Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2014; 2(6E):3161-3164 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com **DOI:** 10.36347/sjams.2014.v02i06.064

Research Article

Feeding Practices of Children under 24 Months of Age Attending a Tertiary Care Hospital in Delhi

Deepti Dabar[1*], Anita Verma[2], Abha Mangal[3], Saudan Singh[4], Vikas Yadav[5]
[1,3]Senior Resident, [2]Professor, [4]Director Professor and Head, Department of Community Medicine, Vardhmaan Mahavir Medical College, Safdarjang Hospital, New Delhi, India
[5]Senior Resident, Centre for Community Medicine, AIIMS, Ansari Nagar, New Delhi, India

***Corresponding author**
Dr. Deepti Dabar
Email: deepti.dabar@gmail.com

Abstract: Optimal infant- and young child-feeding (IYCF) practices are crucial for nutritional status, growth, development, health, and ultimately the survival of infants and young children. A semi-structured, pre tested questionnaire based on the standardized IYCF questionnaire was used to collect details about feeding practices of children under 24 months attending the immunization clinic at Safdarjung Hospital. Only 85.5 per cent of them were currently breast-fed and only 51% were exclusively breast-fed in the 0-6 month age group.. 40.8% of the children had been given pre-lacteal feeds .The MMF, MDD and MAD indicators were poor. The above findings support the need to increase awareness and counsel mothers on the importance of Infant and Young Child Feeding Practices to prevent malnutrition in children.
Keywords: : Infant and Young Child Feeding, Minimum Meal Frequency (MMF), Minimum dietary diversity (MDD), Minimum acceptable diet (MAD).

INTRODUCTION

It is estimated that every year 10.9 million children under the age of 5 years die worldwide. Among it, 2.4 million deaths occur in India alone [1]. Worldwide, only 35% of infants are exclusively breastfed during the first 4 months of life. Complementary feeding are fed either too early or too late with foods, that are often nutritionally inadequate and unsafe [2], that results in malnutrition contributing to impaired cognitive and social development, poor school performance and reduced productivity in later life.

Optimal infant- and young child-feeding (IYCF) practices are crucial for nutritional status, growth, development, health, and ultimately the survival of infants and young children [2]. Factors playing a detrimental effect on health and growth in children less than 2 years of age include insufficient quantities and inadequate quality of complementary foods, poor child feeding practice and high rates of infections. If children do not receive sufficient dietary diversity and meal frequency after 6 months of age they will become stunted even after optimum breastfeeding [3].

Support to quality child feeding practices together with disease prevention and control are the most effective interventions that can significantly reduce stunting and acute malnutrition during the first two years of life [13].

Optimal IYCF, especially exclusive breastfeeding, was estimated to prevent potentially 1.4 million deaths every year among children under five [14].

The World Health Organization and UNICEF in 2007 brought out the Indicators for assessing infant and young child feeding practices which can be used at a population level to assess the breastfeeding practices as well as the feeding practices in children aged 6-23 months [4].

Most of the studies conducted in India have focused on mainly the breastfeeding aspects and not the dietary diversity and diet frequency aspects, which are equally important to prevent undernutrition in children less than 24 months of age.

Thus the present study was conducted to:

- To assess the practice of exclusive breastfeeding amongst those attending the immunization clinic at Safdarjung Hospital.
- To assess infant and young child feeding practices in the study population**.**

MATERIALS AND METHOD

This was a clinic-based cross sectional study conducted in the month of July 2013, in the immunization Clinic, Safdarjung Hospital, New Delhi. Children under 2 Years of age attending the Immunization Clinic accompanied by their mothers/primary care givers were interviewed after explaining to them the purpose of the study and obtaining a verbal consent Women with severely ill children and those who refused to give consent were excluded. A Pre-tested, Semi-structured, Interview based questionnaire based on the standardized IYCF (Infant and Young Child Feeding) questionnaire was used [4].

