



THE EFFECTIVENESS OF REVERSE PRESSURE SOFTENING TECHNIQUE ON THE LEVEL OF BREAST ENGORGEMENT AND BREASTFEEDING AMONG POSTNATAL MOTHERS

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ABSTRACT

Introduction : Breastfeeding remains the simplest, healthiest and least expensive feeding method that fulfils the baby's needs. Approximately two days after giving birth the women's breasts fill with milk, which is a normal process. This makes the breast heavy and swollen but under normal circumstances this should not be painful and hard. Breast engorgement develops in 72% to 85% in postnatal mothers. It is a painful, unpleasant condition affecting large number of mothers during the early postpartum. During this time when mothers are coping with demands of the baby it may be particularly distressing. Breast engorgement quenches the development of successful breast feeding, leading to early breastfeeding cessation and is associated with more serious illness including breast infection. **Methodology :** The conceptual frame work used in this study was Ernestine Wiedenbach's helping art of Clinical Nursing. A Quantitative Evaluative approach using Quasi-Experimental -Pre-test – Post-test control group design was used. The study was conducted at two selected hospitals, Non- Probability Sampling technique was used to select 50 postnatal mothers, as 25 for experimental group and 25 for control group. The intervention, Reverse Pressure Softening Technique was given to experimental group. The intervention was given thrice a day for three days, 2nd to 4th postnatal day, for a duration of 30 seconds per intervention. The control group did not receive any intervention. The pre-test and post-test was done by using the standardized Six-Point breast Engorgement Scale and LATCHES Breast Assessment Tool was used to assess the level of breast engorgement and breastfeeding among postnatal mothers. **Result:** The collected data were analyzed by using both descriptive and inferential statistical methods. Unpaired 't' test was used to evaluate the effectiveness of reverse pressure softening technique on level of breast engorgement and breast feeding among postnatal mothers in experimental group and control group. The obtained post-test 't' value 26.93 on level of breast engorgement and 3.22 on level of breastfeeding was significant at $p < 0.05$ level.

Conclusion: The findings of the study revealed that there was a significant difference in the post test level of breast engorgement and breast feeding among postnatal mothers in experimental and control group. The study concluded that Reverse Pressure Softening (RPS) technique is effective in reducing the level of breast engorgement and improving breast feeding among postnatalmothers.

Key words: Evaluate, Effectiveness, Reverse Pressure Softening Technique, Postnatal mothers, Breast Engorgement, Breastfeeding.

Introduction

“Breastfeeding is an instinctual and natural act but it is also an art that is learned day by day. The reality is that almost all women can breastfeed, have enough milk for their babies and learn how to overcome problems both large and small. It is almost always simply a matter of practical knowledge and not a question of good luck.”

The art of breast feeding is something the mother learns by doing and gets easier with practice. The foremost thing is to establish proper breast feeding techniques. Correct breast feeding technique is identified to be important to ensure successful breast feeding as incorrect technique might contribute to breast engorgement. It is also important for the baby to latch on the breast correct so that it can suck effectively. Positioning the baby on the breast is very important to help establish breast feeding and prevent sore nipple. Whatever hold is used, mother should make sure that the baby's body is close to the mother, chest to chest, chin to breast and nose away from the breast.

Approximately two days after giving birth the women's breasts fill with milk, which is a normal process. This makes the breast heavy and swollen but under normal circumstances this should not be painful and hard. Breast engorgement develops in 72% to 85% in primipara postnatal mothers. It is a painful, unpleasant condition affecting large number of mothers during the early postpartum. During this time when mothers are coping with demands of the baby it may be particularly distressing. Breast engorgement quenches the development of successful breast feeding, leading to early breastfeeding cessation and is associated with more serious illness including breast infection.

Need For The Study

“Breast Milk is Nature’s Protection for the Baby”. One million infant lives can be saved by just breast feeding in the first hour following the birth of the child. If mothers and families comprehend the benefits of breast feeding for six months, it can save the life of 250,000 babies annually.

