

INFANT FEEDING PRACTICES IN BOMBAY SLUMS

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ABSTRACT

A study was conducted in two slum areas in a Bombay suburb covering a total population of 4879. One hundred and fifty-three mothers having children below two years were interviewed. Ninety six per cent infants below the age of 4 months received breast milk, though exclusive breastfeeding was practised only in 37% infants. Timely complementary feeding rate was only 0.48. Twenty three per cent of mothers used bottle for administration of supplementary food or water. Only 15.7% of mothers used commercial milk formula and 8.5% used commercial weaning food.

Key words: *Breastfeeding, Weaning.*

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Nutritional status of infants depends on feeding practices prevalent in the community(1). Exclusive breastfeeding for the first four to six months of life and timely introduction of weaning foods are important for laying down proper foundations of growth in later childhood. A study of prevalent infant feeding practices is essential before formulation of any need based intervention programme and to outline trends in feeding patterns.

An effort was made to study the infant feeding practices in slums of Bombay with respect to: (a) pattern of breastfeeding and weaning children less than 2 years of age with reference to breastfeeding indicators of the WHO(2), and (b) prevalence of bottle feeding and feeding with commercial milk and infant weaning formula.

Material and Methods

Two adjacent slum areas of Juhu Khad-da and Ruia Park in a suburb of Bombay were studied in January 1993. The total population of the slum areas was 4879. The information was derived from interviews at the household level by a team comprising of a pediatrician and postgraduate students using a household survey methodology. The interviews were conducted using a pretested prestructured proforma. The 24-hour recall period for assessing feeding practices was selected because it is widely used and found appropriate in surveys of dietary intake(2).

Results

All the 153 mothers having children below the age of 2 years were interviewed. The criteria used for defining the category of infant feeding and formulae for indicators of breastfeeding practices are shown in *Tables I & II* respectively. As shown in *Table III*, of the 27 infants below the age of 120 days, only 10 could be classified as

TABLE I-Categories of Indian-Feeding(2)

Category	Infant must receive	Allows the infant to receive	Does not allow the infant to receive
Exclusive breast-feeding	Breastmilk	Drops, syrups (vitamins, minerals, medicines)	Anything else
Predominant breastfeeding	Breast milk as the source of nourishment	Ritual fluids, drops or syrups (vitamins, minerals, medicines) and liquids (water, water-based drinks, fruit juice, ORS)	Anything else (non-human milk, food based fluids)
Complementary feeding	Breastmilk and solid or semisolid foods	Any food or liquid including non-human milk	
Breastfeeding	Breastmilk	-do-	
Bottle feeding	Any liquid or semisolid food from a bottle with nipple/teat	-do- Also allows breastmilk by bottle	

being exclusively breastfed. Syrups and vitamin drops, were the commonest liquids ingested by these infants. There were 13 more infants in this age-group receiving water, in addition to breastmilk. Three breastfed infants also received cow's milk, buffalo's milk or powdered milk as additional sources of food. There- was only one infant in this age-group who did not receive any breastmilk and was fed on powdered milk and gruel.

In the age group of 12-15 months, 19 out of 26 infants received breastmilk and in the age group of 20-23 months, 22 out of 36 infants continued to receive breastmilk.

The common weaning foods included buffalo's or cow's milk, rice gruel, banana and biscuits. As many as 14 (56%) infants, between 180-299 days, received commercial milk or infant weaning formula as one

of the weaning foods. *Table IV* shows the prevalent trend regarding the use of commercial milk formula and commercial weaning food formula. Their use peaked in the age-group of 12-18 months. Of all the infants below the age of 2 years, 15.7% were receiving commercial milk formula and 8.5% were receiving commercial weaning food.

Though spoon and katori, cup and glass were frequently used by mothers, bottle was used by as many as 23% mothers. As shown in *Table IV*, the prevalence of bottlefeeding was highest in the age-group of 5 months to 1 year (38.5%) and then declined gradually.

Discussion

India is considered to be in phase 1 of WHO typology of infant feeding patterns(3). In this phase, also called as the

TABLE II-Indicators of Breastfeeding

Exclusive breastfeeding rate	Infants <4 months (<120 days) of age who were exclusively breastfed in the last 24 hours Infants <4 months (<120 days) of age
Predominant breastfeeding rate	Infants <4 months (<120 days) of age who were predominantly breastfed in the last 24 hours Infant <4 months (<120 days) of age
Timely complementary feeding rate	Infants 6-10 months (180-299 days) of age who received complementary foods In addition to breastmilk in the last 24 hours Infants 6-10 months (180-299 days) of age
Continued breastfeeding rate (1 year)	Children 12-15 months of age who were breastfed in the last 24 hours Children 12-15 months of age
Continued breastfeeding rate (2 years)	Children 20-23 months of age who were breastfed in the last 24 hours Children 20-23 months of age

traditional phase, there is a high prevalence and duration of breastfeeding. Our study tends to confirm this categorization with a high breastfeeding rate of 0.96 at 4 months of age and continued breastfeeding rates of 0.78 and 0.61 at 1 year and 2 years, respectively. However, there are a few findings which can be considered disturbing. Exclusive breastfeeding rate in our study is only 0.37, as many mothers were administering water to their babies.

