Production, Supply and Distribution) Bill, 1982, Breastfeeding Promotion Network of India, 1993, 2: p 3.

- International Code of Marketing of Breastmilk Substitutes. Protecting Infant Health 5th ed. IOCU/IBFAN, Penang Malaysia, February 1989, pp 37-42.
- Indian National Code of Protection and Promotion of Breastfeeding (Copy of Ministry of Social Welfare, Government of India Resolution No. 18-11/81-NT dated 19. 12. 1983), Government of India, Ministry of Social Welfare, New Delhi. Rekha Printers Pvt. Ltd., 1983, pp 1-12.
- Mathur GP. Free samples of baby foods and feeding bottles. Indian Pediatr 1989, 26: 847. 3

- Infant and Young Child Feeding-39 World Healthy Assembly Agenda Item 21, 16 May 1986.
- 6. UNICEF. The State of the World's Children 1993. New Delhi, Oxford University Press, 1993, p 44.
- 7. Mathur GP. Doctor's declaration for breastfeeding. J Trop Pediatr 1990, 36: 199.
- WHO/UNICEF. Innocenti Declaration on protection, promotion and support of breastfeeding. Florence, Italy, August 1, 1990.
- 9. WHO/UNICEF. The Baby Friendly Hospital Initiative Action Folder. Geneva, WHO, 1989.

Lactational Failure

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Many concerned workers report a declining trend in breastfeeding in urban India(1-3). Instigated by a similar trend in our hospital we surveyed the causes of

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lactational failure by interviewing 90 mothers who had initiated top feeding before completion of four months. We report some of the significant sociodemographic factors that may have been influential in causing lactational failure.

Material and Methods

Five hundred mothers who attended the hospital outpatient services either for immunization or for any ailment of their infants were studied. Of the 500 mothers, 90 mothers who had either stopped breastfeeding or had initiated top feeding in babies before four months of age were taken as subjects and interviewed. Their answers were recorded in standardized questionnaires. The number of infants in the study were ninety two as two mothers had twins. The time of cessation of breastfeeding and reason for stopping breastfeeding were noted. All the mothers were offered proper lactational advice and

interviewed 4 weeks later to check whether they had resumed adequate lactation. 'Transient lactational crisis' was noted when a mother experienced a subjective criticial decrease in her milk supply, which was overcome adequately at the next interview. The reasons given by the mothers for initiating top feeds and the advice by the medical professional or relatives to start top feeds were classified as justified or unjustified depending on the adequacy of lactation during the second interview. They were also asked whether an antenatal-cum-postnatal breast examination had been done. A clinical examination of the breast was done to rule

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Results

out retracted nipples.

Of the 90 mothers with lactational failure, top feeding was started in 46 (50.0%) infants in the neonatal period and in 46 (50.0%) between 1 and 4 months. Fifty (54.3%) of the 92 infants were on cow's milk, 35 (38.0%) were on lactose containing commercial formula feeds, 4 (4.4%) were fed with dairy milk and (3.3%) were on lactose-free commercial formulae. Eighty five (92.3%) were bottle fed and 7 (7.7%) with the conventional pallada or cup and spoon.

The reasons that the mothers gave for initiating top feeds are tabulated in *Table I*. Of the 66 mothers who had lactational failure due to "less milk", the lactational crisis occurred within the first week in 19 (28.8%), between 1 week and 1 month in 25 (37.9%), between 1 and 3 months in 9 (13.6%) and between 3 and 4 months in 13 (19.6%).

Thirty one (34.4%) mothers had resorted to top feeding on their own record, 26 (38.9%) were advised by pediatricians, 20 (22.2%) by relatives and 13 (14.4%) either by obstetricians or family physicians. Among the 26 babies advised by pediatricians, only 6 had signifi-

TABLE I-Reasons and Justification for Initiatin
Top Feeds

Reasons	Number n=90	Justi- fied	Unjusti- fied
'Less milk'	66 (73.3)	0	66
Working mother	8 (8.9)	8	, 0
Maternal Illness	4 (4.4)	0	4
Cracked nipple/ retracted nipple	9 (11.1)	0	9
Convenience	8 (8.9)	0	8

Figures in parentheses indicate percentage.

cant illness or low birth weight to warrant temporary discontinuation of breastfeeding. There was no justification for top feeding in any of the 33 babies, who had been top fed on the advice of either the obstetrician, family physician or relatives. Eight of the 31 mothers who had started top feeds on their own, were working and were justified in initiating top feeds. Though 79 (87.8%) had received regular antenatal care, an antenatal and postnatal breast examination was carried out in only 1 woman by the obstetricians.

Discussion ,

We found that the most frequent reason (73.5%) for initiating top feeds was insufficient amount of milk. In other studies the proportion of mothers stopping breastfeeding because of insufficient milk secretion has varied form 36%(4) to 66%(5). This reflects the inadequacy of current knowledge among mothers, their close relatives and health personnel concerning the art of initiating and sustaining lactation. In mothers who started top feeds due to 'less milk', 66.7% did so within the first month and 28.8% within the first week. Hence, the first month of the infant's life is the most critical time period for frequent reassurance and support

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to the mother regarding the adequacy of her milk. Though Indian studies do not mention timing of the so called 'transient lactational crisis', workers from developed countries have resorted that most of these events occur during the first 3 months of lactation(5,6).

Lactational failure was related to nipples in 11.1% cases. It is, therefore, important to do an antenatal and postnatal examination of the nipples in mothers in order to diagnose retracted nipples and take appropriate measures(7). A significant proportion (30.4%) of mothers had resorted to top feeding on their own accord. Hence, promotion of breastfeeding should be introduced into high school education. Other workers have reported on hospital staff promoting top feeds(8). Our results also point out that not only obstetricians and family physicians but even pediatricians need motivation towards promotion of breastfeeding.

REFERENCES

1. Kumar S, Nath LM, Reddahiah VP. Supplementary feeding pattern in children living in a resettlement colony. Indian Pediatr 1991, 29: 219-222.

- 2. Ghosh S, Gidwani S, Mittal SK, Verma RK. Socio-cultural factors affecting breastfeeding and other infant feeding practices in an urban community. Indian Pediatr 1976, 13: 827-832.
- 3. Gopujakar PV, Chaudhary SM, Ramawamy MA, Gore MS, Gopalan C. Infant feeding practices with special reference to the use of commercial infant foods. Nutrition Foundation of India, Scientific Report 1984, 4: pp 51-58.
- 4. Sloper KS, Elsden E, Baum JD. Increasing breastfeeding in a community. Arch Dis Child 1977, 72: 700-702.
- 5. Solin S, Hofvander Y, Hillervik C. Factors related to early termination of breastfeeding. Acta Pediatr Scand 1977, 66: 505-511.
- Veronnen P. Breastfeeding: reasons for giving up and transient lactational crisis. Acta Pediatr Scand 1982, 71: 447-450.
- 7. Padalkar J. Successful breastfeeding with retracted nipples. Indian Pediatr 1989, 26: 1065-1066.
- 8. Kapil U, Kaul S, Vohra G, Chaturvedi S. Breastfeeding practices amongst mothers having undergone cesarean section. Indian Pediatr 1992, 29: 222-224.

Prevalence of Congenital Heart Disease in School Children

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Until 1930, it was believed that rheumatic heart disease was by far the most common form of cardiac disease in children(1). Within recent years it has become

obvious that, in most cardiac centres, congenital heart disease (CHD) is the more common of the two. Most cases of congenital heart disease die in early infancy and some conditions do not manifest in the first few years of life, emphasizing the need to

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