

Study of LATCH SCORE and Factors Affecting Feeding in Mother Baby dyad in a Tertiary care centre on Post-natal day 2----A Prospective, Observational Study

Dr Swapna K Pillai^{1*} & Dr Fibi C S²

*1 Associate Professor, Paediatrics
Sree Gokulam Medical College and Research Foundation, Venjaramoodu,
Thiruvananthapuram, Kerala, India*

*2 Junior Resident, Paediatrics
Sree Gokulam Medical College and Research Foundation, Venjaramoodu,
Thiruvananthapuram, Kerala, India*

Email id:

1 swpna.pillai@gmail.com

2 fibi.cs@gmail.com

**corresponding author*

Abstract:

Introduction: Breastfeeding confers many short and long-term benefits to both the mother and baby. Successful breastfeeding can be a complex task for the ¹mother–infant pair. LATCH score is a tool developed in 1994 to assess breastfeeding and identify mothers who are at risk for failure of exclusive breastfeeding (Jensen, Wallace, & Kelsey, 1994).

Objectives :1. To find out the proportion of mothers having feeding issues using LATCH Score on second postnatal day and estimate lactation failure 2. To give lactation counselling to mothers with feeding issues (LATCH Score-<7) and check the result 3)To compare the LATCH scores with maternal parity, education ,,occupation,, type of family, type of delivery ,baby weight and gestational age

Methodology: Study design – Descriptive observational study Study population: Mothers of age group 18-35 who delivered healthy singletons in the hospital during the study period of 18 months from november2019 to may 2021. Mothers who delivered twins, mothers of babies with congenital anomaly or congenital cardiac disease, sick babies with severe respiratory distress requiring oxygen, sepsis, or meningitis, babies admitted in NICU for > 48 hours were excluded. Detailed history specifically about their breastfeeding patterns and the latch score was assessed. Data was analysed using SPSS. Qualitative variables was expressed in percentages and quantitative variables will be expressed as mean (SD). Chi square test and student t tests were used.

Results: Of the 390 mothers studied, the incidence of lactation failure in the early postnatal period was 57.2%. There was significant association between age of mother, parity, education status, type of family, type of delivery and latch score.

Conclusion: Estimating latch score and instituting early lactation counselling will help to avoid lactation failure and ensure successful feeding.

Key words: *Latch score, breast feeding, affecting factors*

Introduction

Breast feeding requires adequate infant neurobehavioral development, sufficient coordination of sucking, swallowing and breathing, and a motivated and comfortable mother. Latching is an important process of breastfeeding and should be taught and practised by the postpartum mothers. Out of 26 million babies born in India every year, only about 45% are breast fed within the first hour of life and 65% of children are exclusively breast fed for the first 6 months. Worldwide, despite evidence of the importance of both, only 42% women begin breastfeeding within an hour of birth, and 41% practice exclusive breastfeeding (World Breastfeeding Trends Initiative, 2015)¹. Lack of confidence in mothers' ability to breastfeed, problems with the infant latching or suckling, breast pain or soreness, perceptions of insufficient milk supply, and a lack of individualized encouragement from their clinicians in the early post discharge period are some of the common reasons for early breastfeeding discontinuation which can be overcome if the mother is informed antenatally about the benefits of breastfeeding as per studies by Ahmad, Sughra, Kalsoom², Imran, & Hadi, 2012). Existing antenatal counseling on breastfeeding is inadequate in the population studied and needs to be strengthened. Informing all pregnant women about the benefits and management of breastfeeding should be a priority during antenatal visits as per study by Dhandapany³ et al . An accurate assessment³ of infant position and latch-on to the breast is an essential task of health professionals also because it provides a subjective assessment of the neurobehavioral development of the newborn, of the mother's ability to manage breastfeeding, and on adequateness of milk intake. LATCH score is a tool developed in 1994 to assess breastfeeding and identify mothers who are at risk for failure of exclusive breastfeeding (Jensen,⁵ Wallace, & Kelsay, 1994)..Deficiency of trained counselors⁶ in the obstetric outpatient's department, low literacy levels in the mother, and misconceptions about breastfeeding may result in routine counseling being unproductive ²in causing a behavior change in the mother as per studies by National Institute of Population Studies and Macro International Inc, 2008.

The aim of this study is to do the LATCH score in mothers on PND 2 for objective scoring of effective breastfeeding and for the identification of risk factors causing lactation failure. This will help to anticipate and correct problems early and help mothers overcome their fear and anxiety and ensure successful feeding of baby.

