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# USE OF PRELACTEAL FEEDS- STUDY IN TRADITION

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## ABSTRACT

***Objective***: To find the types and frequency of prelacteal use, factors influencing their use and its impact on breastfeeding.
***Study Design***: Cross-sectional study.
***Place and Duration of Study***: Fatima Memorial Hospital, Lahore, Pakistan from Jul to Dec 2019.
***Methodology***: In the study, mothers and female attendants of newborn babies were interviewed following a specific questionnaire. The given answers were recorded and captured data about socio-demographics, knowledge, attitude and actual practices of mothers and families related to use of prelacteals. The results were analysed using SPSS 22.
***Results***: We interviewed 1601 mothers and female attendants of neonates. The mean age was 32.3 ± 8.2 years. Most of the females were married (1211, 75.6%) and resided in Lahore (1281, 80%). About one third, 581 (36.3%) were either illiterate or had inadequate schooling. Two-thirds (1000, 62.5%) of women wanted to give some prelacteal feed soon after birth. Honey was the most the commonest choice (in 722, 45.1%), seconded by ghutti (107, 6.7%). Most females (1467, 91.6%) wanted to give colostrum, and 1552 (96.9%) would breastfeed the baby. 1221 (75.2%) wanted to start mother-feed immediately or within 2 hours of birth.
***Conclusion***: The use of prelacteal is common in Pakistan culture. A consistent effort is needed to counter the unsafe prelacteal use.

**Keywords**: Breastfeeding, Colostrum, Maternal beliefs, New born feeding, Prelacteals.

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## INTRODUCTION

Globally malnutrition accounts for almost half of the deaths under 5 years of age. Of multiple factors that can improve malnutrition, optimal breastfeeding alone can reduce childhood mortality by 14% per year.[1,2] According to the World Health Organization (WHO), the definition of optimal breastfeeding has 3 components: early initiation of breastfeeding (within one hour of birth); exclusive breastfeeding (EBF)-breastmilk only with no other foods or liquids-in the first six months of life; and continued breastfeeding up to two years of age and beyond, while receiving appropriate complementary foods.[3]

Prelacteal feeds are the foods given to newborns on the first day or days of life before breastfeeding is established.[4] Some examples of prelacteal foods that are commonly used include animal milk, honey, jaggery (brown sugar from sugar cane) ghee (clarified butter), and ghutti (herbal paste that may contain cumin, cardamom, nutmeg, caraway, cinnamon, and aniseed).[5] The type of prelacteals used may vary for specific regions, castes or families.[6]

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Prelacteals interfere with optimal breastfeeding at many levels, such as delay in start of mother milk, delayed lactation and reduced let down of milk, and promotion of substitute foods. Prelacteal use, in addition, reduces numbers of exclusively breastfeeding mothers at first 6 months of life.[7-9]

Despite the widespread use of prelacteals, detailed data regarding usage remains scarce in Pakistan. The objectives of this study are to find the frequency of use, types of prelacteals and factors influencing their usage. To the best of the authors' knowledge, there are no studies from Lahore and, only a few studies are available from other regions of Pakistan. The objective of this study was to find the types and frequency of prelacteal use, factors influencing their use and its impact on breastfeeding.

## METHODOLOGY

This questionnaire-based cross-sectional study was conducted in Fatima Memorial Hospital, Lahore, Pakistan from July to December 2019. Ethical approval was obtained from Hospital Ethical Board (FMH-06-2018-IRB-476-M). Interviewees were selected by non-probability convenient sampling. The sample size was calculated from the website[10]. We used confidence interval of 95% (z-value=2.57), assumed prevalence of

poor feeding practices 50% and error of margin at 5%, in line with a previous study done in Karachi.[11] It gave us the minimum required number of 666, however, we continued our study for total 6 months (n=1601), reducing margin of error to around 3.2%, to better represent our population.

**Inclusion Criteria:** Mothers and attendants of newborns in the neonatal OPD clinics and obstetric ward.

**Exclusion criteria:** Girls under 18 years of age and unwilling females (especially in cases of multiple attendants).

Study participants were interviewed during rounds in the obstetric ward as well as in neonatal OPD clinics. The answers given were recorded on the form and captured data about socio-demographics, knowledge, attitude and actual practices of mothers and families related to use of prelacteals. The doctor assigned to the job conducted interviews according to a semi-structured questionnaire (both closed and open questions). Verbal consent was taken before an interview. The team leader briefed participating doctors about the questionnaire at the start. During the study, periodic debriefing sessions were held amongst the group, facilitated by the team leader, to review data collection and interview results.

Descriptive and inferential analysis using SPSS version 22, was performed and chi-square test used to identify statistically significant associations. Participants were not offered any monetary incentive for participating in the interviews.

