

# Efficacy of Counselling in Improving LATCH Score and Successful Breastfeeding: A Hospital-based Prospective Cohort Study

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## ABSTRACT

**Introduction:** The World Health Organisation (WHO) recommends exclusive breast feeding for six months, and thereafter until two years. Breast milk is the ideal food for the new born babies. It provides them with adequate nutrition, promotes growth and prevents the occurrence of infectious diseases. A timely intervention to mothers helps in improving the effectiveness of breast feeding. LATCH score assessment tool has been used in developed countries to identify mothers who need breastfeeding support to sustain lactation.

**Aim:** To study the efficacy of counselling new mothers in improving the LATCH score and successful breastfeeding.

**Materials and Methods:** This hospital-based prospective cohort study was carried out in the Department of Paediatrics at a tertiary care hospital Jawaharlal Nehru Medical College, Acharya Vinoba Bhave Rural Hospital, Sawangi Meghe, Wardha, Maharashtra, India. In total 160 mother-infant dyads born between July 2020 and January 2021, born of both vaginal and caesarean delivery, with gestational age  $\geq 37$  weeks and singleton births were included

in the study. Preintervention data on LATCH score was collected immediately postpartum. These postpartum mothers were given breastfeeding education in the form of video assisted teaching as an intervention. Postintervention data was collected at six weeks postpartum. Data entry was done in MS excel and analysed in Statistical Package for the Social Science (SPSS) software.

**Results:** The mean age of the mothers was  $26.74 \pm 4.20$  years. Overall 84 (52.50%) of mothers had completed their higher secondary education, majority 54 (33.75%) of the mothers belonged to lower middle class, 102 (63.75%) were multi-gravida, while 112 (70%) belonged to a joint family. The difference between preintervention mean LATCH score ( $7.31 \pm 0.84$ ) and postintervention mean LATCH score ( $8.9 \pm 0.73$ ) was found to be statistically significant ( $p < 0.05$ ).

**Conclusion:** The LATCH score is a simple, easy, economical tool which can be easily used by the health workers as a breastfeeding assessment tool. Intervention using video assisted teaching helped in the better understanding of the mothers regarding breastfeeding.

**Keywords:** Breastfeeding mothers, Breast milk, Intervention, Video assisted teaching

## INTRODUCTION

Breastfeeding plays a crucial role in the health, growth and development of babies and has benefits for mother too. It also promotes the emotional relationship, or bonding between the mother and infant [1]. Exclusive breastfeeding is recommended for six months by WHO [2]. This is largely achieved by baby friendly hospital initiatives [3]. According to the comprehensive national nutritional survey for the year 2016-2018, only 57% of children born in the two years prior to the survey, initiated breastfeeding within one hour of birth and only 58% of infants under the age of six months were exclusively breastfed. The proportion of children who were continued to be breastfed till one year of age was 83% [4].

Breast milk provides all nutrients that a baby needs for the six months of life to grow and develop and continues to provide such nutrients which protects them from infections up to two years of age or more. It also contributes to birth spacing, reduces the risk of breast and ovarian cancer among mothers. Even though breastfeeding is a natural process, an effective breastfeeding is still a skill which is to be learned [1]. Co-ordination of mother and infant, a motivated and comfortable mother are prerequisites for successful breastfeeding [2]. It is also important to predict the latch on of the infant to the breast which positively increases the success associated with breastfeeding.

Visual media can aid in providing knowledge and techniques for performing various procedures to patients [5,6]. Postpartum video assisted education has been proven to enhance a mother's knowledge about breast feeding [6,7]. In addition, videos can help

mothers understand breastfeeding process and techniques better compared to counselling alone. Few studies used video assisted teaching and found that the mode improves the behaviour of mothers towards breastfeeding [8-10].

The study hospital follows exclusive breastfeeding policy for which counselling of lactating mothers starts immediately after the birth of the baby. During these counselling sessions, various media are used, ranging from pictures to lactation videos. Hence a study was conducted to assess the utility of LATCH score in breastfeeding mothers. It is regarded as one of the most essential breastfeeding evaluation tools, for determining the efficiency of early breastfeeding and is simple to use by all health workers [10]. The study aimed to evaluate the efficacy of video assisted counselling of new mothers in improving the LATCH SCORE and successful breastfeeding.

## MATERIALS AND METHODS

This hospital-based prospective cohort study was carried out in the Department of Paediatrics at a tertiary care hospital Jawaharlal Nehru Medical College, Acharya Vinoba Bhave Rural Hospital, Sawangi Meghe, Wardha, Maharashtra, India from July 2020 to January 2021. The Ethics Committee approval (DMIS(DU)/IEC/2018-19/7477) and written informed consent from the participants were obtained.

**Sample size calculation:** The sample size in the present study was calculated using population size (for finite population), correction factor or fpc (N):1000000, hypothesised % frequency of outcome

factor in the population (p): 10% +/- 5, confidence limits as % of 100 (absolute +/- %) (d): 5%. Design effect (for cluster surveys-DEFF):1.

