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A Study to Assess the Effectiveness of Reverse Pressure Softening Technique on the Level of Breast Engorgement and Breastfeeding Among Postnatal Mothers Admitted in NAMO Hospital, Silvassa

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Abstract

BACKGROUND OF THE STUDY: Breastfeeding is the simplest, healthiest, and most cost- effective method of feeding that meets an infant's nutritional needs. Approximately two days after delivery, women commonly experience breast fullness due to milk production - a normal physiological process. However, this can lead to engorgement, making the breasts hard, swollen, and painful. Breast engorgement is particularly distressing in the early postpartum period and can hinder successful breastfeeding, potentially leading to early cessation and complications such as breast infections.

AIM: The Aim of the study is to find out the effectiveness of reverse pressure softening technique on the level of breast engorgement and breast feeding among postnatal mothers.

METHODOLOGY: A Quantitative research approach, Quasi-experimental research design (Non-equivalent control group pre-test and post-test design) was adopted. A non-probability Convenience sampling technique was used to select 60 postnatal mothers who had undergone cesarean section and experienced breast engorgement at NAMO Hospital, Silvassa. The Reverse Pressure Softening technique was administered three session daily for two days, with each session lasting approximately 30 seconds. The effectiveness of the intervention was evaluated using a standardized Six-Point Breast Engorgement Scale and the Via Christi Breastfeeding Assessment Tool.

RESULTS: Data were analyzed by using both descriptive and inferential statistical method. Paired 't' test was used to assess the level of breast engorgement and breast feeding among postnatal mothers in experimental group and control group. Unpaired ‘t’ test was used to evaluate the effectiveness of reverse pressure softening technique on the level of breast engorgement and breast feeding among postnatal mothers in experimental group and control group. The obtained post-test ‘t’ value (17.898) on the level of breast engorgement and (10.133) on the level of breastfeeding was significant at $p < 0.05$ level. 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.

CONCLUSION: The study concluded that reverse pressure softenning technique is effective in reducing the level of breast engorgement and improving breastfeeding among postnatal mothers.

Keywords: Assess, Effectiveness, Reverse pressure softening(RPS) technique, postnatal mothers, Breast engorgement, Breastfeeding.

INTRODUCTION

The birth of a baby is a significant event in any family. Childbirth is a natural process beautifully designed by nature and care following the birth of the baby is essential for the health and well-being of both mother and child. Childbirth holds a deep and transcendent meaning that extends far beyond the physiological process. Therefore, it is crucial that a mother provides her baby with the best possible nutrition to ensure healthy growth and development. Breast milk contains all the nutrients your baby needs to grow and thrive. Breast engorgement is a common problem encountered by breastfeeding mothers and can lead to potentially serious complications such as painful breasts, plugged milk ducts, or mastitis. Engorgement usually occurs when the breasts switch from producing colostrum to producing mature milk. As milk production increases, overdistension of the alveoli causes the milk-secreting cells to flatten, which in turn obstructs the capillary blood circulation surrounding the alveolar cells.

Breast engorgement during the first week of breastfeeding may occur naturally, and it can also result from delayed, infrequent, or interrupted removal of milk from the breasts. there are many lactating mothers suffering from breast engorgement. Severe engorgement can make it difficult to baby to latch on to the breast and it cause body temperature to rise around 99-100-degree F. it is also known as milk fever. According to the Academy of Breastfeeding Medicine Protocol Committee, breast engorgement is described as the swelling and distension of the breast tissue. Usually in the early days of initiation of lactation caused by vascular dilation as well as the arrival of the early milk. Mothers are at a higher risk of developing engorgement when milk stasis is not prevented or resolved, often due to infrequent or inadequate drainage of the breasts.

Reverse pressure Softening (RPS) technique is a way to soften the areola. It was developed by Jean Cottermen. Reverse pressure softening is helpful during the first weeks to help attachment problems or breast engorgement. In that uses gentle positive pressure to soften a 1-2-inch area of the areola surrounding the base of the nipple, temporarily moving some swelling slightly backward and upward into the breast. Which helps attach the baby and express milk more easily. The reverse pressure softening (RPS) before latching significantly reduces the resistance of subareolar tissue, temporarily freeing it to interact more efficiently with the baby's mouth. RPS also triggers the milk ejection reflex promptly. Early proactive use of RPS causes no harm and may facilitate increased milk transfer, reduce risk of nipple trauma, and help resolve engorgement.

RPS is best performed immediately before each attempt to latch, for as many feedings as needed:

The mother may prefer to apply RPS herself, or the health care provider, with her permission. Standing in front of the mother or slightly behind her, the helper can reach over her shoulders and place their fingers over the mother’s to reinforce the applied pressure. The firmer or more swollen the areola, the more time is needed to achieve pliability. RPS often forms temporary "dimples" or "pits", but oedema soon re-enters the pits after pressure is released. Positioning the mother with severe oedema flat on her back during RPS delays re-entry of swelling, allowing a longer window of time for latching. Press gently yet firmly on the areola, just at the base of the nipple, applying steady pressure. It should not be strong enough to cause

pain—use lighter pressure for a longer duration to prevent discomfort.
The postpartum period begins immediately after childbirth and continues for approximately six weeks. Postpartum care's main focus is to ensure that the mother is healthy and, equipped with all the information she needs about breast feeding, reproductive health, contraception, and adjustment to life.

