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OKETANI BREAST MASSAGE IN RELIEF OF BREAST ENGORGEMENT

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ABSTRACT

Background: Evidently, the government should be paying greater attention to the low rate of complete breastfeeding across the nation. This occurs as a result of the regulation of exclusive breastfeeding by several variables, including age, occupation, socioeconomic status, education, place of residence, and psychological elements. Oketani massage is a special kind of massage for the breasts that was first made popular in several nations by the Japanese woman Sotomi Oketani.

Methods and materials: A true experimental research study was conducted toascertain the degree of breast engorgement, evaluate the efficacy of Oketani breast massage in reducing BE and determine whether baseline characteristics and pre-treatment LATCH scores are related. The study included 66 postpartum women who underwent caesarean section admitted in preferred tertiary care hospital of Belagavi, Karnataka.sampleselected through simple random technique.

Results: Among the experimental (E) group, 39.39% of mothers belongs to the age group of 23- 26 and 27- 30 years each; 39.39 % of mothers completed educational level of PUC; 51.52% of mothers are home maker; 45.45 % of mothers are Hindu; 39.39% of mothers resides in rural area; 78.79% of mothers had an income of more than Rs.10000; 75.76% of the babies were female and 63.64% of mothers lives in joint family.

Among the control (C) group39.39% mothers belongs to the age group of 23–26 years; 36.36% of mothers completed educational level of PUC; 60.61% of mothers are home maker; 42.42% of mothers are Hindu; 39.39% mothers resides in rural area; 84.85 % of mothers had an income of more than Rs. 10000; majority of 57.58% of the babies were female and 57.58% of mothers lives in joint family.

In experimental group, 18.2 % had aslight modification, 3% firm – non tender , 60.6% of firm – beginning of tenderness and 18.2% of very firm –very tender at the level of breast engorgement.While in control group, 24.2% of slight change, 15.2% of firm non tender, 21.2% of firm beginning of tenderness , 9.1% of firm tender and 30.3% of vey firm –very tender at the level of breast engorgement.

The study revealed a significant difference in the LATCH score level in experimental and control group. Using the visual analogue scale,

the study found a significant difference in the breast pain level in experimental group as compared with control group.
The study also revealed a significant association between type of family with LATCH scores (0.0410 < 0.05). Whereas age, education, occupation, religion income, residence, and gender of new born are not associated with latch score in experimental group. There is no significant association between any demographic variables with latch score in control group.
Conclusion: There is a need to provide adequate information to the postnatal mothers about breast engorgement and its complication. The present study revealed that Oketani breast massage is a worthwhile calm therapy to get relief from engorgement.
Keywords: Oketani Breast Massage, Breast Engorgement, Caesarean Section, Postnatal Mothers, Effectiveness.

INTRODUCTION

Breastfeeding is the process of providing a newborn with the mother's own breast milk. It fosters the growth of the newborn's senses and cognitive capacities while shielding them from long-term and chronic viral infections[1]. Breastfeeding exclusively serves as a natural form of birth control. It is believed that non-exclusive breastfeeding significantly raises morbidity in infants and children.[2]

The World Health Organisation defines "whole breastfeeding" as a mother giving birth to a child who is exclusively breastfed for the first six months of life, with the exception of vitamin drops or syrups.[3]

The symptoms of breast engorgement include oedema, tightness, and increased breast size. Though it can happen as late as the ninth or tenth day of nursing, it usually happens between the third and fifth day. Breasts that are firm, full, tense, hot, and uncomfortable all the time are the outcome of a moderate case of breast engorgement. Breast engorgement may occur in the early postpartum days even if the woman decides not to nurse.[4]

METHODS:

The study included the mothers whose visual analogue scale and self-rated scale findings show that she has breast engorgement. The study excluded mothers whose babies are in NICU, lactation suppressants users, mothers with breastinfection, bleeding and cracked nipples.

