Original article:

Evaluation of various socio-cultural factors affecting breastfeeding practices in a rural area of North India

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Abstract

Background: Breastfeeding is beneficial for both mother and child, as breast milk is considered the best source of nutrition for an infant. Lack of knowledge, prevailing misconceptions and cultural taboos significantly contribute to undesirable breastfeeding practices such as delayed initiation and discarding of colostrum. In India since large number of babies born are of low birth weight, proper breastfeeding practice is a major concern.

Objectives: To study the effect of socio-cultural factors on breastfeeding practices.

Methodology: This descriptive cross - sectional study done among mothers who had children aged less than 2 years, in the catchment area of the Rural Health and Training Centre (RHTC). A total of 213 mothers were included in this study for socio-cultural factors and breastfeeding practices. Data collection was done for the last child born.

Results: Mean age of mothers was 25.90 (± 5.15) years. 39.0% of the mothers were illiterate and 31.5% belonged to socioeconomic class III. 27.7% of the mothers had initiated breastfeeding within 4 hours of delivery and 34.3% had provided colostrum. Exclusive breast feeding for ≥ 6 months was provided by 36.6%. Only 12.2% had not offered any pre-lacteal feeds. Elderly females in the families had major influence (54.5%) for breastfeeding practices. Source of information had statistically significant relation with pre-lacteal feeds ($p<0.001$), and with exclusive breastfeeding ($p<0.001$).

Conclusion: Socio-cultural factors play a significant role in breastfeeding practices, therefore, breastfeeding intervention programmes should take into consideration the socio cultural factors to promote exclusive breastfeeding.

Key words: Breastfeeding practice, rural area, socio-cultural factors

Introduction

Breast milk is the first natural food for babies that provide all the energy and nutrients that the infant needs. On a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond.[1] The early initiation of breastfeeding leads to earlier and more effective consolidation of the process, which helps in the earlier initiation of the secretion of breast milk, and also, a better impact on the after birth period.[2]

Breastfeeding is beneficial for both the mother and child, as breast milk is considered the best source of nutrition for an infant. [3] Throughout the world, only 35% of infants are exclusively breastfed during the first four months of life and complementary feeding begins either too early or too late with foods which are often nutritionally inadequate and unsafe.[4] In India, around 48.3% of the children aged zero to five months are being

exclusively breastfed as reported in the third National Family Health Survey (NFHS-3).[5]

Various Socio cultural factors influence the breastfeeding practices, which vary from region to region. The practices like discarding colostrum and promoting prelacteal feeds are due to beliefs like the first milk is not good or there is no secretion of milk in first three days. This results in promoting prelacteal feeds, which increase the risk of infections and deprive the valuable benefit of colostrum feeding to the neonates. Incorrect breastfeeding practices are of major concerns for low birth weight babies.[6] Lack of knowledge, prevailing misconceptions and cultural taboos significantly contribute to undesirable breastfeeding practices such as delayed initiation and discarding of colostrum.[1]

Cultural practices related to lactation and breastfeeding primarily revolve around the concept of ritual purity and food avoidance, restricted diet after childbirth, and remaining in seclusion for a period of time due to the polluting effects of childbirth.[7] In spite of various educational messages by mass media about breastfeeding and weaning practices, studies have shown that socio cultural factors, beliefs and customs play a major role in influencing mothers. This study was conducted to know the various socio cultural factors that affect breastfeeding practices among rural women in North India.

Materials and methods

Study Design: This cross sectional descriptive study was conducted in catchment area of Rural Health and Training Centre (RHTC), Department of Community Medicine.

Study subjects: Mothers having children aged less than 2 years and residing in the catchment area of RHTC.

Sampling technique: Convenience sampling was done.

Inclusion criteria: Mothers whose last child was aged less than 2 years.

Exclusion criteria: Mothers who had children older than 2 years and those who did not agree to give their consent for the study.

Method: Informed consent was obtained after explaining the purpose of the interview. A pre-designed interview schedule was used to collect the necessary information from the participants. The information was collected about various demographic and socio-economic factors, and socio-cultural factors associated with breastfeeding on a preformed, pre-tested interview schedule. Socioeconomic status was calculated using the Modified BG Prasad's Classification for 2014.[8]

Statistical analysis: Data from the interview schedule was transferred to a computer and SPSS Data Editor Software version 19 was used for analysis. Chi-square test was performed, and $P \leq 0.05$ was considered statistically significant. Univariate regression analysis was performed to assess the various socio- cultural factors favouring initiation of breastfeeding and exclusive breastfeeding. Odds ratio (OR) and corresponding 95% confidence interval (CI) are reported.

