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Feeding Practices of Preschool Children in Western Orissa II. Breast-Feeding

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ABSTRACT Studies on the breast-feeding and related practices among infant and preschool children of western Orissa reveals that breast-milk continue to occupy a place of pre- eminence in infant-feeding. Around 90% of mothers from industrial and urban communities and 90% from rural community initiated breast-feeding within 72 hours of birth and the percentages of mothers initiating breast-feeding within 24 hours of birth were 17.5, 26 and 31.5 in industrial, urban and rural communities respectively. The percentage of mothers breast-feeding exclusive upto 3 months were 58.5, 45.5 and 10.5 against 79.5, 91 and 54.5 upto 6 months respectively. About 7.5% of rural mothers continued exclusive breast- feeding upto 12 months. The lesser duration of exclusive breast-feeding was more prevalent among educated and caste mothers whereas the total duration was beyond 2 years in 70% of rural children against 28% industrial and 30% urban children. Literacy status, income level and caste had inverse relation with length of exclusive breast-feeding.

INTRODUCTION

Breast-feeding is a natural and traditional infant-feeding practice throughout the world. It is an unequalled way of providing ideal food for the healthy growth and development of infants and has a unique biological and emotional influence on the health of both mother and child. The anti-infective properties of breast-milk help to protect infants against diseases. It contains exactly the right amount and kind of protein, fat, lactose, water, salt and other minerals and vitamins.

Breast-feeding is the traditional and near universal infant-feeding practice in our country. Pre-modern societies were known to have a high incidence and long duration of breast-feeding. But in modernising societies such as India, newly emerging social forces are leading to the breakdown of the age-old customs which adversely affect practices like breast-feeding (Shariff and Farsana, 1990). The subject has acquired a great importance and relavance in recent times. Public interest has been reawakened in the recent past, mainly as a result of recognition of its overwhelming advantages, especially in developing countries where hygiene is poor and some families can not afford to buy sufficient animal milk and have inadequate education to be able to use these properly. Government health organisations, women's organizations and other non-governmental and voluntary organizations are educating the public regarding the importance and utility of breast-feeding. Inspite of so much emphasis, the prevalence and duration of breast-feeding have declined in many parts of the world, particularly among the urban mothers for a variety of socio-economic and cultural reasons. With the introduction of modern technologies and the adoption of new life-styles, the importance attached to this traditional practice has been noticeably reduced in many societies. However, in a country like India in which most of the families cannot afford expensive artificial feeds, breast-feeding is a fairly cost-effective practice in meeting the dietery demands of young children.

The present paper deals with the breast-feeding and related practices, and the influence

of demographic variables on these practices in infant and preschoolers of western Orissa.

STUDY AREA AND METHODOLOGY

The survey was conducted during 1988-89 in some industrial, urban and rural areas of western Orissa by collecting information through a pretested schedule. The details of the study areas and schedule have been dealt in the earlier report (Mishra, 1992).

RESULTS AND DISCUSSION

Initiation of Breast-feeding

In the present study, the number of never-breast-fed infants was very small in all the areas *i.e.* 3.5% in industrial, 4% in urban and 3% in rural area. The reasons for 'never breast-feeding' as advanced by mothers were either no lactation, defective breasts or illness of the mother.

The percentage of mothers initiating breast-feeding within 24 hours of birth of the child were 17.5, 26 and 31.5 in industrial, urban and rural areas respectively (Table 1). Around 80% of mothers from industrial and urban areas and 90% from rural area initiated breast-feeding within 72 hours after birth. The data presented in (Table 2) on initiation of breast-feeding in relation to parental education, income level and caste show no positive influence of these factors.

