

How to Cite:

Rawat, G., & Balusamy, P. (2022). Effectiveness of breast crawl method on selected new born and maternal outcomes. *International Journal of Health Sciences*, 6(S1), 1721-1729. <https://doi.org/10.53730/ijhs.v6nS1.4930>

Effectiveness of Breast Crawl Method on Selected New Born and Maternal Outcomes

Geeta Rawat

Narayan Swami College of Nursing, Dehradun, Uttrakhand

Prema Balusamy

Department of Nursing, University of Hafr Al Batin, Kingdom of Saudi Arabia

Abstract--The world health Organization (WHO) and UNICEF recommend initiation of breastfeeding within the first hour after birth.¹ The deaths of 8,23,000 children and 20,000 mothers each year could be saved by promoting Universal breastfeeding, along with the economic savings of US \$ 300 billion.² The present study was undertaken with the aim to assess the effectiveness of breast crawl method on selected new-born and maternal outcomes at govt. hospital, Dehradun, Uttrakhand. A Quantitative Approach with a quasi-experimental design using non-probability convenient sampling was used. The results depict that at the $p < 0.0011$ level, the breast crawl method had a significant favorable impact on Newborn Temperature at 1 hour, time of placental expulsion, episiotomy pain perception, and involution of uterine II PPD. There was a statistically significant difference in newborn and maternal outcomes between the experimental and control groups at the $p < 0.0011$ level. The study concluded that Breast crawl was found to be an efficient approach for maintaining effective body temperature, shortening the duration of placental expulsion, reducing episiotomy pain perception, and assisting in early uterine involution.

Keywords--breast crawl, episiotomy perception, involution uterus, newborn temperature, placental expulsion.

Introduction

Mother Whenever we hear this word, there is a smile on our faces. Why? The reason is because it recollects us about the remembrance of our mother. This word is complete in its own and also it has a very important place in our lives. So in initiating early breast feeding and establishing skin-to-skin contact Breast Crawl method can be a beneficial intervention. Breast crawl is one of the natural

instinct a baby is born with (3). According to WHO, every newborn when placed on her mother's chest, soon after birth has the ability to find her mother's breast all on its own and to decide when to take the first breastfeed. This is called the "Breast crawl" (4). Breast crawl was originally described by Dr. Ann-Marie Widström, and her team of Karolinska Institute (Sweden) in 1987. Which was later pioneered by Dr. Marshall Klaus and Dr. Avroy Fanoroff (5). 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, 2020) (6).

Objectives

- To evaluate the effectiveness of breast crawl method on selected newborn outcomes.
- To evaluate the effectiveness of breast crawl method on selected maternal outcomes.
- To find out the association between selected Newborn and Maternal Outcomes with their selected demographic variables in experimental group

Hypothesis

- H1 - There will be a significant difference in the post test level of selected Newborn and maternal outcomes among mothers between experimental and control group.
- H2 - There will be a significant association between the post test level of selected Newborn and maternal outcomes among mothers in experimental group with selected demographic variables.

Materials and Method

The present study employs a quantitative research approach. Following the quasi experimental, post test only control group design. The independent variable in this study was the breast crawl Method. And Dependent variables: - Newborn Outcomes (Newborn Temperature) and Maternal Outcomes (Placental expulsion, Intensity of Episiotomy suturing pain, Involution of Uterus) are dependent variables. The study was conducted at Combined Government Hospital, Dehradun, Uttarakhand For the present study Mothers with full term normal vaginal delivery are target population and Mothers in active labour were the samples. The Calculated sample size was 63 in both groups. The data was collected through interview and observation technique. The mothers in the experimental group were given an explanation about the breast crawl method.

Description of tool

The tool consists of two sections.

- Section-I:- Socio Demographic Variables
- Section- II:- Observational Checklist
- Section- I

This section consists of socio demographic variables such as age of mother, education of mother, Gravida, Parity.

- Section- II

This section consists of Observational checklist such as types of nipple, Newborn Temperature, Expulsion of Placenta, Episiotomy pain perception and involution of uterus.

