

## Breastfeeding Practices of Urban and Rural Mothers

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This longitudinal study was conducted to describe the prevalence of exclusive breastfeeding and factors influencing it in urban (tertiary care hospital of Delhi) and rural (First Referral Unit in Haryana) settings. The exclusive breastfeeding rates were 38%, 30%, 24%, 20%, 16% and 1% at discharge, 1.5, 2.5, 3.5, 4.5 and 6 months, respectively in the urban and; 57%, 16%, 9%, 6%, 5% and 0% at discharge, 1.5, 2.5, 3.5, 4.5 and 6 months, respectively in rural setting. Use of formula feeding was very high (55%) among the urban mothers during hospital stay. The factors associated with continuation of exclusive breastfeeding were mothers' knowledge regarding breastfeeding and reinforcement by health professionals, whereas the factors associated with cessation were perceived insufficiency of milk, and cultural practices.

**Key words:** Breastfeeding, India, Infant feeding, Rural, Urban.

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**A**s a global public health recommendation, exclusive breastfeeding (EBF) should be practiced for the first six months of life, to achieve optimum growth, development and health(1). In India, breastfeeding is almost universal, but the EBF rate is quite low. Third National Family Health Survey (NFHS III) from India reports EBF rates of 46.3% at 5 months(2). Government has launched several measures for strengthening exclusive breastfeeding at National level including baby friendly hospital initiative (BFHI). Hospitals are certified baby friendly after rigorous assessment but are not monitored later(3). Most studies assessing breastfeeding practices in India are cross-sectional in nature. The present study employed a longitudinal design to study the prevalence of EBF and to identify the factors associated with continuation/discontinuation of EBF among urban and rural mothers.

### METHODS

This descriptive longitudinal study was conducted in a tertiary hospital in New Delhi (urban setting) and a

First Referral Unit (FRU) in Ballabgarh, Haryana (rural setting). Cohort of mothers delivering in each setting during one month study period, who were willing to participate, stayed nearby to the study site and who could understand English or Hindi were enrolled. Mothers having babies with birthweight <1500 grams, gestational age <34 weeks, admitted in intensive care unit for >48 hours or having contraindications for breastfeeding were excluded. A sample of 97 mothers from each setting was calculated to be adequate to estimate the prevalence at 0.10 level of significance based on reported EBF rates of 0.55 in NFHS II(4).

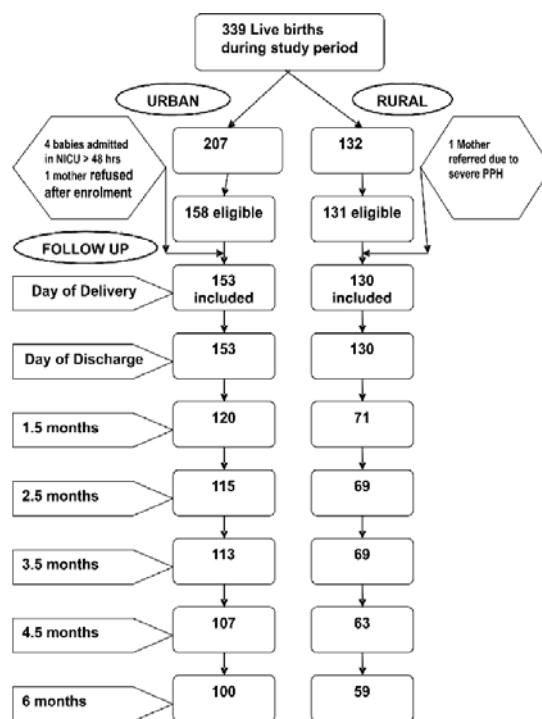
Semi structured interview schedules (three) were developed and validated by five experts. Ethical clearance was obtained from ethics committee of AIIMS, New Delhi. After obtaining informed written consent, first two interviews were conducted on the day of delivery and discharge, respectively. Subsequent interviews were conducted at 1.5, 2.5, 3.5, 4.5 and 6 months. Data analysis was done using SPSS 10.0 package.

**RESULTS**

153 urban and 130 rural mothers were included in the study (**Fig. 1**). The sample was heterogeneous with respect to age of the mother, educational and occupational status of parents, and birth order of baby in both settings. Majority (72% urban; 80% rural) of mothers belonged to joint families and were multiparous [urban 72%; rural 69%). 40% of mothers in urban setting had cesarian deliveries whereas 94% of rural births were normal deliveries.

Only 21 % urban and 35% rural mothers initiated breastfeeding within one hour of birth. EBF at discharge was low (urban 38%; rural 57%). Formula milk was fed by 55% urban mothers during hospital stay. Mothers in the rural setting fed honey, tea and water (10-16%). Perception of breastmilk being best for the newborn baby promoted EBF in 74% urban and 36% rural mothers. Doctors' advice for EBF motivated 21% urban and 23% rural mothers during hospital stay.

Feeding pattern after discharge till six months of life is described in **Table I**. EBF rates were abysmally low in both settings (**Fig. 2**) and there was a consistent fall reaching almost zero by six months of age. After discharge, awareness about need for EBF encouraged 51 -100% urban mothers who breastfed babies exclusively, while doctors' reinforcement promoted EBF in rural mothers (46.1-75 %).



