

Breast-Feeding Pattern in a Hilly Area of Bangladesh

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Introduction

The unique nutritional, health and economic benefits of breast-feeding are well recognized¹. Breast-milk is acknowledged to be superior to other types of milk and formulas for nutrition of the infant². Breast-feeding provides an effective mechanism for child spacing while intensifying mother-child bonding³.

Typically, infants in the developing countries are breast-fed and grow at practically normal rates for the first few months of life. Growth failure begins after 5 months, when the amount of breast milk is inadequate to supply the total food needs of the child. The pattern of growth in next few years of life is variable, depending on proper weaning and many other factors. From the 6th month to 12th month, it can supply up to three-quarter of a child's protein needs and a significant portion for some months beyond⁴.

Breast-feeding is virtually universal in Bangladesh, nearly 100% of

mothers breast-feed their infants from birth, specially in rural areas. However, there is concern that the practice of breast feeding initiation and/or duration is declining not only in urban populations but also in rural communities⁵⁻¹⁵.

Breast-feeding practice is strongly influenced by the culture of any community. There is no information about infant feeding in hilly area in Bangladesh. We conducted this study at Naikhongchari, Bandarban to estimate the prevalence of breast-feeding during infancy. It concentrates on various aspects of breast-feeding practices among mother. It is hoped that this findings would guide further work and serve as a baseline for assessment of future trends in infant feeding.

Materials and Methods

This study was conducted at Naikhongchari union, Bandarban, a hilly place with an area of 93 sq km comprising of 52 villages, 30 km

north-east of Cox's Bazar town. Ethnically both tribal (23%) and non-tribal (73%) people live there. The area is well connected to Chittagong-Cox's Bazar highway at Ramu rubber garden.

A sample frame was developed from the list of EPI register available with the local Thana Health Complex. Infants were numbered. 243 infants were primarily selected randomly as sample units. The infants were considered eligible only if they were free from diseases and congenital anomalies. Verbal informed consents were obtained from responsible members of each recruited family.

Data were collected in a cross-sectional manner by the investigator covering 243 households during the months of November, 1992 using a pre-tested and coded questionnaire. While study mothers were the primary source of data, other family members also contributed some information. Assistance of local Health Assistant was sought while interviewing tribal mothers.

Though 243 infants were identified as sample units 33 were dropped from the study on account of mothers absence, 2 for congenital anomaly. 19 for very inaccessible area and 3 due to incomplete information.

The obtained data were transferred to coding sheets and verification was carried out. Then the coded data had been entered in an IBM personal computer. During data input all entries appeared on the computer screen and allowed for final verification and necessary correction. The Statistical Package for the Social Sciences (SPSS/PC+) was employed to analyze the data. Normal test, proportion test and Chi-square test were used to determine statistical significance. Statistical difference was tested at 5% level of significance.

Results

210 infants were included in the study. Of them 101 were male and 109 were female. The mean age \pm SD of the infants was 7.72 ± 3.57 months (Table-1). Most of the mothers (94.3%) delivered their last babies at home and only 5.7% did so in hospitals (Fig.1). Prelactal feeds were given by 74.3% mothers and only 25.7% mothers offered breast milk as first feed after birth (Table-2). Mean time of onset of breast-feeding was 20.84 hours and the mean duration of breast feeding in infancy was found to be 7.6 months (Table-3). Colostrum was

Table 1. Distribution of the infants by their age and sex (n = 210)

Age in months	Male		Female		Total		Mean age \pm SD
	No	%	No	%	No	%	
0-2	8	3.8	10	4.8	18	8.6	
2 - 4	14	6.7	15	7.1	29	13.8	
4 - 6	14	6.7	15	7.1	29	13.8	
6 - 8	23	10.9	7	3.3	30	14.3	7.72 \pm 3.5
8 - 10	9	4.3	29	13.8	38	18.1	
10 - 12	33	15.7	33	15.7	66	31.1	

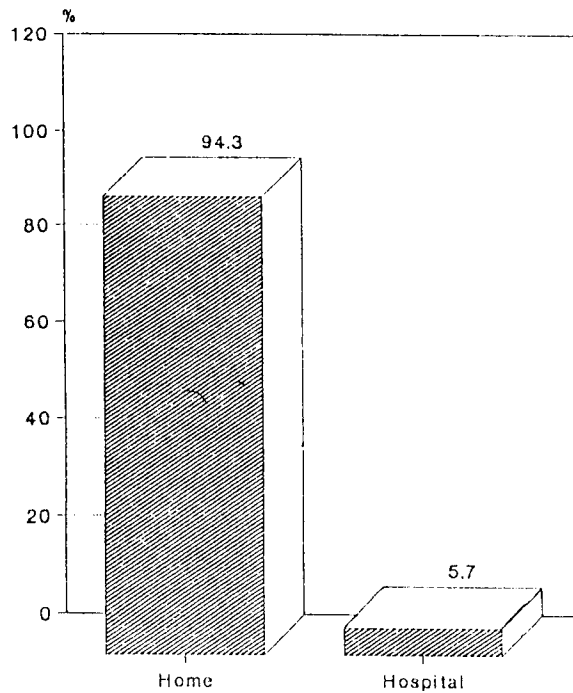


Fig. 1. Place of birth (n = 210)

given to the babies by 59.5% mothers while it was expressed and rejected by 40.5% mothers.