Table 1 : Initiation of breast-feeding

Initiation of breast-feeding (in hours)	*Industrial*	*Urban*	*Rural*
	No. of babies (% in parentheses)		
	n = 183	*n = 274*	*n = 233*
≤24	32(17.5)	72(26)	74(31.5)
25-48	62(34.0)	111(40.5)	66(28.0)
49-72	56(30.5)	83(30.0)	80(34.0)
73-96	18(10.0)	3(1.0)	5(2.0)
>96	15(8.0)	5(2.0)	8(3.5)

Some traditions do not allow a child to suck unitl a few days after the birth. In about the year AD 200, the Greek physician Soranus advised his upper-class lady patients not to put their infants to the breast until 20 days after birth. During this time, according to Soranus, her body was sick and her milk thick, indigestible and raw, and not suitable for an infant (Helsing and King, 1984). But this was dangerous practice. Not only does the infant often starve for this period, but it makes it more difficult to establish lactation later on. Postponing suckling is an unnatural practice which should be avoided and discouraged. Now-a-days, progressive health workers recommend putting the newborn to the breast immediately after birth. There is good evidence that this increases the success and duration of breast-feeding (Salariya et al., 1978).

Earlier studies from Hyderabad (Rao et al., 1972), Jabalpur (Arora and Kaul, 1973), Himachal Pradesh (Bansal et al., 1973; Bahl, 1979; Dattal et al., 1984), Pondichery (Narayanan et al., 1974) and Delhi (Ghosh et al., 1976) revealed that most mothers initiated breast-feeding between 1 and 3 days. Studies on three metropolitan cities (Gopujkar et al., 1984) also showed that initiation of breast-feeding within 24 hours was limited and the majority fed after 48 hours. Survarna Devi and Behera (1980) found 20% of mothers initiating breast-feeding after 3rd day of birth. Nalwa (1981) observed that the majority of the babies (63.6%) were introduced to breast on the 2nd or 3rd day after birth. This trend was uniformly followed by the mothers of each educational class as well as economic strata except the lower group where the number of mothers initiating breast-feeding on the first day was twice that in the upper strata. In a similar type of study from Himachal Pradesh, Bahl and Singh (1982) found that 82% of children were put to breast within six hours of birth. Dattal et al. (1984) have reported the initiation of breast-feeding without delay by 55% rural and 13.6% urban mothers. However, 66% of urban mothers

Table 2: Initiation of breast-feeding in relation to parental education, per-capita income and caste (in per cent)

Particulars	*Initiation of breast feeding (hr)*			
	≤24	>25-48	>49-72	>72
Industrial				
Maternal Educatio..				
Illiterate	12	28	24	36
Upto High School	11	34	38	17
College and above	26.5	35.5	25	13
Paternal Education				
Illiterate	—	33.3	33.3	33.3
Upto High School	14	31	34.5	20.5
College and above	20	35.5	28.5	16
Per Capita Income (Rs)				
≤200	14	32	30	24
201-500	20	31	32	17
>500	16	40	28	16
Caste				
Upper	19.5	39	24	17
Lower	16	28.5	37	18.5
SC/ST	12.5	25	37.5	25
Urban				
Maternal Education				
Illiterate	28	50	16.5	5.5
Upto High School	29	48	21.5	1.5
College and above	23.5	39.5	33.5	3.5
Paternal Education				
Illiterate	60	20	20	—
Upto High School	36	41.5	19.5	3
College and above	24	40.5	32	3.5
Per Capita Income (Rs)				
≤200	12	36	48	4
201-500	26.5	38.5	32.5	2.5
>500	29.5	44	24	2.5
Caste				
Upper	23.5	44	28.5	4.5
Lower	33.5	40	26.5	—
SC/SC	26	17.5	56.5	—
Rural				
Maternal Education				
Illiterate	32	29	33.5	5.5
Upto High School	32.5	25	36.5	6.0
College and above	—	50	50	—
Paternal Education				
Illiterate	22.5	37.5	34.5	4.5
Upto High School	35	24.5	35	5.5
College and above	44	18.5	25	12.5
Per Capita Income (Rs)				
≤200	29	31.5	34	5.5
201-500	42	14	38	6
>500	33	67	—	—
Caste				
Upper	26.5	26.5	26.5	20.5
Lower	34.5	29.5	30.5	5.5
SC/ST	29.5	27.5	39.5	3.5

initiated breast-feeding after 48 hours. The local customs were the main reasons for delayed feeding in both urban and rural areas. Bahl and Kaushal (1987) found 91.7% rural infants of Himachal Pradesh were put to breast within 24 hours of birth. It is a common practice among rural women in and around Bangalore city to deprive children of breast-milk during the first 2-5 days of their life (Shariff and Farsana, 1990).

