

The Effect of Back Massage on Breast Feeding among Neonates who's Mothers Had Undergone Cesarean Section

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Abstract: Breastfeeding is considered as one of the most natural and intimate of all human interactions. Human milk has no substitute and breast is nature's apparatus for feeding babies. A mother who has undergone cesarean delivery has a dual role in both Post-operative self care as well as newborn care. LSCS mothers need more care and attention than vaginal delivery mothers. **Purpose:** To study the effect of back massage on breast feeding among mothers who had undergone cesarean section. **Objectives:** To assess the effect of back massage on breast feeding among neonates whose mothers had undergone cesarean section. **Material and methods:** This was a quasi experimental pilot study and research design was non equivalence control group. Sampling technique was non probability Purposive sampling technique used to select sample. 20 samples were selected and divided in control and experimental group. Data collected from 5th March 2015 to 24th May 2015 Tool was developed in two parts, first was demographic data of the mothers and her neonate and second part includes semi structured questionnaire and observation checklist for breast feeding and satiety as well as weight of neonate. **Result:** In control group 20% of the neonates were females and 80% of them were males. 30% of mother were receiving supplementary food to enhance lactation, 80% of the neonate have birth weight ranges from 2.5kg to 3 kg. 80% of the babies were breast feed 4-6 times per day. 30% of the babies were breast feed less than 3 times in a day. 50% of them had receiving of top feed. In experimental group 50% of the neonates were females and another half were males. 70% of them were receiving supplementary food to enhance lactation, all of the babies were breast feed 4-6 times per day. 30% of them had receiving of top feed. Average changes in satiety scores in experimental group were 1.15, 1.83 and 1.83 on day1, day2 and day3. Average change in satiety scores of control group were 0.03, 0.10 and 0.05. T-values for this comparison were 3.4, 3.8 and 3.8 with 18 degrees of freedom. Corresponding p-values were 0.002, 0.001 and 0.001 which are small (less than 0.05), this indicates back massage improved satiety scores significantly in experimental group than control group. In experimental group average weight on pre assessment was 2.8kg. And average increased to 2.9kg T-values for this comparison with 9 degrees of freedom were 7.7, 8.4 and 9.8. Corresponding p-values were of the order of 0.000, which shows weight of the neonates improved significantly after back massage. **Conclusion:** The study concluded that there was a significant increase in satiety and breast feeding score and weight in experimental group than control group.

Keywords: Effectiveness, back massage, breast feeding, cesarean section

1. Introduction

Mother who has undergone cesarean section has a dual role in post operative care as well as maternal care. Breast feeding is more difficult after a caesarean section for many reasons maternal pain and fatigue, delayed access to baby, increased supplementary feeding, separation of mother and baby, blood loss causing anemia, effects of medication, delayed access of baby due to anesthesia, stress due to unscheduled surgery. Caesarean surgery also makes positioning the baby for breastfeeding more painful¹

2. Review of Literature

A very recent article compared the effect of 'caine family of drugs on newborn breastfeeding behaviors. 'Caine family drugs are the anesthetics typically used in epidurals; bupivacaine is the drug most frequently used. In this study, 100% of the babies of non-medicated mothers initiated instinctive breastfeeding behaviors and successfully self-attached and suckled. The results were far different for the babies of the medicated mothers. Only 33% of the babies who received a pudendal block (using mepivacaine) successfully self-attached and suckled, and only 25% of the

group exposed to epidural bupivacaine, narcotic, or combo of these successfully self-attached and suckled. it seems to indicate that medication can affect instinctive breastfeeding behaviors.²

Research shows that women have a caesarean, loss about twice the amount of blood as women having a vaginal birth. If a woman experiences excessive blood loss during surgery, she may experience anemia afterwards, which can interfere with milk supply significantly. Yet few doctors are aware that anemia can affect milk supply, and few check for it or treat it aggressively afterwards.³

3. Materials and Methods

This study used the quantitative research approach. A quasi experimental study with non equivalence control group design was considered best suited to the study. This design was used since the study evaluated the effect of back massage (independent variable) on breast feeding (dependent variable) among neonates whose mothers had undergone cesarean section.

Inclusion criteria - New born babies with normal physiological characteristics, weight between 2.5-3.7 Kilogram, Mothers after 48 hours of caesarian section,

Exclusion criteria - Delivered twins newborn, Mothers who are critically ill, receives medication for lactation, breast or nipple abnormalities, suffering from psychiatric disorder, with post dural puncture headache. The assessment of breast feeding was done during and after the breast feeding. For experimental group back massage was provided 5 -7 minutes before breast feeding four times in a day for 3 days to mother.

