"Effectiveness Of Early Initiation Of Breastfeeding On Latching Behavior Among Neonates At Tertiary Care Hospital Karad, Maharashtra."

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Abstract

Background: Positioning of newborn baby against mother's nipple and proper latch-on method are fundamental for successful breastfeeding .Breastfeeding fails due to the lack of proper education about these methods and the support to initiate early breastfeeding.

Methods: A Quasi- experimental design with purposive sampling technique used to select 60 neonates, for control group 30 and experimental group30 . Assessment of latching Behavior done and consequent 3 readings collected in experimental group after experimental intervention. Assessment of Latching behavior done and consequent 3 readings collected in control group after routine breastfeeding practices. LATCH scores were compared using Mann-Whitney U test or Kruskal-Wallis test between the two groups.

Results: Average LATCH score was significantly higher in the group where breastfeeding was started within half hour of delivery than the group where routine breastfeeding practices were followed (8 vs. 5, *p* value <0.0001).

Conclusion: Early initiation of breastfeeding is a critical factor in governing a successful breastfeeding practices .

Keywords: Effectiveness, Latching Behavior, Early initiation of breastfeeding

INTRODUCTION

The World Health Organization (WHO) recommends exclusive breastfeeding during the first six months to provide the optimal combination of nutrition to infants.[1] However, breastfeeding terminates earlier for some women due to the lack of timely advice and support among other reasons.[2–4] Success of breastfeeding highly depends on prenatal and postnatal support from the birthing facility as well as antepartum training resources.

It is recommended that the infant should be given to the mother for skin-to-skin contact immediately after the birth, when possible, and breastfeeding should be started within the first hour. Early mother-infant contact enhances the affection between the involved dyad.[5] Early skin-to-skin contact is necessary for successful breastfeeding[6] and delayed breastfeeding is associated with an increased risk of infant mortality.[7]A very common cause of painful and uncomfortable breastfeeding by the mother is nipple pain associated with inaccurate positioning or latching of the infant.[8]In a hospital setting in India, only 47% infants were correctly positioned and 41% had an accurate latch.[9]

A mother's decision to breastfeed depends on several factors at the personal, family, society, or hospital level.[10]There could be several other factors that negatively affect this process including obstetric management of delivery, hospital ward protocols, and delivery of low weight or pre-term infant. It is necessary to study the factors that affect a successful breastfeeding journey for both mother and infant so that the healthcare professionals can provide education and promote breastfeeding. In this study, we analyzed the effect of early initiation of breastfeeding on LATCH scores.

MATERIAL AND METHODS:

A quasi-experimental study was conducted with 60 neonates selected, for control group 30 and experimental group30 ,those delivered Krishna Hospital and Medical Research Centre, Karad ,Maharashtra at Maternity ward with purposive sampling method between September and October 2018. Data collection done after Permission obtained from the ethical committee, Krishna Institute of Medical Sciences, Karad. Written ,informed consent obtained from parents. We included the neonates with 37-40 weeks of gestation and were delivered through vaginal delivery and mothers with known history of eclampsia, surgery, post-partum hemorrhage, or post-partum psychosis were excluded. Also neonates excluded with pre-term birth, birth weight less than 2 kilograms, an APGAR score less than 7 at 1 and 5 minutes, presence of congenital

malformations, or medical or surgical complications. Infants born after 40 weeks or those in critical care units were also not included in the study.

Sample size calculation

The estimated minimum sample size should be:

$$N = \frac{(SD1^2 + SD2^2) \times 13}{(\overline{X1} - \overline{X2})^2}$$

$$N = \frac{(9^2 + 5.3^2) \times 13}{(73.6 - 81.1)^2}$$

$$N = \frac{1418.17}{56.25}$$

N= 25.21, minimum = 30

Where, SD1 = Standard deviation of first variable (experimental group)
SD2 = Standard deviation of second variable (control group)
X1 = Mean of first variable (experimental group)
X2 = Mean of second variable (control group).

