

## Pre-Lacteal Feeding Practice in Hospitals of Lahore; A Multicenter Study

AMNA FAROOQ<sup>1</sup>, AYESHA AFZAL<sup>2</sup>, MAHEK ZEESHAN<sup>3</sup>, RABIA KHALID<sup>4</sup>, MUNEEBA AFZAL<sup>5</sup>, FATIMA KAUSAR NAWAZ<sup>6</sup>

<sup>1</sup>House Officer Shaikh Zayed Hospital, Lahore

<sup>2</sup>House Officer Department of Radiology, Shaikh Zayed Hospital, Lahore

<sup>3</sup>Shaikh Zayed Hospital, Lahore

<sup>4</sup>Medical Officer, Department of Public Health & Community Medicine, Shaikh Zayed Hospital, Lahore

<sup>5</sup>House Officer Department of General Surgery, Shaikh Zayed Hospital Lahore Pakistan

<sup>6</sup>MD House Officer Shaikh Zayed Hospital, Lahore

Correspondence to: Rabia Khalid, Email: [rabia.akhalid67@gmail.com](mailto:rabia.akhalid67@gmail.com), Cell: +92 320 4510765

### ABSTRACT

**Background:** Introduction of Pre-lacteal feeding soon after the baby is born is a common practice, and different predictors of PLFs have been reported worldwide. Mainly, people practice Pre-lacteal feeding to follow the religious beliefs or cultural traditions of their area.

**Objective:** To describe the frequency, nature, reasons, and factors associated with Pre-lacteal feeding.

**Methods:** 320 mothers and their neonates were studied from January 2022 to March 2022. Family and infant socioeconomic status, PLF classification, and PLF triggers were all recorded.

**Results:** Nearly two-thirds of the infants were given prelacteal meals. Honey accounted for 59.3% of all PLFs. Conventional/historical reasons accounted for 80.2% of all PLF distributions in 2017. The independent predictors of PLF are urban residence, maternal education, age of mother and trend running in the family.

**Conclusion:** Advantages of Pre-lacteal feeding along with breastfeeding should be studied more comprehensively to define a clear-cut relationship between the two.

### INTRODUCTION

With the help of child survival strategies like immunizations and oral rehydration therapy, the death rate for infants and young children in underdeveloped countries has been steadily falling for quite some time now. <sup>(1)</sup> While the infant death rate has been falling over the past few decades, the neonatal mortality rate has been relatively stable. Though infant mortality rates are predicted to fall, the proportion of deaths that occur in the neonatal period is expected to rise; this is especially true in developing countries like Pakistan, where information about the relative importance of the various causes of neonatal infections and deaths is still scarce. <sup>(2)</sup>

Among the leading causes of infant mortality in low-income nations are infections such as sepsis, pneumonia, tetanus, and diarrhoea. <sup>(3, 4)</sup> The rising prevalence of infections at birth and the resulting high death rate are linked to a number of risk factors. Poor antenatal care, home deliveries by untrained midwives, risky delivery methods and cord care, premature birth, low birth weight, failure to initiate exclusive breast-feeding, and delayed notice of danger indications in both mother and baby are all contributors. <sup>(4-10)</sup> Lack of exclusive breast feeding due to the introduction of PLFs is one of these problems that has garnered a lot of attention from scientists in recent years.

Pre-lacteal feed, or PLF, is the food given to a newborn before breastfeeding is established or until breast milk comes in. The cultural and religious norms of a community influence the pre-lacteal diet that is used <sup>(11, 12)</sup>. Honey, sugar, sugar juice, animal milk, ghee (refined butter), etc., may all be included. <sup>(12)</sup> PLFs are administered to newborns for a variety of reasons, such as facilitating bowel cleansing, maintaining moist mouth and throat, maintaining body temperature, reducing discomfort, and facilitating bowel movements. <sup>(13, 14)</sup>

Pre-lacteal feeding is an early practise in the Muslim community that occurs before breastfeeding begins. Muslims believe that giving a Pre-lacteal feed is beneficial to the newborn because it is the Sunnah of Prophet Muhammad (PBUH), <sup>(15)</sup> which is why one might think that there should be a high frequency of Pre-lacteal feeding in a Muslim country like Pakistan. To the best of authors' knowledge, not enough research work has been done in Pakistan to prove the aforementioned hypothesis. Moreover, giving Pre-lacteal feed is a major cultural practice prevalent in many places throughout South Asia including non-Muslim countries too. <sup>(6, 12, 16, 17)</sup>

