

Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-3291.ijcp20195753>

A study on role of LATCH scoring in duration of exclusive breastfeeding in a rural tertiary care hospital, Puducherry: a prospective study

Karthika S.¹, Mathivanan M.^{1*}, Maheswari K.¹, Hiremath P. B.², M. Jesintha Devi¹

¹Department of Pediatrics, ²Department of Obstetrics and Gynaecology, Sri Venkateshwaraa Medical College, Hospital and Research Centre, Pondicherry, India

Received: 26 September 2019

Revised: 15 November 2019

Accepted: 20 November 2019

***Correspondence:**

Dr. Mathivanan M.,

E-mail: mathivanan.doctor@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Exclusive Breastfeeding (EBF) for 6 months is the optimal way of feeding infants. NFHS4 data shows 45.5% of children were exclusively breastfed at 6 months in Puducherry. The Global Nutrition Targets 2025 aims at increasing EBF rates in first 6 months up to at least 50%. The main objective is to find areas of needed intervention using LATCH scoring and to find factors responsible for fall in rates of EBF.

Methods: A prospective study was conducted between November 2017 and April 2019 (1½years). Mothers were educated about breastfeeding. LATCH score assessed at 8 and 48 hours of life. At 48hours, score >8 indicates there is a high chance for EBF for next 6 months and score <8 indicates, mother is having difficulty in feeding and are intervened at this point. Data about EBF and reason for early weaning at 6 weeks and 6 months collected.

Results: LATCH score at 8 hours was >8 in infants delivered via NVD: 50% as against 9.6% in babies delivered via LSCS. At 48 hours LATCH score improved in both groups: 60.8% in babies delivered via NVD, 38.3% in babies delivered via LSCS. Compared to Primi-mothers, infants born to multigravida mothers had higher scores at 48 hours: 62.2% as against 31.1%. 84% were EBF at 6 weeks. 51% were EBF at 6 months. When mothers with LATCH score <8 at 48 hours were intervened, EBF rate at 6 weeks improved. Most common reason for early weaning at 6 weeks was maternal problems: 6.6% and at 6 months- due to influence of relatives: 27%.

Conclusions: LATCH score helps in predicting breastfeeding duration as early as 48 hours of life. Low scores indicate, it requires intervention and identifies the areas of needed intervention. Counselling regarding EBF must include not only mothers but also relatives.

Keywords: Antenatal counselling, Exclusive breast feeding, LATCH score, Weaning

INTRODUCTION

Breast milk is the natural and ideal food for healthy growth and development of newborn. It is species specific.¹ Exclusive breast feeding for 6 months is the optimal way of feeding infants, thereafter, started on complementary feeds with continued breastfeeding up to

2 years of age, as this is the period of maximum brain growth and development. Exclusive breastfeeding is a cornerstone of child survival and child health because it provides essential, irreplaceable nutrition for a child's growth and development.² It serves as a child's first immunization-providing protection from respiratory

infections, diarrhoeal disease, and other potentially life-threatening ailments.

NHFS 4 (National Family Health Survey), 2015-16 data shows only 54.9% of children under age 6 months are exclusively breastfed in India and only 48.3% are breastfed in Tamil Nadu and the percentage is even less than this in Puducherry- only 45.5% of children under age 6 months are exclusively breastfed. The Global Nutrition Targets 2025 aims at increasing the rate of exclusive breastfeeding in the first 6 months up to at least 50%.² Countries already at or near 50% exclusive breastfeeding should continue to strive for improvements because of the health and economic benefits of exclusive breastfeeding. In such cases, the recommendation is a minimum increase of 1.2% per year or more.

