

Assessment of Breastfeeding Practices: Findings from Urban Slum Area at Ahmedabad City, India.

Viral R Dave*, Venu R Shah*, K N Sonaliya**, Asha K Solanki***

Abstract

Introduction: Correct breast feeding technique, proper position and attachment are very important to get all benefits of breast feeding. Integrated Management of Neonatal and Childhood Illness (IMNCI) has also given utmost importance to the correct breast feeding technique. **Objectives:** To describe the socio-demographic profile and feeding practices among lactating mothers, to identify factors associated with good breast feeding (attachment) practices and to evaluate the impact of video demonstration on breast feeding practices immediately after and at one month follow up. **Methodology:** An interventional study was conducted at urban slums of Ahmedabad city, India. Results from 150 lactating mothers were analysed. Interactive sessions in conjunction with video demonstrations of IMNCI regarding correct breast feeding techniques were conducted among 9 groups of lactating mothers. Number of lactating mothers in each group varied from 15 to 20. Good signs of attachment were measured pre IMNCI video sessions, immediately and one month after the session. **Results:** Mean age of mothers was 26.44 years. Total mothers who had more than 6 antenatal visits were 59.3%. Two-thirds of lactating mothers did not receive any kind of breast feeding related advice. Only 8.0% had initiated breast feeding after 48 hours of delivery. Some kind of pre lacteal feed was given to 41.3% of the newborns. Improvement in all four signs of good attachment (mouth widely open, lower lip turned outward, chin touching the breast and dark skin seen more above than below areola) was seen among lactating mothers while feeding their babies after training session. Mothers from higher social class and with education > 12 standard and mothers who have received advice during antenatal and postnatal period regarding breast feeding were found to have significant positive impact on determining good attachment while breast feeding. **Conclusion:** Breast feeding related counseling should be continued at frequent interval during post natal period, so that lactating mothers can follow correct breastfeeding practices.

Key Words: Attachment; Breast Feeding technique; Integrated Management of Neonatal and Childhood Illness (IMNCI)

Introduction

Mother's milk for the new-born has been appreciated since ancient era by almost all ethnic groups around the world especially among Indian population. Nothing can replace the breast milk to accomplish nutritional needs of newborns. Mothers' milk alone is sufficient to fulfill the utmost requirements necessary for development of the new born for first 5-6 months of life. Exclusive breastfeeding stands out as a single most effective intervention for child survival. ⁽¹⁾ Universalising early (within one hour) and exclusive breastfeeding (for 0-6 month), is viewed as a major public health intervention to reduce the neonatal and infant mortality. ^(2, 3) Gastro-intestinal and respiratory infections are considered as leading causes of perinatal mortality. The practice of

early initiation of breastfeeding and exclusive breastfeeding can save millions of new born babies and provides multiple health benefits to women also.

India has issued the National Guidelines on Infant and Young Child Feeding (IYCF) in 2006 and enacted the Infant Milk Substitutes Feeding Bottles, and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992, (IMS Act) which was further amended in 2003. ^(4,5) The main objective of these guidelines was to promote exclusive breast feeding upto 6 months and also to promote proper weaning. However as per findings of National Family Health Survey- 3, ⁽⁶⁾ exclusive breastfeeding up to the age of six month was followed for only 46.4% infants and about 27.6 % infants continued it by six month. These findings suggest failure of implementation of guidelines mentioned earlier. Unhygienic infant feeding practices are still followed by illiterate or low educated mothers, especially among rural and urban slum areas. ⁽⁷⁾ Various reasons for non exclusive breast feedings like not wanting to be tied down, not liking breast feeding, being embraced and

* Assistant Professor, **Professor & Head, ***Tutor, Community Medicine Department
GCS Medical College Hospital & Research Centre,
Ahmedabad, Gujarat, India
Correspondence: dr_vrdave@yahoo.com

wanting the body back to one self as well as household responsibilities and going back to work were given by some mothers. ⁽⁸⁾ Appropriate breast feeding practices can save newborns from becoming prey to multiple infections. ⁽⁸⁾

