



Effectiveness of Visual Intervention Tool in Improving LATCH Score in Mothers

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: World Health Organization (WHO) recommends exclusive breast feeding for at least 6 months and thereafter until the child is 2 years of age which has largely been achieved by Baby Friendly Hospital Initiative put forth by WHO. The vital role played by mother in breastfeeding delivers passive immunity and nutrients to the child and for it to be practiced in an effective way, counselling and education is needed for postpartum mothers. For an objective evaluation of effectiveness of breastfeeding counselling with visual aids in our unit, LATCH scoring was used to assess breastfeeding quality.

Materials and Methods: Breastfeeding education was given to postpartum mothers in the form of video assisted teaching as intervention. Pre and post intervention LATCH score were done to assess the quality of breastfeeding. Score for Latching (L), Audible swallowing (A), Type of nipple (T), Mother comfort (C), Help needed (H) were scored as 0,1 or 2. The total maximum score was 10 and minimum was 0. Maternal and neonatal demographic data and LATCH scores were collected and analyzed.

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Results: The difference between pre intervention and post intervention mean LATCH score was statistically significant.

Conclusion: The visual intervention helped the mothers to understand breastfeeding techniques and lactate effectively.

Keywords: Video-assisted teaching; breastfeeding teaching; LATCH score.

1. INTRODUCTION

World Health Organization (WHO) recommends exclusive breast feeding for at least 6 months and thereafter until the child is 2 years of age [1]. This has largely been achieved by Baby Friendly Hospital Initiative put forth by WHO [2]. Breastfeeding is not only beneficial to the health of the maternal–infant dyad, it also improves psychosocial interactions, reduces economic burdens, and is valuable to society.

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 1 year of age was 83% [3]

Breast milk contains collective nutrients from the mother's body stores. It provides the infants with ideal nutrition. It is also a perfect mix of vitamins, protein, and fat vital for baby growth and more easily digested than infant formula. It contains antibodies that is required against various infections. Breastfeeding lowers baby's risk of having asthma or allergies. Both the mother and her child have many short- and long-term benefits on breastfeeding such as immunity [4]. Even though breastfeeding has been considered as natural norm, an effective breastfeeding can be a complex task for the both mother and infant. Infant neurobehavioral development, sufficient coordination of sucking, swallowing and breathing [5,6] and a motivated and comfortable mother are most required for an efficacious breastfeeding. Breastfeeding is a sophisticated ability, that human evolution developed over millions of years, that requires appropriate environment stimuli to facilitates it [4]. For a successful breastfeeding, postpartum mothers require breastfeeding education and support from a health professional while in the hospital [7]. Breastfeeding creates an emotional bonding between mother and infant. Breast milk's immunogenic effect and nutrients

contained in it are enough for the baby's growth, making it the best feeding option available [8].

Visual media can aid in teaching knowledge and techniques for performing various procedures to patients [8,9]. An approach for enhancing nursing knowledge has been reported through postpartum video-assisted education. [9,10]. In addition, videos can help mothers understand breastfeeding process and techniques better compared to counselling alone.

Our hospital with an exclusive breastfeeding policy, counselling of lactating mothers starts right from the time of birth. During these counselling sessions, various media are used, ranging from pictures to lactation videos. Small group training [11-12] is the most effective way to teach breastfeeding. Hence, a study was undertaken to assess the effectiveness of these counselling sessions. For having an objective evaluation, LATCH score was used to assess the quality of breastfeeding before and after a video counselling session.

2. METHODOLOGY

A prospective analytical study was carried out at a private medical college post-natal ward between March to May 2021.

Babies who needed admission in neonatal intensive care unit for maternal health reasons were excluded. A total 102 mother-infant dyad from the three-month period were included for intervention and analysis.

The LATCH score was used to assess the quality of breastfeeding [13]:

2.1 Latching (L)

A score of 2 was given if the infant had tight grip on the mother's breast, the position of the tongue was facing forward, the lips curved, and the child had a sucking rhythm.

A score of 1 was recorded if there were repeated attempts to suck at the breast by the infant and

the mother had to keep her nipple in the child's mouth or had to stimulate the infant to suckle.

A score of 0 was given when the child was too sleepy, doesn't want or latch.

2.2 Audible swallowing (A)

The criterion of the "swallowing sound" score was 2 for swallows that were heard spontaneously or frequently, 1 for some swallows that were heard with stimuli, and 0 for inaudible swallows.

