

A Study to Assess the Effectiveness of Breast Crawl Technique on Initiation of Breastfeeding among Newborns at Selected Hospitals of Kamrup District, Assam

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Abstract: Every newborn, when placed on mother's abdomen, soon after birth, can find mother's breast all its own and decide when to take the first breastfeed. This is called 'Breast Crawl.' The objective of the study is to assess the effectiveness of breast crawl technique on initiation of breastfeeding among newborns. Quantitative approach and Quasi - Experimental post - test only control group research design was adopted for the study. Using non probability purposive sampling technique 60 newborns were enrolled and were distributed in two groups. Breast crawl technique was provided to the experimental group. Assessment was done by LATCH scale in both groups. Data was analysed by using descriptive and inferential statistics. Findings revealed that there was significant difference in the initiation of breastfeeding among the newborns of experimental and control group with early initiation of breastfeeding in experimental group. Age of the mother, birth weight of baby and gestational age of mother were statistically found significant association at $p < 0.05$ level with initiation of breastfeeding among newborns in experimental group and in control group all demographic variables were statistically found non - significant with initiation of breastfeeding. The study concluded that Breast Crawl technique is an effective intervention to initiate breastfeeding among newborns.

Keywords: Assess, Effectiveness, Breast crawl, Initiation of breastfeeding, Newborns

1. Introduction

Ina May Gaskin in her book Ina May's Guide to breastfeeding states that "Mother's milk is soul food for babies. The babies of the world need a lot more soul food." After birth, babies' perfect gift from their mothers' is the breast milk. Breastfeeding is the natural, crucial, unrivalled, and recommended way of providing breast milk for the healthy growth and development of the infants even when artificial feeding is affordable. The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend that children need to initiate breastfeeding within the first hour of birth and should be exclusively breastfed for the first six months of life. Early initiation of breastfeeding has many benefits such as the first breast milk which is colostrum provides high amount of immunoglobulin A (IgA) and several other antibodies which protects the babies from bacterial and viral infections whereas formula milk does not provide antibody protection. Baby gets all the essential nutrients from the breast milk which helps in growth and development of the baby. Moreover, skin to skin contact during early breastfeeding allows the baby to bond with mother early and prevents hypothermia by keeping the baby warm. In this position, the infant can experience sensations somewhat similar to that felt during the last several weeks of intra - uterine life, therefore this can provide comfort to the baby. Baby achieves effective feeding skills faster so chances of long - term breast - feeding success increase. Early initiation also helps in better uterine contractions leading to faster expulsion of placenta, reduces the chances of postpartum haemorrhage and thus prevents anaemia. Breast Crawl is one

of the methods to initiate breastfeeding early. Babies have sucking reflex that enables them to suck and swallow the milk.

Breast crawl technique is keeping the newborn directly on the mother's abdomen (nose in the midline of the mother's chest, eyes at the level of the nipples) soon after birth and allowed to crawl on their own up to the breast and then latch on to initiate breastfeeding.¹

2. Literature Survey

The Breast Crawl was originally described in 1987 by Dr. Ann - Marie Widström, Dr. Anna - Berit Ransjö - Arvidson, Dr. Kyllike Christensson, Ms. Ann - Sofi Matthiesen, Dr. Jan Winberg and Dr. Kerstin Uvnäs Moberg from Karolinska Institute (Sweden). The description of the Breast Crawl, compiled from the article, is as: "Immediately after birth the child was dried and laid on the mother's chest. In the control group a regular behavioural sequence, previously not described in the literature, was observed. After 15 minutes of comparative inactivity, spontaneous sucking and rooting movements occurred, reaching maximal intensity at 45 minutes. The first hand - to - mouth movement was observed at a mean of 34 ± 2 minutes after birth and at 55+ minutes the infant spontaneously found the nipple and started to suckle. These findings suggest that an organized feeding behaviour develops in a predictable way during the first hours of life, initially expressed only as spontaneous sucking and rooting movements, soon followed by hand - to - mouth activity together with more intense sucking and rooting activity, and culminating in sucking of the breast."²

