

Original article

A study of breast feeding practices among infants living in slums of Bhavnagar city, Gujarat, India

Devang Raval¹, D. V. Jankar³, M. P. Singh²

¹ Associate Professor, ² Professor & Head, ³ Tutor, Department of Community Medicine, Government Medical College, Bhavnagar, Gujarat

Correspondence: Devang Raval, E-mail: daraval1963@yahoo.co.in

Abstract:

Research Question: What is the situation of Breast feeding practices among infants living in slums of Bhavnagar city?

Objective: To study the Breast feeding practices and the influence of literacy and cultural factors on breast-feeding practices in infants of Bhavnagar urban slums.

Study Design: Community based Cross-sectional study. **Setting:** infants living in slums of Bhavnagar city. **Study Tools:** pre tested semi structure questionnaire. **Participants:** Actual Study was conducted among 840 children in the age group of 0 to 5 years were selected for study using 30-cluster methodology. **Ethical Concern:** No ethical issues were involved. **Inclusion Criteria:** Healthy under five year children. **Exclusion criteria:** Currently ill child **Study Period:** April 2009 to June 2009. **Study Variable:** Literacy, Prolactal feeding practices, Colostrum Practices, Time of initiation, Place of delivery. **Statistical Analysis:** Chi-square test and percentages.

Results: 61.9% of newborns received prolactal feed. Illiterate mother (85.2%) practices more prolactal feeding than literate mother (50.9%) which was statistically significant in our study ($p < 0.01$). all home delivered infants received prolactal feeding and half infant receive prolactal who were delivered in hospital and difference was statistically significant in our study ($p < 0.001$). 38.1 % of newborns received breast feeding within hour. 49.1% and 14.8% of literate and illiterate mothers respectively had started breastfeeding within one hour ($p < 0.01$). 36.9% of newborns received colostrum in our study. Statistically significant association found between type of family and colostrum feeding practices ($p < 0.05$). **Conclusion:** Present study shows 40% of newborns received right practices of breast feeding.

Key Words: Breast feeding practices

Introduction:

Malnutrition is like an iceberg; most people in the developing countries live under the burden of malnutrition. Pregnant women, nursing

mothers and children are particularly vulnerable to the effects of malnutrition. Pre-school children constitute the most vulnerable segment of any community. Their nutritional status is a sensitive indicator of community health and nutrition. About 128 million (70%) of the world's 182 million stunted children aged under five years live in Asia¹.

Breast Feed is the first fundamental right of the child. The initiation of breast feeding and the timely introduction of adequate safe and appropriate complementary foods in conjunction with continued breast feeding are of prime importance for the growth, development, health and nutrition of infants and children everywhere. However, there are many cultural practices associated with infant feeding of which certain undesirable practices need to be discouraged. One in every third malnourish children in world lives in India².

UNICEF and WHO launched Baby Friendly Hospital Initiative in 1992 as a part of global effort to protect promote and support breast feeding.

Looking to the importance of infant feeding practices, the present study was conducted with objective to study the infant feeding practices particularly focusing on breastfeeding among infants living in slums of Bhavnagar city.

Material and Methods:

The 30 cluster community based cross sectional study was conducted in the urban slums of Bhavnagar city from April to June 2009. A list of urban slums of Bhavnagar city was obtained from Bhavnagar Municipal Corporation. A cluster is a 'slum' selected proportion to population size. For this selection a complete list of all the Slums of Bhavnagar Urban as per census 2001 with its population obtained from the Bhavnagar Municipal Corporation.³ Total 30 slums were selected from the Bhavnagar Corporation by using cluster sampling technique. Considering prevalence of malnutrition as 47 % at a level of 5% precision, a sample size arrived as 383. As we were doing cluster sampling, taking design effect 2, a

sample size of 766 was arrived at. Considering 10% non-response and obtaining a figure divisible by 30, a sample of 840 was required. From each cluster 28 respondents were to be taken. After the course study, full data set of 840 children. (455 boys and 385 girls) between 0 to 5 years available were studied. Collected data was analyzed for various parameters and cross tabulation was done using Epi Info (version 3.5.1.) For the present study, the focus was on infants of the slum areas.

