Pattern of Feeding Practiced by Mothers of Infants Attending Immunisation OPD in a Tertiary Care Centre: A Hospital based Cross-Sectional Study

Sambedana Mohanty[1], Tapas Ranjan Behera[2]

[1]Assistant Professor, Dept Of Community Medicine, IMS and SUM Hospital, [2]Assistant Professor, Dept Of Community Medicine, S.C.B Medical College and Hospital

Abstract

Context: Breast milk is the first natural food for babies which is adequate for the first six months of life. But practically very few mothers exclusively breast feed their babies as they start complementary food before completion of six months. Inadequate knowledge and practice regarding infant feeding practices can result in various infections of infants such as diarrhoea and pneumonia. Inorder to evaluate the pattern of breastfeeding and weaning and their influencing factors a cross-sectional study was conducted in immunization OPD of M.K.C.G MCH from August-October 2014 (3 months) among 152 mothers attending the immunization OPD using a pre-designed, pretested and semi-structured Odiya questionnaire. Data thus collected was analysed using appropriate statistical tests. **Results:** Among the 152 mothers who were interviewed , 28(18%) of them had low birth weight babies. Out of the 148 mothers who had breast fed, initiation of breast feeding was done within half an hour by 64(43.2%) of the mothers. Out of them,18 (12.1%) of mothers had given pre-lacteal feeds. Among infants greater than six months, exclusive breast feeding has been done in case of 28(33%) of them . Among the 84 mothers who have weaned their babies before completion of six months, 82(98%) have reasoned insufficient milk. After introduction of outside food ,70(62.5%) infants did not suffer from any problem whereas among the rest 32(61.5%) suffered mostly from diarrhoea. Mothers had adequate knowledge regarding various aspects of infant feeding. **Conclusion:** Antenatal mothers should be counselled regarding importance of exclusive breast feeding as well as timely introduction of complementary foods along with necessity of hygiene. Working mothers can practice expressed breast feeding as well use the CRECHE to maintain exclusivity of breast feeding.

Keywords: *Infant feeding, Pre-lacteals, Exclusive breast feeding, Complementary feeding, Weaning*

Introduction

Breast milk is the life line for the newborns and best gift a mother can give to her baby as it contains all the nutrients for normal growth and development from the time of birth to six months of life. It helps in sensory and cognitive development.(1)Exclusive breastfeeding is defined (EBF) as no other food or drink, not even water, except breast milk (including milk expressed or from a wet nurse) for 6 months of life, but allows the infant to receive ORS, drops and syrups (vitamins, minerals and medicines).(2) It protects against hospitalization for diarrhoea and lower respiratory tract infection. WHO and UNICEF launched the 'Baby friendly Hospital Initiative' (BFHI) in 1991 to protect, promote and support breastfeeding.(1) The key to successful breastfeeding is Information, Education and Communication (IEC) strategies aimed at behaviour change. Very few women in India have access to counselling services on infant and young child feeding. (3) Complementary feeding

Corresponding author-
Dr Sambedana Mohanty,
Assistant Professor, Dept of Community Medicine,
IMS and SUM Hospital,
email.id- sambedana87@gmail.com

practices are often inadequate in developing countries, resulting in malnutrition between 6 months - 12 months of age. Malnutrition during the critical phases of early growth, can lead to poor physical as well as inadequate intellectual development in children.[4]

According to WHO 2017 (August) fact sheet, it is estimated that only 40% of infants below age of 6 months are exclusively breastfed. As per NFHS 4 (2015 -2016) prevalence of exclusive breastfeeding in India under 6 months age is 54.9% (urban=52.1%, rural=56%). As per recommendations of UNICEF & WHO optimal breastfeeding must consists of early initiation of breastfeeding within 1 hour or as early as possible after birth; exclusive breastfeeding for the first 6 months of life; continuation of breastfeeding up to 2 years of age along with supplementary feeds.[2]

In India exclusive breastfeeding can improve the nutritional status for millions of infants as well as reduce neonatal mortality to as low as 12 neonatal deaths per 1000 live births by 2030. [5] Practice of pre lacteal feeds leads to repeated infections, affecting the growth and development of the children . Breast feeding practices are influenced by socio-demographic factors and cultural values. Illiteracy, ignorance, lack of access to antenatal and postnatal care and inadequate knowledge and skills of breastfeeding are the contributory factors. [2]

Objective: - This study was conducted

- to evaluate the breastfeeding and weaning practices.
- to study various influencing factors.

