

# Feeding practices and problems in breastfeeding in the first postnatal week in late preterm infants

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## Abstract

**Background and objective:** Breastfeeding problems exist despite advice and counseling. Problems are more in late preterm babies compared to term. Problems in feeding start in early postnatal life which continues later. The aim of the study was done to know the feeding practices and problems in breastfeeding in the first postnatal week in late preterm babies. **Methods:** This was a cross sectional study. Total 77 late preterm babies were included in the study. **Results:** Only 28.57% initiated breast feeding within one hour of birth. Initiation of breast feeding within one hour after birth and exclusive breastfeeding in first postnatal week was seen better in late preterm babies born by vaginal route, born to multiparous and male sex. Prelacteal feeds were given in 16.88%. Bottle feeding was seen in 62.75% in mothers who did not follow exclusive breast feeding in the first postnatal week. Most common causes for non-exclusive breast feeding in first postnatal week was insufficient milk (72.55%), baby not able to suck (60.78%), elders advice (54.9%) and wound pain (27.45%). Problems with breast feeding are more common in late preterm infants born by Cesarean Section. **Conclusion:** Despite counseling in antenatal and postnatal period, there was delayed initiation of breast feeding. Problems of mixed feeding, predominant non breast feeding, bottle feeding and practice of giving prelacteal feeds still continues.

**Keywords:** Breastfeeding, Initiation, Late Preterm Infant, Non-exclusive breastfeeding.

## Introduction

Timely initiation of breastfeeding can help to prevent neonatal mortality caused by infections such as sepsis, pneumonia and diarrhea [1,2]. Breastfeeding provides an ideal food for healthy growth and development of infants and children. There is a current trend of early discharge of mother and newborn from the hospital after delivery, often breastfeeding issues are not addressed properly and may lead to low Exclusive breastfeeding (EBF) rates.

There is a paucity of data from developing countries on this issue. Several studies focusing on the constraints to EBF concluded that; breastfeeding problems, delivery by caesarean section, perceived or real breast milk insufficiency, inadequate weight gain of the infant, resumption of official work by the

mother, and cultural practices are the factors influencing mothers' decision for continuation of breastfeeding [3]. The bioactive components of breast milk can prove especially crucial for LPIs (Late Preterm Infants) who "have a compromised immunomodulatory response, have immature organs including the brain, and are susceptible to inflammatory injury and oxidative stress"[4]. LPIs have lower rates of exclusive breastfeeding than both term infants and early term infants (37–38 weeks gestational age), in part, as families do not receive sufficient and appropriate support in the immediate postpartum period [5]. Compared with infants initiating breastfeeding within the first hour of life, neonatal mortality between enrolment and 28 days was higher in infants initiating at 2–23 h and in those initiating at 24–96 h. These associations were similar when deaths in the first 4 days of life were excluded [6]. Hence this study was done to know the feeding practices in first postnatal week in LPIs.

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## Material and Methods

**Objective-** To know the feeding practices and problems in breastfeeding in the first postnatal week in late preterm infants

**Inclusion Criteria-** Late preterm infants ( $\geq 34^{0/7}$  –  $36^{6/7}$  weeks of gestational age) who did not require admission to NICU (Neonatal intensive care unit) in the first postnatal week

**Exclusion criteria-** Neonates with any chromosomal / congenital anomalies (e.g cleft lip/palate, retrognathia etc.), any contraindication to breastfeeding (HIV infection and treatment with anticancer drugs), multiple gestations, acutely ill mothers, babies requiring admission to NICU and mothers who did not give consent for the study.

**Study Design-** Across sectional study conducted from June 2015 to November 2015.

**Setting-** Department of Paediatrics, PES Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh

**Participants and source of data-** The mothers of late preterm babies were interviewed on follow up

for vaccination at 6 weeks of age at OPD (Out Patient Department).

**Methods-** A face to face interview was conducted with mothers of late preterm infants on follow up at 6 weeks for immunization in OPD. Answer to questions on feeding was noted on recall basis. The mothers were asked about initiation of breast feeding after birth and classified into <1 hour, 2-23 hours and 24-96 hours. The details such as mode of delivery (vaginal/ cesarean section), multi/primiparous and sex of baby (male/ female) was noted. History of prelacteal feeds and if given, nature of prelacteal feeds given was noted. The type of feeding in the first postnatal week such as only breast milk, mixed feeding or predominant cow's/formula milk/both was noted. The problems for not giving exclusive breastfeeding in first postnatal week were noted. The initiation of breastfeeding and feeding practices in first postnatal week was analyzed for sex of baby, mode of delivery (vaginal/ cesarean section) and parity of mother (multi/primiparous).

