

A Comparative Study to Assess The Presence of Breastfeeding Complications Among Postnatal Mothers Who Initiate Breast Feeding Within an Hour (Group I) and Mothers Who Initiate Breast Feeding After an Hour (Group II) in a Selected Hospital at Mangalore

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Abstract:

➤ Background:

Early initiation of breastfeeding within one hour of birth is recommended as it promotes successful breastfeeding, enhances mother–infant bonding, and helps prevent breastfeeding-related complications. Delayed initiation may increase the risk of breastfeeding difficulties among postnatal mothers.

➤ Objectives:

- To assess breastfeeding complications among postnatal mothers who initiated breastfeeding within one hour of delivery (Group I) and after one hour of delivery (Group II).
- To compare breastfeeding complications between the two groups.
- To determine the association between breastfeeding complications and selected baseline variables.

➤ Methods:

A descriptive time-series two-group post-test design was adopted. Sixty postnatal mothers were selected using purposive sampling (30 in Group I and 30 in Group II). Breastfeeding complications were assessed using an observation checklist on the 2nd, 3rd, and 4th postnatal days. Data were analyzed using descriptive and inferential statistics, including unpaired t-test, repeated measures ANOVA, and Chi-square test.

➤ Results:

Most mothers in Group I (80%) experienced mild breastfeeding complications, whereas the majority in Group II (83.3%) experienced severe complications. Mean breastfeeding scores were consistently higher among mothers who initiated breastfeeding within one hour compared to those who initiated after one hour. A statistically significant difference was found between the two groups across all three observations ($p < 0.05$), indicating fewer breastfeeding complications among mothers who initiated breastfeeding early. No significant association was found between breastfeeding complications and selected demographic or clinical variables.

➤ **Conclusion:**

Early initiation of breastfeeding within one hour of birth significantly reduces breastfeeding complications among postnatal mothers. Healthcare professionals should encourage and support early breastfeeding initiation to improve maternal and infant outcomes.

Keywords: Early Initiation of Breastfeeding, Breastfeeding Complications, Postnatal Mothers, Breastfeeding Outcomes, Maternal Health.

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I. INTRODUCTION

Breastfeeding is the most natural and effective method of infant feeding and provides complete nutrition for optimal growth and development of infants.¹ Early initiation of breastfeeding within one hour of birth is recommended by the World Health Organization and UNICEF as a key strategy for improving neonatal survival and health outcomes.² Breast milk contains essential nutrients, antibodies, enzymes, and growth factors that protect infants against infections and promote healthy development.^{3 4 5}

Breastfeeding also offers several maternal benefits, including reduced postpartum bleeding, improved maternal-infant bonding, and decreased risk of breast and ovarian cancers.^{6 7 8} Successful breastfeeding depends on proper positioning, attachment, maternal confidence, and support from healthcare professionals.^{9 10}

Delayed initiation of breastfeeding is associated with complications such as breast engorgement, sore nipples, cracked nipples, mastitis, and perceived insufficient milk supply.^{11 12 13 14} Studies have shown that early initiation of breastfeeding enhances milk production, promotes effective suckling, and reduces breastfeeding-related complications.^{15 16 17} Furthermore, early breastfeeding contributes significantly to reducing neonatal morbidity and mortality.^{18 19 20}

Therefore, assessing breastfeeding complications among mothers who initiate breastfeeding within one hour and after one hour of delivery is essential for promoting optimal maternal and newborn health outcomes.

II. METHODOLOGY

➤ **Research Approach**

Quantitative research approach was adopted for the study.

➤ **Research Design**

Descriptive time-series two-group post-test design.

➤ **Setting**

The study was conducted at Government Lady Goshen Hospital, Mangalore.

➤ **Population**

Postnatal mothers admitted in the postnatal and post-operative wards.

➤ **Sample and Sample Size**

- A total of 60 postnatal mothers were selected.
- Group I: 30 mothers who initiated breastfeeding within one hour of delivery.
- Group II: 30 mothers who initiated breastfeeding after one hour of delivery.