## RESULTS

We interviewed 1601 mothers and attendants during the 6 months. The mean age was 32.3 ± 8.2 years. Majority of the females were married (n-1211, 75.6%). Of the married women, 362 (32.2%) had no child, whereas 257 (21.2%) were new mothers. It means that 1006 females (unmarried ± married but no child ± new mothers=1009, 63%) were open for counselling regarding feeding advice. Of the participants, majority (n=1281, 80%) were resident of Lahore, and 272 (17%) women came from adjoining rural areas.

One-fifth (n-313, 19.6%) of the females had not attended school at all, and 268 (16.7%) had attended school only for a few years. However, 1020 (63.7%) of females had completed at least 10 or more years of school or college education.

When questioned about prelacteals, 1000 (62.5%) of women wanted to give some food/substance soon after birth, even before mother feed. One-third of women 521 (32.5%), did not want to give any prelacteal, and 80 (5%) were not sure about its use.

Honey was the most common choice in 722 (45.1%). Other prelacteals used were over-the-counter available ghutti (a herbal mixture-107 (6.7%), sugar, milk and dates in decreasing percentages, as shown in Table-I.

One of the promising aspects had been the large number of women who knew about the importance of colostrum and the role of breastfeeding. Majority of participants would give colostrum (1467, 91.6%) and wanted to breast-feed the baby (1552, 96.9%). They were also asked about the time frame that they think appropriate for the initiation of breast feeding. The answers are shown in Table-II.

Most, 1221 (76.2%) knew of recommended time to initiate feeding. Of the 119 (7.4%) participants, who wanted to start feeds on 2nd or 3rd day of life, the avoidance of colostrum being the most cited reason. They preferred the cow or goat milk (coming at 2nd and 3rd numbers) as it was thought to be easily digestible by newborns.

Data regarding personnel, who advised mothers about use of pre-lacteals and breastfeeding is shown in Table-III. Around One third, 521 (32.6%) of women

**Table-I: Types of prelacteals used.**

| Type of Prelacteal Used | n (%) |
|---|---|
| Honey | 722 (45.1%) |
| No Prelacteal | 521 (32.5%) |
| Ghutti | 107 (6.7%) |
| Don't Know | 80 (5%) |
| Milk | 42 (2.6%) |
| Sugar | 24 (1.5%) |
| Date | 4 (0.2%) |
| saliva | 4 (0.2%) |
| Others | 97 (6.1%) |

**Table-II: Time interval to start breast-feeding.**

| Time to Start Breast-feeding | n (%) |
|---|---|
| Immediately after Birth | 817 (51%) |
| Within 2 hours after birth | 404 (25.2%) |
| >2 hours to 12 hours after birth | 84 (5.2%) |
| >12 hours to 24 hours after birth | 77 (4.8%) |
| After 24 hours of age | 119 (7.4%) |
| Do not Know. | 100 (6.2%) |

**Table-III: Persons advising the mothers/attendants.**

| Person who advised | n (%) |
|---|---|
| Doctor | 630 (39.4%) |
| Midwife/Nurse | 358 (22.4%) |
| Grandmother | 300 (18.8%) |
| Relative | 221 (13.8%) |
| None (No Counselling Done) | 91 (5.7%) |

would follow the advice of their mothers or mothers-in-law and other close relatives.

We checked for any significant association of marital status, parity, residence and educational status with the preferences for the type of prelacteals, use of colostrum and intention to breast-feed, but none was found as shown in Table-IV.

females in our study cited tradition and cleaning of bowels as the significant reasons for the use of prelacteals.

Most of the women in our study would use honey as the prelacteal feed, followed by ghutti. It is same in India,[6] likely due to shared cultural past and similar geographic habitat. In a study from other parts of

**Table-IV: Association of marital status, parity, residence and educational status with the preferences for the type of prelacteals, use of colostrum and intention to breast-feed.**

| Variable Values | | Want to Give Colostrum | | | | Want to Use Prelacteals | | | | Want to Breastfeed | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Don't Know | No | Yes | *p*-value | Don't know | No | Yes | *p*-value | No | Yes | *p*-value |
| Residence | Rural | 6 | 22 | 244 | 0.31 | 16 | 100 | 156 | 0.16 | 7 | 265 | 0.61 |
| | Urban | 16 | 90 | 1223 | | 64 | 421 | 844 | | 42 | 1287 | |
| Education in Years | Completed Ten or more | 10 | 67 | 943 | 0.13 | 49 | 332 | 639 | 0.89 | 36 | 984 | 0.15 |
| | Nil or few | 12 | 45 | 524 | | 31 | 189 | 361 | | 13 | 568 | |
| Knowledge of Practices (own experience or observed) | Observed | 12 | 72 | 925 | 0.69 | 55 | 336 | 618 | 0.32 | 30 | 979 | 0.79 |
| | self-experience | 10 | 40 | 542 | | 25 | 185 | 382 | | 19 | 573 | |
| Source of Knowledge | Medical Personnel | 13 | 76 | 899 | 0.32 | 52 | 314 | 622 | 0.91 | 30 | 958 | 0.86 |
| | Nobody/ Don't Know | 1 | 9 | 81 | | 4 | 30 | 57 | | 2 | 89 | |
| | Relatives | 8 | 27 | 487 | | 24 | 177 | 321 | | 17 | 505 | |
| Marital status | Married | 14 | 94 | 1103 | 0.05 | 65 | 389 | 757 | 0.441 | 43 | 1168 | 0.45 |
| | unmarried | 8 | 18 | 364 | | 15 | 132 | 243 | | 6 | 384 | |
| Parity | 2 or mor | 10 | 40 | 542 | 0.63 | 25 | 185 | 382 | 0.96 | 19 | 573 | 0.97 |
| | First Ch | 1 | 17 | 239 | | 21 | 80 | 156 | | 8 | 249 | |
| | No kid | 11 | 55 | 686 | | 34 | 256 | 462 | | 22 | 730 | |