Mothers require active support for establishing and sustaining appropriate breastfeeding practices. The promotion and support of breastfeeding is a global priority, an important child-survival intervention.³ WHO and UNICEF recommend:^{1,2}

- Initiation of breast feeding within first 1 hour of life
- Exclusive breastfeeding
- Breastfeeding on demand
- No use of bottles, teats, pacifiers

Provision of mother's breast milk to infants within one hour of birth is referred to as "early initiation of breastfeeding" and ensures that the infant receives the colostrum, or "first milk", which is rich in protective factors.⁴ The common problems encountered by the mother-infant while trying to sustain exclusive breastfeeding are:¹

- Flat or inverted nipples
- Fullness and engorgement of breast
- Sore nipples and cracked nipples
- Blocked ducts
- Mastitis and abscess
- Socio economic and cultural factors.²

Among these, problems 2-5 are due to improper positioning of the baby. Problems must be identified and intervened properly for establishing exclusive breastfeeding.

METHODS

A prospective study was conducted during the period November 2017 and April 2019 (1½ years). All mothers who had delivered at ≥ 34 weeks and physiologically stable babies were included in the study and babies delivered < 34 weeks of gestation, physiologically unstable and sick babies and babies with absolute contraindication to breastfeeding were excluded from this study. Participation was entirely voluntary, and the mothers were free to withdraw from the study at any time. The sample size was calculated using statistics and sample size calculator. A previous study showed that mothers with LATCH scores ≥ 8 at 48 hrs had 3.6 times higher chances of exclusive breastfeeding at the end of 6 weeks and also that 7% of mothers with poor LATCH scores will have exclusive breastfeeding at the end of 6 weeks.⁴ Assuming, alpha error of 5%, beta error of 20%, sample size was calculated to be 98 in each group (total: 196). All mothers were educated about proper breastfeeding techniques, before initiation of first feed and they were all motivated to start feeding the newborn within 1 hour of life both in spontaneous vaginal deliveries and in babies delivered via caesarean section.

Table 1: LATCH score.

	0	1	2
L Latch	Too sleepy or reluctant No latch achieved	Repeated attempts 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 hours old 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 infants at breast)	Minimal assist (i.e. elevate head of bed, place pillows for support). Teach one side; mother does other. Staff holds and then mother takes over	No assist from staff Mother able to position / hold infant

Feeding was observed and checked for all five variables of LATCH scoring (Table 1) objective, and first recorded at 8 hours of life. Each variable is given a maximum score of 2. The score was recorded. Again, feeding was monitored subsequently at 48 hours of life. Scores were subsequently entered. A final score (at 48 hours) of more than 8 is a positive predictor that the baby will be exclusively breastfed for next 6 months.⁴ If the score was less than 8 at 48 hours, it was taken as an indicator that the mother was still having difficulty in feeding the baby and suspected to go in for early weaning. These mothers were intervened at this point. All these mothers were educated again about the importance of exclusive breastfeeding. If they were found to have problems like flat/inverted nipples, sore/ cracked nipples, fullness or engorgement of breasts, blocked duct, mastitis or breast abscess, then the mother was referred to Department of Obstetrics and Gynaecology. The diagnosis was confirmed and treated free of cost.

At 6 weeks and 6 months the mothers were contacted—during routine immunization at 6 weeks and telephone contact at 6 months, to know if the baby was exclusively breastfed or not. If not, reason for early weaning was enquired for and noted at 6 weeks and at 6 months respectively.

Written informed consent was obtained from mothers in a language they can understand (Tamil) after briefing them about the study. Ethical and scientific committee approval has been taken from the institute ethical and scientific committee respectively.

Statistical analysis

Data obtained was recorded in predesigned proforma. Master chart was prepared in Microsoft excel based on this data recorded. Analysis was done using SPSS VERSION20. It was used for generating charts and diagrams. Data was represented in proportions and percentages. p value <0.05 was considered significant. Descriptive analysis of the study sample done.

RESULTS

The mean gestational age at delivery was 38.65 with 60.7% infants delivered to multigravida and 39.3% to Primi-mothers, with 52% delivered via normal vaginal delivery and remaining 48% via LSCS. Antenatal counselling was given to all mothers involved in the study. Mean birth weight was 3.05 kg \pm 1.76kg. The mean gestational age of the infants was 38.65 weeks. The baseline demographic data is summarized in (Table 2). LATCH score at 8 hours was high (>8) in mother-infant dyads delivered via normal vaginal delivery: 50% as compared to 9.6% in babies delivered via LSCS, which is depicted in (Figure 1).

