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Initiation of Breastfeeding Among Mothers Delivering at a Tertiary Hospital in Lahore: A Cross-Sectional Study

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ABSTRACT

Background: The health of the newborn relies heavily on breastfeeding. Timely initiation of breastfeeding in the initial hours of birth is a predictor of continued breastfeeding. **Objective:** This study aimed at estimating the proportion of women who practiced timely initiation of breastfeeding at a government hospital in Lahore. **Study Design:** Cross-sectional study. **Settings:** Maternity ward of Lahore General Hospital, Lahore Pakistan. **Duration:** Six months from 1st Jan 2024 to 30th June 2024. **Methods:** Among 133 postnatal mothers, selected through convenience sampling; taking total population as the average number of females delivering in a month at the hospital. Timely initiation within the first hour of birth was seen with the absence of formula feeding or use of any other source of oral nutrition for the newborn. **Results:** The average age of the participants was 26.2±4.5 years, and the average number of previous children was 2 with a range of 0-6. Out of a total of 133 mothers, 39 i.e. 29.3% (95% CI: 22.3% – 37.6%) practiced timely initiation. There was a significant association between mode of delivery and breastfeeding practices (p=<0.01). **Conclusion:** Most mothers did not practice timely initiation of breastfeeding. Mode of delivery was significantly associated with breastfeeding practices. Strengthening counselling and support in obstetric wards is recommended.

Keywords: *Breast feeding, Infant, Newborn, Postpartum period, Mothers, Hospitals, Tertiary care, Pakistan, Cross-sectional studies.*

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INTRODUCTION

Breastfeeding the newborn is important as the first milk secreted is the ideal source of nutrition. Breastfeeding is widely recognized as the optimal method of infant feeding, providing numerous health benefits for the baby. It benefits mothers too by decreasing risks of breast and ovarian cancers, type 2 diabetes, and postpartum depression.[1]

Breastfeeding is also associated with more favorable glucose levels, lipid metabolism, and blood pressure.[2] The infant should be given only breast milk as a source of nutrition for the first 6 months and nothing including water, should be given during this period, except for oral rehydration solution, drops, or syrups of vitamins, minerals, or medicines.[3]

However, global breastfeeding initiation and continuation rates remain lower than WHO-recommended targets.[4] In Pakistan, breastfeeding initiation within 1 hour is 68%[5], and exclusive breastfeeding under 6 months is only 37.7%.[6] The first 24 hours post-natal are crucial to study breastfeeding practices as the initial breastfeeding patterns can be observed, early interventions can be planned and this can serve as a baseline for tracking future breastfeeding trends.[7] The Baby Friendly Hospital Initiative was launched in 1991 by WHO and UNICEF to encourage the early initiation of breastfeeding in mothers delivering at a hospital set-up and was a significant effort in this regard.[8]

Suboptimal breastfeeding practices are a major contributing factor to Pakistan's high infant and under-5 mortality rates.[9] Statistics suggested that 39.26% per cent of Pakistani children are stunted showing lower height for age, having poor cognition and other development milestones are delayed.[10] A study done in India revealed that breastfeeding practices were not optimal across the country.[11] A study done in the province of Sindh showed that breastfeeding within the first hour was initiated by 20.4% of the mothers.[12] Another study in 12 districts of Sindh revealed that early initiation of breastfeeding was done by 68%

of mothers.[5] A hospital-based study done in Lahore found that in 83.3% of cases breastfeeding was initiated within an hour of birth and in 45.3% of cases breastfeeding was continued for the first 6 months of life.[13]

Limited recent evidence is available on timely breastfeeding initiation within first hour of birth without formula supplementation, at similar settings. This current study was designed to determine the proportion of mothers practicing breastfeeding initiation at Lahore General Hospital. The researchers enquired from all mothers interviewed after giving birth and the attending hospital staff regarding timely initiation of breastfeeding for the infant. These findings can inform targeted interventions to promote recommended breastfeeding practices.

METHODS

This was a cross-sectional study, conducted over a month among 133 postnatal mothers, selected through convenience sampling who were retained post-natal at the maternity ward of Lahore General Hospital. Permission was obtained from the hospital's ethical review board (reference no 00-25-A-2023) and from the head of the Gynecology and Obstetrics Department for data collection. Informed consent was taken from study subjects who met the eligibility criteria.

Population size was estimated using data regarding average number of females delivering at the hospital each month. Sample size was calculated as 128 with z value as 1.96 at 95% confidence level, Expected prevalence, p value as 21.5 %[14] and Population size, N=250

using formula: $n = Z^2p(1-p)/d^2$

where: Z = 1.96 (95% confidence), p = expected prevalence and d = desired precision (±5%).

As convenience sampling was used the study is prone to selection bias, and the results may not be generalizable beyond the study setting. Convenience sampling and finite population size for sample size calculation were used due to resource constraints. Mothers who were available and willing to participate may have differed from those not included, limiting external validity. Mothers retained post-natal, who were willing to participate in study, and not having any medical issues preventing breastfeeding such as breast deformities not allowing breastfeeding, untreated herpes simplex involving the breast area, HIV positive mothers or those with untreated active tuberculosis, were included. Those mothers whose newborns had to be kept in intensive care and were not on breastmilk were also excluded from the study.