## DISCUSSION

Optimal breastfeeding practices have a significant impact on reducing childhood morbidity and mortality. It enhances both child and maternal health, reduces health care costs, improves cognitive development and promotes economic development.[1] Apart from adverse effects on breastfeeding practices, prelacteal use has been shown to have less caloric value than colostrum, increase risk of infections by interfering with the use of colostrum (containing immunological agents), delayed mother-child bonding, altering gastrointestinal flora and by direct contamination of foods, hands, utensils or water.[12]

Prelacteal use is widespread around the world [13,14]. The reasons quoted to justify its use include help in cleaning newborn stomach and bowels, easy passage of stools, soothe the baby and to avoid colostrum since it is dirty or has low nutritional value.[7] Prelacteal usage also is an accepted cultural belief (everybody does it!) and in Islam has religious roots. Most of the world, diluted cow milk, formula milk and glucose water had also been commonly used.[14-17] Our results differ in this aspect. Another factor to consider is the role of honey in infantile botulism, reported in over 1000 case reports.[18,19] Other prelacteals documented in our study also raise many concerns regarding the hygiene, cross-infection and safety.

Ours is a tertiary care hospital in a Lahore, the second-largest city of Pakistan. One would assume that mother and females are educated well, especially about breastfeeding. In addition, most of training and teaching is carried out by physicians and follows the latest WHO guidelines. We did have medical-related personnel telling mothers and attendants about breastfeeding and colostrum in the majority of cases, and it seems to have positive influence on the breastfeeding practices. However, regarding prelacteal use, their advice had been disregarded by most mothers. At this stage, grandmothers and other close relatives played a prominent role. Tradition overruled evidence-based advice. The influence of grandmother and close relati-

ves is well known from other studies in other parts of the world.[4,14] The role of grandmothers and relative is very important and they should be included in the counselling sessions of mothers.

A study shows that the mothers residing in urban areas, having the first baby or undergoing caesarean section for delivery are at higher risk of using prelacteals.[16] Other factors such as higher parity, being rich, low birth weight, poor educational status, inadequate antenatal care, home delivery, multiple births, male baby after a birth interval of less than or equal to 24 months, lower number of antenatal care visits, home delivery, multiple births and male infant promote prelacteal use.[15,14] Nevertheless, we did not find any such association with educational status, number of babies, maternal age or urban residence.

Asian Indian mothers had started breastfeeding around 12-30 hours of age in newborns in a study from the USA[20]. We have shown that about 77% of females want to start breastfeeding within 2 hours of age. It is a promising aspect, which should be promoted and stressed during antenatal education.

Based on our findings, one may argue that, since prelacteal use is so widespread in our culture, finding a middle ground would probably be the best way forward. Rather than arguing and contradicting our patients and their beliefs, we can choose to advise them about safe prelacteal such as milk and limit its use to one time only. It may benefit us in enhanced practise of colostrum usage and early breastfeeding practices. Alternative is a consistent and emphatic counselling against all prelacteals as we are practising. It will need further studies especially in the community.

## LIMITATION OF STUDY

Ours have been a predominant urban study, with little representation of rural practices. Secondly, doctors conducted interviews, and the respondents may have modified their answers, not presenting the real practices. We need more such studies, especially in rural areas, to improve our understanding of factors leading to prelacteal use.

## CONCLUSION

In conclusion, prelacteal use is widespread. We need to improve our counselling against the use of prelacteals and try to include other family members in the sessions. Promising fact is the large proportion who would use colostrum and initiate early breast-feeding.

**Conflict of Interest:** None.

**Authors' Contribution**

SP: Data concept, design, defination of intellectual content, literature search, clinical studies, experimental study, data acquisition, anlaysis, editing, review, proof reading. ZA: Data concept, design, defination of intellectual content, literature search, clinical studies, experimental study, data acquisition, anlaysis, editing, review, proof reading. RG: Definition of intellectual content, literature search, clinical study, experimental study, statistical analysis, editing. NI: design, defination of intellectual content, literature search, clinical studies, experimental study, data acquisition, anlaysis, editing, review, proof reading, FN: design, defination of intellectual content, literature search, clinical studies, experimental study, data acquisition, anlaysis, editing, review, proof reading.

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