Colostrum rejection was significantly more among the illiterate (44.5%) mothers (p < 0.05) (Table-4).

Table 2. Nature of first feed given (n = 210)

Feed	Frequency	Percentage
Honey	109	51.9
Breast - milk	54	25.7
Sugar water	43	20.5
Other (oils, water etc.)	4	1.9
Total	210	100

Table 3. Time onset of breast-feeding (n = 210)

Time (hours)	Frequency	Percentage	Cumulative %	% Mean \pm SD
0 - 1	14	6.7	6.7	
1 - 6	94	44.8	51.4	
6 - 24	51	24.3	75.7	
24 - 48	18	8.6	84.3	20.84 \pm 28
48 - 72	15	7.1	91.4	
72 - 120	18	8.6	100	
Total	210	100	-	

Duration in months	Frequency	Percentage	Cumulative percentage	Mean \pm SD
0 - 1	3	1.4	1.4	
1 - 3	21	10.0	11.4	
3 - 6	46	21.9	33.3	7.6 \pm 3.2
6 - 9	38	18.1	51.4	
9 - 12	102	48.6	100	
Total	210	100		

Table 4. Practice of colostrum according to maternal education (n = 210)

Maternal education	Feed the infant n (%)	Expressed and rejected n (%)	Row Total	Statistical significance
Illiterate	96 (55.5) (45.71)	77 (44.5) (36.66)	173 (100) (82.4)	x ² = 8.80 df = 3 p <.05
Primary	16 (69.6) (7.6)	7 (30.4) (3.3)	23 (100) (11)	
Secondary	7 (87.5) (3.3)	1 (12.5) (0.5)	8 (100) (3.8)	
S. S. C.	6 (100) (2.85)	-	6 (100) (2.9)	
Column total	125 (59.5)	85 (40.5)	210 (100)	

Note : 1. Row % means percentage of the category taking 100%
2. Column % means percentage of the total.

Only 17 (8.1%) mothers terminated breast-feeding due to various causes. Reasons given by the mothers for suspending breast-feeding were: inadequate milk (29.4%), assuming breast-milk turns bad (17.64%), infants illness (11.76%), taking contraceptive pills (11.76%), new pregnancy (11.76%), mother's illness (5.88%), infection in the breast (5.88%), and physicians advice (5.88%) (Table-5).

At the time of interview 81.4% were continuing breast-feeding only, 7.1% both breast and formula, 3.3% both breast and cow milk, 4.3% cow milk only, and 3.8% formula only (Table-

6). All the mothers started breast-feeding within 5 days after birth (Table-3) and 92% mothers were continuing breast-feeding at the time of interview (Table 7). Only 12.85% infants were exclusively breast-feed (Table 8). Artificial Feeding was given to babies mostly by bottle (Table 9) .

Discussion

Of the 21 infants 48.1% were male and 51.9% were female. The mean age of the infants was 7.72 months. Only 25.7% mothers gave breast milk as the first food. Honey was given in maximum (52%) cases. Other studies

Table 5. Causes of termination of breast-feeding (n-17)

Causes	Frequency	Percentage
Inadequate milk	5	29.41
Infants illness	2	11.76
Assuming breast milk turns bad	3	17.64
Taking contraceptive pills	2	11.76
New pregnancy	2	11.76
Mothers illness	1	5.88
Infection in the breast	1	5.88
Physicians advice	1	5.88
Total	17	100

Table 6. Type of milk feeding at the time of interview (n = 210)

Type of milk	Frequency	Percentage
Breast -milk only	171	81.4
Both breast & formula milk	15	7.1
Cow's milk only	9	4.3
Formula milk only	8	3.8
Both breast & cow's milk	7	3.3
Total	210	100

Table 7. Infants with breastfeeding status at the time of interview (n = 210)

Feeding status	Frequency	Percentage
Breastfed	193	91.90
Terminated	17	8.10
Total	210	100

Table 8. Distribution of infants according to exclusive breastfeeding (n = 210)

Age in months	Frequency	Percentage
Birth	54	25.7
3 months	38	18.09
5 months	27	12.85
6 months	16	7.61
9 months	-	

Table 9. Methods of feeding artificial food (n = 55)

Methods	Frequency	Percentage
Bottle	40	72.7
Cup and spoon	9	16.3
Cup	6	11.0
Total	55	100

reported the figures as 82% and 79%. Practice of prelacteal feeds was a common picture in various studies^{13,16-18} Prelacteal feeds are not indicated as they introduce infection¹⁹ interfering let down reflex² and milk formation²⁰. The concept of prelacteal feeds promote breast-milk substitute. This wrong practice should be modified and nutrition education can increase the attitude of mother toward breast-feeding²¹. Only 4.3% babies were put to the breast within 1/2 hour of

birth and 95.7% beyond 1/2 hour. Mean time of onset of breast-feeding was 20.84 hours. Many other similar studies^{13,15,22} also reported delayed onset of breast-feeding. This delayed initiation is not justifiable. The baby should get breast milk as first feed with in half an hour after birth. Delayed first feed might lead to hypoglycemia and lactational failure. Nutrition education can help to reverse this wrong practice. Mother should be convinced that breast-milk not yet coming is due to not yet

starting suckling by the baby and satisfying his/her hunger by other fluids²³.