Result and discussion:

In present study, 84 infants up to 6 months of age were studied of whom 60.7% were males and 39.3% were female. 52 (61.9%) infants out of 84 had received prelacteal feed (78.8% female, 51% male). Illiterate mothers (85.2%) practiced more prelacteal feeding than literate mothers (50.9%) and the observed difference according to education of mother was statistically significant in our study (<0.01). 77.8% of nuclear families were giving more prelacteal than three generation (47.1%) and joint family (52.6%). The difference was statistically significant (p<0.05) for type of family and prelacteal feeding practices. In present study, we observed that all home delivered infants received prelacteal feeding and 50% of infants who were delivered in hospital received prelacteal feed. The difference in type of delivery of infant and prelacteal practices was statistically significant in our study (p<0.001).

Figure: 1 Constituents of prelacteal feed practice in less than 6 months infants (n=52)

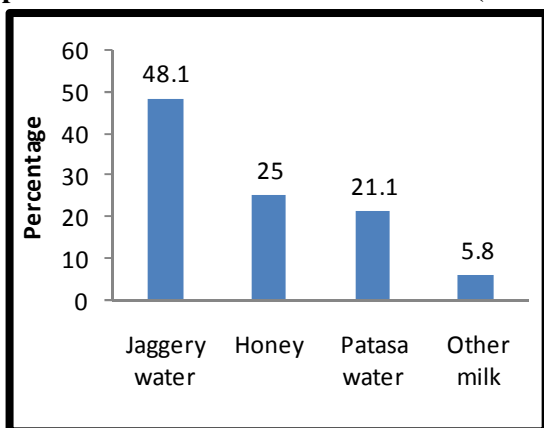


Table 1: Distribution of prelacteal feed practices less than 6 months of infants (n=84)

| Parameters | | Prelacteal feed given (n=52) (61.9%) | Chi square |
|----------------------|-----------------------------|--------------------------------------|-------------------------------|
| Gender | Male(n=51) (60.7%) | 26 (51.0%) | Chi sq.: 5.44 p=0.019 6 |
| | Female(n=33) (39.3%) | 26 (78.8%) | |
| Religion | Hindu(n=75) (89.3%) | 48 (64.0%) | Chi sq.:0.60 p=0.436 3 |
| | Muslim(n=9) (10.7%) | 4 (44.4%) | |
| Education of Mother | Illiterate(n=27) (32.1%) | 23 (85.2%) | Chi sq.: 7.75 p=0.005 4 |
| | Literate(n=57) (67.9%) | 29 (50.9%) | |
| Type of Family | Nuclear(n=36) (42.9%) | 28 (77.8%) | Chi sq.: 6.82 p=0.032 9 |
| | 3generation(n=17) (20.2%) | 8 (47.1%) | |
| | Joint (n=31) (36.9%) | 16 (52.6%) | |
| Socio Economic class | Class II (n=15) (17.9%) | 11 (73.3%) | Chi sq: 10.82 p=0.012 7 |
| | Class III (n=28) (33.3%) | 16 (57.1%) | |
| | Class IV (n=30) (35.7%) | 14 (46.7%) | |
| | Class V (n=11) (13.1%) | 11 (100%) | |
| Place of Delivery | Home (n=20) (23.8%) | 20 (100%) | Chi sq: 16.75 p=0.000 2 |
| | Govt.Hospital(n=29) (34.5%) | 13 (44.8%) | |
| | Pvt.Hospital (n=35) (41.7%) | 19 (54.3%) | |

In our study, the prevalence of prelacteal feeding was higher than other studies, and most important reason for this was family custom (32.7%) and relatives' advice (17.3%). This suggest that population of urban slums of Bhavnagar believe more in customs and religion. Also, 42.3% of infants received prelacteal feed because of the wrong belief that the prelacteal remove the meconium ("Pet no Bagad", "Garbh samaya Balak je Pani Pi gayu hoi te") from the gut. It is a very common belief that, child takes after the person who gives prelacteal feed to the child. Not only Grandparents but the young people, who recently married also believed this.

