEW

breastfeeding within one hour of birth [13]. The delay in initiation of breastfeeding has been attributed to poor knowledge of breastfeeding, level of education, lower socioeconomic status, not attending antenatal care, delivery outside a health facility, and low birth weight baby [13,14]. Caregivers may administer an artificial feed before establishing breastfeeding especially if the mother had a difficult vaginal delivery, delivered by caesarean section, or is not able to produce breast milk. Another reason for the administration of prelacteal feeds is the misconception that colostrum, which is the first milk produced by the mother, is not enough to sustain the baby. Although the quantity of colostrum may be less than 10ml in the first few feeds, this amount is adequate for the baby who is still learning how to suck, swallow and breathe [15]. This practice of prelacteal feed may replace colostrum thereby increasing intolerance to allergy. Prelacteal feed also interferes with suckling and this can lead to satisfying the baby's hunger so they suck less, leading to less breast stimulation and making it difficult to establish breastfeeding [1]. The practice of prelacteal feeding is common in Africa. For example, a study in Zaria, Northern Nigeria reported that 82% of women practiced prelacteal feeding [16]. The practice of early initiation of breastfeeding (EIBF) and prelacteal feeding is influenced by the community, knowledge of breastfeeding, place of delivery, and individual factors [12,14]. In order to carry out future interventions to improve breastfeeding practice in our environment, there is a need to understand the practice of breastfeeding in our environment. Therefore, this study aimed to investigate the knowledge of breastfeeding, the practice of early initiation of breastfeeding (EIBF) and the practice of prelacteal feeding in Port Harcourt, Rivers State.

UNDER PEER REVIEW

METHODOLOGY

This study was a hospital-based cross-sectional study among women who presented for a six-week postnatal clinic visit at the University of Port Harcourt Teaching Hospital, Rivers State South-South Nigeria. Only women who delivered at the facility were recruited for the study. The sample size was calculated using the formula for cross-sectional studies [17] $n = z^2pq/d^2$. Where "n" was the sample size, "z" was the level of significance (at 95%=1.96), "d" was the margin of error (0.05), "p" was the percentage of women who knew about breastfeeding (0.8 as reported in the previous study in Port Harcourt),[18] and q = 1- p = 0.2. A minimum sample size of 244 was used. The sampling method was systematic. An interviewer-administered questionnaire was used to collect the data. Data analysis was done using the Statistical Product and Services Solutions version 25.0.

RESULTS

The study was conducted among 249 women who visited the health facilities for postnatal care services. Most of the women (77.9%) were between 25 and 35 years of age. The mean (standard Deviation) age was 31.58 (3.76) years. Most women 116 (46.6%) had a tertiary level of education. (Table 1)

Table 1: Socio-demographic characteristics

	Frequency (n=249)	**Percent**
Age (years)		
<25	13	5.2
25-35	194	77.9
>35	42	16.9
Mean (SD)	31.58 (3.76)	

UNDER PEER REVIEW

Level of education		
Primary	79	31.7
Secondary	54	21.7
Tertiary	116	46.6
Parity		
No child	2	0.8
1 child	36	14.5
2 to 4 children	211	84.7

SD=Standard deviation

About three-quarters 187 (75.1%) of the women had vaginal delivery. Among the 63 women who were admitted for more than 24 hours after their delivery, most remained admitted for 4 days or more. The mean (SD) duration of admission for women who were admitted for more than 24 hours after their delivery was 4.19 (0.93) days. The baby was admitted in 19 (7.6%) cases, among which 13 (68.4%) were admitted for 6 days. The mean (SD) duration of the admitted babies was 6.47 (0.96) days (Table 2).

