

Research Article

A study to know infant & young child feeding practices of mothers attending mother and child health clinic at a tertiary care teaching hospital, Davangere, India

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ABSTRACT

Background: Feeding pattern during infancy has several health related implications. Infant and young child feeding [IYCF] practices comprising breastfeeding as well as complimentary feeding have major role in determining the nutritional status of children. Most of the studies conducted in India focus on breastfeeding aspects only, our study will also include practices regarding complementary diet diversity & frequency aspects of IYCF using the WHO standard IYCF indicators. Objective of the study was to know the IYCF practices among mothers with children aged 0-23months.

Methods: Study design - Cross sectional study

Study setting - Mother and child health [MCH] clinic of tertiary care teaching hospital, Davangere.

Study Period - Six months from September 1st 2013 to January 31st 2014.

Sample size – 350 mothers with children 0-23months old attending MCH clinic.

Results: 39% of the mothers initiated breastfeeding within half an hour of childbirth. 9% of them gave history of giving pre-lacteal feeds. 26% of the mothers were found to be giving WHO recommended minimum adequate diet to their children.

Conclusions: The study highlights that inappropriate IYCF practices are still very much prevalent in the community.

Keywords: IYCF, MCH clinic, Practices

INTRODUCTION

Malnutrition is one among the commonest causes of infant mortality in a developing country like India. Nutritional deficiency is found mostly at the critical period of weaning. The factors though intangible but have a role of immense importance in decreasing infant mortality rate include exclusive breast feeding and proper weaning practices. The new norms of infant and young child feeding are exclusive breast feeding for the first 6 months (replacing the 4-6 months age range of earlier guidelines) and introduction of complementary foods at 6 months while continuing breast feeding up to the age of 2

years or beyond. Weaning if not carried out properly, may lead to malnutrition and illness.¹

Problems such as malnutrition in children, poor maternal and adolescent nutrition, and gender discrimination, all continue to be major challenges in our country. Nearly 67% of the child deaths in India are due to the potentiating effects of malnutrition.²

Complementary feeding starting at about six months old, feeding children energy - and nutrient-rich complementary foods while continuing to breast feed for at least two years could prevent more than 10 per cent of

deaths from diarrhoea and acute respiratory infections, particularly pneumonia; and increase resistance to measles and other illnesses.³

In India, while the infant mortality rate (IMR) has declined to 40 (SRS September 2014)⁴, but there still remains the need to accelerate improvements in infant and neonatal survival to achieve Twelfth Plan goal, to reduce IMR to 25 by 2017.⁵ Infants aged 0–5 months who are not breastfed have 7-fold and 5-fold increased risks of death from diarrhea and pneumonia, respectively, compared with infants who are exclusively breastfed.⁶ At the same age, non-exclusive rather than exclusive breastfeeding results in more than 2-fold increased risks of dying from diarrhea or pneumonia.⁷

Optimal Infant and Young Child Feeding practices help ensure young children the best possible start of life. Breastfeeding is not only important for young child survival, health, nutrition, the development of the baby's trust and sense of security but also enhances brain development and learning readiness as well.⁸

The World Health Organization (WHO) and UNICEF have developed the Global Strategy for Infant and Young Child Feeding (IYCF), which recognizes appropriate infant feeding practices to be crucial for improving nutrition status and decreasing infant mortality in all countries. WHO offers three recommendations for IYCF practices for children aged 6–23 months: Continued breastfeeding or feeding with appropriate calcium-rich foods if not breastfed; feeding solid or semi-solid food for a minimum number of times per day according to age and breastfeeding status; and including foods from a minimum number of food groups per day according to breastfeeding status.^{9,10} Infant and young child feeding [IYCF] practices comprising breastfeeding as well as complimentary feeding have major role in determining the nutritional status of children. Most of the studies conducted in India focus on breastfeeding aspects and not on the dietary diversity and diet frequency aspects which are important in adequate growth & development. The objective of our study was to assess the IYCF practices among mothers attending the MCH clinic of J J M Medical College, Davangere.

METHODS

Research Setting: The study was conducted in Davangere city, situated in central part of Karnataka state. The population of the city is 4.35 lakh (Census 2011).

Study design: Present study was hospital based cross sectional study.

