

## Original Article

# BREAST FEEDING: PRACTICES AND DETERMINANTS IN RURAL AREA OF WEST TRIPURA DISTRICT OF INDIA

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## ABSTRACT

**Background:** Despite exclusive breastfeeding being a well recognized determinant of child survival, its practice is not up to the mark in our country. Various social customs and misconceptions act as a barrier to breastfeeding.

**Methodology:** To assess the practice and determinants of breast feeding a community based cross-sectional study using structured questionnaire was conducted during 1<sup>st</sup> August to 31<sup>st</sup> August 2009 among 116 mothers from four sub-centre areas under Mohanpur CHC of West Tripura district chosen by multistage sampling. Descriptive statistics, chi-square test and logistic regression analysis were used.

**Result:** Prevalence of exclusive breast feeding was 25%. Median time of initiating breast feeding was one hour following delivery, median duration of breast feeding was four months and median age of starting weaning was two months. Colostrum was fed by 87.9% women and advice regarding this was mainly obtained from the healthcare providers. Prolactal feeding was practiced by 56% mothers and honey was the commonest prolactal feed. With the improvement in mother's literacy, there was significant increase in colostrum feeding ( $p = 0.010$ ) and decrease in prolactal feeding ( $p = 0.007$ ). Mother's parity, age, literacy, place of delivery, antenatal checkup and gender of the child were found to be significant determinants of exclusive breast feeding.

**Conclusion:** Improving literacy status, promoting antenatal checkup and encouraging institutional birth will reduce harmful infant feeding practices. As the health workers were the major source of information, they can initiate behavior change communication for promoting exclusive breast feeding in this community.

**Key words:** Breast feeding, Colostrum, Prolactal feeding, Tripura.

## INTRODUCTION

The World Health Organization and UNICEF recommend that infants should be given only breast milk for the first six months of their life.<sup>1,2,3</sup> As per national family health survey-3 (NFHS-3), only 46% of the Indian infants between 0 and 6 months are exclusively breastfed.<sup>4</sup> Prolactal feeding is prevalent in many Indian societies. But they could be potentially harmful to the newborn as they could introduce infection, sensitise the gut to foreign proteins, or delay the onset of lactation.<sup>5</sup> Initiation of breast feeding in India is frequently delayed and the colostrum is often discarded before putting the baby on to the breast thinking that this yellow fluid may be un-digestible by the baby and harmful.<sup>6</sup> This study was designed to measure the prevalence of exclusive breast feeding, its correlates,

and practices among mothers of a rural area of Tripura.

## MATERIALS AND METHODS

A community based cross-sectional study was conducted during 1<sup>st</sup> August 2009 to 31<sup>st</sup> August 2009 using a pretested, structured interview schedule among 116 mothers having 6 - 12 months old children and residing in Mohanpur Block of West Tripura District to estimate the prevalence of exclusive breast feeding, to assess the knowledge of mothers regarding breast feeding and to study the factor affecting breast feeding. Minimum sample size requirement for this study at 95% confidence, using 20% allowable error and considering the prevalence of exclusive breast

feeding as 46.4%<sup>4</sup> was 123 including additional 10% to compensate for non-response. Study participants were chosen by multistage sampling. Out of 16 blocks of West Tripura district, Mohanpur block was chosen by simple random sampling. Out of 12 sub-centres located in Mohanpur block area, (one third) four sub-centres namely Kamalghat, Tulabagan, Domdomia & Laxmipara were chosen by simple random sampling. Immunization coverage of this area was approximately 97% as per report of Mohanpur CHC. Immunization registers maintained in these four sub-centers had an updated record of 298 children, who were aged 6 - 12 months. Finally 123 children were chosen from this list by simple random sampling and mothers of these 123 children were approached to participate in this study. Exclusive breast feeding was defined as feeding of only breast milk to children till 6 months of age including colostrum and no pre-lacteal feeding. Data were collected by paying visits to the houses of the selected children being accompanied by the Medical Social Workers of Community Medicine Department and the ANMs posted in this study area. After reaching the houses, informed consent was sought from the mothers of the selected children for participation in this study. Three mothers were out of station, one had fever, one had twin and two mothers refused to participate in this study, so were excluded. Thus final sample size came down to 116. Mothers were then interviewed confidentially in the presence of ANM or Female Medical Social Worker. Institutional Ethics Committee of Agartala Government Medical College has approved the study. Informed written consent was taken from every participant. Left thumb impression was taken in case of illiterate respondents. Signature of one witness was also taken on the consent documents. All the filled in consent forms were tagged with the respective interview schedules. Information collected while conducting this study was not linked to the identity of any of the respondents and strict confidentiality was maintained. Data were analyzed after entering in computer using SPSS 10.5 version. Descriptive statistics and chi square test and logistic regression analyses were applied as per applicability. P value of  $\leq 0.05$  was considered significant.

