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A Study to Assess the Effectiveness of Breast Crawl Technique on Episiotomy Suturing Pain among Primi Mothers at Tertiary Care Hospital at Bangalore, India

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Abstract

Background: The breast crawl is associated with a variety of sensory, central, motor and neuro-endocrine components, all directly or indirectly helping the baby to move and facilitate her survival in the new world. To assess the effectiveness of breast crawl technique on intensity of episiotomy suturing pain among primi mothers at a tertiary care hospital at Bangalore, india.

Methods: In the present study, Quantitative Experimental research approach was used. A randomised controlled trial with post-test only design was chosen for this study by using purposive sampling technique. A total of 100 samples were included for the study which consisted of 50 samples each, allocated in experimental and control group. Breast crawl technique was implemented for experimental group participants along with routine care where as controlled participants were given routine care.

Results: In the present study, lowest pain rating score of 3 in experimental group in about 28% and 2% of control group was evident, however the highest pain score of 7 was found only in Control group within 2% cases, in contrary highest pain score in Experimental group was 5 i.e., 24%. The analysis shows a significant benefit of breast crawl technique on episiotomy suturing pain. Lowest pain rating score of 3 in experimental group is 28% and in control group is only 2%. The threshold for pain perception showed encouraging results.

Conclusion: The breast crawl technique was observed an effective intervention to reduce the episiotomy suturing pain perception level.

Keywords: Breast Crawl; Episiotomy Suturing; Breast Feeding; Oxytocin; Primi Mothers

Abbreviations: WHO: World Health Organization; UNICEF: United Nations International Children's Emergency Fund and CHAF: Common Hospital Air Force.

Introduction

"O thou with a beautiful face may the child reared on your milk attain a long life like the gods made immortal with drinks of nectar." – SUSHRUTHA.

After birth, the mother's body and breast take over the function of the uterus and placenta in providing warmth, protection, nutrition, and support for optimal oxygenation as well as close and continual proximity to the mother's heart and voice. Being skin to skin with the mother is the newborn infant's "natural habitat" where all his needs are

met. Mother's milk is divine gift for the baby. Breast milk is the only food for the baby which is natural physiological way of feeding [1]. Breastfeeding could save the lives of 1.3 million children a year [2]. Breast milk provides the exact combination of nutrients that a developing infant need. Up to 55% of infant deaths from diarrheal disease and acute respiratory tract infection may result from inappropriate feeding practices [3].

Early initiation of breast feeding offers advantage to mother and baby, helps to keep the baby warm, leads to faster and effective achievement of feeding skills by the baby [4]. WHO defines early initiation of breastfeeding as it is the initiation of breast milk feeding within 1hr after delivery [5]. It also helps mothers to have good uterine contraction and fastens expulsion of placenta, decreases maternal blood loss and prevents anemia [6]. Every newborn when placed on her 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 1st breast feed. This is called "Breast Crawl". It was first described in 1987 at the Karolinskr Institute in Sweden [7].

The Description of Breast Crawl, Compiled from Article is as Follows

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 minutes after birth and at 55 minutes the infant spontaneously found the nipple and started to suckle" [6].

It is very much important in today's scenario that the care providers must know the importance of initiation of the first feed and help the mother and baby to start breast feeding putting the baby over the chest of the mother. Soon after birth the baby starts to suckle the breast therefore starts releasing of the hormones viz. prolactin and oxytocin. Prolactin helps for production of milk and oxytocin helps for contraction of uterus, and also bonding between mother and baby [6]. By this technique hypothermia and hypoglycemia could be prevented too, which are the risk for newborn's survival. Due to all these advantages, it is strongly recommended by WHO to initiate first feed at labour room by Breast crawl. Almost all babies are born normal and there is no urgent need for any invasive intervention so other procedures like giving Vit k, assessment of newborns can be delayed until the first feed of the baby unless, otherwise medically indicated. Currently it was recommended by American Academy of Pediatrics, that "all the healthy infants should be placed and remain in skin to skin contact with their mothers immediately after delivery until the first feeding occurs".