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In 1998, neonatologist Marshall Klaus reviewed many of these studies and gave a beautiful description of the Breast Crawl. He identified a five - part sequence of events in the breast crawl: 1. Salivating and mouthing hands 2. Moving in the direction of the breast, through leg and arm movements 3. Bouncing head up and down and side to side 4. Opening mouth at nipple 5. Latching on and suckling. The credit for using the word 'Breast Crawl' as a 'noun' for the first time should be given to Klaus. All previous studies have used it as a 'verb'.²

In India, the recommendation was discussed with Obstetricians Rachna and Kartik Bhagat, who readily agreed to try it out at their maternity service 'Grace Maternity & Nursing Home' at Kandivali (Mumbai).²

WHO, (2012) stated that on an average of 46 percentages of newborns are malnourished which is primarily due to the improper feeding practices. Early initiation of breastfeeding will minimize at least 22 percentage of malnutrition. Thus, breast crawl has the potential to improve initiation rates of breastfeeding and to reduce neonatal, infant and under five morbidity and mortality.³

United Nations International Children Emergency Fund (2013), explained that breast crawl is novel, easy, readily available, evidence based and cost - effective miraculous method to initiate breastfeeding. It does not require elaborate preparations or instructions and can be performed in all birth setting and units.

Sharma R, (2017) conducted a study on effectiveness of breast crawl technique to initiate breastfeeding in newborn and to find out its impact on newborn and maternal outcome during early postpartum period. The results showed that in the experimental group, majority of newborn (93.33%) had early initiation, whereas in control group, only 10% of newborn had early initiation. The study concluded that breast crawl technique was effective for early initiation of breast feeding in newborn after birth. With breast crawl technique 100% newborn could initiate breast feeding within one hour of birth. The breast crawl technique had a positive impact on early maintenance of temperature, heart rate and blood glucose level of newborn after birth and promoted early establishment of lactation and maternal infant attachment during early postpartum period.¹

Objectives

- To assess the initiation of breastfeeding in experimental group after providing breast crawl.
- To assess the initiation of breastfeeding in control group.
- To compare the initiation of breastfeeding among newborns of experimental and control group.
- To find out the association between initiation of breastfeeding among newborns of experimental and control group with selected demographic variables.

Hypothesis (Hypotheses are tested at 0.05 level of significance) -

- H1 – There is significant difference in initiation of breastfeeding among newborns of experimental and control group.

- H2 – There is significant association between initiation of breastfeeding among newborns of experimental and control group with selected demographic variables.

3. Methodology

The research approach adopted for this study is quantitative approach and research design adopted for the study is Quasi - Experimental post - test only control group research design. Using non probability purposive sampling technique 60 newborns were enrolled for the study delivered through full term spontaneous vaginal delivery with APGAR score more than 7 and without any complications and were distributed in two groups: 30 in experimental group and 30 in control group. The study was conducted in the labour room of selected hospitals of Kamrup district, Assam. After getting administrative approval, a written consent for each study sample was obtained from the mothers. During and after delivery time, the mothers and their babies were assessed for any complications.

In experimental group, soon after the delivery, the baby was completely cleaned and dried except the hands still wet to facilitate the crawling. 5 minutes after the delivery, APGAR score was checked. If the baby cried well and took its first breath successfully with APGAR score of 7 - 10, the baby was placed on the mother's abdomen in prone position with the face facing on one of the sides. A dry, light, warm cloth is covered loosely on the top of the baby and the mother and the mother is asked to hold the baby with both her hands. The baby was allowed to crawl for about 30 - 60 minutes for the first breastfeed. Soon after latching has achieved by the newborn, LATCH scoring was done by using modified LATCH scale. In control group, soon after the delivery, the baby was completely cleaned and dried and at 5 minutes APGAR score was checked. If the baby cried well and took its first breath successfully with APGAR score of 7 - 10, then the baby was wrapped in the cloth and given to the mother for feeding. The investigator observed and did LATCH scoring by using modified LATCH scale.

