

A Study on Knowledge, Attitude and Practices of Breastfeeding among Mothers in Postnatal Ward and in Mothers Attending Immunization ClinicSumathi Kotapuri¹, Mahendranath Putta², Panchala Sandeep³¹Associate Professor, Department of Pediatrics, MediCiti Institute of Medical Sciences, Medchal Mandal, Ghanpur, Telangana²Assistant Professor, Department of Pediatrics, Sri Venkateshwara Medical College, Tirupati, Andhra Pradesh³Senior Resident, Department of Pediatrics, Kurnool Medical College, Kurnool, Andhra Pradesh

Received: 18-05-2024 / Revised: 21-06-2024 / Accepted: 26-07-2024

Corresponding author: Dr. Sumathi Kotapuri

Conflict of interest: Nil

Abstract:**Background:** In this study, we wanted to study the knowledge, attitude and, practices of breastfeeding among mothers in the postnatal ward and mothers attending immunization clinic in GGH Kurnool, to study the demographic and socio-economic factors associated with breastfeeding practices.**Methods:** This was a Hospital Based Descriptive and Observational Study conducted among 600 Mother's admitted in postnatal ward and mother's attending immunization clinic, who have children less than 2 years of age at Department of Paediatrics in the Government General Hospital Kurnool, from November 2018 to August 2020, after obtaining clearance from Institutional Ethics Committee and written informed consent from the study participants.**Results:** Age, education, occupation, economic status, religion, and type of family were found to be significant associates of their knowledge & attitude. Significantly higher numbers of mothers married at greater than eighteen years of age. A significantly higher number of mothers had taken full requirement of iron tablets. A significantly higher number of mothers had taken a full dose of TT injection. The type of delivery was significantly associated with the prelacteal feed Initiation. A significantly higher number of literate mothers initiated breastfeeding in an appropriate time as compared to illiterates. A significantly higher number of mothers who underwent LSCS delayed initiation of breastfeeding. There was a significant association between gender and the initiation of breastfeeding. The significantly higher number of mothers given the colostrum.

A significantly higher number of literate mothers had given colostrum compared to illiterate mothers. A significantly higher number of mothers had not started artificial feeding.

Conclusion: Compulsory education for all children, especially the girl child, and special attention to the nutritional needs of the girl child, adolescents, and women, has to be considered. This will go a long way in improving breastfeeding practices.**Keywords:** Knowledge, Attitude And Practices, Breastfeeding, Mothers, Postnatal, Immunization Clinic.This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

Children bring fragrance and meaning to life & they are a gift to us from God. We can provide the best to them by proper nourishments, love, attention, care, good health. The ideal food for a young infant is human milk. The Practice of breastfeeding on this earth back to more than a million years. The value for breast milk clearly shows in the oldest book, "Charaka Samhita." Breastfeeding is a natural physiological and efficient way of infant feeding. It gives a unique biological & emotional basis for the healthy development of the children. It offers infants & young children complete nutrition, early protection against illness and, promote growth & development of the baby. Initiation of breastfeeding

early lowers the mother's risk of postpartum hemorrhage and anemia. Boosts the mother's immune system and reduces the incidence of diabetes and cancers. [1,2] nonbreastfed baby is 15 times more likely to get diarrhea & 3 times more likely to get a respiratory infection. Study shows that exclusive breastfeeding has dramatically reduced infant mortality in developing countries due to reduced diarrhea & infectious diseases. [3] Breastfeeding is the first fundamental right of the child. Exclusive breastfeeding for the first six months of life and timely introduction of complementary foods are essential for laying down proper foundations of growth in later childhood. [4]

By five to six months of age, babies need other food besides breast milk, which supplies energy, protein, and other nutrients. Since this forms one of the most sensitive periods, the combined effects of inadequate and hygienically prepared supplemented food prone to infections may lead to increased risk of growth retardation. [5]

The World Health Organization (WHO) and UNICEF recommend that infants be given only breast milk for about the first six months of their life. It suggests that a feeding bottle with a nipple should not practice at any age for reasons related to sanitation and the prevention of infections. The beneficial effects of breastfeeding depend on breastfeeding initiation, duration, and the age at which weaning started.