Results of two surveys conducted at an interval of a decade in Chandigarh revealed that a higher percentage of mothers in 1984 (64%) as against 24% in 1974 started giving breast-milk within 24 hours of birth and 31% mothers delayed breast-feeding for 48 hours in the belief that they had to wait till sufficient milk started flowing

It is now widely held that the infant should be put to breast after birth as soon as possible when the mother recovers from the immediate physical exhaustion of labour and delivery.

Several studies have shown that mothers who start to breast-feed immediately after delivery continue to breast-feed longer-usually about twice as long (Leefsma and Habatsky, 1980).

Duration of Breast-feeding and Related Practice

"Breast-feed as long as possible" has always been considered to be a good advice. But how long do Indian mothers breast-feed their children ? Throughout history the duration of breast-feeding has varied enormously from 0 to 15 years. The process of lactation has received little attention from historians and anthropologists, and the little we know gives no clue as to what is natural or what should be the ideal duration of breast-feeding (Helsing and King, 1984).

Breast-cleaning Before Feeding

About 92.5% of industrial, 95% of urban and 100% of rural mothers did not clean their

breasts before feeding (Table 3). Only 7.5% and 5% industrial and urban educated mothers cleaned their breasts before feeding. Agarwal et al. (1986) have reported that the percentage of women cleaning their breasts was between 26 and 48% and the practice of breast-cleaning improved with materal education.

It is necessary to have washing of the breasts and nipples and plain water, preferably boiled, should be used for such cleaning. Soap or lotions which contain alcohol is avoided as these substances remove the natural oils and make the skin too dry.

Maternal Posture During Feeding

Babies are fed differently in different cultures, but in Indian a vast majority, particularly at night, prefer to feed the baby lying down (Ghosh, 1976). Often both the mother and the baby go off to sleep after the feed. After the first few weeks, the sitting position is preferred, the baby lying on the mother's lap and her elbow supporting the head. Once the baby learns to sit, he very often feeds while sitting on the mother's lap or on the floor or ground next to her. In all these positions the baby can be fed satisfactorily provided he has easy access to the breast and the mother is relaxed and not in hurry. The less inhibition a mother has about the place and the environment of feeding, the more successful is the breast-feeding (Ghosh, 1976).

Table 3: Per cent distribution of mothers cleaning their breasts before feeding

Particular		*Industrial*	*Urban*	*Rural*
Whether cleaning breast before each feed?	Yes	7.5	5	0
	No	92.5	95	100

In the present study 82% of industrial mothers, 64% of urban and 88.5% rural mothers fed their babies in lying as well as sitting positions (Table 4). In Jammu, 38% of the urban and 33% of the rural mothers used predominantly the lying position and 24% urban and 47% of the rural mothers fed their infants in the propped up position mostly (Sharma and Lahori, 1977). Thaman and Manchanda (1968) found that the position adopted by the mothers during feeding was variable. While 35% of the mothers fed their infants in a squatting position, 63% did so both sitting and/or lying, varying their position with the times of feeding, circumstances and their personal convenience. Occasionally a mother was noted to feed her baby quite comfortably even when walking.

Thus it is very important to check whether or not a mother is relaxed and comfortable in her position irrespective of the type of posture during feeding and whether the particular position allows the breast to fall towards the baby. Helping a mother to find a comfortable position is an important job of the health workers and experienced women available nearby.

Table 4: Distribution of mothers with different maternal posture during breast-feeding

Particulars	*Industrial*	*Urban*	*Rural*
	No. of mothers (% in parentheses)		
Maternal Posture			
Lying	9(5.0)	20(7.0)	19(8.0)
Sitting	24(13.0)	79(29.0)	27(11.5)
Both lying and sitting	150(82.0)	175(64.0)	189(80.5)

Breast-feeding Schedule

Breast-feeds may be given either on demand, *i.e.* whenever a child cries indicating hunger or may be given on the basis of regular time schedule. The current advice is to feed on demand (Gopujkar et al., 1984). The present observation showed that 41, 13 and 54 per cent of the hospital-delivered infants and 48, 36.5 and 81.5 per cent of the homedelivered infants were on demand-feeding in industrial, urban and rural areas, respectively. There was a higher proportion of infants from demand-feeding

group from rural area and higher percentage of scheduled (fixed) breast-feeding infants from industrial and urban areas, irrespective of place of delivery (Table 5).