The tool used for data collection was organized as

- Section A - Demographic profile consists of age of the mother, educational status of the mother, occupation of the mother, marital status, and type of family, baby gender, birth weight of the baby, APGAR score, gestational age of the mother and time taken to initiate breastfeeding in minutes.
- Section B - Modified LATCH scale.

4. Results and Discussion

Section – A: Frequency and Percentage distribution of demographic variables and initiation of breastfeeding among newborns of experimental and control group.

A (i): Frequency and Percentage distribution of demographic variables of experimental and control group.

Analysis of demographic profile reveals that regarding the age of the mothers, both in the experimental and control group, majority are in the age group of 18 - 24 years i. e., 20

mothers (66.7%) and 18 mothers (60%) respectively. With the view of educational status of the mother, both in experimental group and control group, majority mothers have secondary education i. e., 18 mothers (60%) and 14 mothers (46.7%) respectively. In the view of occupation, most mothers are housewives in both experimental and control group. About marital status, all women got married; No one is separated or divorced or widow. In terms of type of family, majority of mothers in experimental and control are from joint family i. e., 18 mothers (60%) in both groups. Regarding baby gender, 16 newborns (53.3%) are male and 14 newborns (46.7%) are female in experimental group. Whereas in control group, 15 newborns (50%) are male and 15 newborns (50%) are female. Regarding the birth weight

of the baby, both in experimental and control group majority are in the category of 2501 - 3000 grams i. e., 17 newborns (56.7%) and 18 newborns (60%) respectively. In aspect to the APGAR score of the baby, all newborns have APGAR score of 7 - 10 in both experimental and control group. Regarding the gestational age of the mother, majority of the mothers both in experimental and control group belongs to the category 39 - 40 weeks i. e., 25mothers (83.3%) and 27mothers (90%) respectively. In experimental group, majority i. e., 15 newborns (50%) have initiated breast feeding in 31 - 45 minutes. Whereas in control group, majority i. e. 17 newborns (56.67%) have initiated breast feeding in >60 minutes.

Table 1: Frequency and Percentage distribution of demographic variables of experimental and control group (N=60)

Demographic Variable		Groups			
		Experimental Group		Control Group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1. Age of the mother	• 18 - 24 years	20	66.7	18	60
	• 25 - 29 years	7	23.3	8	26.7
	• 30 years and above	3	10	4	13.3
2. Educational status of the mother	• No formal education	0	0	0	0
	• Primary education	6	20	9	30
	• Secondary education	18	60	14	46.7
	• Higher secondary	3	10	4	13.3
	• Graduate	3	10	3	10
	• Post graduate and above	0	0	0	0
3. Occupation of the mother	• House wife	23	76.6	22	73.3
	• Private employee	5	16.7	6	20
	• Government employee	0	0	0	0
	• others (daily wages and self - employee)	2	6.7	2	6.7
4. Marital status	• Married	30	100	30	100
	• Separated/Divorced	0	0	0	0
	• Widow	0	0	0	0
5. Type of family	• Nuclear family	9	30	12	40
	• Joint family	18	60	18	60
	• Extended family	3	10	0	0
6. Baby gender	• Male	16	53.3	15	50
	• Female	14	46.7	15	50
7. Birth weight of the baby	• <2000 grams	0	0	0	0
	• 2000 - 2500 grams	3	10	4	13.3
	• 2501 - 3000 grams	17	56.7	18	60
	• 3001 - 3500 grams	10	33.3	8	26.7
	• >3500 grams	0	0	0	0
8. APGAR score of the baby	• 0 - 3	0	0	0	0
	• 4 - 6	0	0	0	0
	• 7 - 10	30	100	30	100
9. Gestational age of the mother	• ≤ 36 weeks	0	0	0	0
	• 37 - 38 weeks	2	6.7	1	3.3
	• 39 - 40 weeks	25	83.3	27	90
	• Above 40 weeks	3	10	2	6.7
10. Time taken for initiation of breast feeding in minutes	• ≤30 minutes	3	10	2	6.67
	• 31 - 45 minute	15	50	3	10
	• 46 - 60 minute	10	33.33	8	26.67
	• >60 minutes	2	6.67	17	56.67