Results

A total of 213 mothers were included in this study. Mean age of mothers was 25.90 (± 5.15) years. 39.0% of the mothers were illiterate and 31.5% of the mothers belonged to socioeconomic class III. 27.7% had initiated breast feeding within 4 hrs of delivery. Mothers living in nuclear families initiated breastfeeding early as compared to mothers living in joint families (OR=1.39). Literate mothers (OR=1.85) and those coming from upper socioeconomic status (OR=2.02) initiated breast feeding early (Table – 1).

Mothers of male child (OR=1.75), and those who had delivered in hospitals (OR=2.68) initiated early breastfeeding. Those mothers who gave colostrum

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to their newborns (OR=11.10), had also initiated early breastfeeding (Table – 3).

Mothers who had consulted a doctor during the antenatal period had initiated early breastfeeding. Only 15.5% of the mothers who were seeking advice only from their elders in the family had initiated early breastfeeding. There was significant association between mother's source of information and initiation of breastfeeding (P < 0.001) (Table – 4).

Mothers who had consulted a doctor or Health Worker during the antenatal period had provided colostrum. Only 34.3% of the mothers had provided colostrum. There was significant association between mother's source of information and colostrum provided to the infant (P < 0.001) (Table – 5).

Only 12.2% of the mothers had not offered any pre-lacteal feeds, and 87.8% had offered some kind of pre-lacteal feeding. Among the mothers, 54.5% had their source of information from family members. There was significant association between mother's source of information and pre-lacteal feeding provided to the infant (P < 0.001) (Table – 6).

Exclusive breast feeding for ≥ 6 months was provided by 36.6% of the mothers. Family members had major influence (54.5%) for breastfeeding practices. Only 20.19% of the mothers had their source of information from Doctors and Health Workers regarding breastfeeding practices which was statistically significant (P < 0.001) (Table – 7).

Table 1: Socio-demographic factors affecting initiation of Breastfeeding (N = 213)

Variables	Initiation of Breastfeeding		Total (N=213) (100%)	* P value	**Odds Ratio (95% CI)
	< 4 hours (N=59) (27.7%)	≥ 4 hours (N=154) (72.3%)			
Type of Family					
Nuclear	49 (29.0%)	120 (71.0%)	169 (100%)	0.408	1.39 (0.64-3.03)
Joint	10 (22.7%)	34 (77.3%)	44 (100%)		
Caste					
General	24 (41.4%)	34 (58.6%)	58 (100%)	0.006	2.42 (1.27-4.61)
OBC/SC/ST	35 (22.6%)	120 (77.4%)	155 (100%)		
Education of Mother					
Literate	42 (32.3%)	88 (67.7%)	130 (100%)	0.060	1.85 (0.97-3.54)
Illiterate	17 (20.5%)	66 (79.5%)	83 (100%)		
Socioeconomic status					
Upper middle	24 (38.1%)	39 (61.9%)	63 (100%)	0.028	2.02 (1.07-3.81)
Lower middle	35 (23.3%)	115 (76.7%)	150 (100%)		

* Chi square test was applied, degree of freedom = 1, P value < 0.05 was considered as statistically significant.

** Univariate regression analysis. Unadjusted Odds Ratio with 95% Confidence Interval (CI).

N = Number of mothers. Upper middle = Class I and II. Lower middle = Class III, IV and V

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Table 2: Socio-demographic factors affecting Exclusive Breastfeeding (N = 213)