The incidence rate of breast engorgement throughout the world is 1:8000 and in India it is 1:6500. Signs and symptoms occur most commonly between days three and five (**International Journal of Current Medical and Pharmaceutical Research, 2017**). The chief editor of “**The Nursing Journal of India**” in her key address on the occasion of the Breastfeeding Week-2008 says lactating mothers face multifaceted limitations and difficulties in breastfeeding. They need support from various aspects—family, society, work place and government. The most often stated cause for cessation of breastfeeding in the first two weeks of postpartum is pain, which may be the result of breast engorgement.

As Reverse pressure softening technique can give tremendous relief from breast engorgement which also improves breastfeeding and help baby get more milk, the researcher felt the need and selected this technique as intervention for the study.

Statement Of The Problem

A study to evaluate the effectiveness of Reverse Pressure Softening Technique on level of Breast engorgement and breast feeding among Postnatal mothers in selected hospitals.

Objectives Of The Study

1. To assess the level of breast engorgement among the postnatal mothers in experimental and control group.
2. To assess the level of breast feeding among the postnatal mothers in experimental group and control group.
3. To evaluate the effectiveness of reverse pressure softening technique on level of breast engorgement among postnatal mothers in experimental and control group.
4. To evaluate the effectiveness of reverse pressure softening technique on level of breast feeding among postnatal mothers in experimental and control group.
5. To examine the association between level of breast engorgement among postnatal mothers

with their selected demographic variables in experimental group and control group.

Hypotheses

H₁ : There will be a significant difference between mean pre and post test level of breast engorgement of post natal mothers in experimental and control group.

H₂: There will be a significant difference between mean pre and post test level of breast feeding among postnatal mothers in experimental and control group .

H₃: There will be a significant difference in the post test level of breast engorgement among postnatal mothers in experimental and control group.

H₄: There will be a significant difference in the post test level of breast feeding among postnatal mothers in experimental and control group.

H₅: There will be a significant association between level of breast engorgement among postnatal mothers with their selected demographic variables in experimental group and control group.

Assumptions

- Breast engorgement is one of the common problems among the postnatal mothers who delivered through Caesarean section.
- Breast engorgement results in pain and decreases the feed intake of the newborn.
- Numerous techniques are available to relieve breast engorgement pain and to improve breast feeding.
- Reverse Pressure Softening Technique is a simple intervention that helps the mother by reducing breast engorgement and promote breastfeeding.

Delimitations

- The study is delimited to 50 samples.
- The duration of the study is delimited to 4 weeks.
- The study is delimited to the postnatal mothers who had undergone caesarean section.
- The study is limited to the postnatal mothers in selected hospitals.

Research Methodology

Research Approach

For this study the researcher selected an evaluative approach to assess the effectiveness of reverse pressure softening technique on breast engorgement and breast feeding among postnatal mothers who underwent caesarean section.

Research Design

In this study the researcher has adopted Quasi-Experimental -Pre-test – Post- test control group Design.

Variables Of The Study

. In this study Reverse pressure Softening Technique (RPS) is the independent variable.

Dependent Variable

The dependent variable is a variable a researcher is interested in. Breast engorgement and Breast feeding are the dependent variables in the present study.

Setting Of The Study

Setting refers to the area where the study was conducted. The setting of this study was the postnatal wards of maternity hospitals at Ahmadabad.

Research Population

Target Population: Postnatal mothers undergone caesarean section and had engorged breast.

Accessible Population

Postnatal mothers who had undergone caesarean section in selected hospitals and fulfilled the inclusion criteria.

Sample Size

Totally 50 postnatal mothers who had fulfilled the sampling criteria were selected from both the hospitals (25 samples for the experimental group from Hospital A and 25 samples from hospital B as control group).

Sampling Technique

Non- Probability Sampling technique is a sampling technique where the samples are gathered in a process that does not give all the individuals in the population equal chances of being selected. The list of mothers who have undergone cesarean section was collected from the ward staffs every day and the samples were

selected using purposive sampling technique. 25 samples for the experimental group were selected from hospital A and 25 for the control group from hospital B.

SAMPLING CRITERIA

Inclusion Criteria

Postnatal mothers

- who had undergone caesarean section
- who had engorged breast
- who are willing to participate
- who had no nipple abnormalities

- who had normal neonates

Exclusion Criteria

Postnatal mothers

- who had undergone normal deliveries
- who had any complications
- whose babies are in NICU or still born

Result

The study findings are presented in sections as follows: Section-I:

Data on demographic variables of postnatal mothers.

