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Barrier of early initiation of breastfeeding among postnatal mothers

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Abstract

Introduction: Early initiation of breastfeeding within one hour of birth decreases infant morbidity and mortality, and it helps promote exclusive breastfeeding. Despite the benefits of early initiation of breastfeeding, the practice is far from adequate. We aim to identify the barriers to the early initiation of breastfeeding among postnatal mothers.

Method: A cross-sectional analytical study was carried out among the postnatal ward of Manipal Teaching Hospital from 1 June to 30 August 2017. Consecutive sampling was used. Ethical permission was obtained. Data was collected through face-to-face interviews using a semi-structured questionnaire, including demographics of mother and infant, and time of initiation of feeding. SPSS was used for descriptive analysis of demographics, and the association of factors for the initiation of early breastfeeding was analyzed to draw the inference.

Result: Out of 244 postnatal mothers, the early initiation of breastfeeding was done by 19.7%, and 82.4% provided prelacteal feeds of infant formula. Delayed breastfeeding was associated with caesarean section (OR: 21.99; 95% CI 5.55-87.03), prelacteal feeding (OR: 7.49; 95% CI 2.72-20.66), and lack of antenatal checkup visit (OR: 7.38; 95% CI 2.3-23.73).

Conclusion: Early initiation of breastfeeding was low (19.7%) in postnatal mothers, with barriers to breastfeeding identified as caesarean delivery, prelacteal feeding, lack of antenatal checkup visits.

Keywords: breastfeeding, delayed initiation, early initiation

Introduction

Breastfeeding is the best complete food for infants as it fulfills specific needs and benefits. It has the benefits of preventing children from infectious and chronic diseases.[1-3] Early initiation of breastfeeding, within an hour of delivery, is one of the steps initiated by WHO/UNICEF's Baby-Friendly Hospital Initiative.[4] Early breastfeeding provides energy and immunity to newborns, prevents hypothermia, and improves maternal-infant bonding.[5-8] Studies show delayed initiation of breastfeeding doubles the risk of neonatal mortality.[9-11] Despite the strong evidence supporting immediate and long term health benefits of early initiation of breastfeeding, its practice remains low in South Asia: India 24.5%[12], Pakistan 27.2%[13], Bangladesh 47.1%[14], and Nepal 55%.[15]

In Nepal, among 98% of children "ever breastfed," colostrum is often not the first feed, and initiation of breastfeeding may be delayed.[15] The delay is due to lack of education among mothers, occupation, primipara (first-time mother), caesarean delivery, and lack of antenatal checkup (ANC) visits.[12,16-19]

This study aimed to find out the barrier of early initiation of breastfeeding. The findings may help to plan and implement breastfeeding promotion programs to improve the nutrition and survival of children.

Method

A cross-sectional analytical study was carried out to find out the barrier of early initiation of breastfeeding among postnatal mothers in the postnatal ward of Manipal Teaching Hospital, Pokhara, Nepal, from 1 June to 30 August 2017. A consecutive sampling technique was used. All the postnatal mothers were included, except those who were unable to feed their babies due to illnesses like eclampsia, psychosis, stillbirth, intrauterine fetal death (IUFD), neonatal death, the infant with congenital anomalies, and with babies who required neonatal intensive care.

A semi-structured questionnaire was developed based on research objectives by reviewing the literature. The tool consisted of three sections. The first section of the questionnaire recorded socio-demographic information of postnatal mothers, including age, education, occupation, religion, residence, and type of family. The second section consisted of obstetric information including sex of baby, birth order, weeks of gestation, birth weight, ANC visit, type of delivery. The third section included the timing of initiation of breastfeeding and prelacteal feeding. The term 'early initiation of breastfeeding' was used to indicate timely initiation within one hour of birth according to WHO recommendation and 'delayed initiation of breastfeeding after one hour.[4] The Tool was prepared in English and translated into Nepali with the help of faculty experts in the college. The tool was back-translated into English to ensure the equivalence of the tool. Data were collected by using the translated Nepali version of the tool. Pretesting of the tool was done among 20 postnatal mothers meeting inclusion criteria in the same setting to check for the ease of administration and understandability. The pretested samples were excluded from the final data analysis.

