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Effect of breast crawl on initiation of breastfeeding and initial weight loss among new-borns

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Abstract

Introduction: Breastfeeding is the best contribution a mother as well as a nation can give to further generations. It is found that the initiation of breastfeeding within the first hour of birth can prevent new-born deaths in developing countries. **Objectives:** The objectives of the study are to compare the time of initiation of breastfeeding and to compare the initial weight loss of new-borns between the interventional and control group. **Methods:** Quantitative research approach was used. A quasi-experimental design with non-random assignment was used to select 50 new-borns, who were assigned to two groups: Interventional and control with 25 new-borns in each group. Study was conducted in the labour room as well as post-natal wards of a Medical college hospital. Breast Crawl was conducted in interventional group whereas routine method was carried out in control group. Time in minutes was recorded and compared between the groups. Also, the new-borns' weight difference was calculated from the observations of first and third day of life. **Results:** Study results showed that there was significant reduction in time of initiation of breastfeeding with t value of 7.85 ($p < .001$) and initial weight loss on the day of discharge with t value 4.75 ($p < .001$) among new-borns in the interventional group. **Conclusion:** Therefore, Breast Crawl is a beneficial practice that promotes immediate initiation of breastfeeding thereby it reduces the immediate new-born weight loss in initial days. Hence forth this can be made as a universal practice to protect the health of coming generations.

Key words: Breast crawl, breastfeeding, initiation, initial weight loss, new-borns

Introduction

Breastfeeding is the best method of nourishing a new-born. One of the World Health Organization's proposals to preserve breastfeeding in maternal and child health services is to help mothers to start breastfeeding within the first one hour of birth. There is a time period of 15 minutes after birth, where the new-born is inactive. After the less active period, a sudden rooting and sucking activities of new-borns are observed which help for a systematic feeding behaviour that help the new-born to latch on mothers' breast (World Health Organization 2017). Like any other mammal's baby, human babies also can move and find their mother's breast for initial feed. The phenomenon in which a new-born baby is

kept on mother's chest immediately after the delivery, he/she has the ability to move towards the breast and start latching the breast, is known as Breast Crawl (Widstrom et al., 1987).

Parents as well as caregivers rarely know the ability of a new-born to crawl and latch to mother's breast for the feed initially by itself. As usual, the relatives keep the baby on breast, where latching may not be proper and end up in complications like sore nipple, cracked nipple, etc. (Klaus & Klaus, 2016). Basically, a new-born is brought into this world with many innate abilities which helps her to accomplish the breast crawl. This can be done with the help of a various elements like sensory, central, motor, and neuro-endocrine components of the new-borns, which facilitate his/her survival (Chaturvedi, 2008). The sensory inputs that help a new-born to crawl towards are the smell, vision, and taste to find the breast. Moreover, mother's touch as well as her sound makes a new-born comfortable to crawl to the breast.

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The olfactory input is the major input, which helps in breast crawl, since the odour of an unwashed breast has the same smell of amniotic fluid. It is obvious that both amniotic fluid and breast milk have similar contents, which brings out same odour that enables the new-borns to crawl to the breast (Klaus & Kennel, 2001). This is supported by the investigations of Varendi and Porter (2001) on the influence of breast odours on oriented physical movement of new-borns. In this study, a pad that has mother's breast milk odour is the manipulation in the interventional group, whereas a clean pad was used as placebo. Both pads were kept 17 cm far from the new-born. It was found that the babies in the interventional group crawled and reached the pad than that of control group, which concludes that breast milk smell is enough to captivate the attention of new-borns towards the breast.

Bushnell et al. (1989) found out that new-borns can understand their mother's face and can see it from some distance (Brazelton & Cramer, 1990). This explains the fact that a new-born can certainly identify areola and nipple and can be taken as a dark spot on a lighter background. Moreover, Illingworth (1987) expressed a concept of new-born's vision as a black and white pattern. These findings well support new-born's ability for breast crawl. As far as the taste is concerned, the new-born is familiar with the taste and smell of breast milk as it has the similarity with some content in the amniotic fluid (Klaus & Kennel, 2001). New-borns also prefer mother's voice as evidenced by prolonged suckling on the breasts (DeCasper, Fifer & Moon, 1994). Therefore, the well-developed hearing ability of the new-born enables her to crawl to the breast, thereby helping in transition from the uterine life to the external world. Christensson et al. (1992) also supported the crawl of the baby by explaining the benefits of skin to skin contact that is achieved through the same. Skin to skin touch provides a lot of benefits to the new-born, which facilitates the crawl.

