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Original Research Article

LATCH score: a tool for identification and correction of breastfeeding problems in a tertiary care hospital of North Karnataka

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ABSTRACT

Background: Breastfeeding, a vital childhood intervention, faces challenges despite being a natural process. Factors such as maternal confidence, latching issues, breast pain, perceived milk insufficiency, and inadequate encouragement contribute to early discontinuation. Assessing breastfeeding in postpartum mothers prior to discharge is important for successful breastfeeding. The LATCH charting system designed by Jensen et al was used to assess the score. Objectives were to determine early breastfeeding problems using LATCH score and to study the impact of breastfeeding supportive measures on LATCH score.
Methods: Hospital-based prospective observational study was conducted among 100 mothers who delivered in hospitals attached to Mahadevappa Rampure Medical College, Kalaburagi. The LATCH score was assessed twice, first within 24 hrs after birth and second 48 hrs after intervention.
Results: Good LATCH score was found among the rural mothers, multiparous mothers and those who had a normal vaginal delivery. After providing breastfeeding support, a majority (81%) of the mothers transitioned from poor or moderate to a good LATCH score group. The overall mean LATCH score increased from 5.83±1.64 to 9.31±1.5 following intervention. Improvement was seen in all the individual components of LATCH.
Conclusions: This LATCH assessment tool can identify mothers and infants who are at risk of early breastfeeding cessation and serve as a guide to initiate appropriate intervention.

Keywords: Breastfeeding, LATCH assessment tool, LATCH Score, Intervention

INTRODUCTION

Initiation of breastfeeding as early as possible, exclusive breastfeeding during the initial 6 months of life and continued breastfeeding until 24 months of age are the recommendations of both World Health Organization (WHO) and United Nations Children's Fund (UNICEF).[1] Though breastfeeding is a natural process, many mothers encounter numerous challenges associated with breastfeeding, particularly in the initial postpartum period.[2,3] Lack of confidence to breastfeed, problems associated with infant latching or suckling, breast pain or soreness, perceptions of insufficient milk and absence of personalized encouragement from healthcare providers during early postpartum are some of the common reasons for early breastfeeding discontinuation.[4] Assessment of breastfeeding in the hospital before discharge offers the necessary support and encouragement to mothers enhancing the likelihood of successful breastfeeding. Based on maternal behaviour and infant-sucking skills, five lactation tools have been identified in the last decade. They are Lactation Assessment tool, Breast Feeding observation Form, Mother-baby assessment tool, Latch scoring system and Mother-Infant Breast feeding

Progress tool.[4] LATCH scoring system designed by Jensen et al was chosen for this study because of its ease of applicability, fewer components, and the similarity with the APGAR score format.[5]

Objectives

Objectives of current study were; to determine early breastfeeding problems using LATCH score and to study the impact of breastfeeding supportive measures on LATCH score.

METHODS

Study design, location and duration

Hospital-based prospective observational study conducted at Basaveshwar and Sangameshwar Teaching and General Hospitals attached to Mahadevappa Rampure Medical College, Kalaburagi. The study was conducted from 15 September 2023 to 30 November 2023.

Table 1: LATCH charting system.[5]

Parameters	0	1	2
L: **Latch**	Too sleepy or reluctant, no latch achieved	Repeated attempts hold nipple in mouth stimulate suck	Grasps breast, tongue down lips flanged rhythmic suction
A: **Audible swallowing**	None	A few with stimulation	Spontaneous and intermittent <24 hours Spontaneous and frequent >24 hours old
T: **Type of nipple**	Inverted	Flat	Everted (after stimulation)
C: **Comfort (Breast/nipple)**	Engorged cracked, bleeding, large blisters, or bruises. Severe discomfort.	Filling reddened/small blisters or bruises mild/moderate discomfort	Soft, non-tender
H: **Hold (positioning)**	Full assist (Staff holds infant at breast)	Minimal assist (i.e., elevate head of bed; place pillows for support.) Teach one side; mother does other side. Staff holds and then mother takes over	No assist from staff mother able to position/hold infant

Sample size

Assuming a 61% prevalence of exclusive breastfeeding in Karnataka according to NFHS-5[6], the study calculated the sample size of 95~100 for estimating the expected proportion, with 10% absolute precision and 95% confidence interval using Cochrane formula used was:

$$n = Z2pq/d2$$

Inclusion and exclusion criteria

All mothers delivered at term during the study period were included. Mothers who delivered preterm and Babies who are sick and born with congenital anomalies were excluded.