Breastfeeding practices vary between different regions and communities. In India, breastfeeding practices are influenced by rural/urban residence, cultural, socio-economic factors, psychological status, religious value, literacy, deficient mother's Education and, mothers' employment. [6,7,8,9]

In rural areas, feeding was started only after a ritual performed on the third day after childbirth. A common belief was that only after the second - third day mother could secrete a sufficient milk quantity to feed the baby. This Practice made the mother more vulnerable to postpartum hemorrhage.

There was a common belief in rural areas that the first milk (colostrum) has some unique contents, which could be dangerous for the newborn infant and, the breast needs to be squeezed free of this. Thus put the baby to the breast only after three days, and most of the time, the first feed to the infant had been other than breast milk. Hence, the study with these relationships helps orient the breastfeeding promotional activities and prevent a decline in breastfeeding practices' initiation and duration.

The Need for educating mothers to promote proper infant- feeding practices and other aspects of childcare has also been felt. [9] Considering the importance of breastfeeding, "World Breast Feeding Week" is being organized every year from August 1 to August 7 by World Alliance Breast Feeding Action to strengthen the breastfeeding culture. UNICEF and WHO launched baby-friendly hospital initiatives in 1991 as part of a global effect to protect, promote, and support breastfeeding.

Also, to support breastfeeding, the infant milk substitute feeding bottle & infant food (regulation of production) Act 1992 has been enacted. This century has seen a decline in the stock and natural Practice of breastfeeding. This trend started in the west and has spread even to the poor communities of Asia, Africa, and South America. [10] Breastfeeding has declined worldwide in recent years due to urbanization, socio-economic reasons, changes in

living patterns, advertisements, marketing of infant milk formulae, and maternal employment outside the home, [11]

Studies in India have also shown a decline in breastfeeding trends, especially in urban areas. Increasing urbanization is a ground reality in both the developed and developing world for almost the last two decades.

The urban areas have rapid growth in the slum population too. There are reports of increased risk of improper child feeding practices in urban slums as the families there live without the traditional support of joint family system. [12]

The change in infant feeding practices began in developed countries and was soon followed by educated females of underdeveloped counties by curtailing the duration of breastfeeding. Since there is inadequate information regarding breastfeeding practices in Kurnool present study was initiated to understand the prevailing breastfeeding practices in the city.

Aims and Objectives

- To study the knowledge, attitude and, practices of breastfeeding among mothers in the postnatal ward and mothers attending immunization clinic in GGH Kurnool.
- To study the demographic and socio-economic factors associated with breastfeeding practices.

Methods

This was a Hospital Based Descriptive and Observational Study conducted among 600 Mother's admitted in postnatal ward and mother's attending immunization clinic, who have children less than 2 years of age at Department of Pediatrics in the Government General Hospital Kurnool, from November 2018 to August 2020, after obtaining clearance from Institutional Ethics Committee and written informed consent from the study participants.

Inclusion Criteria

- Mother's admitted in postnatal ward and mother's attending immunization clinic. who have children less than 2 years of age.

Exclusion Criteria

- Those not willing to participate in the study.
- Mentally ill mothers – mentally disabled mothers, mothers with puerperal psychosis

Sample size: The sample size was based on the number of mothers in the postnatal ward and mothers having a child of fewer than two years attending the immunization clinic during the study period. So the total sample size was 600.

Statistical Methods: Proportion, Chi-square test, Mean, Standard deviation. Using Micro-soft excel and Statistical package for social sciences.