Sharma and Lahori (1977) found that 8.3% of the urban and 99% of rural infants in Jammu were fed on demand as expressed by their crying. A similar result has been found by Bahl and Kaushal (1987) in rural Himachal Pradesh.

Table 5 : Per cent distribution of breast-feeding schedule in relation to place of delivery and maternal education

Particulars	Place of Delivery					
	Hospital			Home		
	Ind.	Urb.	Rur.	Ind.	Urb.	Rur.
Feeding Schedule						
Demand	41	13	54	48	36.5	81.5
Fixed	60	87	46	52	63.5	18.5

		Maternal Education		
		Illiterate	Upto High School	College and above
Feeding Schedule				
Demand	Industrial	22	42	36
	Urban	20.5	45.5	34
	Rural	79.5	20	0.5
Fixed	Industrial	7.5	44	48.5
	Urban	4.5	24.5	71.0
	Rural	64.5	35.5	—

Note : Ind. - Industrial, Urb. - Urban, Rur. - Rural

Table 6 : Per cent distribution of length of exclusive breast-feeding

Length (months)	Industrial	Urban	Rural
	n = 183	n = 274	n = 235
≤3	58.5	45.5	10.5
4-6	21.0	46.0	44
7-9	8.0	7.5	34.0
10-12	9.0	1.0	7.5
>12	3.5	—	4.0

Table 7 : Per cent distribution of length of exclusive breast-feeding in relation to maternal education, income, caste and place of delivery

Particulars	Length (months)			
	≤3	4-6	7-12	>12
Industrial				
Maternal Eduction				
Illiterate	44	20	28	8
Upto High School	58.5	18.5	19.5	3.5
College and above	63	23.5	12	1.5
Per Capita Income (Rs)				
≤200	48	13.5	27.5	9
201-500	58	24.5	15.5	2
>500	69.5	18.5	12	0
Caste				
Upper	66	23.5	9.5	1
Lower	52.5	18.5	24.5	4.5
SC/ST	37.5	12.5	37.5	12.5
Place of Delivery				
Hospital	62.5	23	11	3.5
Home	46.5	13.5	38	2
Urban				
Maternal Education				
Illiterate	40	46.5	13.5	—
Upto High School	57	36.5	6.5	—
College and above	41	50	9	—
Per Capita Income (Rs)				
≤200	40	52	8	—
201-500	47.5	44	8.5	—
>500	44.5	47.5	8.0	—
Caste				
Upper	53.5	40.5	6	—
Lower	33.5	63	3.5	—
SC/ST	32	40	28	—
Place of Delivery				
Hospital	46.5	47	6.5	—
Home	40.5	40	19.5	—
Rural				
Maternal Education				
Illiterate	6.5	40.5	48.5	4.5
Upto High School	21	57.5	17.5	4
College and above	100	—	—	—
Per Capita Income				
≤200	8.5	43	46	2.5
201-500	17	47	23.5	12.5
>500	33.5	33.5	33	—
Caste				
Upper	73.5	10.5	10.5	5.5
Lower	9.5	53	35	2.5
SC/ST	1.5	42	51	5.5
Place of Delivery				
Hospital	14.5	36.5	46.5	2.5
Home	8.5	48.5	38	5

Exclusive Breast-feeding Duration

The duration of exclusive breast-feeding (on breast-milk only) in different areas has been shown in table 6. Around 58.5% of the mothers from industrial area, 45.5% from urban and 10.5% from rural area continued exclusive breast-feeding upto 3 months of age of the child whereas the figures were 79.5%, 91% and 54.5% respectively upto 6 months of age, 9% of mothers from industrial area, 1% from urban and 7.5% from rural area continued exclusive breast-feeding upto 12 months.

