Volume-3, Issue-9, Sept-2014 • ISSN No 2277 - 8160

Research Paper | Medical Science

Operationalisation of Breast Crawl as a Method of Early Initiation of Breast Feeding and its Impact in a Tertiary Care Hospital

Dr.Shachi Patel — Assistant Professor, Department of Pediatrics, Baroda Medical College and S.S.G Hospital

Dr. Uma Nayak — Professor and Head, Department of Pediatrics, GMERS Medical College and General Hospital, Gotri

ABSTRACT

Background: Research suggests that early initiation of breastfeeding is a cost efficient means over and above exclusive breastfeeding and is an independently effective intervention to achieve improvement in health care indicators.

Objective: To implement breast crawl as a method for early initiation of breast feeding in our hospital set-up (enchasing the first hour of birth) and to study the effect of breast crawl on feeding practices, on baby's weight gain, and on morbidity pattern

Design: randomized control trial

Settings: Hospital based study over 1 year, at Department of Pediatrics, Neonatal division and Labor room of Obstetric Department in Rukamani Chainani building of Government Medical College and S.S.G hospital, Vadodara.

Intervention: Two introductory seminars of two hours duration each was held, which included a talk on the concept of breast crawl, lactation management in brief and the protocol of the thesis was briefed. The concerns and queries that arose were discussed and settled amicably. Photographs and posters were put in the labor room complex to help the nursing staff, telephone number of researcher and of the NICU on call resident were displayed such that supervision could be offered to babies on breast crawl. Each baby after birth and after cord was cut and who satisfied the inclusion criteria was randomized into either the breast crawl group or conventional care group. Antenatal and other demographic data was collected from records and personal interview, daily monitoring was done in form of weight gain or weight loss; breastfeeding practices were observed and problems regarding feeding were noted and morbidity if any was recorded.

Result: Breast crawl had a significant positive impact on the onset of lactation ($P<0.05$) as well as extent of neonatal weight loss on day 3 ($p<0.001$).

Conclusion: Our study adds to the body of evidence that breast crawl results in positive breast feeding outcome. Breast crawl as a method of early initiation for breast feeding was convincingly established in this study. Breast crawl had a major impact on early initiation of breastfeeding not only in normal mothers and normal babies but also in presence of difficult modes of deliveries and perinatal problems.

KEYWORDS : breast crawl; skin to skin contact; onset of lactation

INTRODUCTION: The World Health Organization (WHO) and UNICEF recommend initiation of breastfeeding within the first hour after birth and exclusive breastfeeding for the first 6 months followed by continued breastfeeding upto age 2 years or beyond along with appropriate complementary feeding[1]. Recent evidence indicates that early initiation of breastfeeding and exclusive breastfeeding are both linked with substantially lower neonatal mortality[2-3]. The data suggests a cause-effect relationship between early breastfeeding and reduction in infection-specific neonatal mortality[4] and for early initiation of breastfeeding one method is breast crawl."*Every newborn, when placed on the mother's abdomen soon after birth, has the ability to find her mother's breast all on her own and to decide when to take the first breastfeed.*" Breast crawl is the natural instinctive behavior of the human newborn. The mother and the newborn both are mutually responsive in the most sensitive period of half to one hour following delivery. This period is crucial for laying the foundation for successful breastfeeding. The most sensitive period for mother–infant bonding and breastfeeding is the first 24 h following delivery[5].'Sensitive period' by definition is a developmental phase wherein a human who has a built- in competence for a specific behavior has the best opportunity to exhibit that behavior[6]. The sensitive period is usually governed by chemical and neural paths that control the behavior. Newly born infants have a catecholamine surge immediately after birth due to hypoxic and mechanical stress during the birth process[7-8]. This results in heightened sensitivity and alertness making the infant very receptive to odor cues and other senses causing the baby to move towards its source[9-10]. A healthy full term infant can crawl unaided towards the mother's nipple and suckle successfully within about 60 min. Thus, breast crawl is the most natural way for the baby to behave immediately after delivery, a phenomenon which takes place only if the newborn is allowed to remain with the mother as soon as it is born. Unfortunately, babies are immediately separated from their mothers after birth. This study was carried out for operationalisation of breast crawl as a method for early initiation of breast feeding. There is very little data available in our country regarding operationalisation of breast crawl and its acceptability and feasibility. The positive findings in this study make it a case for gathering more experience in other centers in the country.