As far as the central component is concerned, Harlingue and Durand (2001) also explained about the quietness and movement of a new-born, when she is placed on mother's chest. Widström et al. (1987) proved the state of alertness of new-born during the Breast Crawl by using Brazelton's Neonatal Behaviour Assessment Scale. These findings assisted the proof that the new-born baby is ready for a crawl immediately after birth

and if the crawl is not initiated immediately, the baby will sleep off after the short period of alertness. This also can delay the time of initiation of breastfeeding. Motor outputs like orofacial movements (Righard & Alade, 1990), lower and upper extremities (Klaus & Kennel, 2001), and salivation also promotes breast crawl. The oxytocin which is the neuro endocrine component also helps the mother as well the new-born in various aspects of breastfeeding and bonding (Klaus & Kennel, 2001).

UNICEF, WHO, and WABA (Breast crawl, 2017) and many other committees that support breastfeeding strongly recommend starting breastfeeding immediately within an hour of birth. Kulkarni, Tiwari, Raj, and Raut, (2016) also emphasized that early initiation of breastfeeding can substantially reduce the neonatal mortality rates up to 22% in developing countries. Breast Crawl also helps to attain the fourth step of Ten Steps for Successful Breastfeeding given by Baby Friendly Hospital Initiatives by starting breastfeeding within thirty minutes of birth (BFHI, 2013). The present study investigates the effect of breast crawl on initiation of breastfeeding and initial weight loss among new-borns. The objectives of the study were:

- To compare the time of initiation of breastfeeding between interventional and control group
- To compare the initial weight loss of new-borns between the interventional and control group.

Materials and methods

A quantitative research approach was adopted with quasi experimental design. This study was meant for new-born population and 50 new-borns who met the inclusion criteria were samples through convenient sampling technique. The interventional group new-borns underwent Breast Crawl as the manipulation, whereas the routine care was given to control group new-borns. The routine care is breastfeeding the new-born after the mother is shifted to postnatal ward. The inclusion criteria include new-borns who were full term and vigorous babies delivered through normal vaginal delivery. The low birth weight new-borns and babies who needed NICU admission were excluded from the study. The settings were labour ward and postnatal wards in MGM group of hospitals.

Data collection technique was observation and the tools used for data collection were demographic

proforma and observation proforma to note down the time of initiation of breastfeeding in minutes, LATCH Breastfeeding Assessment Tool (Jenson, Wallace, & Kelsay, 1994) and observation proforma to note down the weight of new-born at birth and on the day of discharge in grams. To establish the content validity, the demographic proforma was submitted to various experts and necessary modifications were made on their suggestions. Ethical approval was obtained from the Institutional Ethical Review Committee of MGM Medical College, Navi Mumbai and informed consent was taken from samples' mothers. The samples in the interventional group were kept in mother's chest after immediate drying except wiping hands. Both the new-born and mother's abdomen were covered with a bed sheet to prevent hypothermia. The new-borns in the control group were given to routine care.

Results

Sample characteristics: There were 13 baby boys and 12 baby girls in both interventional and control group. Fourteen babies in both interventional and control groups were new-borns of primi mothers.

Objective 1: To compare the time of initiation of breastfeeding between interventional and control group

Table 1:
Significance of Difference in Initiation of Breast Feeding Among New-Borns in Interventional and Control Group

N=50			
Group	Mean time in minutes	SD	p value (Unpaired t test)
Interventional (Breast crawl)	17.84	4.01	p<.001
Control (Routine care)	110.80	59.08	

Table 1 clearly shows that the time of initiation of breastfeeding is not more than 30 minutes of birth among the new-borns in the interventional group where the mean time taken in the control group for initiation of breastfeeding is nearly two hours. There can be various reasons that can contribute the same. If the breast feeding is initiated in the labour room itself, various reasons that delay the initiation of breast feeding can be avoided. Since the significance of difference in initiation of breastfeeding among new-borns in interventional and control is found by

unpaired t test and is significant at p value <.001, the null hypothesis is rejected. Therefore, Breast Crawl plays a vital role in initiating feeding.

