

# A CROSS SECTIONAL STUDY ON KNOWLEDGE OF BREASTFEEDING AND DETERMINANTS OF PRELACTEAL FEEDING PRACTICES AMONG MOTHERS OF INFANTS IN A RURAL AREA OF TAMILNADU

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## Abstract

**BACKGROUND :** Globally, the Neonatal Mortality Rate was 17 deaths per 1,000 live births in 2019. In India, it was 22 deaths per 1000 live births. Neonatal deaths contribute a greater proportion of Infant and Under 5 mortality rate. The care during this period is very critical for the growth and development of the child. Breastfeeding is one of the important aspect of essential newborn care.

**METHOD :** The Community based Cross sectional study was conducted among 110 Postnatal mothers of villages in Vellore district. Study duration was from August 2020 to December 2021. Questionnaire regarding Knowledge of Breastfeeding and Determinants of Pre-lacteal feeding practices was administered and responses were obtained.

**RESULTS :** About 55% of the participants belonged to joint family, 52% had completed high school education, 45% belonged to Upper Lower Class(Class IV) according to B.G.Prasad scale. 99% had institutional delivery. About 57% of the mothers considered the first hour of birth as the best time to initiate breastfeeding. 43% had poor knowledge regarding breastfeeding. 13% practiced prelacteal feed, the commonest are sugar water and honey.

**CONCLUSION :** The knowledge regarding initiation of breastfeeding, duration of exclusive breastfeeding, start of complementary feed and ill-effects of prelacteal feeding was not adequate. Advise to both mothers and their family members are needed for appropriate feeding of the newborn.

**KEY WORDS :** Breastfeeding, Essential Newborn Care, Prelacteal Feeding Practices, Postnatal Mothers

## INTRODUCTION

A Newborn is called as a neonate in the first 4 weeks of life, after birth. Globally, the Neonatal Mortality Rate is 17 deaths per 1,000 live births in 2019, much higher than the Infant Mortality Rate & Under 5 Mortality Rate which is 11 and 10 deaths per 1000 live births respectively. About a third of all neonatal deaths occurs within the first day after birth. Neonatal deaths accounts for 47 per cent of global Under-five deaths in 2019.<sup>1</sup>

In India, by the year 2019, the Neonatal Mortality Rate was 22 deaths per 1000 live births. The Infant Mortality Rate & Under 5 Mortality Rates are 28 & 34 deaths per 1000 live births respectively.<sup>2</sup> Neonatal deaths contribute a greater proportion of Infant and Under 5 mortality rate. The care during this period is very critical for the growth and development of the child.

The Essential Newborn Care (ENBC) includes: Thermal protection (e.g. promoting skin-to-skin contact between mother and infant), Hygienic umbilical cord and skin care, Early and exclusive breastfeeding, Assessment for signs of serious health problems or need of additional care (e.g. those that are low-birth-weight, sick or have an HIV-infected mother), Preventive treatment (e.g. immunization BCG and Hepatitis B, vitamin k and ocular prophylaxis).<sup>3</sup> Though all of them are important, Breastfeeding gives children the healthiest

start in life.<sup>4</sup> Exclusive breast feeding is given for first 6 months of life. Maternal knowledge was a critical factor, with higher knowledge of breastfeeding being associated with a three- to four-fold increase in Early initiation of breastfeeding as per a study in Uttar Pradesh.<sup>5</sup>

Any fluid or feed given before breastfeeding initiation is called as Pre-lacteal feeds.<sup>6</sup> Several cultural factors are associated with breastfeeding and Pre-lacteal feeding practices. In Hindus - Megha janan (literal meaning- production of intelligence) is performed during the Jatkarma (child welcoming ceremony), in which the father gives honey or pure ghee to the child and whispers mantras in to infant's ear.<sup>7</sup> Tahneek-In Muslims, soon after birth, before the first feed, a piece of softened date is rubbed into upper palate. when dates is not available, honey may be used. It is with a belief that the rubbing person's positive attributes will be transmitted to the infant.<sup>8</sup>

According to a study in Uttar Pradesh, the most common prelacteal feeds given were cow/goat milk followed by honey



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and infant formula.<sup>5</sup> In a study at rural areas of North India, Post natal mothers of younger age, belonging to higher castes or SES and who had home deliveries were found to be more likely to adopt the practice of prelacteal feeding for their children.<sup>9</sup>

## OBJECTIVE

1.To assess the Knowledge of Breastfeeding among mothers of infants.

