

Original Research Article

Assessment of breastfeeding practices among lactating mothers: a cross-sectional study

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ABSTRACT

Background: Breastfeeding practice is known to play an important role in reducing child mortality and morbidity. The primary objective was to assess the breastfeeding practices in Rohtak and the secondary objective was to compare the breastfeeding practices in the rural and urban areas of Rohtak.

Methods: This descriptive type of community based cross-sectional epidemiological study was conducted in rural and urban field practice areas attached to Department of Community Medicine, Pt. B. D. Sharma PGIMS, Rohtak. 500 Lactating mothers of 6-11 months old children were included in the study and data was collected using the pre-tested questionnaire on breastfeeding practices.

Results: In our study, early breastfeeding rate was 32.2%, exclusive breastfeeding rate was 23.4%, bottle feeding rate was 35.4% and timely complementary feeding rate was 63.2%.

Conclusions: Counselling sessions with the aim to promote breastfeeding are needed. Mothers as well as other family members should particularly be educated about the importance of early initiation of breastfeeding and to prolong exclusive breastfeeding.

Keywords: Breastfeeding practices, Lactating mothers, Early initiation, Exclusive breastfeeding, Bottle feeding, Complimentary feeding

INTRODUCTION

Over the last couple of decades, there has been an increasing interest in the promotion of exclusive breastfeeding as the 'best' feeding method for newborns.¹ Optimal infant and young child feeding practices rank among the most effective public health tool for the primary prevention of child morbidity and mortality.² In resource limited settings where poor and sub optimal breastfeeding practices frequently result to child malnutrition which is a major cause of more than half of all child deaths, exclusive breastfeeding is regarded as imperative for infants' survival.³ It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children

younger than 5 years.⁴ With EBF coverage of 90%, 13 to 15% of deaths of children under 5 years could be averted in low and middle income countries.⁵

Globally, it is estimated that only 34.8% of infants are exclusively breastfed for the first 6 months of life, the majority receiving some other food or fluid in the early months.⁶

Despite many benefits of breastfeeding, NFHS-3 indicated that in India, 46.3% infants were exclusively breastfed for 6 months and only 23.4% of infants started breastfeeding within 1 hour of birth and for Haryana it's even more alarming as exclusive breastfeeding rate is 16.9% only and 22.1% of infants were put on breast within 1 hour of birth. Median duration of any

breastfeeding in India is 24 months. However, the median length of exclusive breastfeeding is only 2 months and the median length of predominant breastfeeding is 5 months. For Haryana, the median duration of any breastfeeding is 25 months and that of exclusive is 1 month.⁷

The World Health Organization and UNICEF have developed the Global Strategy for Infant and Young Child Feeding, which recognizes appropriate infant feeding practices to be crucial for improving nutrition status and decreasing infant mortality in all countries. This study was done to find out the breastfeeding practices of rural and urban women of Haryana.

METHODS

This descriptive type of community based epidemiological study was conducted in rural and urban field practice area attached to Deptt. of Community Medicine, Pt. B. D. Sharma PGIMS, Rohtak during 2011-12. Considering the prevalence of not exclusively breastfed infants in Haryana as approximately 83%⁷, and allowable error of 10% at 95% level of significance and 90% power, the sample size was calculated using the formula $(n) = Z^2_{1-\alpha/2+\beta} p(1-p)/d^2$, where value of α is 1.96 and β is 1.28 at 90% power a total of 500 mothers of 6-11 months old children were interviewed. In order to investigate the exclusive breastfeeding rate at 6 months, the present study included mothers with infants over 6 months age.

