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Breastfeeding, Weaning Practices and Nutritional Status of Infants of Tea Garden Workers of Assam

Breastfeeding and weaning practices are crucial for optimal growth and development during infancy. The resolution (WHA 54.2) urges Member States to support exclusive breastfeeding for first six months as a global public health recommendation(1). Continuous vigilance over infant feeding practices in community is necessary for timely interventions to ensure optimal growth and development. This study was undertaken to evaluate breastfeeding and weaning practices in relation to nutritional status of infants of tea garden workers of Assam after report of high prevalence of undernutrition. Tea is a labour intensive agro industry where mostly female employees are used as manual pluckers of tea leaves.

Information about current status of breast feeding (exclusive breastfeeding and partial breast-feeding/artificial feeding) and weaning practices were obtained from mothers of 110 infants (male-57, female-53) using pre-tested questionnaire. 16.36% of mothers were literate (n = 18). 100% breast-feeding rate was maintained throughout 0 to 12 months (*Table 1*). Exclusive breast feeding rate was 69.35% up to 6 months of age, which was higher than their counterparts in Assam(2). However, introduction of complementary feedings was generally delayed in tea garden.

Infant's length and weight were measured using standard procedures and methods. Weight-for-age, height-for-age and weight-for-height Z-scores below -2.00 SD of NCHS (National Center for Health Statistics) standard were used to define stunting, wasting and underweight, respectively(3). Prevalence of underweight, stunting and wasting was lower (22.6%, 32.3% and 8.1%, respectively)

TABLE I–*Feeding Status of Infants (0 to 12 months)*

Age (in months)	Ever breast fed	Exclusively breast fed	Partial breast feeding/artificial feeding	Semisolids started (complementary feeding)
0-1 (n = 16)	16 (100)	13(81.25)	3(18.75)	0
2-3 (n = 19)	19(100)	13 (68.42)	6 (31.58)	1 (5.26)
4-6 (n = 27)	27(100)	17(62.96)	10 (37.04)	4 (14.81)
0-6 (n = 62)	62(100)	43(69.35)	19(30.65)	5 (8.06)
7-8 (n = 17)	17(100)	11(64.71)	6 (35.29)	4 (23.53)
9-10 (n = 16)	16(100)	5 (31.25)	11 (68.75)	9 (56.25)
11-12 (n = 15)	15(100)	2 (13.33)	13 (86.67)	15 (100)
6-12 (n = 48)	48(100)	18(37.50)	30(62.50)	28(58.33)

*Figures in parentheses indicate percentages.

in 0-6 months age compared to those of 6-12 months (64.6%, 41.7% and 39.6%, respectively). Lower prevalence of nutritional deficits in 0-6 month in comparison to those of 6-12 months could be attributed to prevailing practice of exclusive breast feeding. Adequate supply of human breast milk satisfy virtually all the nutritional needs of an infant at least for the first six months of life. Nutritional superiority of exclusively breastfed infants in 0-6 months age over partial or artificial feeding infants was also evident as the prevalence of underweight, stunting and wasting among the exclusively breastfed group was 11.63%, 16.28% and 4.65%, respectively, compared to 47.37%, 68.42% and 15.79%, respectively in partial or artificial feeding group. Malnutrition even among exclusive breastfed group suggests that other factors might be associated with malnutrition. High prevalence of low birth weight (LBW) and infectious diseases (unpublished data) in the pediatrics age group in this community could be some probable contributing factors(4). Frequency of breast feeding, which also affects growth, was found to be satisfactory. Frequent breast sucking was perhaps possible even during working hours of mothers as infants are kept in make shift crèche near to the work sites. Higher prevalence of malnutrition among older children (6-12 months) may be related to prolong exclusive breast-feeding. Breastmilk alone is not sufficient to satisfy the nutritional needs to sustain optimal growth beyond 4-6 months. Moreover, the quality and quantity of supplementary foods are generally not sufficient for promoting normal growth in India(5). Similar may be the case in tea garden too due to widespread poverty and illiteracy.

Although effort has been made since long, yet infant feeding practices are far from satisfactory in our country. Exclusive breast feeding has to be protected and promoted in our community due to its beneficial effect on growth and development of infants. It is also essential to promote appropriate weaning practice, which is also equally important for prevention of malnutrition.

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Lactobezoar: A Rare Cause of Ileal Obstruction

Intestinal obstruction caused by inspissation of formula feedings should be considered in any case of distal small bowel obstruction in neonates and infants within six weeks after birth. We report a case of lactobezoar causing terminal ileal obstruction that required surgery.

A five-week-old male child weighing 2950 g was admitted with history of loose stools of four days duration. The child was being given formula feed. This was followed by marked abdominal distension. Plain *X*-ray abdomen revealed grossly dilated bowel loops and mottled soft tissue density appearance in the region of right iliac fossa (*Fig. 1*). Barium enema study done did not contribute further. As the general condition of the child was getting worse with progressive abdominal distension, laparotomy was done after rapid resuscitation. The small bowel loops were found greatly distended and dilated up to terminal ileum where there was a white thick curd for a length of six cm causing obstruction. It was kneaded into the caecum and the obstruction got relieved. Post-operative period was uneventful and the child progressed well.

Obstruction of small bowel by milk curds was first described by Cook and Richman(1) in 1969 when they presented a "new type of neonatal obstruction". Since then about 70 cases have been reported in the literature. The exact incidence is not known but Lewis, *et al*.(2) attributed 17 of 238 cases of neonatal obstruction to inspissated milk. Typically the syndrome presents as small bowel obstruction in an infant who has passed first meconium and then milk stools. If suspected, inspissated milk obstruction can be diagnosed and treated nonoperatively based on characteristic radiographic findings. While the majority of cases have been treated surgically, four reported patients were relieved by gastrografin enemas and two have resolved spontaneously(1,2). Of six reported attemps at