At the time of enrollment, socio-demographic details were recorded which included mothers age, education, occupation, family income, type of residence, Gravida, type of delivery, birth weight and number of children. LATCH score criteria which was adapted from Jensen et al.(Table 1).[11]LATCH score was calculated based on the assessment of breastfeeding session in five categories- Latch, Audible swallowing, Type of nipple, Comfort, and Hold.
Breastfeeding was initiated within half hour of birth in experimental group neonates and in control group neonates where breastfeeding was started as routine . We assessed the latching behavior using the LATCH score criteria. For both the groups, LATCH score was measured for three consecutive breastfeeding sessions starting from the initial session. Data was analyzed using statistical software R version 3.6.3 and Microsoft Excel. Categorical variables were represented by frequency tables. LATCH score was presented as median with minimum and maximum values. Mann-Whitney U test and Kruskal-Wallis test were used to compare the distribution of LATCH score among neonates. A *p* value less than or equal to 0.05 indicates statistical significance.

RESULTS

Table 1: Distribution of subjects according to socio-demographic variables.

Socio-demographic Variables		Number of Subjects	
		Control Group N (%)	Experimental Group N (%)
Age (Years)	18-24	14 (46.67%)	13 (43.33%)
	≥ 25	16 (53.33%)	17 (56.67%)
Educational Status	Secondary	3 (10%)	4 (13.33%)
	Higher Secondary	15 (50%)	11 (36.67%)
	Graduate	12 (40%)	15 (50%)
Occupation	Unemployed	28 (93.33%)	25 (83.33%)
	Employed	2 (6.67%)	5 (16.67%)
Monthly Family Income (INR)	<6323	8 (26.67%)	7 (23.33%)
	6323-18949	16 (53.33%)	15 (50%)
	> 18949	6 (20%)	8 (26.67%)
Type of Residence	Urban	8 (26.67%)	4 (13.33%)
	Rural	22 (73.33%)	26 (86.67%)
Gravida	Primigravida	17 (56.67%)	14 (46.67%)
	Multigravida	13 (43.33%)	16 (53.33%)
Mode of Delivery	Unassisted vaginal	11 (36.67%)	28 (93.33%)
	Instrumental vaginal	19 (63.33%)	2 (6.67%)
Number of Children	1	18 (60%)	14 (46.67%)
	2	12 (40%)	16 (53.33%)

Above table depicts that most of the mothers were above the age of 25 (~50%) and were educated to at least higher secondary (~90%) in both the groups. About 80%-90% of mother were unemployed and 70%-80% lived in rural environment. A majority of infants (60%-70%) weighed 2.5 to 2.9 kilograms.

Table 2: Comparison of LATCH score among neonates.

Socio-demographic Variables		Control Group Median (Min, Max)	Experimental Group Median (Min, Max)	*p* value (between the groups)
Age	18-24	5 (3, 7)	8 (5,9)	< 0.001
	≥ 25	5 (2, 7)	8 (6, 10)	< 0.001
***p* value**		0.7428	0.585	
Educational Status	Secondary	5 (5, 6)	8.5 (7, 9)	0.024
	Higher Secondary	5 (2, 7)	9 (7, 10)	< 0.001
	Graduate	5 (4, 6)	8 (5, 9)	< 0.001
***p* value**		0.7244	0.0621	
Occupation	Unemployed	5 (2, 7)	8 (5, 10)	< 0.001
	Employed	5 (5, 5)	8 (6,9)	0.038
***p* value**		0.9651	0.4678	
Family Income	<6323	5.5 (3,6)	8 (7, 9)	< 0.001
	6323-18949	5 (2,7)	8 (5, 10)	< 0.001
	> 18949	5 (4, 5)	8 (6, 9)	< 0.001
***p* value**		0.4752	0.8651	
Place of Residence	Urban	5.5 (4,7)	7.5 (6,9)	0.033
	Rural	5 (2,6)	8 (5,10)	< 0.001
***p* value**		0.0641	0.426	
Gravida	Primigravida	5 (3,6)	8 (6,9)	< 0.001
	Multigravida	5 (2,7)	8 (5,10)	< 0.001
***p* value**		0.3549	0.3737	
Mode of Delivery	Unassisted vaginal	5 (2,7)	8 (6,10)	< 0.001
	Instrumental vaginal	5 (3,7)	6.5 (5,8)	0.2512
***p* value**		0.874	0.2244	
Birth Weight (kg)	2.5-2.999	5 (2,7)	8 (5,9)	< 0.001
	≥ 3	5 (4,7)	8 (7,10)	< 0.001
***p* value**		0.7382	0.1136	
Number of Children	1 Child	5 (3,6)	8 (6,9)	< 0.001
	2 Children	5 (2,7)	8 (5,10)	< 0.001
***p* value**		0.338	0.3737	
Collective LATCH Score		**5 (2, 7)**	**8 (5, 10)**	**<0.0001**

p values in the rows are between the sub-categories within each group.