Results

Table 1: Comparison of breastfeeding score socio-demographic characters

Variables	Mean score	P-value*
Age group		
15 – 20 years	13.65	0.001
21 – 25 years	14.28	
26 – 30 years	15.87	
31 – 35 years	18.30	
Education		
Illiterate	16.20	0.01
Primary	17.12	
Secondary	17.87	
PUC	18.23	
Degree and above	19.01	
Occupation		
Unemployed	12.23	0.08
Unskilled	13.76	
Semiskilled	14.45	
Skilled	14.23	
Professional	16.76	
Economic status		
APL	17.83	0.03
BPL	13.23	
Religion		
Hindu	18.76	0.003
Muslims	13.67	
Others	12.89	
Type of family		
Nuclear	12.98	0.001
Joint	17.89	
Three generation	18.43	

Knowledge and attitude of mothers were assessed based on the above questions, and these questions were given scores, i.e., for correct response score one and incorrect score 0, so the maximum score can be obtained was score 25. Age, Education, occupation, economic status, Religion, and type of family were found to be significant associates of their knowledge & attitude (based on mean score).

Table 2: Relation between economic status and appropriate initiation of breastfeeding

Type of delivery	Pre lacteal		Total
	Given	Not given	
Vaginal	55(29%)	323(79%)	378
LSCS	135(71%)	87 (21%)	222
Total	190	410	600
Relation between the type of delivery and pre lacteal given.(Chisquare -138 df -1 p value -.001			
Literacy	Breastfeeding initiation		Total
	Appropriate	Not appropriate	
Illiterate	58(41%)	82(59%)	140
Literate	332(72%)	128(28%)	460
Total	390(65)	210(35)	600
Relation between literacy and appropriate initiation of breast feeding.(Chi-square – 52.46 df-1 p-value – 0.001)			
Type of delivery	Breastfeeding initiation		Total
	Appropriate	Not Appropriate	
Vaginal	318(81%)	60(28%)	378
LSCS	72(19%)	150(72%)	222
Total	390	210	600

Relation between the type of delivery and appropriate initiation of breastfeeding. (Chi square – 164 df-1 p value – .001)			
Economic status	Breastfeeding initiation		Total
	Appropriate	Not Appropriate	
APL	373(95%)	157(74%)	530
BPL	17(5%)	53(26%)	70
Total	390(100%)	210(100%)	600

Chi square – 57.74 df-1 p value – .001

Among those mothers 190 who had given pre-lacteal feed, 71 % underwent LSCS compared to 21% of mothers who did not provide pre lacteal feed. The proportion of vaginal delivery was high among mothers who did not give (79%) prelacteal feed than those who had given (29%). This difference was found to be statistically significant. Among 600 study subjects, 390 mothers initiated breastfeeding appropriately (within 1 hr in vaginal delivery and 4 hrs in LSCS). Appropriate breastfeeding initiation was high among literates (72%) compared to illiterates (41%), and this difference was found to be statistically significant. Among those who initiated

breastfeeding appropriately, 81% of mothers had vaginal delivery than 28% of mothers who did not. The proportion of LSCS (72%) was high among mothers who did not initiate breastfeeding appropriately, and this association was found to be statistically significant. Among those who initiated breastfeeding appropriately, 95% of mothers belong to APL compared to 74% of mothers who did not. The proportion of BPL (26%) was high among mothers who did not initiate breastfeeding appropriately, and this association was found to be statistically significant.

Table 3: Relation between Occupation and artificial feeding

Gender	Breastfeeding initiation		Total
	Appropriate	Not Appropriate	
Male	237(71%)	96(29%)	333
Female	153(57%)	114(33%)	267
Total	390	210	600

Relation between gender of children and appropriate initiation of breastfeeding (Chi-square – 12.52 df-1 p-value – .001)

Literacy	Colostrum		Total
	Given	Not given	
Illiterate	93(19%)	47(41.2%)	140
Literate	393(81%)	67(58.7%)	460
Total	486 (100%)	114(100)	600

Relation between literacy and colostrum feeding (Chi square – 25.19 df-1,p value – .001)

Occupation	Exclusive breastfeeding		Total
	Practiced	Not practiced	
Employed	26(24%)	84(76%)	110
Unemployed	258(77%)	76(23%)	334
Total	284	160	444

Relation between Occupation and exclusive breastfeeding.(Chi square – 103.17,df-1 p value – .001)