Data collection proceeded after obtaining ethical clearance and formal permission from the Institutional Ethical Clearance Committee and Medical superintendent of the selected tertiary care hospital. The participant's written consent was obtained. The purpose of the study was explained to the mothers and relatives during data collection. The tools used were:

- Basic demographic profile.
- Visual analog scale (VAS)
- Self-rated engorgement scale
- Latch scale

Within 24 hours following birth, each postpartum mother was scored by using self-rated breast engorgement scale and a VAS. Women who score favourably on the VAS and self-rated breast engorgement scale were randomized to either the experimental or control group using a sealed envelope. For the experimental group of mothers, Oketani breast massage was performed five times per day for 15 minutes by using 8 steps and routine hospital care was used for control group mothers. Data collected was tabulated and analysed by using statistical descriptive and inferential tests.

A true experimental research study was conducted toascertain the degree of breast engorgement, evaluate the efficacy of Oketani breast massage in reducing BE and determine whether baseline characteristics and pre-treatment LATCH scores are related. The study included 66 postpartum women who underwent caesarean section admitted in preferred tertiary care hospital of Belagavi, Karnataka selected through simple random technique. The sample size was calculated by using the formula:

$$n= 2(p\ q)\ (z_{\alpha} + z_{\beta})^{2}/d^{2}$$

RESULTS

I. Results related to demographic information:

Maximum of the participants (39.39%) belongs to the age group of 23- 26 and 27- 30 years each; 39.39%completed their PUC; 51.52% are homemaker; 45.45 % were Hindu; 39.39% resided at rural place; 78.79% have income between 10001-15000/-INR; 57.58% of newborn were females and 57.58% of mothers belongs to joint family.

II. SECTION II: FINDINGS RELATED TO LEVEL OF BREAST ENGORGEMENT IN EXPERIMENTAL AND CONTROL GROUP

Table 2: Frequency and percentage distribution of samples as per level of breast engorgement in experimental and control group

(n=66)

Level of engorgement	Experimental		Control	
	f	%	f	%
I. Soft	00	00	00	00
II. Slight change	06	18.2	08	24.2
III. Firm – Non tender	01	3	05	15.2
IV. Firm – Beginning of tenderness	20	60.6	07	21.2
V. Firm – Tender	00	00	03	9.1
VI. Very form – very tender	06	18.2	10	30.3

Table 3: Comparison of Experiment group and Control group with Self Rated Breast engorgement scores by Mann-Whitney U test. (n=66)

Groups	Mean	SD	SE	Mean rank	U-value	Z-value	P-value
Experiment group	3.97	1.24	0.22	32.95			
Control group	4.12	1.67	0.29	34.05	526.50	-0.2244	0.8224

SECTION III: FINDINGS RELATED TO PRE AND POST TEST LATCH SCORES AMONG EXPERIMENTAL AND CONTROL GROUP

Table 4: Pre - test levels of LATCH in Experiment group and Control group

(n=66)

Levels of LATCH	Experiment group		Control group	
	f	%	f	%
Low LATCH	17	51.5	31	93.9
High LATCH	16	48.5	2	6.1
Total	33	100	33	100

Table 5 Comparison of pre – test and post – test LATCH scores in Experimental group and Control group (n=66)

Times	Experimental group			Control group			U-value	Z-value	P-value
	Mean	SD	Mean rank	Mean	SD	Mean rank			
Pre - test	2.70	0.59	28.86	3.33	1.49	38.14	391.50	-1.9557	0.0510
Post test	9.12	0.82	49.03	6.73	0.94	17.97	32.00	6.5661	0.0001*

Difference	6.42	0.94	49.03	3.39	1.87	17.97	32.00	6.5661	0.0001*

SECTION IV: FINDINGS RELATED TO BREAST PAIN BY USING VISUAL ANALOGUE SCALE (VAS)

Table 6: Comparison of pre – test and post – test VAS scores in Experimental group and Control group (n=66)

Times	**Experimental group**				**Control group**			
	No pain	**Mild**	**Moderate**	**Severe**	**No pain**	**Mild**	**Moderate**	**Severe**
Pre test	0	12%	87%	00	00	18.18%	81.81%	00
Post test	30.3%	69.69%	00	00	00	33.33%	66.66%	00

Table 7: Comparison of pre - test and post-test VAS scores by Mann-Whitney U test in Experiment group and Control group

(n=66)

