



## RESEARCH ARTICLE

### INFANT AND YOUNG CHILD FEEDING PRACTICES IN CHILDREN AGED FIFTEEN TO TWENTY MONTHS AMONG INDIAN CHILDREN

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#### ABSTRACT

Infant and young child feeding practices (IYCF) impact on growth, development, cognition and eventually survival of the infant and young children. About 20 million children did not receive exclusive breastfeeding for first six months and 13 million did not get timely and appropriate complementary feeding, according to National Family Health Survey (NFHS-4) data for the year 2016, WHO (World Health Organization) and UNICEF (United Nations International Children's Fund) endorses sufficient and safe complementary feeding starting after six months of life while continuing breastfeeding up to 2 years of age and beyond. The high prevalence of malnutrition in countries like India is attributed to inappropriate complementary feeding practices such as not starting complementary foods at six months of age, inadequate macro - micronutrients intake from staple based complementary foods and failure to increase the amount and frequency of food with increasing age.

#### INTRODUCTION

NFHS-4 (2015-16) data shows that in India, the Infant Mortality Rate (IMR) in urban, rural and total to be 29, 46 and 41 respectively, and under-5 mortality in urban, rural and total to be 34, 56 and 50 respectively.<sup>1</sup> Though there has been an improvement in the indices compared to the NFHS-3 (2005-06) data, the reduction is not significant. By rigorously following the IYCF guidelines, it is possible to bring down the morbidity and mortality in children. World Health Organization (WHO) recommends initiating breastfeed within one hour of delivery, exclusive breastfeeding for the first six months of life and to continue breastfeeding until two years or beyond and appropriate initiation of complementary feeding starting at six months of life.<sup>2</sup> Based on these guidelines and in collaboration with international agencies such as UNICEF (United Nations Children Fund), the Government of India has framed culturally-acceptable guidelines for infant and young child feeding (IYCF). If these guidelines are followed in the feeding of 90% of infants, almost 20% of overall under-five mortality can be prevented globally.<sup>3</sup> WHO has advised some indicators to assess the adequacy of feeding as per the IYCF guidelines. They are *Early initiation of breastfeeding* (children who were initiated breastfeeding within one hour of delivery), *Exclusive breastfeeding under 6 months* (infants between 0 and 6 months of age who are given only breast milk), *Continued*

*breastfeeding at 1 year* (proportion of children aged 12–15 months of age who were continued to be breastfed), *Appropriate initiation of complementary feeding at 6 to 8 months* (infants aged between 6 and 8 months who appropriately initiated complementary feeding), *Minimum dietary diversity* (children who receive foods from 4 or more food groups in the previous day), *Consumption of any amount of food from each food group is sufficient to "count"*, i.e., there is no minimum quantity, except if an item is only used as a condiment, *Minimum meal frequency* (breastfed and non-breastfed infants who receive solid, semi-solid, or soft foods the minimum number of times or more), *Minimum acceptable diet* (children who receive a minimum acceptable diet apart from breast milk) and *Consumption of iron-rich or iron-fortified foods* (children who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home). There are not many appreciable changes over a period of even ten years (NFHS-4 data compared to NFHS-3 data). It is necessary to periodically assess the compliance of IYCF practices, as they may be necessary to plan appropriate measures to improve the nutrition of infants and young children of India, hence review has been planned.

Review on Infant and Young Child feeding Practices: This review was done using the key words search "Infant and young child feeding", "breastfeeding" and "complementary feeding" in pub-med and Google scholar. Several studies have been conducted in different parts of the India to assess compliance

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with the IYCF practices. 12 articles were reviewed from 2015-2020. A community based cross-sectional study was done by Cacodkar et al among 332 rural children less than 2 years, in Goa in the year 2015. The study concluded that feeding practices like early initiation of breastfeeding (21.17%) and giving colostrum (46.25%) were low according to the present recommendations. The rate of continued breastfeeding at 1-year was 36.09%. The study also showed a strong association between maternal education and the duration of breastfeeding. Initiation of complementary feeding at 6 to 9 months was only 24.14% and most commonly used food for weaning was cereals.<sup>4</sup> A community based cross-sectional study done by Kakati R et al to measure the prevalence of IYCF practices and its determinants in Assam from 2018 to 2019 among the 200 children aged 0-23 months. In this study early initiation of breastfeeding was statistically significant in children born via normal vaginal delivery and children belonging to higher socioeconomic status. 34% of children were given pre-lacteal feeds. Pre-lacteal feeds practice was higher among home delivery and private institution. Only 53.8% of mothers started complementary feeding at an appropriate time. They concluded that children born in government institutions practised exclusively breastfeed and early initiation of breastfeeding more in comparison to home delivery and private institutions.<sup>5</sup> A study done by Angadi et al to assess the gender bias in breastfeeding practices in Vijayapur district, Karnataka India between January 2015 to November 2015. They have included 404 children aged less than two years of age. The mothers of the children were interviewed after obtaining consent.