Occupation	Artificial feeding		Total
	Given	Not given	
Employed	109(73%)	41(27%)	150(100%)
Unemployed	39(9%)	411(91%)	450(100%)
Total	148	452	600(100%)

(Chi square -24.7 df 1,p value - <.001)

Appropriate Breastfeeding initiation was more common among male children (71%) compared to female children (57%), and this difference was found to be statistically significant. Among mothers who had given Colostrum to their babies, 19% were illiterates, and among those who did not provide, 41% were illiterates. This association was found to be significant. Among exclusively breastfed children, 24.0% of their mothers were employed,

and among non-exclusive breastfed children, 76.0% of their mothers were employed, and this difference was statistically significant. Among children who had received artificial feeding, 73% of their mothers were employed, and 9% were unemployed. Among children who had not received artificial feeding, 27% of their mothers were employed, and 73% were unemployed this was statistically significant.

Table 4: Relation between literacy and correct age of weaning

Literacy	Weaning		Total
	Correct age	Incorrect age	
Illiterate	34(35%)	64(65%)	98
Literate	190(54%)	162(46%)	352
Total	224	226	450

(Chi square – 11.4 df-1 p value – 0.007)

Only 35% of illiterate mothers weaned their babies at the correct age, whereas 54% of literate mothers weaned at the proper age. This difference was statistically significant.

Discussion

Age of the mother: In the present study, most mothers were in the age group of 21 – 25 years (44.67%). It is also found that 20.3% and 10.07% of mothers were in the age group of 15 – 20 years and 31 – 35 years, respectively, In Madhu. K et al. 2009 study 60% of mothers were between 21 and 25 years. Whereas in a study done by Col PMP Singh et al. 2007 [14] at 46.28% of mothers belonged to the age group of 25 to 29 years.

ANC visits: In the present study, it was observed that 15.83% of mothers had less than three antenatal visits, and 84.17% had more than three trips. Following Sudarshan Kumari et al. 1988 [15] study, this study results were out of 702 mothers, 83.5% had antenatal Checkups.

T. T injection coverage: In the present study, 95.0% of mothers had taken full tetanus toxoid dose, and 5.00% had not taken the whole amount. In a study done by V. Kiran et al. 2004 [16] in 2 districts of Andhra Pradesh, they observed more than 80% of coverage of TT Injection.

Pre-lacteal feeds: In the present study, 31.66% of children received pre-lacteal feeds, and 77.50% did not receive them. This study differed from P. Chhabra et al. 1998 [27] study, 76.0% of mothers gave pre-lacteal meals.

Type of pre-lacteal feed: Type of pre-lacteal feed given varied from place to place. Sugar water (38.42%) was the most common pre-lacteal feed, followed by Honey (25.26%), animal milk(14.76%), tinned milk(16.32%), and castor(5.26%) given to children. In a study done by Adhisivam B et al. 2006 [17] 23% had given sugar water as pre-lacteal feed to their babies. In B. Dakshayani et al. 2008 [31] task, sugar water was most commonly given pre-lacteal meal. Honey was the commonly given pre-lacteal feed in 26.78%. In P. Chhabra et al.'s 1998 [18] study, a preparation of jaggery called 'gur gutti' was the most popular pre-lacteal feed.

Initiation of breastfeeding: In this study, only 39.5% of mothers had initiated breastfeeding within 1 hour of delivery, followed by 30.50% fed within 1

– 4 hrs, 19.50% provided within 5 – 24 hrs, and 10.50% fed after 24 hrs.

This study was in accordance with NFHS-419, 41.6% initiated within one hour of birth and study done by Ajay Kumar. G et al. 2011 [20] 30% of mothers initiated breastfeeding within 1 hour of birth. In a study done by V. Vimala et al. 1987 [21] where 95% of mothers initiated breastfeeding from the first day of delivery. Initiation of breastfeeding was higher in the present study compared to NFHS-322 data, i.e., 28.9% of mothers in urban areas and 21.5% in rural areas of Andhra Pradesh breastfed within one hour of birth. In a study done by Malini et al. 2005 [23], 37,78% of Santals and 48% of non-Santals initiated breastfeeding within 6 hours.