X-axis depicts the mode of delivery and y-axis, the number of infants. And at 48 hours LATCH score improved in both

the groups: 60.8% in mother-infant dyads delivered via normal vaginal delivery, 38.3% in babies delivered via LSCS, which is depicted in (Figure 2).

Figure 3 shows that compared to Primi mothers; infants born to multigravida mothers had higher scores at 48 hours: 62.2% as against 31.1%.

Table 2: Baseline demographic characteristics.

Demographic characteristic	Mean	SD
Maternal age (years)	26.02	3.959
Gestational age (weeks)	38.65	7.020
Birth weight (kg)	3.0524	0.36
Total (N=196) %		
Birth order	Primi gravida	77 39.3%
	Multi gravid	119 60.7%
Mode of delivery	Normal vaginal	102 52%
	LSCS	94 48%
Sex of the baby	Male sex	99 50.5%
	Female sex	97 49.5%
Antenatal breastfeeding counselling		196 100%

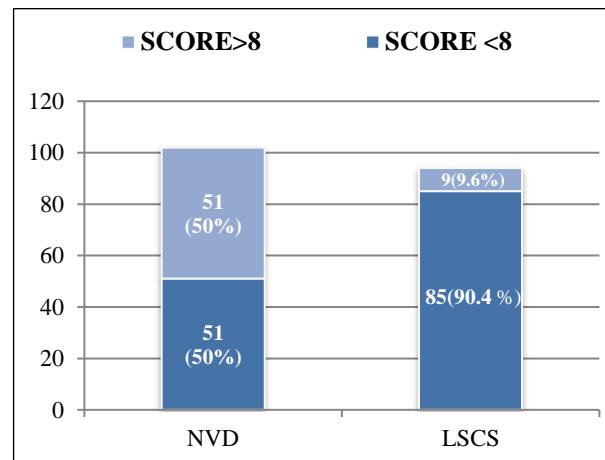


Figure 1: LATCH scores at 8 hours.

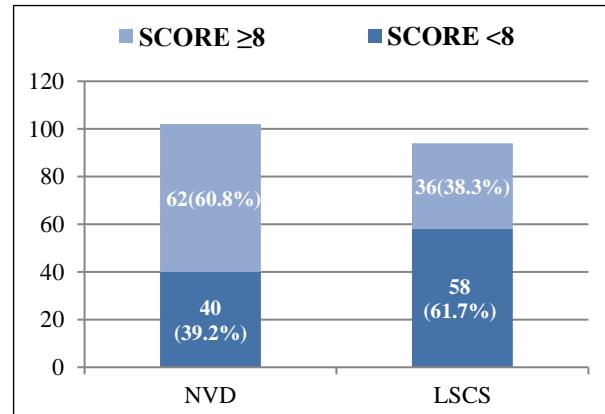
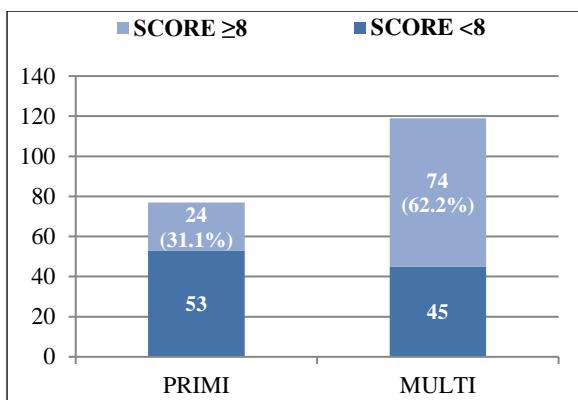
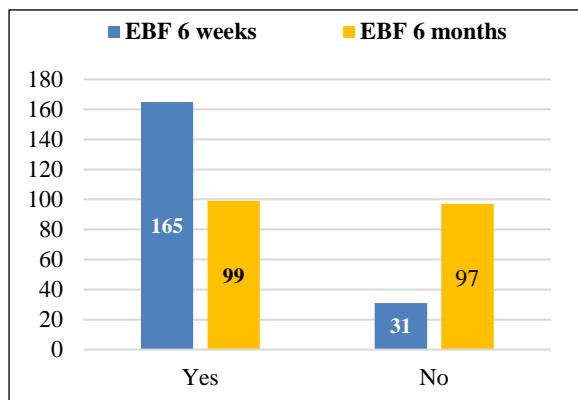