Materials and Methods

Study Area: Immunisation OPD at M.K.C.G Medical College and Hospital in Berhampur, Odisha. **Sampling Method:** Convenient sampling. **Study Population**: Total 152 mothers attending the immunization OPD during study period. **Study period:** August-October 2014 (3 months) **Study Design:** Hospital based cross sectional study. **Ethical approval**: Approval from IEC. After taking verbal consent from mothers interview of 6-7 mothers was taken weekly on each Wednesday using a pre-designed, pretested and semi-structured Odiya questionnaire in the counselling room maintaining adequate privacy. **Statistical Analysis:** Data was analysed in the Dept of Community Medicine, using SPSS 20.0. Categorical variables were measured in proportions whereas Mean and Standard deviation were calculated for continuous variables.

Results

Total 152 mothers were interviewed. Half of the mothers (48.7%) were in age group 25-30years with 4% teenage mothers. About 40% of the mothers are graduate. Of them only 10% are working mothers. Fathers of 41% of infants were professionals whereas 14.4% of fathers were labourer by occupation.

About 60% of mothers were multi-parous. At least four antenatal visits were recorded in 93%. All were institutional delivery. The prevalence of normal vaginal delivery and caesarean section were equal and equal number of male and female babies among which 18% had low birth weight.

Four out of 152 mothers had never breast fed their children. Initiation of breast feeding was done within half an hour among 64(43.2%). Out of them,18 (12.1%) of mothers had given pre-lacteal feeds. Out of the mothers whose infants were greater than six months, exclusive breast feeding has been done in case of 28(33%) of the babies. Among those 84 babies, breast feeding has been discontinued among 58(69%) of them. **(Table-1)**

Table 1: Profile of Breast-feeding

Characteristic	Frequency (%)
Onset Of BF(n=148)	
<1/2 hour	64(43.2%)
1-24 hours	70(47.3%)
1-4 days	2(1.4%)
>4 days	12(8.1%)
Pre-Lacteal Feeds(n=148)	
No	130(87.8%)
Yes	18(12.1%)
EBF among children greater than 6months(n=84)	
Exclusive	28(33%)
Not Exclusive	56(66%)
Continuation of BF among children greater than 6months(n=84)	
BF continuing	26(31%)
BF discontinued	58(69%)

112(73.6%) mothers have already started giving outside foods to their babies {84(75%) infants more than 6 months and 28 (25%) infants less than six months of age}. Among the 68 babies who are less than six months, rest 40 (59%) babies are being still fed only with breast milk. Weaning has been started among all the 84 infants more than six months. Out of the 84 infants greater than six months 56(67%) mothers had started outside food within six months. Among all the 84 infants who have been weaned before completion of six months ,56(67%) are more than six months and 28(33%) are aged less than six months. Among those 84 mothers,82(98%) have reasoned insufficient milk for premature weaning. 92(82.14%) babies were fed with katori and spoon. Hygiene was adequately maintained among 110(98%) of the mothers. After introduction of outside food, 70(62.5%) infants did not suffer from any problem, and among the rest 32(61.5%) suffered from diarrhoea. **(Table-2)**

Table 2: Profile of complementary feeding

Characteristic	**Frequency (%)**	
Whether outside food being given (n=152)	Yes	No
	112(74%)	40(26%)
Weaning(among babies>6months)n=84	Yes	No
	84(100%)	0(0%)
Complementary food(among babies within 6months) n=68	Yes	No
	28(41%)	40(59%)
Among infants (age>6months) when was outside food introduced **(n=84)**	before 6months(i.e not EBF) 56(66%)	after 6months(i.e EBF 28(33%)
Babies who have been given outside	Age <6months	Age >6months

Cont... **Table 2: Profile of complementary feeding**

food before 6months(n=84)	28(33%)	56(66%)
Reason for early introduction of complementary food(n=84)		
Insufficient milk	82(98%)	
Working	2(2%)	
Method of feeding(n=112)		
Katori-spoon	92(82.14%)	
Bottle	20(17.8%)	
Hygiene being maintained(n=112)		
Adequate	110(98%)	
Inadequate	2(2%)	
Any Problem after starting of complementary food(n=112)	Yes	No
	42(37.5%)	70(62.5%)
Problems after starting of complementary food(n=42)		
Weight loss	6(14.2%)	
A.R.I	4(9.5%)	
Diarrhoea	32(76.2%)	

Adequacy of knowledge regarding advantages of breast feeding, exclusivity of breast feeding, start of weaning, weaning foods were found among 120(79%),125(82%),114(75%),114(75%) mothers respectively.