According to NFHS-3 [5] prevalence of exclusive breastfeeding under 6 months of age is 46.3%. Using the formula of $4PQ/(L)^2$ for sample size calculation (where, P=prevalence, Q= 1-P and L=precision (10%)the sample size obtained was 117. After rounding off the final sample size attained was 120. Statistical analysis was done using the SPSS ver.12.0 Bivariate analysis was done using the chi square test and a p value of less than 0.05 was considered as statistically significant

RESULTS

Table 1: Age and Sex-wise Distribution of the study subjects (N=120)

Age(in months)	Male N (%)	Female N (%)	Total (&)
<6	17 (24.6%)	22 (43.1%)	39 (32.5%
6-12	19 (27.5%)	11 (21.6%)	30 (25%)
12-18	11 (15.9%)	7 (13.7%)	18 (15%)
18-24	22 (31.9%)	11 (21.6%)	33 (27.5%)
Total	69 (57.5)	51 (42.5)	120 (100%)

Table 2: Infant and Young Child Feeding Indicators

Sl. No.	Indicator	N	Male	Female	Total	p Value
1.	Early Initiation of breastfeeding	120	26/69=37.7	26/51=51.0	52/120=43.3	0.14
2.	Prelacteal feeding among children less than 24 months	120	36/69=52.2	13/51=25.5	49/120=40.8	0.01
3.	Exclusive breastfeeding among children less than 6 months	39	7/17=41.2	13/22=59.1	20/39=51.3	0.26
4.	Minimum Meal Frequency(MMF) among children 6–23 months	75	24/47=51.1	14/28=50	38/75=50.7	0.92
5.	Minimum Dietary Diversity (MDD) among children 6–23 months	75	12/47=25.5	8/28=28.6	20/75=26.7	0.001
8.	Minimum Acceptable Diet (MAD) among children 6–23 months	75	-	-	10/75=13.3	-
9.	Children ever breastfed	120	69/69=100	51/51=100	120/120 =100	
10.	Bottle feeding	120	19/69=27.5	17/51=33.3	36/120=36.0	0.49
11.	Milk feeding frequency for non-breastfed children	17	7/9=77.8	8/8=100	15/17=88.2	0.45

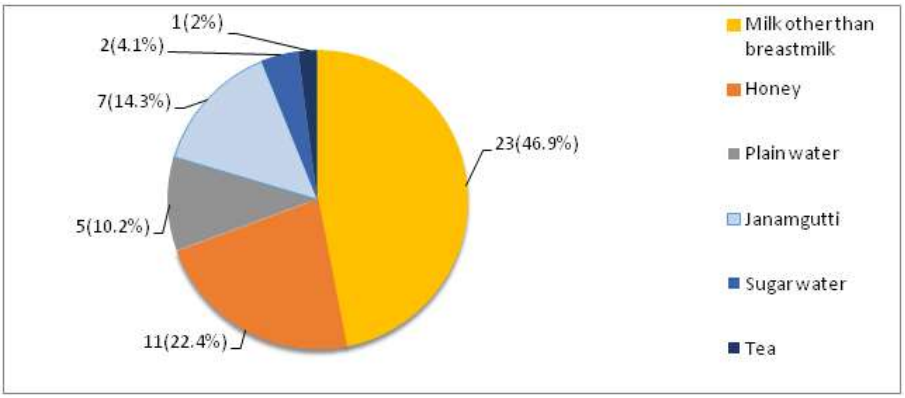

Fig. 1: Percent receiving specific Pre-lacteal liquids

India is considered to be in phase one of W.H.O. typology of infant feeding pattern. In this phase, also called as traditional phase, there is high prevalence and duration of breast feeding [6].

Hundred twenty mothers were included in the study. About 58% of the mothers had male babies rest being females. About 18 % of mothers included in the study were less than primary educated, 23.3% had education up to primary level, 21.6 % up to secondary level, 18.3% upto senior secondary and the rest 18.3 % were educated above senior secondary level. Majority (42.5%) of study population belonged to Upper Middle Class family; followed by Lower Middle Class (33.3%), Upper Lower Class (15.8%) and UpperClass (8.3%) using the Revised Kuppuswamy's Socioeconomic Scale 2013 [7].
Majority 90% of the deliveries were institutional and 84.2% of the deliveries were normal 13.3 % were caesarean and 2.5 %, instrumental. Table 1 depicts the age and sex distribution of the study subjects.