Integrated Management of Neonatal and Childhood Illness (IMNCI) ⁽⁹⁾ is the joint initiative brought by the United Nations International Children’s Emergency Fund (UNICEF) and World Health Organisation (WHO) throughout the world especially among resource poor third world countries to decrease under- five mortality and morbidity. Directives for ideal breast feeding practices are one of the components of IMNCI guidelines. Despite of intensive steps taken by government, India has not reduced the childhood morbidity and mortality up to the mark. ⁽¹⁰⁾ Besides feeding practices, IMNCI has given utmost importance to the correct breast feeding technique, i.e., the proper position and attachment. They are also very important to get all the benefits of breast feeding. Many mothers especially the primipara face much difficulties in establishing breast feeding in time and also they fail to follow correct breast feeding technique. ⁽¹¹⁾

Concerns related to proper attachment while feeding are not that much explored. It is very much required that the mothers are counseled regarding the proper breast feeding techniques at early post partum phase. Keeping this in mind, the present study was undertaken to evaluate impact of interactive sessions in conjunction with video demonstrations of correct breast feeding techniques as per IMNCI. Objectives of study were to describe the socio-demographic profile and feeding practices among the lactating mothers, to identify the factors associated with good breast feeding (attachment) practices and to evaluate the impact of video demonstration on breast feeding practices immediately post demonstration and at one month follow up.

Methodology

Present study was interventional type study. It was conducted at Aanganwadi centers of field practice area of Urban Health Training centre attached with Community Medicine Department of one of the Medical College and tertiary care hospital in Ahmedabad city, Gujarat province of western part of India. Aanganwadi centers are run by the Government of India for antenatal and postnatal women, adolescent girls and children less than 6 years of age as a part of

one of the national health programmes. Various health related activities are carried out over there by medical and paramedical staff for the beneficiaries mentioned earlier.

The study was undertaken during August 2012 to December 2012. Study subjects were lactating mothers having infants of less than 6 months old age. The study was initiated after obtaining approval from the Institutional Ethical committee. Informed verbal consent was taken from each mother. Purposive sampling was method of choice for data collection. There were 182 postnatal women registered with Aanganwadis at the field practice area at initiation of study. Out of 182 registered beneficiaries, 168 lactating women attended the initial sessions. Interactive sessions in conjunction with video demonstrations of IMNCI regarding correct breast feeding techniques were conducted among 9 groups of lactating mothers. Number of lactating mothers in each group varied from 15 to 20. Good signs of attachment were measured pre IMNCI video sessions,

Table 1 : Socio demographic profile of study participants (n=150)

Socio demographic profile	Frequency	Percent
Age of Mother (Yrs)		
15-20	8	5.3
20-25	61	40.7
25-30	63	42.0
30-35	14	9.3
>35	4	2.7
Education of Mothers		
Illiterate	6	4.0
Primary	47	31.3
Secondary	67	44.7
Higher secondary	16	10.7
Graduate & Above	14	9.3
Occupation of mother		
Working	4	2.6
Non working	146	97.4
Social class (Modified Prasad classification)		
Class I	4	2.7
Class II	22	14.7
Class III	53	35.3
Class IV	62	41.3
Class V	9	6
Total	150	150

immediately and one month after the session. 18 women were lost to follow up. So finally after follow up session, we had data of 150 participants. Proforma containing details like socioeconomic profile, obstetric history of mothers, feeding history were filled by investigators.

For socio economic classification, a modified Prasad classification⁽¹²⁾ formula was used which is widely accepted in Indian subcontinent. This divide the community among different five classes based on per capita income of family. It takes in to consideration All India Consumer Price Index declared by Labour Bureau, Government of India at the time of study. For further analysis Class I and II were merged to Upper class and class III and IV was considered as middle socioeconomic class where as socioeconomic class V considered as lower class.