Reasons for delayed initiation: In the present study, maternal surgery in 32.51% and no milk secretion in 27.55% of mothers were the common reasons for delayed initiation, whereas in Kumar. D et al. 2006 [24] study family restrictions in 38.8% and social customs and religious belief in 25.2% were the reasons for the delay.

Literacy of mother and initiation of breastfeeding: In the present study, a significant association was present between literacy rate and initiation of breastfeeding. Appropriate breastfeeding initiation was high among literates (72%) compared to illiterates (41%). This study finding was in accordance with the study done by R.N. Kulkarni et al. [25], 61.3% of literate mothers and 43.7% of illiterate mothers initiated breastfeeding within 6 hours of delivery, and in Kumar D et al. 2006 study, illiterates were found to delay in initiation of breastfeeding.

Type of delivery and initiation of breastfeeding: Among those who initiated breastfeeding appropriately, 81% of mothers had vaginal delivery compared to 32% of mothers who did not. The proportion of LSCS (72%) was high among mothers who did not initiate breastfeeding appropriately, and this association was found to be statistically significant.

In a study done by U. Kapil et al. 1992 [26] among mothers who underwent cesarean section in AIIMS New Delhi, 40% of children were breastfed within 4 hours and in Madhu. K et al. 2009 study 38% of mothers who underwent cesarean section initiated breastfeeding within half an hour.

Colostrum: In this study, 81% of mothers had given Colostrum to their babies, and 19 % of mothers did not provide Colostrum.

Similar findings were found in a study conducted by Kumar D et al. 2006 15.9% of mothers discarded colostrum.

This study finding did not correlate with a study done by Sudarshan Kumari et al. 1988 where only 16.9% of mothers gave colostrum. In another study conducted by Kumar D et al. 2006 in Allahabad, 45.2% of mothers had given Colostrum.

Reasons for discarding Colostrum: In the present study, the most common reasons for discarding colostrum were because of the advice given by relatives and friends in 26.32% of the mothers. Other reasons were colostrum was not good for the baby's health; it is unhygienic and social customs.

Similarly, in R.J. Yadav et al. 2004 [27] study most common reason to discard Colostrum was elder's advice in 36.6%. In a study done by Kiran Singh et al. 1992, the main reason to discard Colostrum was that it becomes 'heavy' or not suitable for the newly born child.

Literacy and colostrum feeding: In the present study, among mothers who had given Colostrum to their babies, 19% were illiterates, and among those who did not provide, 41% were illiterates.

These findings were similar in a study done by R. N. Kulkarni et al. 2004 in which colostrum rejection was common in illiterates. In Col PMP Singh et al. 2007 review, 62.5% of illiterates discarded the Colostrum.

Breastfeeding pattern: In the present study, demand feeding was found in 90 % of mothers. In the Sanjiv Kumar et al. 1989 [28] study, 95% of mothers practiced demand feeding. In a study done by V. Vimala et al. 1987 done in tribes of Bhandrageri, 74% of mother's breastfed whenever a baby cried.

Present study findings differed from the study done by Subba et al. 2007 [29] in Nepal, where only 26.9% of mothers breastfed on demand. Almost 17% of mother's breastfed at regular intervals, and 55.7% used both methods.

Exclusive breastfeeding: In the present study, exclusive breastfeeding was found in 63.96% only. These study findings were in accordance with NFHS-4, where 70.2% of babies were exclusively breastfed for 0-6 months in Andhra Pradesh. Exclusive breastfeeding in rural areas (71.1%) was slightly higher than urban areas (67%) of AP in India, 54.9% of babies were exclusively breastfed for 0-6 months. In a study done by R.R. Kalsa et al. 1995 [30] in urban Bombay, 54.9% of the mothers exclusively breastfed till the end of 6 months. In a

study done by S. Sethi et al., 2008 53.5% of mothers exclusively breastfed their children.