## RESULT

Response rate was 94.3%. All the mothers participated in the study said that they have breastfed their babies irrespective of its type and duration. Only 25% of the children were found to be exclusively breast fed. Median time of initiation of breast feeding was found to be one hour after delivery and the median duration of breast feeding was four months. The median age of starting weaning was two months.

Prelacteal feeding was more prevalent among the Muslims (100%), than the Hindus (n = 65, 55.7%) though it was statistically insignificant (p = 1.00). It was equally more prevalent among the ST and OBC populations (n = 13, 65%, in each group) than the general community, but it was not significant (p = 0.489).

It was practiced mostly in those families, where the decision makers were primary educated (n = 22, 66.7%) but it was not significant (p = 0.167) and by mothers who were labourers by profession, but it was also not significant (p = 0.252). More number of male children (n = 39, 60.0%) were given prelacteal feeding than the female though it was not significant (p = 0.352).

**Table 1: Socio demographic profile of the study subjects**

Variables		Number (%)
<b>Community</b>	Scheduled Caste	46 (39.7)
	Scheduled Tribe	20 (17.2)
	OBC	20 (17.2)
	General	30 (25.9)
<b>Religion</b>	Hindu	115 (99.1)
	Muslim	01 (0.9)
<b>Mother's literacy</b>	Illiterate	15 (12.9)
	Primary	41 (35.3)
	Secondary	60 (51.7)
<b>Father's literacy</b>	Illiterate	16 (13.8)
	Primary	38 (32.8)
	Secondary	62 (53.4)
<b>Mother's occupation</b>	Housewife	103 (88.8)
	Labourer	10 (8.6)
	Office worker	3 (2.6)
<b>Family decision makers</b>	Husband	68 (58.6)
	Father in Law	31 (26.7)
	Mother in law	17 (14.7)
<b>Decision maker's literacy</b>	Illiterate	40 (34.5)
	Primary	33 (28.4)
	Secondary	39 (33.6)
	Graduate & above	4 (3.4)

**Table 2: Particulars of the study infants**

Variables	Sub-groups	Number (%)
<b>Gender of the baby</b>	Male	65 (56.0)
	Female	51 (44.0)
<b>Place of delivery</b>	Institutional delivery	87 (75.0)
	Home delivery	29 (25.0)
<b>Birth order</b>	First order birth	59 (51.0)
	Second order birth	40 (34.33)
	Third or more	17 (14.67)
<b>Colostrum</b>	Fed	102 (87.93)
	Not fed	14 (12.07)
<b>Prelacteal feeding</b>	Received	65 (56.0)
	Not received	51 (44.0)
<b>Prelacteal feed used</b>	Honey	31 (26.70)
	Sugar water	21 (18.10)
	Milk from other women	8 (6.89)
	Plain water	5 (4.31)
	No prelacteal feeding	51 (44.0)

Feeding of colostrum was more prevalent among the Hindus (n = 102, 88.7%) but it was not significant (p = 0.12). It was equally more prevalent among the OBC (n= 18, 90.0%) and General communities (n = 27,

90.0%) than the rest, but it was not significant ( $p = 0.694$ ) and among families where the decision makers had education up to secondary level or more ( $n = 40, 93.02\%$ ) though it was also not significant ( $p = 0.339$ ). It was mostly practiced by the office going mothers,

which was not significant ( $p = 0.60$ ) and more number of male children ( $n = 59, 90.8\%$ ) were fed colostrum than the females, which was also not significant ( $p = 0.391$ ).