The LATCH charting system was developed by Jensen et al.¹³ in 1994 based on the model of the Apgar scoring system. The system assigns a numerical score(0, 1, or 2) to five key breastfeeding components identified by the letters of the acronym LATCH: "L" is for how well the infant latches onto the breast, "A" is for the amount of audible swallowing noted, "T" is for the mother's nipple type/ condition, "C" is for the mother's level of comfort, and "H" is for the amount of help the mother needs to hold her infant to the breast. The total score

ranges from 0 to 10, with the higher score representing successful breastfeeding. A latch score less than 7 is not optimum.

Methodology

Study design and participants

This was a prospective observational study using The LATCH Score as the instrument of the study. It was conducted in the period from November 2019 to October 2021

Study population: Inclusion criteria: All mothers of age 18 to 35 years and who delivered healthy singletons during the study period Exclusion criteria: (1) Mothers who delivered twins, babies with some congenital anomaly or congenital cardiac disease, babies with severe respiratory distress requiring oxygen, sepsis, or meningitis, mothers whose babies are admitted in newborn ICU for more than 48 hours

Data collection

Approval of ethical committee was obtained prior to the study. Written consent was obtained from all mothers. Detailed history was taken including age, educational status, parity, breastfeeding patterns, occupation, place of residence-Rural/Urban, type of family –nuclear /Joint, socioeconomic status-Low/Middle/High were noted. Weight of baby and gestational age were also noted and the latch was assessed using LATCH score and relevant data was collected on predesigned questionnaire. The “L” assessment is scored as a 2 if the infant’s gum line is placed well over the mother’s lactiferous sinuses, the tongue is positioned under the areola, and both lips are flanged outward. Jaw movement should be visible at the temple area and adequate suction demonstrated by full cheeks without dimpling. There also should be a sustained latch with rhythmic sucking outbursts of 6-7 compressions every 10 seconds. A score of 1 is given if these criteria are met only after repeated attempts or if the staff must hold the nipple in the infant’s mouth and repeatedly stimulate the infant to suck. An infant who is too sleepy or reluctant to nurse and, therefore, does not latch on receives an assessment score of 0. The “A” assessment is scored as a 2 if swallowing is heard as a short, forceful expiration of air. At 3-4 days after birth, the frequency of swallowing should increase. If swallowing is heard infrequently and usually only with stimulation, an assessment score of 1 is given. If no audible swallowing is noted, an assessment score of 0 is given. “T” is for the mother’s nipple type. If the nipple is everted and projects outward at rest or after stimulation, an assessment score of 2 is given. A nipple that is flat or projects forward minimally receives an assessment score of 1. Inverted nipples receive an assessment score of 0

The “C” indicates the mother’s comfort. An assessment score of 2 is given if the breast tissue is soft and elastic and the nipples have no visible signs of redness, bruising, blistering, bleeding, or cracking. When asked, the mother also must state that she is comfortable. If the mother indicates she is experiencing mild to moderate tenderness, if she is experiencing a decrease in tissue elasticity when her breasts fill, or if her nipples are reddened with small blisters, an assessment score of 1 is given. Mothers who indicate severe discomfort and have breasts that are engorged, firm, tender with nonelastic tissue, and nipples that are cracked, bleeding, very reddened are given 0 score. The final component of the LATCH assessment considers the breastfeeding position used by the mother and the amount of help she requires from the staff

to hold the infant. Many positions can be used for breast-feeding, depending upon the preference of the mother and the needs of the infant (Renfrew, 1989). The “H” assessment area is an important indic. An assessment score of 2 is given if the mother is able to position the infant at the breast (in a cradle, football, or side-lying hold), without assistance from the staff. If the mother needs assistance from the nursing staff with positioning and attachment of the infant at the first breast but is able independently to achieve a latch-on of the infant at the second breast, an assessment score of 1 is given. If the mother needs the full assistance of the nursing staff to attach and hold the infant at the breast for the entire feeding, an assessment score of 0 or of the mother’s need for further teaching before discharge or referral to a lactation consultant.

Statistical analysis

. Data was analysed using SPSS software. Qualitative variables were expressed in percentages and quantitative variables will be expressed as mean (SD). Chi square test was used to test the association. For comparing the 2 groups student t test was used. Outcome measures were LATCH Score and Frequency of lactation failure (percentage of mothers with LATCH score less than 7) The scores for each area of assessment are added together to achieve a total for each breastfeeding session.

