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Complementary Feeding-A Challenge to Be Addressed in Rural Uttar Pradesh, India

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Sir, Lack of appropriate complementary feeding (CF), defined as one which is timely, adequate, safe and properly fed (WHO, 2001), is a problem which directly or indirectly contributes to malnutrition, infectious illness and mortality in infants. The incidence of malnutrition rises sharply between the ages of 6-18 months (WHO, 2001) with maximum undernutrition occurring at 8-11 months of age (Vir, 2001). The NFHS-2 (1998-99) also reports a 5 fold increase in undernutrition prevalence from 6 months to 23 months of age.

A formative study was undertaken in 6 villages of District Ghaziabad, Uttar Pradesh with the objective to understand the current complementary feeding practices and assess the malnutrition status in rural Uttar Pradesh with specific focus on identifying the barriers and promoters to the appropriate CF practices.

A total of 151 mothers of infants aged 6-12 months were randomly identified through anganwadi center records. Detailed information was gathered from mothers and other caretakers of infants on their breast feeding (BF) and CF practices using a pretested interview schedule. Anthropometric measurements taken were weight (using digital weighing scale: 5 g sensitivity) and length (using infantometer: 0.1 cm sensitivity). Dietary data on intake from complementary food was collected using 24-hour recall and past 7-days food frequency record.

It was observed that only a fifth (21%) of the mothers initiated BF within an hour of birth, due to age old beliefs and 76% mothers reported giving pre-lacteals like jaggery, sugar syrup, tea and 'batasha'¹ syrup, considering these as cleansing agents for their infants. Of the total sample only 6% infants were exclusively breastfed till 6 months of age. Of the total 151 infants, only 9 were introduced semisolid foods along with BF at 6 months of age. The age of introduction of complementary foods varied as per the family belief and mothers' breast milk secretion. It was seen that 29% had not initiated feeding any semisolid/solid food to their infants. Of those who had initiated, 40% did so only after 8 months of age. With regards to frequency of feeding complementary foods, majority (48%) of the mothers reported feeding 1-2 times/day, with only 16% and 5% infants in the age group of 6-8 and 9-12 months receiving WHO (2003) recommended frequency of 2-3 times/day and 3-4 times/day, respectively. The consistency of complementary food fed was either very thin like dal water, fruit juices etc. or solids like roti², biscuits etc. Lack of awareness, ignorance and mothers' lack of motivation emerged as prime factors responsible for these faulty feeding practices. The energy and nutrient intake from complementary food suggested monotony and inadequacy in diets fed to infants between 6-12 months of age, with no significant difference observed between the mean nutrient intake of 6-8 and 9-12 months age group. It was also observed that though the mean energy consumption increased with age i.e from 156 Kcal at 6-8 months to 192 Kcal at 9-11 months and 214 Kcal at 12 months but the energy intake as percent of recommended intakes (WHO, 2003) decreased with increasing age (6-9 month=77%; 9-11 months= 62% and 12 months=39%). Iron density from complementary food was found to be sub-optimal for all the three age groups, though protein and calcium densities were high when compared to WHO (2003) standards. In line with the nutrient intake, the food group analysis showed the mean intake of cereals and animal milk being the highest with consumption of green leafy vegetable, other vegetables and fruits being the lowest by the infants. The consumption of pulses, green leafy vegetable and other vegetables and fruits though present in adults' diets but didn't find place in infants' diet due to age old beliefs and ignorance. Thus, pointing towards an intervention to focus on introduction of variety in the diet of the infants.

The malnutrition and morbidity picture was also dismal in the sample. The prevalence of diarrhoea, fever, cough and acute respiratory tract infection (ARI) was 48, 42, 39 and 12% respectively. The percent of infants underweight, stunted and wasted were 27.1, 24.5 and 16.5%, respectively using WHO (2006) standards.

Thus, lack of exclusive breast feeding till 6 months of age, delayed initiation of complementary foods and inappropriate complementary feeding with respect to the quality, quantity and consistency were observed to be the major factors contributing to high morbidity and malnutrition amongst infants' up till 12 months of age. This formative study points that complementary feeding still remains a challenge to be addressed in rural India, hence, stressing for an urgent need for a behaviour change intervention to focus on improving the complementary feeding practices and in turn the nutritional status of infants in rural Indian settings.

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¹Indian crystallized sugar candy

²Traditional Indian bread