



Original Research Article

MIGRATION AND OTHER DETERMINANTS AFFECTING BREASTFEEDING AWARENESS AMONG THE TRIBAL PREGNANT WOMEN IN THEIR THIRD TRIMESTER

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ABSTRACT

Background: Antenatal Infant and Young Children Feeding (IYCF) knowledge results in better breastfeeding practices postnatally. In the current study, we aimed to assess the level of IYCF awareness and its determinants among pregnant tribal women in their third trimester. **Materials and Methods:** The study was conducted in the tribal Dahod district of Gujarat. Pregnant women in their third trimester were selected from the catchment villages of eight randomly selected primary health centres, four each from two blocks of the district. The survey was conducted with the help of a pre-validated, pre-tested questionnaire by the trained surveyors at the participants' homes. Descriptive data were depicted by Mean(SD) and frequency(%), and the association between categorical variables was tested using the chi-square test. P-value <0.05 was considered significant.

Results: Only 10% of the participants enrolled in the higher secondary school, 15% had received IYCF counselling by healthcare workers, and 68% had migrated in the previous 12 months. Breastfeeding knowledge was poor among the resource-constrained tribal population. Desirable awareness of no pre-lacteal feed, early initiation of breastfeeding within one hour, and colostrum feeding was 39%, 24%, and 36%, respectively. Age of the participants and parity were associated, and women's and their husbands' education and having IYCF counselling were strongly associated with desirable breastfeeding awareness. Migration was negatively associated with receipt of IYCF counselling and all the tested desirable breastfeeding awareness parameters.

Keywords: Infant and Young Children Feeding (IYCF) counselling, Childhood undernutrition, Tribal health, Antenatal care, Field maternal and childcare services.

INTRODUCTION

Appropriate Infant and Young Children Feeding (IYCF) practices are the cornerstone for child growth and development. Breastfeeding is the sole natural and ideal source for the first 6 months of life, providing all the nutrients the infant needs. Breastfeeding also has significant immunological benefits, protecting infants from deadly infections such as sepsis, diarrhea, and pneumonia. Breastfeeding confers intellectual superiority, which in turn can result in better vocational opportunities

for them as adults. Apart from these, breastfeeding not only protects against certain childhood allergies and cancers, but also prevents metabolic diseases of adulthood, like diabetes, obesity, or heart disease. It definitely has emotional, economic, and maternal benefits of reduced post-partum hemorrhage and protection against ovarian and breast cancer.^[1-4] The beneficial effects of breastfeeding depend on early initiation of breastfeeding (EIBF) within one hour, exclusive breastfeeding (EBF) up to 6 months of age, avoidance of pre-lacteal feeds, and continuation of breastfeeding up to 2 years of life. The practice of

ever breastfeeding is almost universal in India, but the rates of EIBF and EBF are far from desirable. Practices of pre-lacteal feed, discarding colostrum, mixed feeding, and early weaning are also widespread.^[1,2,5] Timely introduction of appropriate complementary feeding at 6 months of life is important for continued infants' growth and development and protects against undernutrition and its dreaded consequences.^[1,3] The antenatal period seems to be an ideal time for breastfeeding counselling. Antenatal breastfeeding education was significantly associated with exclusive breastfeeding.^[6] IYCF knowledge among pregnant women was found to be crucial for optimal breastfeeding and complementary feeding practices. Lack of IYCF knowledge was attributed as the leading cause for infantile and early childhood undernutrition.^[7] Earlier studies have reported that receipt of antenatal counselling, parity, age of the mother, literacy, occupation, husband's education, exposure to media, are some of the factors that influence mothers' IYCF knowledge.^[4,8,9] The tribal community in India remained vulnerable, having higher rates of childhood undernutrition and poorer IYCF indicators than the other population.^[10,11] Gujarat has 15% of the tribal population compared to the national average of 8%.^[12] IYCF knowledge and its determinants were assessed from such an underserved population during the year 2015-16. Objectives: The objective of this paper was to assess IYCF awareness among the participant tribal pregnant women in their third trimester. The study also tested several demographic determinants associated with breastfeeding awareness.