**Statistical Methods-** The results were entered in microsoft excel sheet and expressed as percentage.

## Results

Total 77 mothers of late preterm babies who did not require admission to NICU were included in the study. All babies were delivered in hospital. There was only one pair of late preterm twin and excluded from the study. Counseling regarding breastfeeding was received in 79.22% (61/77) during antenatal check up. Total 58(75.32%) were born by vaginal route and 19(24.68%) through cesarean section. Total 53(68.83%) were born to multiparous mother and 24(31.17%) to primiparous. Male babies were 42(54.55%) and female 35(45.45%).

Feeding practices seen in the first postnatal week in late preterm infants are shown in Table 1.

Initiation of breastfeeding within one hour after birth was seen better in late preterm babies born through vaginal delivery (32.76%, 19/58) compared to born by cesarean section (15.79%, 3/19), with multiparous mother's (33.46%, 18/53) compared to primiparous's mother (16.67%, 4/24) and male babies (30.95%, 13/42) compared to female babies (25.71%, 9/35).

Practice of giving prelacteal feeds was seen in 16.8% (Table 1). In all cases was initiated by elders in the family as a traditional belief and nature of prelacteal feeds given is shown in Table-1.

Exclusive breastfeeding in the first postnatal week was seen in only 33.77% (Table 1).

Bottle feeding was practiced in 62.75% (32/51) who did not follow (n=51) exclusive breastfeeding in first postnatal week. Pallada or spoon feeding was seen in 37.25% (19/51). Only 16.88% (13/77) consulted doctor or health care personnel about feeding problems and advice after birth on their own apart from routine counseling from health care personnel which all babies received. False feeding practices were followed despite feeding advice by health care personnel.

**Table-1: Feeding practices in the first postnatal week in late preterm infants.**

<b>Initiation of breastfeeding after birth</b>	
< 1 hour	28.57% (22/77)
2-23 hours	62.34% (48/77)
24-96 hours	9.09%(7/77)
<b>Prelacteal feeds</b>	
Plain water	15.38%(2/13)
Sugar water	23.08%(3/13)
Cow's Milk	38.46%(5/13)
Formula Milk	15.38%(2/13)
Others (both cow's milk and formula milk)	7.69%(1/13)
<b>Type of breastfeeding in first postnatal week</b>	
Only breast milk	33.77% (26/77)
Mixed feeding	57.14% (44/77)
Predominant non-breastfeeding (formula feeds /cow's milk/both)	9.09% (7/77)
<b>Reasons for non-exclusive breastfeeding in first postnatal week</b>	
Insufficient	72.55% (37/51)
Not able to suck	60.78% (31/51)
Elders advice	54.09% (28/51)
Wound Pain	27.45% (14/51)
Breast and nipple problems	13.73%(7/51)

Most common causes for non-exclusive breastfeeding in the first postnatal week in late preterm babies was insufficient milk (72.55%), baby not able to suck (60.78%), elders advice (54.9%) and wound pain (27.45%). Out of 14 with wound pain as hindrance to breastfeeding in first postnatal week, 11 (78.57%) of mothers had delivered by cesarean section. In late preterm babies mothers not giving exclusive breastfeeding in the first postnatal week was seen more common in those born by cesarean section (78.95%, 15/19) compared to those born by vaginal route (62.07%, 36/58), primiparous mother's 87.5% (21/24) compared to multiparous 56.60% (30/53) and female babies (68.57%, 24/35) compared to male babies (64.29%, 27/42).

## Discussion

Total 77 late preterm babies were included in the study. Babies born to primiparous mothers were 68.83%. Late Preterm babies delivered by vaginal route were 75.32%. Male babies were 54.55%. Suresh et al included babies born at or after 34 weeks of gestational age in his study (n=400). Total 54% were male, born to primiparous were 66%, delivered vaginally were 63.3% [3].