Section-II: Data on level of breast engorgement among postnatal mothers.

Section-II: Data on level of breastfeeding among postnatal mothers.

Section IV : Data on effectiveness of Reverse Pressure Softening Technique on level of breast engorgement and breastfeeding among postnatal mothers.

Section V: Data on the association between the level of breast engorgement with their

selected demographic variables.

SECTION I: DATA ON DEMOGRAPHIC VARIABLES OF POSTNATAL MOTHERS.

Frequency and Percentage Distribution of Postnatal Mothers in relation to their Demographic Variables

N=50

| S.No. | Demographic Variables | Experimental Group | | Control Group | |
|-------|---------------------------|--------------------|----|---------------|----|
| | | n = 25 | | n = 25 | |
| | | f | % | f | % |
| 1 | Age | | | | |
| | a) 20-23 years | 0 | 0 | 0 | 0 |
| | b) 24-27 years | 13 | 52 | 16 | 64 |
| | c) 28 -31 years | 12 | 48 | 9 | 36 |
| 2 | Area of living | | | | |
| | a) Rural area | 15 | 60 | 15 | 60 |
| | b) Urban area | 10 | 40 | 10 | 40 |
| 3 | Educational status | | | | |
| | a. Illiterate | 0 | 0 | 0 | 0 |
| | b. Primary | 0 | 0 | 0 | 0 |
| | c. Secondary | 15 | 60 | 17 | 68 |
| | d. Graduate | 10 | 40 | 8 | 32 |
| 4 | Type of family | | | | |
| | a. Nuclear family | 9 | 36 | 12 | 48 |
| | b. Joint family | 16 | 64 | 13 | 52 |

| | | | | | |
|---|---|----|----|----|----|
| 5 | Monthly Income: | | | | |
| | a. <Rs.5000 | 0 | 0 | 0 | 0 |
| | b. Rs.5001- Rs.10,000 | 9 | 36 | 6 | 24 |
| | c. >Rs.10,001 | 16 | 64 | 19 | 76 |
| 6 | Dietary Pattern: | | | | |
| | a. Vegetarian | 7 | 28 | 8 | 32 |
| | b. Non-Vegetarian | 18 | 72 | 17 | 68 |
| 7 | Social Support: | | | | |
| | a. Mother | 9 | 36 | 6 | 24 |
| | b. In-Laws | 16 | 64 | 17 | 68 |
| | c. Husband | 0 | | 2 | 8 |
| | d. Friends | 0 | | 0 | |
| 8 | Parity: | | | | |
| | a. P1 | 15 | 60 | 11 | 44 |
| | b. P2 | 6 | 24 | 10 | 40 |
| | c. Above P2 | 4 | 16 | 4 | 16 |
| 9 | Indications for Caesarean Section: | | | | |
| | a. Maternal | 17 | 68 | 17 | 68 |
| | b. Fetal | 8 | 32 | 8 | 32 |

SECTION II: DATA ON LEVEL OF BREASTENGORGE MENT AMONG POSTNATAL MOTHERS.

Frequency and Percentage Distribution of Level of Breast Engorgement among postnatal mothers in experimental group and control group.

| S.No. | Level of Breast Engorgement | Experimental group | | | | Control group | | | |
|-------|-----------------------------|--------------------|----|-----------|----|---------------|----|-----------|----|
| | | n=25 | | | | n=25 | | | |
| | | Pre test | | Post test | | Pre test | | Post test | |
| | | F | % | f | % | f | % | f | % |
| 1 | No | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Mild | 11 | 44 | 14 | 56 | 1 | 4 | 3 | 12 |
| 3 | Moderate | 11 | 44 | 9 | 36 | 15 | 60 | 16 | 64 |
| 4 | Severe | 3 | 12 | 2 | 8 | 9 | 36 | 6 | 24 |

Mean, Standard deviation, Mean Difference and 't' value of pre-test and post-level of breast engorgement of experimental group and control group

