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## A study to evaluate the effectiveness of breast crawl technique on physiological outcome during the third stage of labour and immediate initiation of breastfeeding among postnatal mother at the selected hospital, Trichy

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### ABSTRACT

**Background:** Uninterrupted Breast crawl technique is important just after the delivery, may promote breastfeeding and prevent postpartum hemorrhage. **Objectives:** To evaluate the effectiveness of breast crawl technique on physiological outcome during the third stage of labour and immediate initiation of breast feeding among postnatal mother in the experimental group. **Design:** Quasi-experimental posttest-only design. **Setting:** Selected hospital, Trichy. **Participants:** 60 postnatal mothers fulfilling the inclusion criteria. **Selection criteria:** Postnatal mothers, experimental group 30, control group 30 on the third stage of labour at the Selected hospital were included. **Methods:** Non-probability convenience sampling technique was used. **Results:** The result shows that among postnatal mothers in the experimental group, the level of blood loss 17 (57%) of postnatal mothers had mild blood loss, 13 (43%) had moderate blood loss and none of them had severe blood loss. Regarding duration of separation of the placenta in the third stage of labour 19 (63%) has  $\leq 6$  min and 11 (37%) has  $> 6$  min. Majority 2 (7%) had maximum breast feeding score, 28 (93%) had effective vigorous feeding and none of them had moderately effective feeders and effective sucking rhythm not established. Unpaired 't' test shown, blood loss (4.76), duration of separation of the placenta in the third stage of labour (7.84) and immediate initiation of breast feeding (10.92) statistically significant at  $p < 0.05$ . It shows that breast crawl technique was effective among experimental group. There was a significant association with the demographic and obstetric variables at  $P > 0.05$ . **Conclusion:** The breast crawl technique was effective on physiological outcome during the third stage of labour and immediate initiation of breast feeding in the experimental group. **Clinical applications:** The breast crawl technique is one of the physiological techniques which can be applied to improve the physiological outcome of the mother in the third stage of labour & improve the breast feeding.

**Keywords:** Breast Crawl Technique, Immediate Initiation of Breast Feeding, Duration of Separation of the Placenta, Third Stage of Labour and Level of Blood Loss.

### 1. INTRODUCTION

Until one becomes a mother, no one can ever tell you what it will feel like to love someone else so deeply and profoundly that you will rejoice when they rejoice, ache when they ache, feel what they feel –even without ever speaking a word (**Jennifer Quinn**)

In every country and community worldwide, pregnancy and childbirth are momentous events in the lives of women and families and represent a time of intense vulnerability. The concept of “safe motherhood” is usually restricted to physical safety, but childbearing is also an important rite of passage, with deeply personal and cultural significance for a woman and her family. Because motherhood is specific to a woman. (**World Health Organization (WHO), 2012**)

The World Health Organization (**WHO**) defines postpartum hemorrhage as vaginal bleeding in excess of 500ml after childbirth. Globally postpartum hemorrhage occurs in 10.5% of live births. It is the leading cause of maternal mortality worldwide. Experts

recommend that all women should benefit from active management of the third stage of labour, the only intervention known to prevent postpartum hemorrhage. Care of the baby in the third stage of labour includes clearing of the airway, APGAR rating, birth kangaroo care that is the initiation of breast crawl technique of the mother and the baby immediately after birth that helps in early initiation of breastfeeding, early separation of the placenta, and in providing mother and infant bonding.

Breast crawl technique in the third stage also benefits the mother; massage of the breast by the baby and subsequent suckling induce a large oxytocin surge from the mother's pituitary gland into her bloodstream. Close emotional interaction coupled with cutaneous, visual and auditory stimuli from the baby during the Breast Crawl also help oxytocin release. This oxytocin helps to contract the uterus, expelling the placenta and closing off many blood vessels in the uterus, thus reducing blood loss and preventing anemia. The pressure of the infant's feet on the abdomen may also assist in expelling the placenta (**Klaus and Kennel, 2001**).

**1.1 Need for the Study**

Insufficient maternal care during pregnancy and delivery is largely responsible for the staggering annual toll of more than half a million maternal deaths and the estimated 4 million newborn deaths that occur within the first month of life. Indeed, roughly three-quarters of all maternal deaths occur during delivery and in the immediate post-partum period. All women and babies need maternity care in pregnancy, childbirth and after delivery to ensure optimal pregnancy outcomes. Although all women and babies need pregnancy care, care in childbirth is most important for the survival of pregnant women and their babies.