Present study results correlate with Adhisivam B et al. 2006 in which 60% of mothers practiced exclusive breastfeeding. In R.N. Kulkarni et al.'s 2004 study, 70.2% of mothers practiced exclusive breastfeeding. In a study done by Sohail et al. 2010 in Pakistan, 64.8% of babies were exclusively breastfed for the first six months.

Exclusive breastfeeding was less than our study in a study done by Chudasama et al. 2009 where only 37% of mothers exclusively breastfed. In a study done by Madhu K et al. 2009 in Bengaluru, only 40% of the mothers practiced exclusive breastfeeding for six months. In Ranjana Tiwari et al. 2009 [31] study, only

7.8% of mothers practiced exclusive breastfeeding till six months.

Employment of the mother and exclusive breastfeeding: Among exclusively breastfed children, 24.0% of their mothers were employed, and among non-exclusive breastfed children, 76.0% of their mothers were employed, and this difference was statistically significant. In a study done by Anju Aggarwal et al. 1998 [32], 46.15% of working women and 37.09% of non-working stopped exclusive breastfeeding between 6-12 weeks.

Artificial feeding: In the present study, 24.67% of children received artificial feeding. This study findings were similar to the study done by Madhy k et al. 2009, 26% of mothers started commercial meal by six months. In a survey done by Taneja D K et in 2003 [33], who reported 40.6% of mothers had started top feed before four months. In a study done by Muralidhar K et al. 1994 [34] in Warangal, 4.7% of infants were given artificial feed before the age of 4 months.

This study results were not in accordance with the study done by R.R. Kalsa et al. 1995 where it was found that 10.4% of mothers started artificial feeding before three months, 15.8% before four months, and at the end of 6 months, 29.5% of mothers had started artificial feeding. In a study done by R.N. Kulakarni et al. 2004 among 200 mothers of Mumbai, only 7.4% were practicing artificial feeding.

Reasons for starting artificial feeding: In the present study, the most common reasons for starting artificial feeding were insufficient milk secretion in 45.95%, followed by working mother in 27.03 %, Pregnancy in 14.86%, and others in 12.16 %

This study finding was in accordance with R.R. Kalsa et al. 1995 study where the common reason to start artificial feeding was perceived inadequate supply of breast milk in 57.6%.

Weaning practices: In this study, 49.78% of mothers had weaned their children at the correct age.

These study findings were in accordance in the research done by Taneja D K et al. 2003 where 50% of the infants were given complimentary feed from 6 months. In a study done by Chandrashekar T et al 2006 [35], where 38% of mothers had started complementary feeding at six months.

Higher rates of weaning practices were found in a study done by Deeksha Sharma. et al. 2005, where 54% of the mothers introduced semisolid food from 6-10 months and 42% after ten months.

Literacy status of mother and weaning practices:

In the present study, there was a significant relationship between literacy and weaning practices, but in a survey done by Chudasama et al. 2009 [36] early weaning was not associated with the literacy status of the mother.

Conclusion

Following conclusions were made from the study,

- The majority of the mothers in this study belonged to the age group of 21 to 25 years.
- The literacy rate in mothers was 77.7 %
- The majority of mothers were unemployed.
- Knowledge and attitude towards breastfeeding were inadequate among mothers.
- Age, Education, occupation, economic status, religion, and type of family were found to be significant associates of their knowledge & attitude.
- Significantly higher numbers of mothers married at greater than eighteen years of age.
- The higher number of mothers had greater than three antenatal visits.
- A significantly higher number of mothers had taken full requirement of iron tablets.
- A significantly higher number of mothers had taken a full dose of TT injection.
- 31.66% of mothers had given prelacteal feeds
- Honey and sugar water was the most commonly given prelacteal feeds
- The type of delivery was significantly associated with the prelacteal feed initiation.
- Only 39.50% of mothers initiated breastfeeding within one hour of the delivery.
- Religious beliefs, lack of awareness were the common reasons for delayed initiation in the majority of the mothers, and maternal surgery was the most common reason.
- A significantly higher number of literate mothers initiated breastfeeding in an appropriate time as compared to illiterates.
- A significantly higher number of mothers who underwent LSCS delayed initiation of breastfeeding.

