Prevalence of Exclusive Breastfeeding and Factors Influencing Infant Feeding Practices among Mothers of Central Nepal

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ABSTRACT

Introduction

Infants should be exclusively breastfeed for the first six months of life to achieve optimal growth, development and health. Considered as an ideal food for infants, it also helps to fight disease like diarrhea and pneumonia. In Nepal only two third of the mother exclusively breastfeed their child in the past 24 hrs. The aim of this study is to find prevalence of exclusive breastfeeding and factors influencing infant feeding practices among mothers.

Methods

A cross-sectional study was conducted in Bharatpur, Chitwan among 290 lactating mothers at the Immunization Center of Bharatpur Hospital Chitwan. Mothers were interviewed on details regarding feeding of their child.

Results

The mean age of the study population was 25.6 ± 4.5 years. A majority of the respondents were <30 years of age (234, 82.4%), primipara (175, 61.6%) and living in a joint family (199, 70.1%). Exclusive breast feeding (EBF) was practiced by 203 (71.5%) mothers on the current infant. Low production of milk was the commonest reason for not practicing EBF (66.6%). Over two-thirds (195, 68.7%) had started breastfeeding within 1 hour of delivery. Cesarean section was the most frequent cause (71, 88.6%) for late initiation of breastfeeding.

Conclusions

The study revealed that Prevalence of Exclusive Breast Feeding is 71.5% and 93.5% of respondents had heard of EBF. Low production of milk was the commonest reason for not practicing EBF (66.6%). Still 28.5% mothers did not practice EBF, 7.7 %mothers had not heard of EBF, indicating a need for EBF promotion which could be carried out within the existing healthcare system such as the antenatal and vaccination clinics.

Keywords: exclusive breastfeeding; infants; mother; practiced.

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INTRODUCTION

According to WHO, exclusive breastfeeding means the infant receives only breast milk. No other liquids or solids are given- not even water- with the exception of oral rehydration solution, or drops/ syrups of vitamins, minerals, or medicines.¹ For the first six months of life, a baby should only be breastfed in order to obtain the best possible growth, development, and health.2 Considered an ideal food for infants, besides providing nutrients, it also contains antibodies and immunoglobulins that help to fight diseases like diarrhea and pneumonia.1Starting breastfeeding stimulates prolactin secretion and increases milk production.3 Mothers should start breastfeeding within an hour of giving birth, continue it exclusively for six months, and then supplement with safe, nutritious foods until the child is at least two years old.4 In addition, breastfeeding decreases the baby's risk of obesity and overweight, even while decreasing the mother's risk of ovarian and breast cancer in the long term.5

However, in Nepal, only two third of the mother exclusively breastfeed their child in the past 24 hours (66%).⁶ Poor infant feeding practices have been associated to undernutrition, as seen by stunting and wasting, and mortality in Nepal and other countries in South Asia.⁴ According to the Nepal Demographic Health Survey (NDHS) of 2011 and 2016, there is a slight reduction from 70% to 66% respectively.⁷

Malnutrition possess a serious threat to millions of children worldwide. It is estimated that if breastfeeding rates worldwide reached 90%, 13% of all infant deaths in low- and middle-income countries would be prevented.⁸ Nepal is one of the thirty-four countries that account for 90% of the world's child malnutrition incidences.⁹ 36% of children are stunted, 10% are wasted, and

27% are underweight, according to NDHS.¹⁰ For our country Nepal to meet the Sustainable Development goal we have to overcome hindering factors associated with the high Infant Mortality Rate.This study aims to find the prevalence of breastfeeding among lactating mothers in Bharatpur. Also to evaluate the associated factors that hinder exclusive breastfeeding and to assess the complementary feeding practices in Bharatpur.

