



ORIGINAL RESEARCH PAPER

Neonatology

'LATCH SCORE' AS A DETERMINANT OF WEIGHT ON POSTNATAL DAY 7 AMONG TERM BABIES

KEY WORDS: Latch score, birth weight, breastfeeding

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ABSTRACT

Introduction: Latch score (LS) indicates adequacy of breastfeeding. Good latching is a key factor for successful breast feeding. Newborn babies lose up to 10% weight initially and regain birth weight (BW) by 10-14 days. Effect of LS on initial postnatal weight has not been studied. **Objective:** To record LS, Postnatal Weight on Day7 (PWT) and percentage change in weight (PCW) compared to Birth Weight (BW) in term babies and determine the correlation between these parameters. **Methods:** In a hospital-based study, 85 consecutive mother-newborn dyads were enrolled, excluding preterm and those with co-morbidities and congenital anomalies. BW was noted and mother was counselled about LS on Day 1. On day 7 weight (PWT) and LS were recorded and babies were categorized as Group I: LS ≤ 3 (3.5%), Group II: 4-7 (64.7%), and Group III: 8-10 (31.8%). PCW from BW to PWT was computed. Data was analysed and comparison noted with Kruskal Wallis test, paired comparison with Dunn test with Sidak correction and correlation with Spearman Correlation. **Result:** Mean LS: 6.81±1.5514. PWT was ≥ BW in 14.11%; Group I: 0%, Group II: 6 (10.90%) and group III: 6 (22.22%) showing a definite gradation of better outcome from 0% to 22.22% as LS increased. Mean PCW was as follows: pooled (-5.29±5.80), group I (-12.82±2.08), II (-6.73±5.62), III (-1.50±4.10). Difference in PCW between the groups was statistically significant ($\chi^2 = 28.104, p < 0.001$). LS showed positive correlation with PCW ($\rho = 0.7, p < 0.001$). For every 1 unit increase in LS, PCW change was 2.12%. **Conclusion:** LS showed significant correlation with PWT. Hence, counselling and achieving optimum LS at discharge is suggested as a simple universal intervention for successful breastfeeding and better neonatal outcome.

INTRODUCTION:

Latch score (LS) indicates adequacy of breastfeeding. Inadequate Latch is a major hurdle to be tackled in many of Mother-Newborn dyads. Postnatal weight gain as an objective measure of adequate breast feeding and its association with LS has not been studied. Newborn babies lose up to 10% weight initially and regain their birth weight (BW) by 10-14 days.

WHO recommends Exclusive breastfeeding (EBF) for first 6 months of life. Assessment of breastfeeding efficiency by objective means is essential to increase the success of breastfeeding. NFHS 5² data shows that only 41.8% babies are breastfed within one hour of birth, 63.7% are exclusively breastfed for six months. 22 states in India showed decline in early initiation of breast feeding while 16 states showed an increase. Much remains to be done to achieve exclusive breastfeeding during the first 6 months of life as the norm for infant feeding. LS³ is a good assessment tool for objective assessment of success of breast feeding and LS >7 indicates adequacy of breastfeeding.

MATERIALS AND METHOD:

In a hospital-based prospective study, 85 consecutive mother-newborn dyads were enrolled, excluding preterm and those with co-morbidities and congenital anomalies. IEC approval and informed consent from mother were obtained prior to enrolment.

BW was noted on a digital weighing machine, soon after delivery. Mother was counselled about LS on Day 1. In the assessment of LATCH score (Table-1), audible swallowing was modified as audible/visible swallowing for ease of scoring. Babies were classified as Group I: LS ≤ 3 (Very Low), Group II: 4-7 (Low), Group III: 8-10 (Good). On day 7, LS and weight (PWT) were recorded by the investigator and babies were categorized as Group I: 3 (3.5%), Group II: 55 (64.7%), and Group III: 27 (31.8%). PCW was computed as the change

from BW to PWT. Data was analysed and comparison noted with Kruskal Wallis test, paired comparison with Dunn test with Sidak correction and correlation with Spearman Correlation.

RESULTS:

Mean BW was 2878.2 g and Mean PWT was 2714 g. Mean LS was 6.81±1.5514. PWT was ≥ BW in 14.11%; Group I: 0%, Group II: 6 (10.90%) and group III: 6 (22.22%) showing a definite gradation of better outcome from 0% to 22.22% as LS increased. Mean PCW was as follows: pooled (-5.29±5.80), group I (-12.82±2.08), II (-6.73±5.62), III (-1.50±4.10). Best outcome was in group III with more babies regaining birth weight or reaching a level near birth weight as indicated by PCW (-1.50±4.10). Group I had maximum weight loss on day 7 with none regaining birth weight (Figure 1).

Correlation Between LS & PCW (Figure 2) showed that difference in PCW between the groups was statistically significant (Kruskal Wallis test $\chi^2 = 28.104, p < 0.001$). LS and PCW showed positive correlation ($\rho = 0.7, p < 0.001$). On Pairwise comparison, the association between Latch score and PCW was significant between Group I and Group III ($P < 0.001$), Group II and Group III ($P < 0.001$). For every 1 unit increase in LS, PCW changed by 2.12%.