Data collection

Data was collected after obtaining consent from the mothers. Two LATCH score assessments were carried out: first within 24 hours of birth and second after 48 hrs of intervention. The LATCH charting system (Table 1) was used to assess the score. Depending on the problem encountered during breastfeeding as assessed by the LATCH score breastfeeding support in the form of counselling, education and training was provided to the mothers. A LATCH score of 0-3 was regarded as poor, 4-7 as moderate, and 8-10 as good.[5] The LATCH score was assessed before and after intervention.

Statistical analysis

Data was analysed using SPSS v 20 software. Qualitative variables were expressed in percentages and quantitative variables will be expressed as mean (SD). For comparing the 2 groups paired t test was used. The scores for each area of assessment were added together to achieve LATCH score.

RESULTS

The study sample consisted of 100 mothers and their respective children. Majority (67%) of the mothers in the study were from rural areas and belonged to class 3 & 4 socio-economic class (68%) according to Mod. B.G Prasad classification. Most (76%) of the mothers were from joint family. The mean age of mothers studied was 25±3.82 (min. 18 and max. 35), and 66% were primiparous. Regarding infants' data, 59% were delivered

through LSCS, 54% were male, and the mean gestational age identified was 39±0.97 (min. 36 and max. 40). The average birth weight was 2.8 kg±0.44 kg (min. 1.7 kg, max. 4 kg) (Table 2). Good LATCH score was found among the rural population, multiparous mothers and those who had a normal vaginal delivery with a statistically significant association. None of the mothers who delivered through LSCS had a good LATCH score initially (Table 3).

Table 2: Socio-demographic profile of mothers and newborns (n=100).

Characteristics	Socio-demographic factors		N
Mothers	Age (yrs)	18-25	62
		26-30	30
		31-35	8
	Socio-economic status	1	4
		2	10
		3	24
		4	44
		5	18
	Parity	Primi	66
		Multi	34
	Type of family	Nuclear	76
		Joint	24
	Residence	Rural	67
		Urban	33
Newborns	Gender	Male	54
		Female	46
	Birth weight (kgs)	<2.5	40
		2.6-3	35
		3.1-3.5	24
		>3.6	1
	Mode of delivery	NVD	41
		LSCS	59

During the pre-intervention period, most mothers (78%) belonged to the moderate LATCH score group i.e., 4-7 followed by 15% of mothers whose LATCH score was good i.e., 8-10 and 7% of mothers scored poor LATCH score i.e., 0-3. After providing breastfeeding support in the form of counselling, education and training (intervention), a majority (75%) of the mothers transitioned from poor or moderate to a good LATCH score group. Only one mother still remained in the poor LATCH group after intervention. In the preintervention period, none of the mothers scored a LATCH score of 10 whereas in postintervention 74 mothers' LATCH score was 10. The overall mean LATCH score increased from 5.83±1.64 to 9.31±1.5 following intervention and a significant difference was found between pre and post-intervention (p<0.001) (Table 4). The scores of individual components of LATCH are shown in (Figure 1). There was an improvement noticed in all the components of LATCH score post-intervention. Even though the mean scores of all the components of the LATCH score increased post-intervention, the change in mean scores related to the 'comfort' component was not statistically significant, unlike others which were statistically significant.

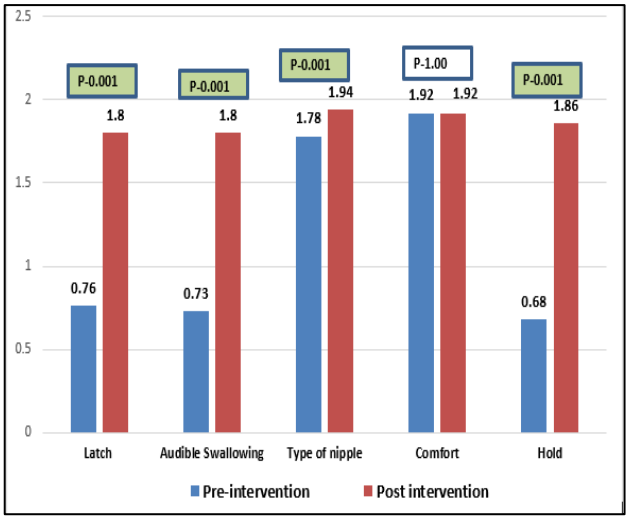

Figure 1: Comparison of mean score of individual components of LATCH score.