METHODS

A cross-sectional study was conducted among 290 lactating mothers at the Immunization Center of Bharatpur Hospital Chitwan. Prior to the main study to check the reliability and validity of the questionnaire pilot study were done among 23 (10% of the total sample size). Then using SPSS-20 Cronbach's alpha was calculated, and its value was 0.793. Also, consulting other research expert questionnaires was finalized. A predesigned questionnaire Non-probability, was used. convenient sampling technique was used. Prevalence of Exclusive breastfeeding (P) = 0.757, q=1 -0.757=0.243, z score value at 95% CI=1.96 error (e) =5%=0.05. The sample size was determined by using the formula (n) = $z^2pq/e^2=1.96^2x0.757x0.243/$ $(0.05)^2$ =283. The minimum sample size for this study was 283. Ethical approval was taken from the Institutional Review Committee of College of Medical Sciences (COMSTH-IRC/2021-67). Mothers of children <1 year of age who are breastfeeding were enrolled and infants suffering from any congenital abnormalities were excluded. Data were collected by interview. The interview schedule had socio-demographic information and questions on the practices of mothers regarding exclusive breastfeeding, and factors associated with exclusive breastfeeding. The respondents were informed about the purpose of the study, verbal consent was obtained from each mother before the interview, who was willing to participate in the study. Data analysis was done using SPSS 18 software. Descriptive statistics including to

summarize mother's socio-demographic and practice related information. Univariate analysis was carried out to identify any factors that were associated with Exclusive Breastfeeding.

RESULTS

Out of a total 290 mothers that were initially interviewed, data from only 284 respondents was used for further analysis, because 6 of them had incomplete data. The mean age of the study population was 25.6 ± 4.5 years (Range: 17-42 years).

Table 1 shows the sociodemographic characteristics of the study participants. A majority of the respondents were <30 years of age (234, 82.4%), primipara (175, 61.6%), and living in a joint family (199, 70.1%). More than one-third (112, 39.4%) of the mothers were from the Janajati ethnicity. A vast majority of the mothers (211, 74.3%) were homemakers, and only 15 (5.3%) were illiterates. The median age of the infant during the interview was 10 months (4-14 months).

Table 1. Sociodemographic characteristics of the study population (n = 284).

study population (n = 264).			
Variables	Summary statistic		
Age category, n (%) <30 years ≥ 30 years	234 (82.4) 50 (17.6)		
Parity, n (%) Primi Multi	175 (61.6) 109 (38.4)		
Family type, n (%) Nuclear Joint	85 (29.9) 199 (70.1)		
Ethnicity, n (%) Brahmin Chhetri Janjati Others	71 (25.0) 38 (13.4) 112 (39.4) 63 (22.2)		
Religion, n (%) Hindu Buddhist Muslim Christian	223 (78.5) 42 (14.8) 9 (3.2) 10 (3.5)		

Occupation, n (%) Homemaker Service Business Agriculture	211 (74.3) 35 (12.3) 21 (7.4) 17 (6.0)
Educational status, n (%) Illiterate Up to primary education Up to higher secondary education Up to graduation	15 (5.3) 51 (18.0) 190 (66.9) 28 (9.9)
Sex of the infant, n (%) Male Female	167 (58.8) 117 (41.2)
Age of the infant (months), median (IQR)	10 (4 – 14)

Table 2. Characteristics related to exclusive breast feeding (n = 284).

Variables	Summary statistic	
Heard about exclusive breast feeding (EBF), n (%)	262 (92.3)	
Practiced EBF on the current infant, n (%) Yes No	203 (71.5) 81 (28.5)	
Reasons for not practicing EBF, n (%) # Low production of milk Working mother Painful breasts Difficulty in sucking NA	54 (66.6) 9 (11.1) 8 (9.9) 2 (2.5) 8 (9.9)	
Time of starting breast feeding after delivery, n (%) Less than 1 hour More than 1 hour NA	195 (68.7) 80 (28.2) 9 (3.1)	
Reasons for late initiation of breast feeding, n (%) ¹ Cesarean section Severe pain Baby in NICU NA	71 (88.6) 3 (3.8) 3 (3.8) 3 (3.8)	

[#] Out of 81 mothers that did not practice EBF

Exclusive breast feeding (EBF) was practiced by 203 (71.5%) mothers on the current infant. Low

[!] Out of 80 mothers that had the time of initiation of breast feeding >1 hour NA: Information not available

production of milk was the commonest reason for not practicing EBF (66.6%). Working mothers, painful breasts, and difficulty in sucking were the other reasons. [Table 2] Over two-thirds (195, 68.7%) had started breast feeding within 1 hour of delivery. Among the mothers that had late initiation of breast feeding, having undergone a cesarean section was the most frequent cause (71, 88.6%).