Variables	Exclusive Breastfeeding		Total (N=213) (100%)	* P value	**Odds Ratio (95% CI)
	≥ 6 months (N=78) (36.6%)	< 6 months (N=135) (63.4%)			
Type of Family					
Nuclear	64 (37.9.0%)	105 (62.1%)	169 (100%)	0.458	1.31 (0.64-2.65)
Joint	14 (31.8%)	30 (68.2%)	44 (100%)		
Caste					
General	25 (43.1%)	33 (56.9%)	58 (100%)	0.230	1.46 (0.79-2.70)
OBC/SC/ST	53 (34.2%)	102 (65.8%)	155 (100%)		
Education of Mother					
Literate	62 (47.7%)	68 (52.3%)	130 (100%)	< 0.001	3.82 (2.00-7.28)
Illiterate	16 (19.3%)	67 (80.7%)	83 (100%)		
Socioeconomic status					
Upper middle	43 (68.3%)	20 (31.7%)	63 (100%)	< 0.001	7.06 (3.68-13.55)
Lower middle	35 (23.3%)	115 (76.7%)	150 (100%)		

* Chi square test was applied, degree of freedom = 1, P value < 0.05 was considered as statistically significant.

** Univariate regression analysis. Unadjusted Odds Ratio with 95% Confidence Interval (CI).

N = Number of mothers. Upper middle = Class I and II. Lower middle = Class III, IV and V

Table 3: Child related variables affecting initiation of Breastfeeding (N = 213)

Variables	Initiation of Breastfeeding		Total (N=213) (100%)	* P value	**Odds Ratio (95% CI)
	< 4 hours (N=59) (27.7%)	≥ 4 hours (N=154) (72.3%)			
Sex of Child					
Male	40 (32.3%)	84 (67.7%)	124 (100%)	0.079	1.75 (0.93-3.30)
Female	19 (21.3%)	70 (78.7%)	89 (100%)		
Place of Delivery					
Hospital	45 (34.9%)	84 (65.1%)	129 (100%)	< 0.004	2.68 (1.36-5.28)
Home	14 (16.7%)	70 (83.3%)	84 (100%)		
Colostrum Given					
Yes	43 (58.9%)	30 (41.1%)	73 (100%)	< 0.001	11.10 (5.52-22.35)
No	16 (11.4%)	124 (88.6%)	140 (100%)		

* Chi square test was applied, degree of freedom = 1, P value < 0.05 was considered as statistically significant.

** Univariate regression analysis. Unadjusted Odds Ratio with 95% Confidence Interval (CI).

N = Number of mothers included in the study.

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Table 4: Association of mother's source of information and initiation of Breastfeeding (N = 213)

Variables	Initiation of Breastfeeding		Total
	< 4 hours	≥ 4 hours	
Doctor	12 (100.0%)	0 (0.0%)	12 (100%)
Health Worker	21 (67.7%)	10 (32.3%)	31 (100%)
Mass Media	8 (22.2%)	28 (77.8%)	36 (100%)
Family members	18 (15.5%)	98 (84.5%)	116 (100%)
Others	0 (0.0%)	18 (100%)	18 (100%)
Total	59 (27.7%)	154 (72.3%)	213 (100%)

$\chi 2 = 72.173$; df = 4; P < 0.001

$\chi 2$ = Chi-Square test; df = degree of freedom. P < 0.05 was considered as statistically significant.

Table 5: Association of mother's source of information and colostrum feeding (N = 213)

Variables	Colostrum Given		Total
	Yes	No	
Doctor	12 (100.0%)	0 (0.0%)	12 (100%)
Health Worker	31 (100%)	0 (0.0%)	31 (100%)
Mass Media	15 (41.7%)	21 (58.3%)	36 (100%)
Family members	15 (12.9%)	101 (87.1%)	116 (100%)
Others	0 (0.0%)	18 (100%)	18 (100%)
Total	73 (34.3%)	140 (65.7%)	213 (100%)

$\chi 2 = 1.162$; df = 4; P < 0.001

$\chi 2$ = Chi-Square test; df = degree of freedom. P < 0.05 was considered as statistically significant.