Description of the tool:

Section I: Demographic profile Section one was prepared to collect general information about the mother and her neonate. It is semi structured questionnaires about variables such as age and parity of mother, sex and birth weight of the neonate, Initiation of breast feeding after caesarian section, receiving any supplementary food to enhance lactation, number of times neonate been breast feed per day, requirement of top feed, If yes how often.

Section II: Assessment of breast feeding. It includes part I and II. Part I- Semi structured questionnaire used to assess number of urination and stool passed by neonates in a day for 3days. It was scored as 1-3times in a day as a 1, 4-6 times in a day as a 2 and more than 6 times as a 3. 2-4 score were interpreted for a day as an inadequate feeding for a day and 5- 6 score were interpreted for a day as an adequate feeding for a day. Part- II - Observation check list used to assess the neonate during and after breast feeding for satiety. During breast feeding neonate observed for audible swallowing followed by shallow superficial non nutritive sucking. After breast feeding neonate observed for self removal from the breast by unlatching, turning head away from the breast, relaxed posture, irritability, duration of breast feeding and sleep duration .Yes response was scored as 1 and no response was scored as 0. Overall score interpreted as 0 to 1 as a Poor Satiety, 2 to 5 as an average Satiety and 6 to 7 as good Satiety.

4. Results and Analysis

Section I: Findings related to analysis of the data related to the demographic variables in both group.

Table 1: Description of samples based on their personal characteristics in terms of frequency and percentage N=20

Demographic variable	Experimental		Control	
	Freq	%	Freq	%
Age group				
25-28 years	3	30%	2	20%
29-32 years	7	70%	5	50%
>32 years	0	0%	3	30%
Birth weight of the neonate				
2.5 -3 kg	7	70%	8	80%
Above 3 kg	3	30%	2	20%
Gender of neonate				
Female	5	50%	2	20%
Male	5	50%	8	80%

Initiation of breast feeding after caesarian section				
Within 2-4 hours	5	50%	3	30%
More than 4 hours	5	50%	7	70%
Receiving any supplementary food to enhance lactation				
No	3	30%	5	50%
Yes	7	70%	5	50%
Number of times baby been breast feed per day				
4-6 times	10	100%	8	80%
7-9 times	0	0%	2	20%
Requirement of top feed				
No	6	60%	5	50%
Yes	3	30%	5	50%
If yes how often				
3 times	3	100%	3	60%
4 times	0	0%	2	40%

Table no.1 Shows in experimental group, 70 % of the mothers are in the age group of 29-32 years. In control and experimental group majorities of the neonate had birth weight ranges between 2.5 -3 kg. 80% of the newborn are male from control group. 70 % of mothers initiate breast feeding after caesarian section more than 4 hours in control group. 70% of mothers from experimental group received supplementary food to enhance lactation. All of the neonates breast feed 4-6 times per day and 60% required 3 times top feeds per day in experimental group.

Section - II: Findings related to analysis of the data related to the pre assessment of breast feeding among neonates whose mothers had undergone cesarean section.

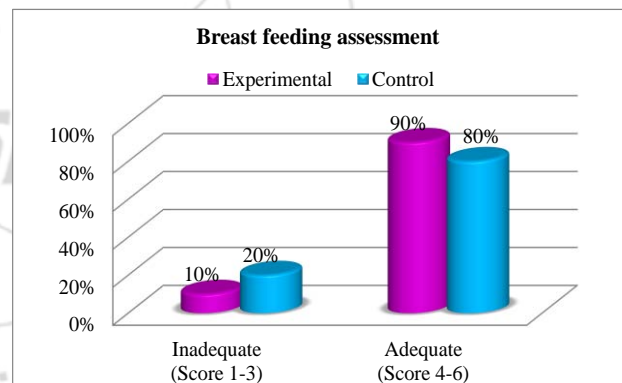


Figure 1: Pre assessment of breast feeding of neonates in both group N=20

Bar diagram shows on pre assessment, in experimental group, 90% of the mothers had adequate feeding per day and 10% of them had inadequate feeding per day. On pre assessment, in control group, 80% of the mothers had adequate feeding per day and 20% of them had inadequate feeding per day.

