Research Article

Prelacteal feeding in newborn: Does demography, antenatal, and intranatal care affect this custom? A study conducted in coastal part of Saurashtra region

Vishal G Vagadiya[1], Bhavesh R Kanabar[2], Dipesh V Parmar[2]

[1]Department of Community Medicine, GMERS Medical College, Gandhinagar, Gujarat, India, [2]Department of Community Medicine, Shri M. P. Shah Government Medical College, Jamnagar, Gujarat, India

Correspondence to: Bhavesh R Kanabar, E-mail: doctor_kanabar@yahoo.co.in

Received: April 28, 2019; **Accepted:** May 20, 2019

ABSTRACT

Background: Prelacteal feeding leads to delay in initiation of breastfeeding and prevention of the initial bonding between the mother and the baby, even lactation failure and shortening of the duration of breastfeeding. Prelacteal feeds have lesser nutrient value, and unfortunately, due to different customs and misbelieves, the habit of prelacteal feeding is common in our society. Infant and Young Child Feeding Guideline discourages prelacteal feeding practices and encourages optimal breastfeeding practices. **Objectives:** This study was carried out with the objective to find out the prevalence of prelacteal feeding and association of demographic, antenatal, and intranatal factors with prelacteal feeding practice in Jamnagar district of Gujarat. **Materials and Methods:** This study was carried out in 2015–2016 in four talukas of Jamnagar district with a sample size of 423 mother-infant pairs calculated with an appropriate formula using prevalence of prelacteal feeding. Out of this, 400 samples with adequate response were analyzed. Multistage sampling was done and mothers who gave valid consent were taken as respondent. Chi-square and Spearman correlation tests were used for statistical analysis. **Results:** We have found 20% prevalence of prelacteal feeding in Jamnagar district of Gujarat. Lower prevalence of prelacteal feeding practice was observed among general caste (14.4%), among socio-economic Class-I (11.5%), among mothers with education up to graduate level (8.6%), among employed mothers (10.3%), and among high birth order newborns. Increasing number of antenatal care (ANC) is correlated with decreasing prevalence of prelacteal feeding (Corelation coefficient = 0.943, $P < 0.01$). **Conclusion:** Increasing education level, betterment in socio-economic condition, increasing ANC services, increasing number of health facilities available for delivery care, trained delivery assistant, etc., have a significant role in decreasing prelacteal feeding custom.

KEY WORDS: Prelacteal Feeding; Demographic Factors; Antenatal Care; Intranatal Care

INTRODUCTION

Every infant and child has the right to good nutrition according to the "Convention on the Rights of the Child." Undernutrition is associated with 45% of child deaths.[1] Globally, in 2016, 155 million children under 5 years of age were estimated to be stunted, 52 million were estimated to be wasted, and 41 million were overweight or obese.[1]

Access this article online	
Website: http://www.ijmsph.com	Quick Response code
DOI: 10.5455/ijmsph.2019.0513920052019001	

Infant feeding practices have a major role in determining the nutritional status of a child.[2] Recent scientific evidence reveals that malnutrition has been responsible directly or indirectly for 60% of all deaths among under-five age group children annually. Over two-third of these deaths are often associated with inappropriate feeding practices. Poor feeding practice in infancy and childhood,

resulting in malnutrition contribute to impaired cognitive and poor social development, poor school performance, and reduced productivity in later life. WHO and UNICEF recommend early initiation of breastfeeding within 1 h of birth,[3] exclusive breastfeeding for the first 6 months of life; and introduction of nutritionally-adequate and safe complementary foods at 6 months together with continued breastfeeding up to 2 years of age or beyond.[1] Early initiation of breastfeeding, within 1 h of birth, protects the newborn from acquiring infections and reduces neonatal mortality. The first breast milk is known as colostrum, which is highly nutritious and contains antibodies that protect the newborn from diseases.[3]