2.To determine the various factors influencing the Pre-lacteal feeding practices among mothers of infants.

## METHODOLOGY

This Community based Cross sectional study was conducted among Postnatal mothers in Vellore, after getting ethical clearance from Institutional Ethics Committee, Madras Medical College and permission from the Deputy Director of Health Services, Vellore Health Unit District. Study duration was from August 2020 to December 2021. Using the prevalence value of 48.3%, (According to NFHS-4, 48.3% of mothers in Tamilnadu practiced exclusive breastfeeding to their children),  $\alpha$  at 5% significance level and an absolute precision of 10%, Sample size was calculated using the formula  $n = Z^2pq/d^2$ . The sample size was estimated to be 96. Adding 10 % for non response rate, the minimum sample size required was derived to be 110.

By Multistage Sampling, Out of 42 Health Unit Districts (HUD), Vellore HUD was selected. In Vellore HUD, Out of 4 blocks Anaicut block was selected. In Anaicut block, among 4 PHCs, Pallikonda PHC was selected by simple random sampling. In Pallikonda PHC, Post natal mothers belonging to all the 11 subcenters were selected by Proportional stratified sampling method.

Postnatal mothers of children less than 1 year of age and those who are staying in the area for atleast 6 months were included. After getting informed consent, a pre-tested, pre-designed semi structured questionnaire regarding Knowledge of Breastfeeding and Determinants of Pre-lacteal feeding practices were administered. The data collected were coded and entered in MS Excel. Using SPSS Version 23, appropriate Descriptive and Inferential statistics were applied.

## RESULTS

About 55% of the participants belonged to joint family, 52% had completed high school education, 45% belonged to upper lower class(class IV) according to B.G.Prasad scale and 91% of them were Hindus.

Table 1 : Socio demographic characteristics of the participants (n=110)

S.No	Socio demographic characteristics	N (n=110)	%
1	Type of family:		
	Nuclear family	48	44
	Joint family	61	55
	Three generation family	1	1
2.	Educational qualification of mothers:		
	Primary	6	6
	Middle school	11	10
	High school	35	31
	Higher secondary	30	27
	Diploma	10	9
	Degree	18	16
3.	Occupational status of mothers:		
	Unemployed	57	52
	employed	53	48
4.	B.G.Prasad's scale :		
	Class I	3	3
	Class II	9	8
	Class III	28	25
	Class IV	50	45
	Class V	20	18
5.	Religion:		
	Hindu	100	91
	Muslim	10	9

About 59% of the mothers were of second parity, 89% of them delivered babies of weight above 2.5kgs, 99% had institutional delivery and the Mode of last delivery was labour Natural labour for 68% of the participants.

Table 2: Parturition details of the study participants(n=110)

S.No	Parturition details	N (n=110)	%
1.	No of children:		
	1 child	45	41
	More than 1 child	65	59
2.	Birth weight of the last baby:		
	1.5 -2.5 kg	11	10
	2.5- 3.5 g	65	59
	> 3.5 kg	34	30
3.	Gender of the last born baby:		
	Male	59	53
	Female	50	1
	Both (twins)	1	44
4.	Place of last delivery:		
	Institution	109	98.2
	108	1	0.9
5.	Mode of last delivery:		
	Labour natural	74	67.3
	Caesarean section	36	32.7

About 57% of the mothers considered the first hour of birth as the best time to initiate breastfeeding. About 67%, considered crying as the only cue to breastfeed the baby. 89% responded that breastfeeding can be done during illness and after immunisation. 70% knew about breastfeeding from health care personnel.

Table 3: Knowledge of the participants regarding breastfeeding (n=110)

S.No	Knowledge regarding breastfeeding	N (n=110)	%
1.	Best time to initiate breast feeding: Less than 1 hour of birth	63	57
2.	Is it correct to give colostrum? Yes	104	95
3.	Cues of breastfeeding: Baby is crying Stretching the body Bringing hands to mouth Suckling action Increased activity (Multiple responses were allowed)	74 5 35 14 6	66.7 5 32 13 5
4.	Exclusive breastfeeding is continued till: 6 months	71	64
5.	Frequency of breastfeeding in a day: 8-10 times	75	68
6.	Along with breastmilk, Complementary feed can be given from: 6 months onwards	102	93
7.	Breastfeeding can be continued till when 2 years	46	43
8.	Breastfeeding is considered as sufficient: Adequate weight gain Baby Urinates > 6 times a day Both	52 12 45	46 11 43
9.	Can the baby be breastfed during illness and after immunisation: Yes	98	89
10.	It is essential to breastfeed the baby because Breastmilk is nutritious to the baby Acts as immune booster Improves IQ of the baby all	10 23 1 75	9 20 0.9 68
11.	Benefits to the mother for breastfeeding the baby: Prevents Cancer breast/ postpones next pregnancy/helps uterus to involute/ controls Post-Partum bleeding	73	66
12.	Food habits of the mother: Nutritious food and no diet restriction	105	95
13.	Knew about breastfeeding from: Relative Health care personnel	33 77	30 70
14.	Is it good to give prelacteal feed: Yes no	15 95	13 87