Times	**Experiment group**			**Control group**			**U-value**	**Z-value**	**P-value**
	Mean	**SD**	**Mean rank**	**Mean**	**SD**	**Mean rank**			
Pre test	4.27	1.21	33.62	4.24	1.41	33.38	540.50	0.0449	0.9642
Post test	1.39	0.93	20.48	3.48	1.12	46.52	115.00	-5.5017	0.0001*
Difference	2.88	1.49	44.32	0.76	1.50	22.68	187.50	4.5719	0.0001*

SECTION V: ASSOCIATION BETWEEN PRE –TREATMENT LATCH SCORES WITH BASELINE VARIABLES

Table 8: Association between levels of LATCH with demographic characteristics in Experiment group

(n=66)

Demographics	**Levels of LATCH**				**Total**	**%**	**Chi-square**	**p-value**
	Low LATCH	**%**	**High LATCH**	**%**				
1. Age group								
a. 19 to 22	1	33.33	2	66.67	3	9.09	2.6900	0.4420
b. 23 to 26	5	38.46	8	61.54	13	39.39		
c. 27 to 30	8	61.54	5	38.46	13	39.39		
d. 31 and above	3	75.00	1	25.00	4	12.12		
2. Education								
a. Illiterate	1	100.	0	0.00	1	3.03	2.1750	0.5370
b. Primary	5	55.56	4	44.44	9	27.27		

c. Secondary	6	60.00	4	40.00	10	30.30		
d. PUC	5	38.46	8	61.54	13	39.39		
3. Occupation								
a. Home maker	7	41.18	10	58.82	17	51.52	1.5260	0.4660
b. Govt. Service	2	66.67	1	33.33	3	9.09		
c. Pvt. Service	8	61.54	5	38.46	13	39.39		
4. Religion								
a. Hindu	9	60.00	6	40.00	15	45.45	0.8470	0.6550
b. Muslim	6	46.15	7	53.85	13	39.39		
c. Christian	2	40.00	3	60.00	5	15.15		
5. Residence								
a. Urban	4	44.44	5	55.56	9	27.27	0.2490	0.8830
b. Semi urban	6	54.55	5	45.45	11	33.33		
c. Rural	7	53.85	6	46.15	13	39.39		
6. Income								
a. <=10000	4	57.14	3	42.86	7	21.21	0.1130	0.7370
b. >10000	13	50.00	13	50.00	26	78.79		
7. Gender of New born								
a. Male	4	50.00	4	50.00	8	24.24	0.0100	0.9220
b. Female	13	52.00	12	48.00	25	75.76		
8. Type of Family								
a. Joint	8	38.10	13	61.90	21	63.64	4.1640	0.0410*
b. Nuclear	9	75.00	3	25.00	12	36.36		
Total	17	51.52	16	48.48	33	100.00		

Table 9: Association between levels of LATCH with demographic characteristics in Control group

(n=66)

Demographics	**Levels of LATCH**				**Total**	**%**	**Chi-square**	**p-value**
	Low LATCH	**%**	**High LATCH**	**%**				
1. Age group								
a. 19 to 22	7	100	0	0.00	7	21.21	3.2750	0.3510
b. 23 to 26	11	84.62	2	15.38	13	39.39		
c. 27 to 30	10	100	0	0.00	10	30.30		
d. 31 and above	3	100	0	0.00	3	9.09		
2. Education								
a. Illiterate	4	80.00	1	20.00	5	15.15	2.9810	0.3950
b. Primary	10	90.91	1	9.09	11	33.33		
c. Secondary	6	100	0	0.00	6	18.18		
d. PUC	11	100	0	0.00	11	33.33		
3. Occupation								
a. Home maker	21	91.30	2	8.70	23	69.70	0.9260	0.6290
b. Govt. Service	1	100	0	0.00	1	3.03		
c. Pvt. Service	9	100	0	0.00	9	27.27		

4. Religion								
a. Hindu	13	100	0	0.00	13	39.39	3.7260	0.1550
b. Muslim	10	83.33	2	16.67	12	36.36		
c. Christian	8	100	0	0.00	8	24.24		
5. Residence								
a. Urban	8	100	0	0.00	8	24.24	0.6860	0.7100
b. Semi urban	11	91.67	1	8.33	12	36.36		
c. Rural	12	92.31	1	7.69	13	39.39		
6. Income								
a. <=10000	3	100	0	0.00	3	9.09	0.2130	0.6450
b. >10000	28	93.33	2	6.67	30	90.91		
7. Gender of New born								
a. Male	9	100	0	0.00	9	27.27	0.7980	0.3720
b. Female	22	91.67	2	8.33	24	72.73		
8. Type of Family								
a. Joint	17	100	0	0.00	17	51.52	2.2620	0.1330
b. Nuclear	14	87.50	2	12.50	16	48.48		
Total	31	93.94	2	6.06	33	100		

