

Breastfeeding Practices Among Mothers in the Field Practice Area of a Tertiary Care Centre in North Gujarat: A Cross-sectional Study

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Abstract:

Introduction: Breastfeeding remains a critical determinant of infant health, nutrition, and survival. Despite widespread institutional deliveries and healthcare outreach in Gujarat, gaps persist in optimal breastfeeding practices. This study was conducted to evaluate maternal breastfeeding behaviours and identify influencing socio-demographic factors in the field practice area of a tertiary care centre.

Objective: To assess breastfeeding practices among mothers of children under two years of age and determine their association with key maternal and household characteristics.

Methods: A cross-sectional study was carried out in 10 Anganwadi centres located in the Patan taluka of Gujarat, following a community-based approach. Mothers of children under two years were surveyed using a pre-tested structured questionnaire. Breastfeeding practices were scored and categorized as 'good' or 'not so good'. Associations with socio-demographic variables were analysed using the Chi-square test. Data were entered in MS Excel. Prior to data collection, ethical approval and informed consent were secured.

Results: Of 232 mothers, 65.5% initiated breastfeeding within one hour, and 69.4% practiced colostrum feeding. Exclusive breastfeeding with timely weaning was seen in 56.0%. Maternal education and socio-economic status showed significant associations with breastfeeding practices ($p < 0.05$), while age and occupation were not statistically significant.

Conclusions: While the overall breastfeeding behaviour was encouraging, notable gaps in knowledge and consistency of practice were observed. Focused community-level health education, peer support, and enhanced antenatal counselling can bridge these gaps and improve maternal and child health outcomes in rural Gujarat.

Keywords: Breastfeeding practices, Maternal health, Socio-demographic factors.

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Introduction

One of the best strategies to support a child's survival, nutrition, and healthy development is breastfeeding, which is acknowledged throughout the world. By boosting immunity, preventing infections, and promoting healthy growth and cognitive development, early initiation and exclusive breastfeeding for the first six months of life dramatically lower infant morbidity and mortality. ^[1,2] There are still large gaps in India's adoption of recommended breastfeeding practices, despite intensive efforts by the health system and public health messaging. Only 41.8% of Indian infants are breastfed within the first hour of birth, and roughly 63.7% are breastfed exclusively for the first six months, according to NFHS-5. ^[3] These numbers, which are 43.6% and 70.6% in Gujarat, respectively, show that even though performance was above average, more work needs to be done. ^[3] Infant feeding behavior is still

influenced by a number of sociodemographic factors, such as maternal education, economic standing, use of prenatal care, and cultural beliefs. ^[4,5]

Prior research in rural India has found gaps between knowledge and practice, emphasizing the importance of postnatal support networks, healthcare access, and institutional delivery in fostering the best possible breastfeeding. ^[6] Community-based evaluations offer vital information about regional trends and obstacles in this regard.

The purpose of this study was to assess breastfeeding practices among mothers and investigate their relationships with important maternal and household characteristics. It was carried out in 10 Anganwadi centres located in rural areas of Patan Taluka in Gujarat.

Materials and Methods

A community-based cross-sectional study was conducted in 10 Anganwadi centres located in rural areas of Patan Taluka in Gujarat. A total of 232 mothers of children below two years of age who visited these centres during the study period were included after obtaining written and verbal informed consent. The data collection was conducted from January 2025 to March 2025 using a pre-designed and pre-tested structured questionnaire. Information was collected on maternal socio-demographic variables and key breastfeeding habits, such as early commencement of breastfeeding (within one hour of birth), feeding of colostrum, exclusive breastfeeding for six months, and completion of at least four antenatal care (ANC) visits. Each of these practices was assigned a score: 'good' practices were given a score of 1 and 'not so good' practices were given a score of 0. Mothers were divided into two groups based on their cumulative scores: those with a score of 2 or more were judged to have "good" nursing practices, while those with a score of less than 2 were classed as "not so good." The chi-square test was used to examine the relationship between breastfeeding practices and particular sociodemographic characteristics, such as maternal age, education, occupation, and socioeconomic class. The data was compiled

and analysed using Microsoft Excel 2010. The project was approved by the Institutional Ethics Committee prior to the commencement of data collection.