To assess the episiotomy pain perception the Numeric Pain Rating scale was used. which was invented by Mc. Caffery, Beebe, et. al, (1989) (7) to measure newborn temperature digital thermometer and to measure fundal height tape measure was used.

Results

Section A: Description Of The Demographic Performa

Table 1
Description of sample characteristics in terms of frequency and percentage

Demographic variable		(N=126)			
		Experimental Group (n=63)		Control Group (n=63)	
		<i>f</i>	%	<i>f</i>	%
Age of the mother in years	19-21	14	22	11	17
	22-24	17	27	21	33
	25-27	18	29	13	21
	28-30	14	22	18	29
Education of the mother	Post-graduate or professional degree	11	18	12	19
	Graduate	19	30	23	37
	Higher Secondary	14	22	11	17
	High School	11	17	10	16
	No formal education	8	13	7	11
Gravida	Primi Gravida	30	48	27	43
	Multi Gravida	33	52	36	57
Parity	Primi Para	34	54	35	56
	Multi Para	29	46	28	44

Section B: Effectiveness of breast crawl method on selected newborn outcomes in terms body temperature.

- Comparison of mean post-test in terms of body temperature at 0 minute between experimental and control group.

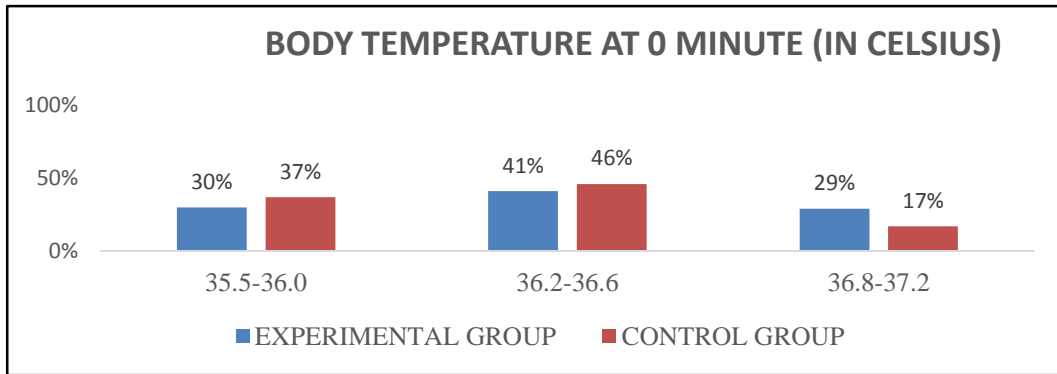


Figure 1. Comparison of mean post-test in terms of body temperature at 0 minute between experimental and control group.

- Comparison of mean post-test in terms of body temperature at 1 hour after birth between experimental and control group

