



ORIGINAL RESEARCH PAPER

Pulmonology

Knowledge and practice of Breastfeeding and its associated factors among mothers having 6-24 months of children in slum areas of Kathmandu valley

KEY WORDS:

Exclusive Breastfeeding, Slum areas, 6-24 months children

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ABSTRACT

Introduction: There is ample evidence that early initiation of breastfeeding, preferably within the first hour after birth has a significant effect on reducing overall neonatal mortality. This study was carried among mothers living in slum areas of Kathmandu valley out to assess the Exclusive Breastfeeding (EBF) status and its associated factors.

Methodology: A descriptive cross-sectional study design was used for this study. Mothers who had children between 6-24 months children of age were interviewed in this study. A stratified sampling technique was used with a total sample size of 230. Chi-square and bivariate logistic regression was used to measure the strength of association among each independent and dependent variable.

Results: The EBF rate for 6-24 months of children in the study area was 49.1%. Mother's education, ethnicity, father's occupation, information about breastfeeding, place of delivery, mode of delivery, colostrums feeding within 1 hour, liquid/solid feeding practice and awareness of EBF are significantly associated with status of EBF.

Conclusion: As the association between a mother's educational status and her likelihood of choosing EBF increases, long-term approaches to prioritizing education for women and girls should be explored.

Introduction

Exclusive breastfeeding (EBF) is the practice of feeding infants only breast milk for the first six months. EBF is crucial since human milk contains nutrients, living cells and defensive factors which enable infants to have better immunity, and optimum physical and mental development. Exclusively breastfed children are at a much lower risk of infections. It is the most cost effective intervention to reduce infant morbidity and mortality worldwide. EBF provides all infants nutritional and fluid needs in the first six months and is a perfect combination of proteins, fats, carbohydrates and fluids (Tewabe, 2016).

The World Health Organization (WHO) recommends EBF (EBF) up to six months of age. During this six-month period, no liquid, semisolid or solid food or breastfeeding substitute should be given to the infants except for medicine and/or oral rehydration solution. EBF has been considered beneficial to the health and well-being of infants and mothers.

EBF offers many short and long-term health and nutrition benefits. In the short term, it is the best source of nutrition, and supports optimum growth and development of the infant. In the long term, EBF is likely to protect from obesity, type-2 diabetes, and is associated with increased intelligence quotient scores. In low and middle income countries where supply of clean water is limited and hygiene of the mother and child is poor, substituting breast milk with other fluids or food is likely to introduce pathogens resulting in infection-related infant mortality and morbidity.

Globally, only 38% of infants aged 0 to 6 months are exclusively breastfed. Recent analyses indicate that suboptimal breastfeeding practices, including non-EBF, contribute to 11.6% of mortality in children under 5 years of age. This was equivalent to about 804,000 child deaths in 2011.

The Nepal Demographic Health Survey (NDHS) 2011 indicates that EBF in children has increased to 70% from 53% in 2006, and almost all children are still breastfed at 2 years of age. Children under six months who are not exclusively breastfeeding are

consuming water, other milks and complementary foods, in roughly equal proportions, in addition to breast milk. It is interesting to note that about 20% of infants 2-3 months old are given water or other milks in addition to breast milk.

To improve EBF, factors influencing its practice have to be identified. The determinants of EBF in resource poor settings of Nepal have not been fully assessed. In the scenario of increasing urbanization and increasing inequality it is important to determine the status of such indicators in urban areas in order to implement appropriate programs. Therefore, this study will obtain information about EBF status and its associated factors in selected slum areas of Kathmandu valley, which will be helpful to initiate corrective measures of the problem to the governmental and non-governmental organization.

Methodology

A descriptive cross-sectional study was conducted among mothers having children aged 6-24 months in selected slum areas of Kathmandu valley. From the 75 slum areas having been identified so far around the periphery of Kathmandu Valley, eight areas were selected purposively to carry out this research work. Primary data were obtained from the participants of study subjects during the data collection. Data were collected during home visits by face-to-face interview of the selected mothers.