Equation:  $n = \frac{DEFF * Np(1-p)}{(d^2 / Z_{1-\alpha/2}^2 * (N-1) + p(1-p))}$ , confidence level-95%, using the above equation sample size came to be as 139.

#### Inclusion criteria:

- Mother-infant dyads with gestational age  $\geq 37$  weeks.
- Singleton births
- Newborns born of both vaginal and caesarean delivery.
- Newborns with normal birth weight and without any complications at the time of delivery.

#### Exclusion criteria:

- Babies of mothers who were sick and unable to breastfeed.
- Newborns who were admitted to the neonatal intensive care unit.
- Mothers who were not willing to give informed consent.

Out of total 204 postpartum mothers admitted to postnatal ward during our study period, 44 mother-infant dyads were excluded from the study based on exclusion criteria and a total of 160 mother-infant dyads were included in the study.

### Study Procedure

The data on socio-demographic details was collected using a semi structured questionnaire by interview method. Intervention to the mothers was given through video counselling. Videos depicting correct latching and feeding positioning was taken from United Nations Children's Fund (UNICEF) videos on breastfeeding [11]. Video counselling was given to mothers by the same trained nurse daily after morning rounds in breastfeeding guidance room attached to the postnatal ward. It was assured that each mother was given counselling for an hour for four weeks.

LATCH score questionnaire was used to assess the effectiveness of the visual intervention tool. Pre (after delivery) and postintervention (at six weeks postpartum) LATCH scoring was done by two different assessors [12].

#### LATCH score:

L-how well the infant latches onto the breast.

A-the amount of audible swallowing noted.

T-type of nipple.

C-maternal comfort during feeding.

H-the amount of help the mother needs to hold her infant to the breast.

The total score ranges from 0 to 10; the higher the score, the more the chances of successful breastfeeding. The LATCH score of 0-3 is regarded as poor, 4-7 as moderate, and 8-10 as good. Modified kuppuswamy classification was used to classify the mothers based on socio-economic status [13].

### STATISTICAL ANALYSIS

Data was compiled and entered in the Microsoft excel spread sheets and analysed using Statistical Package for the Social Sciences (SPSS) software version 20.0. Quantitative data was analysed using mean and standard deviation. Qualitative data was summarised using frequency and percentage. Differences between means were compared by paired student's 't' test.  $p < 0.05$  was considered as statistically significant.

### RESULTS

The mean age of the mothers was  $26.74 \pm 4.20$  years. Out of 160 mothers, majority i.e; 69 (43.13%) belonged to 19-25 years age group, 84 (52.50%) were educated till higher secondary,

54 (33.75%) belonged to the lower middle class, 102 (63.75%) were multigravida, 112 (70%) were from joint families [Table/Fig-1].

Characteristics	Frequency (%)
<b>Mother's age (in years)</b>	
19-25	69 (43.13)
26-30	66 (41.25)
31-35	20 (12.50)
>35	5 (3.13)
<b>Education</b>	
Primary (5 <sup>th</sup> standard)	0
Secondary (10 <sup>th</sup> standard)	18 (11.25)
Higher secondary (12 <sup>th</sup> standard)	84 (52.50)
Graduate	50 (31.25)
Postgraduate	8 (5)
<b>Socio-economic status</b>	
Lower	15 (9.38)
Upper lower	46 (28.75)
Lower middle	54 (33.75)
Upper middle	45 (28.13)
Upper	0
<b>Parity of the mothers</b>	
Primi	58 (36.25)
Multi	102 (63.75)
<b>Type of family</b>	
Nuclear	48 (30)
Joint	112 (70)

**[Table/Fig-1]:** Socio-demographic profile of mothers (N=160).

Out of 160 newborns, majority, i.e., 93 (58.12%) were females, 80 (50%) had birth weight between 3.1 to 3.5 kgs, 108 (67.50%) were delivered through normal vaginal delivery [Table/Fig-2].

Parameters	Frequency (n)
<b>Gender</b>	
Male	67 (41.88)
Female	93 (58.12)
<b>Birth weight</b>	
2.5 to 3 kg	55 (34.38)
3.1 to 3.5 kg	80 (50)
3.51 to 4 kg	25 (15.62)
<b>Mode of delivery</b>	
NVD	108 (67.50)
LSCS	52 (32.50)

**[Table/Fig-2]:** Demographic profile of the newborns (n=160).  
NVD: Normal vaginal delivery; LSCS: Lower segment caesarean section

During the pre-intervention period, majority, 78 (48.75%) scored a LATCH score of 7 whereas in postintervention period, majority of them scored a LATCH score of 9. In preintervention period none of them scored a LATCH score of 10 whereas in postintervention period for 36 (22.50%) mother-infant units LATCH score was 10. The mean LATCH score in preintervention period was more compared to postintervention score and a significant difference was found between the two ( $p < 0.001$ ) [Table/Fig-3].

Improvement in the LATCH score was found more among multipara women with respect to the mean scores after intervention. Also, the improvement was more among women who underwent LSCS and women who had completed their secondary education. There was a significant improvement among women belonging to nuclear family after intervention [Table/Fig-4].