Table 2: Pre assessment of satiety of neonates in both groups N=20

Satiety	Experimental		Control	
	Freq	%	Freq	%
Poor (score 0-1)	3	30%	1	10%
Average (score 2-3)	7	70%	9	90%
Good (score 4-5)	0	0%	0	0%

Table no 2 shows on pre assessment, in experimental group, 70% of them had average satiety and 30% of them had poor

satiety. In control group, 90% of them had average satiety and 10% of them had poor satiety

Section –III - Effectiveness of back massage on breast feeding in experimental group

Table 3: Effectiveness of back massage on Breast feeding in experimental group. N=10

Day of Assessment	Breast Feeding per day	Experimental	
		Freq	%
Pre Assessment (Day-0)	Inadequate (Score 1-3)	1	10%
	Adequate (Score 4-6)	9	90%
Day -1	Inadequate (Score 1-3)	0	0%
	Adequate (Score 4-6)	10	100%
Day -2	Inadequate (Score 1-3)	0	0%
	Adequate (Score 4-6)	10	100%
Day -3	Inadequate (Score 1-3)	0	0%
	Adequate (Score 4-6)	10	100%

Table no 3 shows that on pre assessment, in experimental group, 90% of the mothers had adequate feeding per day and 10% of them had inadequate feeding per day. Day 1 onwards all of the mothers in experimental group had adequate feeding.

Table 4: Paired t-test for breast feeding assessment in experimental group N=10

Day	Mean	SD	T	df	p-value
Day 0	4.2	0.6			
Day 1	5.5	0.5	6.091	9	0.000
Day 2	5.1	0.6	5.014	9	0.000
Day 3	6.0	0.0	9.000	9	0.000

Paired t-test used to assess the effectiveness of daily breast feeding scores of neonates. Average daily breast feeding score on pre assessment was 4.2 which increased to 5.5, 5.1 and 6 on day1, day2 and day 3 respectively. T-values for this comparison with 9 degrees of freedom were 6.091, 5.014 and 9. Corresponding p-values were of the order of 0.000, which are small (less than 0.05), the null hypothesis is rejected. Daily breast feeding score of the mothers improved significantly after back massage.

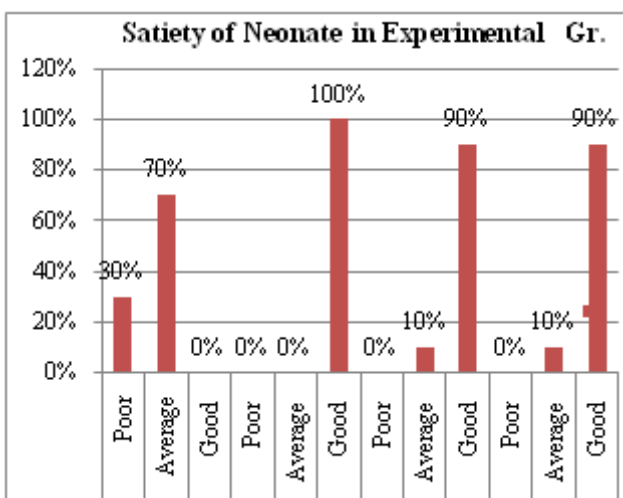


Figure 2: Effectiveness of back massage on satiety in neonates in experimental group N=10

Bar diagram shows that on pre assessment, in experimental group, 70% of neonates had average satiety and 30% of them had poor satiety. On day1 all of them had good satiety, day2 onwards 90% of them had good satiety and 10% of them had average satiety. This indicates that the satiety improved of neonate in Experimental group.

Table 5: Paired t-test for satiety of newborn in experimental group, N=10

Day	Mean	SD	T	df	p-value
Day 0	2.1	0.5			
Day 1	4.5	0.3	10.3	9	0.000
Day 2	4.5	0.4	12.5	9	0.000
Day 3	4.5	0.6	11.7	9	0.000

Researcher applied paired t-test to assess the satiety of newborn in experimental group. Average satiety score on pre assessment was 2.1 which increased to 4.5. T-values for this effectiveness with 9 degrees of freedom were 10.3, 12.5 and 11.7. Corresponding p-values were of the order of 0.000, which are less than 0.05, the null hypothesis is rejected. Satiety score of the newborns improved significantly in experimental group.

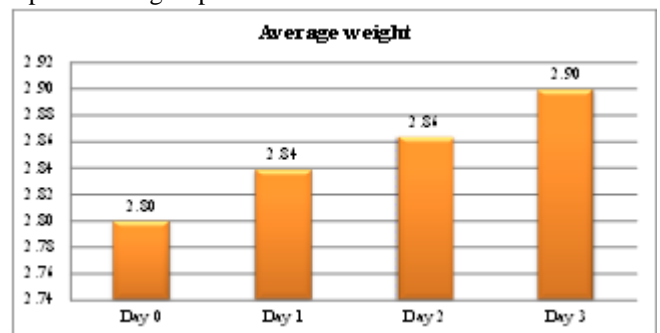


Figure 3: Effectiveness of back massage on weight of neonates in experimental group, N=10

Bar diagram showing on Pre assessment average weight of newborn is 2.80kg ,on day 1 average weight of newborn is 2.86kg.on day 3 average weight of newborn is 2.90kg. This indicates there is improvement in weight of newborn in experimental group.