MATERIALS AND METHODS

Study design: A community-based cross-sectional survey.

Study area and population: Dahod is a resource-limited district of Gujarat, sharing an inter-state border with Rajasthan and Madhya Pradesh, having a significant tribal population, up to 85-90% in its rural areas. Two blocks of the district, Dahod and Jhalod, were chosen for participant selection, as they were believed to have challenging outreach maternal and childcare activities.

Study participants: Study participants were pregnant women in their third trimester. Women with serious, debilitating illnesses or psychoses were excluded. Written consents were taken from all the participants after explaining to them the study goal and procedures, and required permissions were obtained from the district health authority.

Sampling Methods: Four primary health centres (PHCs) were selected from each of two blocks by simple random sampling. A list of the PHCs was made available from the Chief District Health Officer (CDHO) office. Participants were identified with their address details with the help of community health workers (CHWs), namely, Accredited Social

Health Activists (ASHA), Anganwadi Workers (AWW), and Auxiliary Nurse Midwifery (ANM), working in the catchment villages of the chosen eight PHCs. All the eligible participants who consented were included.

Sample size estimate: An earlier study from India has documented that breastfeeding awareness among antenatal women was 63% over different aspects.^[4] With an absolute precision of 5% and 95% confidence interval, the minimum sample size is 359. We could enrol 610 women, giving us a better confidence interval at 99%.

Data collection tool: A semi-structured survey questionnaire was devised by the investigators. The questionnaire was internally validated among investigators and cross-checked by public health experts, who were not part of the investigator team. The questionnaire was pre-tested among the target population, who were not part of the survey, before the final version was used. The investigator team devised questionnaires in English, translated them into a vernacular language for data collection and re-translated them into English during data entry. At each stage, a consistency check was done.

Data collection method and quality control: The data were collected by a team of surveyors, mainly psychologists. Surveyors were trained by investigators in a two-day workshop. Surveyors were accompanied by the local healthcare workers from the same community for ease of communication and trust building. At the participants' time of convenience, the surveyor would reach to their home. Mother-in-law or other family members were allowed to remain present for smoother communication. A set of probing questions was given to the surveyors when the answers to the primary questions did not fit the pre-defined categories. Sometimes, surveyors were allowed to record the answers as it is, as said by the participants in the 'other' category, and later analysed by the investigators. The data collection was done on tablet devices using the mobile-based data collection platform MAGPI. Surveyors were advised to check and rectify the filled form before leaving the place. Surveyors could contact the investigator in case of doubt. Investigators also regularly checked the filled-out questionnaires and feedback provided.

Statistical analysis: The data were transferred to Microsoft Excel from the tablet-based platform. The data file contained the study participants in a row and variables in a column. Most of the data were collected categorically at the time of the survey. Scrutiny and data cleaning were done using range and consistency checks before assessment. Descriptive statistics [mean (SD), frequency (%)] were used to depict the baseline profile of the study participants. To compare categorical variables, the chi-square test was used. A p-value <0.05 was considered statistically significant. Statistical software STATA 19.0 (STATA Corporation LLC, College Station, Texas, USA) was used for data analysis.

Ethical approval: The study was approved by the Institutional Ethics Committee-2 of H M Patel Centre for Medical Care and Education, Bhaikaka University, Karamsad. Consent was obtained from the participants after explaining the procedure of the study, their roles and its outcome.

RESULTS

After thorough checks, data from the 610 participants were eligible for analysis. Table 1 represents the basic demographics of the participants. The age of the participating women was 25.08(3.59) years in Mean

(SD). Age at marriage in Mean (SD) was 19.46(1.82) years. 14% and 36% were short and underweight, respectively, as per the given cut-off. Most participants (93%) were engaged in livelihood activities during the previous 12-month period, mostly as farm or construction labourers. Migration to distant places in search of livelihood activities is a unique phenomenon in this region. 68% of our participants were migrated within the last 12 months to other parts of Gujarat or other states. Enrolment in higher secondary schooling was poorer among women. Rather, 403 (66.0%) women have never attended school. Only 15% of women perceived they had received any IYCF counselling from CHWs.

