

Factors Influencing Exclusive Breast Feeding Practice among the Mothers of Infants in Pokhara

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ABSTRACT

Exclusive breastfeeding means infant receives only breast milk and nothing else except for oral rehydration solution (ORS), medicines, vitamins and minerals for first six months of age. The prevalence of exclusive breastfeeding in our society is low and various underlying factors are responsible. The main aim of this study was to identify the factors influencing exclusive breastfeeding practice among the mothers of infant in Pokhara. A descriptive cross sectional study was conducted among 101 breastfeeding mothers having infant up to six months in the immunization clinics held in ward no. 12, 13, 14, 15 and 16 of Pokhara-Lekhnath metropolitan. Non probability purposive sampling technique was used. Researcher developed questionnaire were administered to the mothers and data collected. The data were analyzed with Chi square test using SPSS 20 software. The findings revealed that the prevalence of exclusive breastfeeding practice among the mothers of infant below six months old was 49.5 percent. The factors such as mode of delivery ($p < 0.001$), pre lacteal feeding ($p < 0.001$), time of initiation of breastfeeding ($p < 0.001$) and breast problems experience ($p = 0.004$) were found associated with the exclusive breastfeeding. It concludes that factors such as mode of delivery, pre lacteal feeding, time of initiation of breastfeeding and breast problems experience were found associated with EBF practice. Low birth weight of infants and higher education status of mothers did not influence on EBF. There is a need to provide information on prevention of breast related problems among the breastfeeding mothers for the promotion of EBF practice.

Key words: Exclusive breastfeeding, Infant, Mothers

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INTRODUCTION

Mother's breast milk is the first natural food for the infants. Exclusive breastfeeding (EBF) is the normal way of providing young infants with nutrients present in breast milk for healthy growth and development. EBF means infant receives only breast milk and nothing else except for oral rehydration solution, medicines, vitamins and minerals and is recommended to start breast feeding within first hour of birth and for six months.^{1,2}

Exclusive breastfeeding has positive impact on the health and wellbeing of the mother and infant.³ It is cheap, ecofriendly and helps in strengthening mother infant bonding, promotes the sensory and cognitive development, reduces bacterial contact in infants thereby decreasing infant mortality due to various diseases such as diarrhea, pneumonia, asthma, etc.⁴ Breastfeeding the babies for the first two years would help to prevent the death of more than 820000 children under age five annually.⁵ It also helps mothers in birth spacing, lowers the risk of the ovarian cancer, breast cancer, type II diabetes, and postpartum

depression. Despite of many advantages of exclusive breast feeding, the practice of exclusive breastfeeding is still low.^{6,7,8} Various factors have been associated with exclusive breastfeeding practice such as infant's sex, infant's birth weight, mother's education, mother's occupation, antenatal visits, place and mode of delivery, number of child birth, time of initiation of breast feeding, breast problems, etc. It is important for mothers to understand the factors influencing exclusive breastfeeding practice.

In USA, 22.4% of the infants have been exclusively breast feed.⁷ Similarly, in UK only 1.2% infants have been exclusively breast feed.⁸ In developing countries the prevalence of exclusive breast feeding is found to be 39% and it is 66% in Nepal according to NDHS 2016. Nepal is a developing country and the most cost effective action to promote the health and reduce mortality and morbidity of children is simply the recommended exclusive breastfeeding practice to the infants. Breastfeeding is, however, universal in Nepal but exclusive breastfeeding practice is lower. So, factors influencing exclusive breastfeeding practice are

important to be identified so that recommended exclusive breastfeeding can be made as universal as any breastfeeding practice in Nepal through breastfeeding promotion interventions.