The pretested and validated semi-structured questionnaire adapted from the study done by Amanuel Tigistu on exclusive breastfeeding and associated factors among infants under six months of age in the pastoral community of dolo ado district, Ethiopia, conducted on July, 2015 was used. The questionnaires were initially prepared in English and then translated and contextualized to the local situation.

If the eligible mother was absent from the home during three consecutive visits to a given household then the household were considered as non-respondents. Age of the child was calculated from the date of birth to the completed years up to the date of the survey.

The sample size for this study was determined using a cross-sectional formula for infinite population, considering the prevalence rate of EBF as 70 % (NDHS, 2011) with 95% confidence interval, 5% of allowable error. The calculated sample size was 224, and with a presumed 10% non-response rate, the total sample size was 246. Thus, the sample size was fulfilled with 230 samples and 16 samples were missing in three consecutive visits.

The research questionnaire had a section on knowledge on breastfeeding. The knowledge of six items regarding EBF was assessed. Each items had categorical responses of 'yes' or 'no'. A correct response was scored as '1', whereas a wrong response was scored as '0'. Total knowledge score ranged from 0 to 6, with higher scores indicating greater knowledge. A score of less than 50% was considered as "unsatisfactory", 50% to less than 75% as "good", while a score 75% or more was considered as "excellent".

Verbal consent was secured from study participants in their own language after explaining the purpose of the study, potential risks, benefits of participating in the study and the right to withdraw from the study at any time. The participants were also assured about the confidentiality of the data. The obtained results were used only for the purpose stated in the study. No any discrimination or bias was done on the basis of caste, sex, religion during data collection.

Data were checked, rechecked and edited daily for the validation, completeness and consistency. Non overlapping numerical code was given for each question. Quantitative data were entered, coded, and analyzed using (SPSS version 16.0). Descriptive statistic including proportion, frequency distribution, mean and standard deviation were used to describe the data on the sample population. Bivariate analysis and one-way ANOVA was used to measure the strength of association among each independent and dependent variable. P-value <0.05 was considered as the cutoff point for statistical significance.

Findings

The study was conducted in the slums of the Kathmandu District. The sites are listed in Table 1. The mean age of the respondents was 26 years (SD 3.13 years) ranging from 16 years to 36 years. Majority of the mothers (35.7%) were illiterate with the majority of them being Hindu. The other demographic characteristics are depicted in Table 2.

Table:1 List of Study Sites and Sample Size in each

Name of slum areas	Sample size (n)
Sankhamul	24
Manohara	50
Balkhu	23
Sinamangal	62
Thapathali	25
Teku	19
Balaju	8
Maharajgunj	19
Total	230

Table 2: Socio-economic and demographic characteristics of mothers (n=230)

Variables	Frequency	%
Completed Age of mother in years		
<19 years	2	0.9
20-29 years	205	89.1
30-34 years	20	8.7
>35 years	3	1.3
Total	230	100.0
Educational status		

Illiterate	82	35.7
Read and write	60	26.1
Primary education	44	19.1
Lower secondary education	20	8.7
Secondary education	14	6.1
Higher education	10	4.3
Total	230	100.0
Religion		
Hindu	151	65.7
Muslim	10	4.3
Buddhist	33	14.3
Christian	36	14.3
Total	230	100.0
Ethnicity		
Brahmin	13	5.7
Chhetri	17	7.4
Dalit	23	10.0
Janajati	107	46.5
Madhesi	61	26.5
Others	9	3.9
Total	230	100.0
Mother's Occupation		
Daily wages	50	21.7
House (wife) maker	173	75.2
Farmer	1	0.4
Business	6	2.6
Total	230	100.0
Husband's Occupation		
Daily wages	120	52.2
Business	69	30.0
Farmer	2	0.9
Foreign employment	34	14.8
Others	5	2.2
Total	230	100.0
Average Monthly Income		
less than 5000	20	8.7
5,000-10,000	125	54.3
10,000-15,000	61	26.5
15,000-20,000	22	9.6
more than 20,000	2	0.9
Total	230	100.0
Min.: 3000 & Max.: 35000		

Majority of the mothers (96.5%) knew about breastfeeding. Among these, the major source of information was health post i.e. 95.0% and the remaining were informed by Female Health Community Volunteers i.e. 5.0%.