Higher percentage of educated mothers from both industrial and urban area did exclusive breast-feeding upto 3 months of age of the child (Table 7). In rural area, a higher percentage of illiterate mothers continued exclusive breast-feeding beyond 6 months and 57.5% of the high school-educated mothers upto 6 months. In general educated mothers preferred exclusive breast-feeding for lesser duration than their counterparts in the uneducated groups.

The income level of the family (per capita income) did not seem to have any impact on the length of exclusive breast-feeding in any area (Table 7). But a higher percentage of upper-caste mothers in all the areas (66% industrial, 53.5% urban and 73.5% rural) discontinued exclusive breast-feeding after three months. The majority of lower-caste mothers, particularly the mothers belonging to Scheduled Castes and Scheduled Tribes, continued exclusive breast-feeding for a longer duration than the upper-caste mothers in all the areas. No positive association could be observed between the place of delivery and length of exclusive breast-feeding.

Studies by Idris et al. (1981) in Lucknow showed that 96% of the urban and all the rural infants were breast-fed upto the age of three months and 40.6% urban and 18.7% rural infants switched over to artificial feeding in addition to breast-feeding whereas 12.5% urban and none of the rural infants were totally dependent on artificial feeding. After the age of six months, 29.4% of urban and 16.4% of rural infants moved onto artificial feed while 23.5% of urban and 41.8% of rural infants were still dependent on breast-feeding exclusively. These figures decreased to 16.2 and 26.6%, respectively before the age of one year.

Ghosh et al. (1976) in a longitudinal study in South Delhi found that 5.5%, 11.7% and 22.8% of the children were breast-fed for less than 1 month, 2 months, and 6 months, respectively; on the other hand, 41%, 20% and 7% of mothers continued exclusive breast-feeding for more than 1 year, 1.5 years and 2 years, respectively. Suverna Devi and Behera (1980) in their study of the Southern part of Orissa have observed that 84% of mothers continued to breast-feed their infants beyond one year.

Agarwal et al. (1986) found a lower figure of duration of exclusive breast-feeding in highly educated and upper socio-economic group mothers. Prolonged exclusive breast-feeding (beyond one year) has been reported from rural areas of western and southern Orissa and Nilgiri hill tribes, and exclusive breast-feeding has been reported even beyond two years of age. In a study conducted on breast-feeding pattern among urban infants in Chandigarh, Kumar et al. (1984) observed that among a significantly higher percentage of mothers in the lower socio-economic class, breast-feeding was successful and it was most common among illiterate, poorly educated mothers and non-working mothers. ICMR studies (1984) showed a considerable difference of exclusive breast-feeding form one month to more than a year from one area to another. In Calcutta, on an average, 40% of the children were exclusively on breast fed during the first month and only 10% of infants were solely breast-fed by the age of six months. Gopujkar et al. (1984) observed that 20% of infants in Bombay, 13.4% in Calcutta and 8.5% in Madras of 6-12 months age were nursed by their

mothers and did not get any supplementary food.

A higher percentage (90%) of infants upto six months of age have been reported to be solely breast-fed in central India (Arora and Kaul, 1973), 63% in South India (Puri et al., 1975), 35.7% in New Delhi (Nalwa, 1981) against 21, 46 and 44% in industrial, urban and rural areas of western Orissa (Present Study). Breast-feeding alone does not assure adequate nutrition for the first full year and usually not beyond the first six months, even among normally healthy peoples. Under the adverse conditions of poverty, sickness and under nutrition of mothers, many children from rural areas show symptoms of undernutrition because appropriate supplementary feeding is not given when needed (Shariff and Farsana, 1990). Mothers, especially from rural areas, slums and tribes do not initiate supplementary feeding until the time when the child picks up food to eat on its own. Many mothers have a notion that their breast-milk is sufficinet for the child, upto two years of age (Shariff and Farsana, 1990). Appropriate and timely introduction of supplementary feeding with prolonged breast-feeding is important for the proper weight gain of the baby.