The researchers collected data themselves on a predesigned validated questionnaire containing close ended questions, with a standard Urdu translation attached for ease of understanding of the participants and to ensure uniformity in data collection. The questionnaire was pretested on 10 mothers for seeing appropriateness and social and cultural acceptability. The variables included sociodemographic variables such as age and age at marriage in years, number of previous children and level of education. Other variables included mode of delivery and whether any previous children were breastfed or not.

Data entry and analysis was done by using the SPSS 24.0 version. Mean and standard deviation calculated for age, age at marriage and mean plus range for number of children. For categorical variables like level of education, mode of delivery, and previous breastfeeding practices, frequencies and percentages were calculated. Pearsons's chi square test was used to assess bivariate associations between breastfeeding practices and selected socio-demographic variables. A p value of less than 0.05 was considered significant.

RESULTS

The average age of the participants was 26.2 ± 4.5 years. The average age at marriage was 20.1±3.0 years. The average number of previous children for the participants was 2 with a range from 0 to 6. Out of total, 90 (67.7%) mothers had children previously, and 78 out of those 90 (86.7%) breastfed their children previously, while 12 out of 90 (13.3%) had not. A total of 39 out of 133 delivering mothers, i.e. 29.3% (95% CI: 22.3% – 37.6%), practiced timely initiation of breastfeeding for their newborns. (figure:1) Mode of delivery was simple vaginal delivery for 24 out of 133 (18%) of the females and caesarean section for 109/133 (82%) of them. Only 8/133(6.0%) of the participants had education above graduate level while 34/133 (25.6%) of them were uneducated. Pearson's chi square for mother's age category (18-28 years and 29 to 38 years) and timely initiation of breastfeeding gave a p value of 0.72 which was not significant. P value for mothers' education level (less than matric, matric and above) and timely initiation and continued breastfeeding was 0.63 which was not significant. P value for relationship between mode of delivery and breastfeeding practices was < 0.01, which being less than 0.05 was significant. Mothers who had a normal vaginal delivery had 12.6 times higher odds for early initiation of breastfeeding compared to those who had a C section. (unadjusted OR=12.6, C.I.= 4.4-35.4, p=<0.01) Information shown in Table:1.

Figure 1: Breastfeeding practices 24 hours post-natal

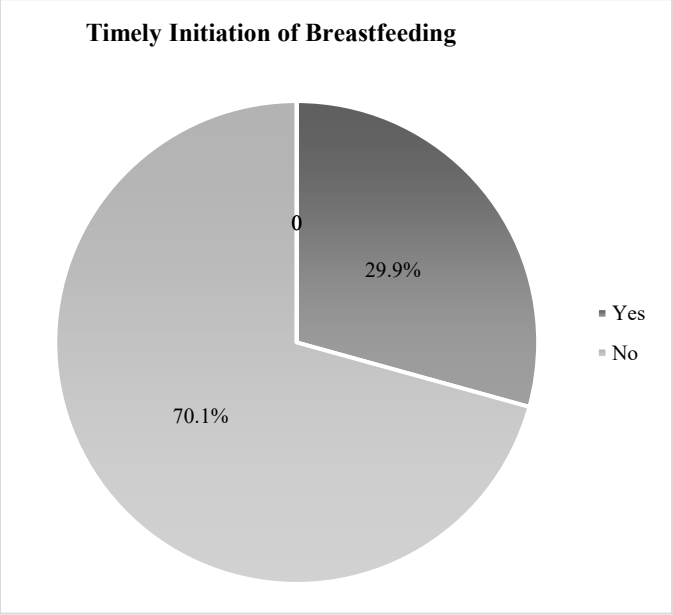


Table 1: Relation between sociodemographic variables and breastfeeding

Variable		Timely and continued Breastfeeding		P Value
		Yes	No	
Maternal Age in Years	18 to 28	29 (30.2%)	67 (69.8%)	0.72
	29 to 38	10 (27.2%)	27 (72.8%)	
Mother's Education Level	Less than matric	31 (28.4%)	78 (71.6%)	0.63
	Matric and above	8 (33.3%)	16 (66.7%)	
Mode of Delivery	Simple Vaginal Delivery	18 (75%)	6 (25%)	<0.01*
	C-section	21(19.3%)	88 (80.7%)	

DISCUSSION

The current study investigated breastfeeding patterns in relation to maternal and delivery factors. Participants' average age was 26.2 ± 4.5 years (range: 18–38 years), which is marginally less than the mean age of birthing moms in a related research in Nigeria, which was 28.7 ± 2.3 years.[15] Local demographic differences, especially the younger age at marriage and childbirth in our study setting may be the reason for this.