The promotion of Pre-lacteal feeding by health care workers has been seen mainly to prevent dehydration, hypoglycemia and neonatal jaundice. <sup>(11)</sup> Moreover, neonates of diabetic mothers have

a higher risk of developing hypoglycemia. <sup>(18)</sup> Low sugar levels can be raised readily by giving glucose to the neonates in the form of a natural hygienic Pre-lacteal feed, specially when there is a delay in initiation of lactation for any reason.

The aim of this study is to check the frequency of Pre-lacteal feeding practice in different hospitals of Lahore and to determine the public philosophy behind it, with special emphasis on the type of Pre-lacteal feed and the reason of giving it. More researches of this kind need to be done to check the prevalence of Pre-lacteal feeding practice in Pakistan and to determine its relation with the neonatal infections so that its encouragement or prohibition can be put into motion accordingly.

### METHODOLOGY

**Study Design and Population:** We conducted a hospital based descriptive cross-sectional study of 320 mothers of neonates to ask them about their pre-lacteal feeding practice from January 2022 to March 2022.

**Sampling Technique:** This study employed a non-probabilistic sampling strategy based on purposive selection. Sample sizes were determined using single-proportion sample size calculators. The population included was the willing mothers of those neonates, who were delivered in different hospitals of Lahore. Unwilling mothers, and infants more than four weeks old were excluded from the study. Interviewed mothers were pre-informed about the study and written consent was obtained.

**Operational Definition:** Pre-lacteal feed includes any type of sweet food provided to the neonate before the initiation of breast feeding. It is provided just after the birth to prevent breast-feeding delay. Anything sweet such as honey, dates etc. can be used as a PLF. Things given to the baby after breastfeeding is not considered as Pre-lacteal feed.

**Data Collection and Analysis:** A pre-tested and structured questionnaire was used to collect data from several public and private hospitals of Lahore. The interviewer administered the questionnaire according to the details provided by the respondent. SPSS version 21 was used for data entry and analysis. Sociodemographic variables like education, age, area of residence, occupation and religion of the mother, and family income were used to describe their relation with Pre-lacteal feeding.

### RESULTS

320 neonates were considered for the study. **Table 1** shows that, 60% of them were given pre-lacteal feed. Honey (59.3%) was the

most common pre-lacteal food. Some also used fruits/zam zam water (11.4%). Others include formula milk (10.4%), dates (10.4%), sugar water (5.2%), water (2%) and packed ghutti from the market (1%). **(Pie Chart)**

People had different beliefs about the pre-lacteal feed. 80.2% practiced it due to tradition/convention, 36.4% due to religious obligation, 8.3% due to medicinal reasons, while 5.2% presented with the reason of family pressure. 40.6% pre-lacteal feed was given to the neonates by their relatives, 15% by father, 3.1% by mother, and 2.5% by medical staff. In the study area, 20% mothers and 23.8% fathers were illiterate, 45% mothers and 39.4% fathers studied upto high school, 35% mothers and 36.9% fathers were educated more than high school. Most of the mothers (91.6%) were housewives and the remaining (8.4%) were occupied. Nearly half of the mother (55.6%) were aged between 20-29, 40% were more than 29 years old and 4.4% were below 20, Two-quarter mothers (63.1%) belonged to urban areas and one-quarter (36.9%) came from rural areas. Family income of 59.1% was found to be less than 20,000 rupees, 16.2% had family income above 50,000 while remaining 24.1% were found in between. The population interviewed in the hospitals of Lahore belonged to the Muslim community only (100%). **(Table: 2)** 246 (76.9%) of the mothers were multigravida, out of which 200 (81.3%) administered pre-lacteal feed in their previous children. Out of these 200, 65% followed the same trend in their neonates too whereas remaining 35% did not practice pre-lacteal feeding.