Table 2 shows the IYCF indicators segregated by sex and overall. Early initiation of breast feeding which is defined as breast feeding initiated within an hour of birth is seen in only 43.3 % of the study subjects. About 40% of the study subjects have been given prelacteal feeds, being more common among males (52.2%) and the results are statistically significant. Figure 1 shows the specific prelacteal feeds given at birth. Milk other than breast milk was found to be the most common pre-lacteal feed (46.9%), followed by honey (22.4%) and Janamgutti (14.3%).When assessing the indicator for exclusive breastfeeding which is based on the recall of the last 24 hours, only half 51.3 % of the children less than 6 months of age were exclusively breast fed.

Minimum Meal Frequency (MMF) [4] which is defined as Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more. For breastfed children the minimum number of times varies with age (two times if 6–8 months and three times if 9–23 months). For non breastfed children, the minimum number of times does not vary by age (four times for all children aged 6–23 months). MMF was observed in about one-half (50.7%) of children aged 6–23 months.

Minimum dietary diversity (MDD) [4] indicator is the proportion of children 6–23 months of age who receive foods from 4 or more food groups from a total of 7 food groups, namely, dairy products, legumes and nuts, flesh foods, eggs, vitamin A rich fruits and vegetables, cereals and tubers, and other fruits and vegetables. This indicator reveals whether the child is receiving a complete and balanced diet or not. MDD was observed in only 26.7% of the children between 6 and 23 months and the results were statistically significant.

Minimum acceptable diet (MAD) [4] indicator is the proportion of children aged 6–23 months who receive at least the MDD as well as at least the MMF according to the definitions mentioned above. This was found to be adequate only in 13.3 % of the 6- to 23-month-old children. None of the breast fed children of the age group 6-8 months received minimum acceptable diet. The figure rose to 24% in breast fed children between 9-23 months and fell to 17.6% in non-breast fed children between 6-23 months.

All children born in the last 24 months were ever breastfed. All women continued breast-feeding up to one year of age. Only 37.5% percent women continued at the end of the second year. Bottle feeding was practised for 30% of the children under 2 years. Milk feeding frequency for non-breastfed children which is the proportion of Non-breastfed children 6–23 months of age who received at least 2 milk feedings during the previous day was 88.2 %.

DISCUSSION

In our study 43.3% of children were put on breast feeding within one hour of birth. National Family Health Survey – 3 (NFHS-3) data at the national level [5] and also at Delhi [8] showed it as 23.4% and 21.7%, respectively, for children aged under 3 years. Study from West Bengal [9] had shown it much lower as 13.6%. In view of the fact that 90% of deliveries were hospital deliveries this number is discouraging and points to the poor counselling and breastfeeding support provided at hospitals. Amongst those under 6 months 51.3% were exclusively breastfed in the last 24 hours which is also higher than that reported by NFHS-3 (46.4%) [8], lower than a study done in East Delhi (57%)(10)and West Bengal (57.1%) [9]. An epidemiological evidence of a causal association between infant feeding practices and neonatal mortality has been proved in previous studies [11].

Minimum Meal Frequency (MMF) in children aged 6-23 months was 50.7% as compared to 48.6% as reported from East Delhi [10]. *Minimum Dietary Diversity* (MDD) was also low at 26.7% only as compared to 32.6% in a similar study in Delhi [10]. A composite of the above two indicators the *Minimum Acceptable Diet* (MAD) was adequate only in 13.3% of the 6- to 23-month-old children. Its is higher than that reported by NFHS-3(7.1%) [5]. These three indicators which summarize the quantity and quality of complementary feeding given to children after 6 months of age are disappointing and depict the lack of information and the need of nutritional counseling for children attending the immunization clinics. NFHS-3 [5] finds that only 44% of breastfed children are fed at least the minimum number of times recommended and only half of them also consume food from three or more food groups. Feeding recommendations are followed even less often for non breastfed children. Overall only 21% of breastfeeding and non breastfeeding children are fed according to the IYCF recommendations.

NFHS-3 data from Delhi [8] have reported that only 55% of children aged 6–23 months are fed the recommended minimum times per day and 48% are fed from the appropriate number of food groups. Moreover, only 34% are fed according to all three recommended practices.

Continued breastfeeding at 1year of age was 100% which is higher than that reported by NFHS-3 (75%) for developing countries while at 2 years of age it was only 37.5% which is considerably lower than that reported by NFHS-3 (56%) for developing countries. It is also higher than that shown in east Delhi [10] 72.1% and West (97.9%) [9].