Table 2: Outcome of delivery

Mode of delivery	**Frequency (n=249)**	**Percent**
SVD	187	75.1
Elective C/S	36	14.5
Emergency C/S	26	10.4
Sex of baby		
Male	131	52.6
Female	118	47.4
Birth weight (Kg)		
<2.5	5	2.0
2.5 to 3.9	220	88.4

UNDER PEER REVIEW

≥4	24	9.6
Mother admitted more than 24 hours		
No	186	74.7
Yes	63	25.3
Duration of admission (n=63)		
3 days or less	8	12.7
4 days or more	55	87.3
Mean (SD)	4.19 (0.93)	
Baby admitted		
No	230	92.4
Yes	19	7.6
Duration of admission of baby (n=19)		
5 days	1	5.3
6 days	13	68.4
8 days	5	26.3
Mean (SD)	6.47 (0.96)	

Most 232 (93.2%) of the mothers agreed that breast milk is beneficial to the mother and the baby. More than half of the respondents 167 (67.1%) agreed that breastfeeding should be started within one hour of birth. Most respondents 121 (48.6%) were indifferent about giving an artificial feed to the baby before establishing breastfeeding, most 165 (66.3%) agreed that the baby should receive only breast milk for the first six months of life. Most 104 (41.8%) agreed that breastfeeding should be continued for up to two years and beyond. (Table 3).

Table 3*:* Knowledge exclusive breastfeeding

	Frequency (n=249)	**Percent**
Breast milk is beneficial to the mother and the baby		
Disagree	0	0.0

UNDER PEER REVIEW

Neutral	17	6.8
Agree	232	93.2
Breastfeeding should be initiated within one hour of birth		
Disagree	0	0.0
Neutral	82	32.9
Agree	167	67.1
No artificial feed should be given to the baby before establishing breastfeeding		
Disagree	55	22.1
Neutral	121	48.6
Agree	73	29.3
The baby should receive only breast milk for the first six months of life		
Disagree	44	17.7
Neutral	40	16.1
Agree	165	66.3
Breastfeeding should be continued for up to two years and beyond.		
Disagree	86	34.5
Neutral	59	23.7
Agree	104	41.8

Breastfeeding together with prelacteal feeds was given within one hour of birth by 59 (23.7%) mothers, out of these women, only 16 (27.1%) practiced EIBF. The reason why most 114 (60.0%) mothers did not practice early initiation of breastfeeding was that they wanted to rest after delivery. One-third 77 (30.9%) of the mothers gave some artificial feed before establishing breastfeeding. More than half 41 (53.2%) did so because they felt breast milk was not enough. It was also shown that more than three-quarters of 190 (76.3%) gave colostrum. See table 4.

UNDER PEER REVIEW

The practice of prelacteal feeding was also found to be significantly related to the mode of delivery, birth weight, and practice of early initiation of breastfeeding. The practice of prelacteal feeding was significantly lower among mothers who delivered through elective C/S (88.9%) than among those who delivered through SVD (67.4%) than among those who delivered through emergency C/S (53.8%); p=0.008; X^2=9.691. The practice of prelacteal feeding was also found to be significantly lower among mothers who gave birth to a child with normal weight (72.3%) than among those who gave birth to a child with overweight (50.0%), than among those who gave birth to a child with low birth weight (20.0%); p=0.005; X^2=10.779. It was also shown that 100% of children who were breastfed within 1 hour of birth did not practice prelacteal feeding, compared to 67.0% of those who breastfed between 1 hour and 24 hours and 66.7% of those who breastfed after 24 hours, and this difference was also shown to be statistically significant. See Table 5.