- There was a significant association between gender and the initiation of Breast feeding.
- The significantly higher number of mothers given the colostrum.
- A significantly higher number of literate mothers had given colostrum compared to illiterate mothers.
- The majority of the mothers in the study discarded colostrum because of advice given by relatives and elders.
- The majority of mothers breastfed their children on demand.
- Exclusive breastfeeding for six months was 63.96% in mothers.
- A higher number of unemployed mothers practiced exclusive breastfeeding.
- A significantly higher number of mothers had not started artificial feeding.
- Common reasons for the initiation of artificial feeding were insufficient milk production.
- A higher number of employed mothers had started artificial feeding. aa. Only 49.78% of mothers had started weaning their babies at the correct age bb. A higher number of literates had started weaning at the proper age.

References

1. Park. K. Park's Text book of Preventive & Social Medicine. 21st edition. Jabalpur: M/s Banarsids Bhanot; 2011.488-497.
2. Zulfikar A Bhutta. Miriam Labbok. Scaling up breastfeeding in developing countries. The Lancet 2011; vol 378: 378-380.
3. S. Sethi, D. Jena. R.M. Tripathy. A study of breast feeding practices among urban mothers attending the immunization clinic of MKCG medical college hospital Berhampur: Journal of Community Medicine 2008; vol 4, No.1.
4. S.B. Bavdekar, M.S. Bavdekar, R.R. Kasla, K.J. Raghunandana, S.Y. Joshi, G.S. Hathi. Infant feeding in Bombay slum. Indian Pediatrics 1994; vol 31:1083- 1087.
5. S.K. Rasia, S.K. Singh, S.P. Patil, S. Bhalla, T.R. Sachdev, Breast feeding practices in a maternal and child health centre in Delhi. Health and population 2003; issues 26 (3); issues 26 (3); 110-115.
6. Deeksha Sharma, Sheel Sharma. Bottle necks to breast feeding rural Rajasthan. Indian Journal of Community Medicine 2005; vol.30, no.4:155-156
7. Madhu. K, Sriram Chowadry Ramesh Masthi. Breast feeding practices and new born care in rural areas: a descriptive cross-sectional study. Indian Journal of Community Medicine 2009; vol 34, issue 3: 243-246.
8. R. Singh, O.A. Kumar, R.S. Rama. Breast feeding and weaning practices among urban muslim of district Lucknow. Indian Pediatrics 1992; vol 29: 217219.