An estimated 303 000 maternal deaths occurred worldwide at the end of 2015. This means that each day about thousand women dies worldwide because of complications related to pregnancy and childbirth. Developing countries account for 99% of the deaths. The maternal mortality ratio in developing countries in 2015 is 239 per 100 000 live births versus 12 per 100 000 live births in developed countries. (**World Health Organization WHO, 2015**).

The study was conducted on the Length of the Third Stage of Labor and the Risk of Postpartum Hemorrhage (6,588 vaginal deliveries). The result showed that during a 24-month period there were 6,588 vaginal deliveries in a single tertiary obstetric hospital, and postpartum hemorrhage occurred in 335 of these (5.1%). The median length of the third stage of labor was similar in women having and those not having a postpartum hemorrhage. The risk of postpartum hemorrhage was significant at 10 minutes, odds ratio (OR) 2.1, 95% confidence interval (CI), 1.6–2.6; at 20 minutes, OR 4.3, 95% CI 3.3–5.5; and at 30 minutes OR 6.2, 95% CI 4.6–8.2. The best predictor of postpartum hemorrhage using receiver operating characteristic curves was 18 minutes. The study concluded that third stage of labor longer than 18 minutes is associated with a significant risk of postpartum hemorrhage. After 30 minutes the odds of having postpartum hemorrhage are 6 times higher than before 30 minutes. (**Magann, Everett F.et al, 2010**)

Studies have shown that during breast crawl technique immediately after birth, newborns have better temperature regulation, higher blood sugars, lowers breathing rates and less crying, compared to babies who are separated and wrapped. One study shows that newborns that had enjoyed early breast crawl technique had warmer hands and feet – a sign of lower levels of stress hormones up to two days later. Breast crawl technique also benefits the mother who releases high levels of oxytocin which helps the uterus to contract and helps in preventing excessive bleeding (**DR. Sarah Buckley**)

A conceptual frame work refers to a frame work of prepositions for conducting research. Conceptual framework adopted in the present study was **modified Wiedenbacks Theory -Helping art of clinical nursing theory (1964)**

**1.2 Research Methodology**

In this present study, the quantitative evaluative approach used to evaluate the effectiveness of breast crawl technique on physiological outcome during the third stage of labour and immediate initiation of breast feeding among postnatal mother in Selected Hospital, Trichy. Quasi-Experimental Post-test Only Design was adopted for this study. The samples divided into experimental group and control group.

Group	Intervention	Post test
Experimental group	X	O <sub>1</sub>
Control group	-	O <sub>2</sub>

**Fig 1.3.1 -Diagrammatic presentation of the research design**

- O<sub>1</sub>-post-test for postnatal mothers among experimental group
- O<sub>2</sub>-posttest for postnatal mothers among the control group
- X- intervention (breast crawl technique)

The study was conducted for postnatal mother in Selected Hospital, Trichy. It is a 200 bedded specialty (maternity) hospital with 2 fully equipped labor rooms. Non-probability convenience sampling technique was used to select the samples for this study. The sample comprises of 60 postnatal mothers who met with the inclusion criteria. It is divided into 30 postnatal mothers as an

Experimental group and 30 postnatal mothers as Control group. In this study, it refers placing the neonate nakedly in a prone position on the mother's chest for 20 minutes soon after the immediate care of the new born got over in the labour room with adequate and warm covering the new born.

### 1.2.1 Development and Description of the Tools

A literature search was done for getting the appropriate tool. In this study, the researcher used four sections of tools to provide breast crawl technique to the postnatal mothers. In the literature, some tools were identified as relevant to evaluate the effectiveness of breast crawl technique on postnatal mothers. The researcher had taken the standardized tool of the Infant Breastfeeding Assessment Tool (IBFAT) to assess the initiation of breast feeding. The additional sections were prepared by the researcher to evaluate socio-demographic, obstetric characteristics, the physiological outcome of mothers during the third stage of labour based on the objectives, literature available and the expert's guidance. The reliability of the tool was tested by Test re-test method using correlation co-efficient method tool was found to be reliable, in the assessment of blood loss as ( $r^1 = 0.87$ ), duration of the separation of placenta in third stage of labour as ( $r^2 = 0.78$ ) and immediate initiation of breast feeding as ( $r^3 = 0.69$ ).

#### SECTION –1

Demographic variables include age in years, weight in kg, height in inches, religion, educational level, and residence.

