Effect of Back Massage on Lactation Among Postnatal Mothers in Postnatal Ward of Selected Hospital, Mangaluru

MRS.TIKA BHAWANI KHANAL
MSC NURSING, OBSTETRIC AND GYNECOLOGICAL NURSING, SUBHADRA DENTAL CLINIC, TAGORE STREET, HULIYAR ROAD, HIRIYUR, CHITRADURGA, KARNATAKA.

ANGELINE (SR. AILEEN MATHIAS)
PROFESSOR, DEPARTMENT OF OBSTETRIC AND GYNECOLOGICAL NURSING, FATHER MULLER COLLEGE OF NURSING, KANKANADY, MANGALORE.

KATHREENA MU (SR. DEEPA)
PROFESSOR, DEPARTMENT OF COMMUNITY HEALTH NURSING, FATHER MULLER COLLEGE OF NURSING, KANKANADY, MANGALORE.

DR. SAVITHA PRAMILDA CUTINHO
PROFESSOR, DEPARTMENT OF OBSTETRIC AND GYNECOLOGICAL NURSING, FATHER MULLER COLLEGE OF NURSING, KANKANADY, MANGALORE.

ABSTRACT The aim of the study was to assess the effect of back massage on lactation among postnatal mothers. The postnatal mothers were enrolled in two groups (experiment= 20, control =20) by purposive sampling technique. The intervention was started within 2 hours of the delivery once the mother breast fed her newborn, back massage was given 3 times a day for 10 minutes for 3 days. Finding shows that the mean post-feed weight gain in the newborn of postnatal mothers in the experiment group on the second day was 7.04 grams, third day was 13.83 grams, whereas in the control group post-feed weight gain on second day was 5.03 grams, the third day was 9 grams respectively. The 'p' value was significant at 0.05 level (p=0.01). There was a higher number of urine and stool passed per day among the newborns the experiment group than that of the control group in all the three days.

INTRODUCTION

Human milk contains the ideal amount of nutrients for the infant and provides important protection from diseases through the mother's natural defences (Lactation 2015). Breastfeeding is a beautiful gift to the newborn, but can also be a challenge for some mothers due to lack of experience, tension, anxiety, pain, etc. Massage therapy relaxes the body, increases the circulation and milk production,also increases biochemical substance such as serotonin, which is a neurotransmitter that plays a role in reducing pain (Adams et al, 2010). Studies have shown that massage increases the and oxytocin hormone levels which facilitate breastfeeding. (Massage Benefits Postpartum Women).

WHO estimates that 1.5 million infants' lives could be saved each year through increasing breastfeeding. In India exclusive breastfeeding rate at 6 months is only 40%. Exclusive breastfeeding has been identified as the single most effective, preventive, and interventive, which could prevent 13% of all childhood death (Padmavati R. 2007).

Therefore, the researcher feels that back massage can help the postnatal mothers for initiation of breastfeeding and adequate production of breast milk which is sufficient for the growth and development of the infant. It also downs financial burden in the family and help to improve the healthcare delivery system, without straining resources.

OBJECTIVES:

To assess the breastfeeding of the postnatal mothers in the experiment and

control group using LATCH score.

To find the effect of back massage on lactation outcome of postnatal mothers in the experiment and control group.

Hypotheses

The hypotheses will be tested at 0.05 level of significance.

H_1: There will be a significant difference in breastfeeding of postnatal mothers in the experiment and control group.

H_2: There will be a significant difference in the post-feed weight gain of the newborn of the postnatal mothers in the experiment group and control group

H_3: There will be a significant difference in the lactation outcome mean score of the postnatal mothers in the experiment and control group.

METHODOLOGY

Research approach and design

The current study adopts a quantitative research approach with pretest and posttest design as the study was intended to ascertain the effect of back massage on lactation among postnatal mothers.

Sample and sampling techniques

Postnatal mothers were recruited to the study by using purposive sampling technique. Thus the experiment and control group had 20 each postnatal mothers.