There are 37 Anganwadi centres (AWCs) in the urban area and 136 AWCs in the rural area. The investigator herself met the Anganwadi workers of the Anganwadis to explain the purpose of study and seek their co-operation. Anganwadi-wise list of all lactating mothers of children between age group of 6-11 months was prepared from the Anganwadi registers. It was observed that in each Anganwadi there were around 8-12 mothers of children between age group of 6-11 months. 50 Anganwadis were selected by simple random sampling technique, 25 each from rural and urban area. In the next stage, 10 mothers were selected by simple random sampling using lottery method from each list to cover the desired sample size. If the number of mothers in any Anganwadi were found to be less than 10, mothers from nearest Anganwadi were taken to complete the desired sample size. Data collection was done by carrying out house to house visits and face to face interview using a predesigned, pretested semi-structured interview schedule after taking informed consent of participants ensuring complete confidentiality in a non judgmental manner and at their convenient time. If the individual was not contacted on three consecutive visits, the individual was excluded from the study and the next individual from the list was selected. Ethical approval to conduct the study was taken from Institution Review Board (IRB). Data management was done using MS Excel and analysis was carried out by computing descriptive and inferential statistic (Chi square test) using

software statistical package (SPSS ver. 18). For the purpose of analysis, P value of less than 0.05 was considered significant.

RESULTS

Initiation of breastfeeding

It is recommended that breastfeeding should be initiated within one hour of birth and nothing should be given to the infant before beginning to breastfeed. As seen from Figure 1, only one third (32.2%) of mothers in this study initiated breastfeeding within one hour whereas nearly half (48.4%) initiated within 1-4 hours and the rest started breastfeeding after 4 hours or more. Early initiation rate was higher among urban mothers. However, no statistically significant association was found between these two groups.

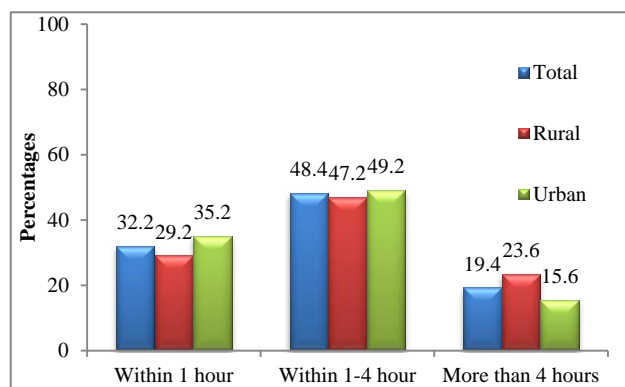


Figure 1: Bar diagram showing initiation of breastfeeding.

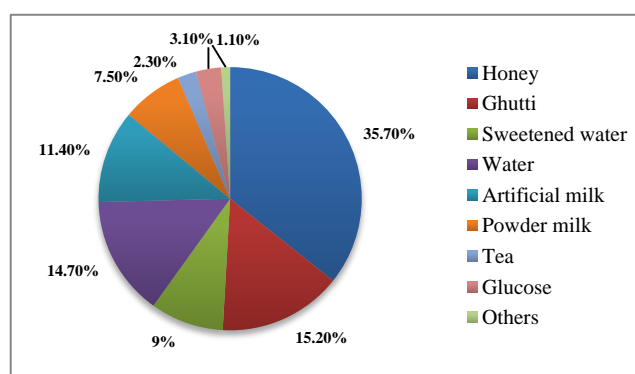


Figure 2: Pie chart showing type of prelacteal feed given to the baby.

Pre lacteal feeding and types of pre-lacteal feeds given to the newborn

More than half (55.8%) of the mothers gave pre-lacteal feeds to their babies. Pre lacteal feeding practices were found to be more prevalent in rural mothers (67.2%) than in urban mothers (44.4%). This difference was found to be statistically significant ($p < 0.05$) (Table 1).

Table 1: Pre-lacteal feeding practices among study subjects (N=500).

Pre-lacteal feeds given	Rural N (%)	Urban N (%)	Total N (%)
Yes	168 (67.2)	111 (44.4)	279 (55.8)
No	82 (32.8)	139 (55.6)	221 (44.2)
Total	250 (100)	250 (100)	500 (100)

$\chi^2 = 26.347$; df = 1; p < 0.05.

Table 2: Reason for giving pre-lacteal feed.