Study population: Married women of reproductive age with children in age group 0 – 23 months attending MCH clinic. The study was approved by Institute's ethical

committee and an informed verbal consent was taken from every respondent before conducting the interview.

Duration of study: The study was completed in a period of six months i.e. September 1st 2013 to January 31st 2014.

Sample size: The sample size was calculated using the formula, $N = Z^2_{\alpha/2} PQ/L^2$

Where, $Z^2_{\alpha/2} = 1.96$, Value of the standard normal variate corresponding to level of significance alpha 5%. NFHS 3 (2005-06) from Karnataka¹² finds that 24% of breastfed children are fed at least the minimum number of times recommended & also consume food from four or more food groups (IYCF indicator)¹⁰, so taking 24% as the prevalence (P) and 20% as the allowable error (L), we calculated a Sample size of 317 mothers. Considering 10% drop - outs, a total of 348 \approx 350 mothers were interviewed for the quantitative study.

Sampling technique: This cross sectional study was conducted at the mother and child health (MCH) clinic of department of Community medicine of tertiary care teaching hospital, Davangere. The teaching hospital is in the central part of Davangere, which is a district headquarters and caters to approximately 4 lakh population by providing preventive, curative and rehabilitative health care services.

The study was conducted for the duration of six months from September 1st 2013 to January 31st 2014. During the study period the mothers of children aged 0-23 months attending the MCH clinic for immunization or treatment of minor illnesses were included in the study. Not more than 10 mothers were interviewed per day for five days of the week till the sample size of 350 was attained.

Data collection tools: After taking informed consent, data was collected regarding IYCF practices by interviewing the mothers using pre-designed, pre-tested, and semi-structured questionnaire based on the standard questionnaire on IYCF practices given by WHO.

For determining the status of IYCF practices six core indicators (out of the 8 core indicators and 7 optional indicators as suggested by WHO) were used. This is a set of simple, valid and reliable indicators to assess IYCF practices amenable to population-level measurement.¹⁰ These questions provide the information needed to calculate the indicators of IYCF. As per WHO recommendations, information was collected about the child's diet in the previous 24 hours, which included the type of food items and the number of times they had consumed. Food items were categorized in seven types, that is, cereals, legumes and nuts, dairy products, meat products, egg, vitamin A rich fruits and vegetables, and

other fruit and vegetables. The questions focused on the following domains:

Socio – demographic characteristics: Name, age, number of living children, religion, type of family, years of formal education, occupation, socio economic status.

IYCF practices: Time of initiation of breast feeding after delivery of baby, whether colostrum given, any pre-lacteal feeds given, duration of exclusive breast feeding, frequency/diversity & diet among children in age group 6 – 23 months.

Data analysis: Data was entered in Microsoft excel and analyzed. Percentages were calculated for descriptive statistics.

RESULTS

Out of the total 350 mothers interviewed, a majority (53%) were in the age group 18-22 years, 27% were in the age group 23-27 years and only 9% were older than

33 years. 65% were residents of Davangere city whose mean duration of living was 8.65 years (range 0–30 years).

45% of the mothers belonged to Class V, 31% to class IV and 7% were of class I socio economic status according to modified B G Prasad Socio economic classification updated for August 2013. Majority of the mothers (94%) had received formal education with majority (49%) had education upto SSLC. 5% of the mothers had degree education. Only 6% were found to be illiterate. 53% of the mothers were of Hindu religion followed by Muslims (37%). 7% of mothers belonged to Christianity. 44% of the mothers were housewives and remaining were working mothers. Among working mothers, 36% of them were involved in unskilled labour, 14% mothers were semi-skilled workers and 6% mothers were semi-professionals. Majority of the mothers (48%) were part of joint family followed by 29% belonging to three generation family and 23% mothers were from nuclear families. Out of the total 350 children, 23% of the children were of birth order three or more, whereas the remaining 77% were of birth order less than three.

Table 1: Status of IYCF practices among study population using standard world health organization indicators.