Discussion

Among the 152 mothers interviewed half of them (48.7%) were in 25-30years with 4% teenage mothers. About 40% of the mothers are graduate and 10% were working mothers. In a study by **Bagul A.S et al** in Nagpur, among the 384 enrolled mothers 111 (28.94%) were housewives and rest working women. Only 77 mothers (19.73%) were illiterate and 99 (25.65%) were educated beyond secondary school**.** [6] In a study by **Roy S et al** in Kolkotta, among 120 mothers, majority 81.6% were literate and 69.1% were housewives.[7] In a study by **Rajesh D et al** and **Bhavna D et al**, mean age of the mothers was 24.89 ± 7.82 years.[4] Another study by **Cheedarala V et al**, among 100 mothers, mean age of mothers was 25.6±3.81 years. Most of the mothers 68% were employed. [2] A similar study by **Mahmood**

S.E et al found 78.04% mothers less than 30 years and 69.9% illiterate and all were housewives.[8] In study by **Ekambaram M etal,** among 100 postnatal mothers, mean age was 25.18 ±3.81 years. Only 29% had completed upto primary school while 22% of them were graduates. Majority (67%) of them were housewives.[3] In study by **Srivastav P et al ,** most of the mothers (43.4%) were in the age group of 19-22 years. Majority of the respondents (45.5%) were educated up to middle school level. Almost all the mothers (97.9%) were housewives. [9] In a study by **Wadde et al** in Maharashtra, among 306 mothers age of all the mothers ranged between 18 to 35 years whereas 33.99% were illiterate.[10] In study by **Bhatt et al** 95 (54.3%) belonged to age group of 26-30 years. Most of them 77 (44%) have studied up to primary & by occupation majority (66.9%) are housewives.[11]

On assessing the ***obstetric history***, about 60% of mothers were multi-parous. Antenatal visits more than four times were undergone by 93%. All had undergone institutional delivery. The prevalence of normal vaginal delivery and caesarean section were 50% each with equal number of male and female babies but 18% of them had low birth weight. 84 (55%) babies were aged greater than six months whereas 68 (45%) babies were less than six months.

In study by **Rajesh D et al**, 52% of children are male and 48% female. [4] **In a study by Cheedarla V et al** Mothers with one child were 38 (38%), whereas with two children 44 (44%). [2] In a study by **Supare A.S et al** 17.1% mothers had home Deliveries. Caesarean sections were done in 83(21.66%). [6] In a study by **Mahmood Syed et al**, 68.2% mothers were multiparous with half of the deliveries at home. Only a quarter of the females had three or more antenatal visits during pregnancy. [8] Whereas **Srivastav P et al** found 97.9% of the mothers delivered in a health care institution. [9] Similarly **Bhatt et al** found two-thirds of the babies were delivered vaginally and caesarian section in one third. [11]

In our study, four of the mothers had never breast fed their children. Out of the remaining 148 mothers initiation of breast feeding was done within half an hour among 43.2% of the mothers. Among them only 12.1% babies had been given pre-lacteal feeds. Out of the 84 mothers whose infants were greater than six months, exclusive breast feeding has been done in case of 33% of the babies. Among those 84 babies, breast feeding has been discontinued among 69% of them. Weaning has been done by 73.6% of the mothers. They include all the 84(75%) infants who are aged greater than 6 months as well as 28(25%) infants who are still less than six months of age. Among the 68 babies who are less than six months, rest 40(59%) babies are being still fed only with breast milk. Violation of EBF has been done in case of 84(55%) of the babies which include 56 (66.6%) out of 84 babies who are now greater than six months and 28(41%) babies out of 68 babies who are less than six months. Insufficient milk was reason in case of 82(98%) mothers.

In a study by **Supare A.S et al** 32.56% had started breast feeding within 1 hour. Colostrum was given by 21.38% mothers. Pre-lacteal feeds were given by 78.61% mothers and Exclusive breast feeding by 36.84% mothers. Complementary feeds were introduced at 6 months by 41.11% and after 6 months by 7.89% mothers. [6] In a study by **Roy S et al** in Kolkota 29.16% gave pre-lacteal feed and 76.67% received breast milk within 24 hr. 90% were fed with colostrum with 28.33% exclusive breast fed. Inadequate milk production is the most common reason for not giving EBF in 62.79%. Among them 71.66% were given complementary feeding at 6 months. [7] In a study in district of AP by **I. Meshram L.A.V et al** only 22% mothers initiated breastfeeding within one hour. Pre-lacteal use was high (44.7%). Only 41% of infants were exclusively breastfed for 6 months and 58% of infants (6-11months) received complementary feeding at 6-9 months of age. [12] Similar findings are found by **Rajesh D et al, Cheedrala et al, Srivastav P et al** and **Wadde et al** in their respective studies. [2,4,9,10]

Among all the 112 mothers, 92(82.14%) babies were fed with katori and spoon. Hygiene was adequately maintained among 110(98%) of the mothers. After introduction of outside food,70(62.5%) infants did not suffer from any problem. Among the rest 42 babies, most of them i.e 32(61.5%) suffered mostly from diarrhoea. Adequacy of knowledge regarding advantages of breast feeding, exclusivity of breast feeding, start of weaning, weaning foods were 79%,82%,75% and 80% respectively.