**Table 3: Bi-variate analysis of mother’s knowledge regarding breast feeding**

Literacy	Whether colostrums to be fed to the newborn			Prelacteal feeding to the newborn		
	Yes (%)	No (%)	No idea (%)	Good (%)	Harmful (%)	No idea (%)
Illiterate	5 (33.3)	4 (26.7)	6 (40.0)	10 (66.7)	1 (6.7)	4 (26.7)
Primary	27 (65.9)	4 (9.8)	10 (24.4)	17 (41.5)	17 (41.5)	7 (17.1)
Secondary	52 (86.7)	3 (5.0)	5 (8.3)	22 (36.7)	28 (46.7)	10 (16.7)
<b>Significance</b>	$\chi^2$ for trend = 15.672; $p = 0.000$			$\chi^2$ for trend = 0.747; $p = 0.387$		

**Table 4 Bi-variate analysis of mother’s practice regarding breast feeding**

Literacy	Prelacteal feeding		Colostrums feeding	
	Given (%)	Not given (%)	Given (%)	Not given (%)
Illiterate	12 (80.0)	3 (20.0)	10 (66.7)	5 (33.3)
Primary	26 (63.4)	15 (36.6)	36 (87.8)	5 (12.2)
Secondary	27 (45.0)	33 (55.0)	56 (93.3)	4 (6.7)
<b>Significance</b>	$\chi^2$ for trend = 7.298; $p = 0.007$		$\chi^2$ for trend = 6.714; $p = 0.010$	

**Table 5 Binary logistic regression analysis showing the predictors of exclusive breast feeding**

Variables	Odds ratio (95% C.I.)	p value
<b>Continuous variables</b>		
Parity	1.042 (1.027 - 1.056)	0.000
Age of mother	1.132 (1.050 - 1.220)	0.001
Per-capita monthly income of family (Rs.)	14.167 (0.436 - 459.839)	0.135
<b>Categorical variables</b>		
<b>Gender of the child</b>		
Male	3.242 (2.733 - 3.803)	0.011
Female	1	
<b>Community</b>		
General	0.796 (0.154 - 4.123)	0.786
SC & ST	1	
<b>Mother’s literacy</b>		
Graduate & above	1.509 (1.165 - 2.573)	0.041
Illiterate & primary	1	
<b>Place of delivery</b>		
Institutional delivery	7.381 (1.200 - 45.406)	0.031
Home delivery	1	
<b>Type of family</b>		
Joint family	1.173 (0.707 - 1.947)	0.536
Nuclear family	1	
<b>Antenatal checkup</b>		
Adequate	3.019 (1.284 - 3.654)	0.021
Inadequate	1	
<b>Mother’s occupation</b>		
Housewife	1.173 (0.585 - 2.352)	0.654
Working mother	1	
<b>Literacy of the head of family</b>		
literate	0.987 (0.570 - 1.710)	0.963
Illiterate	1	

Regarding prelacteal feeding, 42.2% subjects knew it as good practice, 39.7% knew it as harmful and 18.1% had no clear idea about it. Regarding the duration of breast feeding, 73 (62.93%) mothers knew that it should be continued till it is available, 21 (18.10%)

knew it is 6 months, 7 (6.03%) knew it is up to one year, 3 (2.58%) knew it is two years, 2 (1.72%) knew it is three years, another 2 knew that it is five years and 8 (6.9%) had no idea about how long it should be continued.

Among the study subjects, 18.1% knew that breast feeding can protect them from getting pregnant, whereas 16.4% knew it cannot and 65.5% had no knowledge about it. Regarding the effect of breast feeding, 56.9% subjects knew that breast feeding has beneficial effect up on mother’s health, 8.6% knew it has bad effect, 0.9% knew there is no effect and 33.6% had no idea about it.