METHODS: The study was conducted at Department of Pediatrics, Neonatal division and Labor room of Obstetric Department in Rukamani Chainani building of Government Medical College and S.S.G hospital, Vadodara. Each baby after birth and after cord was cut and who satisfied the inclusion criteria was randomized into either the breast crawl group or conventional care group. Inclusion criteria were all babies delivered by a normal vaginal delivery and all babies who cried immediately after birth and did not require resuscitation. Exclusion criteria were baby who did not cry after birth and requiring resuscitation, delivered through LSCS delivery and those having major congenital anomaly. Two introductory seminars of two hours duration each was held, which included a talk on the concept of breast crawl, lactation management in brief and the protocol of the thesis was briefed. The concerns and queries that arose were discussed and settled amicably. Photographs and posters were put in the labor room complex to help the nursing staff, telephone number of researcher and of the NICU on call resident were displayed such that supervision could be offered to babies on breast crawl.

The breast crawl group: After the delivery and cutting the cord, baby was put immediately on the mother's abdomen even before complete drying. Only head and back was dried leaving the chest, abdomen and palms and hands still wet to facilitate the crawling. A relative was allowed to stand alongside the mother to supervise and gently assist the baby. Mother and baby at times were covered with a thin sheet. Pediatric on call resident and/or a nurse noted down the following details; Time taken by the baby to start crawling and to reach the breast;Time taken to start suckling; Whether any help needed or not; Total time for initiation of breast feeding; Prelacteal feeds given or not. After allowing the baby to crawl for about 40-45 minutes and after the 1st feed, the baby was taken to the warmer for cord care, eye

care, weighing and other routine procedures like tying identification tag and taking footprints. Placental delivery was also facilitated by the crawling of the baby.

Conventional care group: After the delivery and cutting cord, babies were taken in a tray to the warmer where cord care, eye care and drying was done. After this and other procedures like weighing, taking foot prints and tying tags, then babies were wrapped in a cloth and given to the mother for feeding. Here also time of initiation of feeding and onset of lactation was noted down. Antenatal and other demographic data was collected from records and personal interview, daily monitoring was done in form of weight gain or weight loss; breastfeeding practices were observed and problems regarding feeding were noted and morbidity if any was recorded.

Result and discussion:

Demographic and clinical characteristics of the mother–infant dyads in the two groups are given in Table 1.**Mothers (n=180) in both groups;**81.7% mothers were Hindus and 17.7% Muslims with only 0.5% Christians; 85.5% were housewives; 71.1% were in the age group of 21-25 years. 58.8% had received some education up to 7th standard and 8.8% were illiterate. Most common illness found was to be anemia in both the groups. **About babies of both the groups;** Male: Female ratio in this study was comparable in both the groups; Majority of babies were AFD. Mean weight in cases was 2563 gm and controls were 2693 gm. Both the groups were comparable as regards to mode of delivery, gestational age and birth weight.