Reasons*	Rural (%) (N=168)	Urban (%) (N=111)	Total (%)
Milk did not come in yet	11 (6.5)	17 (15.3)	28 (10)
Baby was not taking breast	23 (13.6)	11 (10)	34 (12.1)
Cultural beliefs and rituals	131 (78)	73 (65.7)	204 (73.1)
Baby ill	5 (3)	2 (1.8)	7 (2.5)
Low birth weight	2 (1.2)	9 (8.1)	11 (3.9)
Don't know	11 (6.5)	4 (3.6)	15 (5.4)

(The values in parentheses indicate percentage) *Multiple reasons.

Of the pre-lacteal feeds given to the newborns, the most common was honey (35.7%), followed by ghutti (15.2%), plain water (14.7%) and artificial milk (11.4%) (Figure 2). Table 2 shows that cultural beliefs and rituals were observed to be the main reason for giving pre-lacteal feed among both rural and urban mothers (78% and 65.7% respectively).

Table 3: Colostrum given by study subjects (N=500).

Did you give colostrum	Rural N (%)	Urban N (%)	Total N (%)
Give yellow milk (Yes)	164 (65.6)	143 (57.2)	307 (61.4)
Dump yellow milk (No)	86 (34.4)	107 (42.8)	193 (38.6)
Total	250 (100)	250 (100)	500 (100)

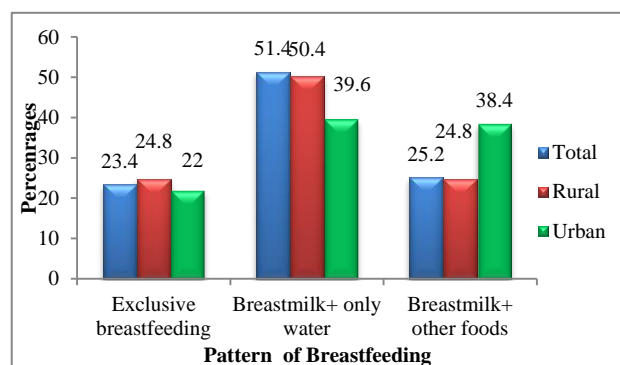
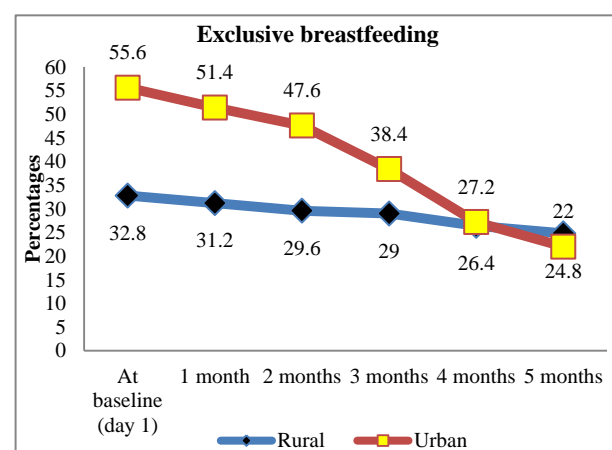
$\chi^2 = 2.97$; df = 1; p > 0.05.

As illustrated in Table 3, the practice of giving colostrum was found in 61.4% of the study subjects. Almost one third (34.4%) of the infants in rural area and 42.8% in urban area were not given colostrum. The difference in practice between the rural and urban area was found to be statistically non-significant.

Exclusive breastfeeding

It is recommended that babies should be exclusively breastfed for the first six months. Exclusive breastfeeding means that no other food or drink should be given to the baby for the first six months. Figure 3 presents exclusive

breastfeeding and supplementary feeding practices of the respondents in this study during 0-6 months. Exclusive Breastfeeding rate was higher among rural mothers (24.8%) than urban mothers (22.0%). However, the difference in practice was found to be statistically non-significant. EBF rate at different ages is shown in Figure 4.

**Figure 3: Bar diagram showing pattern of breastfeeding.****Figure 4: Line diagram showing exclusive breastfeeding with relation to time and area.**

Bottle feeding

Though artificial feeding rate was quite high for, it was interesting to note that the rate of bottle feeding was not equally high (Table 4). Bottle feeding was more prevalent among urban population (41.6%) than rural (29.2%). The difference was also found to be statistically significant.