Duration of Total Breast-feeding

The term 'total breast-feeding' used in this study refers to the total length (duration) of breast-feeding either exlusive or along with supplementary food. It is seen from table 8 that 70% of the rural mothers continued breast-feeding beyond 2 years and 89.5% beyond one year of the child's age. In industrial and urban areas 28% and 30% of mothers, respectively continued breast-feeding beyond 2 years. 35.5% of mothers belonging to industrial areas breast-fed their babies for less than 6 months against a figure of 3.5% in rural area. In all these areas, a higher percentage of illiterate mothers continued breast-feeding beyond 12 months of age but the figures were lower among educated mothers (Table 9). A similar trend was also found in families with low income (≤ Rs. 200). A higher percentage of mothers belonging to lower castes and scheduled castes and scheduled tribes in all the areas continued breast-feeding beyond 12 months whereas most of the upper-caste mothers in industrial and urban areas discontinued breast-feeding before 12 months of age. In urban and industrial areas 47.5% and 48%, respectively of hospital-delivered babies were breast-fed beyond 12 months, but the figures were 31% and 33%, respectively among home-delivered babies. However, there was no significant difference in the duration of total breast-feeding between hospital and home-delivered rural babies.

Table 8 : Per cent distribution of length of total breast-feeding

Length (Months)	*Industrial*	*Urban*	*Rural*
≤6	35.5	12.5	3.5
7<12	21.5	41.5	7.0
3-24	15.0	15.5	19.5
>24	28.0	30.5	70.0

In Varanasi District, the majority (53.85%) of urban children was breast-fed upto 6 months of age as compared to 10.21% of urban slum and 12.2% of rural children (Katiyar et al., 1981). Breast-feeding was prolonged in the urban slum and rural groups of children as compared to those of urban groups. The percentage of children on breast-feeding, in the rural group, beyond 2 years of age remained significantly higher than those in the urban slum group. Observations from other Indian studies on duration of exclusive breast-feeding are summarized in table 10. It is evident from the table that a sizeable percentage of population favours prolonged, exclusive breast-feeding beyond 1 years and it is important to educate them against such practice.

Table 11 reveals the mean values on age of initiation of breast-feeding, length (duration) of exclusive breast-feeding and total duration

Table 9 : Per cent distribution of length of total breast-feeding in relation to maternal education, income, caste and place of delivery

Particulars	Length (months)			
	≤6	7-12	13-24	>24
	n=65	n=39	n=27	n=52
Industrial				
Maternal Education				
Illiterate	16	20	52	12
Upto High School	41.5	20	12.5	26
College and above	35	23	4.5	36.5
Per Capita Income (Rs)				
≤200	9	9	17.5	64.5
201-500	30.5	28.5	17	24
>500	68	20	8	4
Caste				
Upper	43.5	26	11	19.5
Lower	29	18	17	36
SC/ST	12.5	—	37.5	50
Place of Delivery				
Hospital	37.5	15	15	32.5
Home	29	40	13	18
Urban				
Maternal Education				
Illiterate	21	10.5	52.5	16
Upto High School	21	17	34	28
College and above	7.5	55.5	3.5	33.5
Per Capita Income (Rs.)				
≤200	11.5	11.5	31	46
201-500	11	48	14.5	26.5
>500	14.5	40	14	32.5
Caste				
Upper	9.5	53	6.5	31
Lower	19.5	22	31	22.5
SC/ST	11.5	27	23	38.5
Place of Delivery				
Hospital	8.5	43.5	15.0	33
Home	42.5	24	18	15.5
Rural				
Maternal Education				
Illiterate	2.5	5	12.5	80
Upto High School	7.5	13	42.5	37
College and above	—	—	—	—
Per Capita Income (Rs)				
≤200	4	6	24.5	65.5
201-500	2	14	16	68
>500	66.5	—	—	33.5
Caste				
Upper	37	—	37	26
Lower	1	10.5	20	68.5
SC/ST	1	4.5	13	81.5
Place of Delivery				
Hospital	0.5	35	12.5	52
Home	8.5	7.0	21.5	63

of breast-feeding in relation to eduction of mother, per capita income and caste. The initiation of breast-feeding in all the areas and groups is after 48 hours of the child's birth with little variation except among SC/ST mothers who initiated before 48 hours but after 24 hours. The mean length of exclusive breast-feeding is higher for rural infants and literacy status per capita income and caste have inverse relation to the length of exclusive breast-feeding. The mean length of exclusive breast-feeding in case of rural illiterate mothers was 9.15 months. A similar trend was also observed in case of total breast-feeding i.e. 23.13 months for rural illiterate mothers and 26 months for rural SC/ST mothers.