The breast crawl procedure can be described in following steps immediately after delivery and baby starts breathing well, baby should be thoroughly dried , then shown to the mother ,kept close to her and held towards her cheek contact which enables mother to kiss the baby .Then the baby is placed prone in between the mothers breast .Both the mother's breast and chest should be naked enhancing skin to skin contact with the baby ,Mother and baby should be covered with a cloth ,kicks from the baby will give jerks to the womb stimulating it to contract. Nipple message by baby will makes it protract, enhancing attachment and thus helps to release oxytocin in mother, thereby reducing bleeding and maternal anaemia resulting in reducing the chances of PPH. Baby starts to make mouthing movement .

The amniotic fluid in baby's hand guides it to nipple. The baby then reaches nipple, raises head and gets nicely attached to the nipple with the mouth wide open to take a mouth full of breast. The first skin to skin contact must continue until baby finishes her first breast milk .

Babies completing the Breast Crawl will have spontaneous attachment and require a very less assistance. The breast crawl is associated with a variety of sensory, central, motor and neuro - endocrine components, all directly or indirectly helping the baby to move and facilitate her survival in the new world.

The promotion of early initiation of breast feeding has great potential, 16%of neonatal deaths could be saved if all infants were breast fed from day 1 and 22% if breastfeeding were started within the first hour after birth. All these advantages will obviously be maximally tapped with breast crawl. In 2006 authorities of the WHO/ UNICEF and baby friendly hospital initiative added an optional component to the baby friendly assessment tools, which examines mother friendly care.

Interestingly, breast crawl is evidence based and has been field tested. It is a critical component of infant and young child feeding. In 2007 a group of caregivers and community workers in Nandurbar district of Maharashtra witnessed a demonstration of newborn performing breast crawl. After the demonstration of newborn that they decided to make the method part of their routine. To advance this initiative, UNICEF has partnered with various state and public health institutions and is distributing an instructional film on breast crawl with specifics each step [8]. Since the technique of "Breast Crawl" is not being practised in present set up actively, there is a need to find the possibility of this is non pharmacological method in prevention of labour related complications [9].

The objective was to know effectiveness of breast crawl technique on intensity of episiotomy suturing pain among PRIMI mothers at Tertiary Care Hospital, Bangalore.

Materials and Methods

This study was aimed to assess the effectiveness of Breast crawl technique on among Primi mothers in labour room of a tertiary care hospital at Bangalore India.

An experimental approach was considered appropriate for the study which was evaluatory in nature. Quantitative research approach used in this study was experimental regarding effectiveness of breast crawl on intensity of episiotomy suturing pain among primi mothers at a tertiary care hospital at Bangalore india.

This study adopted a post-test only control design as two groups were selected, and intervention was introduced to the Interventional group whereas routine care was instituted to the control group.

A randomised controlled trial with post-test only design was chosen for this study by using purposive sampling technique a total of 100 samples were included for the study it consisted of 50 each in experimental and control group. Breast crawl technique was implemented for experimental group participants along with routine care where as controlled participants were only given a routine care.

Post-test was done to assess primi mothers' perception of intensity of episiotomy suturing pain respectively.

The present study was conducted over a period of 12 weeks at the Obstetrics and Gynaecological ward of a selected tertiary care centre at Bangalore. This super speciality centre is 850 bedded, equipped with advanced and sophisticated technologies for holistic patient care and is staffed with highly qualified health professionals who deliver care with utmost dedication and compassion. Easy accessibility to samples and researcher's familiarity to this was taken into deliberation when this setting was considered for the study.

The present study adopted a non-probability purposive sampling technique to recruit samples from the accessible population who met the inclusion criteria.

As the study was Interventional in nature, it was crucial for the subjects to understand the procedure in detail and render consent for the same. The physiological condition of the subjects during postoperative period may not permit to give willingness for the same. Further they were assigned into Interventional and Control group by lottery method. Screening of eligible candidates for the study commenced well in advance. Utmost care was taken to monitor all the candidates between April 2020 to June 2020. A total 135 eligible samples were identified from the target population who were fit to undergo the technique. 125 samples reported to the ward, and as per inclusion criteria 115 samples enrolled for the study, and unwillingness was given by 10 candidates. Basic information and consent obtained from 105 candidates and 05 further withdrew due to inconvenience. Therefore, total of 100 candidates were allocated into experimental and control group by lottery method. Final study was conducted on a total of 100 participants.