However, many newborns are given prelacteal feeding before starting breastfeeding. It consists of honey, jaggery, sugar water, etc. This may be specific to a family, caste, or religion.[4] The harmful effects of prelacteal feeding include a delay in the initiation of breastfeeding and prevention of the initial bonding between the mother and the baby.[5] Infants who receive prelacteal feeding are more likely to be malnourished. Furthermore, prelacteal feeds may introduce pathogens and thus causes diarrhea and other diseases in newborns. Studies have shown that the effects of pre-lacteal feeding also leads to lactation failure and shortening of the duration of breastfeeding.[6] Unlike colostrums, prelacteal feeds have lesser nutrient value.[5] Unfortunately, due to different customs and misbelieves, the habit of prelacteal feeding is common in our society. There are various social beliefs for which prelacteal feeds are given, including that they act as laxatives, cleansing agents, or hydrating agents or as mean of clearing the meconium.[7] As per the surveys done time, after time prevalence of prelacteal feeding is very high in India and it varies from state to state.[8] With giving prelacteal feeding, discarding colostrum, delay in initiation of breastfeeding, a marked increase in neonatal mortality has been reported from different parts of the world.[8]

Worldwide countries are scaling up efforts to increase rates of optimal breastfeeding practices to decrease child mortality. Breastfeeding is linked to many objectives of the 2030 agenda for Sustainable Development Goals. World breastfeeding week is celebrated every year for raising awareness regarding the fact that breastfeeding is a key to sustainable development. India has made great strides in improving child nutrition over the past decade. The government of India has promoted child health programs and is advocating healthy infant child feeding practices. One such program is the implementation of the "National Infant and Young Child Feeding" Guideline, which discourages prelacteal feeding practices and encourages optimal breastfeeding practices. The concept of baby friendly hospital initiative (BFHI) was launched globally in 1991 by UNICEF and WHO for promoting and supporting breastfeeding including India, many hospitals from different countries have been designated to BFHI.

With this background, a study was planned with an objective to determine the prevalence of prelacteal feeding and to identify the socio demographic, antenatal care (ANC), and intranatal care factors affecting prelacteal feeding among mothers in Jamnagar district of Saurashtra region.

MATERIALS AND METHODS

Study Area

This community-based cross-sectional retrospective study was carried out during the period of September 2015–August 2016 in Jamnagar district of Gujarat. Jamnagar district is situated in the coastal area of Saurashtra region of Gujarat and spread over the area of 14,184 sq. kms, with a population of 21, 60,119 (Census 2011).

Study Participants

Mother-infant pairs who delivered during the past 6 months before the period of data collection were the respondents.

Sample Size

- Sample size was calculated using 46.9% as prevalence of prelacteal feeding found in various studies in India.[9,10]
- Considering 5% allowable error, sample size turned out to be 382 (N1) using formula.
  Sample size (N1) = $(Z_{1-\alpha/2})^2$ p (1-p)/d^2.
- Considering 10% non-response rate, the sample size was refined to 423 (N2) using formula.
  Sample size N2=N1/1-Non response rate

We have considered the response of 400 mothers into the analysis of our study.

Study Design

Sampling was done by multistage sampling [Figure 1] in the study district. Four talukas were selected by random sampling and from each taluka two Primary Health Care (PHC) were selected by random sampling. Hence, a total of 8 PHC were taken. From each PHC area, 53 mother-infant pairs were included in the study (including nonresponse). List of mothers who delivered during the past 6 months was obtained from e-Mamta. Mothers were selected by systematic random sampling.