Latch score	No. of mother-infant dyads, n (%) -preintervention	No. of mother-infant dyads, n (%) -postintervention
5	2 (1.25%)	0
6	20 (12.50%)	0
7	78 (48.75%)	0
8	46 (28.75%)	52 (32.50%)
9	14 (8.75%)	72 (45.00%)
10	0	36 (22.50%)
Mean±SD	7.3125±0.84	8.9±0.73
p-value	<0.001	

**[Table/Fig-3]:** Comparison of pre and postintervention LATCH scores. p-value was calculated using paired student's t-test

Factors	Preintervention LATCH score	Postintervention LATCH score	p-value
<b>Mode of delivery</b>			
NVD (n=108)	7.3±0.761	8.87±0.671	0.0001
LSCS (n=52)	7.29±1.011	8.96±0.961	0.0001
p-value	0.942	0.332	
<b>Parity</b>			
Primi (n=58)	7.22±1.009	8.72±0.833	0.0001
Multi (n=102)	7.36±0.741	9±0.660	0.0001
p-value	0.158	0.001	
<b>Education status</b>			
Secondary (n=18)	7.27±1.127	9.16±0.923	0.0001
Higher secondary (n=84)	7.34±0.685	8.85±0.730	0.0001
Graduate (n=50)	7.2±0.947	8.84±0.650	0.0001
Postgraduate (n=8)	7.75±1.035	9.125±0.834	0.0001
p-value	0.762	0.0001	
<b>Type of family</b>			
Nuclear (n=48)	7±0.967	8.85±0.743	0.0001
Joint (n=112)	7.44±0.757	8.91±0.736	0.0001
p-value	0.001	0.468	
<b>Socio-economic status</b>			
Lower (n=15)	7.33±0.617	8.86±0.833	0.0001
Upper lower (n=46)	7.21±0.89	8.934±0.742	0.0001
Lower middle (n=54)	7.42±0.88	8.90±0.733	0.0001
Upper middle (n=45)	7.26±0.914	8.86±0.726	0.0001
p-value	0.798	0.0001	

**[Table/Fig-4]:** Comparison of preintervention and postintervention LATCH scores with respect to socio-demographic characteristics of mothers. p-value was calculated using paired student's t-test

## DISCUSSION

The present study demonstrates the efficacy of video assisted counselling new mothers in improving the LATCH SCORE and thereby successful breastfeeding. The LATCH scoring system is a simple and useful tool capable of identifying women with poor LATCH scores, thereby indicating the need for intervention. In the present study, the mean postintervention LATCH score was found to be 8.9±0.73 which was more when compared to preintervention LATCH score 7.31±0.84 which was almost similar to a study conducted by Ozturk R et al., [14], in which mean LATCH score was 8.38±1.50 in the intervention group and 7.30±1.51 in the control group I. In the the present study, the mean postintervention LATCH score was found to be 8.9±0.73 which was more when compared to preintervention LATCH score 7.31±0.84 which was almost similar to a study conducted by Ozturk R et al., in which mean LATCH score was 8.38±1.50 in the intervention group and 7.30±1.51 in the control group [14].

Mean LATCH scores for both normal vaginal delivery and caesarean delivery were almost similar in both pre and postintervention periods.

Mean LATCH score for primi and multi para mothers were also almost similar in both the periods, but there was slight improvement in LATCH score after intervention for multipara mothers compared to primipara, which was in contrast to a study done by Pramodita et al., [15]. This improvement can be due to their parity status implying that with experience, there is more improvement in their breastfeeding. Mean LATCH scores were almost similar across all variables except for type of family in preintervention group.

Mean LATCH scores were almost similar across other variables (the type of family, socio-economic status and education) in both pre and postintervention groups.

In this study, there was a statistically significant difference found between the preintervention and postintervention LATCH score with respect to all the socio-demographic characteristic of the mothers (p<0.05) which was in contrast to a study conducted by Sroiwatana S and Puapornpong P [10]. In the latter, the LATCH scores were similar across all the socio-demographic factors.

Also, there was a statistically significant difference found between the preintervention LATCH scores and type of family and a statistically significant difference found between postintervention LATCH scores and parity, educational status and socio-economic status. Family plays an important role in breastfeeding as there is constant support with respect to techniques of breastfeeding, thereby ensuring successful breastfeeding. Multiparous women scored better LATCH scores implying that assisted teaching helped in the better understanding of the mothers regarding breastfeeding. The strengths of the present study are that assessment of breastfeeding is done by two different assessors in pre and postintervention periods, double blinding was followed. The videos used as intervention tool were standardised videos from United Nations Children's Fund (UNICEF).

## Limitation(s)

The present study includes only those mothers admitted to postnatal ward, hence, generalisability of results is limited.

## CONCLUSION(S)

In the present study, it was found that the LATCH score improved among the postpartum mothers after intervention using visual intervention tool. Intervention using video assisted teaching helped in the better understanding of the mothers regarding breastfeeding. The LATCH score is a simple, easy, economical tool which can be easily used by the health workers as a breastfeeding assessment tool. Studies with a larger sample size are warranted in future for generalisability of the results. The effect of this visual intervention tool on those mothers whose babies were admitted to neonatal intensive care unit are to be evaluated.

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