Furthermore, univariate analysis was carried out to identify any factors that were associated with EBF. None of the maternal factors (age, parity, family type, ethnicity, religion, educational status, occupation, and prior information about EBF) was found to be significantly associated with EBF. [Table 3] Sex of the child was also not found to be associated with EBF. Multivariate regression was carried out as none of the factors were found to be associated with EBF in univariate analysis.

Table 3. Factors associated with exclusive breast feeding.				
Variables	Exclusive b	Exclusive breast feeding		
	Yes (n = 203)	No (n = 81)	P-value [#]	
Age <30 years ≥ 30 years	166 (81.3) 37 (18.2)	68 (84.0) 13 (16.0)	0.73	
Parity Primi Multi	122 (60.1) 81 (39.9)	53 (65.4) 28 (34.6)	0.42	
Family type Nuclear Joint	63 (31.0) 140 (69.0)	22 (27.2) 59 (72.8)	0.57	
Ethnicity Brahmin Chhetri Janjati Others	45 (22.2) 28 (13.8) 85 (41.8) 45 (22.2)	26 (32.1) 10 (12.3) 27 (33.3) 18 (22.3)	0.34	
Religion Hindu Buddhist Muslim Christian	164 (80.8) 28 (13.8) 5 (2.5) 6 (3.0)	59 (72.8) 14 (17.3) 4 (4.9) 4 (4.9)	0.37	
Occupation Homemaker Service Business Agriculture	155 (76.4) 20 (9.9) 16 (7.9) 12 (5.9)	56 (69.1) 15 (18.5) 5 (6.2) 5 (6.2)	0.25	
Educational status Illiterate Up to primary education Up to higher secondary education Up to graduation	12 (5.9) 35 (17.2) 140 (69.0) 16 (17.9)	3 (3.7) 16 (19.8) 50 (61.7) 12 (14.8)	0.27	
Sex of the infant Male Female	116 (57.1) 87 (42.9)	51 (63.0) 30 (37.0)	0.42	
Heard about EBF	187 (93.5)	75 (93.8)	1.0	

[#] Fisher's exact test

DISCUSSION

This study aimed to identify the prevalence of exclusive breastfeeding and factors influencing infant feeding practices among Nepalese mothers.

In this study, the prevalence of Exclusive Breast Feeding (EBF) was 71.5%, which is in alignment with the study by Bhandari et al conducted in Dhulikhel Municipality (75.7%).⁴ Studies from Africa such as the ones done in Nigeria and Ethiopia mentioned EBF prevalence to be 66.7%¹¹ and Ethiopia 82.2% ¹² respectively. A study done in Ghana found that the prevalence of EBF was 66.0%. ¹³ Also similar findings were observed in studies from Northwest Ethiopia (60.8%) Central Ethiopia (68.6%), and Hossana town (70.5%). ¹⁴⁻¹⁶

The prevalence of EBF in this study was higher than in other studies conducted in Nepal. A study conducted by Mukta et al tertiary-level reported a prevalence of (45%)⁵, whereas Dharel and Dhugana et al reported 23.2%, in a study done in mid-western and eastern regions of Nepal.¹⁰ Eastern Ethiopia (45.8%)¹⁷ Other study findings Bahirdar city (50.3%)¹⁸ and (49.1%) and Muta town¹⁹, East Gojjam zone (50.1%).²⁰

These findings show that there are significant cultural, geographical, and socioeconomic differences in exclusive breastfeeding habits both globally and within Nepal, as well as differences in the study population and study setting. A high proportion of mothers with a higher educational level would be the reason for the high prevalence of EBF in our study. Exclusive breastfeeding is very important for the growth of children.²¹ The new global EBF target is above 60% by 2030 and only a few countries have met the target.²²

Colostrum (first milk), which is suitable during this early period for a baby because it contains a high concentration of protein and another nutrient the body needs, is also rich in antiinfective factors that protect the baby against respiratory infections and diarrheal diseases, so early breastfeeding initiation is extremely important.²³

The commonest reason for not practicing EBF in our study was less production and secretions of milk (66.6%). A study in Bangladesh by Joshi PC et al has similar findings with 64% of the mothers having inadequate secretion.⁸ Nutrition of the mother and position of breastfeeding to infant have a crucial role to enhance milk flow. So after the delivery mother has to take in extra calorie which contains lots of protein, vitamin, and minerals.

