Original Article

ASSESSMENT OF INFANT AND YOUNG CHILD FEEDING PRACTICES AMONG MOTHERS IN RURAL MADHYA PRADESH

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ABSTRACT

Introduction: Feeding during early childhood is important for normal physical and mental growth as well as for health in later life. In India, poor feeding practices in early childhood contribute to the burden of malnutrition and infant and child mortality.

Objective: Objective of the study was to assess the Infant and young child feeding practices among the children less than two year of age.

Methods: A community based cross-sectional study was conducted. A total of 300 children less than 24 month of age were studied using a standard pretested & pre-validated questionnaire.

Result: Exclusive breastfeeding was followed by about 84.9% children under 6 month of age. About 64% children were put on breastfeeding within one hour of birth. It was found that 51.1% of infants aged 6-8 months were receive soft, semi-solid or solid foods. However few children aged 6-23 months met the requirements for indicators for Minimum dietary diversity (47.8%), Minimum meal frequency (67.8%) and Minimum acceptable diet (32.8%).

Conclusion: This study showed that although the exclusive breastfeeding rate is satisfactory but there are many inappropriate feeding practices during early childhood. These findings highlight the need for effective national level nutrition programmes to enhance breastfeeding and complementary feeding practices with a focus on the target groups

Key words: Breast feeding, Infant & young child feeding practices, Exclusive breastfeeding, India.

INTRODUCTION

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.[1] Worldwide, suboptimal breastfeeding still accounts for deaths of 1.4 million children aged less than five years (under-five mortality).Exclusive breastfeeding up to 6 month can prevent up to 13% of the estimated under five deaths and appropriate complementary feeding can prevent almost 6% of under-five mortality.[2] In India while the infant mortality rate (IMR) has declined to 42 per 1000 live birth, [3] but there still remain the need to accelerate improvement in infant & neonatal survival to achieve Twelth five year plan goal, to reduce IMR to 25 by 2017.[4]

The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 month of life and continuation of breastfeeding for 2 year [5]. The WHO and the United Nations International Children's Emergency Fund

(UNICEF) have articulated a global strategy for infant and young child feeding [6] and recommendations in the form of guiding principles for complementary feeding of the breastfed child [7] to focus attention on the effect of feeding practices on health and growth of infants and young children. Based on these guiding principles, the Government of India, in collaboration with international agencies, has adopted the culturally-acceptable IYCF guidelines, which were incorporated in the Integrated Management of Neonatal and Childhood Illness (IMNCI) Programme.[8]

The National Family Health Survey (NFHS-3) has provided useful national- and state-level information on the IYCF practices. Available data showed a gross inter-state variation.

NFHS-3 data at the national level & also at Madhya Pradesh showed that only 23.4% & 14.9% children under 3 year were put on breastfeeding within one hour of birth respectively. NFHS-3 data from Madhya Pradesh have reported that only 21.6% children age 0-5 month are exclusively breastfed while 51.9% children age 6-9 month receiving solid or semisolid food & breast milk.[9] However, the NFHS was not designed to provide data on Minimum meal frequency, minimum meal diversity & Minimum acceptable diet. But a study conducted in Delhi has shown minimum dietary diversity, minimum meal frequency and minimum acceptable diet in 32.6%, 48.6% &19.7% children respectively. [10]

Looking to the importance of infant feeding practices and with this background the present study was conducted with objective to assess the Infant and young child feeding practices among the children less than two year of age .

METHODS

This community based cross-sectional study was conducted in the field practice area of rural health training centre (RHTC) of the department of community medicine of People's college of Medical Sciences and Research Centre, Bhopal (M.P) from March to Aug 2014. The RHTC of PCMS & RC is catering to 43 villages by providing primary & promotive health care. The total population of field practice area of rural health training centre (RHTC) was 30249.

Depending on the indicator of IYCF the sampling universe consisting of two groups-a sample representative of all children born in the last two years and a sample representative of living children 0–23 months was consider for study. Depending on the denominator for the various indicator of IYCF sample size was calculated for each indicator as suggested in WHO IYCF guideline assuming an estimate of 50% for all indicators & design effect 1.[11] Total sample size 300 was taken for this study.

