

# Practice of Prelacteal Feeding to Newborn in Dhamrai Upazilla, Bangladesh

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## Abstract

**Introduction:** Infant mortality rate in Bangladesh (23 per 1000 live birth) is still high compared to international goals set by the UN. In Bangladesh, infectious diseases such as diarrhoea and the acute respiratory infections are major causes of infant mortality. Prelacteal feeding is the practice of feeding the newborn with foods other than breast milk before the starting of breastfeeding. It has been recognized as a major cause of developing diarrhoea and acute respiratory tract infections. This study was done to describe the practice of prelacteal feeding of mothers having newborn at or below six months of age in rural area of Dhamrai Upazilla, Bangladesh.

**Methods:** A cross-sectional descriptive study was conducted among 141 mothers having newborns aged at or below 6 months, residing in Dhamrai Upazilla of Dhaka District from January 2020 to March 2020. Data were collected through face-to-face interviewing of mother by using a semi-structured questionnaire. The collected data were analyzed both manually as well as by computer-based software MS Excel.

**Results:** The proportion of respondents who practiced prelacteal feeding was less than half (48.9%) of the total respondents. The two most popular items used as prelacteal feeding were honey (31.5%) and infant formula (30.2%). Around 34.8% had no knowledge about the outcome of prelacteal feeding practice. About 91.5% of the respondents had fed the colostrum to their newborn, but around 22.0% had no knowledge regarding the importance of colostrum. Among 141 respondents, about one third of the respondents (34.1%) replied that they had not received breastfeeding counselling during pregnancy.

**Conclusion:** This study revealed that the lack of knowledge regarding prelacteal feeding is a major cause of the widespread practice of prelacteal feeding. Delivery of adequate information to pregnant women and lactating mothers through various channels can help reduce this practice.

**Keywords:** Prelacteal feeding, Infant formula, Colostrum

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## Introduction:

Prelacteal feeding is the practice of feeding the newborn with foods other than breast milk before the starting of breastfeeding. Infant mortality rate in Bangladesh (23 per 1000 live birth) is still high compared to international goals set by the UN.<sup>1</sup> Major contributors of this high mortality rate are infectious diseases such as diarrhoea and pneumonia.<sup>2</sup>

Globally, the prelacteal feeding is practiced to different extents in different countries. In a study conducted in Ethiopia, it has been discovered that children exposed to prelacteal feeding before six months of age had a 16 times higher probability of developing diseases.<sup>3</sup> A study conducted in China revealed that around 26% of the newborns were given prelacteal foods.<sup>4</sup> Another study in Nepal found that 26.5% of mothers practiced prelacteal

feeding.<sup>5</sup> In India, a study conducted in Wadi rural area found 31.8% of the respondents had given prelacteal feed to their newborn.<sup>6</sup> Several studies conducted in Pakistan found widespread practice of prelacteal feeding, with 72.5% of the respondents believing prelacteal feeding to be a requirement for the newborn.<sup>7</sup> Multiple studies conducted in different regions of Bangladesh found concerning results. A study conducted in Dhamrai Upazilla in 2015 found the proportion of prelacteal feeding to be 69.3%.<sup>8</sup>

The World Health Organization has mentioned several strategies to achieve the reduction in under-5 mortality envisioned in Sustainable Development Goals. Of these strategies, prompt starting of breastfeeding after birth and exclusive breastfeeding with no other food provided to the newborn until first six months of age is of the utmost importance.<sup>9</sup>

The objective of this study was to find out the practice of prelacteal feeding of mothers having newborn at or below six months old in rural area of Dhamrai Upazilla. The findings generated by this study can be used to tackle this problem at the community level and ultimately reduce infant mortality and morbidity rate in Bangladesh caused by the practice of prelacteal feeding. Hence the problem of prelacteal feeding needs to be addressed.

#### Methods:

A cross-sectional type of descriptive study was conducted in several villages of Dhamrai Upazilla of Dhaka district from January 2020 to March 2020 over a period of 3 months. The study population included mothers having newborn at or below six months of age in Dhamrai Upazilla. Non probability purposive sampling technique was used. The sample size was 141. A semi-structured questionnaire was used to collect the necessary data by face to face interview. Before the data collection, questionnaire was pretested and revised. After collection the data were checked, revised, edited and analyzed both manually and on a computer-based software Microsoft Excel.