For this particular study purposive, convenient, non-probability sampling technique was used. Using non-probability purposive sampling 100 newborn delivered through vaginal delivery who cried immediately at birth with an APGAR score of 7-10 (5 minutes) in labour room, a tertiary care hospital at Bangalore India, were enrolled for the study and distributed into two groups (50 each in control and experimental group). After obtaining administrative approval and return concern from the participants, tool was administered for data collection that is numeric pain rating scale. After checking newborn APGAR SCORE after 5 minutes the baby is kept in prone position with face facing on one of the sides in the mother's abdomen. A dry light warm cloth is covered loosely on the top of the baby and the mother is asked to hold the baby with both the hand. The safety of the newborn was ensured throughout by the researcher.

Statistical analysis was performed by using SPSS (version 22) software for Windows. Categorical variables were expressed as frequency and % and Chi square test was conducted to determine significant level between the groups. Continuous variables were expressed as Mean ± Standard deviation and compared between the group through "t" test. A "p" value of $P<0.05$ was considered statistically significant.

Results

The following findings were derived from the study.

Table 1 evaluates the association of demographic and socioeconomic status between the groups in which the parameters viz. family income/month and residence were significantly (Chi square = 19.043; $P<0.001$ and Chi square = 4.320; $P=0.038$) associated between the group.

Parameters Interventional		GROUP		Total	Chi square	p- Value	Sig.
		Control					
Age (Years)	18 – 20	4(8)	2(4)	6(6)	1.611	0.657	NS
	21 – 25	24(48)	23(46)	47(47)			
	26 – 30	15(30)	14(28)	29(29)			
	30-35	7(14)	11(22)	18(18)			
Total		50(100)	50(100)	100(100)			
Religion	Hindu	48(96)	43(86)	91(91)	3.56	0.169	NS
	Christian	2(4)	5(10)	7(7)			
	Muslim	0(0)	2(4)	2(2)			
Total		50(100)	50(100)	100(100)			
Educational status	I	1(2)	0(0)	1(1)	6.914	0.075	NS
	P	7(14)	1(2)	8(8)			
	S	23(46)	22(44)	45(45)			
	HS	19(38)	27(54)	46(46)			
Total		50(100)	50(100)	100(100)			
Occupation	HM	46(92)	48(96)	94(94)	0.709	0.4	NS
	P	4(8)	2(4)	6(6)			
Total		50(100)	50(100)	100(100)			
Family income/ month (INR)	<50,000	35(70)	14(28)	49(49)	19.043	<0.001	S
	50,001 –	14(28)	32(64)	46(46)			
	60,000						
	60,001 –	0(0)	3(6)	3(3)			
	70,000						
	Above	1(2)	1(2)	2(2)			
	70,000						
Total		50(100)	50(100)	100(100)			
Type	Nuclear family	36(72)	36(72)	72(72)	0.001	1	NS
of family	Joint family	14(28)	14(28)	28(28)			
Total		50(100)	50(100)	100(100)			
Residence	Rural	33(66)	42(84)	75(75)	4.32	0.038	S
	Urban	17(34)	8(16)	25(25)			
Total		50(100)	50(100)	100(100)			

I = Illiterate; P = Primary; S = Secondary; HS = Higher Secondary; HM = Homemaker; P = Professional; NS = Non-significant; S = Significant.

Table 1: Association of demographic and socioeconomic status between the groups.

Table 2 reveals that lowest pain rating score of 3 in experimental group (28%) and in control group (2%), however, the highest pain score of 7 was found only in control group with 2% cases, while highest pain score in experimental group was 5 i.e., 24%.

Parameter	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Pain Rating Scale During Episiotomy Suturing	3		4		5		6		7	
Experimental	14	28	24	48	12	24	-	-	-	-
Control	1	2	21	42	21	42	6	12	1	2

Table 2: Numerical Pain Rating Scale between the groups.