Table 4: Bottle feeding practice among study subjects (N=500).

Bottle feeding	Rural N (%)	Urban N (%)	Total N (%)
Yes	73 (29.2)	104 (41.6)	177 (35.4)
No	177 (70.8)	146 (58.4)	323 (64.6)
Total	250 (100)	250 (100)	500 (100)

$\chi^2 = 5.37$; df = 1; p < 0.05.

Continued breastfeeding

It is recommended that breastfeeding should continue for a period of two years or beyond along with appropriate and adequate complementary feeding. In this study, 10.6% had stopped breastfeeding before 12 months, 7.6% in rural area and 13.6% in urban area. Only one third of the mothers planned to continue breastfeeding for a period up to 18 months, 46% of mothers intended to continue breastfeeding the child for 18-24 months and only one fifth planned to continue beyond two years (Figure 5).

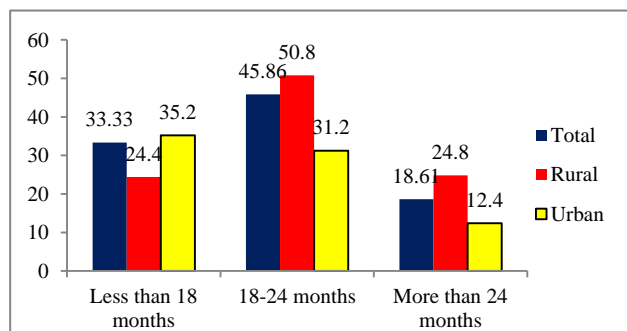


Figure 5: Bar diagram showing women's plan of continued breastfeeding.

Frequency of breastfeeding and night feeding

It is recommended that breastfeeding should be given both during the day and night to maintain lactation. Majority of women (96.7%) breastfeed more than 5 times during the day and almost all breastfeed the child during night also. This is a highly appreciated traditional practice that is good for the baby.

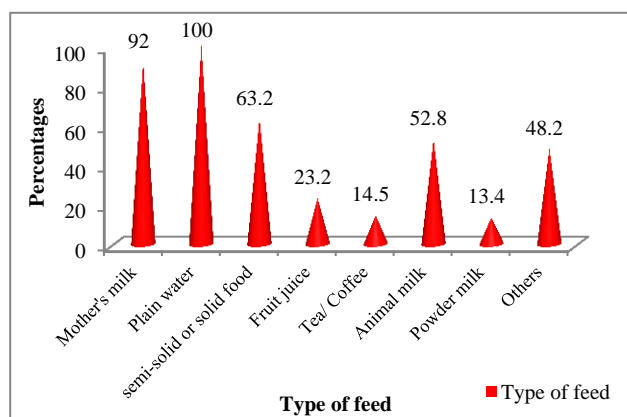


Figure 6: Bar diagram showing feeding practices of children in the age group 6-9 months.

Complementary feeding practices

It is recommended that after six months of age babies should receive complementary feeding with semi-solid home-made indigenous foods along with continued

breastfeeding. Complementary feeding rate was 63.2%-60.8% in rural, 65.6% in urban. Water was given to all, semisolid to 63.2%, animal milk to 52.8% (Figure 6).

DISCUSSION

In the present study, it was found that only 32.2% mothers had started breastfeeding within one hour of birth (Figure 1). Gupta et al also found that only 36.6% mothers initiated breast-feeding within 1 hour of birth.⁸ But our finding was somewhat higher than the national figure. According to the NFHS-3, the initiation of early breastfeeding was only 24.5% across India.⁷ In Haryana too, only 22.3% women—25.2% in urban and 21.3% in rural—initiated breast feeding within one hour of birth. In our study also, early initiation was higher in urban mothers (35.2%) than rural mothers (29.2%). Most common reason given by mothers residing in rural area for the delay in initiation of breastfeeding was delayed lactation (50.2%) followed by their cultural beliefs (36.7%) whereas in urban area it was inability/disinterest of baby to suck (48.8%).