A (ii): Frequency and Percentage distribution of initiation of breastfeeding among newborns of experimental and control group:

The analysis of the data revealed that in experimental group,

after providing breast crawl technique, 5 newborns (16.7%) need assistance to initiate breast feeding and scores between 4 - 6 and 25 newborns (83.3%) actively initiated breast feeding and scores between 7 - 10. Whereas in control

group, without providing breast crawl, 7 newborns (23.3%) are not able to initiate breast feeding and scores between 1 - 3 and 23 newborns (76.7%) need assistance to initiate breast feeding and scores between 4 - 6.

Table 2: Frequency and percentage distribution of initiation of breastfeeding in experimental group after providing breast crawl and in control group without providing breast crawl (N=60)

Initiation of Breastfeeding Assessed by Latch Scale	Groups			
	Experimental Group		Control Group	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
a) No initiation of breastfeeding (0)	0	0	0	0
b) Not able to initiate breastfeeding through breast crawl (1 - 3)	0	0	7	23.3
c) Need assistance to initiate breastfeeding through breast crawl (4 - 6)	5	16.7	23	76.7
d) Actively initiated breastfeeding through breast crawl (7 - 10)	25	83.3	0	0

Section –B: Comparison of initiation of breastfeeding among newborns of experimental and control group.

The comparison of initiation of breastfeeding (assessed using LATCH scale) among newborns in experimental and control group was tested using unpaired t test. In experimental group mean score was 8.30±1.393 and in control group mean score was 4.63±1.129 with mean difference of 3.67 with obtained t value was (t=11.19, df=58 and p=0.001) was statistically significant at p<0.05 level of significance.

Findings revealed that there was significant difference in the initiation of breastfeeding among the newborns of experimental and control group. Hence H1 is accepted.

The findings supported by the study conducted by Sharma R, (2017) on effectiveness of breast crawl technique to initiate breastfeeding in newborn and to find out its impact on newborn and maternal outcome during early postpartum period. The results revealed that in the experimental group with breast crawl technique, majority of newborn (93.33%) had early initiation of breastfeeding. Mean computed from breastfeeding assessment (LATCH) scores of newborns in the experiment group was significantly higher [Mean= 9.1, ‘t’ value for df (58) =9.94]. Whereas in the control group, only 10% of newborn had early initiation and majority had late initiation of breastfeeding. Mean computed from breastfeeding assessment (LATCH) scores of newborns in the control group was significantly lower [Mean =5.8, ‘t’ value for df (58) =9.94].1