IYCF indicator	Status	n (%)
Early initiation of breastfeeding among children less than 24m [N = 350]	Yes	136(39)
Pre-lacteal feeding among children less than 24m [N = 350]	Given	30(9)
Exclusive BF among children less than 6m [N = 99]	Done	70(71)
Continuing BF among children 6-23m [N = 154]	Yes	124(81)
Minimum meal frequency among children 6-23m [N = 251]	Adequate	121(48)
Minimum dietary diversity among children 6-23m [N = 251]	Adequate	147(59)
Minimum acceptable diet among children 6-23m [N = 251]	Adequate	65(26)

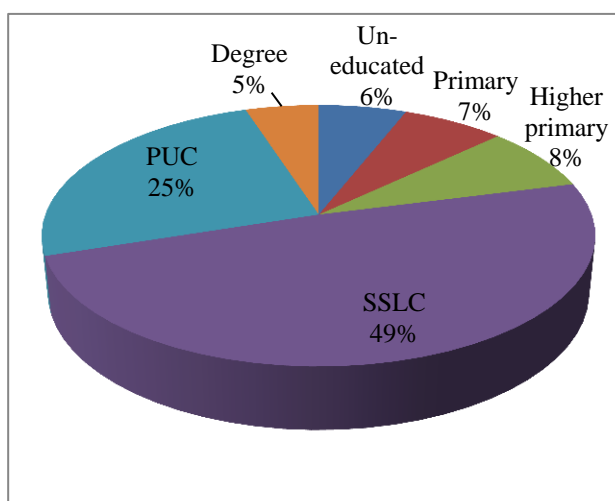


Figure 1: Distribution of mothers according to their education.

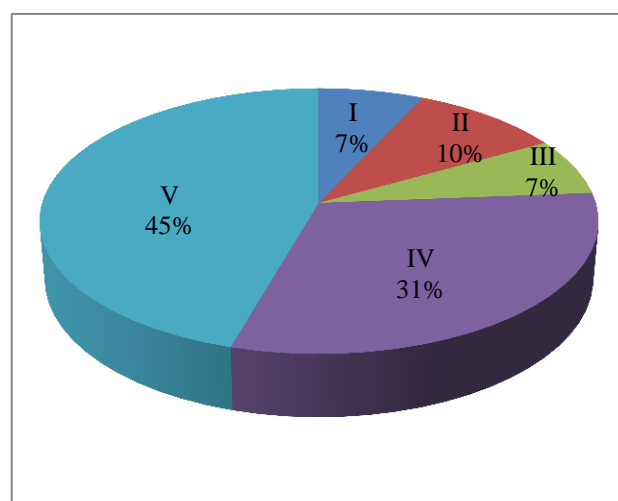


Figure 2: Distribution of mothers according to their socio-economic status (as per modified B G Prasad socio economic scale updated for August 2013).

Out of the total studied children, only 39% were put on breastfeeding within half an hour of birth. National Family Health Survey – 3 (NFHS-3) data at the national level¹¹ and also at Karnataka¹² showed it as 23.4% and 36.0%, respectively, for children aged less than two years. Study from urban slums of Delhi¹³ showed as 32.6% and another study from West Bengal¹⁴ had shown it much lower as 13.6%. An epidemiological evidence of a causal association between early initiation of breastfeeding and reduced infection-specific neonatal mortality has also been documented.¹⁵

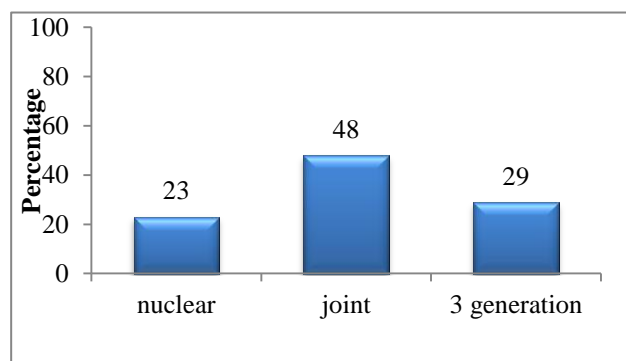


Figure 3: Distribution of mothers according to their family type.

Pre-lacteal feeding was given among 9% of children less than two year old.

In a study WHO offers three recommendations for infant and young child feeding (IYCF) practices for children 6–23 months old: continued breastfeeding or feeding with appropriate calcium-rich foods if not breastfed; feeding solid or semi-solid food for a minimum number of times per day according to age and breastfeeding status; and, including foods from a minimum number of food groups per day according to breastfeeding status.⁹ Much less than half of the children age 6–23 months are fed the recommended minimum number of times per day (48%) and from the appropriate number of food groups (59%). Only 26% were fed according to all three recommended practices.