#### SECTION –2

Obstetric variables include gravida, parity, and number of living children, mean gestational age in weeks, duration of stage I of the labour in an hour, duration of stage II of the labour and weight of the baby in kilogram

#### SECTION –3

Physiological outcome of mothers during the third stage of labour includes two parts,

- Part-A **Assessment of blood loss**

The blood loss was calculated by, the wet gauze pieces used in the third stage of labour was calculated and the amount of blood present in that was be calculated at the end of the third stage of labour.

**Table 1.2.1-assessment of blood loss**

Level	Amount of blood
Mild	100-200 ml
Moderate	201-500 ml
Severe	More than 500 ml

- Part-B **Duration of separation of the placenta in the third stage of labour**

The duration of separation of the placenta in the third stage of labour was calculated by the time taken from soon after the birth of the baby till the complete separation of the placenta and membrane

**Table 1.2.2-Duration of separation of the placenta in the third stage of labour**

Duration
≤ 6 min
> 6 min

**SECTION –4-**The Infant Breastfeeding Assessment Tool (IBFAT) to assess the immediate initiation of breast feeding

### 1.3 Findings

The findings of the study are presented in four sections and are as follows:

Section A: Distribution of demographic and obstetrical variables of the postnatal mothers in experimental and control group

Section B: Distribution of physiological outcome during the third stage of labour and immediate initiation of breast feeding among postnatal mother in experimental and control group

Section C: To evaluate the effectiveness of breast crawl technique on physiological outcome during the third stage of labour and immediate initiation of breast feeding among postnatal mother in experimental and control group.

Section D: Find out the association of physiological outcome during the third stage of labour and immediate initiation of breast feeding with the demographic and obstetrical variables among postnatal mother in experimental and control group

**Table 1.3.1: Comparison of mean and SD value of the level of blood loss, duration of separation of the placenta in the third stage of labour and immediate initiation of breast feeding among the postnatal mothers in experimental group and control group**

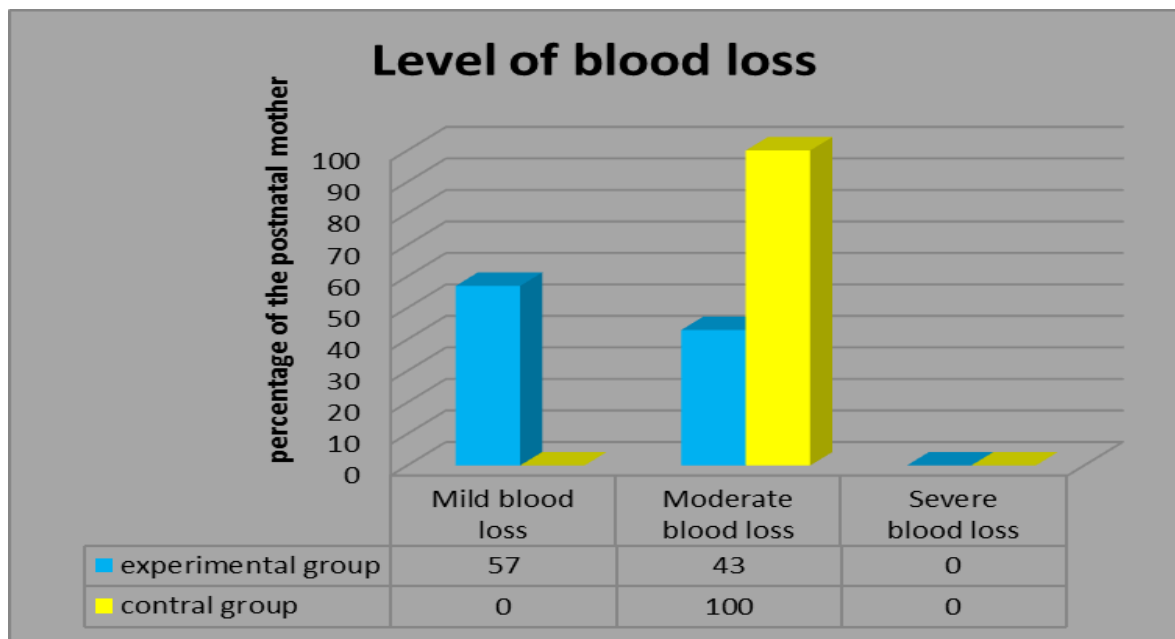
s.no	Variables	Experimental Group		Control Group		Unpaired "t" test	P value (> 0.05)	Inference
		(n <sub>1</sub> )		(n <sub>2</sub> )				
		mean	SD	mean	SD			
1.	Level of Blood Loss	201.66	34.33	275.33	50.56	4.76	2.00	*S
2.	Duration of Third Stage of Labour	5.4	2.010	13.56	3.747	7.84	2.00	*S
3.	Immediate initiation of breast feeding	10.53	0.628	7.8	0.804	10.92	2.00	*S