METHODS

A descriptive cross sectional study design was used to identify the factors influencing exclusive breastfeeding practice among the mothers of infants in Pokhara. The study was conducted in Immunization clinics of Pokhara-Lekhnath Metropolitan city of Province 4. The city has 33 wards and each ward has an immunization clinic (total 33 clinics). The estimated average population of infants up to six months old visiting the immunization clinics from the data of last three months was found to be 461 which was taken from the registration book of the immunization clinics. In this study, mothers of infant from ward no. 12, 13, 14, 15 and 16 were selected purposively for the data collection. Altogether 101 mothers of infant's were selected from ward no. 12, 13, 14, 15 and 16 that i.e. 5, 29, 12, 18 and 37 respectively. Inclusion criteria included any mothers of infant below 6 months of age visiting the immunization clinic who gave written consent for the participation in the study and the mothers of twins infant were not included in the study as there might be chance of inadequate breast milk production to fulfill the needs of two infants by a single mother.

In this study, interview schedule was used as a research tool to collect the data. This questionnaire was developed by the researcher and validated by extensive literature review and seeking the opinion of subject matter from research experts. The research questionnaire was translated into Nepali version and again retranslated into English version with the help of bilingual expert. It was divided into two parts. The first part included ten items entailing the information on the socio-demographic factors while the second part comprised of nine items to identify other factors influencing EBF practice. The feasibility of the questionnaire was maintained by pretesting in population of sample size 25, in the Maternal and Child Health (MCH) clinic of Pokhara Academy of Health Sciences, Western Regional Hospital, Ramghat, Pokhara. The mothers of infants of age 0 to 6 months visiting for immunization were interviewed with

these questionnaires either before or after the immunization in one of the corner of the MCH clinic. After pretesting, few modifications were done such as deleting some irrelevant question such as marital status of mother. In some questions, more possible answers were added as options. Two questions were made multiple response questions i.e. question number 11 and question no. 17.

Permission for data collection was obtained from the president or head of each ward by submitting the letter. Purposes and objectives of the study were explained. Mothers of infants (0-6 months) were consented with verbal/written before collecting the data from them. Environment was made comfortable, free from any kind of biasness and pressure. Privacy was maintained by interviewing the mothers separately, not including the name of the mothers during data collection, coding the data and destroying all the data at the end of the study. The information provided by the mothers was used only for the purpose of study.

The data was collected through interview technique. The subjects were selected according to the inclusion criteria of the study. The subjects were allowed to refuse their participation in the study at any time. The data from the mothers were collected from 11 am to 2 pm in the respective wards either before or after the immunization of their baby. Data were collected from 2075/04/12 to 2075/04/18 in five different wards i.e. ward no.12,13,14,15 and16. The interview session was held for maximum of 15 minutes to each mother. If the expected mother, despite of the favorable situation, was found not practicing exclusively breastfeeding to her infant then, informal health teaching about importance of exclusive breastfeeding practice was provided and was encouraged and positive reinforcement were done to breastfeeding mothers.

All the collected data were arranged in order and checked for the completeness and correctness. Coding was done and data were entered and analyzed by using SPSS version 20. Findings of the study were described by using important parameters like frequency distribution and percentage. The association among the factors was established by using Chi square test.

RESULTS

Table 1: Socio demographic characteristics (n=101)

Variables	Frequency	Percentage
Age of mother		
< 20 years	11	10.9
20 -35 years	87	86.1
>35 years	3	3.0
Age of infant		
<1 – 3 months	73	72.3
4 – 6 months	28	27.7
Sex of infant		
male	58	57.4
female	43	42.6
Infant's birth weight		
Less than 2.5 kg	12	11.9
2.5 – 4.0 kg	86	85.1
More than 4 kg	3	3.0
Residency		
Municipality	101	100
Ethnicity		
Brahmin/ Chhetri	26	25.7
Janajati	43	42.6
Dalit/ Muslim	32	31.7
Education status		
Illiterate	9	8.9
Below SLC	46	45.5
SLC or higher	46	45.5
Mother's occupation		
Housewife	82	81.2
Non- housewife	19	18.8
Source of information on EBF		
Health worker	51	50.5
Non health worker	50	49.5

Table 1 shows that majority (86.1%) of the mothers was from 20 – 35 years. Nearly third quarter of the infants (72.3%) was of age up to three months. More than half (57.4%) of the infants were male. Majority of infants (85.1 %) had their birth weight 2.5 – 4.0 kg. All the mothers (100%) resided in municipality. More than one third (42.6%) of the mothers belonged to Janajati ethnic group. Nearly half (45.5%) of the mothers had education status either below SLC or SLC or higher. Majority of mothers (81.2%) was housewife. More than half (50.5%) of the mothers had received information on EBF from health workers.