Results

Table 1

Table showing the relation of maternal parameters to LATCH SCORE

PARAMETER	Total number	SCORE <7	%	SCORE >7	%
Maternal age <20	56	52	92.85	4	7.1
Maternal age 21-29	1368	804	58.77	564	41.22
Maternal age >30	136	36	26.4	100	73.5
Maternal education upto secondary level	860	480	55.81	380	44.1
Maternal education upto graduate and post graduate	700	412	58.85	288	41.14
Mother employed	468	256	54.7	212	45.2
Mother unemployed	1092	636	58.24	456	41.75
Rural dweller	1148	632	55.05	516	44.9
Urban dweller	412	260	63.1	152	36.89
Nuclear family	1048	652	62.21	396	37.78
Joint family	512	240	46.8	272	53.12
Low Socioeconomic group	68	4	5.88	64	94.11

Middle and high socioeconomic group	1412	808	57.22	604	42.77
Primigravida mother	664	520	78.31	144	21.6
Multigravida mother	896	372	41.51	524	58.48
Term baby	1432	808	56.4	624	43.57
Preterm baby	121	77	63.6	44	36.36
Normal delivery	1100	640	58.18	460	41.8
Caesarean and assisted delivery	572	380	66.4	192	33.56
Lactation counselling given	792	116	14.64	596	75.25
Lactation counselling not given	848	776	91.5	72	8.4
Male baby	804	428	53.23	376	46.76
Female baby	756	464	61.37	292	38.62
Large baby	16	4	25	12	75
Baby weight adequate for gestational age	1392	772	55.4	620	44.54
Small baby	152	116	76.3	36	23.68

. In our study there was significant association between age and latch score with mothers having age below 20 having lower latch scores($p < .001$, odds ratio 10.27) On comparing maternal education 12th std or less vs graduate and post graduate and the effect on latch scores, corrected chi square was 1.3380 (p value-.124) and hence no significant outcome was obtained. But mothers having primary education or less had a lower score than those with higher education. On comparing mothers living in rural and urban areas and the effect on latch scores, corrected chi square was 7.708 (p value-.002749) yielding a significant result. In our study, 44.9% of mothers in rural areas had latch score > 7 when compared to 36.89% in mothers from urban areas.

On comparing unemployed and employed mothers and the effect on latch scores, corrected chi square was 1.536 (p value-.1078). 45.2% mothers who were employed had higher latch scores compared to 41.75 % in unemployed mothers, but the difference was not significant.

On comparing mothers coming from joint families and nuclear families and the effect on latch scores, corrected chi square was 7.292 (p value-.002915). 53.12% mothers from joint families had higher latch scores compared to 37.78 % from nuclear families yielding a significant difference. On comparing mothers coming from lower socio economic strata and middle to higher strata and the effect on latch scores, corrected chi square was 67 (p value-less than .001). 94.11% mothers from higher socio-economic strata families had higher latch scores compared to 47.21 % from lower socio-economic strata yielding a significant difference. On comparing primigravida mothers with first child and multigravida mothers and the effect on latch scores, corrected chi square was 209.4 (p value-less than .001). 21.6% primi mothers

had higher latch scores compared to 58.48 % in multigravida mothers yielding a significant difference. On comparing mothers with preterm delivery vs those with term delivery and the effect on latch scores, corrected chi square was 2.082 (p value-less than .06197). 43.57% mothers with term delivery had higher latch scores compared to 33.6 % in mothers with preterm delivery before 37 completed weeks, but there was no significant difference. 41.8% mothers after normal delivery had higher latch scores compared to 33.56 % after caesarean and assisted deliveries (chi-square—10.43, p value <.001) yielding a significant result. 75.25 % mothers who were given proper lactation counselling and assistance had higher latch scores compared to 8.4 % mothers who were not given lactation counselling and assistance (chi-square—891.3, p value <.0001) yielding a significant result. 46.6% male babies had higher latch scores compared to 38.62 female babies, but the difference was not significant. .44.54 % babies who were adequate for gestational age had higher latch scores compared to 23.63% in small for gestational age babies. (chi square—23.55, p value<.001). Hence AGA babies had significantly higher latch scores than small for gestational age babies.

Discussion

During the study period 1560 mothers and babies were studied. Among them only 668 (42.8%) was having LATCH Score ≥ 7 in the first 48 hours. 892(57.2%) babies were having LATCH Score less than 7 in the first 48 hours. According to study by Tornese⁸ et al, the rate of nonexclusive breastfeeding was inversely related to the LATCH score (p<0.001) with non-exclusive breastfeeding infants scoring less (6.9) than infants exclusively breastfed at discharge (7.6) (p=0.001). The incidence of lactation failure in the early postnatal period was 57.2%. Various maternal factors like age, educational status, occupational status, employment status, place of residence, type of family, parity , socioeconomic status, type of delivery and neonatal factors like gestational age ,birth weight, gender were recorded and its association with LATCH score was studied.