Table 6: Paired t-test for weight of newborn in experimental group, N=10

Day	Mean	SD	T	df	p-value
Day 0	2.8	0.2			
Day 1	2.8	0.2	7.7	9	0.000
Day 2	2.9	0.2	8.4	9	0.000
Day 3	2.9	0.2	9.8	9	0.000

Table no. 6 shows that effectiveness of weight of newborn in experimental group. Average weight on pre assessment was 2.8 which increased to 2.9. T-values for this comparison with 9 degrees of freedom were 7.7, 8.4 and 9.8. Corresponding p-values were of the order of 0.000, which are small than 0.05, which shows weight of the neonates improved significantly after back massage.

Section IV: To compare the breast feeding among neonates whose mothers had undergone caesarian section between control group and experimental group

Table 7: Comparison of average change in breast feeding scores of neonates between experimental and control groups, N=20

Day	Exp		Control		t	df	p-value
	Mean	SD	Mean	SD			
Day 1	1.30	0.67	0.00	0.94	3.5	18	0.001
Day 2	0.90	0.57	0.60	0.84	0.9	18	0.182
Day 3	1.80	0.63	0.80	0.92	2.8	18	0.005

Table no 7 shows average change in breast feeding scores of experimental and control groups. Average changes in breast feeding scores in experimental group were 1.3, 0.9 and 1.8 on day1, day2 and day3. Average changes in breast feeding scores of control group were 0.00, 0.60 and 0.85. T-values for this comparison were 3.5, 0.9 and 2.8 with 18 degrees of freedom. Corresponding p-values were 0.001, 0.182 and 0.005 which are small than 0.05, this indicates back massage improved breast feeding scores significantly in experimental group than control group.

Table 8: Comparison of average change in satiety scores of neonates between experimental and control groups, N=20

Day	Exp		Control		t	df	p-value
	Mean	SD	Mean	SD			
Day 1	1.15	0.96	0.03	0.42	3.4	18	0.002
Day 2	1.83	0.65	0.10	1.29	3.8	18	0.001
Day 3	1.83	0.74	0.05	1.27	3.8	18	0.001

Table no 8 shows average change in satiety scores of experimental and control groups. Average changes in satiety scores in experimental group were 1.15, 1.83 and 1.83 on day1, day2 and day3. Average change in satiety scores of control group were 0.03, 0.10 and 0.05. T-values for this comparison were 3.4, 3.8 and 3.8 with 18 degrees of freedom. Corresponding p-values were 0.002, 0.001 and 0.001 which are less than 0.05; this indicates back massage improved satiety scores of newborn significantly in experimental group than control group.

Table 9: Comparison of average change in weight of neonates between experimental and control groups, N=20

Day	Exp		Control		t	df	p-value
	Mean	SD	Mean	SD			
Day 1	0.04	0.02	-0.02	0.03	6.1	18	0.000
Day 2	0.06	0.02	-0.02	0.03	7.1	18	0.000
Day 3	0.10	0.03	-0.02	0.03	8.7	18	0.000

Table no 9 shows average change in weight of experimental and control groups. Average changes in satiety scores in experimental group were 0.04, 0.06 and 0.1 on day1, day2 and day3. Average change in weight of control group were -0.02, -0.02 and -0.02. T-values for this comparison were 6.1, 7.1 and 8.7 with 18 degrees of freedom. Corresponding p-values were of the order of 0.000 which are less than 0.05. This indicates back massage improved weight significantly in experimental group than control group.

5. Discussion

Total 20 mothers were assessed using Non probability purposive sampling technique. pre assessment of let down reflex based on semi structured questionnaire and

observation check list was done. Back massage was given 4 times in a day for 3 days and assessed let down reflex. The study concluded that there was a significant increase in the let down score in experimental group than control group. The results of this study cannot be generalized to all mothers who had undergone cesarean section, as the size of sample in this study was small. It was very difficult to isolate the back massage from those of other sources like mass media, friends, Internet, magazine etc.

6. Conclusion

In the Indian context, there are many studies carried out on the breast feeding but no studies are carried out to enhance the lactation by non invasive, in expensive, Independent nursing practice Lactation improved significantly after back massage in experimental Group.

7. Scope of the Study

Finding suggests that, maternal stress during labor and delivery, age, coping with new role were associated with delayed breast feeding and indirectly affect the satiety as well as weight. The study attempted an independent intervention for mothers to improve breast feeding score, satiety and weight of newborn.

8. Acknowledgement

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Author Profile



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