Ethical permission was obtained from the Institutional Review Committee of Manipal Teaching Hospital, Pokhara. Informed consent was taken from participants after clarification of the objectives of the study. The participants were assured voluntary participation and that the obtained information would be used for the study only. Data were collected by face-to-face interviews of postnatal mothers by the researchers. Privacy was maintained by interviewing the postnatal mothers in a separate room of the obstetrics and gynecology department of the hospital. Postnatal mothers were interviewed before discharge (the average stay in the ward was 3-4 days). Data was collected from 5-6 postnatal mothers each day. The average time required to complete the interview was 10–15 minutes. To maintain the confidentiality of participants, their hospital numbers were recorded and given a specific

code number for each postnatal mother, and collected data was used for research purposes only. The data was checked daily by the principal investigator for completeness, consistency, and error.

Statistical Package for Social Sciences (SPSS) version 16 was used for descriptive (frequencies, percentages, means, and standard deviation) and inferential analysis (chi-square test) to examine the association between breastfeeding initiation and socio-demographic factors; infant and obstetric characteristics. Bivariate logistic regression was used to identify the effects of the different variables on breastfeeding initiation. A confidence interval of 95% was taken and $p<0.05$ was considered statistically significant.

Result

Among 244 postnatal mothers, 168(68.9%) were in the age group of 20–29 y, low of 16 to high of 42 y, mean 25.16±4.78 y, and 139(57%) were living in a joint family. The 98(40.2%) mothers were educated up to the secondary level. The majority (90.6%) were Hindus (the majority of the population in Nepal is Hindu, (Weblink), 204(82.8%) were from urban residence and 180(73.8%) were not employed, Table 1.

Out of 244 infants, 139(57%) were male, 208(85.2%) were term deliveries. The mean gestational age was 38.9 w (range 33.5–42), 215(88.1%) infants had birth weight ≥2500 g (mean of 2.96 kg, range 1.9–4.2 kg), 144(59%) were the first child. Among antenatal checkups used by 231(94.7%) mothers, 77(33.3%) had visited government hospitals and 190(77.9 %) had visited ≥4 times. Vaginal deliveries were 117(48%) and caesarean section 127(52%), Table 2.

The number of mothers with early breastfeeding within one hour of delivery was 48(19.7%) and delayed after one hour was 196(80.3%). Prelacteal feed was given to 201(82.4%), among which 197(98%) fed infant formula, Table 3

Table 1. Socio-demographics of Postnatal Mothers surveyed for early initiation of breastfeeding (N=244)

Characteristics	N	%
Age in years		
15 - 19	32	13.1
20 - 29	168	68.9
30 - 49	44	18.0
Type of Family		
Nuclear	105	43.0
Joint	139	57.0
Religion		
Hindu	221	90.6
Buddhist	18	7.4
Islam	3	1.2
Christian	2	0.8
Residence		
Urban	202	82.8
Rural	42	17.2
Education		
No Schooling	15	6.1
Primary (1-5 grade)	20	8.2
Secondary (6-10 grad	98	40.2
Intermediate	52	21.3
Bachelor and above	59	24.2
Occupation		
Employed	64	26.2
Unemployed	180	73.8

Table 2. Infant and obstetric characteristics of postnatal mothers surveyed for early initiation of breastfeeding (N=244)

Characteristics	N	%
Sex		
Male	139	57.0
Female	105	43.0
Weeks of Gestation		
Preterm	36	14.8
Term	208	85.2
Birth Weight of Baby		
< 2500gm	29	11.9
≥ 2500gm	215	88.1
Birth Order		
First-order	144	59.0
Second or more order	100	41.0
Antenatal Check up		
Yes	231	94.7
No	13	5.3
Place of Antenatal check-up (231)		
Government Hospital	77	33.3
Teaching Hospital	64	27.8
Primary Health Care Center / Health post	53	22.9
Private Hospital	37	16.0
Times of Antenatal Checkups		
No ANC Visit	13	5.3
1-3 times	41	16.8
≥4 times	190	77.9
Mode of Delivery		
Vaginal	117	48.0
Caesarean Section	127	52.0

Table 3. Initiation of early breastfeeding practices among postnatal mothers (N=244)

Characteristics	N	%
Initiation of Breastfeeding		
Early Initiation	48	19.7
Delayed Initiation	196	80.3
Prelacteal Feeds		
Provided	201	82.4
Not provided	43	17.6
Types of Prelacteal Feeds (201)		
Infant Formula	197	98
Human Milk of others	4	2