Study by Sowjanya et al⁹ found that LATCH represents a simple, cost-effective tool capable of predicting breastfeeding as early as in the first 24 hours of life, especially in resource-limited settings. . In our study there was significant association between age and latch score with mothers having age below 20 having lower latch scores(p<.001). In our study there was significant association between maternal education and latch score with mothers having primary education having lower latch scores. (p<.05). Also a significant association between the type of family and latch score was observed. There was Odds of encountering a latch score of less than 7 in participants from a nuclear family. When comparing the LATCH scores in primiparous mothers and multiparous mothers, significant association was observed between the parity and latch score indicating 5.1 Odds of encountering a latch score less than 7 in primipara. .In a similar study done by Gerçek¹⁰ E et al multiparous women got significantly higher LATCH scores. Significant association was observed between counselling and latch score indicating 0.02 Odds of encountering a latch score of < 7 in participants who received counselling Study by Shah¹¹ et al found that after counselling, the LATCH score significantly improved at discharge in mothers (n = 62) with an initial score <6 (P < 0.001)..A similar study done by Kavita Sreekumar et al¹² also showed a single session of cognitive breastfeeding counseling in the third trimester is effective in significantly improving the LATCH scores in

the immediate newborn period. Significant association was observed between the weight of the newborn and latch score ($p=0.02$) possibly indicating higher proportion of small for gestational age newborn with latch score less than 7. In a study done by Altuntas¹³ N et al which compared the LATCH scores of term and preterm. Median LATCH scores were 7.0 in preterm babies and 9 in term babies. High LATCH scores (7-10) may be helpful to determine that infants take at least 50% of the expected breastmilk volume for each feeding in both preterm and term infants. There was association between type of delivery and latch score in the study with those after normal delivery having higher scores. High-risk pregnancies, patients who delivered by caesarean section, and patients not attempting to breastfeed within 30 min tend to have lower LATCH scores in study by Fadiloglu¹⁴ et al, In a study done by İsik Y¹⁵, LATCH score was lower in the group after caesarean delivery as compared to vaginal labour. In a study done by Cakmak H 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. Mothers who delivered their babies by caesarean section had problems related to maternal attachment and breastfeeding more often than those who delivered vaginally as per study by Cetisli¹⁹ et al.

Conclusion

57.2% of mothers were having feeding issues using LATCH Score on postnatal day 2. There was significant association between age and latch score ($p < 7$ having age less than 20 years). There was significant association between educational status and latch score ($p=0.008$) probably indicating the higher proportion of participants with primary education with a latch score of ≥ 7 . Significant association between the type of family and latch score was observed indicating 1.9 Odds of encountering a latch score of < 7 in participants who received counselling. Significant association was observed between the weight of the newborn and latch score ($p=0.02$) possibly indicating higher proportion of SGA newborn with latch score < 7 .

Conflict of interest: nil

References

1. Arun Gupta¹, Shoba Suri², J P Dadhich², Marta Trejos³, Barbara Nalubanga
The World Breastfeeding Trends Initiative: Implementation of the Global Strategy for Infant and Young Child J Public Health Policy 2019 Mar;40(1):35-65.
2019 Mar;40(1):35-65. doi: 10.1057/s41271-018-0153-9.
- 2) Ahmad, M. O., Sughra, U., Kalsoom, U., Imran, M., & Hadi, U. (2012). Effect of antenatal counselling on exclusive breastfeeding. Journal of Ayub Medical College, Abbottabad: JAMC, 24(2), 116–119
- 3) Dhandapany G., Bethou, A., Arunagirinathan, A., & Ananthakrishnan, S. (2008). Antenatal counseling on breastfeeding—is it adequate? A descriptive study from Pondicherry, India. International Breastfeeding Journal, 3(1), 510.1186/1746-4358-3-5
- 4) Hofmann, S. G., Asmundson, G. J., & Beck, A. T. (2013). The science of cognitive therapy. Behavior Therapy, 44(2), 199–212. <http://dx.doi.org/10.1016/j.beth.2009.01.007>

5) Jensen, D., Wallace, S., & Kelsay, P. (1994). LATCH: A breastfeeding charting system and documentation tool. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 23(1), 27–32. <http://dx.doi.org/10.1111/j.1552-6909.1994.tb01847.x>

6) National Institute of Population Studies and Macro International Inc. (2008). *Pakistan Demographic and Health Survey, 2006–2007*. Islamabad, Pakistan: NIPS and Macro International Inc

7) Sikander, S., Maselko, J., Zafar, S., Haq, Z., Ahmad, I., Ahmad, M., . . . Rahman, A. (2015). Cognitive-behavioral counseling for exclusive breastfeeding in rural pediatrics: a cluster RCT. *Pediatrics*, 135(2), e424–e431. <http://dx.doi.org/10.1542/peds.2014-1628>

8) Tornese, G., Ronfani, L., Pavan, C., Demarini, S., Monasta, L., & Davanzo, R. (2012). Does the LATCH score assessed in the first 24 hours after delivery predict non-exclusive breastfeeding at hospital discharge? *Breastfeeding Medicine*, 7(6), 423–430. <http://dx.doi.org/10.1089/bfm.2011.0120> .1016/j.ijnurstu.2006.04.018. Epub 2006 Jul 11. PMID: 16839557.