Results

The study included 232 mothers with children under the age of two. Table 1 provides specifics about the respondents' sociodemographic profile. Of the mothers, 102 (44.0%) were between the ages of 18 and 22, 77 (33.2%) were between the ages of 23 and 32, 49 (21.1%) were between the ages of 23 and 27, and 4 (1.7%) were over the age of 33. According to their educational status, 48 (20.7%) were illiterate, 51 (22.0%) had secondary education, and 133 (57.3%) had only completed primary school. Regarding occupation, 126 (54.3%) of the respondents were housewives without jobs, 57 (24.6%) were unskilled workers, 30 (12.9%) were skilled workers, 12 (5.2%) were semi-professionals, and 7 (3.0%) were professionals. According to the Modified BG Prasad Scale, 75 (32.3%) mothers were classified as belonging to Class IV, 64 (27.6%) to Class V, 46 (19.8%) to Class III, 28 (12.1%) to Class II, and 19 (8.2%) to Class I. (Table 1)

Table 1: Baseline socio-demographic distribution of study participants. (n = 232)

Sociodemographic Variable	Category	Frequency (n)	Percentage (%)
Age (in years)	18–22	102	44.0
	23–27	49	21.1
	28–32	77	33.2
	33+	4	1.7
Education	Illiterate	48	20.7
	Primary	133	57.3
	Secondary	51	22.0
Occupation	Professional	7	3.0
	Semi-professional	12	5.2
	Skilled workers	30	12.9
	Unskilled workers	57	24.6
	Unemployed (Housewife)	126	54.3
Socio-economic Class*	Class I	19	8.2
	Class II	28	12.1
	Class III	46	19.8
	Class IV	75	32.3
	Class V	64	27.6

* Based on updated Modified BG Prasad Socio-economic Classification

Table 2 displays the participants' breastfeeding practices. 152 (65.5%) mothers reported starting breastfeeding within an hour of the baby's birth, whereas 55 (23.7%) started between 1 and 6 hours, 14 (6.0%) between 6 and 24 hours, and 11 (4.7%) after 24 hours. While 71 mothers (30.6%) gave pre-lacteal feeds, 161 mothers (69.4%) fed colostrum. 63

(27.2%) breastfed for less than six months without weaning, 26 (11.2%) breastfed for less than six months and had started weaning, 13 (5.6%) breastfed for more than six months without starting to wean, and 130 (56.0%) practiced exclusive breastfeeding followed by timely weaning. (Table 2)

Table 2: Breastfeeding behaviours and feeding patterns among mothers (n = 232)

Breastfeeding Practice	Category	Frequency (n)	Percentage (%)
Initiation of Breastfeeding	Within 1 hour	152	65.5
	1–6 hours	55	23.7
	6–24 hours	14	6.0
	After 24 hours	11	4.8
Colostrum Feeding	Given	161	69.4
	Not Given (Pre-lacteal feeds)	71	30.6
Exclusive Breastfeeding (EBF)	<6 months, not weaned	63	27.2
	<6 months, weaned	26	11.2
	>6 months, not weaned	13	5.6
	>6 months, weaned	130	56.0

Total 54 (23.3%) mothers were classified as having "not so good" breastfeeding practices, while 178 (76.7%) mothers were found to have "good" breastfeeding practices based on the scoring criteria. Table 3 illustrates the relationship between breastfeeding practices and sociodemographic factors. Age did not significantly correlate with breastfeeding practices, according to the analysis ($p = 0.31$). Of the mothers between the ages of 18 and 22, 70 (68.6%) had good practices, while 32 (31.4%) did not. 35 (71.4%) of the 23–27 age group had good practices, while 14 (28.6%) did not. Of those between the ages of 28 and 32, 25 (32.5%) did not exhibit good practices, whereas 52 (67.5%) did. Three (75.0%) of the mothers over 33 had good practices, while one (25.0%) did not. A strong association was found between maternal education and breastfeeding practices ($p < 0.001$). Among illiterate mothers, only 20 (41.7%) demonstrated good practices, while 28 (58.3%) did not. In contrast, among those with primary education, 95 (71.4%) showed good practices, and 38 (28.6%) did not. All mothers with secondary education (51) demonstrated good breastfeeding practices. Occupation did not have a statistically significant relationship with breastfeeding practices ($p = 0.76$). Among housewives, 102 (81.0%) had good practices

compared to 24 (19.0%) with not so good practices. Among unskilled workers, 40 (70.2%) followed good practices, while 17 (29.8%) did not. For skilled workers, 22 (73.3%) had good practices and 8 (26.7%) did not. Among semi-professionals, 9 (75.0%) had good practices and 3 (25.0%) had not so good practices. Breastfeeding practices were significantly correlated with socioeconomic class ($p = 0.002$). Only 8 (42.1%) of the mothers in Class I had good practices, while 11 (57.9%) did not. Eight (28.6%) had less-than-ideal practices in Class II, while twenty (71.4%) had good practices. In Class III, there were 30 (65.2%) good practices and 16 (34.8%) bad practices. Of those in Class IV, 14 (18.7%) did not practice good breastfeeding, while 61 (81.3%) did. Of Class V, 18 (28.1%) had less-than-ideal practices, while 46 (71.9%) had good practices. (Table 3)

