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COMPARATIVE STUDY OF BREASTFEEDING IN VAGINAL DELIVERY AND CAESAREAN DELIVERY USING LATCH SCORE IN EARLY POSTPARTUM PERIOD

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ABSTRACT

Introduction- Breastfeeding initiation and duration can be influenced by several factors, with the mode of delivery being a significant one. The objective of this study is to investigate the impact of delivery method on breastfeeding in the early postpartum period through the LATCH SCORE. Additionally, the study aims to raise awareness in the community about the role of delivery mode in the timely initiation of breastfeeding. **Materials and Methods-** This study was a hospital-based, observational, comparative prospective research involving 60 participants, with 30 women in each group (caesarean delivery [CD] and vaginal delivery [VD]). The LATCH scores were compared between the two groups at both the 1st and 24th hour postpartum **Results-** Mean LATCH score of the VD group was 8.0 ± 0.587 at the 1st hour and 9.53 ± 0.507 at the 24th hour. Mean LATCH score for the CD group was at the 1st hour was 6.50 ± 0.820 and the 24th hour was 8.80 ± 0.714. The Mothers in the CD group faced more challenges with latch (L) and hold (H) components of the LATCH SCORE as compared to those in the VD group. **Conclusion-** The mode of delivery had a notable impact on early breastfeeding outcomes. Vaginal delivery was linked to better LATCH scores at both the first and 24th hours postpartum. Mothers who had caesarean sections encountered more difficulties with latching and holding their newborns. These results underscore the importance of offering specialized lactation support, especially for mothers following caesarean deliveries, to facilitate early and effective breastfeeding initiation.

KEYWORDS

INTRODUCTION

The initiation and continuation of breastfeeding are influenced by various factors, including insufficient knowledge about its benefits, the need for external support to help with proper attachment, and the mode of delivery.[1]

Early initiation, defined as starting breastfeeding within the first hour after birth, is crucial for the health of the newborn and can prevent approximately 33% of neonatal deaths. Delayed breastfeeding can increase the risk of neonatal sepsis and contributes to higher rates of neonatal morbidity and mortality.[2]

To address these challenges, the LATCH assessment tool was developed.[3]

It is a standardized method that involves asking specific questions to assess various aspects of breastfeeding. It is used to identify problems and guide appropriate interventions, helping mothers establish successful breastfeeding practices.

Can evaluate breastfeeding effectiveness as early as the first 24 hours of life, identify challenges, and implement timely solutions.

The tool's acronym stands for:

- Latch: the baby's ability to attach to the breast
- Array (or Audible swallowing): whether the baby is swallowing during breastfeeding
- Type of nipple: whether the nipple is inverted, flat, or everted
- Comfort: Breast/Nipple
- Hold: the positioning of the baby while breastfeeding.
- Inadequate breastfeeding techniques can result in issues such as weight loss, dehydration, jaundice, and the need for rehospitalization.[4]
- Cesarean delivery is a significant factor contributing to delays in initiating breastfeeding. After a cesarean, mothers often find it difficult to hold their newborns in the recovery room[5], have less immediate skin-to-skin contact, and are less likely to attempt breastfeeding early.[6]
- Research indicates that cesarean delivery, combined with acute post-surgical pain, leads to delayed onset of breastfeeding.[7-9]
- In India, although nearly 80% of births occur in healthcare institutions, only 41.5% of infants begin breastfeeding within the first hour of birth.[10] This highlights the need for greater attention to breastfeeding practices and early initiation to improve infant health outcomes.
- The goal of this study is to assess how the mode of delivery influences lactation during the postpartum period and to raise awareness among expectant mothers about the impact of delivery method on the timely initiation of breastfeeding.

AIM OF THE STUDY

- To compare the effect of mode of delivery on lactation in the postpartum period using LATCH SCORE.

MATERIALS AND METHODS

- Present study is a hospital based observational, comparative prospective study which was conducted in the Department of Obstetrics and Gynaecology, Sapthagiri Institute of Medical Sciences and Research Centre for a period of 6 months from October 2024 to March 2025. A sample size of 60 was taken with 30 subjects in each group.

Sample size estimation determined by considering the mean and standard deviation from a previous study.[3]

The software G*power 3.11 with a 2 tailed test, α=0.05 and derived power 1-β=0.95.

The obtained total sample size was n=58 which was approximated to 60. (30 in each group)

Inclusion criteria were singleton viable pregnancy with a gestational age of ≥ 37 weeks, Delivered via cesarean delivery or normal vaginal

delivery, APGAR score of the baby ≥ 7 at 5 minutes, Baby shifted to motherside within the first hour after birth.
Exclusion criteria were Multiple pregnancies, High-risk pregnancies, Instrumental deliveries, Mothers for whom breastfeeding is contraindicated, Babies with physical or medical conditions that hinder breastfeeding.