Regarding the time of initiating breast feeding following child birth, 33 (28.45%) mothers knew breastfeeding should be started ½ hr after birth, 32 (27.59%) mothers knew 1 hr after birth, 4 (3.45%) mothers knew 3 hr after birth, 10 (8.62%) mothers knew it should be started when the baby cries, 2 (1.72%) mothers knew as early as possible but 35 (30.17%) mothers had no idea about it. Mothers, who fed colostrums to their babies, 35 (34.31%) of them did so as per advice of some health care provider, 32 (31.37%) mothers thought it will be good for the babies, 25 (24.51%) mothers thought it will give immunity and strength to the babies, 2 (1.96%) mothers fed as advised by the mother in law, 3 (2.95%) thought it will prevent diarrhea in children and 5 (4.9%) mothers fed without any reason.

**DISCUSSION**

In the present study, all the sampled mothers have breast fed their babies whereas Vyas Shaili et al (2011) <sup>7</sup> found it to be 93.6%. This study has detected the rate of exclusive-breast feeding to be 25%, which is lower than the national average (46.4% in < 6 months old baby) as per NFHS-III. <sup>4</sup> This may be due to the fact

that the operational definition of exclusive breast feeding used in NFHS-III was "consumption of only breast milk during last 24 hrs prior to survey" but in the present study apart from the duration of six months, other factors like feeding of colostrums and non-use of prelacteal feeds etc. were also considered. Varshney Amit et al (2012)<sup>8</sup> found it to be 50.7%, Dinesh Bhanderi et al (2011)<sup>9</sup> found it to be 76.6%, Reema Verma et al (2006)<sup>10</sup> and Madhu K. et al (2009)<sup>11</sup> found exclusive breast feeding to be 40%. In the present study, 87.9% mothers fed colostrum to their babies. Similarly Madhu K. et al (2009),<sup>11</sup> Vyas Shaili et al (2011)<sup>7</sup> and Dinesh Bhanderi et al (2011)<sup>9</sup> found it to be 81%, 81.6% and 76.3% respectively, but Reema Verma et al (2006)<sup>10</sup> and D.G. Benakappa et al (2007)<sup>12</sup> found it to be only 35% and 41.6% respectively. These differences are possibly due to the different literacy status of the mothers in different studies. Here, 56% mothers gave prelacteal feeding and Vyas Shaili et al (2011)<sup>7</sup> also found it to be 61.8%. But R.N. Kulkarni et al (2004)<sup>13</sup> and I. Agnarsson et al (2001)<sup>14</sup> found it to be 36.1% and 25% respectively. This difference is probably due to the different social customs prevalent among these study populations. Prelacteal feeding had significant association with literacy status of the mothers in this study. Similarly R.N. Kulkarni et al (2004)<sup>13</sup> also found that higher percentage of illiterate mothers (68.7%) had given pre-lacteal feeds to their children as compared to 31.1% of literate mothers. Feeding of colostrum was significantly associated with education of the mothers in this study. Similarly R.N. Kulkarni et al (2004)<sup>13</sup> also found that 1.9% of literate mothers and 25% of illiterate mothers discarded colostrum. Above two similarities are due to the fact that in this study and in the study of R.N. Kulkarni et al (2004),<sup>13</sup> mother's literacy rates were similar that is 87.1% and 86.8% respectively. On the other hand no significant relation between colostrum feeding and literacy status of the mothers was detected by Reema Verma et al (2006).<sup>10</sup> Like Dinesh Bhanderi et al (2011)<sup>8</sup> and Madhu K. et al (2009),<sup>11</sup> this study also found that healthcare providers were the main source of information for the mothers regarding the goodness of breast feeding. In the present study honey was the commonest prelacteal feed and Reema Verma et al (2006)<sup>10</sup> also had the similar finding. In the present study majority of the mothers opined in favour of initiating breast feeding within one hr of delivery and Monika Kaushal et al (2005)<sup>15</sup> also detected similar views of the mothers.

## CONCLUSION

Improving literacy status of mothers will help in reducing the harmful practices like prelacteal feeding and discarding colostrum. As the healthcare providers of the study area were the major source of health information for this community, they can initiate behavior change communication for improving breast feeding practices in this area. This study has the limitation that due to resource constrain, a high allowable error was taken to reduce the sample size.

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