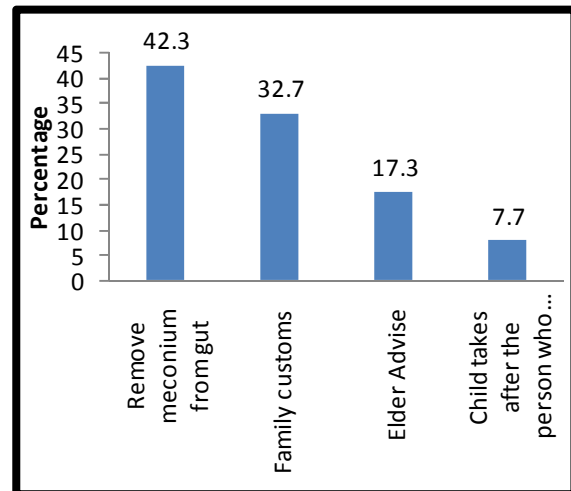
Table: 2 Distribution of infants up to 6 months in relation to initiation of Breastfeeding. (n=84)

| Parameters | | Within 1 hour (n=32) (38.1%) | P value |
|----------------------|--|------------------------------|----------------------------|
| Gender | Male (n=51) (60.7%) | 21 (41.2%) | Chi sq.: 0.24 p=0.6220 |
| | Female(n=33) (39.3%) | 11 (33.3%) | |
| Religion | Hindu (n=75) (89.3%) | 28 (37.3%) | Chi sq.:0.002 p=0.9586 |
| | Muslim(n=9) (10.7%) | 4 (44.4%) | |
| Education of Mother | Illiterate(n=27) (32%) | 4 (14.8%) | Chi sq.: 7.75 p=0.0053 |
| | Literate(n=57) (68%) | 28 (49.1%) | |
| Type of Family | Nuclear(n=36) (43%) | 12 (33.3%) | Chi sq.: 0.93 p=0.6280 |
| | 3gene(n=17) (20%) | 8 (47.1%) | |
| | Joint (n=31) (36.9%) | 12 (38.7%) | |
| Socio Economic class | ClassII(n=15) (17.9%) | 8 (53.3%) | Chi sq.: 8.56 p=0.0357 |
| | ClassIII(n=28) (33%) | 12 (42.9%) | |
| | ClassIV(n=30) (36%) | 12 (40.0%) | |
| | ClassV(n=11) (13.1%) | 0 (0.0%) | |
| Place of Delivery | Home (n=20) (23.8%) | 0 (0.0%) | Chi sq.: 19.42 p=0.0001 |
| | Govt. Hospital (n=29) (34.5%) | 11 (37.9%) | |
| | Pvt. Hospital (n=35) (41.7%) | 21 (60.0%) | |
| Birth order | 1 st order birth (n=16) (19.0%) | 2 (12.5%) | Chi sq.: 17.55 p=0.0015 |
| | 2 nd order birth (n=26) (31.0%) | 18 (69.2%) | |
| | 3 rd order birth (n=28) (33.3%) | 8 (28.6%) | |
| | ≥ 4 th order birth (n=14) (16.7%) | 4 (28.6%) | |

Only 38% of infants received breastfeeding within 1 hour of birth (41.2% in male and 33.3% in female). Educated mothers were more aware regarding breast feeding initiation as 49.1% literate mothers had started breastfeeding within 1 hour as compare with illiterate mother (14.8%). The difference was statistically significant according to education of mother and initiation of breast feeding (p<0.01). Statistically significant association between Birth order of

the child and time of initiation of breast feeding. Showed 12.5% of the first-born child, 69.2% of the second born child, 28.6% of the third born child and 28.6% of the fourth and more than fourth born child.