In the study there is a significant association was observed between type of family with LATCH scores (0.0410 < 0.05) whereas age, education, occupation, religion income, residence, and gender of new born are not associated with latch score in experimental group.While in control group there is no significant association between any demographic variables with latch score.

DISCUSSION

In the study, among the experimental group, 18.2 % had slight change, 3% had firm – non tender, 60.6% had firm – beginning of tenderness and 18.2% had very firm –very tender level of breast engorgement.

While in control group, 24.2% had slight change, 15.2% had firm- non tender, 21.2% had firm - beginning of tenderness, 9.1% had firm- tender and 30.3% had vey firm –very tender level of breast engorgement.

Similar study conducted at **Tamil Nadu**[5] revealed similar results related to breast engorgement. The mean score of the breast engorgement experienced by the mothers among the experimental group with 3.97$\pm$1.24 and the standard error score was 0.22 ($p< 0.05$). While in control group the mean score is 4.12$\pm$1.67 and the standard error score was 0.29 ($p< 0.05$). This score tells that there is no difference in the breast engorgement level in experimental and control group.

Also in a study conducted at **Navi Mumbai**[6], the mean pre-test scores in experimental and control groups are similar with present study.

The present study showed that in experimental group 51.5% of the mothers had low LATCH, whereas in control group low LATCH was observed in 93.9% of the mothers. Similar study conducted **at Tehran**[7] shown the significant results similar to present study. The mean score of the LATCH experienced by the mothers among the experimental group in pre-test with 2.70$\pm$0.59 and the mean rank score was 28.86 ($p< 0.05$). And in post-test with 9.12$\pm$0.82 and the mean rank score was 49.03 while in pre-test control group the mean score is 3.33$\pm$1.49 and the mean rank score was 38.14 and in post-test the mean score is 0.94$\pm$17.97 and the mean rank was 17.91.

A study conducted at **Korea, Ambarawa**[8] **Semarang Regency**shown that there was increase in the breast sucking in experimental group which is similar with present study. Also

astudy conducted at **North Sumatra**[9]showed the statistically significant different in LATCH scores between pre-test and post-test, which is similar with presents study.

The present study also revealed that among experimental group using the visual analogue scale, 87% mothers had moderate pain and 12% had mild pain, and in post-test, 30.30% mothers had no pain and 69.69% mothers had mild pain. While in control group, during pre-test, 18.18% mothers had mild pain and 81.81% mothers had moderate pain, and in post-test, 33.33% had mild pain and 66.66% had moderate pain. The mean score of the pain Visual analogue scale experienced by the mothers among the experimental group in pre-test with 4.27±1.21 and the mean rank score was 33.62. And in post-test with 1.39±0.93 and the mean rank score was 20.48while in pre-test control group the mean score is 4.24±1.141and the mean rank score was 33.3. And in post-test the mean score is 3.48±1.12 and the mean rank was 46.52

A study conducted at **Korea**[8]shown that there was a reduction in the pain in experimental group which is similar with present study

Regarding the association between pre –treatment latch scores with baseline variables, the study found a significant association was observed between type of family with LATCH scores (0.0410 < 0.05). Whereas age, education, occupation, religion income, residence, and gender of new born are not associated with latch score in experimental group. There is no significant association between any demographic variables with latch score in control group.

CONCLUSION

Initial days of postpartum is challenging for the mother as she will be facing many problems. One among them is breast engorgement. It will start in swelling, hardening and pain in the breast and may result in early cessation of breastfeeding, decreased milk production. Various therapies will help in reduction of breast engorgement. Oketani Breast massage is one among them. The present study revealed that Oketani breast massage is a worthwhile calm therapy to get relief from engorgement.

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Conflict of interest:

There is no conflict of interest.

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