We divided the first 60 mothers into 2 groups.
The groups were:
CD Group (n = 30): women who delivered by caesarean section.
VD Group (n = 30): women who delivered by vaginal route.

After obtaining approval and clearance from the institutional ethics committee and after obtaining informed consent, the patients fulfilling the inclusion criteria were enrolled for the study. The study was conducted among the women admitted SIMS&RC in the immediate postpartum period.

Mode of delivery was noted, I,e vaginal delivery or caesarean section. The baby's condition was noted just after delivery, birth weight of the baby, APGAR score at 1 and 5 minutes.

LATCH Breastfeeding Assessment Tool was used in the patients who have delivered at 1st hour and 24th hour postpartum for determining the breastfeeding success.

Statistical Analysis
The data was collected using a predesigned template which was filled. The collected data obtained was compiled by using an Excel spreadsheet. Qualitative variables were assessed and tabulated as proportions & percentage. The data was prospectively analysed using SPSS version 16.0 to obtain Chi square and p values.

Table 1

LATCH	0	1	2	TOTAL
L LATCH	Too sleepy or reluctant No latch OR suck achieved	Repeated attempts for sustained latch and suck Hold nipple in mouth stimulate to suck	Grasps breast Tongue down Lips flanged Rhythmic sucking	
A AUDIBLE SWALLOWING	None	A few with stimulation	Spontaneous and intermittent < 24 h old Spontaneous and frequent > 24 h old	
T TYPE OF NIPPLE	Inverted	Flat	Everted (after stimulation)	
C COMFORT (BREAST-NIPPLE)	Engorged Cracked, bleeding, large severe discomfort, blisters, or bruises	Filling Reddened/small blisters or bruises Mild/moderate discomfort	Soft Non-tender	
H HOLD (POSITIONING)	Full assist (staff holds)	Minimal assist (elevate head of bed; place pillows) Teach one side; mother does other Staff holds and then mother takes over	No assist from staff Mother able to position/hold infant	

RESULTS

Table 1-Baseline Characteristics of Women with Caesarean Delivery (CD Group) and Vaginal Delivery (VD Group)

Baseline characteristics	Caesarean delivery		Vaginal delivery		p value
Mean age in Years	26.37	4.460	26.63	4.650	0.821(NS)
Age Group					
18-25	16	53.3%	13	43.3%	0.438(NS)
26 – 35	14	46.7%	17	56.7%	
Parity					
Primigravida	15	50%	13	43.3%	0.605(NS)
Multigravida	15	50%	17	56.7	
Residence					
Urban	13	43.3%	15	50%	
Rural	17	56.7%	15	50%	
Mean period of gestation	38.663	1.06	38.447	0.993	0.417(NS)

The baseline characteristics of the whole study cohort are given in Table 1. Mean age of participants of CD Group was 26.37 ± 4.46 years, mean age of participants of VD Group was 26.63 ± 4.65 years. There was no significant difference between the participants of both the groups in terms of age (p-value = 0.821).

Primigravida in CD was (50%) and in VD group (43.3%) and multigravidas were 50% in CD group and was 56.7% in VD group.

Mean period of gestation (POG) of participants of CD Group was 38.663 ± 1.06 weeks, mean POG of participants of VD Group was 38.447 ± 0.993 weeks. (p-value=0.417). Caesarean delivery was done at a slightly earlier age of gestation as compared to normal delivery.

Baby weight (p-value = 0.895) and APGAR score at 1 min)p-value=0.418), 5 min (p-value = 0.544).

Mean LATCH score at 1st hour and 24th hour of participants of CD Group was 6.50 ± 0.82 and 8.8 ± 0.714, respectively. The Mean LATCH score at 1st hour and 24th hour of participants of VD Group was 8.0 ± 0.587and 9.53 ± 0.507, respectively. We observed higher LATCH scores in patients delivered via the vaginal route at 1st hour as well as at 24th hour.

Table 2-Variable for Comparison of Lactational Effect in Caesarean Delivery and Vaginal Delivery Group

Variables	Caesarean delivery		Vaginal delivery		p value
Mean Baby Weight	2.86	0.34	2.87	0.318	0.895(NS)
Mean APGAR score at 1 min	7.03	0.620	7.10	0.305	0.418(NS)
Mean APGAR score at 5 min	8.90	0.403	8.97	0.183	0.544(NS)
Mean Breast feeding initiated	54.0	12.205	35.0	9.154	0.000***
Mean LATCH score at 1st hr	6.50	0.820	8.00	0.587	0.000***
Mean LATCH score at 24th hr	8.80	0.714	9.53	0.507	0.000***
Change in LATCH score (from 1st hr to 24th hr)	2.30	0.702	1.53	0.628	0.000***

NS – Not significant, *** p < 0.001

Mean change in LATCH score from 1st hr to 24th hr in participants of CD Group was 2.30 ± 0.702 which was higher than participants of VD Group (1.53 ± 0.628). The route of delivery has a great impact on LATCH scores in the early postnatal period especially in 1st hour of delivery, but this impact weakens over time; still the impact is significant up to 24th hour of delivery.