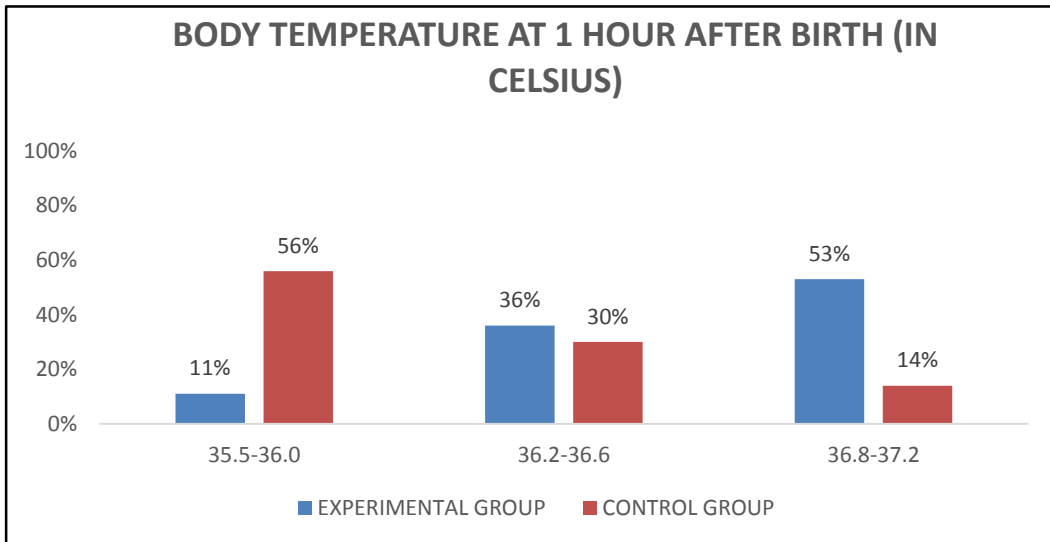


Figure 2. Comparison of mean post-test in terms of body temperature at 1 minute between experimental and control group

Section C: Effectiveness of breast crawl method on selected maternal outcomes in terms of placental expulsion, intensity of episiotomy suturing pain and involution of uterus:

- Comparison of mean post-test in terms of placental expulsion between experimental and control group

Table 2
Comparison of mean post-test in terms of placental expulsion between experimental and control group

Post-test	Range	Mean± SD	Mean Difference	t- value (p value)
Experimental group	8-2=6	4.25 ± 1.15	4.31	10.715 (0.00001)
Control group	15-3=12	8.56 ± 2.97		

$t_{(124)} = 1.65$, $p < 0.05$

Table 2 depicts that the mean post-test placental expulsion score (4.25 ± 1.15) of the experimental group was less than the mean post-test placental expulsion score (8.56 ± 2.97) of the control group with the mean difference of 4.31.

- Comparison of mean post-test in terms of intensity of episiotomy suturing pain between experimental and control group

Table 3
Comparison of mean post-test in terms of intensity of episiotomy suturing pain between experimental and control group

Post-test	Range	Mean± SD	Mean Difference	t- value (p value)
Experimental group	6-0=6	2.76 ± 2.18	3.51	8.44 (0.00001)
Control group	10-2=8	6.27 ± 2.47		

$t_{(124)} = 1.65$, $p < 0.05$

Table 3 depicts that the mean post-test intensity of episiotomy suturing pain score (2.76 ± 2.18) of the experimental group was less than the mean post-test intensity of episiotomy suturing pain score (6.27 ± 2.47) of the control group with the mean difference of 3.51.

Section D: Association between selected new-born and maternal outcomes with their selected demographic variables in experimental group.

Table 5
Association between placental expulsions with selected demographic variables

S.No.	Socio-Demographic Variable	Total Sample (n)	PLACENTAL EXPULSION				Chi-square Table Value, df	Chi-square (p value)
			Early f	Norm al f %	Late f %			
1.	AGE OF THE MOTHER IN YEARS 19-21	14	10	16	4	6	-	-

	22-24	17	17	27	0	0	-	-	7.82, 3	14.94 (0.002*)
	25-27	18	18	28	0	0	-	-		
	28-30	14	14	22	0	0	-	-		
2.	EDUCATION OF THE MOTHER:									
	Post graduate or professional degree	11	11	17	0	0	-	-		
	Graduate	19	18	28	1	1	-	-	9.49, 4	3.93 (0.41)
	Higher Secondary	14	13	21	1	1	-	-		
	High School	11	9	14	2	3	-	-		
	No formal education	8	8	13	0	0	-	-		
3.	GRAVIDA:									
	Primi Gravida	30	26	41	4	6	-	-		
	Multi Gravida	33	33	52	0	0	-	-	3.84, 1	4.69 (0.03*)
4.	PARITY:									
	Primi Para	34	30	48	4	6	-	-	3.84, 1	3.64 (0.05)
	Multi Para	29	29	46	0	0	-	-		

* - Significant at p<0.05 level

Table 5 depicts that association of socio-demographic characteristics of Experimental group with post-test score. The analysis revealed that there was significant association established with the age of the mother and gravida.