In study by **Mahmood S.E et al** BF a majority (69.9%) of the mothers did not receive advice on child feeding. About 47.2% of the respondents were not aware of the benefits of exclusive breastfeeding. [13] In study by **Ekambarm et al**, majority of the mothers (52%) did not receive any advice on breastfeeding during antenatal period .But 92% knew that breastfeeding should be initiated within one hour [3] In study by **Bhatt et al** it was found that 84.6% mothers agreed that mother's milk alone is the best food for the new born. It was found that majority of women interviewed did not receive any antenatal counselling regarding breastfeeding (77.1%). [11] In a study by **Roy S et al** among 120 mothers 41.66% were informed about EBF and timely introduction of complementary feeding either from health facility or family members and peer groups.[7]

Conclusion

Very few mothers are practicing exclusive breast feeding by premature weaning mostly because of insufficiency of milk. Due to inadequate hygiene some babies are suffering from diarrhoea and pneumonia. During antenatal visits , postnatal check-ups, as well as immunization of babies mothers should be routinely educated about proper infant feeding practices .Working mothers can practice expressed breast feeding as well use the concept of CRECHE for their babies to maintain exclusivity of breast feeding.

Limitation:

As it is a hospital-based study so the findings cannot be generalised. Further studies need to be conducted to determine the strength of association between pattern of feeding with various influencing factors.

Conflicts of Interest: Nil

Acknowledgement: We are obliged to all the mothers who gave their consent for the interview as well as the staff of immunisation OPD for their co-operation and support .

Source of Funding-self

References

1. Shrivastava P, Saha I, Nandy S. O RIGINAL ARTICLES A study on feeding practice of under 6 months infants attending the Nutrition Clinic of a tertiary care hospital of West. 2013;10(2):2–7.
2. Cheedarla V, Kenche B, Vemuri JLN, Reshaboyina LRL. A study on breast feeding practices among mothers in urban field practice area of tertiary care center, Hyderabad. Int J Community Med Public Heal. 2019;6(2):870.
3. Ekambaram M, Bhat V, Asif M, Ahamed P. Knowledge, attitiude and practice of breastfeeding among postnatal mothers. Padiyath Ahamed [Internet]. 2010 [cited 2018 Jan 15];14(2). Available from: http://www.biomedres.info/biomedical-research/knowledge-attitiude-and-practice-of-breastfeeding-among-postnatal-mothers.pdf
4. D. R, D. B. A study on infant feeding practices in the urban slums: a cross sectional study. Int J Contemp Pediatr. 2016;3(2):350–4.
5. Nishimura H, Krupp K, Gowda S, Srinivas V, Arun A, Madhivanan P. Determinants of exclusive breastfeeding in rural South India. Int Breastfeed J. 2018;13(1):1–7.
6. Bagul AS, Supare MS. The infant feeding practices in an urban slum of nagpur, India. J Clin Diagn Res [Internet]. 2012 Nov [cited 2018 Jan 15];6(9):1525–7. Available from: http://www.ncbi.nlm.nih.gov/pubmed/23285446
7. Roy S, Dasgupta A, Pal B. Feeding practices of children in an urban slum of kolkata. Indian J Community Med [Internet]. 2009 Oct [cited 2018 Jan 15];34(4):362–3. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20165637
8. Mahmood SE, Srivastava A, Shrotriya VP, Mishra P. Infant feeding practices in the rural population of north India. J Family Community Med [Internet]. 2012 May [cited 2018 Jan 20];19(2):130–5. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22870418
9. Srivastav P, Shah I. A study on feeding practice of under 6 months infants attending the Nutrition Clinic of a tertiary care hospital of West Bengal, India.
10. Wadde SK, Vedpathak VL, Yadav VB. Breast Feeding Practices in Rural Mothers of Maharashtra. Int J Recent Trends Sci Technol. 2011;1(3):115–9.
11. Shwetal B, Pooja P, Neha K, Amit D, Parmar dr rahul. Knowledge, attitude and practice of postnatal

mothers for early initiation of breast feeding in the obstetric wards of a tertiary care hospital of Vadodara City. Vol. 3, Nat J Community Med. 2012.

12. Meshram II, A L, K V, N V BG. Impact of feeding and breastfeeding practices on the nutritional status of infants in a district of Andhra Pradesh, India. Natl Med J India [Internet]. [cited 2018 Jan 15];25(4):201–6. Available from: http://www.ncbi.nlm.nih.gov/pubmed/23278776
13. Mahmood S, Srivastava A, Shrotriya V, Mishra P. Infant feeding practices in the rural population of north India. J Fam Community Med. 2012;19(2):130.