Figure: 2 Distribution of reason for prelacteal feed practice in less than 6 months infants (n=52)



Most common reasons for delay in initiation of breastfeeding, which was mainly Family restriction (36.5%). Also certain medical cause like Caesarian Section (23.1%), Mother was Ill (9.6%), Baby was in NICU (11.5%) and less secretion of milk (13.5%). In small proportion (5.8%) medical staff advice the late initiation of breast feeding, this may be due to they had wrong knowledge or not aware about for breastfeeding practices.

Figure 3: Reason for late initiation of breast feeding

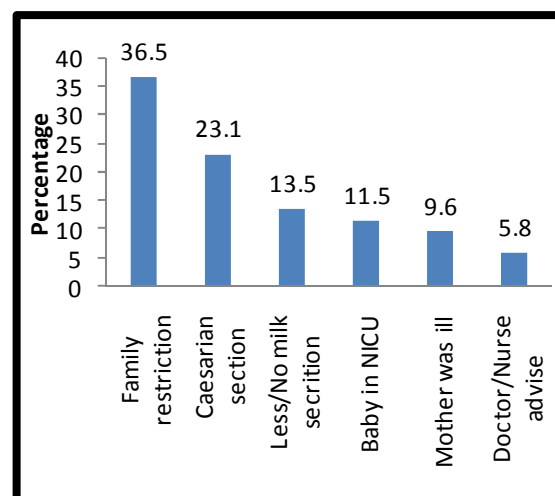


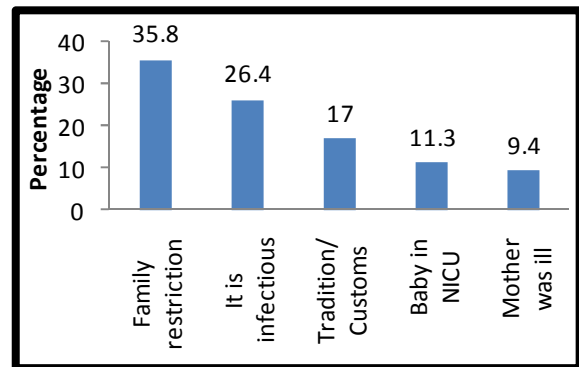
Table: 3 Distribution of infant up to 6months of age in relation to Colostrum feed practices.

| | Parameters | Colostrum feed given (n=31) (36.9%) | |
|-------------------------------|--|---|-----------------------------|
| Gender | Male(n=51) (60.7%) Female(n=33) (39.3%) | 17 (33.3%) 14 (42.4%) | Chi sq.: 0.37 p= 0.5406 |
| Religion | Hindu(n=75) (89.3%) Muslim(n=9) (10.7%) | 28 (37.3%) 3 (33.3%) | Chi sq.: 0.0170 p=0.8913 |
| Education of Mother | Illiterate(n=27) (32.1%) Literate(n=57) (67.9%) | 9 (33.3%) 22 (38.6%) | Chi sq.:0.05 p=0.82 |
| Type of Family | Nuclear(n=36) (42.9%) Three generation (n=17) (20.2%) Joint (n=31) (36.9%) | 7 (19.4%) 9 (52.9%) 15 (48.4%) | Chi sq.:8.34 p=0.0154 |
| Socio Economical class | Class II(n=15) (17.9%) ClassIII(n=28) (33.3%) ClassIV(n=30) (35.7%) ClassV(n=11) (13.1%) | 8 (53.3%) 6 (21.4%) 12 (40%) 5 (45.5%) | Chi sq.: 5.08 p=0.1655 |
| Place of Delivery | Home (n=20) (23.8%) Govt. Hospital (n=29) (34.5%) Pvt. Hospital (n=35) (41.7%) | 16 (80.0%) 19 (65.5%) 18 (51.4%) | Chi sq.: 4.57 p=0.1016 |
| Birth order | 1 st order birth (n=16) (19.0%) 2 nd order birth (n=26) (31.0%) 3 rd order birth (n=28) (33.3%) ≥ 4 th order birth (n=14) (16.7%) | 5 (31.3%) 15(57.7%) 2 (7.1%) 9 (75.0%) | Chi sq.:20.20 p=0.0001 |