Data Collection

Household visits of mothers were carried out with prior telephonic intimation. In case of locked house or nonresponse, we excluded that mother from the study. After taking the informed consent, detailed interview of mother was conducted, and answers were recorded in the predesigned

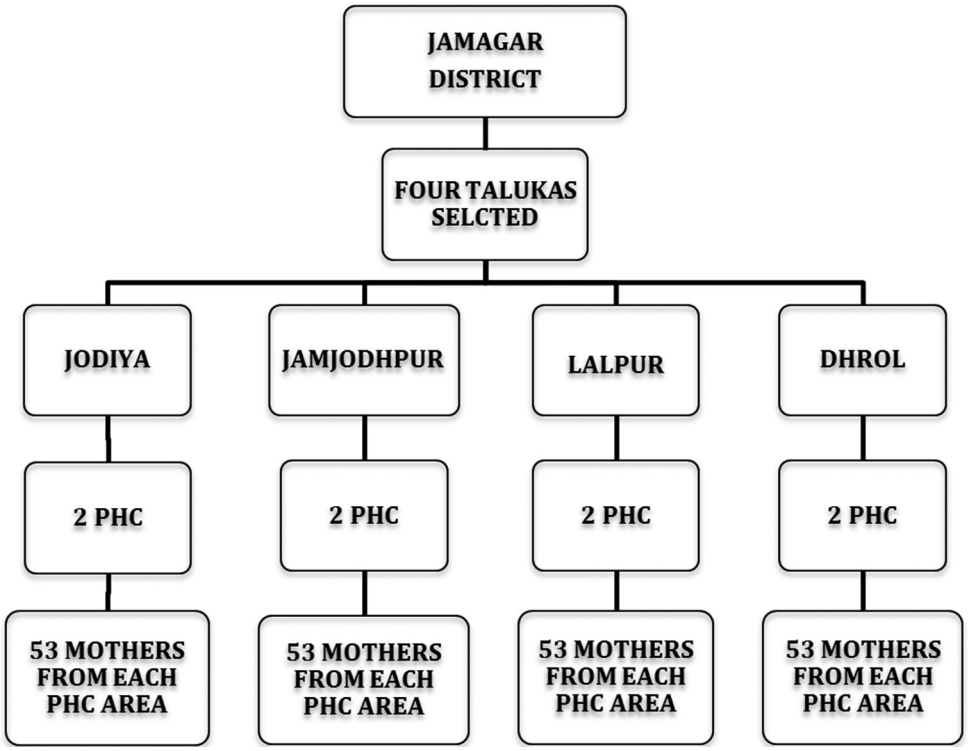

Figure 1: Study design – multistage sampling

pre-validated structured questioner. Prelacteal feeding practice of the latest child born was asked.

Ethical Consideration

Prior ethical approval of the Institutional Ethical Committee was obtained for the study.

Study tool

Study tool consisted of structured questioner with two parts. First part recorded the socio-demographic information including age of mother; education of mother, occupation of mother, type of family, family size, caste, family income, and questions for socio-economic class. The second part of the questionnaire was consisting of information about prelacteal feeding practice, ANC, and intranatal care of mother.

Inclusion Criteria

The following criteria were included in the study:

- The mothers who delivered during the past 6 months at the time of interview.
- The mother whose child was currently alive.
- The mothers who gave valid consent.

Exclusion Criteria

- Mothers who did not gave valid consent were excluded from the study.

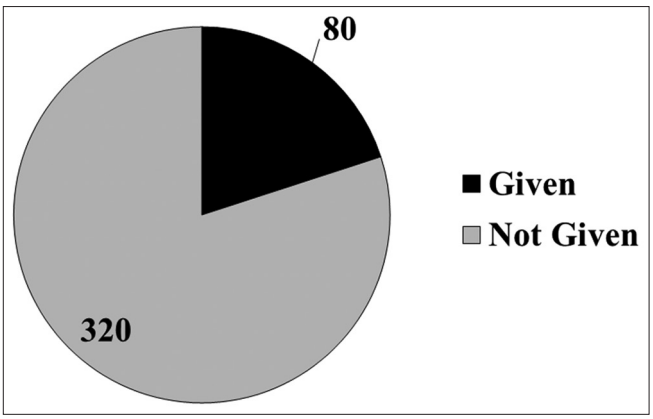

Figure 2: Distribution of newborns according to the administration of prelacteal food (*n*=400)

Statistical Methods

Data were analyzed using Microsoft Excel and Epi-info software. Chi-square test (χ^2) was performed to evaluate the association of the independent variables with the prelacteal feeding. Spearman correlation tests were used to examine correlation for quantitative variables.