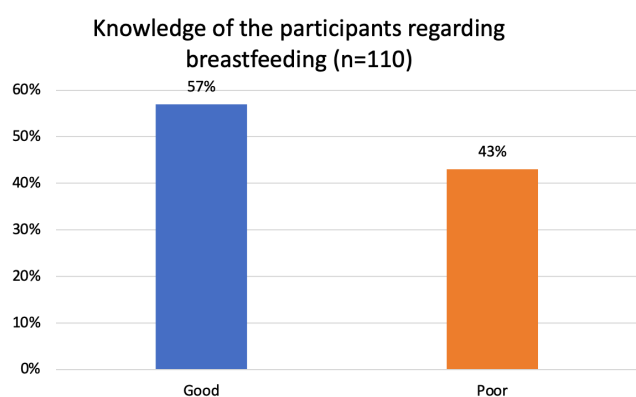


Figure 1: Knowledge scores of the participants about breastfeeding (n=110)

There is no significant difference between the percentage of participants who had good and poor knowledge scores regarding breastfeeding.

About 87 % of mothers breastfed their baby within 1 hour of birth. Colostrum was given to newborn by 96% of the mothers. 13% practiced prelacteal feed, the commonest being sugar water and honey.

Table 4: Breastfeeding and Pre-lacteal feeding Practices of the participants (n=110)

S.No	Breastfeeding and Pre-lacteal feeding Practices	N (n=110)	%
1.	Breastfed the baby within 1 hour of birth: Yes No (caesarean section, baby was in NICU, Breastmilk was inadequate)	97 12	87.4 10.8
2.	Colostrum was given to the baby: Yes No (colostrum is bad for health/ discarded due to the compulsion of others)	106 4	96 3
3.	Newborn was given Prelacteal feed: Yes no	13 96	12.7 86.3
4.	The Prelacteal feed given was: Sugar water Honey Animal milk	6 6 1	5.4 5.4 0.9
5.	Prelacteal feed was given because: Good for health To get rid of evil eye	1 12	1 11
6.	Prelacteal feed was given on whose decision: My Own decision Relative' decision (grandmother)	2 11	2 10

Table 5: Association between age, Socio economic status, number of living children, Educational status of the participants and Prelacteal feeding practices (n=110)

Characteristics	Age of the participants		B.G.Prasad scale		No.of living children		Educational status of the participants		
	< 25 years	> 25 years	Upper & middle class	Lower class	1	More than 1	12 <sup>th</sup> standard	Degree/ Diploma	
Pre lacteal feed given	Yes	7 (11%)	6 (15%)	6 (15%)	8 (12%)	4 (9%)	10 (15%)	8 (10%)	5 (18%)
	No	60 (89%)	36 (85%)	34 (85%)	62 (88%)	41 (91%)	55 (85%)	73 (90%)	23 (82%)

P value > 0.05

There is no significant association between age, Socio economic status, number of living children, Educational status of the participants and Prelacteal feeding practices among them

Table 6 : Association between mode of last delivery, knowledge of breastfeeding of the participants and Prelacteal feeding practices(n=110)

Characteristics	Age of the participants		B.G.Prasad scale		No.of living children		Educational status of the participants		
	< 25 years	> 25 years	Upper & middle class	Lower class	1	More than 1	12 <sup>th</sup> standard	Diplom a	
Pre lacteal feed given	Yes	7 (11%)	6 (15%)	6 (15%)	8 (12%)	4 (9%)	10 (15%)	8 (10%)	5 (18%)
	No	60 (89%)	36 (85%)	34 (85%)	62 (88%)	41 (91%)	55 (85%)	73 (90%)	23 (82%)

P value > 0.05

There is no significant association between mode of delivery, knowledge of the participants about breastfeeding of the participants and prelacteal feeding practices among them.