2.3 Nipple type (T)

A score of 2 was given for everted nipples (after stimulation), 1 for flat nipples, and 0 for inverted nipples.

2.4 Comfort of mother (C)

A score of 2 was given for soft, non-tender breasts and intact nipples (no damage); 1 breasts filled with milk, small blistering or bruising on the breast or the mother complains of mild to moderate discomfort in her nipple or breast; 0 for engorged breasts, with cracking and bruising and mother complains of severe discomfort.

2.5 Help for mothers (H)

A score of 2 for mothers not needing any feeding assistance; 1 for minimal support, teach one side, and the mother uses the other breast or a support worker and the mother is in charge of breastfeeding independently; and 0 for full support or staff holding the baby in the breast.

2.6 Intervention

Feeding was assessed in postpartum mothers who delivered at our hospital, and LATCH scoring was done in the first 48 hours of birth. As an intervention mothers were counselled on feeding techniques along with video counselling. The video depicting correct latching and feeding positioning was taken from UNICEF videos on breastfeeding [14]. Scores were again assessed after 12 hours. The pre and post intervention LATCH scoring and video counselling were done by two independent assessors.

The data was compiled using Microsoft Office 365 Excel and analyzed with Microsoft Excel

data analysis tool kit. Information on maternal age, parity, antenatal risk factors, mode of delivery, resuscitation were documented. Qualitative data was presented as frequencies and percentages. Mean, standard deviation, median and interquartile range were used to represent quantitative data. Paired t-test was used to measure the difference between pre and post intervention LATCH scores. A p value of < 0.05 was taken as significant.

3. RESULTS

The number of postpartum women enrolled in our research project totaled 102. The mean age of the mothers was 26 years. The mean gestational age at delivery was 38.1 weeks. The percentage of cesarean sections was 70.6. Mean age at which pre intervention scoring done was 1.3 days (SD: 0.5). Demographic data are shown in Table 1.

The mean pre intervention LATCH score was 4.7 ± 1 with a minimum score of 1 and maximum score of 6. The mean post intervention LATCH score was 7.8 ± 0.9 with a minimum score of 6 and maximum score of 9. There was statistically significant difference between mean pre intervention and post intervention scores. The details of the LATCH scores at the first and second assessment are shown in Table 2.

The effect of video counselling on mean LATCH scores among Primi and Multipara mothers are shown in Fig. 1. The minimum and maximum pre intervention LATCH score among primi mothers were 1 and 6, and among multipara mothers were 3 and 6 respectively. The minimum and maximum post intervention LATCH score among primi mothers were 7 and 9, and among multipara mothers were 6 and 9 respectively.

The effect of video counselling on mean LATCH scores among mothers who underwent normal vaginal delivery and Caesarian section are shown in Fig. 2. The minimum and maximum pre intervention LATCH score among mothers who had normal vaginal delivery were 3 and 6, and among mothers who underwent caesarian section were 1 and 6 respectively. The minimum and maximum pre intervention LATCH score among mothers who had normal vaginal delivery were 6 and 10, and among mothers who underwent caesarian section were 6 and 9 respectively.

Table 1. Population demographics

Maternal Characteristics	
Age, years, Mean(SD)	26(±3.7)
Primi, n(%)	42(41)
LSCS, n(%)	72(70.6)
Normal delivery, n(%)	30(29.4)
Preterm delivery, n(%)	8(7.8)
Neonatal Characteristics	
Gestational age, weeks, Mean(SD)	38.1(±1.3)
Birth weight, grams, Mean(SD)	2957.3(±388)
Male, n(%)	55(54)
1 minute apgar, Mean(SD)	7.9(±0.3)
5 minute apgar, Mean(SD)	8.9(±0.3)
NICU admission, n(%)	33(32.4)

Table 2. Effect of video counselling on LATCH Score

Parameters	Mean Pre intervention Score	Mean Post intervention Score	P value
Latch	0.8	1.6	0.000
Audible swallowing	0.4	1.1	0.000
Type of Nipple	1	1.8	0.000
Comfort	1.3	1.5	0.001
Hold	1.3	1.8	0.000
Total	4.7	7.8	0.000