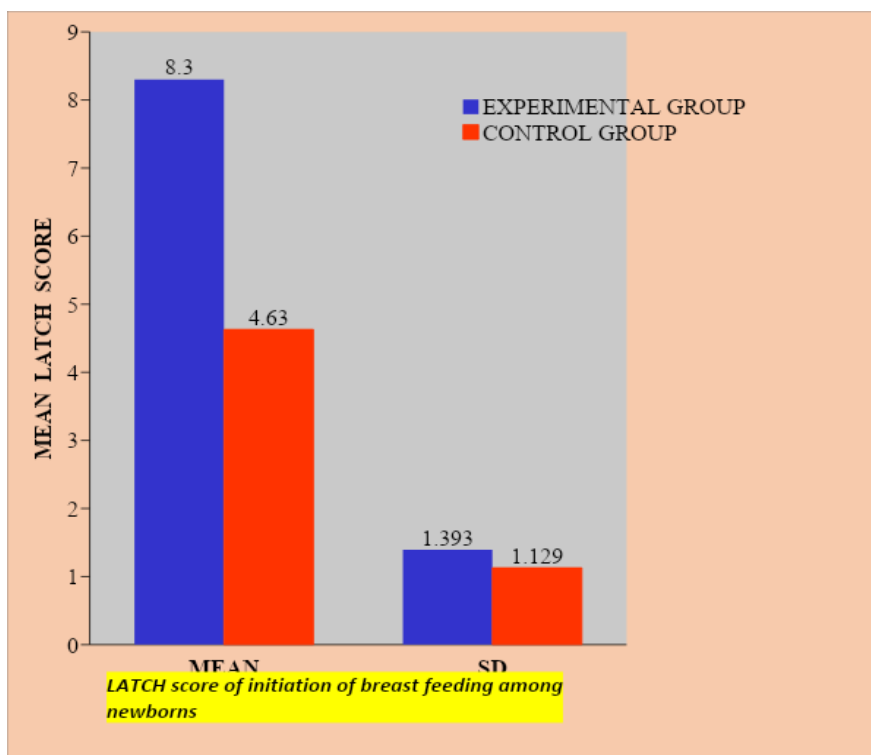


Figure1: Comparison of mean and SD of LATCH score of initiation of breast feeding among newborns in experimental and control group.

Section - C: Association between initiation of breastfeeding among newborns of experimental and control group with selected demographic variables

The association between initiation of breast feeding among newborns with their selected demographic variables in both experimental group and control group was tested by using chi - square test. Result showed that in experimental group,

age of the mother, birth weight of baby and gestational age of mother were statistically found significant association at p<0.05 level with initiation of breast feeding among newborns. Other demographic variables such as educational status of the mother, occupation of the mother, marital status, type of family, gender of baby, APGAR score of newborn and time taken for initiation of breast feeding in

minutes were statistically non - significant at p<0.05 level with initiation of breast feeding among newborns. Whereas in control group, age of the mother, educational status of the mother, occupation of the mother, marital status, type of family, gender of baby, birth weight of baby, APGAR score of newborns, gestational age of mother and time taken for initiation of breast feeding in minutes were statistically non - significant at p<0.05 level with initiation of breast feeding among newborn. Findings revealed that H2 is accepted regarding age of the mother, birth weight of the baby and

gestational age of the mother in experimental group. This finding supported by the study conducted by Ms. Keithellakpam Linthoi, (2017) to determine the impact of breast crawl on breastfeeding among newborns. Since p - value corresponding to weight of baby is 0.026, which is small (less than 0.05), weight of baby was found to have significant association with LATCH Breastfeeding in experimental group. More the weight of the baby better is the LATCH Breastfeeding.4

Table 3: Association between initiation of breastfeeding among newborns with selected demographic variables in experimental group (n =30)

Demographic variables	Initiation of breast feeding		χ ² value	df	p value
	Need assistance	Actively initiated			
Age of the mother (in years) -					
• 18 - 24 years	1	19	10.81	2	0.004*
• 25 - 29 years	4	3			
• 30 years and above	0	3			
Educational status of the mother -					
• No formal education	-- 2	-- 4	2.8	3	0.423NS
• Primary education	2	16			
• Secondary education	0	3			
• Higher secondary	1	2			
• Graduate	--	--			
• Post graduate and above					
Occupation of the mother -					
• House wife	4	19	0.449	2	0.799NS
• Private employee	1	4			
• Government employee	-- 0	-- 2			
• Daily wages/self employed					
Marital status -					
• Married	5	25	NA	NA	NA
• Separated	--	--			
• Widow	--	--			
Type of family -					
• Nuclear family	3	6	2.8	2	0.247NS
• Joint family	2	16			
• Extended family	0	3			
Baby gender -					
• Male	2	14	0.429	1	0.513NS
• Female	3	11			
Birth weight of baby -					
• < 2000 grams	-- 0	-- 3	12.01	2	0.002*
• 2000 – 2500 grams	0	17			
• 2501 – 3000 grams	5	5			
• 30001 - 3500 grams	--	--			
• > 3500 grams					
APGAR score -					
• 0 - 3	--	--	NA	NA	NA
• 4 - 6	-- 5	-- 25			
• 7 - 10					
Gestational age of mother -					
• ≤ 36 weeks	-- 0	-- 2	6.192	2	0.045*
• 37 - 38 weeks	3	22			
• 39 - 40 weeks	2	1			
• Above 40 weeks					
Time taken for initiation of breast feeding in minutes -					
• ≤ 30 minutes	1	2	3.36	3	0.339NS
• 31 - 45 minutes	1	14			
• 46 - 60 minutes	2	8			
• >60 minutes	1	1			