According to a survey in Indonesia, most women were married between the ages of 20 and 25 years, and 70.2% were married beyond the age of 19 years.[16] The mean age at marriage was 20.1 ± 3.0 years (range: 19–27 years) in our study. Our sample's comparatively lower marriage age is probably a reflection of regional socioeconomic and cultural norms.

Maternal age did not significantly correlate with exclusive breastfeeding in terms of breastfeeding habits (p = 0.72). This result is in line with earlier research in Pakistan that found no connection between nursing habits and maternal age.[17] Other writers, however, have proposed that older mothers were more likely to continue breastfeeding for longer time.[18]On the other hand, younger moms might have lack of counselling and support that makes exclusive breastfeeding difficult.[18] Our study's lack of a significant association may have resulted from the participants' comparatively small age range; the majority were in their twenties, which limited our ability to identify age-related differences.

The average number of previous children for the participants was 2 with a range from 1 to 6 compared to another study where 23.1% of the mothers had greater than 4 children.[19] Among women who had children previously (90/133, 67.7%), the majority (78/90, 86.7% mothers) had previously breastfed their children, while 12/90 (13.3%) had not. Consistent with literature, previous breastfeeding experience was found to positively influence subsequent breastfeeding initiation.[19] This underlines the importance of promoting breastfeeding among primiparous women, as early successful experiences may encourage continuation in later births.

For modes of delivery, a very high proportion of participants (109/133, 82%) delivered by caesarean section, while only 24/133. 18% had a vaginal delivery. This proportion is much higher than WHO's recommended caesarean section rate (10–15%)[14] and shows a greater reliance on operative delivery in a tertiary care hospital setup. A study in Spain reported declining caesarean rates, with 26.6% of mothers delivering surgically.[20] The overuse of caesarean delivery has significant implications for maternal and neonatal health, including delayed initiation of breastfeeding, difficulties in positioning, and mother–infant separation. Our findings support this concern, as mode of delivery was significantly associated with exclusive breastfeeding (p =< 0.01), with mothers who delivered via cesarean less likely to exclusively breastfeed. Similar findings were reported by a study where only 57.9% of mothers with planned caesarean sections practiced exclusive breastfeeding.[21]

Educational status varied considerably among our participants. Only 8/133, 6% mothers were graduates, while 34/133, 25.6% were uneducated. A Chinese study showed a better educational profile of mothers where 36.4% were having college degrees. [18] Interestingly, in our analysis, maternal education was not significantly associated with early initiation and continuation of breastfeeding (p = 0.63). This differs from other studies that found a positive association between maternal education and breastfeeding practices.[18] One explanation for this difference may be the relatively small number of highly educated mothers in our sample, limiting statistical power. Another explanation may be the influence of cultural and family support norms in our study population, impacting the influence of formal education on feeding decisions for newborns.

Timely initiation of breastfeeding was practiced by 39 mothers (29.3%, CI 95%:22.3-37.6%), while 94 (70.1%) did not practice it. Although this figure is higher than that reported in a U.S. study where only 19% of new mothers practiced early initiation in the absence of prelacteal feed,[22] it still falls far short of WHO's global target of at least 60% breastfeeding in the absence of prelacteal or complementary feeding by 2025.[23] The relatively low early initiation of breast-feeding rates in our population highlight the need for structured interventions, especially in hospital settings and the postnatal period.

From a public health perspective, these findings are important. The strong negative association between caesarean delivery and early initiation of breastfeeding shows the importance of post-caesarean lactation support (early skin-to-skin contact, breastfeeding counselling, and rooming-in practices etc.). The lack of any significant associations with maternal age and education shows the need for targeting mothers with varying socio-demographic profiles for counselling. The positive effect of previous breastfeeding experience stresses a need for support for first-time mothers.

Our study has several strengths. It provides local evidence from a tertiary care setting, contributing to the literature on breastfeeding practices in Pakistan. It also employed standardized data collection and appropriate statistical methods. However, it is not without limitations. Being a single-center study with a relatively small sample size, the results may not be generalizable to the wider population. Recall bias may also

have influenced reporting of previous breastfeeding practices. Additionally, the cross-sectional design precludes causal inference. Confounding factors related to mode of delivery have not been addressed. Further multi-center studies on this topic are required to see if this was an isolated phenomenon in one hospital or is more widespread. This will help in guiding actions that can make a difference.

CONCLUSION

In conclusion, most mothers in our study did not practice timely initiation of breastfeeding, and mode of delivery was significantly associated with this practice although further studies where confounding factors are adjusted for should be planned to further explore this association. Ensuring the presence of trained female support staff, improving postnatal counselling, and reinforcing breastfeeding education during antenatal visits are recommended to improve early breastfeeding initiation. Support for mothers undergoing caesarean delivery should especially be provided as hospital policy.

LIMITATIONS

Single-center study, with cross-sectional design. Resource and time constraints.

SUGGESTIONS / RECOMMENDATIONS

Multi-center study, with cohort or interventional design in future.

CONFLICT OF INTEREST / DISCLOSURE

None.

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