DISCUSSION

In our study, pre-lacteal feed was given to 9% of the studied children, which was lower compared with NFHS-3 data at the national level (57.2%) and Karnataka state (27%) and a study done in urban slums of Delhi¹³ (38%), at Uganda¹⁶ (43%), and West Bengal¹⁴ (26.7%). Although this practice has been found to be prevalent across the cultures, there is an international consensus that providing other liquids in addition to breast milk in the first 6 months of life is unnecessary and harmful.

Exclusive breastfeeding was done by 71% of 99 children under 6 months of age. This was better than the figures reported by NFHS-3 data, both at national level (46.4%)

and also from Karnataka state (41%) and comparable (57.1%) to the study from West Bengal.¹⁴ A study from slum of Delhi¹³ has shown 57% of the children below 6 months were exclusively breastfed. Studies have reported that about one-fourth of the children who received liquids and solids, along with breastfeeding at 0–6 months of age, remained at risk for infectious diseases and under nutrition.

Continued breastfeeding upto one year was being done by 124 (81%) children between 12 and 23 months. This was lower as compared with a study from West Bengal¹⁴, which showed that 91.1% of children between 12 and 23 months were continuing breast feeding.

Minimum dietary diversity¹⁰ (MDD) 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 reveals whether the child is receiving a complete and balanced diet or not. MDD was observed in 59% of the children between 6 and 23 months. Minimum meal frequency¹⁰ (MMF) indicator is the proportion of breastfed and non-breastfed children aged 6–23 months 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 (48%) of children aged 6–23 months. Minimum acceptable diet¹⁰ (MAD) 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 26% of the 6–23 month old children.

NFHS-3 (2005-06) data from overall India 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-breastfeeding children. Overall only 21% of breastfeeding and non-breastfeeding children are fed according to the IYCF recommendations.¹¹

NFHS-3 data from Karnataka have reported that only 42% of children aged 6–23 months are fed the recommended minimum times per day and 34% are fed from the appropriate number of food groups. Only 24% are fed according to all three recommended practices.¹²

A study done in urban slums of Delhi¹³ found 48.6% of children aged 6–23 months are fed the recommended minimum times per day and 32.6% are fed from the appropriate number of groups. The all three

recommended IYCF practices were practiced by only 19.7% of mothers of children aged 6-23 months.

CONCLUSION

The study highlights inappropriate infant and young child feeding practices are still very much prevalent in the community. Early initiation of breast feeding is still not adequate (39%). Even though the education level of mothers interviewed was very high (96%) the practice of giving pre-lacteal feeds was practiced in some families. Honey and water were found to be the most common pre-lacteal foods given. Majority (71%) of the mothers had practiced exclusive breast feeding and the reason was on recommendation of health care providers. Among the mothers interviewed 56% were working mothers and among them majority (69%) were working 6-8 hours/day and 35% of them had to travel for more than 3kms for work each day. Among the working mothers majority (66%) of them were practicing continued breast feeding among children aged 6-23 months.

The study highlights poor infant and young child feeding indicators, especially the minimum acceptable diet indicator is very poor and it shows the inadequacy of minimum dietary diversity combined with minimum meal frequency among the children studied. Lack of sustained support and motivation of mothers, particularly working mothers are major contributors to the poor IYCF practices among mothers.

Recommendation

Educating the mothers including their family members about correct IYCF practices and their importance in maintaining the health of child is the need of the hour to combat child morbidity and mortality. Thus, emphasis should be given to IYCF education program during all contacts with eligible mothers and should be done routinely when the mothers come for their child's immunization. The interactions between health-care providers and the nursing mothers should be more frequent to ensure sustained correct infant and child care practices. Measures should be initiated to help mothers sustain the breast feeding practices in their homes and work places.

Limitation

The study was carried out at the mother and health clinic of a tertiary care teaching hospital situated in the centre of Davangere city and included mothers with children, who were health conscious, coming to the centre for immunization and health checkup. Also the sample size was not large when it came to finding the proportions for children of various age groups. Hence small sample size and selection bias due to hospital based nature of study limits its representativeness.

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