Among the mothers who practiced Pre-lacteal feeding, 18.8% were illiterate, 42.7% studied upto high school, and 38.5% studied more than high school. Two-third (63.5%) of the population positive for Pre-lacteal feeding belonged to Urban areas, whereas one-third (36.5%) belonged to rural areas. 65% of the mothers who practiced Pre-lacteal feeding in their other children were inclined to give PLF to the newborn. 94.1% of the mothers who didn't practice PLFs before followed the same trend for their neonates. **(Table: 4)** Most of the people presented with the medicinal reasons for the abstinence of the trend in the present neonates.

Table 1: Variables associated with Pre-lacteal feeding

Variables	Frequency	Percentage (%)
Practice of pre-lacteal feed		
Yes	192	60
No	128	40
Pre-lacteal feeding trend in other children		
Yes	200	62.5
No	34	10.6
Not applicable	86	26.9
Nature of pre-lacteal feed		
Honey	114	59.3
Fruits/aab e zamzam	22	11.4
Dates	20	10.4
Formula milk	20	10.4
Sugar water	10	5.2
Water	4	2.0
Packed ghutti from market	2	1.0
Reason for giving pre-lacteal feed		
Tradition/convention	154	80.2
Religious obligation	70	36.4
Medicinal reason	16	8.3
Family pressure	10	5.2

Table 2: Demographic variables

Variables	Frequency	Percentage (%)
Education of mother		
Illiterate	64	20
Up to high school	144	45
More than high school	112	35
Education of father		
Illiterate	76	23.8
Up to high school	126	39.4
More than high school	118	36.9
Occupation of mother		

Housewife	293	91.6
Working	27	8.4
Age of mother		
Up to 19	14	4.4
20 - 29	178	55.6
More than 29	128	40.0
Area of residence		
Rural	118	36.9
Urban	202	63.1
Family income		
Up to 20,000	189	59.1
21,000 – 50,000	77	24.1
More than 50,000	54	16.2
Religion		
Islam	320	100
Others	0	0
Gravidity		
Multigravida	246	76.9
Primigravida	74	23.1

Table: 3 Factors associated with PLFs according to Area of residence

	Total	Urban N (%)	Rural N (%)
Nature of Pre-lacteal feed			
Honey	114	80 (70.1)	34 (29.8)
Fruits/Aab e zamzam	22	6 (27.2)	16 (72.7)
Dates	20	18 (90)	2 (10%)
Formula milk	20	12 (60)	8 (40)
Sugar water	10	4 (40)	6 (60)
Water	4	2 (50)	2 (50)
Packed ghutti from market	2	0 (0)	2 (100%)
Reason for giving Pre-lacteal feeding			
Tradition/convention	154	94 (61)	60 (39)
Religious obligation	70	58 (82.8)	12 (17.1)
Medicinal reason	16	10 (62.5)	6 (37.5)
Family pressure	10	4 (40)	6 (60)

Table: 4 Pre-lacteal feeding practice according to maternal characteristics

	Total	Pre-lacteal feeding N (%)
Education of mother		
Illiterate	64	36 (18.8)
Up to high school	144	82 (42.7)
More than high school	112	74 (38.5)
Area of residence		
Rural	118	70 (36.5)
Urban	202	122 (63.5)
Pre-lacteal feeding trend in other children		
Yes	200	130 (65)
No	34	2 (5.8)
Age of mother		
Up to 19	14	12 (85.7)
20-29	178	106 (59.5)
More than 29	128	74 (57.8)

## DISCUSSION

Statistics show that pre-lacteal feeding practice is significantly prevalent all over the world, especially in Asian countries. The present descriptive study revealed that 60% of neonates were given PLFs as their first feed. This prevalence was seen consistent with similar researches from around the globe. <sup>(19-23)</sup>

Among international studies, researches from Ethiopia and Egypt show that 63% and 57.8% of the newborns were given PLFs, respectively. <sup>(20, 24)</sup> The rates are relatively higher in South Asian countries. A study from India shows a Pre lacteal feeding prevalence of 88%.<sup>(21)</sup> Another study from rural India estimates 40.1% mothers to practice pre lacteal feeding trend.<sup>(19)</sup> Researchers from Bangladesh report 90% of their study population to receive Pre lacteal feed in the first three days of life, which is much higher than our study. <sup>(22)</sup> Not enough work has been done on national level, however, similar trends of pre lacteal feeding practice have been reported in a cohort study from Karachi. <sup>(23)</sup>