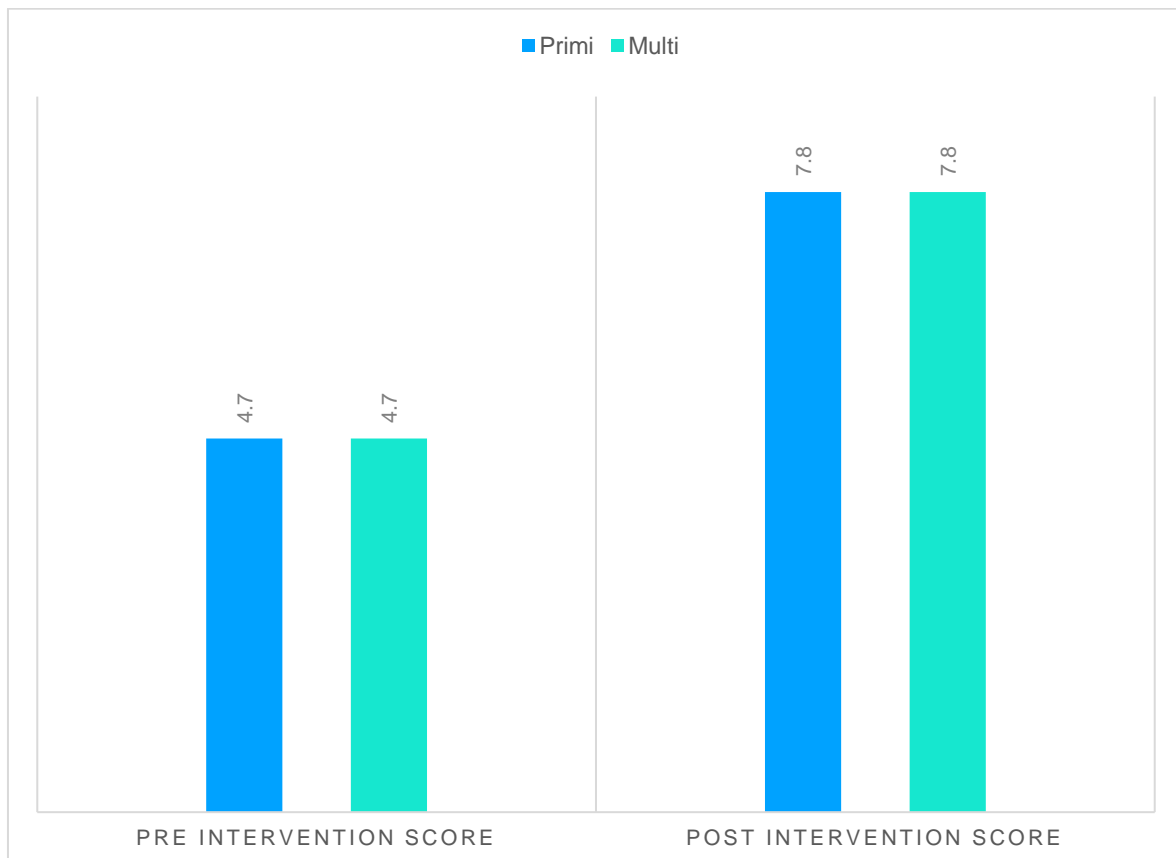


Fig. 1. Effect of video counselling on LATCH score - primi vs multi

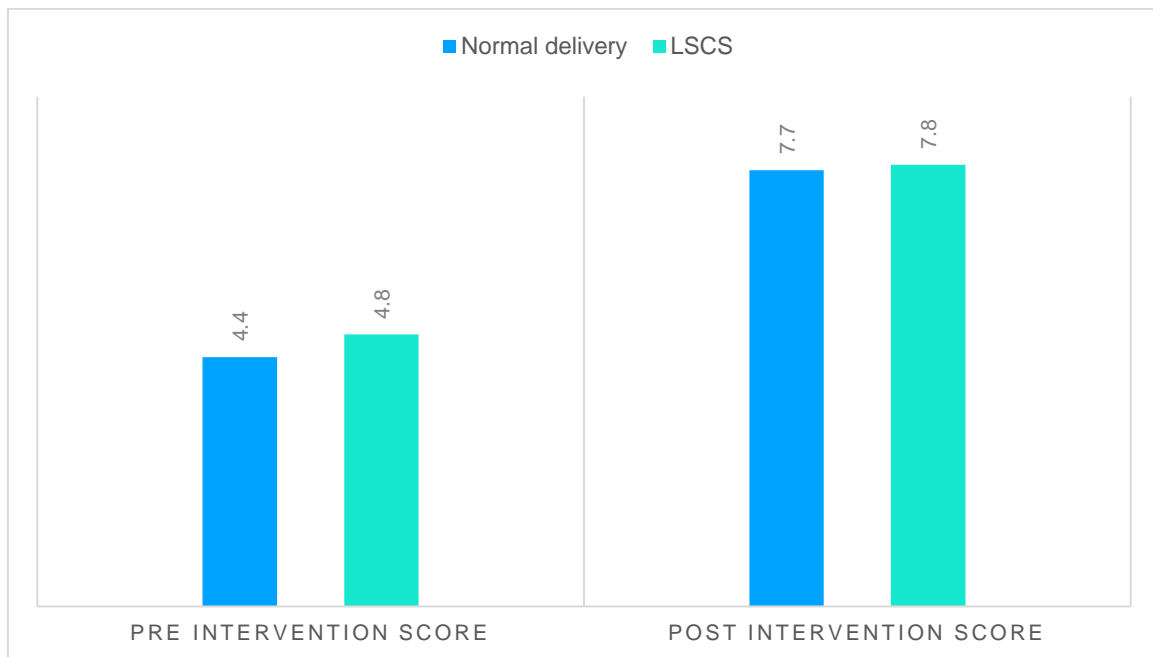


Fig. 2. Effect of video counselling on LATCH score - normal delivery vs LSCS

4. DISCUSSION

The LATCH score assessments before and after intervention have statistically significant differences. This result may be explained from the effectiveness of the breastfeeding technique after video assisted one-to-one teachings. This includes enabling mothers to position and attach their babies based on a physiological approach. Mothers were able to ask instructors any questions they may have as there is a close interaction between instructors and mothers during this intervention. Two-way communication between the mothers and instructors would help the mothers to understand and practice appropriate latching and positioning techniques and it is made easier with the video-assisted teaching [15]. The benefits of video assisted teaching in improving postpartum mother's knowledge about exclusive breastfeeding, and the management of breastfeeding problems had also been reported by Adhisivam et al and Gomathi et al [16,17].

A comparison of LATCH scores among primi and multipara mothers were done. However, the mean scores were comparable contradictory to the general belief that primi mothers will tend to have lower scores than their multipara counterparts. This probably could be because of more awareness among mothers on breastfeeding and exposure to electronic media which was a welcoming trend. On comparing the

minimum scores among these two groups following video counselling, score was slightly higher but for primi mothers but not significant. The reason could be pre-formed ideas on feeding techniques among multipara mothers when compared to primi mothers who would be open to new ideas.

In this study, the mothers had high cesarean section rates (70.6%). Ours being a tertiary care referral unit, we get referrals from surrounding hospitals for caesarian sections for want of facilities. The higher tendencies for cesarean section rates were also shown in similar studies done by Charoenboon C et al and Takahashi H et al [17,18,19]. Though it is generally thought to delay mother's breastfeeding initiation [20,21] and delay lactogenesis, in our study the mean LATCH scores were comparable between normal vaginal delivery and caesarian section mothers. In our unit, we practice breastfeeding within the first hour of life irrespective of type of delivery. This possibly would have negated the effect of delivery mode as the early initiation will help in earlier feeding establishment [20].

The strength of our study was that, assessment was done by two separate investigators who were blinded to each other's findings. The video assessment tool which was used was also a standardised video from UNICEF. The generalization of this research results may be limited by the fact that our hospital caters to

largely to population belonging to lower socio economic status and predominantly only mothers from post-natal ward were recruited. The effect of this intervention in preterm mothers in neonatal intensive care unit needs to be evaluated. Assessment of LATCH scores, which consists of latching and breastfeeding positioning parameters, was chosen. LATCH scores are commonly used for breastfeeding assessment in India. Health professionals are familiar with these assessments. In addition, the benefits of LATCH scores are associated with the prediction of continuing breastfeeding at 6 weeks postpartum. Breastfeeding knowledge was not assessed as it was not part of the objective of this study. Increasing the sample size would help improve the generalizations of the research results.

5. CONCLUSION

This study reiterates the fact that breast feeding support is imperative in all hospitals catering to mother and infants. Appropriate timely counselling of postpartum mothers will go a long way in improving breastfeeding outcomes and success.

CONSENT AND ETHICAL APPROVAL

Prior approval from Institution ethics committee was obtained before recruitment of the study population. After obtaining informed consent from parents, mother-infant dyad from birth to 48 hours in post-natal ward were included in the study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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