Table:1 Demographic Profile of subjects under the study

Demographic variable		breast crawl group (n=90)	conventional care group (n=90)
Age	20-25 years	66%	75%
	26-30 years	26%	23%
	31-35 years	6%	1%
Occupation	Housewife	85%	85%
	Job	6%	10%
	Labourer	7%	4%
Religion	Hindu	80%	83%
	Muslim	20%	15%
	Christian	0%	2%
Mode Of delivery	vaginal with episiotomy	40%	41%
	vaginal without episiotomy	60%	59%
Maternal illness	Anemia	38%	32%
Perinatal problems	Present	17%	23%
	None	83%	77%
Average birth weight		2563 gms	2693 gms
Gender distribution	Male	48(54%)	50(55%)
	Female	42(46%)	40(45%)

Table 2: breast crawl completion in cases

BREAST CRAWL OFFERED	90
COMPLETED	66
INCOMPLETE	24

- Complete breast crawl was defined as babies who started breast crawl and reached breast or also started sucking within 60 min
- Incomplete breast crawl was defined as babies who started breast crawl but did not reach breast within 60 min.

Out of 90 babies who were offered breast crawl after delivery,66 (73%) babies could complete the crawl ie baby when placed in prone position on the mother's abdomen soon after delivery and cutting the cord, used his/her wet palms to crawl and baby also made kicking movements which helped him to propel forward. During this process, baby also started smacking lips and licking the mother's body. Eyes were wide open and baby was looking around. Out of 66 babies 65 babies reached breast in <30 min, 1 baby took 35 min to reach to the breast. 24 babies could not complete breast crawl. **Mean time to reach the breast was 19.33 minute.** 36 out of 66 needed some assistance or help by attendant to attach to nipple. The rest of the 30 babies were able to attach to the nipple by themselves without any assistance.

Initiation of breast feeding

Table 3: Initiation of breast feeding

Initiation of breast feeding	Cases	Controls
<1 hour	72(80%)	19(21%)
>1 hour	18(20%)	71(79%)

p value- <o.ooo1 (highly significant)

In group A-cases: out of 90 babies who were offered breast crawl, 72 babies took their first breast feed within 1 hour; so almost 80% babies started breastfeeding in 1 hour. In group B: controls- out of 90 babies who did not receive breast crawl, only 19 babies(21%) started breast feeding within 1 hour, whereas majority of the babies were given feeds in 1-3 hours and 7 babies received after 4 hours. **Thus breast crawl is an important method for early initiation of breast feeding within 1 hour.** In cases only 8 (8%) babies were given **prelacteal feeds** in form of sugar water, honey, Jivan gutti etc. In controls 27 babies (30%) were given prelacteal feeds (p value is <0.01 significant). Further looking into the other confounding factors like mode of delivery, with or without episiotomy and associated perinatal problems were thought mandatory. **Mode of delivery vs. initiation of breast feeding in group:** We observed in the breast crawl group 83% of babies born vaginally without an episiotomy could initiate breastfeeding within 1 hour and corresponding figure for babies who were born with vaginally with episiotomy also as high as 79%. Looking at mode of delivery vs. initiation of breastfeeding in control group, the figure for early initiation of breastfeeding with and without episiotomy was only 14% and 26% respectively. It was heartening to note that when breast crawl was offered 79% mothers even with episiotomy could initiate breastfeeding within 1 hour whereas in control group only 26% mothers even without episiotomy could initiate breastfeeding within 1hour. **Perinatal problems vs. initiation of breast feeding:** Once again the heartening fact was even with perinatal problems percentage of babies who could initiate breastfeeding **within 1 hour** was high. Figures for early initiation even with perinatal problems were 83%, 71%, and 100% in mothers with prolonged labor, preeclampsia, and oligohydromnios respectively. While the figures for late initiation of breastfeeding that is **1 to 3 hours** for controls was 100%, 100%, 87%, 80%, 100% in mothers with prolonged labor, PROM, preeclampsia, fever, oligohydromnios respectively. **Thus breast crawl had a major impact on early initiation of breastfeeding not only in normal mothers and normal babies but also in presence of difficult modes of deliveries and perinatal problems.**

Out of 180 babies in both the groups, total 24 babies developed jaundice; 12 in each group. During hospital stay babies in both the group did not develop any major morbidity and most common was found to be jaundice. Pattern in both the group was comparable. Here p value is 1.0000(not significant) **On daily monitoring in hospital:** In experimental group A out of 90, 84 babies were exclusively breastfeed and in control group B, 81 babies were exclusively breastfeed.