## DISCUSSION

This Community based Cross sectional study was conducted among Postnatal mothers of a rural area in Vellore district, Tamilnadu. The study was done to assess the Knowledge of Breastfeeding and Determinants of Pre-lacteal feeding practices among the postnatal mothers of infants.

In our study, majority of the participants (91%) belonged to Hindu religion which is similar to a study done at Uttar Pradesh by young et al.<sup>15</sup> Majority (45%) of the study participants belonged to class IV, B.G.Prasad scale whereas in a study by M.P.Roy et al<sup>9</sup> majority were from (25.9%) class IV. 52% of the participants were house wives which is lower when compared to a study done by Shalini et al (95%)<sup>10</sup>

The mode of delivery was labour natural in 67% of the participants which is much higher compared to a study by Shalini et al<sup>10</sup> where it was 48%. This is attributed to the place of study while the present study was done at rural area but the later was done at urban Chennai. In our study, 98% of the participants had institutional delivery which is comparable with a study by M.P.Roy et al<sup>9</sup> where it was around 85%. This signifies the greater utilisation of health services by the mothers. In our study majority (88%) of the participants had delivered babies of weight >2.5 kg which is similar to a study by Shalini et al at Chennai(78%).<sup>10</sup>

In our study, majority of the participants (70%) Knew about breastfeeding from health care workers which is evident from the fact that most of the deliveries were institutional, followed by relative as a source for 30% of mothers which is in contrast with a study by Sultania P et al<sup>11</sup> where it was 35% and 65% respectively. In our study, breastmilk is considered as nutritious by 68% of the participants while it was 64% in a study by Sultania P et al.<sup>11</sup> In our study, breastfeeding prevents conception was known by 66% of the participants which is very lower in a study by Sultania P et al(14%).<sup>11</sup> In our study, 57% and 13% of the participants considered that breastfeeding should be initiated within 1 hour of birth & thought that prelacteal feeding was good which is comparable to a study by Mermon et al<sup>12</sup> where it was 54% & 42% respectively. In our study colostrum was considered as good to baby by 95% of the participants which is higher compared to a study by Mermon et al<sup>12</sup> where it was 56%.

In our study, 87 % of mothers practiced early initiation of breastfeeding which is similar to a study done by Aritra Das et al<sup>13</sup> in Bihar where it was around 82% and 45% in a study by Sulatnia P et al.<sup>11</sup> In our study, colostrum was fed by 96% of mothers which is similar to a study done by Sulatnia P et al<sup>11</sup> where it was 82%. In our study prelacteal feeding was practised by 13% of the participants which is

much lower compared to a study by Shalini et al<sup>10</sup> where it was 19%, 26% in a study by Aritra Das et al<sup>13</sup> in Bihar, 27% in a study by Sulatnia P et al<sup>11</sup> and 88% in a study by Mengi et al<sup>14</sup> at Jammu & Kashmir. In our study, Among the mothers practising prelacteal feeding, the commonest prelacteal feed given was honey and sugar (50%) which is similar to studies by Mengi et al<sup>14</sup> at Jammu & Kashmir and 25% in a study by Shalini et al.<sup>10</sup> In our study animal milk was given by 1 % mothers which is lower compared to a study in Chennai.<sup>10</sup>

The influence of religion, parity, education, or family type on prelacteal feeding was not prominent in our study which is similar to a study by M.P.Roy.<sup>9</sup>

## CONCLUSION

Majority of the study participants belonged to joint family, low socio economic status and had completed high school education. A greater proportion of participants had institutional delivery, delivered babies of normal weight which contributes to the awareness and utilisation of health services.

Knowledge regarding colostrum, benefits of breastfeeding to baby and mother, breastfeeding in special situation like illness was adequate but the knowledge regarding initiation, frequency, cues of breastfeeding, duration of exclusive breastfeeding, start of complementary feed and regarding prelacteal feeding was not adequate. Thus the difference in proportion of participants with good and poor knowledge is not much significant.

Though majority of the participants, had practiced early initiation of breast feeding and colostrum feeding, few participants fed prelacteal feeds to their babies either, on compulsion of others. Harmful effects of prelacteal feeds should be advised to both mothers and their family members to overcome this practice.

## LIMITATIONS

The study didn't cover the entire villages of the Anaicut Block, hence a overall view could not be obtained. The study was done in rural areas hence, the state of urban areas are not known. As the Child rearing is a combined responsibility of the mother and her family, the study failed to assess the awareness of husbands and grandparents regarding newborn care.

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