Table 2: Feeding status of infants in last 24 hours (n=101)

Variables	Frequency	Percentage
In last 24 hours, infant was fed with,*		
Breast milk	98	97.0
Formula based milk	16	15.8
Water	10	9.9
Buffalo/cow's milk	3	3.0
Cerelac	2	2.0
Rice porridge	2	2.0

*multiple response question

Table 2 presents that, in last 24 hours, most of the infants (97%) was fed with breast milk either exclusively or with other foods such as formula based milk, buffalo/ cow's milk, water, cerelac or rice porridge. Only two percent of the infants were fed with cerelac and rice porridge.

Table 3: Comparison among Socio Demographic Factors Influencing EBF(n= 101)

Variables	Exclusive breast feeding			
	EBF		Non EBF	
	n	%	n	%
Age of mother (years)				
Below 20	6	54.5	5	45.5
20- 35	42	48.3	45	51.7
>35	2	66.7	1	33.3
Age of infant (in completed months)				
<1 – 3 months	38	52.1	35	47.9
4 – 6 months	12	42.9	16	57.1
Sex of infant				
Male	28	48.3	30	51.7
Female	22	51.2	21	48.8
Infant's birth weight (kg)				
<2.5	6	50.0	6	50.0
≥2.5	44	49.4	45	50.6

Residency				
Municipality	50	49.5	51	50.5
Ethnicity				
Brahmin/ chhetri	14	53.8	12	46.2
Janajati	21	48.8	22	51.2
Dalit/ Muslim	15	46.9	17	53.1
Education status				
Illiterate	7	77.8	2	22.2
Below SLC	22	47.8	24	52.2
SLC or higher	21	45.7	25	54.3
Occupation				
Housewife	40	48.8	42	51.2
Non housewife	10	52.6	9	47.4
Source of information on EBF				
Health worker	25	49.0	26	51.0
Non health worker	25	50.0	25	50.0

Table 3 depicts that mothers whose age was above 35 years practiced more EBF (66.7%) than the mother of other age groups. Mothers of age group 20 – 35 years were found less likely to practice EBF (48.3%). Younger infants (<1 – 3 months) were more likely to be exclusive breastfed (52.1%) than the older infants (4 – 6 months) i.e. 42.9 percent. This shows that as increased in infant’s age, exclusive breastfeeding practice decreased. Female infants were more likely to be exclusive breastfed (51.2%) than the male infants (48.3%). Infants of birth weight less than 2.5 kg were more exclusive breastfed (50%) than those with birth weight 2.5 kg or more (49.4%). It depicts that low birth weight did not influence on

EBF. Only 49.5 percent of mothers residing in municipality practiced EBF. Among the ethnic groups, Brahmin/ Chhetri had higher EBF practice (53.8%) than other ethnic groups. Dalit/ Muslim had the lowest EBF practice (46.9%). EBF practice was found highest among the illiterate mothers (77.8%) whereas it was found lowest among the mothers with SLC or higher education status (45.7%). Non housewife mothers were more likely to practice EBF (52.6 %) than the housewife mothers (48.8%). Mothers who had received the information on EBF from non-health worker had higher EBF practice (50.0%) than those who received the information from health worker (49.0%).

Table 4: Comparison among Obstetric Related Factors Influencing EBF(n=101)

Variables	Exclusive breastfeeding			
	EBF		Non EBF	
	n	%	n	%
No. of ANC visit				
<4	11	57.9	8	42.1
≥4	39	47.6	43	52.4
Place of delivery				
Home	5	62.5	3	37.5
Health institution	45	48.4	48	51.6
Parity				
Primiparous	18	40.0	27	60.0
Multiparous	32	57.1	24	42.9

Table 4 depicts that mothers who had ANC visit for four or more times had lower EBF practice (47.6%) than those who visited for less than four times (57.9%). Mothers who delivered at home had higher EBF practice rate (62.5%) than those who delivered at health institution (48.4%). Multiparous mothers were more likely to practice EBF (57.1%) than the primiparous mothers (40.0%).