Table 4:Impact on weight of babies on 3rd day

	group A(n=56)	group B(n=46)	
	Mean±SD	Mean±SD	t-test(p value)
Weight on Day 2	2497.8±370.2	2532±400.8	0.66^{NS}
Weight on Day 3	2503±378.7	2528±397.6	0.26^{NS}
Day3- Birth weight	(-2.5±70.15)	(-80.9±71.48)	<0.001

NS-Not Significant
*****<0.001- Highly significant**

This table shows that mean weight loss on day 3 in group B is more compared to group A (p value<0.001). Feeding problems in cases and controls respectively were 23 out of 90 (25%) and 37 out of 90 (41%) in controls. These findings were statistically significant(p-0.0378) (>0.01 but <0.05). Secretion problems and nipple problems were not commonly found. The figures for both cases and controls were very negligible. Majority of babies in both the groups did not develop any significant morbidity which was comparable.

Conclusion:
Throughout childhood, the child rushes to the mother in time of stress and finds comfort in the mother's reassuring hug. Unfortunately, the baby begins life with stress and we separate it from the mother. We have shown overwhelming results in favor of breast crawl in terms of short-term benefits to the babies mainly early initiation of breast feeding within 1 hour. We recommend that all facilities offering deliveries should practices 'Breast crawl' for early initiation of breast feeding, better immediate weight gain, lesser feeding problems and for better mother-baby bonding.

Recommendation: This thesis along with the introductory seminar with training session and the concentrated effort on the part of researcher along with the NICU on call residents was responsible for instilling knowledge, changing attitudes and partially changing practices in a busy nursery of a tertiary care hospital. Therefore we strongly recommend that training manuals be made available and all concerned be trained on a war footing to establish breast crawl as a routine practice. Even after all these efforts, each unit concerned should offer training and encouragement to the delivery room staff on a continuous basis to achieve breast crawl on a regular basis.

REFERENCES

1.Link/URL:World Health Organization, UNICEF. Global Strategy for Infant and Young Child Feeding. Geneva 2003. | www.who:int/int/nutrition/publication/gs_Infant_feeding_text_eng.pdf | 2. Edmond KM ZC, Quigley MA, Amenga-Etego S, Owusu-Agyei S, Kirkwood BR. Delayed breast-feeding initiation increases risk of neonatal mor¬tality. Pediatrics. 2006 Mar;117(3):e380-6. | 3. Mullany LC KJ, Li YM, Khatry SK, LeClerq SC, Darmstadt GL, et al. Breast-feeding patterns, time to initiation, and mortality risk among newborns in southern Nepal. J Nutr. 2008 Mar;138(3):599-603. | 4. Edmond KM KB, Amenga-Etego S, Owusu-Agyei S, Hurt LS. Ef¬fect of early infant feeding practices on infection-specific neonatal mortality: an investigation of the causal links with observational data from rural Ghana. Am J Clin Nutr. 2007 Oct;86(4):1126-31. | 5. Gomez P BN, Batiste F, Marca G, Nieto J, Closa M.; :. Kangaroo method in | delivery room for full-term babies (in Spanish). . An Esp Pediatr. 1998;48: 631–3. | 6. BM. Sensitive periods in development. Structural characteristics and | causal interpretation. Psychol Bull. 1989;105: 179–97. | 7. Langercrantz H . The 'stress of being born'. Sci Am. . 1986 .92–102. | 8. Langercrantz H Stress, arousal and gene activation at birth. News Physiol Sci. 1996;;11::214–8. | 9. Porter RH ; Unique salience of maternal breast odors for newborn | infants. . Neurosci Biobeh Rev. 1999;;23::439–49. | 10. Porter RH; The biological significance of skin-to-skin contact and maternal odors. Acta Paediatrica. 2004;93:1560–2. |