N=50

| S.No. | Observation | Experimental group n = 25 | | Control group n = 25 | | MD | t- value df=49 |
|-------|-------------|------------------------------|------|-------------------------|------|------|----------------------|
| | | Mean | SD | Mean | SD | | |
| 1 | Pre - test | 5.04 | 0.77 | 5.4 | 0.6 | 0.36 | 1.69 NS |
| 2 | Post- test | 1.64 | 0.62 | 4.24 | 0.76 | 2.6 | 26.93* |

* Significant at p<0.05 levels NS Non-Significant Table Value = 2.02

Pre-test and Post-test overall Mean Score of Breast Engorgement and Standard**deviation of experimental and control group day wise and level of significance**

N= 50

| Days | Observation | Experimental group | | | Control Group | | | MD | t-value P≤ 0.05 df = 48 |
|------------|-------------|--------------------|-------|------|---------------|-------|------|------|----------------------------------|
| | | Mean | % | SD | Mean | % | SD | | |
| 2nd Day | Pre-test | 5.04 | 84 | 0.79 | 5.4 | 90 | 0.71 | 0.36 | 1.71 NS |
| | Post-test | 4.94 | 82.3 | 0.76 | 5.4 | 90 | 0.71 | 0.46 | 2.25* |
| 3rd Day | Pre-test | 3.88 | 64.66 | 0.83 | 5.28 | 88 | 0.73 | 1.4 | 6.33* |
| | Post-test | 3.2 | 53.33 | 0.86 | 4.92 | 82 | 0.86 | 1.72 | 7.06* |
| 4th Day | Pre-test | 2.6 | 43.33 | 0.65 | 4.56 | 76 | 0.77 | 1.96 | 9.88* |
| | Post-test | 1.64 | 27.33 | 0.63 | 4.24 | 70.66 | 0.78 | 2.6 | 13.11* |

Maximum Score = 6

*Significant

Table Value = 2.02

SECTION III: DATA ON LEVEL OF BREASTFEEDING AMONG POSTNATAL**MOTHERS.**

Frequency and Percentage Distribution of Level of Breastfeeding among postnatal mothers
in experimental group and control group.

N = 50

| S.No. | Level of Breast Feeding | Experimental group | | | | Control group | | | |
|-------|-------------------------|--------------------|----|-----------|-----|---------------|----|-----------|----|
| | | n=25 | | | | n=25 | | | |
| | | Pre test | | Post test | | Pre test | | Post test | |
| | | f | % | f | % | f | % | f | % |
| 1 | Poor | 18 | 72 | 0 | 0 | 23 | 92 | 0 | 0 |
| 2 | Fair | 7 | 28 | 0 | 0 | 2 | 8 | 24 | 96 |
| 3 | Good | 0 | 0 | 25 | 100 | 0 | 0 | 1 | 4 |

Mean, Standard deviation, Mean Difference and 't' value of pre-test and post-level of breastfeeding of experimental group and control group

N = 50

| S.No. | Observation | Experimental group n = 25 | | Control group n = 25 | | MD | t-value df=49 |
|-------|-------------|------------------------------|------|-------------------------|------|-------|------------------|
| | | Mean | SD | Mean | SD | | |
| 1 | Pre - test | 11.8 | 0.97 | 10.8 | 1.29 | 1 | 0.43 NS |
| 2 | Post- test | 32.36 | 1.9 | 16.68 | 3.45 | 15.68 | 3.22* |

* Significant at p<0.05 levels NS Non-Significant Table Value = 2.02

Pre-test and Post-test overall Mean Score of Breastfeeding and Standard deviation of experimental and control group day wise and level of significance

N = 50

| Days | Observation | Experimental group | | | Control Group | | | MD | t-value P≤0.05 df =48 |
|------------|-------------|--------------------|-------|------|---------------|-------|------|-------|-----------------------------|
| | | Mean | % | SD | Mean | % | SD | | |
| 2nd Day | Pre-test | 11.84 | 32.88 | 0.96 | 10.8 | 30 | 1.41 | 1.04 | 3.01* |
| | Post-test | 13.08 | 36.33 | 1.65 | 10.36 | 28.77 | 1.39 | 2.72 | 6.19* |
| 3rd Day | Pre-test | 16.64 | 46.22 | 2.96 | 11.8 | 32.77 | 1.87 | 4.84 | 6.91* |
| | Post-test | 19.84 | 55.11 | 3.49 | 13.4 | 37.22 | 2.35 | 6.44 | 7.62* |
| 4th Day | Pre-test | 27.52 | 76.44 | 2.42 | 15 | 41.66 | 2.6 | 12.52 | 17.33* |
| | Post-test | 32.36 | 89.88 | 1.93 | 16.68 | 46.33 | 3.52 | 15.68 | 19.49* |