➤ **Sampling Technique**

Purposive sampling technique was used.

➤ **Inclusion Criteria**

- Postnatal mothers with healthy newborns born between 37–40 weeks of gestation.
- Mothers available during the period of data collection.

➤ **Exclusion Criteria**

- Mothers with preterm babies.
- Mothers whose newborns had complications.

➤ **Study Variables**• **Dependent Variable:**

Breastfeeding complications.

• **Extraneous Variables:**

Age, parity, educational qualification, type of nipples, previous breast surgery, mode of delivery, sex of the baby, and birth weight.

➤ **Data Collection Instruments**

- Baseline Proforma for mothers and babies.
- Structured Observation Checklist consisting of 38 items to assess breastfeeding complications.

➤ **Validity and Reliability**

- Content validity was established by a panel of 9 experts.
- Reliability of the observation checklist was determined using Inter-rater Reliability ($r = 0.91$).

➤ *Pilot Study*

A pilot study was conducted among 10 postnatal mothers to assess feasibility and practicability of the study.

➤ *Data Collection Procedure*

- Data were collected from 60 postnatal mothers after obtaining informed consent.
- Breastfeeding complications were assessed using an observation checklist on the 2nd, 3rd, and 4th postnatal days.

➤ *Data Analysis*

- Descriptive statistics: Frequency, percentage, mean, mean percentage, and standard deviation.
- Inferential statistics: Unpaired t-test, Repeated Measures ANOVA, and Chi-square test with Yates correction.

➤ *Ethical Considerations*

- Permission was obtained from the hospital authorities.
- Informed consent was secured from all participants and confidentiality was maintained throughout the study.

III. RESULTS

Table 1 Distribution of Postnatal Mothers According to Baseline Characteristics (n=60)

Variables	Group I (n=30)	Group II (n=30)
Age 24–29 years	56.6%	60.0%
Primipara	63.3%	63.3%
Secondary education	66.6%	60.0%
Erect nipples	80.0%	63.3%
No previous breast surgery	80.0%	70.0%
Normal vaginal delivery	80.0%	0%
Caesarean section	0%	76.6%

➤ *Description:*

Table 1 shows that the majority of mothers in both groups were aged 24–29 years and were primiparous. Most mothers had secondary education and erect nipples. The majority of Group I mothers had normal vaginal delivery, whereas most Group II mothers underwent caesarean section.

Table 2 Distribution of Babies According to Baseline Characteristics (n=60)

Variables	Group I (%)	Group II (%)
Male baby	53.3	50.0
Female baby	46.6	50.0
Weight 2.6–3.0 kg	33.3	60.0
Weight 3.1–3.5 kg	43.3	40.0

➤ *Description:*

Table 2 indicates that male babies were slightly more common in Group I, whereas Group II had an equal distribution of male and female babies. Most babies weighed between 2.6 and 3.5 kg.

Table 3 Grading of Breastfeeding Complications Among Postnatal Mothers

Grading	Group I n (%)	Group II n (%)
Mild Complications	20 (80.0)	0 (0.0)
Moderate Complications	10 (20.0)	5 (16.6)
Severe Complications	0 (0.0)	25 (83.3)

➤ *Description:*

Table 3 reveals that 80% of mothers who initiated breastfeeding within one hour experienced mild complications, whereas 83.3% of mothers who initiated breastfeeding after one hour experienced severe breastfeeding complications.

Table 4 Mean Breastfeeding Scores of Group I and Group II

Observation Day	Group I Mean $\pm$ SD	Group II Mean $\pm$ SD
Day 2	33.80 $\pm$ 4.52	25.17 $\pm$ 2.33
Day 3	32.83 $\pm$ 5.70	23.23 $\pm$ 2.26
Day 4	32.30 $\pm$ 6.36	20.73 $\pm$ 2.19

➤ *Description:*

Table 4 shows that Group I mothers consistently achieved higher breastfeeding scores than Group II mothers on all three observation days, indicating fewer breastfeeding complications among mothers who initiated breastfeeding early.