Table 3: Knowledge score of the mothers (n=230)

Variables	Frequency	%
Unsatisfactory	119	51.7
Good	87	37.8
Excellent	24	10.4
Total	230	100.0

Overall mother's knowledge regarding breastfeeding was good among 37.8% and excellent among 10.4% of them while it was unsatisfactory among 51.7% of the mothers as shown in Table 3. All of the participants (100%) had knowledge regarding what colostrum was. Similarly, 8.7% of the participants were aware of putting baby to the chest of mother (i.e. Kangaroo Care) after more than one hour to allow the mother to rest and 60.0% of the

participants had knowledge of feeding colostrum to the baby. Likewise, only 47.4% of the participants had knowledge that breast milk alone without even water can sustain the baby for six months. Similarly, only 45.7% of the mothers were aware about breastfeeding playing a significant role to protect their baby from illness and only 4.3% of the mothers were aware about continuing breastfeeding can help the mother not to get pregnant.

Table 4: Bivariate analysis on factors associated with status of EBF

Variables	Practice EBF		P-value
	Yes	No	
Gender of child			
Male	48.8%	51.2%	1.000
Female	49.5%	50.5%	
Age of mother in years			
<19 years	0.0%	100.0%	Ref
20-29 years	50.2%	49.8%	0.960
30-34 years	45.0%	55.0%	1.000
>35 years	33.3%	66.7%	1.000
Educational status			
Illiterate	35.4%	64.6%	Ref
Read and write	40.0%	60.0%	1.000
Primary education	50.0%	50.0%	1.000
Lower secondary education	85.0%	15.0%	<0.001*
Secondary education	78.6%	21.4%	0.024*
Higher education	100.0%	0.0%	0.001*
Ethnicity			
Brahmin	92.3%	7.7%	Ref
Chhetri	82.4%	17.6%	1.000
Dalit	30.4%	69.6%	0.007*
Janajati	55.1%	44.9%	0.359
Madhesi	23.0%	77.0%	<0.001*
Others	77.8%	22.2%	1.000
Mother's occupation			
Daily wages	40.0%	60.0%	
House (wife) maker	50.3%	49.7%	0.133
Farmer	100.0%	0.0%	
Business	83.3%	16.7%	
Husband's occupation			
Business	66.7%	33.3%	Ref
Daily wages	41.7%	58.3%	0.008*
Farmer	50.0%	50.0%	1.000
Foreign employment	47.1%	52.9%	0.562
Others	0.0%	100.0%	0.035*
Average monthly income			
less than 5000	25.0%	75.0%	Ref
5000-10000	54.4%	45.6%	0.146
10000-15000	44.3%	55.7%	1.000
15000-20000	50.0%	50.0%	1.000
More than 20000	100.0%	0.0%	0.425
Information about breastfeeding			
Yes	50.9%	49.1%	0.007*
No	0.0%	100.0%	
Place of delivery			
Home	0.0%	100.0%	0.000*
Health facility	81.3%	18.7%	
Mode of delivery			
Normal	27.9%	72.1%	Ref
Assisted	100.0%	0.0%	<0.001*
Cesarean section	88.7%	11.3%	<0.001*
Colostrum feeding within 1 hr			
Yes	81.3%	18.7%	<0.001*
No	0.0%	100.0%	

Awareness of EBF			
Unsatisfactory	1.7%	98.3%	Ref
Good	100.0%	0.0%	<0.001*
Excellent	100.0%	0.0%	<0.001*

The main results are shown in Table 4. Chi-square tests shows that information about breastfeeding, place of delivery, colostrum feeding within 1 hour are statistically significantly associated with status of EBF. Whereas, it also shows that age of the mother, gender of the children, mother's occupation and income are not statistically significant with the status of EBF. Similarly, mother's education, ethnicity, husband's occupation, mode of delivery and awareness of EBF are statistically significantly associated with the status of EBF.