9. Dinesh Kumar, N.K. Geol, Poonam C. Mittal, Purnima Mishra. Influence of infant-feeding practices on nutrition status of under five children. *Indian Journal of Pediatrics* 2006; vol 3: 417-422.
10. Kiran Singh, Purnima Srinivastaa. The effect of colostrum on infant mortality: urban rural difference. *Health and population – perspectives and issues* 1992; 15 (3&4): 94-100.
11. Emery. J.L. Scholey. S, Taylor. E.M. Decline in Breastfeeding. *Archives of Diseases in Childhood* 1990; 65: 369-372.
12. Molbak, Kare-A. Prolonged breastfeeding, diarrhea diseases, and survival of children in Guinea-Bissau. *British feeding Medical Journal* 1994; 30: 1403-6.
13. A.A. Kameshwara Rao. Breast feeding behavior of Indian women. *Indian Journal of Community Medicine* 2004; 29(2):62-64.
14. Lt Col PMP Singh, Col R Bhalwar. Breast Feeding Practices among Families of Armed Forces Personnel in a Large Cantonment. *MJAFI* 2007; vol. 63, No.2: 134-136.
15. Sudarshan Kumari, Arvind Saili, Sharda Jain, Uma Ragava, Gauri Gandhi, Prashnt Seth. Maternal attitude and practices in initiation of new born feeding. *Indian Journal of Pediatrics* 1988; vol 55, no.6: 905-911.
16. V. Kiran. Survey to validate neonatal tetanus elimination in Andhra Pradesh, Indian. *IPHA* 2004; 48(2):78-81.
17. Adhisivam. B, Srinivasan. S, Soudarssanane. M.B, Deepak Amalanath. S, Nirmal Kumar. A. Feeding of infants and young children in tsunami affected villages in Pondicherry. *Indian Pediatrics* 2006; vol 43: 724-727.
18. Pragti Chhabra, Vijay L, Grover, O.P. Aggarwal, K.K. Dubey. Breastfeeding patterns in an urban resettlement colony of Delhi. *Indian Journal of Pediatrics* 1998; 65:867-872.
19. Govt. of India. National Family Health survey III (2005-2006). IIPS, Ministry of Health & Family Welfare; Mumbai. 2007.
20. World Health Organisation. Contemporary patterns of breast feeding. Report on the WHO Collaborative study on breast feeding. Geneva: WHO; 1981.
21. V. Vimala, C. Ratnapraba. Infant feeding practices in tribal area of Andhra Pradesh. *Indian Pediatrics* 1987; vol. 24: 907-910.
22. Govt. of India. National Family Health survey IV (2015-2016). IIPS, Ministry of Health & Family Welfare; Mumbai. 2017.
23. Malini Dash and R.K. Choudhury. Breast feeding practices among Santals and non-Santals of Orissa. *Anthropologist* 2005; 7(4): 283-287.
24. Kumar D, Agarwal N, Swami H.M. Socio-Demographic correlates of breast feeding's in urban slums of Chandigarh, *Indian J Med Sciences* 2006; vol.60:461-6.
25. R.N. Kulkarni, S. Anjeneya, R Gujar. Breast feeding practices in an urban community of kalam Navi Mumbai. *Indian Journal of Community Medicine* 2004; vol. XXIX no. 4:179-180.
26. U. Kapil. S. Kaul, G. Vohra, S. Chaturvedi. Breast feeding practices among mothers having undergone caesarean section. *Indian Pediatrics* 1992; vol 29: 222-224.
27. R.J. Yadav. Knowledge attitude and practices of mothers about breast feeding I Bihar. *IJCM* 2004; vol XXIX, no 3:130-131.
28. Sanjiv Kumar, L.M. Nath, V.P. Reddaiah. Breast feeding practices in resettlement colony and it's implications for promotional activities. *Indian Journal of Pediatrics* 1989; 56:239-242.
29. Subha S. H, T.S. Chandrashekar, Binu V.S, Joshi H.S, Rana MS, Dixit SB. Infant feeding practices of mothers in an urban area in Nepal. *Kathmandu University Medical Journal* 2007; vol.5, no 1, issue 17:42-47.
30. Kalsa R.R. Bavdekar S.B. Joshi S.Y. Hathi G.S. Exclusive Breast feeding: protective efficacy. *Indian Pediatrics* 1995; 62:449-455.
31. Ranjana Tiwari, P.C. Mahajan, Chandrakant Lahariya, The determinants of exclusive breast feeding in urban slums; a community based study. *Journal of Tropical Pediatrics* 2009: vol 55. Issue: 49-54.
32. Anju Aggarwal, Supriya Arora. Breast feeding among urban women of low socioeconomic status; factors influencing introduction of supplementary feeding. *Indian Pediatrics* 1998; vol.35:269-271.
33. D.K. Taneja. A study of infant feeding practices and the underlying factors in rural area of Delhi. *IJCM* 2003; vol.208 no.3.
34. Muralidhar K, Sastry V.V, Peri S, Lakshman Goud M. Artificial feeding practices in rural community – A cross – sectional study in Warrangal area. *Indian Journal of Public Health* 1994; 38(1):27.
35. World Health Organization. Collaboration study on minor and trace elements in breast milk. Joint report WHO/IAEA. Geneva: WHO; 1989.
36. R. Chudasama. P. Patel & A. Kavishwar: Breastfeeding initiation practice and factors affecting breastfeeding in South Gujarat region of India. *The Internet Journal of Family Practice* 2009; vol 7, No.2.