These results show that maternal education and socioeconomic status had a strong and statistically significant relationship with breastfeeding practices, but age and occupation did not significantly affect breastfeeding behaviour. Mothers from better socioeconomic backgrounds and with more education showed more appropriate and advised breastfeeding practices.

Table 3: Association between breastfeeding practices and socio-demographic variables among respondent mothers (n = 232)

Socio-demographic Variable	Category	Good Practice (n)	Not So Good Practice (n)	Total (n)	Chi-square	p-value
Age (in years)	18–22	70	32	102	3.62	0.31
	23–27	35	14	49		
	28–32	52	25	77		
	33+	3	1	4		
Education	Illiterate	20	28	48	28.34	<0.001**
	Primary	95	38	133		
	Secondary & above	51	0	51		
Occupation	Professional	6	1	7	1.82	0.76
	Semi-professional	9	3	12		
	Skilled workers	22	8	30		
	Unskilled workers	40	17	57		
	Housewife	102	24	126		
Socio-economic Class*	Class I	8	11	19	16.85	0.002**
	Class II	20	8	28		
	Class III	30	16	46		

	Class IV	61	14	75		
	Class V	46	18	64		

* Based on updated Modified BG Prasad Socio-economic Classification

** Statistically significant at $p < 0.05$

Discussion

The present community-based cross-sectional study assessed breastfeeding practices among 232 mothers of children under two years of age in the field practice area of a tertiary care teaching hospital in Gujarat. The study revealed a mix of encouraging trends and significant gaps in knowledge and practice, with education and socio-economic status emerging as major determinants of breastfeeding behaviour.

The fact that 65.5% of the mothers started breastfeeding within an hour of giving birth was one of the study's positive results. This is marginally higher than the data from Gujarat's National Family Health Survey-5 (NFHS-5), which showed that 43.6% of infants were breastfed within an hour of birth (NFHS-5, Gujarat, 2019-21).^[3] Additionally, it exceeds the NFHS-5-reported national average of 41.8%. Increased institutional deliveries, improved health education services in the field, and frequent engagement with healthcare professionals through Anganwadi centers may all be responsible for our study's improved performance.

69.4% of mothers practiced colostrum feeding, which is similar to the results of Nagar et al. (2019), who found that 70% of Gujarati rural mothers engaged in colostrum feeding.^[6] But other research, like that done by Bhatt et al. in urban Vadodara, found even higher rates (84%) of colostrum feeding.^[5] This difference may reflect urban-rural disparities in health awareness and access to maternal counseling. Similarly, a study by Nagar NS et al. in rural area of Vadodara found that 69.6% of mothers gave colostrum.^[6]

In terms of exclusive breastfeeding (EBF), 27.2% of the mothers exclusively breastfed for less than six months, whereas 56.0% of the mothers reported breastfeeding for more than six months with timely weaning. The NFHS-5 data, which revealed that 70.6% of Gujarati infants were breastfed exclusively for the first six months, is in line with these findings.^[3] There is considerable regional variation throughout India, as evidenced by the fact that a study conducted in rural Haryana by Yadav et al. reported 46% EBF^[9] and a study conducted in Navi Mumbai by Kulkarni et al. reported only 30% adherence to exclusive breastfeeding for six months^[7]. In contrast, Singh et al. discovered that only 35.3% of people in rural Rajasthan adhered to EBF, which was mostly caused by a lack of family support and counseling.^[10]

The study also examined the association between breastfeeding practices and socio-demographic fac-

tors. Maternal education showed a strong and statistically significant association with breastfeeding behaviour ($p < 0.001$). All mothers with secondary education followed good breastfeeding practices, while only 41.7% of illiterate mothers did so. Higher maternal education had a positive impact on exclusive breastfeeding practices, according to a study by Jha and Kumar (2010) in rural Uttar Pradesh.^[4] A community-based study done by Singh et al. 2022 in rural Delhi in 2022 found that 77.0% of infants under 6 months were exclusively breastfed (EBF), but this number was much higher (around 85%) among mothers with secondary education compared to mothers with less education.^[11]