As stated by some mothers, performance of rituals and prayers before the baby starts breastfeeding and cleansing of breast by sister-in-law before initiating breastfeeding were the main reasons responsible for delay in initiation.

Our study shows that more than half (55.8%) of the mothers gave pre-lacteal feeds to newborns; practice was more prevalent in rural mothers (67.2%) than urban mothers (44.2%) (Table 2). Pre-lacteal feeds included honey, ghutti, plain water, sugar/jaggery water, animal milk (Figure 2). The findings of studies conducted by Eram et al and Goyle et al were consistent with our findings.^{9,10} They reported that 57.8% and 63.8% newborns were given pre-lacteal feeds respectively. Main reason for giving pre-lacteal feed among rural as well as urban mothers was due to their rituals and cultural beliefs. Traditional child feeding practices such as feeding infants with herbal concoction are still common in some families.

Some pre-lacteals are thought to give the child certain desirable characteristics or pass on the essence of family, e.g. it is believed that a beloved and respected person when gives honey transfers some of his/her traits to the child. Some believe that giving ghutti as first feed will cleanse the baby bowel.

In our study, it was found that 38.6% of mothers discarded colostrum - 34.4% in rural area and 42.8% in urban area, which means many infants are deprived of the highly nutritious first milk (colostrum) and the antibodies it contains (Table 3). This finding is in accordance with the findings of NFHS-3.⁷ Studies conducted in India by Goyle et al and Aruldas et al also showed that approximately one third of the mothers discarded the colostrum.^{10,11} Deshpande et al stated that age old social customs like early breast milk is the witch's milk and

separation of mother and child after delivery were the main reasons to discard colostrum.¹²

The belief among the family members is that colostrum is dirty milk, hence harmful to the baby and might cause even death. According to few mothers, colostrum was perceived as milk that had stayed in the breast during the 9 months of pregnancy and thus become stale, therefore it should be discarded.

In this study, the overall prevalence of exclusive breastfeeding among mothers with infants up to six months of age was found to be 23.4%. The rate was slightly higher in rural area (24.8%) as compared to urban area (22.0%) (Figure 3). This result was higher as compared to the figures given by NFHS-3 and DLHS-3 however it was way below the EBF prevalence of 90% recommended by the WHO.^{7,13} Foo et al reported prevalence rate of 21% which is comparable to the present study.¹⁴ It was however lower than the EBF prevalence reported in the studies conducted by Radhakrishnan et al in Tamil Nadu (34%) and Borade et al in Pune (48.6%).^{15,16} Therefore, the results show wide variation of EBF prevalence between and within countries which may be due to different cultural practices and beliefs of people residing in different areas, the other reason can be difference in the sample size and design adopted.

In our study, bottle feeding practices were seen in 35.4% of mothers - 29.2% in rural area as compared to 41.6% in urban area. (Table 4) In the study conducted by BPNI to assess the status of infant and young child feeding, the rate of bottle feeding was 25 percent.⁸ Patel et al also found bottle feeding rates to be more in urban area than rural area.¹⁷

Many women, especially working mothers and those residing in urban areas, believed that bottle feeding gives them freedom and enable them to get on with their work and lives while still caring for their new born. Bottle feeding is easier than breastfeeding.

The present study revealed that timely complementary feeding rate was higher in urban area (65.6%) as compared to rural area (60.8%) (Figure 5). It was reported in a study conducted by BPNI that 75.3 percent of mothers were giving solid/semi-solid foods to the children aged 6-9 months and 84.7 percent of mothers also gave cow/goat/buffalo milk to their children.⁸

CONCLUSION

The above findings show that despite early initiation of breast feeding in urban area, exclusive breast feeding was more common in rural area. This might be because in rural area cultural norms enhance the breast feeding practices but simultaneously promote delayed initiation of breastfeeding. Health workers should be adequately trained to help the mothers and children to breastfeed

successfully not only during the perinatal period, but also during the infancy and second year of life. Combined individual and group counselling sessions regarding breastfeeding can be superior to individual or group counselling alone.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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