Out of 84 infants, 31 (36.9%) received colostrum in which 33.3% were male and 42.4% female. 66.7% of illiterate women and 61.4% literate women had rejected colostrum. The difference was not statistically significant. According to family type, 52.9% of three generation family infants received colostrum, while 48.4% and 19.4% infants of joint and nuclear family respectively received colostrum. This suggests that rejection was more in nuclear families compared to other types of families.

The difference was statistically significant (p<0.05). In our study,42.19% hospital delivered babies and 20% of home delivered babies received colostrum. That means hospital delivery and knowledge provided by health staff can improve attitude of parents towards colostrum feeding. This difference according to place of delivery was statistically not significant (p>0.05).

Figure: 4 Frequency distribution of reason for not giving colostrum (n=53)



35.8% of infants were not given colostrum due to relatives’ advice. 26.4% of infants were deprived of colostrum due to their parent’s wrong belief that colostrum is infectious. 79.3% of reasons for not giving colostrum can be reduced by proper health education during ANC period. They said “Sharuat nu peelu dudh pivadava thi Chep lage to e to kadhi devu pade”, some told “chiknu dudh to chepi j hoye”, “sharuat nu dudh to nav mahina thi eme ne em hoye etle vasi thai gau hoy etle e balak ne na apay.”

In short, out of 84 infants up to 6 months of age, 61.9% had received prelacteal feed. Prelacteal feed practices were more prevalent amongst illiterate mothers (85.2%), nuclear families (77.8%), social class V (100%) and all home delivery infants. According to NFHS-3 report (2005-2006) 57% newborns received prelacteal feed (57.3% male and 57% of female) and 67.5% of the illiterate mothers gave prelacteal feeds.⁴ Similar results were found in a study by Chatterjee Saurav et al (2008) which showed that 54.5% of newborns received prelacteal feed, and out of them 66.7% belonged to illiterate mothers.⁵ Ideally nothing but breast milk should be given to the infant up to 6 months of age, but wrong belief and cultures lead people to think that prelacteal feed is good for newborn. But they are not aware that it is one of the main causes of infections. Half of infants received “Jaggery water” as prelacteal,

while other received honey (25%), “patasa water” (21.1%) and “cow or goat milk” (5.8%). The common reason for prelacteal feed practices was the concept of “removing meconium from gut” (42.3%) and “family customs” (32.7%).

According to IYCF (2006) guidelines, Government of India recommends that initiation of breastfeeding should begin immediately after birth, preferably within one hour¹. In our study 38.1% of infants started breast feeding within 1 hour of birth. A practice of initiation of breastfeeding within 1 hour was significantly associated with education of mother, socioeconomic class, and place of delivery and birth order of infants. 49.1% infants of literate mother and 69.2% infants of 2nd birth order had received breast feeding within one hour, while none of infants belonging to social class V and home delivered received breastfeeding within one hour. Common reasons for late initiation of breast feeding were family restrictions (36.5%) and Caesarian section (23.1%), in our study.