DISCUSSION:

LS is proposed as a good indicator for sustained breastfeeding and better weight gain in babies. As audible swallowing was noted as a difficult criterion in the Latch score assessment, visual/audible swallowing was used as the criterion, which improved the ease of assessment (Table 1).

In this study, only 1/3 of neonates had good LATCH and 2/3 had suboptimum LS. Majority of mothers were in Group II with suboptimum LS indicating the need for continued support system starting from day 1. The service of Lactation counsellors is recommended.

Regarding the outcome projected as postnatal day 7 weight gain; PW7 was \geq BW was noted in 14.11%; Group I: 0%, Group II: 6 (10.90%) and group III: 6 (22.22%) showing a definite gradation of better outcome from 0% to 22.22% as LS increased. None of those with very low Latch Score category had regained the birth weight, but had weight loss > 10% on day 7 which shows the importance of LATCH and the need for Latch counseling and support during the immediate neonatal period.

A study on LS at discharge and weight gain at 6 weeks⁴ showed that LS >6 at discharge was an indicator of weight gain at 6 weeks with a sensitivity 92.1% and specificity of 66.7%. In view of the low specificity in the above study, and the acceptance of LS >7 as good LATCH, a Latch score of 8-10 was considered as good in our study.

In another study, it was reported that with a LS >8 at 48 hours, there was 9.2 times more likely chance to sustain breastfeeding at 6 weeks with a sensitivity of 93.5% and specificity 92.1%⁶. Various studies had concluded that when mothers with LATCH score <8⁶ and <9⁷ at 48 hours were intervened, breastfeeding rates at 6 weeks improved. In accordance with previous studies^{4,5}, our study favors taking LS 8 as good score.

Correlation Between LS & PCW (Figure 2) showed that difference in PCW between the groups was statistically significant. LS and PCW showed positive correlation. On Pairwise comparison, correlation between Latch score and PCW was significant between Group I and Group III, and Group II and Group III.

Correlation between LS and PCW between group I and group II were not significant, which can be attributed to a smaller number of babies in group I compared to group II.

As the LATCH score improves the corresponding breastfeeding and weight gain increases. This had been demonstrated at 6 weeks follow up by various studies⁴. This study showed that for every 1 unit increase in LS, PCW changed by 2.12%.

CONCLUSION:

Latch Score showed significant correlation with Weight on postnatal Day 7. Those with high LS 8-10 had PW7 closer to BW. Those with low LS < 3 had weight loss > 10% on Postnatal Day 7. Hence, Latch score is suggested as a simple universal intervention tool for improving breastfeeding rates, postnatal weight gain and thereby newborn survival.

Limitations:

A follow up study at 6 weeks and 6 months of age to assess sustained positive effect on successful breastfeeding and baby weight was not undertaken in this study. Subgroup analysis between vaginal delivery and LSCS was not done. Sample size was not large enough and the number of babies in the three subgroups were unequal. Hence, a multicentric prospective follow up study is recommended.

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Table 1 - Latch Score

Score	Latch	Audible / Visible Swallowing	Type of Nipple	Comfort	Assist
1	Sleepy reluctant No latch	None	Inverted	Severe pain, Engorged, Crackled, Bleeding, blisters	Full assist

2	Attempts to hold nipple in mouth, Sucks with stimulation	Few with stimulation	Flat	Moderate pain, reddened, blister	Minimal assist teach one side, mother does other side
3	Grasps breast deeply, tongue down, lips flanged, rhythmical sucking	Spontaneous and intermittent <24hrs Spontaneous and frequent >24hrs	Everted	No pain comfortable	No Assist

Categorized into three groups; Group I: LS \leq 3, II: 4-7, III: 8-10

Table 2 - Characteristics of Mother-Newborn Dyads

Groups	Percentage/ Frequency (n)	(Percentage of newborns with PW7 > BW/ Frequency (n)	Percentage change in weight on Day 7 from BW
I (Very Low LS <3)	3.5% (3)	0% (0)	(-12.82 \pm 2.08)
II (Low LS 4-7)	64.7% (55)	10.90% (6)	(-6.73 \pm 5.62)
III (Good LS 8-10)	31.8% (27)	22.22% (6)	(-1.50 \pm 4.10)

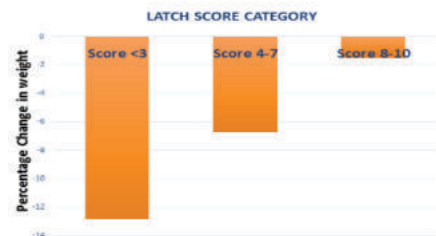


Figure 1 - Latch Score Category and Percentage Change in Weight on Day 7 (PCW)

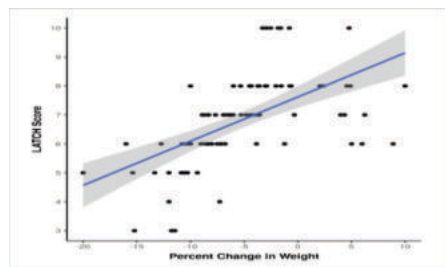


Figure 2 Correlation Between Latch Score (LS) & Percentage Change in Weight on Day 7 (PCW)

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