#### Results:

This cross-sectional study was conducted from January 2020 to March 2020 with an aim to find out the practice of prelactal feeding of mothers having newborn at or below 6 months and different factors associated. Data were analyzed manually and computer based software MS Excel and presented here with table and graphs.

Table 1 shows the socio-demographic characteristics of the respondents. The mean age was 19.23 and most (58.9%) of the respondents were under 25 years of age.

The majority of them (80.9%) were followers of Islam. About half (50.4%) of the respondents were educated up to SSC level. Most (85.2%) of them were homemakers. The highest proportion (58.2%) of the respondents had a monthly family income of Tk 10,000 – Tk 20,000. Equal number of respondents (42.6) had either 1 or 2 children.

**Table-I**

*Distribution of the respondents by socio-demographic characteristics (n = 141)*

Socio-demographic characteristic	Frequency	Percentage (%)
<b>A. Age group</b>		
Below 25 years	83	58.9
26 – 30 years	39	27.6
31 – 35 years	17	12.1
Above 35 years	2	1.4
Mean	19.23	
<b>B. Religion</b>		
Islam	114	80.9
Hinduism	27	19.1
<b>C. Level of Education</b>		
No formal education	7	5.0
Can sign only	5	3.5
Up to primary level	71	50.4
Up to SSC	37	26.2
Up to HSC	11	7.8
Graduation or above	9	6.4
Refused to answer	1	0.7
<b>D. Occupation</b>		
Homemaker	120	85.2
Service holder	11	7.8
Maid Servant	2	1.4
Small businessman	2	1.4
Agricultural worker	1	0.7
Others	5	3.5
<b>E. Monthly Family Income</b>		
Less than Tk 10,000	24	17.0
Tk 10,000 – Tk 20,000	82	58.2
Tk 20,000 – Tk 30,000	24	17.0
More than Tk 30,000	11	7.8
<b>F. Number of Children</b>		
1	60	42.6
2	60	42.6
3	20	14.1
4 and above	1	0.7

Among 141 respondents, the proportion of respondents who practiced prelacteal feeding was near about half (48.9%) of the total respondents.

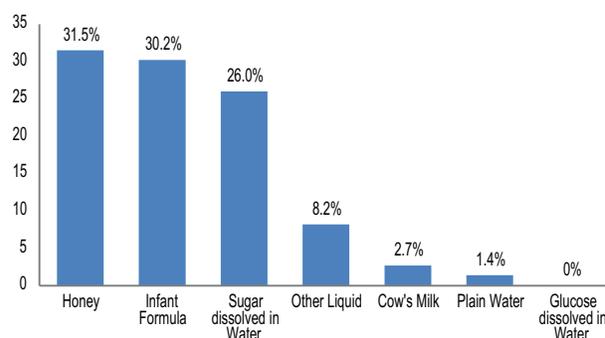
**Table-II**

*Distribution of respondents according to practice of prelacteal feeding (n = 141)*

Prelacteal feeding	Frequency (n)	Percentage (%)
No	72	51.1
Yes	69	48.9

Among 69 respondents, the two most popular items used for feeding were honey (31.5%) and infant formula (30.2%). A considerable number fed their newborns sugar dissolved in water (26.0%). A sizable portion (8.2%) fed other liquid like fruit juice. The least popular items were cow’s milk (2.7%) and plain water (1.4%). No respondent fed glucose dissolved in water to their newborn.

Among 141 respondents, 34.8% had no knowledge about the outcome of prelacteal feeding. About 19.1% believed that prelacteal feeding might have adverse effects on child’s health. Approximately 17.7% believed that newborn would receive better nutrition if prelacteal feeding was done and 13.5% believed prelacteal feeding would not give adequate nutrition to the newborn. About 7.8% believed newborn would not receive immunity if prelacteal feeding was done, and 6.4% believed newborn would show better development in the future.



**Figure 1:** Distribution of respondents according to types of food items used for prelacteal feeding (n = 69)

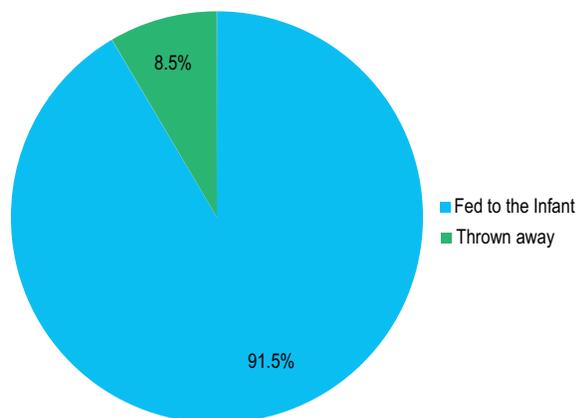
Among 141 respondents, the majority of respondents (91.5%) fed the colostrum to the newborn, and only the remaining minority (8.5%) threw it away.