Table 5 depicts that mode of delivery was found to be significantly associated with EBF ($p < 0.001$). EBF was

significantly associated with pre lacteal feeding ($p < 0.001$), time of initiation of breastfeeding ($p = 0.001$) and breast problems experience ($p = 0.004$).

However, there was no association of age of mother ($p = 0.643$), age of infant ($p = 0.813$), sex of infant ($p = 0.774$), ethnicity ($p = 0.864$), occupation ($p = 0.762$), source of information on EBF ($p = 0.922$), no. of ANC visit ($p = 0.417$) and parity ($p = 0.087$) with EBF practice.

Table 5: Association of factors influencing EBF practice

(n=101)

Variables	Exclusive breastfeeding EBF		Non EBF		χ^2 p value
	n	%	n	%	
Mode of delivery					
Spontaneous	44	71.0	18	29.0	<0.001*
Operative	6	15.4	33	84.6	
Prelacteal feeding					
Yes	0	0	34	100	<0.001*
No	50	74.6	17	25.4	
Time of initiation of breastfeeding					
Within 1 hour					0.001*
>1-24 hours	26	68.4	12	31.6	
>24 hours	16	51.6	15	48.4	
	8	25.0	24	75.0	
Breast problems experience					
Yes	10	29.4	24	70.6	0.004*

*Significant at p -value ≤ 0.05

Table 6: Prevalence of EBF practice among the mothers of infant in pokhara (n=101)

Variable	Frequency	Percentage
EBF	50	49.5
Non EBF	51	50.5

Table 6 presents that more than half of the mothers (50.5%) had not practiced exclusive breastfeeding.

Table 7 : Prevalence of EBF practice among the mothers of infant in last 24 hours (n=101)

Variables	Frequency	Percentage
EBF	73	72.3
Non EBF	28	27.7

Table 7 depicts that nearly third quarter of the mothers (72.3%) had practiced EBF in last 24 hours.

DISCUSSION

This study attempts to identify those factors which influence on exclusive breastfeeding practice. With regards to the prevalence of exclusive breastfeeding, in the present study, 49.5 percent of mothers of infants had practiced exclusive breastfeeding. This finding is contrast to the finding of the Nepal demographic health survey (NDHS) 2016.⁶ This might be due to differences in the sample sizes and coverage areas. The sample size and coverage area in NDHS 2016 were larger in comparison with this study as the NDHS 2016 covered the whole population of Nepal. This finding is lower in comparison to the study conducted in western Tanzania.⁹ However, the prevalence in this study is found higher than those in the studies conducted in south east Nigeria, Cross

River state, Nigeria.^{10, 11} The prevalence of 24 hours EBF practice among the mothers of infants, in this study, was 72.3 percent which is about two times higher in comparison with the similar study conducted in Bangladesh.¹²

This study revealed that mothers whose age was above 35 years practiced more EBF (66.7%) than the mother of other age groups. Conversely, EBF practice was found lowest among the mothers aged above 35 years in the studies conducted in south west Ethiopia and south east Nigeria.^{10,13} In the present study, younger infants (<1 – 3 months) were more likely to be exclusive breastfed (52.1%) than the older infants (4 – 6 months) i.e. 42.9 percent which is similar to the study conducted in south east Nigeria.¹⁰ This showed that as increased in infant's age, exclusive breastfeeding practice decreased. In the current study, female infants were more likely to be exclusive breastfed (51.2%) than the male infants (48.3%) which is similar to the study conducted in Bangladesh.¹²

In the present study, EBF practice was found highest among the illiterate mothers (77.8%) whereas it was found lowest among the mothers with SLC or higher education status (45.7%) which is contrast to the study conducted in Tanzania where the mothers with secondary and above education status had the highest EBF practice.⁹ So, higher education status of mothers did not influence on EBF practice in this study.