In our study initiation of breastfeeding <1 hour was observed in 28.57%, 2-23 hour in 62.34%, 24-96 hours in 9.09%. The initiation of breastfeeding is vital to achieving the WHO's recommendation [7,8] as it has been found to be associated with longer-term breastfeeding and lower infant mortality, particularly in developing countries [9,10]. Initiation of breast feeding within one hour

after birth was 60% and 50.3% in different studies [11,12]. Early or timely initiation of breastfeeding, specifically within 1 h of birth, refers to the best practice recommendation by the World Health Organization (WHO) [13]. A recent systematic review and meta-analysis revealed that breastfeeding initiation after the first hour of birth doubles the risk of neonatal mortality [14]. Several South Asian countries have the worst early initiation of breastfeeding practices in the world.

The rates in Pakistan, India, Bangladesh and Nepal are only 29%, 41%, 47% and 45 % respectively [15]. Prelacteal feeds was given in 16.88%. Cows milk (38.46%), sugar water (23.08%) was most common pre-lacteal feeds given. Practice of giving pre-lacteal feeds exist despite counseling on breast

feeding during antenatal and postnatal period as traditional belief that colostrums is not good for health. According to one study in Amhara region, that colostrum discarding and pre-lacteal feeding practices were challenges to timely initiation of breastfeeding [16].

Exclusive breast feeding in first postnatal week was given in only 33.77 % in this study. Mixed feeding was seen in 57.14% and predominant non-breast feeding in 9.09%.

Most common cause for non exclusive breast feeding in first postnatal week in late preterm babies were feeling of insufficient milk (72.55%), not able to suck at breast (60.78%), elders advice (54.09%), Wound pain (27.45%) and breast and nipple problems (13.73%) in decreasing order of frequency.

The problems of initiation of breast feeding within one hour after birth and non exclusive breast feeding was seen in babies born by cesarean section, primiparous mothers and female babies. Problem of wound pain as hindrance to breastfeeding in first postnatal week was seen in 78.57% of mothers who had delivered by cesarean section.

Breastfeeding problems were present in 88.5% of newborn before discharge. The major problems were poor positioning and attachment (88.5%), followed by breast and nipple problems (30.3%). Breastfeeding issues were noted in 72.5% during follow-up.

Most commonly identified breastfeeding problems were poor positioning and attachment (70.3%), sore or cracked nipple (17.8%) followed by retracted or flat nipple (15%) and breast engorgement (13%).

Major factors associated with occurrence of breastfeeding problems were multiparity, lack of previous experience of breastfeeding and cesarean delivery. The only independent risk factor for breastfeeding problems in multivariate analysis was caesarean delivery. EBF rate at 6 months was 69.5%.

Major reasons given by the mothers for discontinuation of breastfeeding were concern of poor weight gain in baby (28.6%), advice from elders at home (27.7%) and perception of breast milk insufficiency (25%). Few mothers reported reasons

like breastfeeding problems (8%), baby refused to suck or had sucking difficulty (7.1%) and baby remains hungry after feeding (3.6%) as a reason for non-EBF [3].

There is a high prevalence of breastfeeding problems in newborn delivered after 34 weeks of gestation. An interesting observation was the persistence of these problems at the end of 1st week (poor positioning and attachment –70.8%) and increase in some reported problems (Sore or cracked nipple from 10.5% to 17.8% and breast engorgement 4.8-13%) after discharge.

There is a requirement of focused lactation counseling and support for these mothers [3]. Mothers delivered by cesarean section were more likely to report breastfeeding problems compared with those delivered vaginally. Other studies also have shown similar results [3,17].

Late preterm infants who have difficulty latching on to the breast correctly could likely have immature sucking and swallowing reflexes.<sup>(18)</sup> Parents and health care personnel and doctors should understand the unique feeding challenges due to the relationship between gestational age and brain development.

## Conclusion

The problems of breastfeeding such as not initiating breastfeeding within one hour after birth, non exclusive breastfeeding in first postnatal week was seen more in babies born by cesarean section, born to primiparous and female sex. Problems such as giving prelacteal feeds, bottle feeding exists despite breastfeeding counseling.

There should be more vigorous counseling about lactation problems, uses of breast milk, harmful practices and support in early postnatal period for breast feeding.

**Limitation of the study-** This study was done only on feeding practices and problems of breastfeeding in late preterm infants and was not compared with term infants. Follow up was not done in this study.

**What does the study add to existing knowledge? -** Problems in breast feeding and harmful feeding practices exist in late preterm babies despite antenatal counseling. There is need for strengthening

of antenatal and postnatal counseling on breastfeeding, harmful feeding practices. Health care organizations should look at the gap between actual knowledge on breastfeeding and the practice followed in that area to orient the health service providers.

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