Figure 2: LATCH scores at 48 hours.

**Figure 3: LATCH scores at 48 hours.****Figure 4: EBF at 6 weeks and at 6 months.****Table 3: Reason for early weaning at 6 weeks.**

Reason	Frequency	Percent
Inadequate secretion as per mother/ relatives	6	3.1
Influence of relatives	5	2.6
Influence of medical and paramedical personnel	7	3.6
Maternal problems	13	6.6
Total	31	15.8

Table 4: Reason for early weaning at 6 months.

Reason	Frequency	Percent
Inadequate secretion as per mother/ relatives	11	5.6
Influence of relatives	53	27
Influence of medical and paramedical personnel	17	8.7
Maternal problems	11	5.6
Working mother	5	2.6
Total	97	49.5

Statistically 165 out of 196(84%) were exclusively breastfeeding at 6 weeks, 99 out of 196(51%) were exclusively breastfeeding at 6 months. When mothers with latch score less than 8 at 48 hours (98 out of 196)

were intervened, exclusive breastfeeding rate at 6 weeks was high as depicted in (Figure 4).

Table 3 shows that the most common reason for early weaning at 6 weeks was due to maternal problems: 6.6% and (Table 4) shows that the reason for early weaning at 6 months was due to influence of relatives: 53 out of 196 (27%).

DISCUSSION

In this study, author had used only one objective scoring system- LATCH to predict the duration of exclusive breastfeeding at 6 weeks and at 6 months postpartum. In a study by Sowjanya et al, LATCH score was utilized to predict breastfeeding duration at 6 weeks postpartum as previously reported by Riordan et al, and Kumar et al.⁴⁻⁶ In all 3 studies they found higher LATCH scores for those who breastfed to 6 weeks than those who had weaned by that time. They evaluated LATCH score as a whole without separating the components, at birth, 48 hours and at 6 weeks. In the present study, author had evaluated individual components and if the score was found to be low due to third and fourth components (type of nipple and comfort respectively), those mothers are identified and treated.

In the same study it was said that the use of the LATCH tool will assist caregivers to focus on those women with low scores, who are at risk for early weaning. A step ahead, all mothers with low LATCH scores at 48 hours in this study, were educated again about the importance of breastfeeding and given necessary support. In addition to this, Gercek et al, and Sowjanya et al, tried to study the correlation of the LATCH score and BSES-SF scale.^{4,7}

Gercek et al, found a weak positive correlation but Sowjanya et al, found a strong positive correlation between the two and thus concluded that LATCH score and BSES-SF can be used as assessment tools at delivery in all hospitals to assist in identifying and targeting mothers at risk of early weaning in order to improve the breast feeding duration as well as confidence in the mothers as they are simple, reliable and cost effective. Whereas, in this study, author haven't utilized any other assessment tool apart from LATCH scoring.

In Tornese et al, study, breastfeeding success at discharge was predicted by assessment of the latch-on to the breast in the first 24 hours.⁸ Authors were not able to identify a single LATCH score cutoff that could consistently predict non-exclusive breastfeeding at discharge. In Sowjanya et al, study, mothers with LATCH scores ≥ 8 at 48 hrs. had 3.6 times higher chances of exclusive breastfeeding at the end of 6 weeks and the sensitivity and specificity for LATCH score ≥ 8 at 48 hours was 93.55% and 92.1% respectively, thus making it a reliable cut-off value. The present study is based on this cut-off value.