In the current study, non-housewife mothers were more likely to practice EBF (52.6 %) than the housewife mothers (48.8%) which is similar to the study conducted in Bangladesh.¹² In the present study, mothers who had ANC visit for four or more times had lower EBF practice (47.6%) than those who visited for less than four times (57.9%). Mothers who delivered at home had higher EBF practice rate (62.5%) than those who delivered at health institution (48.4%). This might be because of the comfortable environment they received at home and encouragement and support from the family members. In this study, multiparous mothers were more likely to practice EBF (57.1%) than the primiparous mothers (40.0%).

This study revealed no association between age of mother and EBF practice ($p= 0.643$) which is contrast with the similar study conducted in Northeastern Tanzania ($p= 0.03$).¹⁴ This study revealed no association between EBF practice and age of infant ($p = 0.813$) which is contrast to the study conducted in south east Nigeria ($p= 0.01$).¹⁰ This study also revealed that sex of infant had no association with EBF practice ($p= 0.774$) which is similar with the study conducted

in the Southeast Ethiopia ($p= 0.998$).¹³ This study revealed that there was no association between mother's occupation and EBF practice ($p= 0.762$) which is contrast to the study conducted in Northeastern Tanzania ($p= 0.005$).¹⁴ Also, this study showed no association between EBF practice and number of ANC visit ($p= 0.417$) which is similar to the study conducted in southeast Ethiopia ($p= 0.349$).¹³

This study showed no association of parity with EBF practice ($p= 0.087$) which is similar to the study conducted in south east Ethiopia ($p= 0.124$).¹³ However, this study showed association between mode of delivery and EBF practice ($p<0.001$) which is similar to the study conducted in south east Nigeria ($p= 0.01$)¹⁰ and is found contrast to the study conducted in south-east Ethiopia ($p= 0.605$) and Bangladesh ($p= 0.067$).^{12,13} This might be due to absence of normal physiological process of labor to take place in operatively delivered mothers. Also the pain on the surgical site might cause hindrance in adequate milk production among the mothers who delivered operatively.

This study revealed that there was association between time of initiation of breastfeeding and EBF practice ($p= 0.001$) which is similar with the study conducted in Goba district of Southeast Ethiopia ($p= 0.039$)¹³ and with the study conducted in south east Nigeria ($p= 0.03$).¹⁰ This study revealed the association between breast problems experienced by the mothers and EBF practice ($p= 0.004$) which is similar with the study conducted in peri-urban district of Ghana ($p<0.001$). The breast problems such as engorged breast, cracked nipple, etc. were found to influence the EBF practice among the mothers. The breast problems might lead to unwillingness among the mothers to breast feed their infants due to pain in the breast. This study showed no association between EBF practice and source of information ($p= 0.922$) which is contrast with the study conducted in peri urban district of Ghana ($p<0.001$).¹⁵

CONCLUSION

The study concluded that the prevalence of exclusive breastfeeding was 49.5 percent. The factors such as mode of delivery, pre lacteal feeding, time of initiation of breastfeeding and breast problems experience were found associated with EBF practice. Low birth weight of infants and higher education status of mothers did not influence on EBF. There is a need to provide information on prevention of breast related problems among the breastfeeding mothers for the promotion of EBF practice.