Criteria for selection of sample
Inclusion criteria

Primipara mothers with Normal Vaginal Delivery or instrumental delivery.

Newborn babies with normal Apgar score.

Exclusion criteria

Newborn with oral cavity abnormality.

Setting of the study: Postnatal wards of selected Hospital at Mangaluru.

Data collection

The investigator obtained a formal written permission from the concerned authority of the hospital. The purpose of the study, method of data collection and time duration were explained to the subjects. Written informed consent was obtained from the respondent indicating their willingness to participate in the study. Postnatal mothers who met the inclusion criteria were instructed regarding the procedure. Data collection instruments used were Baseline performa, Latch score, Infant weighing machine and Lactation outcome rating scale .Breastfeeding assessment was done by LATCH score. Mothers who had LATCH score ≥ 7 were more than or equal to were recruited for the study. After giving necessary instruction to the subjects, the baseline information was collected. Before the intervention prefeed weight of the newborns of the postnatal mothers in the experiment and control group was assessed. Back massage was given for the mothers in the experiment group for the duration of 10 minutes in each sitting. The first back massage was given within 2 hours of vaginal delivery and continued for 3 times a day at four hour interval for three days. The postnatal mothers in the control group received routine postnatal care.

Then mothers of both the group were monitored for breastfeeding their newborns. Immediately after breastfeeding, post-feed weight of the newborn was assessed in both groups. Same procedure was followed every four hourly three times a day for a three consecutive days. On the next day after 24 hours, and other four parameters such as number of urine and stool passed, sleep and satisfaction of the newborns were assessed.

Back massage steps:

• Kept the postnatal mother in sitting position.

• Exposed the back of the mother from neck to the loin.

 • Apply gentle pressure with both thumbs on the back, at the lateral sides of the spine, in circulatory motion. Movements were given "to" and "fro" from neck to loin and back to neck for 10 minutes for the postnatal mother.

The obtained data was analysed using SPSS version 16.

Results
Sample characteristics

Most of the mothers in the experiment group 16 (80%) and in control group 14 (70%) were of Muslim religion. Data also revealed that the most of the mothers in the experiment group 11 (55%) and in control group 9 (45%) had 9-11 hours of duration of labour. The majority of the mothers in the experiment group 17 (85%) and in control group 15(75%) had Induced Vaginal Delivery. The most of newborn of mothers in experiment group 9 (45%) and in control group 13 (65%) belonged to 39-40weeks period of gestation. The majority of newborn's birth weight was between 2501-3000grams in both groups.

Table 1: Assessment of the breastfeeding of the postnatal mothers using LATCH score.
N=20+20

SI. No.		Mean±SD	Mean difference	't' value	p value
1.	Experiment	9.5±0.60	0.6	2.69	0.10
2.	Control	8.9±0.78			

Maximum score: 10, df=38, t_{38}=2.02, p<0.05

Table 1 shows that the obtained value of 'p' (p=0.10) for breastfeeding was more than 0.05, thus null hypothesis is accepted and research hypothesis is rejected thus concluded that there is no significant difference in the breastfeeding of postnatal mothers in the experiment and control group.

Effect of back massage on lactation outcome of postnatal mothers.
Effect of back massage on lactation outcome was assessed by newborn parameters, such as post-feed weight gain, frequency of urination, stool per day, sleep duration and satisfaction of the baby after each feed.