9) Sowjanya SVNS, Venugopalan L. LATCH Score as a Predictor of Exclusive Breastfeeding at 6 Weeks Postpartum: A Prospective Cohort Study. *Breastfeed Med*. 2018 Jul/Aug;13(6):444-449. doi: 10.1089/bfm.2017.0142. Epub 2018 Jun 29. PMID: 29957025.

10) **Gerçek E, Sarıkaya Karabudak S, Ardiç Çelik N, Saruhan A The relationship between breastfeeding self-efficacy and LATCH scores and affecting factors** *J Clin Nurs*. 2017 Apr;26(7-8):994-1004. doi: 10.1111/jocn.13423. Epub 2016 Dec 16. PMID: 2727209

11) Shah MH, Roshan R, Parikh T, Sathe S, Vaidya U, Pandit A. LATCH Score at Discharge: A Predictor of Weight Gain and Exclusive Breastfeeding at 6 Weeks in Term Healthy Babies. *J Pediatr Gastroenterol Nutr*. 2021 Feb 1;72(2):e48-e5

12. Sreekumar K, D'Lima A, Silveira MP, Gaonkar R. Cognitive Breastfeeding Counseling: A Single Session Helps Improve LATCH Score. *J Perinat Educ*. 2018 Jun;27(3):148-151. doi: 10.1891/1058-1243.27.3.148. PMID: 30364260; PMCID: PMC61933592. doi:10.1097/MPG.0000000000002927. PMID: 32868667. 2018 Jun; 27(3): 148–151

13. Altuntas N, Kocak M, Akkurt S, Razi HC, Kislal MF LATCH scores and milk intake in preterm and term infants: a prospective comparative study. *Breastfeed Med*. 2015 Mar;10(2):96-101. doi: 10.1089/bfm.2014.0042. Epub 2014 Dec 30. PMID: 25548967

14) Fadiloglu E, Karatas E, Tez R, Cagan M, Unal C, Nar M, Tanacan A, Beksac MS. Assessment of Factors Affecting Breastfeeding Performance and Latch Score: A Prospective Cohort Study. *Z Geburtshilfe Neonatol*. 2020 Oct 6. doi: 10.1055/a-1255-3525. Epub ahead of print. PMID: 33022737.

15) İsik Y, Dag ZO, Tulmac OB, Pek E. Early postpartum lactation effects of cesarean and vaginal birth. *Ginekol Pol*. 2016;87(6):426-30. doi: 10.5603/GP.2016.0020. PMID: 27418219

16) Emond A, Ingram J, Johnson D, Blair P, Whitelaw A, Copeland M, Sutcliffe A. Randomised controlled trial of early frenotomy in breastfed infants with mild-moderate tongue-tie. *Arch Dis Child Fetal Neonatal Ed*. 2014 May;99(3):F189-95. doi: 10.1136/archdischild-2013-305031. Epub 2013 Nov 18. PMID: 24249695; PMCID: PMC3995264

. 17) Cakmak H, Kuguoglu S. Comparison of the breastfeeding patterns of mothers who delivered their babies per vagina and via cesarean section: an observational study using the LATCH breastfeeding charting system. *Int J Nurs Stud.* 2007 Sep;44(7):1128-37. doi: 10.1016/j.ijnurstu.2006.04.018. Epub 2006 Jul 11. PMID: 16839557.

.
18) Hasanah O, Novayelinda R, Deli H. The effect of oromuscular stimulation on neonate latch score. *Enferm Clin.* 2019 Mar;29 Suppl 1:46-48. English, Spanish. doi: 10.1016/j.enfcli.2018.11.017. Epub 2019 Feb 4. PMID: 30733127.

19) Cetisli NE, Arkan G, Top ED. Maternal attachment and breastfeeding behaviors according to type of delivery in the immediate postpartum period. *Rev Assoc Med Bras (1992).* 2018 Feb;64(2):164-169. doi: 10.1590/1806-9282.64.02.164. PMID: 296416