Taking reference of illiterate population, mothers with lower secondary, secondary and higher education have significant association with regard to EBF. Similarly, this study has also indicated a significant association among various ethnic groups with regard to EBF. Taking reference of Brahmin population, mothers with ethnicity like dalit and madhesi had significantly lower rates of EBF.

Regarding husband's occupation, taking reference of population involving in business, daily wages and others including jyotishi and politics has been significant association with regard to EBF with p-value less than 0.05 as compared to their respective counterparts. Taking reference of normal delivery, mother's experiencing assisted and caesarean delivery had significantly higher rates of EBF.

This study has also indicated a statistically significant association of maternal knowledge regarding EBF with the practice of EBF itself.

Discussion

This study aimed to identify the contributing factors to the EBF among the mothers having 6-24 month-old children in selected slum areas of Kathmandu Valley.

Although the knowledge score was comparatively high among the mothers but the practice of EBF seems comparatively low. The result shows 49.1% of mother's exclusively breastfed their children which is lower than the current country recommended level i.e. 66% , which is again lower than the previous country recommended level i.e. 70% . Regarding information about breastfeeding, mothers who are informed about breastfeeding was found significantly associated with regard to EBF as compared to their respective counterparts.

The findings is almost similar to the studies done in Nepalgunj in the western Terai of Nepal entitled Knowledge and Practice Regarding Breastfeeding Among Mothers Attending Immunization Clinic in Nepalgunj Medical College Teaching Hospital which reported only 23% of mothers practiced EBF and another similar study done in Ethiopia which reported 50.1% of mothers practiced EBF . The numbers for both regions have rates which are lower than the country recommended level. The practice of feeding infants foods other than breast milk might be associated with the perception that breast milk alone is insufficient for the growth of their child.

Mothers that had attained formal education were found to be practicing breastfeeding in significantly higher numbers as compared to their respective counterparts. This revealed that the education of the mothers is a predictor of EBF, which is consistent with the findings of a study done in Southern Ethiopia which reported that attending formal education had a statistically significant association with EBF practice .

The association of certain caste-groups such as Brahmin with increased rates of EBF compared to other groups such as Dalits and Madhesi is less consistent with findings from other studies. This might be explained with the fact that levels of education, socioeconomic status and health related cultures and practices vary greatly amongst the various castes and ethnic groups of

Nepal. Other associated variables such as the occupation of the husband with EBF practices which was noted in this study was also not seen elsewhere.

Regarding delivery experiences, mothers who delivered their children at health facility were found to be more likely to undergo exclusive breastfeeding compared to mothers who delivered at home. This finding was similar to a study done in Ethiopia, which reported that mothers who delivered at healthcare facility practiced more EBF than those who delivered at home. In contrast the findings was just opposite in a comparison of data from the Nepal Demographic and Health Surveys carried out in 2006 and 2011 which reported that infants who were delivered at home were more likely to experience EBF.

The levels of maternal knowledge regarding breastfeeding was similar in this study to the levels found in the study done in Nepalgunj in which knowledge levels ranged from excellent in 22% and unsatisfactory in 43%.

Knowledge scores correlated well with practice in this study. Such expected correlation has also been observed in another study where mothers with knowledge of maternal benefits of breastfeeding and awareness of appropriate time frame for EBF were more likely to choose EBF.

Conclusion

This study concludes that the status of EBF for 6-24 months of children in the study area seems to be 49.1%, which is lower than the country recommended level. However, feeding other than breast milk was associated with the perception that breast milk alone was insufficient for their child growth and development.

It can also be concluded that, mother's education, ethnicity, husband's occupation, information about breastfeeding, place of delivery, mode of delivery, colostrums feeding within 1 hour, liquid/solid feeding practice and maternal knowledge regarding EBF are significantly associated with the increasing the likelihood of choosing EBF.

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