The majority of our research participants (68.7%) practiced early initiation of breastfeeding within 1 hour of delivery. Nepal Demographic Health Survey (NDHS) has reported that 55% of children are breastfed within the first hour of life ²⁴which is higher in our study. Health education and awareness programs in health institutions are going well, and therefore would have an effect on the higher rates of early initiation of breastfeeding. A similar rate (63.4%) was found in the study by Bernard et al¹³. In a study done in the Rupandehi district in Nepal, Khanal and Scott reported a slightly lower rate (42.2%). One reason may be that some mothers had traditional birth attendant assistance during delivery. ¹⁸

The Delay in early initiation of breastfeeding in this study was a cesarean section, severe pain, baby in NICU. This also affects the duration of exclusive breastfeeding practice could be that some mothers also had delivery assisted by a traditional birth attendant.²⁵

In our study, 81.3% of mothers less than 30 years of age practiced EBF whereas Exclusive Breastfeeding practice mothers among age >35 (66.7%)thanmothers of otherage group study done by Joshi et.²⁶ As mentioned by Bernard Exclusive Breast Feeding were high when the mother's age is over to 20 years¹³. Asemahagn presented that practice of the Exclusive breastfeeding was more

in mothers of age group 30 or more, the reason that mothers get to experience an increase in age.²⁷ But it was not statistically significant.

Cesarean section was the reason for late initiation of breast milk was found in 88.6% of mothers in our study. Different studies also stated that cesarean delivery is one of the main causes to delay initiation of Breast Feeding. ²⁸ ²⁹ The study of Chandrashekhar in western Nepal stipulated 27.5% of mothers had problems breastfeeding like pain in the nipple.³⁰

In contrast to his study, only 9.9% of mothers had experienced problem feeding in the study. Now more women are aware. Health education during antenatal visits and advice on breast care help to minimize the problem of feeding, which is being run in Maternal and Child Health Care nowadays properly. Most of the deliveries are conducted at home with the help of family members. Pregnant women rarely attend medical facilities for antenatal treatment and guidance.³¹

This study does not find differences with caste to practice Exclusive Breast Feeding, whereas Khanal V found a delay in initiating breastfed within one hour in the middle caste and Dalit caste groups.²⁵There need to have more studies regarding caste and socio-culture difference start breastfeeding within one hour. Mothers' occupation is also found one of the influential factors in the early initiation of exclusive breast feeding. In the study majority of mothers are homemakers 74.3% and practiced Exclusive breastfeeding. Our studies have shown that a large number of Male infants are exclusively breastfed (57.1%) than female infants (42.9%). Chakravarty has also reported that there is a gender bias in breastfeeding in Egypt.³² Whereas it is found by the study of Joshi et al, female infants were more likely to be exclusively breastfeeding than male infants. Although this finding was found to be statistically not significant.26

In this study, primiparous mother practice exclusive breastfeeding (60.1%) compare to Multiparous mothers (39.9%) which is in contrast to the study done by Timilsina. ²⁶ In the current study, Homemaker mothers were more likely to practice EBF (76.4%) than job-holder mothers which are similar to the study done in Ethiopia 79.6%. ²⁰ This result is similar to studies from Malaysia, ³³ the Netherlands ³⁴ Utah State³⁵, Cameroon ³⁶, Ghana ³⁷, and Debre Markos, Ethiopia ³⁸ it is due to homemakers staying with their kids and they have time for breastfeeding. Though the finding was similar, it was not statistically significant.

In addition to the above factors, mothers who delivered normally were two times more likely to exclusively breastfeed than those who delivered by a cesarean section which was similar to a study done by Dachew Assefa Berihun. Though it was not statistically significant in our study.

This study aimed to identify the prevalence of exclusive breastfeeding and factors influencing infant feeding practices among Nepalese mothers.

CONCLUSIONS

The study revealed that the Prevalence of Exclusive Breast Feeding is 71.5%. 93.5% of respondents had heard of EBF. Low production of milk was the commonest reason for not practicing EBF (66.6%), working mothers, painful breasts, and difficulty in sucking were the other reasons. We have to encourage women to have a healthy diet and initiation of breastfeeding should be supported by hospital staff.

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