DISCUSSION

The present study demonstrates the efficacy of breastfeeding support to mothers in improving the LATCH score and thereby successful breastfeeding. Sowjanya et al suggested the interpretation of the LATCH tool considering the classification: Poor (0-3), Moderate (4-7) and Good (8-10).[7] Although this classification objectively guides the nurse, the study does not detail how the categories were determined. Jensen et al the creator of the LATCH tool, emphasize the importance of correcting all items individually, when needed, correcting the difficulties found in a timely and global manner.[5]

The mean postintervention LATCH score was found to be 9.31±1.5 which was more when compared to the preintervention LATCH score i.e., 5.83±1.64 which was similar to a study conducted by Divya and Ozturk et al.[8,9] A significant association was also observed by Shah et al between counselling and latch score. The LATCH score significantly improved after counselling.[10] Various sociodemographic factors like maternal age, place of residence, type of family, parity, socioeconomic status, type of delivery and neonatal factors like gestational age, birth weight, and gender were recorded and their association with LATCH score was studied. Statistically significant differences between the mean in our study was found only among mode of delivery, place of residence and parity.

This is in contrast to a study conducted by Sroiwatana et al and Puapornpong et al where none of the factors showed an association.[11] Studies by Tornese et al, Riordan et al and Kumar et al included mothers who delivered either vaginally or through caesarean section,

similar to our study, while the study by Sowjanya et al included only those mothers who delivered vaginally (LATCH scores).[12-15]

Table 3: Factors affecting the birth LATCH score.

Characteristics		LATCH score			Total N (%)	P value
		Poor N (%)	Moderate N (%)	Good N (%)		
Mother's age (yrs)	18-26	4 (5.6)	58 (78)	12 (16.1)	74 (100)	0.23
	27-35	3 (11.5)	20 (77)	3 (11.5)	26 (100)	
Residence	Urban	4 (12.2)	28 (84.8)	1 (3)	33 (100)	0.04*
	Rural	3 (4.4)	50 (74.8)	14 (20.8)	67 (100)	
Parity of mothers	Primi	5 (7.5)	56 (85)	5 (7.5)	66 (100)	0.01*
	Multi	2 (5.8)	22 (64.8)	10 (29.4)	34 (100)	
Type of delivery	NVD	2(4.8)	24 (58.6)	15 (36.6)	41 (100)	0.00*
	LSCS	5 (8.4)	54 (91.6)	0 (0)	59 (10)	
Birth weight of the baby	<2.5 kg	2 (5)	32 (80)	6 (15)	40 (100)	0.47
	>2.5 kg	5 (8.3)	46 (76.7)	9 (15)	60 (100)	

*p value <0.05-significant

Table: 4 Comparison of pre- and post-intervention LATCH scores.

LATCH score	Pre-intervention	Post-intervention
0-3	7	1
4-7	78	9
8-10	15	90
Mean±SD	5.83±1.64	9.31±1.5
P value (paired t-test)	0.000*	

*p value <0.05-significant

It was observed that the mean Latch score among mothers who delivered vaginally was higher than the caesarean section which is similar to the study done by İsik et al.[16] Cakmak et al found that the pattern of delivery affects breastfeeding and that Caesarean delivery mothers need more support and help (particularly in positioning) as compared to normal delivery mothers.[17] Similarly, Cetisli et al commented that the mothers who delivered their babies by caesarean section had problems related to maternal attachment and breastfeeding more often than those who delivered vaginally and hence the lower LATCH scores.[18] It was found in our study that multiparous women got significantly higher LATCH scores than the primiparous which is similar to the findings in a study done by Gerçek et al.[19]

Limitations

The main limitation of the present study is that the LATCH score assessment was made by observing a single feeding session at one point in time (pre and post intervention) and not a composite score of several consecutive feedings. We did not follow the mother-infant beyond 48 hours. Hence, other facets related to breastfeeding that appear later could not be assessed. Neonates who required NICU admission and late preterm neonates, who may be at risk of improper breastfeeding were not included in the study.

CONCLUSION

In the era, where institutional deliveries are ardently promoted, the initial hospital period can be a significant opportunity to evaluate breastfeeding using the LATCH assessment tool. It is a comprehensive, yet simple and easy-to-use tool that can be used by health workers. It can identify mothers and infants who are at risk of early breastfeeding cessation and serve as a guide to initiate appropriate intervention.

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