Maximum Score = 36

*Significant

Table Value = 2.02

SECTION IV: DATA ON EFFECTIVENESS OF REVERSE PRESSURE**SOFTENING TECHNIQUE ON LEVEL OF BREAST****ENGORGEMENT AND BREASTFEEDING AMONG****POSTNATAL MOTHERS.**

Mean, Standard deviation, Mean Difference and 't' value of post-test level of breast engorgement among postnatal mothers of experimental group and control group.

N = 50

| S.No. | Group | Mean | SD | MD | t- value |
|------------------------------------|--------------------|------|--------------------|-----|-------------------|
| 1 | Experimental group | 1.64 | 0.62 | 2.6 | 26.93* df = 49 |
| 2 | Control group | 4.24 | 0.76 | | |
| * Significant at $p < 0.05$ levels | | | Table Value = 2.02 | | |

Mean, Standard deviation, Mean Difference and 't' value of post-test level of breastfeeding among postnatal mothers of experimental group and control group.

N = 50

| S.No. | Group | Mean | SD | MD | t- value |
|------------------------------------|--------------------|-------|--------------------|-------|------------------|
| 1 | Experimental group | 32.36 | 1.9 | 15.68 | 3.22* df = 49 |
| 2 | Control group | 16.68 | 3.45 | | |
| * Significant at $p < 0.05$ levels | | | Table Value = 2.02 | | |

**SECTION V: DATA ON THE ASSOCIATION BETWEEN THE LEVEL
OF BREAST ENGORGEMENT WITH THEIR SELECTED
DEMOGRAPHIC VARIABLES.**

Frequency, Percentage and χ^2 distribution on level of breast engorgement among postnatal mothers in experimental group with their demographic variables.

N = 50

| S.NO. | DEMOGRAPHIC VARIABLES | LEVEL OF BREAST ENGORGEMENT EXPERIMENTAL GROUP | | | | χ^2 Value |
|-------|--------------------------|---|----|------|----|-------------------|
| | | NO | | MILD | | |
| | | f | % | f | % | |
| 1 | Age | | | | | 4.81 NS df=6 |
| | a) 20-23 years | 0 | 0 | 0 | 0 | |
| | b) 24-27 years | 3 | 60 | 10 | 20 | |
| | c) 28 -31 years | 8 | 16 | 4 | 80 | |
| 2 | Area of living | | | | | 3.89 NS df=1 |
| | a) Rural area | 9 | 18 | 6 | 12 | |
| | b) Urban area | 2 | 40 | 8 | 16 | |
| 3 | Educational status | | | | | 0.24 NS df=9 |
| | a. Illiterate | 0 | 0 | 0 | 0 | |
| | b. Primary | 0 | 0 | 0 | 0 | |
| | c. Secondary | 6 | 12 | 9 | 18 | |
| | d. Graduate | 5 | 10 | 5 | 10 | |
| 4 | Type of family | | | | | 0.65 NS df=3 |
| | a. Nuclear family | 3 | 60 | 6 | 12 | |
| | b. Joint family | 8 | 16 | 8 | 16 | |
| 5 | Monthly Income: | | | | | 0.65 NS df=6 |
| | a. <Rs.5000 | 0 | 0 | 0 | 0 | |
| | b. Rs.5001- Rs.10,000 | 3 | 60 | 6 | 12 | |
| | c. >Rs.10,001 | 8 | 16 | 8 | 16 | |