(n<sub>1</sub>=30, n<sub>2</sub>=30)

\*S-significant

df=58

level of significance at 0.05



**Fig 1.3.1-cylinder diagram showing the Percentage distribution of level of blood loss among the postnatal mothers between experimental and control group**

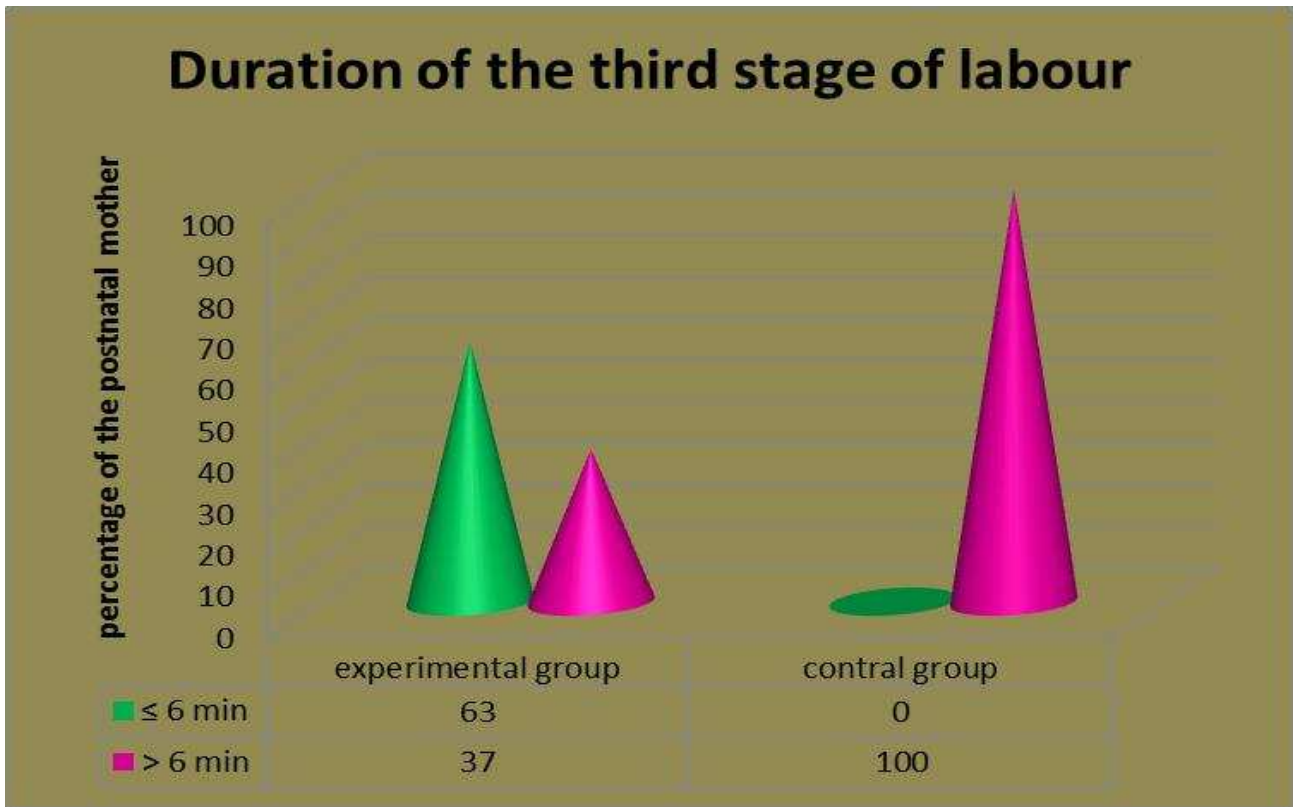


Fig 1.3.2-conical diagram showing the percentage distribution of duration of the third stage of labour among the postnatal mothers between experimental and control group