RESULTS

The mean age of mothers is 25.59 years and standard deviation is 5.41 years. Figure 2 suggests that out of 400 mothers, 320 (80%) mothers did not give prelacteal feed to newborn and 80 (20%) newborn received prelacteal feed [Figure 2].

Analysis of relation of demographic characteristics of a mother with prelacteal feeding shows that 41.4% mothers in the age group of 15–19 years gave prelacteal feeding while this proportion is lowest in 25–29 years age group (10.7%). In other words, avoidance of prelacteal feeding practice was observed highest among 35–39 years age group (89.5%) followed by in 25–29 years age group (89.3%). Age group-wise statistically significant difference in prelacteal feeding practice was observed ($P < 0.01$). Caste wise analysis shows that 85.8% mothers of general caste and 84.3% in other backward class caste did not give any prelacteal feed to the newborn as compared to 75% in scheduled tribes and 58.3% in scheduled castes category ($P < 0.05$). A statistically significant difference in prelacteal feeding was observed across different socio-economic classes ($P < 0.05$). Avoidance of prelacteal feed to newborn was observed highest among Class-I (88.5%) while giving prelacteal feeding was highest (45.5%) among mothers of Class-V family. Religion-wise no statistically significant difference in giving prelacteal feeding was observed. Education of mother was also a significant determinant of prelacteal feeding for newborn ($P < 0.01$) as 91.4% graduate mothers avoided same to newborn, as compared to that, 33.3% illiterate and 25% just literate mothers gave prelacteal feeding to newborn. Occupation wise 89.7% employed mothers did not give prelacteal feeding ($P < 0.01$) as compared to 56.1% farmers who avoided this custom. Statistically significant improvement in behavior for prelacteal feeding practice was observed with increased parity ($P < 0.01$). This custom was avoided by 100% of mothers having five children [Table 1].

It is evident from Table 2 that 44.4% mothers who were neither registered during antenatal period nor received ANC, had given prelacteal feeding to their newborn as compared to 18.8% of ANC registered mothers who also received ANC, followed the custom of prelacteal feeding. This difference is statistically significant ($P < 0.05$). The practice of giving of prelacteal feeding decreased as number of times ANC visit increased or in other words, avoidance of this custom increased with an increasing number of times ANC received by expectant mothers. This correlation is found statistically significant as tested by Spearman correlation test (Correlation coefficient=0.943, r^2=0.916, $P < 0.01$) [Figure 3]. There is no statistically significant difference in prelacteal feeding custom according to the source of ANC. Place of delivery was a significant determinant for prelacteal feeding as among home deliveries, 43.8% of mothers gave prelacteal feeding to newborn as compared to 19% in institutional deliveries ($P < 0.05$). Further analysis of the type of health facility where the mother was delivered shows that as high as 39.3% of mother who delivered at PHC gave prelacteal feeding as compared to lowest 13.2% mothers who delivered at the district hospital. The difference in prelacteal feeding practice according to the type of health facility utilized for delivery is statistically significant. Simultaneously, the medical or non-medical person who assisted delivery was also found to be a

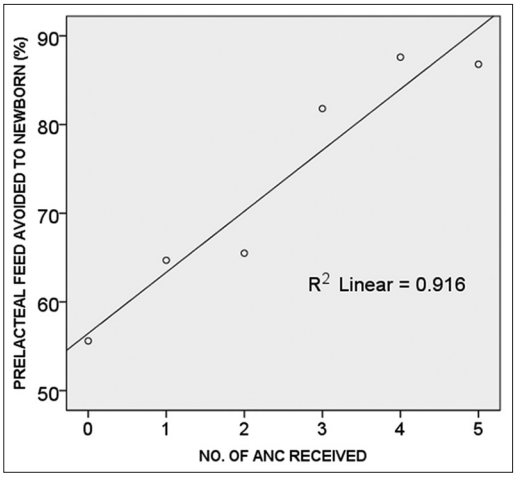

Figure 3: Correlation of number of ANC received with prelacteal feed avoided to newborn (n=400)

