Practice of Early Initiation of Breastfeeding among Postnatal Mothers in a Tertiary Hospital in South India

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Abstract

Background: Early initiation of breastfeeding (EIBF) has significant health benefits, but the practice of this in many parts of the world is far beyond the optimal period of initiation. Hence, we planned to assess the time of initiation of breastfeeding among postnatal mothers and to identify the factors associated with practice of early initiation in a tertiary hospital setting. Methods: The study was carried out among 216 postnatal mothers who delivered term healthy babies. All the mother–infant dyads enrolled were interviewed within 6 h postpartum. Data were collected using a structured interview. An in-depth interview of 35 staff nurses, who worked in the labor rooms and postpartum wards, was carried out after 3 months of initial data collection, to assess the factors responsible for delayed breastfeeding. Results: One hundred and twenty-six (58%) mothers were primiparous and 97 (44.9%) had secondary level of education. The median time of initiation of breastfeeding was 94 min (interquartile range 48–126 min). The time of rooming-in and the mother’s knowledge on early breastfeeding initiation were found to be associated with the time of initiation of breastfeeding. Conclusion: EIBF was extremely low in the study setting, which is alarming and suggests an immediate need for the change of existing hospital policy.

Keywords: Breastfeeding, early initiation, postpartum mothers, rooming-in

Introduction

Breastfeeding has many health benefits and provides all nutrients to infants in the early months of life. According to the WHO recommendation, breastfeeding should be introduced within the 1st hour of birth.[1] Provision of mother’s breast milk to infants within an hour of birth is referred as “early initiation of breastfeeding” (EIBF). This ensures that the colostrum or “the first milk,” which is rich in protective factors, is given to the infants immediately after delivery. Globally, EIBF has the potential to protect over one million newborns’ lives every year. However, in developing countries like India, EIBF could save about 1.45 million lives a year, attributed to various infections.[2] The Lancet 2013 report showed that optimal breastfeeding has a greater role in averting 13% of all deaths under the age of 5 years in developing countries.[3] EIBF has other benefits such as promoting bonding with mother, optimal body temperature, and maintaining respiration and blood sugar levels of the newborns. In addition, it is also vital for providing optimal nutrition and development.[4,5] However, “the breastfeeding week report” 2014 reported the Indian statistics on early breastfeeding initiation to be only 40% in 2012. Inadequate knowledge regarding breastfeeding and use of commercial preparations were found to be the leading reasons for low breastfeeding rates in the country.[3,4] Therefore, the present study was conducted to evaluate the breastfeeding practice in a tertiary hospital setting, with a focus on time of initiation of breastfeeding and its determinants among postnatal mothers.

Methods

This study was conducted in women and children hospital attached to a tertiary teaching center in South India between September 1, 2014, and January 31, 2016. Being
a referral hospital for the southeastern region of India, it records approximately 1200–1300 deliveries/month. Mixed methodology approach was adopted with (i) cross-sectional survey among the postnatal mothers who fulfilled the study inclusion criteria and (ii) an in-depth interview of the nursing staff involved in the care of women in labor and postpartum. The reasons associated with delay in initiation of breastfeeding during the initial survey were also explored using a semi-structured interview. Women, who delivered a baby at gestation ≥37 weeks, birth weight ≥2 kg, and Apgar score ≥7 at 5 min, were included in the study. Mothers with multiple pregnancies and conditions that prevent breastfeeding such as those on mechanical ventilator support or inotropic support were excluded from the study. Written informed consent was obtained from all participants before enrollment. The study was approved by the institute ethics committee (No: JIP/IEC/SC/2014/4/568).

Demographic details, antenatal, intranatal and postnatal events, baby details, time of rooming-in, and initiation of breastfeeding were collected within 6 h of delivery using a predesigned pro forma. Interview of the nursing staff working in the labor wards, immediate postnatal, and postcesarean section ward was conducted, to identify the practices of breastfeeding and the factors associated with the current practices of rooming-in and initiation of breastfeeding, 2 months after completion of the initial survey.

A Sample size of 216 was estimated with an expected percentage of postnatal mothers who initiated breastfeeding within the 1st hour as 64%\(^{7}\) at 5% level of significance and 10% relative precision. Interviews of the nursing staff were conducted till evolution of themes and concepts about practices in breastfeeding and the factors associated with delay in rooming-in and initiation of breastfeeding.

### Statistical analysis
Quantitative analysis was conducted using STATA 13.0 (StataCorp, Texas, USA). Frequency and percentage were used to describe sample characteristics. Determinants of early initiation were analyzed using Fisher’s exact test or Kruskal–Wallis test as appropriate. \(P = 0.05\) was considered statistically significant.

### Results
Two hundred and sixteen women, fulfilling the study criteria, were enrolled during the study. All these postnatal mothers were interviewed within 6 h of delivery. Baseline characteristics of the postnatal mothers are shown in Table 1. Majority of these women were primiparous (\(n = 126, 58.3\%\)) and had secondary level of education (\(n = 97, 44.9\%\)). Among 216 postnatal mothers, the median time of initiation of breastfeeding was 94 min (interquartile range [IQR] 48–126 min). Only 3 (1.39%) women initiated within 1 h. Most mothers (\(n = 161, 74.5\%\)) cited delay in rooming-in as a major reason for delayed initiation of breastfeeding; other reasons include baby not sucking (3.9%) and exhaustion after delivery (21.6%). Among the babies who have delayed initiation in breastfeeding, 18.8% (\(n = 40\)) babies had received prelacteal feeds. However, it was found that time of rooming-in (median [IQR] 83 (55–124) min vs. 144 (107–190) min, \(P = 0.003\) and mother’s knowledge on importance of EIBF (2 (66.7%) vs. 30 (14.1%), \(P = 0.011\)) were associated with EIBF.