*P<0.05 Level of Significance NS - Non significant NA - Not Applicable

Table 4: Association between initiation of breastfeeding among newborns with selected demographic variables in control group (n =30)

Demographic variables	Initiation of breast feeding		χ^2 value	df	p value
	Not able to initiate	Need assistance to initiate			
Age of the mother (in years)					
• 18 - 24 years	3	15	2.050	2	0.359NS
• 25 - 29 years	2	6			
• 30 years and above	2	2			
Educational status of the mother					
• No formal education	--	--	2.405	3	0.493NS
• Primary education	2	7			
• Secondary education	2	12			
• Higher secondary	2	2			
• Graduate	1	2			
• Port graduate and above	--	--			
Occupation of the mother					
• House wife	4	18	1.457	2	0.483NS
• Private employee	2	4			
• Government employee	--	--			
• Daily wages/self employed	1	1			
Marital status					
• Married	7	23	NA	NA	NA
• Separated	--	--			
• Widow	--	--			
Type of family					
• Nuclear family	2	10	0.497	1	0.481NS
• Joint family	5	13			
• Extended family	--	--			
Baby gender					
• Male	3	12	0.186	1	0.666NS
• Female	4	11			
Birth weight of baby					
• < 2000 grams	--	--	2.050	2	0.359NS
• 2000 – 2500 grams	2	2			
• 2501 – 3000 grams	3	15			
• 30001 - 3500 grams	2	6			
• > 3500 grams	--	--			
APGAR score					
• 0 – 3	--	--	NA	NA	NA
• 4 – 6	--	--			
• 7 – 10	7	23			
Gestational age of mother					
• ≤ 36 weeks	--	--	1.014	2	0.602NS
• 37 - 38 weeks	0	1			
• 39 - 40 weeks	7	20			
• Above 40 weeks	0	2			
Time taken for initiation of breast feeding in minutes					
• ≤ 30 minutes	1	1	1.282	3	0.733NS
• 31 - 45 minutes	1	2			
• 46 - 60 minutes	2	6			
• >60 minutes	3	14			

*P<0.05 Level of Significance NS - Non significant NA - Not Applicable

5. Conclusion

The investigator had conducted the study to assess the effectiveness of breast crawl technique on initiation of breastfeeding among newborns at selected hospitals of Kamrup district, Assam. After conducting the study, the results shows that the newborns in the experimental group who received breast crawl technique had early and actively initiated initiation of breastfeeding as compared to the control group. So, the researcher concludes that breast crawl

technique is an effective intervention to initiate breastfeeding among newborns and it is affordable, comfortable and no additional equipment is required. Nurses and other health care workers should have knowledge regarding the breast crawl technique and they should implement it.

6. Future Scope

Based on the findings of the study, the future scopes are –

- A similar study can be conducted with a large sample size to generalize the findings.
- A study can be conducted in different settings to strengthen the study findings.
- A comparative study can be conducted with breast crawl technique between the caesarean delivery and normal delivery mothers.
- A study can be conducted on effectiveness of breast crawl technique on maternal outcomes such as contraction of uterus, faster expulsion of placenta and reducing postpartum haemorrhage.

Author Profile



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7. Limitations

Few mothers hesitated to expose themselves to the researcher and to apply breast crawl technique on their babies due to fear but it was made possible with adequate explanation and breast crawl technique was applied to them.

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