At 1st hour and 24th hour, women who had undergone C-section had lower mean L1, A1 and H1 score and lower L2,A2 and H2 score respectively as compared to women who had undergone vaginal delivery, these differences were in favour of vaginal delivery. We concluded that the route of delivery has a great impact on LATCH scores in the early postnatal period.

Table 3- Mean Distribution of Point Recorded by Study Participants at 1st hr According to the LATCH Charting System (L1 A1 T1 C1 H1)

LATCH score 1st hr	Caesarean delivery		Vaginal delivery		Test of significance
L	1.30	0.466	1.60	0.498	t = 2.316, df =58, p value = 0.021*
A	0.83	0.461	1.53	0.507	t = 4.583, df =58, p value 0.000***
T	2.00	0.00	2.00	0.00	t = 0.000, df =58, p value 1.000 (NS)
C	1.47	0.507	1.50	0.509	t = 0.256, df =58, p value 0.798 (NS)
H	0.83	0.461	1.03	0.669	t = 1.278, df = 58, p value 0.001

Table 4 Mean Distribution of Point Recorded by Study Participants at 24th hr According to the LATCH Charting System (L2 A2 T2 C2 H2)

LATCH score at 24th hr	Caesarean delivery		Vaginal delivery		Test of significance
L	1.77	0.430	2.0	0.0	t =2.791 , df =58, p value 0.005**
A	1.73	0.450	1.97	0.183	t= 2.510 , df =58, p value 0.012**
T	2.0	0.0	2.0	0.0	t =0.000 , df = 58, p value 1.000(NS)
C	1.87	0.346	1.87	0.346	t =0.000 , df =58 p value 1.000(NS)
H	1.43	0.504	1.70	0.466	t = 2.067, df = 58, p value 0.039*

DISCUSSION

Breastfeeding is a valuable gift from a mother to herself, her baby, and humanity. In our study, we utilized the LATCH assessment scoring tool to compare the early postpartum effects on lactation between the two groups.

Lamba I et al. (2024) observed that the mothers undergoing caesarean section had main problem with latch (L) and hold (H) of the baby at 1st hour and at 24th hour of postpartum period which was consistent with the results of our study.[3]

Fadiloglu et al. (2020) found that patients who delivered vaginally had higher LATCH scores.They reported a significant difference ($p < 0.001$) in the mean LATCH scores at both the 1st hour and 24th hour between cesarean and vaginal deliveries, which aligns with our findings.

The change in LATCH score from the 1st hour to the 24th hour for participants in the CD Group was 1.68 ± 0.77, which was greater than that in the VD Group (0.98 ± 0.66). They concluded that the route of delivery has a notable impact on LATCH scores in the early postnatal period.[11]

Babazade et al. (2020) observed that despite having a normal APGAR score, babies born via cesarean delivery did not attempt latch (L) during their hospital stay. They identified that the pain experienced by cesarean mothers was the primary factor contributing to this issue. Their study found a correlation between higher pain levels and lower LATCH scores in the CD group.[12]

In their 2014 study, Albokhary AA et al. found that mothers who had a cesarean section reported that pain interfered with their ability to hold (H), breastfeed, and care for their baby. They also discovered that the probability of delayed breastfeeding initiation (after 24 hours) was 12 times greater for cesarean deliveries compared to vaginal births.[13]

In caesarean delivery, the patients were in operation theatre where they were under effect of anesthetic drugs so they were not able to hold (H) the baby and initiate latching.

Maternal pain also interfered with their ability to hold and breastfeed.

Since the cases were performed under regional anesthesia, owing to the decreased sensation in both lower limbs, especially during the first hour following the caesarean, she was unable to independently position herself to hold (H) the baby and required assistance with latching, which contributed to a lower LATCH score in the caesarean delivery group.

CONCLUSION

Our analysis indicates that the alteration in LATCH score aligns with the change noted in the caesarean section group, where the LATCH score increased by 1 which was statistically significant. The findings indicate that the method of delivery significantly influences LATCH scores during the early postnatal period.

Our study revealed that mothers who underwent caesarean sections faced challenges with the latch (L), audible swallowing(A) and hold (H) of their babies during both the first hour and the 24th hour of the postpartum period.

Vaginal delivery was associated with improved LATCH scores at both the first and 24th hours postpartum. In contrast, mothers who underwent caesarean sections faced greater challenges with effective latching and holding of their newborns.

These findings emphasize the need for targeted lactation support, especially for mothers delivering via caesarean section, to promote early and effective breastfeeding initiation.

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