Table 1: Basic demographic characteristics of the participant women.

Variables	Observations	Value N(%)
Age of participants	≤ 20 years	81 (13.28)
	> 20 years	529 (86.72)
Age at marriage	< 18 years	58 (9.51)
Height	≤ 145 cms	88 (14.43)
Weight	≤ 45 kgs	217 (35.57)
Religion	Hindu	591 (96.89%)
Family type	Joint	579 (94.92%)
	Primipara	154 (25.25%)
Parity	Multipara	456 (74.75%)
Engagement in livelihood activities in last 12 months	Yes	566 (92.79%)
Migration to distant place in last 12 months	Yes	415 (68.03%)
Level of education – Higher secondary (11 th standard) and above	Yes	63 (10.33%)
Husband level of education – Higher secondary (11 th standard) and above	Yes	136 (22.30%)
Mamta card or ANC file available	Yes	226 (37.05%)
Any IYCF counselling by CHWs	Yes	90 (14.75%)

ANC – Antenatal care; IYCF – Infant and young children feeding; CHW – Community health workers

The association between migration and IYCF counselling was tested. Only 42 out of 415 (10.1%) migrant women had received IYCF counselling, against 48 out of 195 (24.6%) non-migrant women, with p-value <0.001. Thus, the migration was strongly associated with non-receipt of IYCF-related counselling from health-care workers. Table 2 shows the desirable IYCF knowledge among participant pregnant women in the third trimester. 61% participants thought some pre-lacteal feed should be

given; most considered goat milk, followed by jaggery/sugar water. Surprisingly, 258 (42%) participants believed breastfeeding should be initiated after 24 hours of birth. 172 (28%) were thinking that colostrum should be discarded. Most (75%) believed water should be given during summer within the first 6 months of life. Understanding of the age of initiation of complementary feeding at 6-8 months was better at 45% among other tested parameters.

Table 2: IYCF awareness of participant pregnant women

Variables	Observations	Value N(%)
Any pre-lacteal feed	No	238 (39.02)
Breastfeeding initiation after birth	Within one hour	147 (24.10)
Colostrum feeding	Should be given	218 (35.74)
Water in summer within 6 months of age	Should not be given	93 (15.25)
Age of complementary feed introduction	6-8 months	274 (44.92%)

Association for three of the breastfeeding awareness parameters, namely, no pre-lacteal feed, early initiation of breastfeeding (EIBF) within one hour of birth, and colostrum feeding, were tested against six exposure variables as shown in Table 3. Maternal age >20 years was associated with EIBF and colostrum feeding awareness. Primiparity was associated with awareness of no pre-lacteal feed, while multiparity was linked to colostrum feeding awareness. Maternal

education of higher secondary schooling (11th standard) or above, husband's higher secondary schooling or above, and getting IYCF counselling by healthcare workers were strongly associated with better awareness of giving no pre-lacteal feed, early initiation of breastfeeding, and colostrum feeding. Migration within the last 12 months was inversely associated with all the above breastfeeding awareness parameters.

Table 3: Association of breastfeeding awareness with maternal variables

Variable	Observations	Breastfeeding awareness					
		No pre-lacteal feed N = 238		EIBF N = 147		Colostrum feeding N = 218	
		n (%)	p-value	n (%)	p-value	n (%)	p-value
Age of mother	≤ 20 years	38(16.0)	0.118	12(8.2)	0.036	21(9.6)	0.048
	> 20 years	200(84.0)		135(91.8)		197(90.4)	
Parity	Primipara	93(39.1)	<0.001	32(21.8)	0.265	40(18.4)	0.003
	Multipara	145(60.9)		115(78.2)		178(81.6)	
Education – higher secondary	Up to or above	47(19.8)	<0.001	30(20.4)	<0.001	36(16.5)	<0.001
	Below	191(80.2)		117(79.6)		182(83.5)	
Husband education – higher secondary	Up to or above	81(34.0)	<0.001	48(32.6)	0.001	64(29.4)	0.002
	Below	157(66.0)		99(67.4)		154(70.6)	
Migration	Yes	146(61.3)	0.005	86(58.5)	0.004	133(61.0)	0.006
	No	92(38.7)		61(41.5)		85(39.0)	
IYCF counselling	Yes	56(23.5)	<0.001	49(33.33)	<0.001	54(24.8)	<0.001
	No	182(76.5)		98(66.67)		164(75.2)	