NEED OF THE STUDY

"Breast milk is nature's protection for the baby." One million infant lives can be saved annually by initiating breastfeeding within the first hour of birth. If mothers and families understand the benefits of exclusive breastfeeding for six months, it could save up to 250,000 lives each year.
The global incidence rate of breast engorgement is 1 in 8000, while in India, it is 1 in 6500. Signs and symptoms most commonly occur between the third and fifth day postpartum (International Journal of Current Medical and Pharmaceutical Research, 2017).
The chief editor of The Nursing Journal of India, in her keynote address during Breastfeeding Week 2019, stated that lactating mothers face multifaceted limitations and difficulties in breastfeeding. These challenges stem from various aspects of family, society, the workplace, and government. One of the most frequently cited causes for cessation of breastfeeding in the first two weeks postpartum is pain, often due to breast engorgement.
Globally, the incidence of breast engorgement is high—33% of women experience breast problems within the first two weeks postpartum, and 28% continue to face them in the weeks that follow. These issues are major contributing factors to the failure of lactation and early cessation of breastfeeding. Breast engorgement commonly occurs within the first week after birth but may also arise later. Primary engorgement happens in the initial days after delivery, while secondary engorgement occurs when mothers reduce feeding frequency or the baby consumes less milk.
During clinical experience, the researcher observed that some mothers were unable to breastfeed their babies due to breast engorgement, which can lead to complications and lactation failure. The Reverse Pressure Softening (RPS) technique has been identified as an effective intervention to relieve breast engorgement.
As reverse pressure softening offers tremendous relief from breast engorgement, it supports successful breastfeeding and helps the baby receive more milk. Recognizing its benefits, the researcher selected this technique as the intervention for the study.

STATEMENT OF THE STUDY

A Study to Assess the Effectiveness of Reverse Pressure Softening Technique on the Level of Breast engorgement and Breastfeeding among Postnatal Mothers Admitted in NAMO Hospital, Silvassa.

OBJECTIVES OF THE STUDY TO:

- Assess the level of breast engorgement and breast feeding among postnatal mothers in experimental and control group.
- Assess the effectiveness of reverse pressure softening technique on the level of breast engorgement and breast feeding among postnatal mothers in experimental and control group.
- Find out association between pre-test level of breast engorgement and breast feeding among postnatal mothers with their selected demographic variables in experimental and control group.

HYPOTHESIS

The hypotheses will be tested at a 0.05 level of significance.

- H1: There is a significant difference between mean score of pre-test & post- test level of breast engorgement and breast feeding among postnatal mothers in experimental and control group.
- H2: There is a significant association between pre-test level of breast engorgement and breast feeding of postnatal mothers with selected socio- demographic variables in experimental and control group.

ASSUMPTION

Numerous techniques are available to relieve breast engorgement pain and to improve breast feeding.

OPERATIONAL DEFINITIONS

Assess:

In this study, it refers to Assess the effectiveness of reverse pressure softening technique on level of breast engorgement and breast feeding among postnatal mothers in experimental and control group.

Effectiveness:

In this study, effectiveness refers to the significant reduction of breast engorgement and enhancement in breastfeeding after apply RPS on postnatal mothers to experimental by using by unpaired "t'' test.

Breast engorgement:

In this study it refers to the accumulation of milk, fluid, or blood in the breast tissue, breast becomes firm, or hard to touch leading to swelling of postnatal mothers admitted in NAMO hospital, Silvassa. It will be measured by six- point Breast engorgement scale.

Breast feeding:

In this study, breastfeeding refers to an act of a postnatal mother feeding her newborn breast milk, either directly from the breast or expressed breast milk, to provide optimal nutrition and promote bonding between newborn & postnatal mothers admitted in NAMO hospital, Silvassa. It will be measured by Via Christi breastfeeding assessment scale.

Postnatal mother :

In this study, its refers to mother who delivered a baby with caesarean section & who had breast engorgement of postnatal mothers admitted in NAMO hospital, Silvassa.

Reverse Pressure Softening Technique (RPS):

In this study, RPS is a manual technique was administered three session per day for two consecutive days, with each session lasting approximately 30 seconds to relieve breast engorgement by applying gentle, sustained pressure to the areola, pushing the breast tissue away from the nipple to reduce swelling, facilitate latching, promote milk flow of postnatal mothers who had undergone cesarean section admitted in NAMO hospital, Silvassa.

RESEARCH METHODOLOGY

Research Approach: Quantitative Research Approach

Research Design: Quasi experimental research design (Non- equivalent control group pre-test post-test design)

Variables:

Independent variable: Reverse pressure softening technique

Dependent variable: Breast engorgement and Breastfeeding

Demographic Variables: In this study demographic variables are Age, Area of residence, Education, Religion, Dietary pattern, Occupation of mother, Parity, Family monthly income(In rupees), Previous knowledge regarding breast engorgement and breast feeding

Clinical variables: Frequency of feeding per day, Duration of each feeding, Birth weight of baby, Gestational week at the time of delivery

Research Setting: The study was conducted in postnatal ward where postnatal mothers whom so ever is admitted in NAMO hospital, Silvassa.