Table 4*:* Breastfeeding practice

	Frequency (n=249)	**Percent**
Time interval between birth and first session of feeding (Breast milk/ prelacteal feed)		
≤1hr	59	23.7
>1hr to 24hrs	178	71.5
>24hrs	12	4.8
Baby was breastfeed breast milk only within one hour of birth (n=59)		
Yes	16	27.1
No	43	72.9
Reason mother did not feed within the first hour of birth (n=190)		
Resting after delivery	114	60.0
No breast milk	27	14.2

UNDER PEER REVIEW

Mother had surgery	19	10.0
Baby was admitted	16	8.4
Wanted to have my bath	14	7.4
Baby was given prelacteal feed		
Yes	77	30.9
No	172	69.1
Reason baby was given prelacteal feed		
(n=77)		
No Breast milk	41	53.2
Mother had surgery	16	20.8
Baby was on admission	12	15.6
No reason	8	10.4
Baby was given colostrum		
No	59	23.7
Yes	190	76.3

UNDER PEER REVIEW

Table 5 : Practiced prelacteal feeding

	Practiced prelacteal feeding				**X^2**	**p-value**
	Yes		**No**			
	F	**%**	**F**	**%**		
Mode of delivery						
SVD	61	32.6%	126	67.4%	9.691	**0.008***
Elective C/S	4	11.1%	32	88.9%		
Emergency C/S	12	46.2%	14	53.8%		
Sex of baby						
Male	40	30.5%	91	69.5%	0.020	0.889
Female	37	31.4%	81	68.6%		
Birth weight (Kg)						
<2.5	4	80.0%	1	20.0%	10.779	**0.005***
2.5 to 3.9	61	27.7%	159	72.3%		
≥4	12	50.0%	12	50.0%		

The mother admitted more than 24 hours						
No	61	32.8%	125	67.2%	1.206	0.272
Yes	16	25.4%	47	74.6%		
Baby admitted						
No	73	31.7%	157	68.3%	0.938	0.333
Yes	4	21.1%	15	78.9%		
Baby was breastfeed breast milk only within one hour of birth						
≤1hr	0	0.0%	16	100.0%	7.655	**0.022***
>1hr to 24hrs	77	33.0%	156	67.0%		

UNDER PEER REVIEW

DISCUSSION

The study shows most postnatal women at the University of Port Harcourt Teaching in Rivers State agree that breastfeeding should be initiated within one hour of birth but still, almost half of them don't mind if their child receives any artificial feed before establishing breastfeeding. This is evident in this study where only 59 women (23.7%) gave breast milk and prelacteal feeding within one hour of birth. This is very low compared to reports from other parts of Nigeria. In Edo State, Southern Nigeria, 44% of women practiced early initiation of breastfeeding [13]. A study in Gombe state reported that 37% practiced early initiation of breastfeeding [19]. A higher prevalence of early initiation of breastfeeding has been reported in other African countries such as Ghana (72%) [20] and Namibia (74.9%) [21]. A 16-year survey in Ethiopia showed that the prevalence of early initiation of breastfeeding increased from 48.85 to 75.7% [22]. This increase was attributed to the National infant feeding strategy which promoted the early initiation of breastfeeding.

When a mother delays the initiation of breastfeeding after birth, there may be introduction of prelacteal feeding. The main reasons why women did not practice early initiation of breastfeeding were: they wanted to rest after delivery, no breast milk, the baby was admitted, or the woman wanted to have her bath. These were similar reasons given by women in studies at

Ghana and Namibia [19,20]. In this study, 30.9% of women gave an artificial feed before the establishment of breastfeeding. This prevalence is slightly higher than the prevalence of 26.7% gotten in Ile-Ife, South-West Nigeria which is classified as a semi Urban settlement [23] but much lower than the prevalence of 85% reported in a study in a rural community in Zaria Northern Nigeria [16]. A common reason why most women and caregivers give artificial feeds before breast milk is because the mother has not produced breast milk [20]. From this study, a delay of more than one hour increases the likelihood of giving an artificial feed. This is similar to a study in Ife where initiation of breastfeeding after one hour of birth was significantly associated with prelacteal feeds [23].