Table 5 Mean Percentage Scores of Breastfeeding Complications

Observation Day	Group I (%)	Group II (%)
Day 2	88.95	66.23
Day 3	86.40	61.14
Day 4	85.00	54.56

➤ *Description:*

Table 5 demonstrates that Group I mothers had higher mean percentage scores across all observation days, indicating better breastfeeding outcomes and fewer complications compared to Group II mothers.

Table 6 Area-wise Mean Percentage of Breastfeeding Complications

Area	Group I (%)	Group II (%)
Mothers' behaviour	78.10–82.14	71.43–77.38
Baby's behaviour	91.67–94.00	65.00–69.33
Breast complications	75.00–96.67	10.56–78.33
Nipple complications	90.00–100.00	40.00–77.33
Lactogenesis	83.33–94.44	3.33–33.33

➤ *Description:*

Table 6 indicates that mothers in Group I showed better breastfeeding performance across all domains than Group II mothers. Lactogenesis and nipple condition were markedly better among mothers who initiated breastfeeding within one hour.

Table 7 Comparison of Breastfeeding Complications Between Groups Using Unpaired t-test

Observation Day	t-value	p-value
Day 2	9.292	<0.05
Day 3	8.563	<0.05
Day 4	9.404	<0.05

➤ *Description:*

Table 7 shows a statistically significant difference in breastfeeding complication scores between Group I and Group II on all three observation days ($p < 0.05$), indicating that early initiation of breastfeeding significantly reduced complications.

Table 8: Comparison of Breastfeeding Scores Within Groups Using Repeated Measures ANOVA

Group	F-value	p-value
Group I	3.22	<0.05
Group II	31.00	<0.05

➤ *Description:*

Table 8 reveals a statistically significant difference in breastfeeding scores across different observation days within both groups. Group I consistently demonstrated fewer complications than Group II.

Table 9 & 10: Association Between Breastfeeding Complications and Baseline Variables

Variables Assessed
Age
Parity
Educational qualification
Type of nipple
Previous breast surgery
Mode of delivery
Sex of baby
Weight of baby

➤ *Description:*

Chi-square analysis revealed no statistically significant association between breastfeeding complications and selected baseline variables among mothers in either group ($p > 0.05$).

IV. OVERALL FINDING

The study findings demonstrated that postnatal mothers who initiated breastfeeding within one hour of delivery experienced significantly fewer breastfeeding complications compared to mothers who initiated breastfeeding after one hour. Therefore, early initiation of breastfeeding was found to be effective in reducing breastfeeding-related complications.

V. DISCUSSION

The present study assessed breastfeeding complications among postnatal mothers who initiated breastfeeding within one hour of delivery (Group I) and those who initiated breastfeeding after one hour (Group II). The findings revealed that mothers in Group I experienced significantly fewer breastfeeding complications compared to mothers in Group II.

The majority of mothers (80%) in Group I had mild breastfeeding complications, whereas most mothers (83.3%) in Group II experienced severe breastfeeding complications. The mean breastfeeding scores of Group I were consistently higher than those of Group II across all three observations, indicating better breastfeeding outcomes among mothers who initiated breastfeeding early.

The unpaired t-test and repeated measures ANOVA showed statistically significant differences between the two groups ($p < 0.05$), confirming that early initiation of breastfeeding was associated with fewer complications. However, no significant association was found between breastfeeding complications and selected baseline variables such as age, parity, educational qualification, type of nipples, previous breast surgery, mode of delivery, sex of the baby, and birth weight.

These findings support the importance of initiating breastfeeding within the first hour after birth to promote successful breastfeeding and reduce maternal breastfeeding complications.

VI. CONCLUSION

The study concluded that postnatal mothers who initiated breastfeeding within one hour of delivery experienced significantly fewer breastfeeding complications than mothers who initiated breastfeeding after one hour. Early initiation of breastfeeding was found to be effective in reducing breast and nipple complications, improving lactation, and promoting successful breastfeeding practices. Therefore, healthcare professionals should encourage and support all postnatal mothers to initiate breastfeeding within the first hour after birth to enhance maternal and neonatal health outcomes.

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