Among 141 respondents, 12 respondents threw away the colostrum. Among them more than half (58.3%) of the respondents threw away the colostrum due to lack of knowledge of its usefulness, 16.7% of the mothers thought that the quantity was insufficient and another 16.7% had physical difficulty. For the rest 8.3%, the newborn did not accept it.

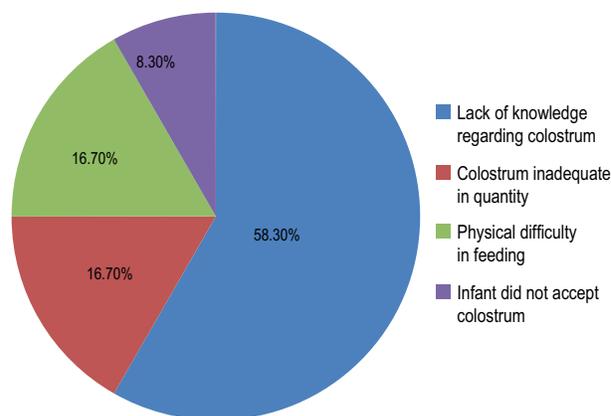
**Table-III**

*Distribution of the respondents according to knowledge on outcome of prelacteal feeding practice (n = 141)*

Knowledge regarding prelacteal feeding	Frequency (n)	Percentage (%)
No knowledge	49	34.8
Infant might face health problems in future	27	19.1
Infant will receive more nutrition than from breast milk	25	17.7
Infant will not receive adequate nutrition	19	13.5
Infant will not receive immunity	11	7.8
Infant will show better development in the future	9	6.4
Other	1	0.7



**Figure 2:** Distribution of respondents according to feeding of colostrum (n = 141)



**Figure 3:** Distribution of respondents according to reasons for throwing away colostrum (n = 12)

**Table-IV***Distribution of the respondents according to belief about importance of colostrum (n = 141)*

Belief regarding importance of colostrum	Frequency (n)	Percentage (%)
Gives appropriate nutrition to the infant	90	63.8
No idea	31	22.0
Gives immunity to the infant	19	13.5
Can easily be digested by the infant	1	0.7
Harmful for the infant	0	0.0

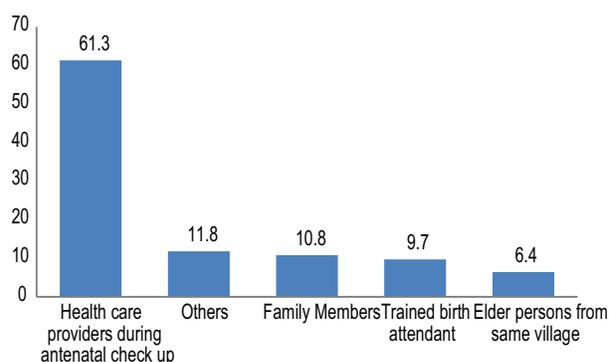
Among 141 respondents, the majority (63.8%) of the respondents thought that colostrum would give the newborn appropriate nutrition while only 22.0% had no knowledge regarding the importance of colostrum. About 13.5% knew about the immunity it grants. Only 0.7% thought that it is important because it would be easily digested by the neonate. No respondent thought that it is harmful.

Among 141 respondents, almost two third of the respondents (65.9%) replied that they had received breastfeeding counselling during pregnancy whereas remaining (34.1%) replied that they had not received any counselling during pregnancy.

**Table-V***Distribution of respondents according to breastfeeding counselling received during pregnancy (n = 141)*

Breastfeeding counselling received	Frequency (n)	Percentage (%)
No	48	34.1
Yes	93	65.9

Among 141 respondents, most of the respondents (93) received counselling regarding breastfeeding. More than half of those respondents (61.3%) received counselling from health care providers during their antenatal checkup. Other sources were family members (10.8%), trained birth attendants (9.7%) and elder persons from same village (6.4%). About 11.8% received counselling from various other sources like from friends, teachers etc.