Delayed initiation of breastfeeding was significantly associated with ANC visit, mode of delivery, and Prelacteal feeds. Mothers who did not attend ANC visits or attended less than four visits were seven times more likely to initiate delayed breastfeeding (OR: 7.38; 95%CI 2.3-23.73). Mothers who had cesarean delivery were >20 times more likely to initiate delayed breastfeeding compared to vaginal delivery (OR: 21.99; 95%CI 5.55-87.03). Infants who received prelacteal feeds were more than seven times more likely for delayed initiation of breastfeeding (OR: 7.49; 95%CI 2.72-20.66). No significant association was found between timely initiation of breastfeeding and maternal age, education, occupation, sex of baby, or birth order. The model fitness was tested using the Hosmer–Lemeshow Test model fitted at a 5% significance level (p-value: 0.91). Similarly, Cox & Snell pseudo R^2 was 0.311 meaning the selected variable can predict breastfeeding initiation on an average of 31.1%, Table 4

Table 4. Factors associated with delayed initiation of breastfeeding among postnatal mothers (N=244)

Factors	Early Initiation N 48 (%)	Delayed Initiation N 196 (%)	Odds Ratio (95% CI)	p-value
Maternal Age (in years)				
<25	28(20.7)	107(79.3)	1	0.92
≥25	20(18.3)	89(81.7)	1.05(0.39-2.8)	
Maternal Education				
No formal education	2(13.3)	13(86.7)	1	0.338
Formal education	46(20.1)	183(79.9)	3.12(0.3-32.03)	
Maternal Occupation				
Unemployed	41(22.8)	139(77.2)	1	0.114
Employed	7(10.9)	57(89.1)	2.42(0.8-7.28)	
Sex of child				
Female	22(21)	83(79)	1	0.156
Male	26(18.7)	113(81.3)	1.85(0.79-4.36)	
Birth Order				
First order	25(17.4)	119(82.6))	1	0.384
Second or more order	23(23)	77(77)	1.51(0.59-3.87)	
Antenatal Checkup Visit				
4 or more visits	42(22.1)	148(77.9)	1	0.001*
No visit or less than 4 visits	6(11.1)	48(89.9)	7.38(2.3-23.73)	
Mode of Delivery				
Vaginal	45(38.5)	72(61.5)	1	0.000*
Caesarean	3(2.4)	124(97.6)	21.99(5.55-87.03)	
Prelacteal Feeds				
Not provided	25(58.1)	18(41.9)	1	0.000*
Provided	23(11.4)	178(88.6)	7.49(2.72–20.66)	

Discussion

In this study, 80.3% of postnatal mothers had initiated breastfeeding after one hour of birth. The barriers of early initiation of breastfeeding were birth by caesarean section, prelacteal feeding, and no or less ANC visit.

According to the WHO rating on early initiation of breastfeeding, 0–29% is considered poor, 30–49% as fair, 50-89% as good, and 90-100% as very good.[20] We found early initiation of breastfeeding only in 19.7% of the study population, indicating a poor rating. This finding is similar to a hospital-based study done in Saudi Arabia which showed that only 18% of mothers initiated breastfeeding within one hour.[21] A community survey done in Haryana, India showed a little higher rate of early initiation of breastfeeding (29.9%).[12] In contrast, a study from Western Nepal reported early breastfeeding in 42.2%, and the analysis of the Nepal Demographic Health Survey (NDHS) shows 55% of mothers initiated early breastfeeding.[22] The reason behind the delayed initiation of breastfeeding in our study may be related to caesarean section delivery in more than half of the respondents.

In the present study, there was a strong association between caesarean section and delayed initiation of breastfeeding. This was similar to studies from Nigeria, Saudi Arabia, China, Haryana, and Nepal.[12, 19,21-24] This might be due to the lack of practice of initiation of breastfeeding in the recovery room/post-operative room as well as the practice of keeping infants separate from the postnatal mothers immediately after caesarean delivery. Delayed initiation of breastfeeding after cesarean section is related to exhaustion, drowsiness, and pain from the wound experienced by mothers after the birth as reported by the study done in Nigeria.[23] Thus, specific support is required for early initiation of breastfeeding for the postnatal

mothers who deliver by caesarean section to reduce the delay in this group of mothers.[23,24]