One of the predictors of giving Pre-lacteal feed is area of residence of the family. Two-third majority of the families practicing Pre-lacteal feeding belonged to Urban areas. A research from Egypt show majority of Urban area belonging families too (75.2%).<sup>(20)</sup>

Different types of Pre-lacteal feed were given including honey, fruits, dates, formula milk, sugar water, plain water and packed "ghutti" from the market, with practice of giving honey being the highest amongst all (59.3%). Honey (70.1%) and dates (90%) were mostly given in the Urban areas, whereas fruits (72.7%) and packed 'ghutti' from market (100%) were used by the mothers from the Rural areas. **(Table: 3)** A national level research from Karachi explains other types including honey, water, ghutti, tea, sugar-salt solution and animal milk, with the trend of giving honey (66.8%) as a pre-lacteal feed being the highest.<sup>(23)</sup> Research from Egypt shows several other types of Pre-lacteal feed such as sugar water, infant formula, herbs, animal milk with water, plain water, gripe water, tea, soft drinks and juices, with the highest prevalence of giving sugar water (39.6%) as a Pre-lacteal feed.<sup>(20)</sup> The similarities in the types of Pre-lacteal feed can be seen in our study and the study from Karachi, whereas a range of variety has been seen in the research from Egypt, probably due to the difference in cultural traditions and customs.

Among several reasons for giving Pre-lacteal feed, tradition/convention (80.2%) and religious obligation (36.4%) were the most common reasons. Others include medicinal purpose and family pressure. 82.8% of the people who gave the reason of religious obligation belonged to urban areas. The reason of the family pressure (60%) was more prevalent in Rural areas. Tradition/ convention was found a major concern among both the populations. **(Table: 3)** Study from Karachi shows that the main reason of giving Pre-lacteal feed was delaying of breast feeding initiation.<sup>(23)</sup> Research from Egypt states reasons such as tradition, family customs, medicinal purpose and delay in milk production, with tradition (61%) and family customs (58.3%) being the highest of all.<sup>(20)</sup>

The practice for giving pre-lacteal feed in the Muslim community of Lahore is in accordance with the sunnah of their Prophet Muhammad (PBUH). It is related to the prevention of hypoglycemia and dehydration by health care providers,<sup>(11)</sup> which throws light on the positive effects of Pre-lacteal feeding. Moreover, deliveries through Cesareans has made immediate unavailability of the mothers for their newborns due to which initiation of the breast feeding often gets delayed. This is where PLFs play a vital role in boosting up the glucose level of the newborn.

There is a low possibility of recall bias in this study because the data was collected directly from the mothers, and within a day after the birth of the child. While interpreting the results of this study, several limitations should be considered. The data is collected from the hospitals only so PLF trend in the babies born outside the hospitals has not been considered. Also, the sample was restricted to the hospitals of Lahore only, so a nationwide study is needed to document the practices in other regions of Pakistan.

## CONCLUSION

Although Pre-lacteal feeding practice has seem to decrease in the neonates as compared to their older siblings, its ratio is still significantly high. More than half of the population practices Pre-lacteal feeding to follow their traditions and/or as a part of their religious duties whereas World Health Bodies prohibit PLF practice to promote exclusive breastfeeding. More researches are required to find the merits and demerits of Pre-lacteal feeding, and to establish its association with breastfeeding so that community-based strategies could be made to overcome the related issues.

## REFERENCES

1. Fikree FF, Azam SI, Berendes HW. Time to focus child survival programmes on the newborn: assessment of levels and causes of