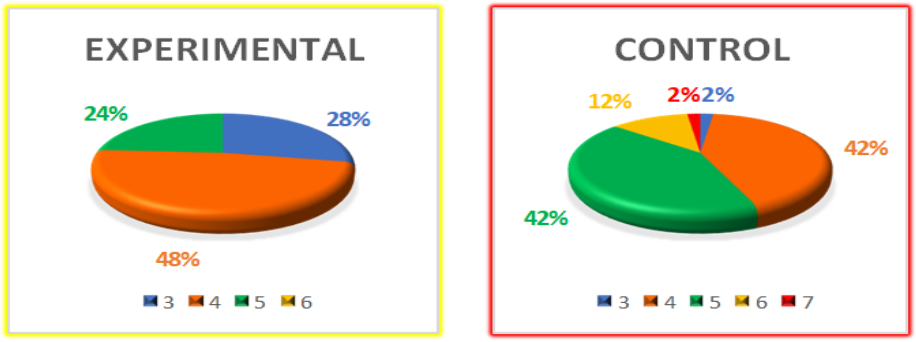

Figure 1: Pie Charts of Experimental and Control of Numerical Pain.

Table 3 shows us the association of obstetrical parameters between the groups in which the parameters viz. age of marriage and gestational age were significantly (Chi square = 17.458; P<0.001 and Chi square = 8.590; P=0.014) associated between the group.

Parameters Interventional		GROUP Control		Total	Chi square	p- Value	Sig.
Age at menarche (Years)	10–11	10(20)	0(0)	10(10)	12.36	0.002	S
	12–13	39(78)	50(100)	89(89)			
	14–15	1(2)	0(0)	1(1)			
Total		50(100)	50(100)	100(100)			
Age at marriage (Years)	18	3(6)	1(2)	4(4)	17.458	<0.001	S
	19–22	38(76)	20(40)	58(58)			
	23–26	7(14)	19(38)	26(26)			
	27–30	2(4)	10(20)	12(12)			
Total		50(100)	50(100)	100(100)			
Gestational age (Weeks)	37–38	22(44)	24(48)	46(46)	8.59	0.014	S
	39–40	18(36)	25(50)	43(43)			
	Above 40	10(20)	1(2)	11(11)			
Total		50(100)	50(100)	100(100)			
Birth weight of the newborn (Kg)	2.5–3	27(54)	31(62)	58(58)	1.495	0.473	NS
	3–4	22(44)	19(38)	41(41)			
	Above 4	1(2)	0(0)	1(1)			
Total		50(100)	50(100)	100(100)			

Table 3: Association of Obstetrical parameters between the groups.

Table 4 evaluates the comparative analysis of Latch score and NRS between the groups. The NRS value was decreased significantly (P<0.001) in experimental group when compared to control group.

GROUP		NRS
Experimental	M ± SD	3.80 ± 0.70
Control	M ± SD	4.64 ± 0.78
	p Value	<0.001

Table 4: Comparative analysis of NRS between the groups.

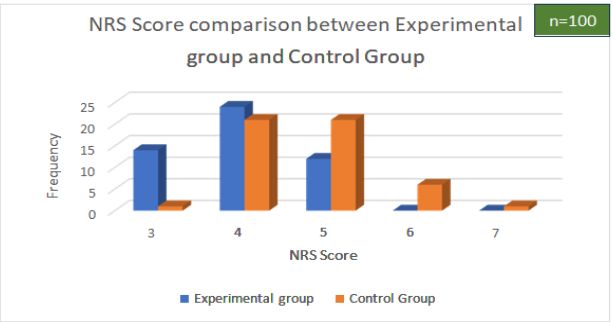

Figure 2: Graph of NRS score comparision between experimental group and control group.

Discussion

A total of 100 participants were allocated into experimental and control group (50 in each group) and they were primigravida.