Our findings regarding timely introduction of weaning foods are not very encouraging. The study showed a timely complementary feeding rate of only 0.48, thereby implying that in the age-group of 6-10 months, the majority of children did not receive complementary food. This late introduction of weaning food by Indian mothers is a well-documented fact(4,5) and is considered to be a major cause of infant malnutrition(6). Breastfeeding continued beyond

1-2 years has its benefits, when supplemented with other food. Fears have been expressed that duration of breastfeeding is getting shorter in certain segments of population(6) and rates as low as 19% have been reported by Kushwaha *et al.*(5). High continued breastfeeding rates at 1 year and 2 years noted by us and also reported by Bahl *et al.*(1) and among non-graduates by Walia *et al.* (7) tend to show that this phenomenon has not *yet* become universal.

Twenty-three per cent mothers in our study used bottle to give milk or water to their infants. Previous studies have quoted bottle feeding prevalence ranging from 14.8% to 35.2%(5,8). About 16% of mothers used commercial milk formula. Its use was seen right from birth to two years. Commercial infant formula was used as a weaning food by 8.5% mothers. Gupta *et al.*(9) have noted in a hospital based study that the use of commercial milk formula has

TABLE III-Age-wise Distribution and Breast Feeding Rates

	<120 days		180-299 days		12-15 months		20-23 months	
	No. (n=27)	Rate	No. (n=25)	Rate	No. (n=26)	Rate	No. (n=36)	Rate
Exclusive breastfeeding	10	0.37	-	-	-	-	-	-
Predominant breastfeeding	13	0.48	8	-	-	-	-	-
Complementary feeding	3	0.11	12	0.48	-	-	-	-
Breastfeeding	26	0.96	20	-	19	0.78+	22	0.61+
No breastfeeding	1	-	5	-	07	-	14	-

* Timely complementary feeding rate.

+ Continued breastfeeding rate.

TABLE IV-Use of Bottle, Commercial Milk Formula and Commercial-weaning Food Formula

Age (mo)	0-4 (n=27)	5-12 (n=52)	13-18 (n=38)	19-24 (n=36)	Total (n=153)
Bottle	3 (11.1)	20 (38.5)	7 (18.4)	5 (13.6)	35 (22.9)
Commercial milk formula	2 (7.4)	9 (17.3)	8 (21.1)	5 (13.9)	24 (15.7)
Commercial infant food formula	0 (-)	5 (9.6)	6 (15.8)	2 (5.6)	13 (8.5)

Figures in parentheses indicate percentage of total children in that age group.

declined from 31% in 1980 to 12% in 1990. In contrast, Kushwaha *et al.*(5) have reported the use of commercial milk formula to the extent of 26% in peri-urban areas of Gorakhpur.

This study could be considered as one of the earliest ones for determination of indicators of breastfeeding practices as suggested by Division of Diarrheal and Acute Respiratory Disease Control, WHO(2). Low rate of

exclusive breastfeeding, late introduction of complementary foods and the observation that one in seven mothers is using commercial milk formula while one in twelve is using commercial infant formula for weaning are the striking facts emerging from the study. There is a need to disseminate information regarding proper feeding practices such as exclusive breastfeeding for 4-6 months, supplementation of breastmilk

using easily available, affordable, culturally acceptable, hygienically prepared foods from 4-6 months onwards and continuation of breastfeeding beyond two years. Health - professionals should utilize every opportunity to educate mothers regarding correct feeding practices. The contact during visits to antenatal clinic and stay in hospital after delivery should be used to educate mothers regarding the importance of exclusive breastfeeding for first 4-6 months of life. Visits to outpatient department for immunization and illness provide additional opportunities for reinforcing the advice already given as well as for advising supplementation and weaning. Another aspect which needs to be stressed is the harmful effects of bottle-feeding. A strategy needs to be evolved to counter the trend towards the use of commercial milk formula and infant foods. This should include implementation of the breast feeding code and placing infant foods in a proper perspective. The mothers must not be given the impression that these foods' are essential and confer benefits which less-expensive supplements cannot. The harm that these foods can bring, if used unhygienically or in a diluted form, needs to be highlighted(10).

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