**Table 2: Post-feed weight gain of the newborns.**
N=20+20

SI no.		Mean±SD	Mean difference	't' value	p value
A.	Day 1				
1.	Experiment	1.73±0.591	0.15	0.79	0.431
2.	Control	1.58±0.638			
B.	Day2				
1.	Experiment	7.04±2.615	2.00	3.02	0.004*
2.	Control	5.03±1.390			
C.	Day 3				
1.	Experiment	13.83±2.400	4.82	6.53	0.001*
2.	Control	9.00±2.270			

df=38, p<0.05, *= significant, $t_{(38)}$=2.02

Table 2 reveals that there was higher post-feed weight gain among the newborns of postnatal mothers in experiment group on second and third day. Mean post weight gain in experiment group on second day was 7.04 grams, third day was 13.83 grams, whereas in the control group second day was 5.03 grams and third day 9 grams respectively. The obtained 'p' value for post-feed weight gain on second and third day was less than 0.05, thus null hypothesis was rejected and research hypothesis was accepted and concluded that there was a significant difference in post-feed weight gain among the newborn of the postnatal mothers in the experiment group than that of the control group.

Frequency of urination
The number of urination was recorded after 24 hours of back massage for three days respectively and is shown in figure 1.
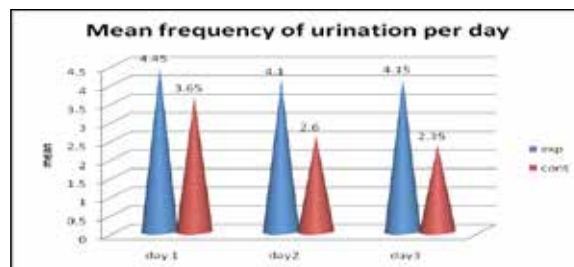
Figure 1: Bar diagram showing the mean frequency of urination per day by the newborn
 Figure 1 reveals that there was higher number of urination per day in newborns in the experiment group in all three days, in comparison to that of the newborns in the control group.
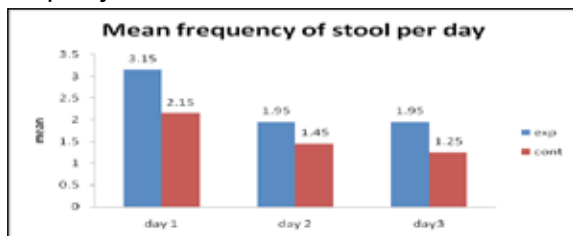
Frequency of stool

Figure 2: Bar diagram showing the mean frequency of stool passed per day by the newborn

Figure 2 reveals that the newborn of postnatal mothers in the experiment group had more numbers of dirty nappies in comparison to the newborn in the control group in all three days.

Table 3: Duration of sleep after each feed by the newborns.
N=20+20

Sl. No.	Duration of sleep	Experiment f	Experiment %	Control f	Control %	Fisher's p
A.	Day 1					
1.	<20 min	5	25	7	35	
2.	20-40min	9	45	11	55	0.321
3.	>40min	6	30	2	10	
B,	Day 2					
1.	<20 min	2	10	4	20	
2.	20-40min	5	25	8	40	0.374
3.	>40min	13	65	8	40	
C.	Day 3					
1.	<20 min	0	0	1	5	
2.	20-40min	1	5	2	10	0.605
3.	>40min	19	95	17	85	

Fisher's Exact test p=2.9

Table 3 reveals that majority of newborns of the postnatal mothers in the experiment group 9(45%) and control group11 (55%) slept for 20-40 minute on first day after each feed, on second day majority of newborns 13 (65%) in the experiment group slept for >40 minutes, whereas 8(40%) of newborns in the control group slept for 20-40 minutes and >40 minutes. On the third day 19 (95%) newborns in the experiment and 17(85%) newborns in the control group slept for >40 min. Fisher's Exact value shows that there was no significant difference in the sleep duration of the newborn of the postnatal mothers in the experiment and control group in all three days.