Table 6
Association between intensity of episiotomy suturing pain with selected demographic variables

S.No	Socio-Demographic Variable	Total Sample (n)	INTENSITY OF EPISIOTOMY SUTURING PAIN								Chi-square Table Value, df	Chi-square (p value)
			No Pain		Mild Pain		Moderate Pain		Severe Pain			
			f	%	f	%	f	%	f	%		
1.	AGE OF THE MOTHER IN YEARS											
	19-21	14	1	1	4	6	9	14	-	-		
	22-24	17	6	9	4	6	7	11	-	-	12.59, 6	11.90 (0.06)
	25-27	18	7	11	9	14	2	3	-	-		
	28-30	14	5	8	5	8	4	6	-	-		
2.	EDUCATION OF THE MOTHER:											
	Post graduate or professional degree	11	3	5	6	9	2	3	-	-		
	Graduate	19	9	14	5	8	5	8	-	-	15.51, 8	14.48 (0.07)
	Higher Secondary	14	2	3	3	5	9	14	-	-		
	High School	11	1	1	6	9	4	6	-	-		
	No formal education	8	4	6	2	3	2	3	-	-		
3.	GRAVIDA:											
	Primi Gravida	30	2	3	6	9	22	35	-	-		

	Multi Gravida	33	1 7	27	1 6	25	0	0	-	-	5.99, 2	38.33 (0.000*)
4.	PARITY:											
	Primi Para	34	4	6	8	13	22	35	-	-	5.99, 2	29.79 (0.000*)
	Multi Para	29	1 5	24	1 4	22	0	0	-	-		

* - Significant at $p < 0.05$ level

Table 6 depicts that association of socio-demographic characteristics of Experimental group with post-test score. The analysis revealed that there was significant association established with the gravida and parity.

Table 7
Association between involution of uterus (fundal height II PP day) with selected demographic variables

S. No	Socio-Demographic Variable	Total Sample (n)	FUNDAL HEIGHT, II POST-PARTUM DAY								Chi-square Table Value, df	Chi-square (p value)
			Above Umbili cus		1 Cm below umbili cus		1.5 Cm below umbilicus		2 Cm below umbilicus			
			f	%	f	%	f	%	f	%		
1.	AGE OF THE MOTHER IN YEARS											
	19-21	14	-	-	1	1	6	9	7	11		
	22-24	17	-	-	2	3	3	5	12	19	12.59, 6	4.02 (0.67)
	25-27	18	-	-	1	1	8	13	9	14		
	28-30	14	-	-	2	3	4	6	8	13		
1.	EDUCATION OF THE MOTHER:											
	Post graduate or professional degree	11	-	-	0	0	4	6	7	11		
	Graduate	19	-	-	2	3	5	12	12	19	15.51, 8	7.54 (0.47)
	Higher Secondary	14	-	-	2	3	3	5	9	14		
	High School	11	-	-	2	3	6	8	3	5		
	No formal education	8	-	-	0	0	3	5	5	12		
	GRAVIDA:											
	Primi Gravida	30	-	-	6	9	9	14	15	24		
	Multi Gravida	33	-	-	0	0	12	19	21	33	5.99, 2	7.30 (0.02*)
	PARITY:											
	Primi Para	34	-	-	6	9	11	17	17	27	5.99, 2	5.79 (0.05)
	Multi Para	29	-	-	0	0	10	16	19	30		

* - Significant at $p < 0.05$ level

Table 7 depicts that association of socio-demographic characteristics of Experimental group with post-test score. The analysis revealed that there was no significant association established with the selected demographic variables except gravida.

Discussion

Present study depicts that the mean post-test body temperature at '1' hour after birth score (36.58 ± 0.34) of the experimental group was greater than the mean post-test body temperature at '1' hour after birth score (36.09 ± 0.39) of the control group with the mean difference of 0.49. The calculated t value was ($t=7.50$) more than the tabled value ($t_{124} = 1.65$). Hence there is significance difference in the mean post-test body temperature at '1' hour after birth scores. So, it is concluded that breast crawl technique is effective for maintaining the body temperature at '1' hour after birth. Findings of the present study is similar with study conducted by Sharma Rajni (2017)⁸. The findings of the study revealed that Comparison of mean temperature and heart rate in experimental group and in the control group at 0 hour, 1 hour and 2 hours after birth, which shows the effectiveness of breast crawl technique to maintain temperature and heart rate in the newborn.