Another important factor that surfaced was socioeconomic status ($p = 0.002$). Class I (higher economic group) mothers had the lowest percentage of good practices (42.1%), while Class IV mothers had the highest percentage (81.3%). Higher economic groups may be more susceptible to bottle feeding, early supplementation, or return-to-work restrictions, which could explain this seemingly contradictory trend. Results of Nagar et al. (2019), revealed similar trends, with lower socioeconomic mothers exhibiting better breastfeeding adherence because of peer support and traditional family influence.^[6] Samarasimha Reddy et al. (2023) also found that the wealth index was not always linked to EBF using NFHS-4 and NFHS-5 data. Instead, they found that being in a scheduled tribe, delivering at a public health facility, and being poorer sometimes predicted higher EBF rates.^[12]

In contrast, our study found no significant correlations between breastfeeding practices and age or occupation. Compared to other age groups, younger mothers (18–22 years) had marginally higher rates of good practices (68.6%), but the difference was not statistically significant ($p = 0.31$). This is consistent with research conducted in rural West Bengal by Bandyopadhyay and Chaudhary, which also found no significant relationship between breastfeeding behaviour and maternal age.^[8]

The comparatively favorable results of our study might have been influenced by the involvement of frontline healthcare providers and community-based organizations like Anganwadi centers. Maternal education and breastfeeding promotion are important aspects of the Integrated Child Development Services (ICDS) program, which is run through Anganwadi centers. Practice was probably improved by ASHA staff and ANMs' constant reminders of the advantages of breastfeeding, especially for mothers from lower-income families.

Even with these encouraging results, gaps still exist. 43.9% of mothers did not breastfeed exclusively for the full six months, and about 30.6% of mothers continued to give pre-lacteal feeds. These discrepancies suggest that BCC (behavioural change communication) tactics require additional development. In order to close the knowledge-practice gap, Bhatt et al. highlighted the value of postpartum counselling sessions in the hospital setting.^[5] Other Indian studies have made similar recommendations, urging frequent follow-up via home visits and support from peer groups.^[6,9]

The study has several strengths, including a reasonable sample size, focus on a rural setting, and the use of a structured and pre-tested questionnaire. It also directly engaged with mothers attending Anganwadi centres, allowing for real-world insights into maternal behavior. The study does have certain limitations, though. Because of its cross-sectional design, which records behaviours at a specific moment in time, it may be prone to recall bias, particularly when it comes to questions about the onset and duration of breastfeeding. Responses might also have been impacted by social desirability bias, especially in cases where mothers thought that particular responses were more appropriate.

In conclusion, there are still notable disparities in exclusive breastfeeding and early initiation, even though the study area's overall breastfeeding practices are encouraging when compared to the state and national averages. Socioeconomic status and education remain important factors, highlighting the necessity of focused, community-based interventions. To improve breastfeeding outcomes in rural Gujarat, it is imperative to train frontline workers, strengthen family and peer support networks, and strengthen counselling during prenatal and postnatal visits. Qualitative evaluations may be the main focus of future studies in order to gain a deeper understanding of the factors that promote and hinder the best breastfeeding practices.

Conclusion

The present study highlights both progress and persisting gaps in breastfeeding practices among mothers in the field practice area of a tertiary care centre in Gujarat. Encouragingly, most mothers initiated breastfeeding early and practiced colostrum feeding, yet exclusive breastfeeding for six months remains suboptimal. Maternal education and socio-economic status were found to be significant determinants of appropriate breastfeeding behaviour, while age and occupation were not. To improve outcomes, community-based strategies must prioritize maternal health education, especially targeting illiterate and low-income mothers. Strengthening antenatal and postnatal counselling through frontline workers such as ASHAs and Anganwadi workers is essential. Integrating breastfeeding support into routine

healthcare, reinforcing peer education, and discouraging pre-lacteal feeding practices should be core components of local maternal-child health programs.

Future studies should evaluate the effects of health communication interventions on long-term breastfeeding practices and use qualitative methods to investigate behavioural and cultural barriers. In rural areas, optimal breastfeeding behaviour can be greatly enhanced with focused assistance and ongoing community involvement.

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