List of all villages catered by RHTC with its population was procured. Twenty villages were selected by simple random sampling. A community based cross-sectional study was done among 300 children aged 0-24 months. First, the sample size of 300 was divided equally into 20 villages. Then, the number of household to be taken for the survey in each village was decided according to Probability Proportionate to Size (PPS) technique. Simple random sampling (using last digit of currency) was used to select the first household for the survey. Then, every household with a child of 0-24 months were surveyed till the desired number of children were met from that village.

A pretested questionnaire mainly based on the standard questionnaire on IYCF practices given by WHO was used for data collection.[11] The study instrument consisted of an interviewer administered questionnaire, which was pretested at RHTC & validated for this purpose. The questionnaire consisted of two parts. Part one was used to get demographic characteristics of the mothers. Part two was used to record information regarding feeding practices. These questions provide the information needed to calculate the key 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. Children less than 24 months were included in the study after obtaining verbal informed consent from the mother. Data was entered in Microsoft Excel & analyzed using SPSS software version 20.

Operational Definition

- **Exclusive breastfeeding** means that the infant receives breast milk and allows the infant to receive ORS, drops, syrups (vitamins, minerals, medicines), but nothing else.
- **Early initiation of breast feeding** means initiation of breast feeding within one hour of birth.
- **Complementary feeding** means that the infant (6month of age or beyond) receives breast

milk and solid or semisolid foods and allow the infant to receive any food or liquid.

- **Adequate meal frequency:** Infant and children with 6-23 months of age got minimum meal frequency.
- **Adequate dietary diversity:** Infant and children with 6-23 months of age got minimum meal diversity.
- **Adequate acceptable diet:** Infant and children with 6-23 months of age got minimum acceptable diet.
- **Adequate introduction of solid, semisolid or soft food:** Infant with 6-8 months of age got solid, semisolid or soft food.

RESULT

In present study, 300 infants up to 24 months of age were studied of whom 164(54.7%) were males and 136 (45.3%) were female. Majority 183(61%) belonged to 3rd generation family and 107(35.7%) belonged to nuclear family. Nearly 42.3% of the mothers were illiterate, 40.6% were educated less than intermediate, whereas 17.1% were educated intermediate and above. Out of the total 300 children, 118(39.3%) of the children were of birth order three or more, whereas the remaining 182 (60.7%) were of birth order less than three. The status of IYCF practice indicators were given in Table-1.

Table 1: Status of Infant and Young child feeding indicators

IYCF indicator	Status	Male	Female	Total
Early initiation of breastfeeding among children less than 24 month (n=300)	Yes	105(64)	96(70.6)	201(67)
	No	59(36)	40(29.4)	99(33)
Exclusive breastfeeding among children less than 6 month (n=53)	Done	22(78.6)	23(92)	45(84.9)
	Not done	06(21.4)	02(8)	08(15.1)
Continued breastfeeding among children 12-23 month (n=48)	Yes	25 (92.6)	17 (80.9)	42(87.5)
	No	02(7.4)	04 (19.1)	06(12.5)
Minimum meal frequency among children 6-23 month (n=247)	Adequate	101(74.2)	66 (59.5)	167(67.6)
	Inadequate	35(25.8)	45(40.5)	80(32.4)
Minimum dietary diversity among children 6-23 month (n=247)	Adequate	67(49.3)	51(45.9)	118(47.8)
	Inadequate	69(50.7)	60(54.1)	129(52.2)
Minimum acceptable diet among children 6-23 month (n=247)	Adequate	46(33.8)	35(31.5)	81(32.8)
	Inadequate	90(66.2)	76(68.5)	166(67.2)
Introduction of solid, semisolid or soft food among children 6-8 month (n=47)	Adequate	13(52)	11(50)	24(51.1)
	Inadequate	12(48)	11(50)	23(48.9)

Figures in the parenthesis indicate percentage

The difference in proportions by Chi-square test between male and female children was not statistically significant, for any of the infant and young child feeding indicator at significance level of 0.05.