For assessment of correct technique of breast feeding, UNICEF has included 4 signs of good attachment for breast feeding,⁽⁹⁾ which are: mouth is widely open, lower lip is turned outward, chin touching the breast and dark skin seen more above than below areola. All these 4 signs were observed while mothers were feeding their infants. During each session, all participating mothers were observed individually and personally by field investigator while they feed their infants to check for the signs of good attachment. Same method of observation was conducted post training and at one month follow-up. If above mentioned all four signs of good attachment were present than only it was considered good. Absence of any sign was considered as poor attachment for breast feeding. The data entry and analysis were done with SPSS software 17. Mean with standard deviation (SD) were calculated for numerical variables while proportions were calculated for categorical variables. Univariate analysis of variance and MacNemar test was applied for inferential analysis. Difference was considered significant when the p value was <0.05.

Results

Analysis of data collected from 150 lactating mothers was carried out. Majority of them (82.7%) were in 20-30 years age-group. Mean age of mothers was 26.44 years with standard deviation of 3.80 years. Education wise distribution showed that 6(4.0%) females were illiterate while 14 (9.3 %) had education of graduate and above. Out of 150 lactating mothers, 97.4% were non working. Almost one thirds of lactating mothers

belonged to socio economic class III as per modified Prasad classification. (Table 1)

Antenatal history showed that 59.3% lactating mothers had taken more than 6 antenatal visits while 37.3% had

Table 2: Feeding practices followed by lactating mothers

Feeding Practices	Frequency	Percent
Initiation of Breast feeding after delivery (n=150)		
Less than 1 hour	15	10.0
1- 4 hour	89	59.3
4-24 hour	16	10.7
24-48 hour	18	12.0
>48 hour	12	8.0
Pre lacteal feed (n=150)		
Yes	62	41.3
No	88	58.7
Kind of prelacteal feed given (n=62)		
Honey	8	12.9
Jaggery water	28	45.2
Milk & Water	16	25.8
Others*	10	16.1
Colostrum (n=150)		
Yes	121	80.7
No	29	19.3
Exclusive Breast feeding (n=150)		
Yes	96	64.0
No	54	36.0
Food given in Non EBF (n=54)		
Cow milk	7	13.0
Buffalo milk & water	43	79.6
Others #	4	7.4
Mode of giving other food (n=54)		
Bottle	22	40.7
bowl & spoon	32	59.3
Feeding (n=150)		
on demand	54	36.0
Regular interval	96	64.0
Burping (n=150)		
Yes	144	96.0
No	6	4.0

* Others include Sugar, Honey with ghee or honey with Jaggery water etc.

Others include Tea, Dal Water, Khichadi etc. (Locally available foods)

Table 3: Impact of teaching correct breast feeding technique among lactating mothers

Signs of good attachment (n=150)	Before training	Immediately after training	p value*	Before training	One month after training	p value*
Mouth widely open	105(70.0%)	143(95.3%)	0.0001	105(70.0%)	132(88.0%)	0.0001
Lower lip turned outward	99(66.0%)	137(91.3%)	0.0001	99(66.0%)	120(80.0%)	0.001
Dark skin visible more above the areola	112(74.7%)	139(92.7%)	0.0001	112(74.7%)	112(74.7%)	1.000
Chin touching the breast	108(72.0%)	129(86.0%)	0.001	108(72.0%)	133(88.7%)	0.424

*McNemar test was applied as a test of significance

Table 4: Determinants of sign of attachment for Breast feeding among study participants (Univariate analysis of variance)