Present study also revealed that the mean post-test placental expulsion score (4.25 ± 1.15) of the experimental group was less than the mean post-test placental expulsion score (8.56 ± 2.97) of the control group with the mean difference of 4.31. The calculated t value was ($t=10.715$) more than the tabled value ($t_{124} = 1.65$). Findings of the present study in similar with study M. Komalavalli (2015)⁹. The result showed that the overall mean score in control group was 12.27 and standard deviation was 2.61. Present study concludes that the mean post-test intensity of episiotomy suturing pain score (2.76 ± 2.18) of the experimental group was less than the mean post-test intensity of episiotomy suturing pain score (6.27 ± 2.47) of the control group with the mean difference of 3.51. The calculated t value was ($t=8.44$) more than the tabled value ($t_{124} = 1.65$). Hence there is significance difference in the mean post-test intensity of episiotomy suturing pain scores.

Conclusion

According to the study results, the mothers in the experimental group who received breast crawl method showed positive outcomes with view to newborn temperature, time of expulsion of placenta, episiotomy pain perception and involution of uterus at labor ward in Combined Government Hospital, Dehradun, Uttarakhand. Breast crawl is a simple, low-cost, and convenient practice that requires no additional equipment. It is an evidence based practice so, the staff of every maternity ward should be encouraged to practice breast crawl as a routine in their facility. As a result, the researcher concludes that the breast crawl method is a beneficial intervention for both the mother and the baby in maintaining newborn body temperature, reducing placental expulsion time, lowering episiotomy pain perception, and assisting in early involution of uterus.

Acknowledgments

Gratitude cannot be articulated in words; rather, it is only through deep perception that the words flow from one's inner heart. First and foremost, I want to express my gratitude to God Almighty for his supernatural interventions in my life, without which I would have not been able to complete this research study. I

am obliged to all those who have assisted me, cemented my thought process with right perception and precision.

References

1. Breastfeeding from the first hour of birth: What works and what hurts [Internet]. Unicef.org.2021[cited3July2021].Available from: <https://www.unicef.org/stories/breastfeeding-first-hour-birth-what-works-and-what-hurts>
2. Hansen, K. The power of nutrition and the power of breastfeeding. *Breastfeeding Med.* 2015; 10: 385-388. Available on www.ncbi.nlm.nih.gov
3. Early initiation of breastfeeding to promote exclusive breastfeeding [Internet]. World Health Organization. 2021 [cited 3 July 2021]. Available from: <https://www.who.int/elena/titles/early-breastfeeding/en/#:~:text=Early%20and%20uninterrupted%20skin%2Dto,the%20first%20hour%20after%20delivery.>
4. Breast Crawl- Initiation of Breastfeeding by Breast Crawl. Available from URL:<http://breastcrawl.org/>
5. Marchlewska-Koj, Anna; Lepri, John J.; Müller-Schwarze, Dietland (2012-12-06). *Chemical Signals in Vertebrates 9*. Springer Science & Business Media. p. 419. ISBN 9781461506713.
6. Radhakrishnan S. Breast crawl [Internet]. *Ajner.com.* 2021 [cited 3 July 2021]. Available from: https://ajner.com/HTML_Papers/Asian%20Journal%20of%20Nursing%20Education%20and%20Research_PID_2012-2-1-6.html
7. 22. Mc Caffery, M., Beebe, A., et al. (1989). *Pain: Clinical manual for nursing practice*, Mosby St. Louis, MO
8. Sharma R. Effectiveness of Breast Crawl Technique to Initiate Breast Feeding in Newborn and to Find out Its Impact on Newborn and Maternal Outcome during Early Postpartum Period – An Experimental Study. *Int J Nurs Midwif Res* 2017; 4(3): 55-60.
9. M. Komalavalli, Effectiveness Of Breast Crawl On Selected Maternal Outcomes Among Mothers In Labour Ward At Government Rajaji Hospital Madurai <http://repository-tnmgrmu.ac.in/1664/1/3003275komalavallim.pdf>