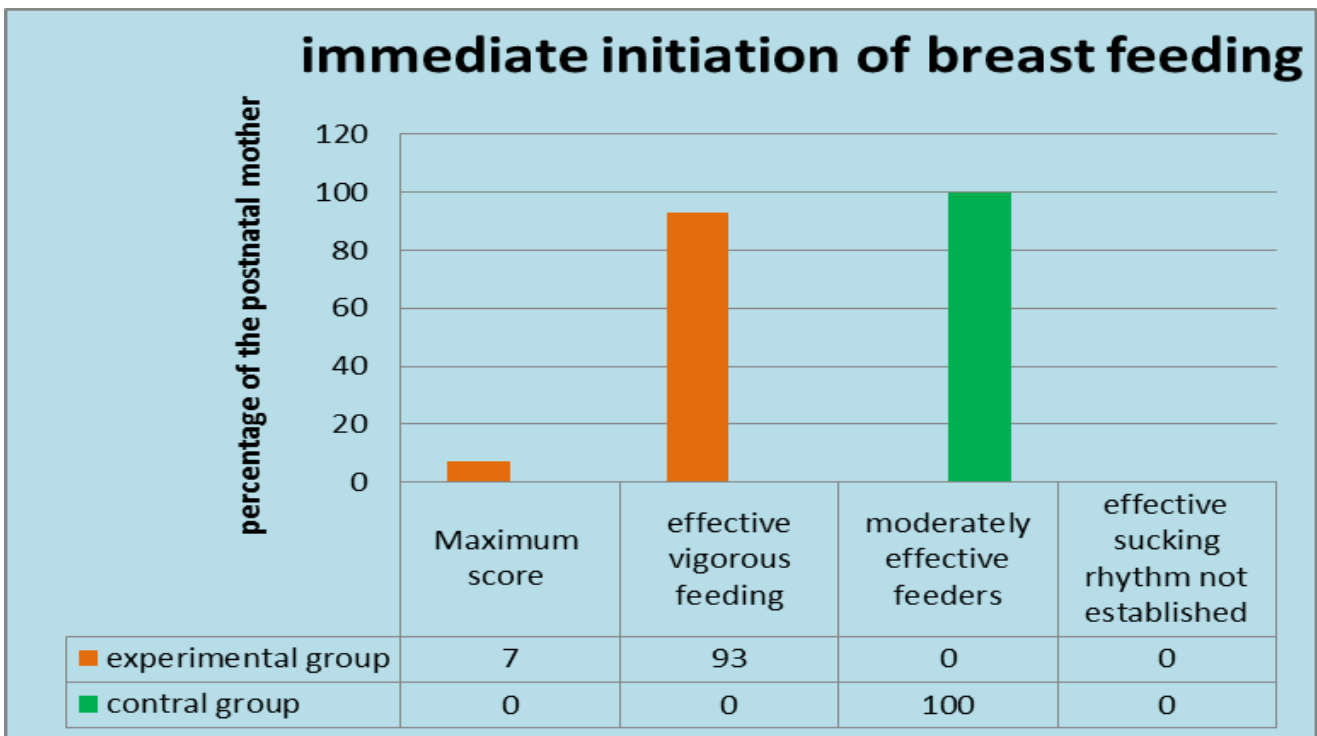


Fig 1.3.3- column diagram showing the percentage distribution of immediate initiation of breast feeding among the postnatal mothers in experimental and control group

## 2. RESULT

From the findings of the study it will be concluded that Most of the postnatal mothers were in 18 (60%) belong to age group of 28-31 years, 15 (50%) weighed of 46-55 kg, 14 (47%) were in the height of 156-160 cm, 16(54%) belong to Hindu religion, 14(47%) had secondary level education and 15(50%) commonly residing at urban region in demographic variables .Majority of the postnatal mothers 17(57%) with the gravida as 1, in experimental group, parity as 0, having 1 living child, and 40 weeks of gestation, 13(43%) within the duration of 6-8 hours in stage I of the labour, 20(66%) within 31 min- 1 hour in duration of stage II

of the labour and the babies weighed 18(60%) within 2.0-2.4 kilogram in obstetrical variables. There was a significant association between the post-test level of effectiveness of breast crawl technique in physiological outcome during the third stage of labour and immediate initiation of breast feeding among postnatal mother with the demographic and obstetrical variables in the experimental group.

### 3. CONCLUSION

Breast crawl technique was effective on physiological outcome during the third stage of labour and immediate initiation of breast feeding among postnatal mother.

#### 3.1 Recommendations


Based on the findings of the study, the following recommendations have been made for further study.

- A study can be conducted with large samples to generalize the findings.
- A similar study can be conducted in different settings (Maternity Health Centres, PHC etc).
- A different study on other physiological managements of third stage can be conducted on postnatal mothers to reduce the duration in third stage of labour and immediate initiation of breast feeding
- A different study can be conducted to assess the other benefits of breast crawl technique

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