- infant mortality in rural Pakistan. *Bulletin of the World Health Organization*. 2002;80:271-6.
2. Moss W, Darmstadt GL, Marsh DR, Black RE, Santosham M. Research priorities for the reduction of perinatal and neonatal morbidity and mortality in developing country communities. *Journal of Perinatology*. 2002;22(6):484.
3. Bryce J, Boschi-Pinto C, Shibuya K, Black RE, Group WCHER. WHO estimates of the causes of death in children. *The Lancet*. 2005;365(9465):1147-52.
4. LAWN JE, COUSENS S, ZUPAN J, HORTON R, TINKER A, TEN HOOPE-BENDER P, et al. Neonatal survival 1: 4 million neonatal deaths: When? where? why? *Commentaries*. *Lancet*. 2005;365(9462):82-827.
5. Stoll BJ. The global impact of neonatal infection. *Clinics in perinatology*. 1997;24(1):1-21.
6. Osrin D, Tumbahangphe KM, Shrestha D, Mesko N, Shrestha BP, Manandhar MK, et al. Cross sectional, community based study of care of newborn infants in Nepal. *Bmj*. 2002;325(7372):1063.
7. Stoll B. Neonatal infections: a global perspective In: Remington JS, Klein JO, editors. *Infectious Diseases of the Fetus and Newborn Infant*.
8. Barnett S, Azad K, Barua S, Mridha M, Abrar M, Rego A, et al. Maternal and newborn-care practices during pregnancy, childbirth, and the postnatal period: a comparison in three rural districts in Bangladesh. *Journal of health, population, and nutrition*. 2006;24(4):394.
9. Darmstadt GL, Syed U, Patel Z, Kabir N. Review of domiciliary newborn-care practices in Bangladesh. *Journal of health, population, and nutrition*. 2006;24(4):380.
10. Mercer F, Haseen F, Huq NL, Uddin N, Hossain Khan M, Larson CP. Risk factors for neonatal mortality in rural areas of Bangladesh served by a large NGO programme. *Health Policy and Planning*. 2006;21(6):432-43.
11. Akuse R, Obinya E. Why healthcare workers give prelacteal feeds. *European Journal of Clinical Nutrition*. 2002;56(8):729.
12. Laroia N, Sharma D. The religious and cultural bases for breastfeeding practices among the Hindus. *Breastfeeding Medicine*. 2006;1(2):94-8.
13. Ahmed F, Rahman M, Alam M. Prelacteal feeding: influencing factors and relation to establishment of lactation. *Bangladesh Medical Research Council Bulletin*. 1996;22(2):60-4.
14. Fikree FF, Ali TS, Durocher JM, Rahbar MH. Newborn care practices in low socioeconomic settlements of Karachi, Pakistan. *Social Science & Medicine*. 2005;60(5):911-21.
15. Sahih Bukhari [Internet]. Available from: [https://www.sahih-bukhari.com/Pages/Bukhari\\_5\\_58.php](https://www.sahih-bukhari.com/Pages/Bukhari_5_58.php).
16. Abba AM, De Koninck M, Hamelin A-M. A qualitative study of the promotion of exclusive breastfeeding by health professionals in Niamey, Niger. *International breastfeeding journal*. 2010;5(1):8.
17. Bandyopadhyay M. Impact of ritual pollution on lactation and breastfeeding practices in rural West Bengal, India. *International Breastfeeding Journal*. 2009;4(1):2.
18. Cordero L, Ramesh S, Hillier K, Giannone PJ, Nankervis CA. Early feeding and neonatal hypoglycemia in infants of diabetic mothers. *SAGE open medicine*. 2013;1:2050312113516613.
19. Roy MP, Mohan U, Singh SK, Singh VK, Srivastava AK. Determinants of prelacteal feeding in rural northern India. *International journal of preventive medicine*. 2014;5(5):658.
20. Abdel-Hady A-HE-GaDM. *Newborn First Feed and Prelacteal Feeds in Mansoura, Egypt*. 2014 May 6.
21. Raina SK, Mengi V, Singh G. Determinants of prelacteal feeding among infants of RS Pura block of Jammu and Kashmir, India. *Journal of family medicine and primary care*. 2012;1(1):27.
22. Sundaram ME, Labrique AB, Mehra S, Ali H, Shamim AA, Klemm RD, et al. Early Neonatal Feeding Is Common and Associated with Subsequent Breastfeeding Behavior in Rural Bangladesh-. *The Journal of nutrition*. 2013;143(7):1161-7.
23. Badruddin SH, Inam SB, Ramzanali S, Hendricks K. Constraints to adoption of appropriate breast feeding practices in a squatter settlement in Karachi, Pakistan. *JOURNAL-PAKISTAN MEDICAL ASSOCIATION*. 1997;47:63-7.
24. Rogers NL, Abdi J, Moore D, Nd'iangui S, Smith LJ, Carlson AJ, et al. Colostrum avoidance, prelacteal feeding and late breast-feeding initiation in rural Northern Ethiopia. *Public health nutrition*. 2011;14(11):2029-36.