Although breastfeeding was universal, only 64% of the study children were put to the breast within one hour of birth .The difference between age-groups in the proportion of children having early initiation of breastfeeding, although not significant. Sex was not associated with early initiation of breastfeeding. The overall prevalence of pre-lacteal feeding was 13.6%, which showed a very little variation among age-groups or sexes. The major types of pre-lacteal feeds were sweetened water, Ghutti, animal-milk, especially goat's milk, and honey. No infant aged less than two month used bottle-feeding. On the whole, 5.7% of the study children were bottle-fed.

DISCUSSION

According to IYCF (2013) guidelines, Government of India recommends that initiation of breastfeeding should begin immediately after birth, preferably within one hour.[12]In our study 67% of infants started breast feeding within 1 hour of birth. National Family Health Survey-3 (NFHS-3) data [9] at the national level and at Madhya Pradesh showed it as 23.4% and 14.9% respectively, for children aged under 3 years. Study from West Bangal[13] had shown it much lower as 13.6%.An epidemiological evidence of a casual association between early initiation of

breastfeeding and reduced infection- specific neonatal mortality has also been documented.[14]

Exclusive breastfeeding was reported by 84.9% mothers of children under 6 month of age and was better than the corresponding national (46.3%) and Madhya Pradesh (21.6%)figure of the NFHS-3.[10] A study from West Bengal has shown that only 57.1% of the children below 6 months were exclusively breastfed.[13] The possible reasons for these difference that exclusive breastfeeding was based on a 24-hour recall rather than a longer recall period, and this short recall may have missed some infants who were fed other liquids or foods prior to the 24 hours before the survey.

Continued breast feeding at one year was being done by 87.5% of children between 12 and 23 months. This was higher as compared with a study done by Khan et al in Delhi which showed that 72.1% of children between 12 and 23 months were continuing breast feeding.[10] Another study from West Bengal has shown that 91.1%of the children between 12-23months were continuing breast feeding.[13]

Minimum meal frequency (MMF) indicator is the 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.[11] For breastfed children, the minimum number of times varies with age (2 times if 6–8 months and 3 times if 9–23 months). For non-breastfed children the minimum number of times does not vary by age (4 times for all children 6–23 months).[11]MMF was observed in about 67.6% of children aged 6-23 months. This was better than a study conducted by Khan AM et al which showed MMF in 48.6% of children.[10]

Minimum dietary diversity (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-grains, roots & tubers; legumes & nuts; dairy products; flesh foods; eggs; vitamin A rich fruits & vegetables; other fruits & vegetables.[11]MDD was observed in only 47.8% of the children between 6-23 months. A study from Delhi has reported MDD in 32.6% of children.[10]

Minimum acceptable diet (MAD) indicator is the proportion of children 6–23 months of age who receive a minimum acceptable diet (at least the MDD as well as at least the MMF).[11]This was found to be adequate in 32.8% of the 6-23 month old children however Khan AM et al reported only 19.7% children receive adequate MAD.[10]

NFHS-3 finds that only 44 percent 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. Overall only 21 percent of breastfeeding and non-breastfeeding children are fed according to the infant and young child feeding recommendations.[15]

Out of the 47 children aged 6-8 months, 24(51.1%) were taking solid, semisolid or soft food. This was found to be in consonance with figures reported by NFHS-3 at national level (55.8%) and state level (51.9%) in children aged 6-9 months.[9]

Limitation: The present research was not able to examine the nutritional adequacy of diet due to lack of information in the surveys regarding the amount of food fed. Also the small sample size especially for proportion for children of various age groups limits its representativeness.

CONCLUSION

This study clearly highlights that although the exclusive breastfeeding rate is satisfactory in this study population, there are many inappropriate feeding practices during early childhood to ensure good health and better nutritional status of young children & children are thus at risk of childhood malnutrition associated with inappropriate feeding. The finding from the present study clearly highlights the importance of educating the women on infant and child feeding practices not only regarding frequency but also about diversity for meal.

Mothers should also be encouraged to attend antenatal and postnatal care clinics where they are likely to be taught appropriate infant and young child feeding practices. Interventions to improve nutritional quality of the complementary foods are also recommended based on the finding from this study that complementary foods given to children had inadequate dietary diversity.

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