Variables (n=150)	Signs of attachments		Total	F value	p value
	Good	Poor			
Age of Baby					
< 1 month	11(73.3%)	4(26.7%)	15	1.106	0.334
1-3 months	15(51.7%)	14(48.3%)	39		
>3 months	57(53.8%)	49(46.2%)	106		
Gender					
Male	57(61.3%)	36(38.7%)	93	3.550	0.062
Female	26(45.7%)	31(54.3%)	57		
Social Class					
Upper	22(84.6%)	4(15.3%)	26	9.588	0.001
Middle	33(62.2%)	20(37.7%)	53		
Lower	28(39.4%)	43(60.5%)	71		
Parity					
Primipara	32(55.2%)	26(44.8%)	58	0.001	0.975
Multipara	51(55.4%)	41(44.6%)	92		
Education of Mother					
12 std	71(52.2%)	65(47.7%)	136	5.917	0.016
>12 std	12(85.7%)	2(14.2%)	14		
Exclusive Breast Feeding					
Not given	27(50%)	27(50%)	54	0.964	0.328
Given	56(58.3%)	40(41.6%)	96		
Advise on Breast Feeding During Ante Natal Visit					
Not given	57(49.2%)	59(50.8%)	116	4.821	0.009
Given	26(76.4%)	8(23.6%)	34		
Advise on Breast Feeding During Post Natal Visit					
Not given	69(50.7%)	67(49.3%)	136	13.413	0.001
Given	14(100.0%)	0(0.0%)	14		

3-6 antenatal visits and 3.3% mothers had even less than 3 antenatal care visits. Only 22.7% had received advice related to breast feeding during their antenatal visits while more than two thirds of participants did not receive any kind of breast feeding related advice during antenatal period.

Information regarding the feeding practices was taken. The results showed that only 10.0 % mothers had initiated the breast feeding within 1 hour of delivery. Out of them 59.3% mothers reported that they initiated the breast feeding within 1 to 4 hour of delivery. Out of 150 mothers, 41.3% had given some kind of prelacteal feed. Jaggery (traditional uncentrifuged sugar) was the most common (45.2%) pre-lacteal food while others were cow milk with/without water, honey with ghee or jaggery water etc. Colostrum was given by 80.7% of mothers. Exclusive breast feeding (EBF) was given by 64.0 % mothers. Among mothers who had not given EBF (36.0 %), 79.6 % had given buffalo milk with water in addition to breast feeding. A total of 40.7% mothers had used bottle to provide other food. Mothers who provide these feedings on demand were 36.0 % while rests were giving it on regular interval. (Table 2)

Table 3 shows impact of teaching correct breast feeding technique among lactating mothers. As mentioned in methodology, good signs of attachment were measured pre IMNCI video sessions, immediately and one month after the session. It was found that after training, signs of good attachment were improved. Before training, the prevalence of good signs of attachment for breast feeding was as follow: chin of the baby touching the breast: 72.0 %, lower lip turned outward: 66.0 %, baby's mouth was widely open: 70.0 % and more areola visible above than below: 74.7 %. At immediate follow up after training, all mothers showed significant improvement in each sign of good attachment. At follow up after one month, significant improvement was maintained for two signs viz. mouth wide open and lower lip turned outward, but more areola visible above than below and chin touching the breast was not significantly followed by the mothers. This result suggests there was significant improvement at immediate follow up after showing demonstration video of correct breast feeding technique. But the same level

of improvement was not persistent on follow up at one month. The results were interpreted with Macnemar test of significance.

Discussion

In current study it was observed that hardly 10% of mothers have initiated feeding within 1 hour of the delivery. Almost 60% started breast feeding within 1-4 hours of birth while 8% took more than 2 days to initiate. Again it was also found that some mothers took even one week or more than that under ritual advice of relatives. Similarly, Galhotra et al⁽¹³⁾ in their study observed that breast-feeding was started within 1 hour by 69.1% of mothers and 2.4% of mothers delayed it by more than 24 hours. Nayak et al⁽¹⁴⁾ in their study found that 70.1% of mothers have started Breast feeding within 1 hour of birth while 10.9% took more than 24 hours for the same. Ukegbu et al⁽¹⁵⁾ in their research at South Africa revealed that 48.2% mothers initiated breast feeding within 1 hour of childbirth while 11.5% started it after 24 hours.