This study reported higher prelacteal feeding of 82.4% than another study done in Western Nepal reporting 30.2%[22] prelacteal feeding and NDHS report of 28%[25] prelacteal feeding. A study in Southern India also reported only 16% of prelacteal feeding practices among mothers.[18] The reason behind the prelacteal feeding maybe because the infants are kept separate from the mothers after cesarean section and also due to the misconception of mother and family members about insufficient breast milk production during the early postpartum period. Infant formula was commonly fed as prelacteal feeding in our study (98.1%), similar to the study done in Southern India[26] and Central Nepal.[18] This might be due to the easy availability of infant formula in the markets. Mothers who provided prelacteal feeding were more likely to delay the initiation of breastfeeding. This finding was similar to a study done in the Western region in Nepal.[22]

Our study shows the attendance of ANC visits was positively associated with early initiation of breastfeeding practice among postnatal mothers. Mothers who attended ≥4 ANC visits were more likely to provide early breastfeeding to their newborn babies than mothers with fewer or no ANC visits. This finding was supported by the study done in China.[19] The ANC visit is an entry point for mothers to have contact with health personnel and counseling and timely initiation of breastfeeding as reported in the study done in India.[27] When mothers are well aware of the importance of breastfeeding, they may be motivated to initiate breastfeeding early, and will support exclusive breastfeeding.[21] Based on these findings, expectant mothers need to be encouraged for ANC visits. There was no significant association of maternal age, education, occupation, sex of baby, or birth order with the initiation of breastfeeding.

Our study findings show hospital authorities need to develop policies and train the nurses and doctors to support mothers in initiating early breastfeeding soon after the birth. The focus should be placed on caesarean deliveries concerning breastfeeding initiation. Concerned authorities also need to emphasize improving the ANC clinic attendance among expectant mothers. It is necessary to discourage the mothers and their families from feeding their babies infant formula unnecessarily.

In the present study, the recall bias was minimized as data were collected within the first week of delivery. However, the study contains some potential limitations. A cross-sectional, convenient sampling may limit casual inference between variables and early initiation breastfeeding. The study was confined to only one teaching hospital which restricts the generalizability of the study. Further study may be necessary to include more hospitals, including government and private sectors by using a probability sampling technique.

Conclusion

Early initiation of breastfeeding was low in postnatal mothers. The barriers to early initiation of breastfeeding were caesarean section delivery, providing prelacteal feeding, and lack of antenatal checkup visits. Specific measures seem to be necessary to promote the initiation of early breastfeeding.

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Conflict of Interest

None

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None

Author Contribution

Concept, design, planning – NS. Literature review – NS. Data collection / analysis-NS, MMR. Draft manuscript – NS. Revision of draft - NS, MMR. Final manuscript - NS, MMR. Accountability of the work - NS, MMR.

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Supplement

Questionnaire Used

The barrier of early initiation of breastfeeding among postnatal mothers

Semi-structured Interview Questionnaire
Note: After obtaining verbal consent from each participant, the interviewer will read out each question clearly and will tick or write in the appropriate place.

Date:
Hospital Number:
Code no:
Section I: Demographic Information of Mother

1. Age (in completed years) …….
2. Cast: …….
3. Education:

i	Illiterate	ii	Primary
iv	Intermediate	v	Bachelor and above
iii	Secondary		

4. Occupation:

i	Home maker	ii	Service
iii	Agriculture	iv	Teacher
v	Business	vi	Others (Please specify) …….

5. Religion:

I	Hindu	ii	Buddhist
iii	Christian	iv	Islam

6. Residence:
   i Urban ii Rural

7. Type of Family:
   i Nuclear ii joint

Section II: Information of Baby and Obstetric

8. Sex of baby:
   i Male ii Female

9. Weeks of Gestation:
10. Birth Order:
11. Birth Weight of Baby:

12. Attendant ANC Visit:
   i Yes ii No
   i. If yes how many times did you visit ANC Clinic? …… times

   ii. If yes where did you visit ANC Clinic?
   a. Health post/PHC b. Teaching Hospital
   c. Private Hospital d. Government Hospital

13. Type of Delivery
   i Vaginal ii Instrumental Delivery
   iii Caesarean section

Section III: Question related to early breastfeeding practice

14. When did you start breastfeeding after delivery? :……..hours
15. Did you give anything other than breast milk to your baby?
   i Yes ii No
   i. If yes what have you given to your baby? ……

Thank You