significant factor for prelacteal feeding practice. Only 15.8% of mothers whose delivery was assisted by doctor gave prelacteal feeding as compared to 50% and 40% of mothers gave prelacteal feeding whose delivery was assisted by Dai (traditional birth attendant) and untrained dais, respectively ($P < 0.01$) [Table 2].

DISCUSSION

We have found 20% prevalence of prelacteal feeding in Jamnagar district of Gujarat. Age of mother, caste, socio-economic class, education of mother, and occupation of mother are demographic factors which were found to be associated with prelacteal feeding custom among newborns. While ANC of woman including registration of pregnancy, number of times ANC received and source of ANC are also significant determinants of avoidance of prelacteal feeding practice to newborn. Intranatal care factors such as place of delivery, type of health facility of delivery, and person assisting delivery were found to be associated with prelacteal feeding practice among newborn.

Results of NFHS-4 (2015–2016) showed 19.4% prevalence of prelacteal feeding in Gujarat.[11] In addition to this, Acharya and Meena in their study conducted in Rajasthan in 2015 also found that 19% of babies were given prelacteal feeding.[3] Similarly, our study was also conducted in 2015–2016 and showed almost exactly the same prevalence (20%). While in another study conducted in Bhavnagar district of Gujarat by Raval *et al*.[12] in 2009, prevalence of prelacteal feeding was found to be 61.9%. Similarly Kumar *et al*.[9] in their study conducted in 2013–2014 and Gosvami[10] in his study published in 2009 found higher prevalence (46.8% and 46.9%, respectively) of prelacteal feeding in Uttar Pradesh as compared to our study. All these findings suggest that from 2009 to 2015–2016, much awareness has been created among the community by health worker and through various health programs about feeding practices of newborn. Among

Table 1: Relation of demographic characteristics of pregnant women with giving prelacteal feed to newborn (*n*=400)

Demographic characteristics	Prelacteal feed given		Total	Statistical results
	Yes	No	*n*	
	n (%)	*n* (%)		
Age group				
15–19	24 (41.4)	34 (58.6)	58	χ^2=24.47, df=4, *P*<0.01
20–24	27 (21.6)	98 (78.4)	125	
25–29	13 (10.7)	108 (89.3)	121	
30–34	14 (18.2)	63 (81.8)	77	
35–39	2 (10.5)	17 (89.5)	19	
Caste				
General	24 (14.2)	145 (85.8)	169	χ^2=24.46, df=3, *P*<0.05
OBC	21 (15.7)	113 (84.3)	134	
SC	27 (41.5)	38 (58.5)	65	
ST	8 (25.0)	24 (75.0)	32	
Socio-economic class				
Class-I	07 (11.5)	54 (88.5)	61	χ^2=28.27, *P*<0.01, df=4
Class-II	18 (15.8)	96 (84.2)	114	
Class-III	15 (14.7)	87 (85.3)	102	
Class-IV	15 (22.1)	53 (77.9)	68	
Class-V	25 (45.5)	30 (54.5)	55	
Religion				
Hindu	72 (20.9)	272 (79.1)	344	Yates' corrected χ^2=2.51, df=2, *P*=0.28
Muslim	8 (16.7)	40 (83.3)	48	
Christian	0 (0.0)	8 (100.0)	8	
Education of mother up to				
Graduate	3 (8.6)	32 (91.4)	35	χ^2=19.08, *P*<0.01, df=5
Higher Secondary	10 (19.2)	42 (80.8)	52	
Secondary	12 (10.3)	105 (89.7)	117	
Primary	19 (27.9)	49 (72.1)	68	
Just Illiterate	20 (25.0)	60 (75.0)	80	
Illiterate	16 (33.3)	32 (66.7)	48	
Occupation				
House wife	32 (18.8)	138 (81.2)	170	χ^2=26.51, *P*<0.01, df=4
Employed	09 (10.3)	78 (89.7)	87	
Farmer	25 (43.9)	32 (56.1)	57	
Laborers	09 (18.4)	40 (81.6)	49	
Student	05 (13.5)	32 (86.5)	37	
Birth order				
1st	35 (30.4)	80 (69.6)	115	χ^2=13.61, *P*<0.01, df=4
2nd	26 (16.4)	133 (83.6)	159	
3rd	13 (16.3)	67 (83.8)	80	
4th	6 (19.4)	25 (80.6)	31	
5th	0 (0.0)	15 (100.0)	15	
Gender of newborn under study				
Male	52 (19.6)	213 (80.4)	265	χ^2=0.07, *P*=0.079, df=1
Female	28 (20.7)	107 (79.3)	135	