The LATCH score was calculated in both the groups for three consecutive sessions and median values are compared side by side in table 2.Subjects were randomized according to the sub-categories because there was no statistically significant difference in LATCH scores within each group (*p* values > 0.5 in all cases).

When we compared the median LATCH score of the experimental group with that of the control group, we found statistically significant difference irrespective of mother's age, education status, occupation, employment status, family

income, residence type, number of children, birth weight and gravida. In all the cases, the LATCH scores were significantly higher in the experimental group than the control group. The median LATCH score in the control group was either 5 or 5.5. While the median LATCH score in the experimental group was between 7.5 and 9 except a value of 6.5 in mothers who had instrumental delivery. There was no significant difference in the median LATCH score vs of the control group and the experimental group when the mother had a instrumental delivery.
Overall, the median LATCH score in the experimental group differed significantly from that of the control group (*p* value < 0.0001).

DISCUSSION

In the present study, we analyzed the effect of early initiation of breastfeeding on latching behavior which was quantitated using LATCH score. We found that the mother-infant dyads who started nursing within 30 minutes of delivery had a significantly higher LATCH score which suggests successful breastfeeding behavior.
When we compared the socio-demographic features of mother-infant dyads within the experimental or within the control group, we found no statistically significant differences. Number of children did not affect the LATCH scores within each group suggesting that the knowledge of correct breastfeeding technique did not improve over time. It was surprising that mother's education level or employment status had no effect on the breastfeeding technique. Also, breastfeeding behavior was not dependent on the infant's weight. Being in an urban or rural setting does not seem to affect breastfeeding practices.
A slight difference in the average LATCH scores of women who gave birth with the help of an instrument with those that had unassisted vaginal delivery (6.5 vs.8)was seen, only in the experimental group. A previous study has found that assisted delivery is associated with discontinuation of breastfeeding at 3 months postpartum.[12]This could be associated with increased pain and discomfort due to the use of instruments that were used to aid delivery.[13] This also points towards a role of mother's emotional health in governing the choice to breastfeed.
When we compared the experimental group to the control group, the overall LATCH score was significantly higher in the group where breastfeeding was started earlier (median 8) compared with the group where routine breastfeeding practices were followed (median 5) (*p* value <0.0001).Previously, similar results have been reported with a direct correlation of nurse-led initiation of breastfeeding and the LATCH score.[14] Another study reported that early initiation of breastfeeding leads to less chances of failure of the infant to latch.[15]It was found that initiation of breastfeeding at the hospital is a governing factor in predicting the continuation of breastfeeding for longer than a month.[13] Thus, our study, in light of previous studies, strengthens the fact that early initiation of breastfeeding is a critical factor for a mother to have successful breastfeeding relation with her child.
Many mothers experience breastfeeding problems such as sore nipples, breast engorgement, or inefficient suckling technique which are associated with early termination of breastfeeding.[16]Prolonged use of an incorrect latching method causes early cessation of breastfeeding.[17] Almost 65% of cases with breast-pain can be resolved by just improving the infant's latch.[18]Approximately one-third women stop breastfeeding during the first month due to breastfeeding problems. This suggests that early initiation of breastfeeding with timely education and support are key to successful breastfeeding. Some of these problems can be circumvented by initiating the breastfeeding early on with prior knowledge of proper positioning and latching techniques.
The study was limited by the fact that only vaginal deliveries were considered. Also, only a short duration of about one month was studied here. Nonetheless, the information presented here can be used as motivation for healthcare facilities specifically the nurses to educate mothers, mainly primipara, about latch on techniques and breastfeeding basics. In future, more studies should be replicated with an increased sample size and should include neonates born through cesarean surgery.

CONCLUSION

The present study shed informative light on the role of early initiation of breastfeeding on proper latch behavior that will benefit both the mother and the infant. In future, such data would be useful in designing better educative material for the expecting mother and will prepare the nurses who are at the front line of implicating such teaching processes.

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CONFLICTS OF INTEREST

There was no conflicts of interest.

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