In present study, 41.3% of mothers had given some kind of prelacteal feed to their babies. In country like India, some practices are intermingled in the culture of society and giving pre-lacteal feed is one of them. These practices are more commonly noticed among people residing at rural area. Ukegbu et al⁽¹⁵⁾ found that 25.9% of mothers had given pre-lacteal feeds while Sumera et al⁽¹⁶⁾ in their study at Pakistan found that 51% of mother at semi urban area and 20% of mothers at urban area had given prelacteal feed. On analyzing the type of prelacteal feed given in current study, it was found that majority of mothers had given jaggery water (45.2%), milk with water (25.8%) and honey(12.9%) as pre-lacteal feed whereas Galhotra et al⁽¹³⁾ found that Pre-lacteal feed in the form of Honey (83.4%) was given in the majority followed by Jaggery water (13.2%). Goyle et al⁽¹⁷⁾ in similar study found that common prelacteal feeds were: Plain water (48.3%), Jaggery water with ghee/oil (46.2%) and sugar water (28.2%). Practice of giving colostrum was relatively better in present study; still it was not 100%. Sumera et al⁽¹⁶⁾ found that colostrum was given by 75% of mothers, resident of semiurban area whereas 96% of mothers at urban area

gave colostrum to their babies while Ulak et al⁽¹⁸⁾ found 91% of mothers had given colostrum in their study and Goyle et al⁽¹⁷⁾ found only 14.30% of mothers (labour working) had given colostrum.

In present study, prevalence of good signs of attachment were: Chin of the baby touching the breast (72.0 %), Lower lip turned outward (66.0 %), Baby's mouth was widely open (70.0 %) and More areola visible above than below (74.7 %). Thakre et al⁽¹⁹⁾ in their similar study at Nagpur (India) found that at pre-health education status, the prevalence of good signs of attachment for breast feeding was: Chin of the baby touching the breast: 51.92%, Lower lip turned outward: 36.54%, Baby's mouth is widely open: 58.65% and More areola visible above than below 26.92%. Dongre et al⁽²⁰⁾ in their similar research on infants with feeding problem found that among 21.6% chin was not touching the breast, 17.6% did not open mouth widely, 19.6% cases did not have lower lip turned outwards and 33.3% had less areola visible below than above. Significant improvement ($P < 0.001$) was observed immediately after training for all four signs, whereas after one month, more areola visible above than below and Chin touching the breast were not significantly followed by the mothers in present study. Thakre et al⁽¹⁹⁾ also observed a significant ($P < 0.05$) improvement in the breast attachment after the health education.

In present study factors found to have positive influence on good attachment were education of mother, social class and advice given during antenatal and post natal period regarding breast feeding. In Indian culture, preference for male child may be the reason behind its positive influence. It can be considered that mothers from higher socioeconomic class might have better awareness than middle or lower class.

Tapering effect in level of improvement among signs of attachment during follow up suggested the need of frequent counseling/training sessions by medical/paramedical personnel especially during the post natal period.

Conclusion and Recommendations

It was concluded in terms of feeding practices that 10% had initiated breast feeding within one hour of delivery.

Majority of the newborn were given prelacteal feeds. Again on assessing impact of training/teaching correct technique of breast feeding, it was found that the prevalence for all four signs improved dramatically, immediately after the session but the same promising results were not found at follow up after one month though better than initial one at pre-training stage. It suggests that counseling/training sessions should be continued by medical/paramedical personnel at frequent interval especially during the post natal period to have the sustained improvement for good attachment while breast feeding. It was found that higher social class, higher education and advice given during antenatal and post natal period regarding breast feeding were having statistically significant positive impact on determining good attachment for breast feeding. Out of these at least we can empower counseling during antenatal and post natal period regarding proper and in depth advice related to breast feeding.

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