They have concluded from this study that Despite Information, Education and Communication (IEC) activities which are carried out by the health care workers, the practice of pre-lacteal feed was prevalent among more than 50% of study population but there were no significant differences among both genders regarding the breastfeeding practices.<sup>6</sup> A study was done by Senanayake et al to assess the prevalence and the determinants of early initiation of breastfeeding in India during the year 2019. The study analysed NFHS-4 data, the total sample size of 94,104 was chosen. The study showed early initiation of feeding was followed in 41.5%. They found higher proportions of initiation of breastfeeding were seen in secondary and above education level mothers along with mothers who received the delivery assistance. Some of the determinants of EIBF were place and mode of delivery, type of delivery assistance and socioeconomic status of the family.<sup>7</sup> A study conducted by Rathaur et al, to assess the prevalence of infant feeding practices in the Garhwal region, Uttarakhand among 275 mother-child pairs 2018 - 2019. The interview was conducted among mothers and measurements such as weight, height and head circumference were measured in children. In this study, they have found that prevalence of EIBF in one hour was 46.5%, 52.8% exclusively breastfed for 6 months, 33.6% of children received pre-lacteal feeds, 53.12% infants were initiated complementary feeding appropriately. The prevalence of wasting, stunting and underweight 28%, 26.5% and 30.7% for the age groups 6-11 months. They attributed lower prevalence of stunting and underweight to longer duration of breastfeeding.<sup>8</sup> A hospital-based cross-sectional study by Bhagwat et al, to find the association between the infant and young child feeding practices with anthropometry measurements among the urban population in Bangalore, Karnataka during the year 2019. Data regarding breastfeeding and complementary feeding and anthropometric measures were taken.

They found all the children had mean anthropometric measurements below the WHO multicentre growth reference study. Female children who had a delay in the initiation of breastfeeding had a significant reduction in weight in comparison to those who had early initiation of breastfeeding. And in this population, there was delay declining trend in continuation of breastfeeding. They have concluded that IYCF practices and anthropometry have a significant association.<sup>9</sup> A study conducted by Jain et al, to profile the complementary feeding practices and their determinants among children 6-23 months of age between 2019 - 2020. This study included 464 children visiting a well-baby clinic and immunization clinic at AIIMS, Bhopal. They found that 59.5% of mothers initiated breastfeeding within one hour, complementary feeding was given between 6-8 months in 84% of the children. On multivariate analysis, they found that higher maternal education and income group were significant for minimum acceptable diet and variable affecting feeding habits. And they concluded that well-educated homemakers and joint families were better in establishing the complementary feeding at an appropriate time and better feeding practices.<sup>10</sup> An analysis conducted by Beckerman-Hsu et al, using the data from the NFHS-4 (2015-16), with a sample size of 67247 children aged 6-23 months, from India to find the nutritional need by simultaneously considering dietary and anthropometric failures (DAF).

They have defined dietary failure as per WHO standards for minimum dietary diversity and anthropometric failure was defined as  $< -2$  standard z scores for the weight, height and weight for height using the WHO growth chart. They analyzed and found that 44.0% had both dietary and anthropometric failure, 36.3% had dietary failure only, 9.8% had an anthropometric failure. Dietary and anthropometric measures were discordant for 46.1% of children because these children were diagnosed with only one measure. They concluded that anthropometry for measuring the nutritional need should be complemented with diet and food-based measures.<sup>11</sup> A study conducted by Meshram et al, to find an association between infant and child feeding practices with nutritional status. This study was analyzed using the data from the national nutritional monitoring Bureau survey, 2011-2012 in 10 states of India. Measurements were assessed using WHO child growth standards. They found that 50% of infants received exclusive breastfeeding and only 36% were initiated breastfeeding within one hour of delivery. In this study they found 38, 41 and 22% of children were underweight, stunted and wasted respectively. They have also documented that the chance of under-nutrition was higher among illiterate mothers, lack of sanitary latrines, lowest-income groups, schedules caste and tribes. Similarly, under-nutrition was higher among the infants who were low-birth-weight babies, whose mother did not consume iron and folic acid tablet.<sup>12</sup> A mixed-method cross-sectional study was conducted by Karmee N et al, among the mothers attending the UHTC in South Odisha to study the IYCF practices among the mothers with children 0-24 months old as per WHO criteria. In this study, they have adopted both quantitative and qualitative method to study the children. A sample of 374 mothers was included in the study for quantitative data and 64 mothers for qualitative data. To find the IYCF practices they used seven core indicators as suggested by WHO. They found that initiation of breastfeeding within one hour was 81.6%, 78.3% of the study population practised exclusive breastfeeding. Multiple logistic regression showed that occupation and education of mother, birthplace,

ANC follow up, EBF education during ANC and type of delivery were statistically significant. They concluded that nearly half of the respondents showed inadequate and inappropriate IYCF practices.<sup>13</sup>

### Conclusion

Standard guidelines are available in the feeding of infants and young children, yet existing data shows that most of our Indian infants and young children are not given the minimum necessary quantity or quality nutrition. We recommend breastfeeding counselling to mothers during antenatal visits, breastfeeding assistant for all deliveries, lactational counselling to all mothers before discharge from the hospital, counselling regarding complementary feeding during 14 weeks vaccination, counselling regarding bad child rearing practices during all OPD visits, IEC activities in the common waiting area and breastfeeding room.

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