Thirty-five staff nurses working in labor wards, postpartum wards, and postcesarean wards were interviewed to assess the knowledge and the perception of the current practices of initiation of breastfeeding in the hospital. During the interview, five common themes evolved were associated with the practices which lead to delay in initiation of breastfeeding. Among them, most were concerned about the shortage of staff and the high-risk deliveries. “With few staff in each shift, leading to high patient staff ratio (1:10 to 1:20) (every shift there are only three staff nurses and with large number of deliveries, its difficult to attend each patient to initiate and assist early breast feeding.” “As hospital policy is not to allow relatives to support mothers, in view of busy labor wards with high turnover, we are supposed to spend a lot more time in assisting mothers with initiation of breastfeeding; which is practically impossible due to shortage of staff.” Some perceived that waiting for completion of postnatal procedures, such as suturing, as an obstacle to initiate breastfeeding. “Performing episiotomy suturing by medical/nursing students on training leads to delay in completing these procedures which add on to the delay in rooming-in and initiation of breast feeding.” “As the relatives are sitting outside in waiting hall and mothers need to change

### Table 1: Maternal characteristics (\(n=216\))

| Variables                                  | \(n\) (%)  |
|--------------------------------------------|------------|
| Mean age of mothers (years)                | 24.61±3.99 |
| Mean gestational age (weeks)               | 39.37±1.25 |
| Primiparous                                | 126 (58.3) |
| Education of mothers                       |            |
| Primary                                   | 56 (25.9)  |
| Secondary                                 | 97 (44.9)  |
| Diploma                                   | 32 (14.8)  |
| Graduate                                  | 11 (5.1)   |
| Postgraduate                               | 9 (4.2)    |
| No formal education                        | 11 (5.1)   |
| Occupation of mother                       |            |
| Working                                   | 34 (15.7)  |
| Housewife                                  | 182 (84.3) |
| Place of residence                         |            |
| Rural                                     | 135 (62.5) |
| Urban                                     | 81 (37.5)  |
| Mode of delivery                           |            |
| Vaginal delivery                           | 131 (60.6) |
| Elective LSCS                              | 18 (8.33)  |
| Emergency LSCS                             | 41 (18.98) |
| Instrumental delivery                      | 26 (12.03) |

LSCS= Lower segment caesarean section
the soiled clothes after delivery, time to get them changed to new clothes also adds to this delay.”

Another theme associated with delay in feeding is the need of rest for mothers after exhaustion during labor: “….mothers are mostly exhausted and tired after labor, to give early feeding is one of their least concern.” Maternal complications were another theme which evolved during interview which hinder early feeding. “…our priority is management of emergencies like PPH than early initiation of breastfeeding.”

**DISCUSSION**

EIBF occurred only in 1.4% of babies and delay in rooming-in was the most common reason associated with delay in initiation. Delay in rooming-in and maternal exhaustion were cited to be the main reason for delay in initiation of breastfeeding after child birth. However, shortage of staff and the time taken for the completion of procedures such as episiotomy were the common themes which evolved during the interview conducted among the staff nurses attending these postnatal mothers.

Early breastfeeding rates in the state of Tamil Nadu and the national averages are 58.8% and 40.5%, respectively.[6,8] Reports from the Postgraduate Institute of Medical Education and Research, Chandigarh, observed the rates to be 64% and attributed late initiation to be due to cesarean sections.[7] A tertiary center form Gujarat reported 32.4%, with maternal fatigue and cesarean section to be common factors seen in late initiating of breastfeeding.[9] However, in the present study, rates were much lower and the common reasons associated were lower staff–patient ratio and the delivery-related procedures affect the time of initiation of feeding.

Postbirth activities and the delay in shifting to indoor wards were found to delay in breastfeeding initiation, which in turn increases the prelacteal feeding.[9,10] Rooming-in was delayed in almost all cases in the index study. A study of 175 postnatal mothers in Vadodara, Gujarat, reported that delay in rooming-in and shifting to indoor wards led to delay in initiation of feeding and the increased use of prelacteal feeds.[9]

Breastfeeding support given in the labor room has a unique role in promotion of EIBF. Having a patient-to-nursing staff ratio of 1:10 in the current scenario against the national norms of 1:1 or 1:2 in labor ward leads to delay in rooming-in and also results in inadequate support for EIBF.[11] A systematic review conducted for assessing effect of support on breastfeeding initiation found that both peer and professional breastfeeding support received during postnatal period had a positive impact on breastfeeding duration and risk of premature stopping (relative risk: 0.91, 95% confidence interval: 0.88–0.96).[12] Apart from this, adoption of various strategies such as provision of early rooming-in, immediate skin-to-skin contact, and breastfeeding support given to the mother could mount up EIBF.[13,14]

**CONCLUSION**

The present study shows the lower rates of initiation of breastfeeding within 1 h after delivery. Improving the staff–patient ratios in labor wards, the change in policy to initiate immediate skin-to-skin contact, and rooming-in might help improve the EIBF.

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**Conflicts of interest**

There are no conflicts of interest.

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