

# Acceptability of Latch Breastfeeding Assessment Tool as a Predictor of Breastfeeding Duration.

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## ABSTRACT

**Background:** This study aims to test the validity of LATCH tool to check if it can predict breastfeeding duration at 6 weeks postpartum. **Methods:** Mother-infant dyads were evaluated using LATCH breastfeeding assessment tool within 36 to 72 hours postpartum. Participants are healthy newborns at term gestation, birth weight  $\geq 2500$ gm, born by vaginal delivery or C-section, rooming with their mothers. After 6 weeks postpartum, participants were followed up and were asked their experience of breastfeeding. **Results:** Total 130 mother-infant dyads participated; among which 122 attended follow up at 6 weeks. 108 infants were on breastfeeding and 14 mothers had reported they had stopped breastfeeding. LATCH score of the mother-infant dyads who continued breastfeeding for 6 weeks postpartum was  $8.4 \pm 1.2$  and those who stopped breastfeeding had LATCH score  $8.5 \pm 0.9$ . ROC curve does not show any acceptable cut off to predict breastfeeding at 6 weeks. **Conclusion:** Early breastfeeding assessment using LATCH tool within 36 to 72 hours postpartum could not predict breastfeeding duration. Further studies with large sample size are warranted.

**Keywords:** Breastfeeding, breastfeeding duration, LATCH score, predictor.

## INTRODUCTION

It is already established that breastfeeding has many health benefits for both mother and infant. Though breastfeeding is a natural norm, but successful breastfeeding may arise as a complex task for mother-infant dyads. According to NFHS-4 data, exclusive breastfeeding up to the age of six months is only 54.9% (urban – 52.1%, rural – 56%). To meet this challenge, a brief and compact assessment tool is required which can detect mother-infant dyads those who are at risk of early weaning. This risk assessment tool may help health care providers to focus on those dyads who need special assistance for successful breastfeeding.

Various breastfeeding assessment tools are available which assess and evaluate breastfeeding by scoring method. LATCH breastfeeding assessment tool is one of them.

The LATCH tool which is mostly based on observation was modeled with five characteristics of breastfeeding; each scoring 0, 1 or 2.<sup>[1,2]</sup> Each letter of LATCH represents a category. L denotes how

well a newborn latches with the mother, A represents audible swallowing during breastfeeding, T describes mother's nipple type, C is nipple comfort and H assess the amount of help a mother needed to position the baby in her breast. The maximum possible score is 10.

This study aims to assess the performance of LATCH tool evaluating early breastfeeding to test if it can predict whether the mother would be breastfeeding at 6 weeks postpartum.

## MATERIALS AND METHODS

This descriptive and observational study was conducted at Human Milk Bank of Department of Neonatology, IPGME&R, Kolkata between July 2016 to October 2016. This study is approved by ethical committee of IPGME&R.

### Inclusion criteria

Consecutively born healthy term newborns with birth weight  $\geq 2500$ gm, born by vaginal delivery or C-section, rooming in with their mothers.

### Exclusion criteria

Newborns who requires admission in NICU or having any severe congenital malformation or genetic diseases or multiple births are excluded. Mothers with any postpartum complication or sick or

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having sore in nipple or engorged breast are not included in this study.

**Methodology**

Mothers were counseled regarding advantages and techniques of breastfeeding by nursing staffs within first 12 hours postpartum. Mothers are informed regarding this study and those who want to participate signed a written consent. No eligible mother had refused to participate.

Feedings were evaluated using the LATCH tool between 36 to 72 hours postpartum. During assessment each mother was asked how long she wanted to continue breastfeeding in four categories: 2 weeks, 4 weeks, 6 weeks and 2 months or more. Information related to childbirth, mother’s age and if mother had previous breastfeeding experience was recorded.

Participants were followed up after 6 weeks postpartum and were asked their experience of breastfeeding. ‘Not breastfeeding’ was defined as the infant was not breastfed in last 24 hours and the mother did not intend to breastfeed further. All mother were asked to rate their breastfeeding experience (0 = not at all well, 1 = less milk, 2 = satisfactory, 3 = very well).

**Statistical analysis**

Data have been summarized by routine descriptive statistics, namely mean and SD for normally distributed numerical variables, median and interquartile range for skewed numerical variables and counts and percentages for categorical variables. Numerical variables have been compared between groups by Student’s independent samples t test or Mann-Whitney U test as appropriate. Fisher’s exact test or Chi-square test has been employed for intergroup comparison of categorical variables. P value < 0.05 has been considered statistically significant. Receiver operating characteristic (ROC) curve analysis has been done to assess if there is acceptable cut-off to predict breast-feeding at 6 weeks. Statistica version 6 [Tulsa, Oklahoma: StatSoft Inc., 2001] and MedCalc version 11.6 [Mariakerke, Belgium: MedCalc Software 2011] software were used for statistical analysis.