OBC: Other backward class, SC: Scheduled castes, ST: Scheduled Tribes

Table 2: Relation of giving prelacteal feed with ANC and obstetric care of pregnant women (*n*=400)

Antenatal care/Obstetric care	Prelacteal feed given		Total	Statistical results
	Yes	No	*n*	
	n (%)	*n* (%)		
ANC Registered				
Yes	72 (18.8)	310 (81.2)	382	Yates' corrected χ^2=5.53, df=1, P<0.05
No	08 (44.4)	10 (55.6)	18	
ANC Received				
Yes	72 (18.8)	310 (81.2)	382	Yates' corrected χ^2=5.53, df=1, P<0.05
No	08 (44.4)	10 (55.6)	18	
Number of times ANC received				
0	08 (44.4)	10 (55.6)	18	χ^2=20.7, P<0.01, df=5
1	12 (35.3)	22 (64.7)	34	
2	10 (34.5)	19 (65.5)	29	
3	32 (18.2)	144 (81.8)	176	Co-relation coefficient=0.943, r^2=0.916, P<0.01
4	13 (12.4)	92 (87.6)	105	
5	05 (13.2)	33 (86.8)	38	
Source of ANC (*n*=382)				
CHC/District Hospital/Trust Hospital	05 (50.0)	05 (50.0)	10	χ^2=7.80, P=0.05, df=3
PHC/UHC	37 (17.6)	173 (82.4)	210	
Sub center	20 (16.5)	101 (83.5)	121	
Mamta session in Anganwadi	10 (24.4)	31 (75.6)	41	
Place of delivery				
Institutional	73 (19.0)	311 (81.0)	384	Yates' corrected χ^2=4.43, df=1, P<0.05
Home	07 (43.8)	09 (56.2)	16	
Type of health facility of delivery (*n*=384)				
CHC	12 (20.0)	48 (80.0)	60	χ^2=20.68, P<0.01, df=4
District hospital	12 (13.2)	79 (86.8)	91	
Trust hospital	12 (14.1)	73 (85.9)	85	
PHC	24 (39.3)	37 (60.7)	61	
Private hospital	13 (14.9)	74 (85.1)	87	
Who assisted delivery				
Doctor	45 (15.8)	240 (84.2)	285	χ^2=13.27, P<0.01, df=3
ANM/Staff nurse	28 (28.3)	71 (71.7)	99	
Dai (TBA)	3 (50.0)	3 (50.0)	6	
Untrained Dai	4 (40.0)	6 (60.0)	10	