EIBF – Early Initiation of Breastfeeding within one hour of birth

DISCUSSION

The level of IYCF awareness from the studied sample was poor. Awareness of early initiation of breastfeeding within one hour and colostrum feeding was 67% and 82%, respectively, from the earlier study.^[13] Though the participants were selected from an urban tertiary care hospital set-up in the above study, ours was a community-based study in a resource-poor tribal region. School enrolment and literacy rates were very poor in the studied sample. A study from urban slum areas of Andhra Pradesh, during the same time when our study was conducted, had similar observations, with around half of the women being illiterate, EIBF awareness of 36% and colostrum feeding awareness at 65%.^[14] A study from the tribal community of Maharashtra had reported much better awareness of EIBF, colostrum feeding, and no pre-lacteal feed, ranging from 80-95%.^[15] Migration is a unique phenomenon of the study population. Tribal communities from the study region migrate in huge numbers in search of livelihood, mostly as farm and construction labourers. Yet, studies on the extent and effects of migration on child and maternal healthcare services are very limited. It was documented earlier that migrant children's education and maternal and child healthcare activities are adversely affected.^[16,17] We demonstrated the extent of migration that 68% of women who are currently in their third trimester of pregnancy had migrated during the previous 12 months, and 93% engaged in livelihood activities, mostly labour-intensive. Our study clearly demonstrated a strong association between migration and non-receipt of IYCF counselling from the healthcare workers. In the current study, migration in the last 12 months was found to be adversely associated with breastfeeding awareness of giving no pre-lacteal feed, EIBF, and colostrum feeding. We did not find any such observation in the earlier studies. It seems migrant women missed the benefits of outreach maternal and childcare activities at either their native or migration locations. In the era of digitalisation and information revolution, it should not be difficult to track migrant

pregnant women for continuity of antenatal and postnatal services.

We could identify that the woman and her husband's higher secondary education and getting IYCF counselling from healthcare workers were strongly associated with better breastfeeding awareness of giving no pre-lacteal feed, EIBF, and colostrum feeding. Similar to our findings, earlier studies have demonstrated that age of the mother, education, occupation, income, and parity were associated with breastfeeding awareness or practice.^[4,13] It was found that more than four antenatal care (ANC) visits and hospital delivery were associated with good infant feeding behaviour in the postpartum period.^[18] Very few studies have demonstrated the association between fathers' education and maternal knowledge on optimal breastfeeding, as the current study does.^[8] Being a cross-sectional analytical study, the causal inference cannot be drawn between the variables. The study was conducted during 2015-16, which can be considered as a limitation. But the fact that IYCF indicators remain static and childhood undernutrition markers have rather deteriorated between NFHS-4, 2015-16, and NFHS-5, 2019-20 in Dahod district,^[19] makes it worth understanding participants' awareness of IYCF. The likelihood of recall bias cannot be completely ruled out despite questionnaire validity checks and surveyor training. The strength of the current study was that the actual field data were collected from a highly burdened tribal community, with a larger sample size, giving extra confidence. Moreover, we assessed the impact of migration on maternal and child healthcare services and beneficiary awareness, which is a very widespread and distinctive feature of the population under study.

CONCLUSION

The IYCF awareness was poor among tribal pregnant women from the study area. The education of women and their husbands was associated with better breastfeeding awareness. Having antenatal IYCF counselling was strongly associated with better awareness, yet only 15% women had received any IYCF counselling from healthcare workers in the

third trimester of pregnancy. Migration was adversely associated with the receipt of IYCF counselling and breastfeeding awareness. Future operational research should focus on how the reach of the field maternal and childcare activities can be improved, particularly for the migrant population, so that the desired services can be provided to the beneficiaries at the right time.

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