Table 4: Feeding satisfaction of the newborns after each feed.
N=20+20

Sl. No.	Satisfaction of newborn after each feed	Experiment group f	Experiment group %	Control group f	Control group %	Fisher's p
A.	Day 1					
1.	Cries	13	65	16	80	
2.	Fusses	2	10	1	5	
3.	Satisfies and sleeps easily	5	25	3	15	0.575
B.	Day 2					
1.	Cries	1	5	3	15	
2.	Fusses	12	60	13	65	
3.	Satisfies and sleeps easily	7	35	4	20	0.301
C.	Day 3					

Sl. No.	Satisfaction of newborn after each feed	Experiment group f	Experiment group %	Control group f	Control group %	Fisher's p
1.	Cries	0	0	1	5	
2.	Fusses	0	0	3	15	
3.	Satisfies and sleeps easily	20	100	16	80	0.106

Fisher's Exact test p=2.9

Table 4 reveals that 5(25%) newborns in experiment group and 3(15%) newborns in control group satisfied after breastfeeding on first day, whereas 7(35%) newborns in experiment and 4(20%) in control group were satisfied after breastfeeding on second day. On third day 20(100%) newborns in experiment and 16(80%) newborns in control group were satisfied from breastfeeding. Fisher's Exact test shows that there was no significant difference in satisfaction of newborn between experiment and control group in all three days.

In order to find out the significant difference on lactation outcome mean score of the postnatal mothers in the experiment and control group independent 't' test was used and data is presented in table 5.

Table 5: Comparison of lactation outcome score between the postnatal mothers in the experiment and control group N=20+20

Sl. No.		Mean±SD	Mean difference	't' value	P value
1.	Experimental	35.10±1.80	5.0	7.16	0.001*
2.	Control	30.10±2.57			

$t_{(38)}$=2.02, df=38, p<0.05, * significant

The data presented in Table 5 shows that the obtained 'p' value for lactation outcome was significant at 0.05 level (p=0.001), thus null hypothesis is rejected and research hypothesis is accepted therefore concluded that there is a significant difference on lactation outcome among the postnatal mothers in the experiment group than that of the control group. Thus it was inferred that back massage is effective in increasing the lactation.

Discussion

According to this study finding, it reveals that there was higher post feed weight gain in newborn of postnatal mothers in experiment group in the second and third day than that in control group. The computed 't' value is 3.02 and 6.53 respectively. Similarly, (Vincy V et al., 2012) in their study the findings reveals that the mean weight gain of neonate was 11.19 grams, 26.64 grams, and 39.40 grams on three consecutive days in experiment group which was higher than that in control group 7.14 grams, 21.28 grams, 31.15 grams in three days.

In this study, findings reveal that mean number of urinations per day by newborn of postnatal mothers in experiment group was higher than control group. The computed unpaired 't' test values on a first, second and third day are 1.65, 2.61 and 4.17 respectively. A similar study was done by (Dr. Umesh P et al., 2013) shows that the mean number of urinations in the experiment group was higher than the control group.

Conclusion

The result of this study which confirms that the back massage is effective in improvement of lactation and suggests that small investment of time by midwives in giving mas-

sage in early postnatal period could lead to improvement in lactation and reduction in the associated costs.

Bibliography

1. **Lactation.** (n.d.). Collins English Dictionary-Complete & Unabridged 10th edition. Retrieved October 20, 2015 from Dictionary. com website http://www.dictionary.com/browse/lactation

2. Adams, M. H. A., & White, M. S. (2010). **The effects of massage therapy on pain management in the acute care setting.** International Journal of Therapeutic Massage & Bodywork: Research, Education, & Practice, 3(1), 4-11.

3. **Massage Benefits Postpartum Women**, Nov Article Accessed Online 6/6/15. Available from http://www.massagemag.com/News/massage-news. research massage-benefits-postpartum-women#

4. Padmavati R. (2007). **Effectiveness of backmassage on pain relief during first stage labour**.Nightingale nursing times.3(9):54-55

5. Patel, U., & Gedam, D. S. (2013). **Effect of back Massage on Lactation among Postnatal Mothers**. International Journal of Medical Research and Review, 1(01).

6. Vincy V. (2012). **Effect of back massage on lactation.** Indian journal of nursing studies, 3(1): 56-62