PHC: Primary health care, ANC: Antenatal care, TBA: Traditional birth attendant

all castes, lower prevalence of prelacteal feeding practice was observed among general caste (14.4%) and NFHS-4 also reported 19% among the same category.[11] Socio-economic class wise statistically significant difference in the custom of prelacteal feeding was found across classes with the highest prevalence (45.5%) among Class-V and lowest among Class-I (11.5%). Similarly, Raval *et al.* in Gujarat also found that 100% newborn in Class-V were given prelacteal feeding.[12] Jayarama and Ramaiah in Karnataka also found that prevalence of prelacteal feeding practice increased from socio-economic Class-I (11.42%) to Class- IV (66.66%).[8] Lower education level, lower awareness level, and stringent social customs among Class- IV and Class- V may be the reasons for more prevalence of prelacteal feeding. Similar to our study, religion-wise no statistically significant difference was found by Raval *et al.* in Bhavnagar district of Gujarat[12] and by Jayarama and Ramaiah in Karnataka.[8] Interestingly no Christian child in our study was given prelacteal feed, which may be due to lack of such custom among them and simultaneously higher education level. In Gujarat, NFHS-4 also found the similar prevalence of prelacteal feeding among Hindu and Muslim community newborns (18.6% and 18.8%, respectively), and it also reported that only one child out of 100 studied among Christian community was given prelacteal feeding.[11] Mother is primary health care provider of her child and family, and so the education level of mother can

be the significant determinant of health of her child. As per our observation, the prevalence of prelacteal feeding practice tends to lower with an increasing education level of mother, the prevalence being 8.6% among newborn of graduate mothers and 33.3% among newborn of illiterate mothers. Similarly, 85.2% newborns of illiterate mothers and 50.9% newborns of literate mothers were given prelacteal feeding as per the study conducted in Bhavnagar district in 2009.[12] NFHS-4 reported similar decreasing trend of prevalence of prelacteal feeding with increasing years of schooling among mothers in Gujarat.[11] Similar trend was found in studies conducted by Jayarama and Ramaiah in Karnataka,[8] Gupta *et al.* in Uttar Pradesh,[13] and Dawal *et al.* in Maharashtra.[14] Increasing parity may give more knowledge and experience to mother about feeding practice and that is why prelacteal feeding practice decreased with increasing birth order in our study. Similarly, Sadhasivam and Kanagasabapathy in Tamil Nadu found a lower proportion of prelacteal feeding practice among newborn with two and above birth order.[4] No statistically significant difference in prelacteal feeding practice was found among different gender in our study. Similarly, NFHS-4,[11] study in Tamil Nadu[4] and study in Maharashtra[14] also did not found any difference in this custom for different gender of newborn child.

Registration of pregnancy particularly early registration within 12 weeks provide an opportunity to health staff to advice pregnant woman to give advice about feeding practices along with ANC. Missed registration leads to missed ANC. Hence, higher prevalence (44.4%) of prelacteal feeding was found among mothers who did not receive ANC. Moreover, simultaneously with an increasing number of ANC visits, the prevalence of prelacteal feeding decreased. This correlation was found statistically significant ($P < 0.01$). Similarly, Tekaly *et al.* in Ethiopia found that mothers who have an ANC follow-up of <4 times were about 11 times higher to give pre-lacteal feeding than mothers who have four and above ANC follow-up.[15] Basic intranatal care factor like place of delivery and person assisting delivery also play a key role in immediate feeding practice. Institutional delivery provides qualified assistance in delivery by doctor or ANM who can motivate to avoid prelacteal feed, give colostrum, and start breastfeeding within 1 h of delivery. Higher prevalence of prelacteal feeding in case of home deliveries (43.8%) in our study suggests that dais may not have advised to avoid it and relatives of the mother as per custom had given prelacteal feed. Similarly, higher prevalence of prelacteal feeding (60.7%) was found among newborn delivered at home as compared to newborn delivered at the hospital (47.7%) in Himachal Pradesh.[5] Among institutional deliveries, higher prevalence of prelacteal feeding was found in newborn delivered at PHC (39.3%) as compared to newborn delivered at private hospital (14.9%). This finding is in line with a similar type of study in Gujarat, which reported 44.8% of newborns delivered at government hospital received prelacteal feeding as compared to 54.3% of those who were delivered at a private hospital.[12] Mothers who delivered at private hospital generally belong to the higher socio-economic class and have higher education level and so are well aware of feeding practice of newborn.