**FIG. 1** Sample Description.

Non-exclusive breastfeeding was practiced by 52% of urban and 50% rural mothers during hospital stay due to perceived insufficiency of milk. Cultural practice influenced 45% rural mothers. Perceived insufficiency of milk (36%-47%) in the first 3.5 months and baby not satisfied after feeds (37-62%) in children aged between 3.5 months to 6 months

**TABLE I** PATTERN OF NON-EXCLUSIVE BREASTFEEDING BY MOTHERS

Feed in addition to breastmilk	1.5 months		2.5 months		3.5 months		4.5 months		6.0 months	
	Urban n=32 (%)	Rural n=60 (%)	Urban n=47 (%)	Rural n=63 (%)	Urban n=54 (%)	Rural n=65 f(%)	Urban n=71 (%)	Rural n=60 (%)	Urban n=99 (%)	Rural n=59 (%)
Water	11 (34.4)	42 (70)	17 (36.2)	45 (71.4)	22 (40.7)	46 (70.8)	25 (35.2)	40 (66.7)	17 (17.2)	28 (47.5)
Animal milk	11 (34.4)	7 (11.7)	17 (36.2)	10 (15.9)	22 (40.7)	9 (13.8)	41 (57.7)	12 (20)	51 (51.5)	30 (50.8)
Formula milk	11 (34.4)	0	16 (34)	0	16 (29.6)	1 (1.5)	10 (14.1)	2 (3.3)	1 (1)	0
Commercial top feeds	0	0	0	0	1 (1.9)	0	4 (5.6)	2 (3.3)	43 (43.4)	6 (10.2)
Home made supplements	0	0	0	0	4 (7.4)	1 (1.5)	8 (11.3)	2 (3.3)	80 (80.8)	22 (37.3)
Ghutti	1 (3.1)	35 (58.3)	0	40 (63.5)	1 (1.9)	40 (61.5)	4 (5.6)	33 (55)	2 (2)	18 (30.5)
Others (gripe water, tea)	1 (3.1)	1 (1.7)	1 (2.1)	1 (1.6)	1 (1.9)	1 (1.5)	1 (1.4)	1 (1.7)	1 (1)	1 (1.7)

**WHAT THIS STUDY ADDS?**

- Exclusive breastfeeding rates are low and fall progressively during first six months, even among the mothers delivered in baby-friendly hospitals.

were again the most common reasons for non exclusive breastfeeding in urban mothers. Rural mothers explained that they fed water (17%-31%) to prevent drying of lips in summers and *ghutti* (18%-44%) to promote digestion, which explains cultural influence.

**DISCUSSION**

The practices related to breastfeeding in the present study were found to be faulty in the majority of mothers in either urban or rural setting. Only 21% urban and 35% rural mothers initiated breastfeeding within 1 hour of birth despite being in hospital. Two previous studies from North India(5,6) have reported a higher proportion of mothers initiating early breastfeeding. This may be related to the recall bias in these studies owing to cross-sectional nature of their design. EBF rates were also generally low. Lesser EBF rate in the urban setting was also contributed by a large number of caesarean sections. The high rates of formula feeding in the urban setting (55%) indicate that formula was easily available to the mothers. There was failure to initiate EBF in urban setting whereas there was a failure to continue EBF after discharge in rural setting (**Fig.1**). The median age at which EBF was discontinued was the first day in urban and eleventh day in rural setting, probably because large number of mothers fed formula on the first day in urban and started water or *ghutti* soon after discharge in rural setting. The EBF rates in our study at various time periods were much

lower than the national figure of 55% given by NFHS II(4).

Reinforcement by health professionals promoted breastfeeding. Perceived insufficiency of milk was the major reason cited by mothers for non exclusive breastfeeding after discharge which is consistent with findings of studies conducted in Delhi(6) and Rajasthan(7). Cultural influences explained are similar to previous studies from North India(6-8).

A major limitation of our study was large number of drop outs especially in rural setting because of migration of subjects from original homes. This migratory population might have some different characteristics related to breastfeeding practices. In the absence of sound data about infant feeding practices of such migratory population, the direction in which the results could have been influenced by the attrition can not be reliably predicted.

Many of the factors responsible for discontinuation of EBF as found in our study are easily amenable to intervention. Strengthening of infant feeding counseling services provided to the mothers at all levels and frequent evaluation and reinforcement for breastfeeding in baby friendly hospitals may help to improve the status of breastfeeding in the country.

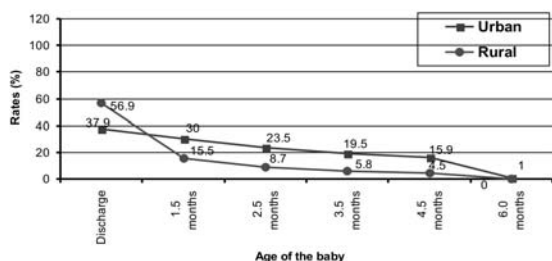
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**FIG.2** Trend in EBF rates from birth to six months.

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