**Figure 4:** *Distribution of respondents according to source of receiving breastfeeding counselling (n = 93)***Discussion:**

The study aimed to find out the practice of prelacteal feed to newborn at or below 6 months in rural area of Dhamrai Upazilla. After preliminary data analysis, it was found that about 48.9% respondents practiced prelacteal feeding. Several studies conducted in various countries found widely varying proportions of respondents who practiced prelacteal feeding, such as 57.8% in Mansoura, Egypt, 31.8% in Central India, 20.6% in South Ethiopia, 73.3% in Vietnam, and 17% in Nepal.<sup>10-14</sup> A study conducted in Dhamrai Upazilla in 2015 showed that 69.3% practiced prelacteal feeding.<sup>8</sup> Hence there has been a decrease in the prevalence of prelacteal feeding in this area over the last few years.

In our study, the two most popular items used for prelacteal feeding were honey (31.5%) and infant formula (30.2%). A considerable number fed their newborns sugar dissolved in water (26.0%) and the least popular items were cow's milk (2.7%) and plain water (1.4%). No respondent fed glucose dissolved in water to their newborn. In similar studies, it was found that in Mansoura, Egypt the popular prelacteal foods were sugar water (22.9%), infant formula (16.5%), herbs or decoction (12.5%), gripe water (0.8%) and animal milk (2.9%)<sup>10</sup>, whereas in South Ethiopia, plain

water (7.7%), cow's milk (3.6%) and butter (4.6%) were most common.<sup>12</sup>

In this study, among 141 respondents, 34.8% had no knowledge about the outcome of pre-lacteal feeding. About 19.1% believed the newborn might face health problems in the future. Approximately 17.7% believed that newborn would receive better nutrition if pre-lacteal feeding was done and 13.5% believed pre-lacteal feeding would not give adequate nutrition to the newborn. About 7.8% believed newborn would not receive immunity if pre-lacteal feeding was done, and 6.4% believed newborn would show better development in the future.

In this study, the majority of respondents (91.5%) fed the colostrum to the newborn, and only the remaining minority (8.5%) threw it away. Out of the twelve respondents who threw away the colostrum, more than half (58.3%) of the respondents threw away the colostrum due to lack of knowledge of its usefulness, 16.7% of the mothers thought that the quantity was insufficient and again another 16.7% had physical difficulty. For the rest, 8.3% the newborn did not accept it. In another study in Central India, 62% threw away colostrum because they believed it leads to adverse effects for child's health, 33.8% due to elders' advice and 4.2% because the baby could not suck.<sup>11</sup>

Nearly two-third (63.8%) of the respondents think that colostrum will give neonate appropriate nutrition and 22.0% have no knowledge regarding the topic. Only 13.5% know about the immunity it grants. Less than 1 percent stated that it is important because it will be easily digested by the neonate.

In this study, majority of the respondents (65.9%) replied that they received breastfeeding counselling during pregnancy whereas remaining (34.1%) replied that they did not receive any counselling during pregnancy. Among the 93 respondents who received counselling, more than half of the respondents (61.3%) received counselling from doctors/ health care providers during antenatal checkup. Other source of counselling were family members (10.8%), elder persons from same village (6.4%), trained birth attendants (9.7%) and (11.8%) from various other sources. In a similar study in South Ethiopia, 84.9% of the respondents received breastfeeding counselling and the remaining 9.4% didn't.<sup>12</sup> In Maharashtra, India, 76.4% of the respondents received breastfeeding counselling and 23.6% of them did not.<sup>16</sup> This is consistent with the lower percentage of pre-lacteal feeding in their findings compared with this study findings.

### Conclusion:

This study reveals that more than half of the respondents did not know about the harmful effects of pre-lacteal feeding, which is consistent with the data that about half of the respondents practiced pre-lacteal feeding. Honey and infant formula were the most widely used food items for pre-lacteal feeding. The majority of the respondents knew about the importance of colostrum and almost all of the respondents fed the colostrum to the newborn. Hence, the data reflects that lack of knowledge of the respondents regarding pre-lacteal feeding and its effects is a major cause of the practice of pre-lacteal feeding.

Majority of the respondents are housewives so provision of health education about pre-lacteal feeding can be done through focus group discussion. A nationwide mass media campaign through TV, radio, billboard, and folk song can be implemented to create public awareness, correct misconception and build social endorsement for breastfeeding practices. Strengthening of counselling about breastfeeding in antenatal and postnatal care should be done. Finally, these findings can be given to policy makers so that they can take the necessary steps which have been mentioned. These steps will reduce infant mortality and morbidity caused by pre-lacteal feeding by decreasing the prevalence of this practice.

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