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REFERENCES

1. World Health Organization. Breastfeeding [document on the Internet]. [cited 2018 Apr 11]. Available from: http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/
2. United Nations Children's Fund. Breastfeeding [document on the internet]; 2015 [updated 2015 July 29; cited 2018 April 14]. Available from: https://www.unicef.org/nutrition/index_24824.html
3. Adhikari T, Subedi I. Knowledge and practice on breastfeeding among mothers of infants. *J Food Sci. Technol. Nepal*. 2013 [cited 2018 April 13]; 8(71-74). Available from: <https://doi.org/10.3126/jfstn.v8i0.11754>
4. United Nations Children's Fund New York. Infant and young child feeding programming guide [Internet]. New York; 2012 [updated 2012 June; cited 2018 June 14]. Available from: https://www.unicef.org/nutrition/files/Final_IYCF_programming_guide_June_2012.pdf
5. World Health Organization. Global targets 2025 [Internet]: World Health Organization; 2014 [updated 2014; cited 2018 April 11]. Available from: <http://www.who.int/nutrition/global-target-2025/en/>
6. Ministry of Health, Nepal, New ERA, ICF. Nepal demographic and health survey 2016 [Internet]. Kathmandu, Nepal: Ministry of Health, Nepal; 2017 [updated 2017; cited 2018 June 12]. Available from: <https://www.dhsprogram.com/pubs/pdf/fr336/fr336.pdf>
7. Jones JR, Kogan MD, Singh GK, Dee DL, Strawn LMG. Factors associated with exclusive breastfeeding in the United States. *AAP news and journals gateway*. 2011 [cited on 2018 April 07]; 128(6). Available from the American Academy of Pediatrics Articles: <https://www.pediatrics.aappublications.org/content/128/6>
8. Quigley MA, Kelly YJ, Sacker A. Breastfeeding and hospitalization for diarrheal and respiratory infection in the United Kingdom millennium cohort study. *AAP news and journals gateway*. 2007 [cited on 2018 07]; 119(4). Available from the American Academy of Pediatrics Articles: <https://www.pediatrics.aappublications.org/content/119/4>
9. Nkala TE, Msuya SE. Prevalence and predictors of exclusive breastfeeding among women in Kigoma region, western Tanzania: a community based cross sectional study. *Int breastfeeding J [Internet]*. 2011 Nov [cited 2018 Jun 09]; 6(17). Available from: <https://doi.org/10.1186/1746-4358-6-17>
10. Onah S, Osuorah DIC, Ebenebe J, Ezechuewu C, Ekwochi U, Ndukwu I. Infant feeding practices and maternal sociodemographic factors that influence practice of exclusive breastfeeding among mothers in Nnewi south east Nigeria: a cross sectional and analytical study. *IBFJ*. 2014 [cited on 2018 July 16]; 9(1): Available from: <https://www.internationalbreastfeedingjournal.biomedcentral.com/articles/10.1186/1746-4358-9-6>
11. Ella RE, Ndep, AO, Akpan, MI. Factors affecting exclusive breastfeeding practice in rural committee of Cross River state, Nigeria. *Int J humanities social sci and edu*. 2016 [cited on 2018 April 29]; 3(4): 101-110. Available from: <https://www.arcjournals.org/pdfs/ijhsse/v3-i4/12.pdf>
12. Joshi PC, Angdembe MR, Das SK, Ahmed S, Faruque ASG, Ahmed T. Prevalence of exclusive breastfeeding and associated factors among mothers in rural Bangladesh: a cross sectional study. *Int Breastfeeding J [Internet]*. 2014 May [cited 2018 Aug 29]; 9(7). Available from: <https://doi.org/10.1186/1746-4358-9-7>
13. Setegn T, Belachew T, Gerbaba M, Deribe K, Deribew A, Biadgilign S. Factors associated with exclusive breastfeeding practices among the mothers in Goba district, south east Ethiopia: a cross-sectional study. *Int Breastfeeding J [Internet]*. 2012 Nov [cited 2018 Jul 19]; 7(17). Available from: <https://doi.org/10.1186/1746-4358-7-17>
14. Maonga AR, Mahande MJ, Damian DJ, Msuya SE. Factors affecting exclusive breastfeeding among women in Muheza district Tanga northeastern Tanzania: a mixed method community based study. *Maternal and child H J [Internet]*. 2016 Jan [cited 2018 Aug 05]; 20(1): pp 77-87. Available from: <https://doi.org/10.1007/s10995-015-1805-z>
15. Mensah KA, Acheampong E, Anokye FO, Okyere P, Breampong EA, Adjei RO. Factors influencing the practice of exclusive breastfeeding among nursing mothers in peri-urban district of Ghana. *BMC research notes*. 2017 [cited on 2018 July 16]; 10(446): Available from: <https://www.biomedcentral.com/articles/10.1186/s13104-017-2774-7>