The percentage of children having received pre-lacteal feed was 40.8% which is alarming as most of the deliveries were institutional deliveries. Bottle feeding was seen in 30% of the study subjects which is higher than those reported by NFHS-3(14%). Bottle feeding is a well recognized scourge for diarrhea and other infections in children, thereby contributing to undernutrition. Its prevalence was seen to be 26.5 % in a study done by Khan *et al*. [10] and 10.2% in a study done in West Bengal [9]. It is less than that shown by Rasania *et al*. [12] that is 65.8 %

Limitations

The study was carried out at a Tertiary care Hospital, situated in the capital, and it included children from health-conscious mothers, coming to the center for immunization. Also the sample size was not large enough when it came to finding the proportions for children of various age groups, different socioeconomic classes and proportions of primary care givers of different educational status and disaggregation of the results. Hence, a small sample size and selection bias due to clinic-based nature of study limits its representativeness.

CONCLUSION AND RECOMMENDATIONS

The IYCF indicators assessed for this population attending the Immunization clinic were poor especially the MMF, MMD and MAD indicators. There is a need to properly assess the complementary feeding practices at every contact with the health system viz. immunization visits. The care givers should be informed and counseled about the quantity and quality of feeds to be given to their children. Otherwise, these visits will only be missed opportunities to tackle undernutrition in children.

REFERENCES

1. Black RE, Morris SS, Bryce J; Where and why are 10 million children dying every year? Lancet, 2003 361(9376): 2226–2234.
2. Dewey K, Lutter C; Guiding principles for complementary feedidng of the breastfed child. Pan American Health Organization, Washington, DC, USA; World Health Organization, Geneva, Switzerland; 2003. Available from: http://whqlibdoc.who.int/paho/2003/a85622.pdf
3. Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M, Ezzati M et al.; Maternal and child undernutrition: global and regional exposures and health consequences. Lancet, 2008; 371(9608): 243–260.
4. World Health Organization; Indicators for assessing infant and young child feeding practices: Conclusions of a consensus meeting held 6-8 November 2007 in Washington D.C., USA. 2008 Available from http://whqlibdoc.who.int/publications/2008/9789241596664_eng.pdf
5. International Institute for Population Sciences (IIPS) and Macro International; National Family Health Survey (NFHS-3), 2005–06: India. Volume I, 2007 Available from: http://www.im4change.org/docs/286India%20Summary%20NFHS%203.pdf
6. Bamuslag N; Breast feeding trends and influencing factors. Int Child Hlth., 1992; 3: 39–46.
7. Kuppuswamy B; Manual of Socioeconomic Status (urban), Delhi. 1st edition, Manasayan, 1981.
8. International Institute for Population Sciences (IIPS) and Macro International. National Family Health Survey (NFHS-3) Report, India, 2005-06: Delhi. Mumbai; 2009.
9. Sinhababu A, Mukhopadhyay DK, Panja TK, Saren AB, Mandal NK, Biswas AB; Infant- and young child-feeding practices in Bankura district, West Bengal, India. J Health Popul Nutr., 2010; 28(3): 294–299.
10. Khan AM, Kayina P, Agrawal P, Gupta A, Kannan AT; A study on infant and young child feeding practices among mothers attending an urban health center in East Delhi. Indian J Public Health. 2012; 56(4): 301–304.
11. Edmond KM, Kirkwood BR, Amenga-Etego S, Owusu-Agyei S, Hurt LS; Effect of early infant feeding practices on infection-specific neonatal mortality: an investigation of the causal links with observational data from rural Ghana. Am J Clin Nutr., 2007; 86(4): 1126–1131.
12. Rasania SK, Sachdeva TR; Nutritional status and feeding practices of children attending MCH centre. Indian Journal of Community Medicine, 2001; 26(3): 145–150.
13. Infant and young child feeding for young child survival, growth and development need for a comprehensive policy and plan of action. Maharashtra. Available from https://arogya.maharashtra.gov.in/Site/Uploads/NewsAndEvents/635509720024192931-Infant-and-Young-Child-Feeding--Policy-brief.pdf
14. UNICEF; Infant and Young Child Feeding. Programming Guide Infant and Young Child Feeding, Nutrition Section, Programmes, New York, 2012