As per the data in NFHS-3 report, breast feeding was initiated within 1 hour in 30.3% in urban region of India.⁴ In another study by Kumar D (2006) urban slums showed breastfeeding within 1 hour as 6.3% and 32.6% within 24 hours.⁶ In a study by Kulkarni et al (2004) in urban area, 61.3% of literate and 43.7% of illiterate mothers had initiated breastfeeding within 6 hours of delivery⁷ and the result was similar to present study. In the study by Kumar D (2006) in urban slums, reasons for the late initiation of breastfeeding was the family restrictions (38.8%) and Social customs and Religious belief (25.2%).⁶ As colostrum is thick secretion, it was considered unhealthy. This shows their lack of knowledge regarding physiology of milk secretion. So there is a need for proper counselling of mother regarding the same.

In our study, 36.9% of infants received colostrum feeding. There was significant association between colostrum feeding practices with family type (52.9% infants of three generation family) and birth order of infants (75% of $\geq 4^{\text{th}}$ birth order). Common reasons for not giving colostrum feeding were “family member told (35.8%)”, “It is infectious (26.4%)” and “tradition (17%)”

Different studies reported varying figures regarding the rejection of colostrum, 15.9% in Kumar D et al (2006) study⁶, 58.7% in MICS report (2006) of Bhavnagar urban slums⁸, 82.9% in Srivastava S. P. et al (1994) study⁹, 29% in a study by Banapurmath C. R. et al (1996)¹⁰ and 3.6% in Chatterjee Saurav et al (2008) study¹¹.

This variation was mainly due to different types of customs prevalent in India and also lack of awareness regarding the importance of colostrum was relatively less in some areas. The various reasons for not giving colostrum are enumerated in table 3.

In a study, Bhardwaj et al (1991) observed that the common reason for not giving colostrum was religious belief (63.6%), followed by reasons that it was thick (12.8%), unclean (11.8%) and its removal helps in easy suckling for the child (11.8%).¹² Similar reasons were found in our study. We observed that there was wrong belief in community that colostrum was dirty, infectious, thick, religious belief. This wrong belief in community should be changed by creating awareness about the importance of colostrum to their child.

Conclusion: The present study shows 38.1% infant did not receive prelacteal feeding, 38.1% infants received breastfeeding within 1 hour and 36.9% infants received colostrum. This shows that right practices of Breast feeding according to IYCF guideline in urban slums of Bhavnagar city was available only to two fifth of infants.

References:

1. National guideline on Infant and Young Child Feeding, 2006, 2nd edition
2. UNICEF Report, 2009
3. Population Censuses, 2001
4. NFHS – 3 Report (2005-2006)
5. Chatterjee Saurav, Saha Sandhita: A study on KP of mothers regarding infant feeding and nutritional status of Under 5 children attending immunization clinic of Medical college, The Internet Journal Nutrition and Wellness, Vol. 5, No. 1, 2008
6. Kumar D, Agrawal N, Swami H. M., Socio-demographic correlates of breastfeeding in urban slums of Chandigarh, Indian journal Med. Science, 2006; 60; 461-6
7. Kulakarni R. N., Anjenaya S., Gujarv R.: Breastfeeding practices in an urban community of Kalamboli, Navi Mumbai, Indian journal Community Medicine, 2004, October-December, 29(4), 179-80
8. Multi Indicator Cluster Survey (MICS) Report, Bhavnagar, 2006 (unpublished report)
9. Shrivastava S. P., Sharma Vijaykumar: Breastfeeding pattern in neonates, Indian Journal of Pediatric, 9, 1079, September 1994

10. Banapurmath C. R., Nagraj M. C.: Breastfeeding practices in central Karnataka, Indian journal of Pediatric: 33(6), 477, June 1996
11. Chatterjee Saurav , Saha Sandhita: A study on KP of mothers regarding infant feeding and nutritional status of Under 5 children attending immunization clinic of Medical college, The Internet Journal Nutrition and Wellness, Vol. 5, No. 1, 2008
12. Bhardwaj N., Badrul Hasan S.: Breastfeeding and Weaning practices – A rural study in Uttar Pradesh: Journal Family Welfare, 39(1), 23-29, March 1991