| | | | | | | |
|---|---------------------------------------|---|----|----|----|---------|
| 6 | Dietary Pattern: | | | | | 0.68 NS |
| | a. Vegetarian | 4 | 80 | 3 | 60 | df=3 |
| | b. Non-Vegetarian | 7 | 14 | 11 | 22 | |
| 7 | Social Support: | | | | | 0.65NS |
| | a. Mother | 3 | 60 | 6 | 12 | df=9 |
| | b. In-Laws | 8 | 16 | 8 | 16 | |
| | c. Husband | 0 | 0 | 0 | 0 | |
| | d. Friends | 0 | 0 | 0 | 0 | |
| 8 | Parity: | | | | | 9.85 NS |
| | a. P1 | 3 | 60 | 12 | 24 | df=6 |
| | b. P2 | 4 | 80 | 2 | 40 | |
| | c. Above P2 | 4 | 80 | 0 | 0 | |
| 9 | Indications for Caesarean Section: | | | | | 1.72 NS |
| | a. Maternal | 9 | 18 | 8 | 16 | df=3 |
| | b. Fetal | 2 | 40 | 6 | 12 | |

NS Non-Significant

Frequency, Percentage and χ^2 distribution on level of breast engorgement among

postnatal mothers in control group with their demographic variables.

N = 50

| S.NO. | DEMOGRAPHIC VARIABLES | LEVEL OF BREAST ENGORGEMENT CONTROL GROUP | | | | χ^2 VALUE |
|-------|-----------------------|--|----|----------|----|-------------------|
| | | MILD | | MODERATE | | |
| | | f | % | f | % | |
| 1 | Age | | | | | |
| | a) 20-23 years | 0 | 0 | 0 | 0 | 0.006 NS |
| | b) 24-27 years | 3 | 60 | 13 | 26 | df=6 |
| | c) 28-31 years | 2 | 40 | 8 | 16 | |
| 2 | Area of living | | | | | 4.17 NS |
| | a) Rural area | 1 | 20 | 14 | 28 | df=1 |
| | b) Urban area | 4 | 80 | 6 | 12 | |
| 3 | Educational status | | | | | 2.25 NS |
| | a. Illiterate | 0 | | 0 | | df=9 |
| | b. Primary | 0 | | 0 | | |
| | c. Secondary | 2 | 40 | 15 | 30 | |
| | d. Graduate | 3 | 60 | 5 | 10 | |
| 4 | Type of family | | | | | 0.16 NS |
| | a. Nuclear family | 2 | 40 | 10 | 20 | df=3 |
| | b. Joint family | 3 | 60 | 10 | 20 | |

| | | | | | | |
|---|---------------------------------------|---|----|----|----|-----------------|
| 5 | Monthly Income: | | | | | |
| | a. <Rs.5000 | 0 | | 0 | | 0.05 NS df=6 |
| | b. Rs.5001- Rs.10,000 | 1 | 2 | 5 | 10 | |
| | c. >Rs.10,001 | 4 | 80 | 15 | 30 | |
| 6 | Dietary Pattern: | | | | | |
| | a. Vegetarian | 1 | 2 | 7 | 14 | 0.41 NS df=3 |
| | b. Non-Vegetarian | 4 | 80 | 13 | 26 | |
| 7 | Social Support: | | | | | |
| | a. Mother | 2 | 40 | 4 | 40 | 1.23 NS df=9 |
| | b. In-Laws | 3 | 60 | 14 | 28 | |
| | c. Husband | 0 | 0 | 0 | 0 | |
| | d. Friends | 0 | 0 | 0 | 0 | |
| 8 | Parity: | | | | | |
| | a. P1 | 1 | 2 | 10 | 20 | 3.07 NS df=6 |
| | b. P2 | 2 | 40 | 8 | 16 | |
| | c. Above P2 | 2 | 40 | 2 | 40 | |
| 9 | Indications for Caesarean Section: | | | | | |
| | a. Maternal | 3 | 60 | 14 | 28 | 1.64 NS df=3 |
| | b. Fetal | 2 | 40 | 6 | 12 | |

Conclusion

The main conclusion from the findings of the study revealed most of the postnatal mothers having moderate breast engorgement in pre-test reported reduction to mild breast engorgement post-test among the postnatal mothers of experimental group. The pre-test level of breastfeeding was fair and had increased to good in the post-test among the experimental group. The control group also showed slight reduction in the breast engorgement which might be due to the routine hospital care. Thus the study concluded that the Reverse Pressure Softening (RPS) technique was effective in reducing the level of breast engorgement and improving breastfeeding among the postnatal mothers who underwent caesarean section.

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