Strength and Limitations of Study

The strength of this study is that it was a community based and we could include four out of total six talukas of Jamnagar district, which could make a better representation of the district. However, we did not consider other feeding practice of newborn like early initiation of breastfeeding and exclusive breastfeeding for the infant, which is a limitation of this study, and simultaneously, it is a scope for further study.

CONCLUSION

The prevalence of prelacteal feeding practice decreased in 2015–2016 as compared to the first decade of the 21st century. Increasing education level, betterment in socio-economic condition, increasing ANC services, increasing number of health facilities available for delivery care, trained delivery assistant, etc., have a significant role in decreasing prelacteal feeding custom.

REFERENCES

1. World Health Organization. Infant and Young Child Feeding-Key Facts. World Health Organization; 2018.
2. Betrán AP, de Onís M, Lauer JA, Villar J. Ecological study of effect of breast feeding on infant mortality in Latin America. BMJ 2001;323:303-6.
3. Acharya R, Meena R. A descriptive cross-sectional study of breast-feeding practice in Bikaner, Rajasthan. Int J Med Sci Public Health 2016;5:1559.
4. Sadhasivam M, Kanagasabapathy S. Pre lacteal feeding practice among rural mothers in Tamil Nadu a questionnaire based study. Int J Biomed Adv Res 2015;6:484-7.
5. Parashar A, Sharma D, Gupta A, Dhadwal DS. Associated factors in Himachal Pradesh. Int J Health 2017;6:5.
6. Punia S, Chhikara S, Sangwan S. Infant feeding and weaning practices in selected cultural zones of Haryana. Ind J Nutr Dietet 1997;34:102-5.
7. Escamilla R, Segura-Millan S, Canahuti J, Allen H. Prelacteal feeds are negatively associated with breastfeeding outcome in honduras. J Nutr 1996;126:2765-73.
8. Jayarama S, Ramaiah R. Pre lacteal feeding practice among mothers in a rural area of Karnataka: A cross sectional study. Int J Community Med Public Health 2017;4:2919-23.
9. Kumar D, Singh MV, Sharma IK, Kumar D, Shukla KM, Varshney S. Breast feeding practices in infants of rural Western Uttar Pradesh region of India. Int J Med Dent Sci 2015; 4:624.
10. Gosvami A. Analytical study of prevalent and traditional prelacteal feeding practices and their prevalence. Indian J Prev Soc Med 2009;40:218-24.
11. Ministry of Health and Family Welfare. National Family

Health Survey-4. International Institute for Population Sciences. Gujarat, Deonar, Mumbai: Ministry of Health and Family Welfare; 2017.
12. Raval D, Jankar D, Singh M. A study of breast feeding practices among infants living in slums of Bhavnagar city, Gujarat, India. Healthline 2011;2:78-83.
13. Gupta P, Srivastava VK, Kumar V, Srivastava JP. Pre-lacteal feeding practices among newborn in urban slums of Lucknow city UP, India. Open J Prev Med 2012;2:510-3.
14. Dawal S, Inamdar IF, Saleem T, Sahu P, Doibale MK. Study of pre lacteal feeding practices and its determinants in a rural area of Maharashtra. Sch J Appl Med Sci 2014;2:1422-7.
15. Tekaly G, Kassa M, Belete T, Tasew H, Mariye T, Teshale T. Pre-lacteal feeding practice and associated factors among mothers having children less than two years of age in Aksum town, Tigray, Ethiopia, 2017: A cross-sectional study. BMC Pediatr 2018;18:310.

How to cite this article: Vagadiya VG, Kanabar BR, Parmar DV. Prelacteal feeding in newborn: Does demography, antenatal, and intranatal care affect this custom? A study conducted in coastal part of Saurashtra region. Int J Med Sci Public Health 2019;8(8):589-596.

Source of Support: Nil,**Conflict of Interest:** None declared.