The rationale for limiting or not limiting the period of breast-feeding is reflected in popular beliefs about the effects of very long period of breast-feeding. There are two distinct trends in the popular beliefs about long periods of breast-feeding of beyond 2-3 years (Helsing and King, 1984).

(i) 'Prolonged breast-feeding' is beneficial to the child. Children who have suckled for a number of years can become excessively strong, bright or healthy;

(ii) 'Prolonged breast-feeding' is dangerous for the child. Children who have suckled for a number of years may get supernatural afflictions (evil eye, whitchcraft etc.).

However, the tradition in most parts of the world is to breast-feed for 2-3 years and prolonged breast-feeding for about 2-3 months is common among lower socio-economic groups in India (Belavady, 1980). Although it is not possible to establish a precise 'ideal' duration of breast-feeding, it is to be decided taking the following factors into consideration :

(i) Convenience (including the health status) of the mother;

(ii) Need for the child (psychological and physiological);

(iii) Availability of good quality supplementary food; and

(iv) Social conventions in the area.

Table 10 : Duration of exclusive breast-feeding in various parts of India

Place and area	*Percentage*	*Duration in months*	*Author*
Lucknow			
Urban	96	≤3	Idris et al. (1981)
Rural	100	≤3	
Urban	23.5	6 - 12	
Rural	41.8	6 - 12	
South Delhi			
Urban	41	12	Ghosh et al. (1976)
	20	18	
	7	24	
Southern Orissa, mixed	84	>12	Suvarna Devi and Behera (1980)
Himachal Pradesh			
Urban	30	24	Dattal et al. (1984)
Rural	60	24	
Hyderabad			
Urban	28.7	36-48	Rao et al. (1972)
Chandigarh			
Urban	70.7	12	Walia et al. (1974)
Andhra Pradesh			
Lower Socio, Economic group	—	23	Belevady (1980)
Uttar Pradesh, Madhya Pradesh, Bihar	—	21.6	Agarwal et al. (1986)
Andhra Pradesh, Kerala, Karnataka	—	26.5	
Pondichery	—	19.2	31-36
Maharashtra, Gujarat, Rajasthan	—	20.6	
Delhi, Punjab, Haryana, Himachal Pradesh	—	28.5	
Present Study			
Industrial	20.5	≤6	
Urban	8.5	≤6	
Rural	45.5	≤6	

Table 11 : Mean age of initiation of breast-feeding, and exclusive and total breast-feeding in relation to social variables

	Initiation of breast-feeding (hours)			*Exclusive breast-feeding (months)*			*Total breast-feeding (months)*		
	Ind.	*Urb.*	*Rur.*	*Ind.*	*Urb.*	*Rur.*	*Ind.*	*Urb.*	*Rur.*
Maternal Education									
Illiterate	49.5	52.0	53.89	7.95	8.14	9.15	10.5	11.57	23.13
Upto High School	50.5	48.6	55.84	4.85	4.35	7.08	6.3	7.17	14.53
College and above	48.7	48.89	72.00	3.60	3.70	7.50	5.15	5.67	—
Per Capita Income (Rs.)									
≤200	55.6	63.59	55.86	6.39	6.50	7.22	13.3	12.53	15.98
201-500	41.3	50.54	50.4	4.53	4.22	6.76	8.7	11.65	10.5
>500	50.4	49.65	40.0	2.90	3.60	8.0	3.95	4.92	10.0
Caste									
Upper	54.5	52.22	51.78	3.60	3.92	6.31	5.9	6.06	11.21
Lower	49.3	50.56	52.54	4.24	4.55	7.03	9.6	10.61	18.89
SC/ST	22.8	28.34	25.38	6.5	8.64	8.23	11.5	11.90	26.85

Ind. = Industrial Urb. = Urban Rur. = Rural

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