In a study conducted by Santo et al, with a motive to identify determinants of exclusive breastfeeding cessation before 6 months, including variables like influence of grandmothers, breastfeeding technique and sore nipples, they concluded that the factors actually responsible were adolescent mother, fewer than six prenatal visits, use of a pacifier within the first month and poor latch-on.⁹ In this study, though there were no restrictions for the age of the mother, none of the mothers fell in the adolescent age group. But the main reason for early weaning at 6 weeks was found to be maternal problems and at 6 months was due to the influence of relatives in this study population.

Though many organizations have come in promoting exclusive breastfeeding, creating awareness among mother and also the general population, so that they can support mothers in exclusive breastfeeding, still the rate is <50% in Tamil Nadu and Pondicherry.

Limitations of the study was antenatal counseling was given only to mothers. It should involve other care takers also, since early weaning was highly influenced by relatives. Thus, care of the newborn is not only the responsibility of the mother but also all the caretakers.

CONCLUSION

LATCH score helps in predicting breastfeeding duration as early as 48 hours of life. Low LATCH score indicates, it requires intervention and also identifies the areas of needed intervention. Counselling regarding exclusive breastfeeding must include not only the mothers but also the relatives.

ACKNOWLEDGEMENTS

Authors wish to express their gratitude to Dr. Srikanth S, Professor and Head, Department of Community Medicine, Sri Venkateshwaraa Medical College Hospital and Research Center, Puducherry, India and Dr. Rajendran RamachariRamayi, Professor, Department of Pediatrics, Sri Venkateshwaraa Medical College Hospital and Research Centre, Puducherry, India, for their valuable suggestions. Dr. Balagopal, Professor, Department of Pediatrics, Dr. Jakanattane, Assistant Professor, Department of Pediatrics, Dr. Abhinaya Kannan, Assistant Professor, Department of Pediatrics would like to thank the mothers for their cooperation in this study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Elizabeth KE. Vitamins, minerals and micronutrients. In: Elizabeth KE (Ed). Nutrition and Child Development, 5th Ed. Hyderabad: Paras Medical Publisher; 2015:98-120.
2. WHO and UNICEF. (2014). Global Nutrition Targets 2025: Breastfeeding policy brief. Available at: http://www.who.int/nutrition/publications/globaltargets2025_policybrief_breastfeeding/en/. Accessed 02 November 2017.
3. Engebretsen IM, Shanmugam R, Sommerfelt AE, Tumwine JK, Tylleskär T. Infant feeding modalities addressed in two different ways in Eastern Uganda. *Int Breast J.* 2010 Feb;5(1):2.
4. Sowjanya SV, Venugopalan L. LATCH Score as a Predictor of Exclusive Breastfeeding at 6 Weeks Postpartum: A Prospective Cohort Study. *Breast Med.* 2018 Jul 1;13(6):444-9.
5. Riordan J, Bibb D, Miller M, Rawlins T. Predicting breastfeeding duration using the LATCH breastfeeding assessment tool. *J Human Lact.* 2001 Feb;17(1):20-3.
6. Kumar SP, Mooney R, Wieser LJ, Havstad S. The LATCH scoring system and prediction of breastfeeding duration. *J Human Lact.* 2006 Nov;22(4):391-7.
7. 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.
8. Tornese G, Ronfani L, Pavan C, Demarini S, Monasta L, Davanzo R. Does the LATCH score assessed in the first 24 hours after delivery predict non-exclusive breastfeeding at hospital discharge?. *Breast Med.* 2012 Dec 1;7(6):423-30.
9. Santo LC, De Oliveira LD, Giugliani ER. Factors associated with low incidence of exclusive breastfeeding for the first 6 months. *Birth.* 2007 Sep;34(3):212-9.

Cite this article as: Karthika S, Mathivanan M, Maheswari K, Hiremath PB, Devi MJ. A study on role of LATCH scoring in duration of exclusive breastfeeding in a rural tertiary care hospital, Puducherry: a prospective study. *Int J Contemp Pediatr* 2020;7:198-202.