In our research, about 38% of primi mothers belonged to age group of 21-25 years in experimental group and 46% in controlled group. A similar study done by Sadhana [9] in which 73% of mother were aged between 21-25 in experiment group 60% of primi mothers were aged between 26-30 years in controlled group. About 52% and 44% have secondary education for experimental and controlled group respectively. The experimental study of effectiveness of breast crawl among mothers by Komalavalli10 reported that the education status of primi mothers in experimental group had 6.7% and 76.7% of primi mothers have finished their higher secondary and 13.3% finished their degree course, where in controlled group 30% completed in higher primary education, 66.7% finished higher secondary education and 3.3% have completed degree course. But the % frequency of illiterate mothers in experimental group was 3.3%. Hence majority of the primi mothers were educated. maximum primi mother who have participated in research study are home makers with 72% and 96% for experimental and control group, respectively. The study by Komalavalli [10] reported similar observation that in the case of occupation the majority of mothers were housewife in both experimental and control group. The family income of INR 500001–60000 with 52% and 64% in both experimental and control group. In contrast, a study by Buelah [11], that the family income in both experimental and controlled group was between INR 10000-15000, which recorded about 46% and 53.4%, respectively. Majority of primi mother in both experimental and controlled group belong to nuclear family with 58% and 72%, respectively but Sadhana [9] reported that type of family was nuclear about 50% in experimental and 40% were in control group, which is comparatively lower than present study. Majority of primi mothers of both experimental (56%) and control (86%) group belonged to rural background. In contrast, a study by Buelah11 that majority of mothers were from urban and semi urban area for both experimental (66.7% and 33.3%) and control (46.7% and 53.3%) group.

Majority of primi mothers delivered by 39-40 weeks (52%) both in experimental and control group. A similar result was observed by Buelah11 in which primi mothers delivered by 38-40 weeks of gestational age both in experimental (76%) and control (66%) group.

The birth weight of newborns of primi mothers in experimental and control group was in the range of 2.5-3kg (58% and 62%). A similar result was observed by Buelah [11] in which birth weight of newborns ranged between 2.5-3kg of primi mothers for experimental (66%) and control (50%) group. In contrast with the study by Komalavalli [10] that revealed about 80% birth weight of newborns ranged between 2.5-3kg of primi mothers for both experimental and control group.

In the present study, pain rating score of 3 in experimental group was about 28% and in control group was only 2%, however the highest pain score of 7 was found only in control group with 2% cases, while highest pain score in experimental group was 05 i.e., 24%. According to Komalavalli [10], the primi mothers perceived moderate pain, mild pain, and severe pain of about 63.3%, 23.3% and 3.3%, respectively in the experimental group while in the control group, 53.3% of mothers perceived severe pain and 46.7% of mothers perceive moderate pain.

The analysis shows a significant benefit of Breast crawl technique on Episiotomy suturing pain with additional benefits of mother to child contact with possible result of releasing Oxytocin hormone thereby reducing chances of PPH also which can be taken as another study subject. However, the “Breast Crawl Technique” was profoundly effective [12].

Conclusion

The purpose of the present study was to evaluate the effectiveness of breast crawl on breastfeeding and its association with the selected socioeconomic and demographic variables. In the present study, socioeconomic and demographic status especially family income/month and residence were significantly associated between the group while obstetrical parameters viz. age of marriage and gestational age were significantly associated between the group. The present study indicates that breast crawl was effectively observed among experimental group. Breast crawl technique was very effective and significantly reduced the episiotomy suturing pain and initiated the breast feeding among primi mothers. Nevertheless, it is a simple measure which is very cost effective to reduce the episiotomy suturing pain. Breast crawl technique was a safe method which can be practiced by all the midwives to initiate the breast feeding among newborn. So, the researcher concludes that breast crawl technique is an effective intervention to reduce the episiotomy suturing pain perception level.

Limitations

This study comprised of a small sample size and thus could not be grant conclusive for overall population of India. Moreover, it was not conducted to know the impact of breast crawl technique and bonding of mother and baby.

Acknowledgment

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Conflict of Interest

None

Ethical Approval

Prior permission was accorded by Ethical Committee at CHAF Bangalore.

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