Factors related to prelacteal feeding in this study are the mode of delivery. Women who had an elective abdominal delivery are less likely to practice prelacteal. This is similar to a report in a rural community in Zaria with a high prevalence of prelacteal feeding, women who had abdominal delivery were less likely to practice prelacteal feeding [16]. This may be because they had support from health workers to establish early breastfeeding. However, some studies have shown that abdominal delivery and instrumental vaginal delivery are associated with the use of prelacteal feed [23,24].

Birth weight was another factor that was significantly associated with prelacteal feeding. In this study, women who had babies with normal birth weight are unlikely to practice prelacteal feeding. This is similar to a report in Sagnarigu, Northern Ghana, where women who had normal weight babies were found to have a lesser likelihood of practicing prelacteal feeding [20]. Fetal macrosomia may be complicated by hypoglycaemia if breastfeeding is not initiated immediately and may be a reason for administering an artificial feed before breastfeeding. Low birth weight babies may be admitted into the neonatal care unit and caregivers may give other feeds if the mother does not provide breast milk.

UNDER PEER REVIEW

CONCLUSION

This study showed that postnatal women in Rivers state have good knowledge of breastfeeding. However, the practice of early initiation of breastfeeding is poor. Most of the women did not initiation of breastfeeding early because they wanted to rest after delivery or they did not lactate. The practice of prelacteal feeding is high in our environment. Determinates of prelacteal feeding in this study were delay in initiating breastfeeding, mode of delivery, and birth weight. Interventions to promote breastfeeding should be focused on initiation and establishing breastfeeding in the first hours and days after birth by encouraging the practice of early initiation of breastfeeding and discouraging prelacteal feeding.

Ethical Approval:

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

Consent

. Consent for study was obtained from all participants.

REFERRENCES

1. World Health Organization (WHO), United Nations Children's Fund (UNICEF). Babyfriendly hospital initiative training course for maternity staff: participant's manual. (2020). Assessed: 5th March, 2022: https://www.who.int/publications/i/item/9789240008915.

UNDER PEER REVIEW

2. Motee A, Jeewon R. Importance of Exclusive Breastfeeding and Complementary Feeding among Infants. Current Res Nutr Food Sci J. 2014;2(2):56– 72.

3. Scherbaum V, Srour ML. The Role of Breastfeeding in the Prevention of Childhood Malnutrition. World Rev Nutr Diet. 2016; 115(1): 82-97

4. Walson JL, Berkley JA. The impact of malnutrition on childhood infections. Curr Opin Infect Dis. 2018; 31(3): 231-236.

5. Hajeebhoy N, Nguyen PH, Mannava P, Nguyen TT, Mai LT. Suboptimal breastfeeding practices are associated with infant illness in Vietnam. Int Breastfeeding J. 2014;9(1):12.

6. Febrianto E, Prabantoro BTR, Pangemanan L. Correlation between exclusive breastfeeding in group of early initiation of breastfeeding on the duration of lactational amenorrhea. JWMJ. 2021; 3(3): 131-139.

7. Babic A, Sasamoto N, Rosner BA, Tworoge SS, Jordan SJ, Risch HA. Association between breastfeeding and ovarian cancer Risk. JAMA Oncol. 2020; 6(6): e200421.

8. Giudici F, Bruna S, Serena S, Marina B, Maura T, Fabrizio Z. Breastfeeding: a reproductive factor able to reduce the risk of luminal B breast cancer in premenopausal White women. Eur J Cancer Prev. 2017; 26(3): 217-224.

9. World Health Organization (WHO), United Nations Children's Fund (UNICEF). Global strategy for infant and young child feeding. Assessed: 5th March, 2022: http://apps.who.int/iris/bitstream/handle/10665/42590/9241562218.pdf;jsessionid=64E65 16B67F6E352FF6221ED37509E71?sequence=1

10. World Health Organization & LINKAGES. (2003). Infant and young child feeding : a tool for assessing national practices, policies and programmes. World Health Organization. (Assessed 16th May 2022). https://apps.who.int/iris/handle/10665/42794

UNDER PEER REVIEW

11. UNICEF global databases, 2019 based on MICS, DHS and other nationally representative sources. (2019). Accessed: 5th March, 2022: http://www.data.unicef.org.