**RESULTS**

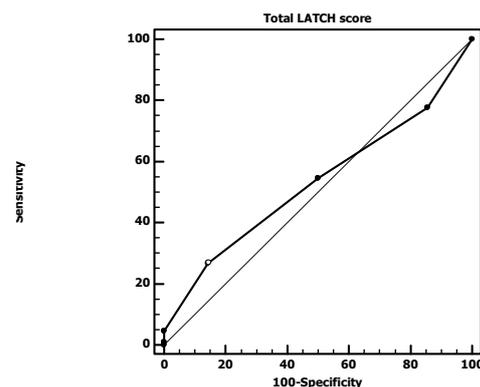
130 consecutively born mother-infant dyads were assessed using LATCH breastfeeding assessment tool within 36 to 72 hours postpartum; among which 122 dyads attended follow up at 6 weeks age. The average weight of the infants was 2973.31 ± 326.71 gms, gestation 38.80 ± 0.88 wks. Average age of mother was 25.26 ± 4.02 yrs. All mothers indicated that they want to breastfeed their infants for 2 months or more. On average, assessment age of infants using LATCH breastfeeding assessment tool

was 47.65 ± 10.10 hrs. and average LATCH score was 8.37 ± 1.18. Infants continued breastfeeding at 6 weeks postpartum was 108 (88.5%). [Table 1]

**Table 1: Participant characteristics.**

Characteristics	N=122	Breastfeeding at 6 wks (n=108)	Not breastfeeding at 6 wks (n=14)
Normal vaginal delivery, n (%)	21 (17)	18 (86)	3 (14)
Caesarian delivery, n (%)	101 (83)	90 (89)	11 (11)
Infant gender - male, n (%)	68 (56)	55 (81)	13 (19)
Infant gender - female, n (%)	54 (44)	53 (98)*	1 (2)
First time breastfeeder, n (%)	74 (61)	65 (88)	9 (12)
Age of mother (yrs)	25.26 ± 4.02	25.13 ± 3.95	26.29 ± 4.55
Gestational age (wks)	38.80 ± 0.88	39.00 ± 0.89	38.79 ± 0.80
Birth weight (gms)	2973.31 ± 326.71	2911 ± 320.37	2848.43 ± 360.16
Assessment age (hrs)	47.65 ± 10.10	47.07 ± 9.92	52.07 ± 10.75
LATCH score	8.37 ± 1.18	8.35 ± 1.21	8.50 ± 0.94
L - Latch-on	1.51 ± 0.53	1.50 ± 0.54	1.57 ± 0.51
A - Audible swallowing	1.41 ± 0.53	1.39 ± 0.53	1.57 ± 0.51
T - Nipple type	1.95 ± 0.22	1.94 ± 0.23	2.00 ± 0.00
C - Comfort of breast/nipple	1.96 ± 0.20	1.95 ± 0.21	2.00 ± 0.00
H - Help needed to position baby	1.54 ± 0.52	1.56 ± 0.50	1.36 ± 0.63

\*P < .05, Fisher’s exact test



**Figure 1: ROC curve**

LATCH score of the mother-infant dyads who continued breastfeeding for 6 weeks postpartum is 8.4±1.2 and those who were not breastfeeding had LATCH score 8.5±0.9. It shows no significant differences between the two groups (breastfeeding at 6 weeks vs those not breastfeeding at 6 weeks) in

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gross LATCH scores as well as various components of LATCH (Mann-Whitney U test,  $p > 0.05$ ).

Receiver operating characteristic (ROC) curve failed to show any cut off of LATCH score to predict breast-feeding at 6 weeks. Area under the ROC curve (AUC) is 0.531. [Figure 1]

After 6 weeks postpartum during follow up, mothers were asked to rate their experience of breastfeeding and 61 mothers reported that they were pleased, 46 told satisfactory and the rest reported less milk. Mothers who were pleased and satisfied with breastfeeding had continued breastfeeding beyond 6 weeks of age.

### DISCUSSION

This study assesses the performance of LATCH tool score of early breastfeeding assessment during hospital stay to find if it can predict whether the mother would be breastfeeding at 6 weeks postpartum. Results indicate that LATCH score assessed within first 36 to 72 hours post-delivery does not predict the cessation of breastfeeding at 6 weeks postpartum. Follow up at six weeks postpartum is chosen because this is the vulnerable time when mother's milk supply is being established and the mother and the infant both are learning the skills of breastfeeding.<sup>[2]</sup>

Numerous studies were undertaken in different times and places to verify the validity of LATCH tool; and the outcomes are mixed. Riordan et al found that mothers who continued breastfeeding to 6 weeks had shown higher LATCH scores than those who stopped breastfeeding.<sup>[2]</sup> They found lower LATCH scores in mothers who weaned earlier and mothers who weaned before 6 weeks had reported lower breast/nipple comfort. They had shown that mothers with flat or inverted nipple needed special assistance for attaching infant to their breast.

Savitri P. Kumar et al correlated total LATCH score with breastfeeding duration, not with LATCH score individual components separately. They also showed that LATCH tool is a modest predictor of breastfeeding duration.<sup>[3]</sup> Gianluca Tornese et al assessed breastfeeding using LATCH tool within first 24 hours of age and found non-exclusive breastfeeding is related to lower LATCH score. They had shown that non-exclusive breastfeeding is associated with cesarean section and primi parity.<sup>[4]</sup>

Ying Lau et al excluded the C factor (nipple comfort) from the LATCH tool and showed that 4-item version of LATCH score is more reliable than 5-item version of LATCH score and can predict the risk of early weaning.<sup>[5]</sup>

### CONCLUSION

Early breastfeeding assessment within 36 to 72 hours postpartum using LATCH tool does not predict breastfeeding duration. ROC cannot show any cut

off score for predicting breastfeeding duration. Further studies with large sample size are warranted. Study designed with the aim to compare the capability of predicting breastfeeding duration with other breastfeeding assessment tools (IBFAT, MBA, EFS, NOMAS, PIBBS, SAIB) may be suggested.

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