Table 2:
Significance of Difference in Components of LATCH Breast Feeding Assessment Among New-Borns in Interventional and Control Group

Components of LATCH	Interventional group		Control group		p value (Unpaired t test)
	Mean	SD	Mean	SD	
Latch	1.88	0.33	1.56	0.51	p< .05
Audible swallowing	1.92	0.28	1.56	0.44	
Type of nipple	1.72	0.46	1.32	0.48	
Comfort (Breast/ Nipple)	1.84	0.37	1.52	0.20	
Hold	1.52	0.50	1.22	0.40	

Table 2 mentioned about the components of LATCH breastfeeding assessment charting system and documentation tool. There are five key components in this tool and each component has three scores of 0, 1, and 2 with an aggregate of 10 points. It is evident that that the mean value of Latch of the new-born in the interventional group is 1.88 with a standard deviation of 0.33 whereas that new-borns in control group had the mean value of Latch 1.56 with the standard deviation of 0.51. Therefore, Breast Crawl enabled the new-born to grasp the areola and nipple of the breast adequately and enhanced sucking in a systematic rhythm. Spontaneous and intermittent audible swallowing sound was noticed more in interventional group with a mean score of 1.92 when compared to control group. Types of nipples were inverted or flat or everted after stimulation. It was noticeable that the mean score of nipple in interventional group was 1.72, which can facilitate good attachment. The breast and nipple were comparatively soft and non-tender with a mean score of 1.84 as compared to control group with a mean score of 1.52. It was also found that the mothers of the new-borns in the interventional group were able to maintain a better hold compared to those in control group. Unpaired t test was used to compare the components of LATCH tool and all the differences were found to be significant at p value<.05.

Objective 2: To compare the initial weight loss of new-borns between the interventional and control group

Table 3:
Comparison of Initial Weight Loss Among New-Borns in Interventional and Control Group

N=50			
Group	Mean Weight Difference In Grams	SD	p value (Unpaired t test)
Interventional	0.156	0.08	
Control	0.383	0.216	< .001

Table 3 mentions the comparison of initial weight loss among new-borns in interventional and control group. The mean weight difference is calculated by subtracting the new-born's weight on third day of life from birth weight. The mean weight difference calculated in grams is statistically significant at $p < .001$; therefore, Breast Crawl helps to reduce the initial weight loss of the new-borns.

Discussion

In the present study, it was found that there was significant reduction in time of initiation of breastfeeding ($p < .001$) and initial weight loss on the day of discharge ($p < 0.001$) among new-borns in the Interventional group. The findings of the study are consistent with a study conducted by Girish M et al. (2012) and it was found that Breast Crawl facilitates milk production and reduces the degree of new-born weight loss in the initial days. This study also assessed the feasibility of Breast Crawl in a tertiary care hospital and it is found to be a major issue in a busy labour room. But knowing the benefits of Breast Crawl, we should practice it in collaboration with all the professionals who attend the labour room. There are studies which mainly concentrate on maternal benefits, but this study concentrated on baby benefits. It was also noticed that the nipple is everted by the movements of upper limbs of new-born which is also explained in the study by Klaus and Kennel (2001) that the movements of the new-borns' hands helps to protract nipple and facilitates attachment. Also, it is noticed that by giving Breast Crawl to the babies, the researcher got an opportunity to teach mothers regarding the techniques of breast feeding and the need to feed the baby second hourly which may also contribute to less weight loss during the initial days.

Conclusion

Breast feeding is a major concern of every mother as well as the nation is concerned. By conducting

a Breast Crawl, a mother is assisted to start breast feeding along with an immense mother baby bonding. This also enhances skin to skin contact uninterruptly for some period of time. These are some of the WHO recommendations to establish breast feeding. Therefore, Breast Crawl can be accepted as a necessary action that can be practiced for immediate initiation of breast feeding.

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