12. Ezeh OK, Ogbo FA, Stevens GF, Tannous WK, Uchechukwu OL, Ghimire PR et al. Factors Associated with the Early Initiation of Breastfeeding in Economic Community of West African States (ECOWAS). Nutrients. 2019 ;11(11):2765. doi:10.3390/nu11112765

13. Atimati AO, Adam VY. Breastfeeding practices among mothers of children aged 1–24 months in Egor Local Government Area of Edo State, Nigeria. South Afr J Clin Nutr. 2020; 33(1):10–16. https://doi.org/10.1080/16070658.2018.1493071.

14. 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):1-6. DOI: 10.5455/GMJ-30-45779.

15. Kellams A, Harrel C, Omage S, Gregory C, Rosen-Carole C, Academy of Breastfeeding Medicine. Feeding in the healthy term breastfed neonate, revised 2017. Breastfeeding Med. 2017;12:188–98. doi.org/10.1089/bfm.2017.29038.ajk.

16. Jimoha AO, Adajib SE , Adelaiyec HA, Olorukoobac AA, Garbad C, Mfuhe AL et al. Factors associated with prelacteal feeding practices in a rural northern Nigerian setting. South Afr J Clin Nutr. 2018; 31(2):37–42. https://doi.org/10.1080/16070658.2017.1359391.

17. Campbell M. Sample size: methods of calculation and reporting. AJM. 2019; 13(2): 2052-4293.

UNDER PEER REVIEW

18. West BA, Onubogu UC, Okari TG, Aitafo JE. Prevalence, Knowledge, Practice and Problems Associated With Breastfeeding among Mothers/Caregivers Attending the Paediatric Out-Patient Clinic in Port Harcourt, Nigeria.IOSR-JDMS.2020; 19(5), 2020: 20-27.

19. Shobo OG, Umar N, Gana A, Longtoe P, Idogho O, Anyanti J. Factors influencing the early initiation of breast feeding in public primary healthcare facilities in Northeast Nigeria: a mixed-method study. BMJ Open. 2020; 10:e032835. doi:10.1136/bmjopen-2019-032835.

20. Dubik SD, Amegah KE. Prevalence and determinants of early initiation of breastfeeding (EIBF) and prelacteal feeding in Northern Ghana: A cross-sectional survey. PLoS ONE. 2021 16(11): e0260347. https://doi.org/10.1371/journal.pone.0260347

21. Ndirangu MN, Gatimu SM, Mwinyi HM, Kibiwott DC. Trends and factors associated with early initiation of breastfeeding in Namibia: analysis of the Demographic and Health Surveys 2000–2013. BMC Pregnancy and Childbirth. 2018; 18:171 https://doi.org/10.1186/s12884-018-1811-4

22. Ahmed KY, Page A, Arora A, Ogbo FA. Trends and determinants of early initiation of breastfeeding and exclusive breastfeeding in Ethiopia from 2000 to 2016. Int. Breastfeed. J. 2019; 14(40): 1-14. https://doi.org/10.1186/s13006-019-0234-9

23. ife Ogundele T, Ogundele OA, Adegoke AI. Determinants of prelacteal feeding practices among mothers of children aged less than 24 months in Ile-Ife Southwest Nigeria: a community cross-sectional study. Pan Afr Med J. 2019; 34 (172): 172. doi: 10.11604/pamj.2019.34.172.17642.

24. Agho KE, Ogeleka P, Ogbo FA, Ezeh OK, Eastwood, Page A. Trends and Predictors of

UNDER PEER REVIEW

Prelacteal Feeding Practices in Nigeria (2003–2013). Nutrients. 2016; 8(8): 462.

https://doi.org/10.3390/nu8080462.

UNDER PEER REVIEW