Table 6: Association of mother's source of information and Pre-lacteal Feeds (N = 213)

Variables	Pre-lacteal Feeds				Total
	None	Sugar water	Honey	Cow / Buffalo Milk	
Doctor	12 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	12 (100%)
Health Worker	14 (45.2%)	17 (54.8%)	0 (0.0%)	0 (0.0%)	31 (100%)
Mass Media	0 (0.0%)	15 (41.7%)	6 (16.7%)	15 (41.7%)	36 (100%)
Family members	0 (0.0%)	23 (19.8%)	28 (24.1%)	65 (56.0%)	116 (100%)
Others	0 (0.0%)	3 (16.7%)	6 (33.3%)	9 (50.0%)	18 (100%)
Total	26 (12.2%)	58 (27.2%)	40 (18.8%)	89 (41.8%)	213 (100%)

$\chi 2 = 1.777$; df = 12; P < 0.001

$\chi 2$ = Chi-Square test; df = degree of freedom. P < 0.05 was considered as statistically significant

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Table 7: Association of mother's source of information and Exclusive Breastfeeding (N = 213)

Variables	Exclusive Breastfeeding		Total
	≥ 6 months	< 6 months	
Doctor	12 (100.0%)	0 (0.0%)	12 (100%)
Health Worker	14 (45.2%)	17 (54.8%)	31 (100%)
Mass Media	10 (27.8%)	26 (72.2%)	36 (100%)
Family members	36 (31.0%)	80 (69.0%)	116 (100%)
Others	6 (33.3%)	12 (66.7%)	18 (100%)
Total	78 (36.6%)	135 (63.4%)	213 (100%)

$\chi 2 = 24.599$; df = 4; P < 0.001

$\chi 2$ = Chi-Square test; df = degree of freedom. P < 0.05 was considered as statistically significant.

Discussion

In our study 27.7% of mothers had initiated breastfeeding within 4 hours of delivery. In a study done at Bijapur, 23.3% of the mothers had initiated breastfeeding within 4 hours and 56.6% of mothers had initiated breast feeding within 24 hours of delivery.[9] Similarly other studies have reported that 51.3% and 42.9% of infants were put to breast milk within a period of 24 hours after delivery.[10, 11] In our study 36.6% of the mothers gave exclusive breastfeeding for 6 months. However, Kapil *et al*., in their study reported only 15% exclusive breast feeding rate.[12]

In our study literacy had a significant positive association with initiation of breastfeeding, feeding of colostrum and exclusive breastfeeding. However, Yadavannavar and Patil, in their study reported an inverse association with literacy level and the duration of breastfeeding.[9] Similar negative association was reported by Kar and De and Ram R *et al*.[10,13]

Our study shows a significant positive association with higher socioeconomic class and duration of exclusive breastfeeding. However, a negative association was observed in a study done at Bijapur.[9] Kar and De, and Ram R *et al.*, in their studies had reported similar negative association.[10,13]

In the present study 87.8% of the mothers gave prelacteal feed. This finding is similar to that of Yadavannavar and Patil who had reported that 91.25% of the mothers gave prelacteal feeds.[9] However, this finding is in contrast to finding of Gupta *et al.*, who has reported 47.7% of the rural mothers giving prelacteal feeds.[14] In another study by Deshpande *et al*., 27% of mothers gave prelacleal feeds.[15] The practice of giving pre-lacteal feed is a deep-rooted custom in India, as is evident in a number of studies.[16, 17, 18]

In our study 34.3% of the mothers gave colostrum, which is similar to the study by Yadavannavar and Patil who had reported that 35% of the mothers gave colostrum.[9] However, in a study by Parmer *et al*., 81.6% of the mothers gave colostrum feed.[19] Similar observation was reported by Deshpande Jayant *et al.* in their rural study.[15] Khan *et al*., also reported similar findings in their study conducted in the urban slum of Aligarh.[20] Colostrum is rich in vitamins, minerals, protein and immunoglobulins that protect the child from infections.[21]

In our study 54.5% of the mothers were influenced by family members as a source of information regarding breastfeeding practices. Similarly in another study 62.9% of the mothers were influenced by the elderly females in the family,

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who considered colostrum as something indigestible and were not aware of the hazards of prelacteal feeds.[9] However, in a study conducted by Madhu *et al*., most of the mothers were given information on breastfeeding practices by their doctors.[22]

Conclusion and recommendations

This study shows the role of education, customs and socio-cultural factors in influencing the mother's knowledge and practice of breastfeeding. Therefore, there is a need to focus on health education and awareness creating programmes about the importance of colostrum and exclusive breastfeeding, and also about the hazards of pre-lacteal feeding. Doctors and health workers should educate the rural women on the benefits of breastfeeding. Public health program for the promotion of breastfeeding should focus on the socio-cultural factors prevalent in the community.

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