Colostrum was given to the babies by 59.5% mothers while it was expressed and rejected by 40.5% mothers. Colostrum rejection in other studies was found to be 91%¹⁵, 50%¹⁶, 28%¹⁷, 79%^{7,22}, and 100%¹⁸. Colostrum is highly nutritious and is the newborns first and most important immunization. It protects the baby from infection and should not be discarded. Colostrum is not at all harmful as first feed. The baby does not need any other foods or drinks while awaiting for the mothers milk to come in. Frequent suckling at the breast is necessary to stimulate the production of breast milk. Nutrition education can help to increase the attitude of the mothers toward giving colostrum to their infants at birth.

All the mothers started breast-feeding within 5 days after birth and 92% mothers were continuing breast-feeding at the time of interview. The mean duration of breast-feeding in infancy was found 7.6 months. A similar study in Kuwait²⁴ reported a mean duration of 5.8 months during infancy. But the actual fact was that the mean duration of breast-feeding would substantially be longer during subsequent period. The mean

duration of breast-feeding was reported 30 months by Huffman et al⁵, 27.5 months by Ahmed⁶, 21.6 months by Hoque et al¹⁵ and 26.4 months by Nessa et al²⁵. The prolong duration was due to inclusion of higher age group of children in the study. Only 17 (8.1%) mothers terminated breast-feeding due to various causes. Lack of adequate milk was the commonest cause (29.4%) for stopping breast-feeding. This finding was consistent with the findings of similar studies^{11,12,14,24,26} in different places.

Only 12.85% infants were exclusively breast-fed. Even this figure might be an over-estimate as this was depended on long term memory of the mothers. In different studies exclusive breast-feeding was found 49.3% at 4 months by Hoq et al¹¹, 69% at 6 months by Islam¹², 55% at 6 months by Nasirullah¹³ and 12.2% at 4 months by Talukder¹⁴. The higher figure of exclusive breast-feeding in some studies could be due to reluctancy while considering exclusive breast-feeding definition. Currently, exclusive breast-feeding is a new concept, defined as nothing except breast-milk even no water up to 5 months of age. Taking into account this new concept of exclusiveness Ahmed⁶ showed that the prevalence of exclusive breast-feeding was only 7% at 5 months.

This situation is undoubtedly alarming. Exclusive breast-feeding provide optimum nutrition for the infants up to 5 months of life^{8,27-29}. Most of the mothers (71%) were feeding artificial food by bottle which is dangerous, as it can lead to serious illness and death. A bottle fed baby is 25 times more likely to die of diarrhoea than a exclusively breast-feed baby. Cups are safer than bottle as they are easier to keep clean³⁰.

Infant feeding is very important in determining the subsequent growth and development of children. Unfortunately there is clear evidence from various studies in this country that there exists improper breast-feeding practices. Colostrum is largely discarded, prelacteal feeds are given to almost all newborns, there is delayed initiation of breast-feeding, exclusive breast-feeding for 5 months is practically non-existent, bottle feeding even in villages is going up, duration of breast-feeding is decreasing. All these create problems for proper breast-feeding practices in Bangladesh. Furthermore, the majority of health professionals give wrong advice to mothers and many hospitals encourage bottle feeding and giving prelacteal feeds which severely affect the mother's ability to breast-feed her baby successfully.³¹

The faulty practice of breast-feeding is contrary to current recommendations and are the causes of great concern for us. Infant feeding programs should be designed and implemented urgently throughout the country to reverse these ill trends in breast-feeding practices.

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Summary

A cross-sectional study was carried out in 1992 to determine prevailing breast-feeding practices in a hilly area. Data were collected during home visits using a pretested coded questionnaire. 40.5% of the mothers rejected colostrum, 74.3% gave prelacteal feeds. However, 100% mothers started breast-feeding within 5 days. Hilly infants were breast-fed on an average 7.6 months. Only 12.85% infants were exclusively breast-fed. Reasons given by the mothers for abandoning breast-feeding included inadequate milk (29.41%), refusal to breast, diarrhoea of the baby, painful nipples, folk beliefs, new pregnancy and use of oral contraceptives. Folk beliefs and practices often led to unnecessary

early termination of breast-feeding. The authors recommend breast-feeding exclusively for the first 5 months of life, timely and adequate supplementation and maintaining breast-feeding long enough to ensure its gradual replacement by a safe and nutritious diet is extremely important to have a healthy baby.

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