Population: The population for present study Consist of all postnatal mothers Admitted in NAMO hospital, Silvassa.

Target Population: The target population for present study include postnatal mothers undergone caesarean section and who had breast engorgement.

Accessible Population: The accessible population for present study postnatal mothers who had undergone caesarean section in NAMO Hospital and fulfilled the inclusion criteria.

Sample: In present study the sample consist of postnatal mothers who have fulfilled with the inclusion criteria.

Sample Size: In present study total 60 postnatal mothers (30 for experimental group and 30 for control group) in NAMO Hospital, Silvassa who area fulfilled inclusion criteria.

Sampling Technique: Non- probability, Convenience sampling technique was used for this study.

Inclusion criteria: In this study Postnatal mothers,

- study will be conducted after 48 hours of delivery on postnatal mothers who had undergone caesarean section.
- who had engorged breast
- who had no nipple abnormalities
- who had normal neonates
- who have hemodynamically stable.
- who are understand & speak in Hindi & Gujarati language
- who are willing to participate in research study.

Exclusion criteria: In this study postnatal mothers,

- who had undergone normal deliveries
- who had any major breast complications like mastitis, plugged duct and breast abscess and other than breast engorgement.
- whose babies are in NICU

DESCRIPTION OF THE TOOL:

SECTION-1: DEMOGRAPHIC VARIABLE

This part of tool consists of item related to demographic and clinical Performa. It consists 9 item of demographic variable

- Age
- Area of Residence
- Education
- Religion
- Dietary Pattern

- Occupation of Mother
- Parity
- Family monthly Income (In rupee)
- Previous knowledge regarding breast engorgement and breast feeding.

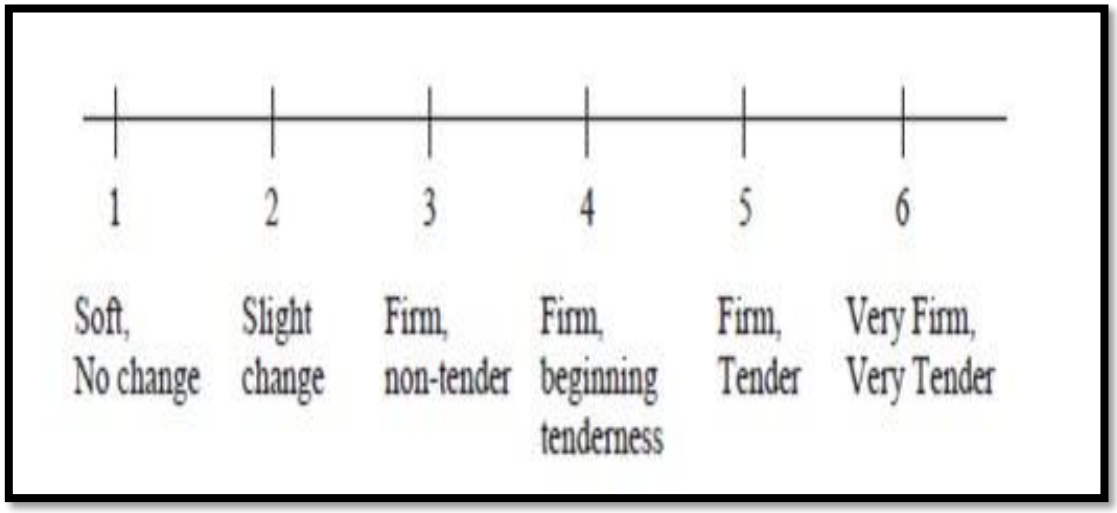
SECTION-2: CLINICAL VARIABLE

- Frequency of feeding per day
- Duration of each feeding
- Birth weight of baby
- Gestational week at the time of delivery

SECTION-3: SIX POINT BREAST ENGORGEMENT SCALE:

This is a standardized scale, "Six- point engorgement scale" for assessing breast engorgement. It consists of the scoring ranges from 1 to 6.

Each scoring indicates the following description:



ANALYSIS:

Six-Point breast engorgement Scale The level of breast engorgement is scored as:

1-No breast engorgement
2-3-Mild breast engorgement
4-5-Moderate breast engorgement
6- Severe breast engorgement

SECTION-4: VIA CHRISTI BREASTFEEDING ASSESSMENT TOOL

The via Christi Breastfeeding assessment tool was modified by Riordan (2005) from the LATCH AND IBFAT to assess the level of successful breastfeeding among primipara mother with flat and retracted nipple. In this via Christi tool assigns a score 0-2on five breastfeeding indicators, there is maximum total score is 10.

	0	1	2	SCORE

Latch on	No latch on achieved	Latch on after repeated attempts	Eagerly grasped breast to latch on	
Lenth of time before latch-on and suck	Over 10 min	4-6 min	0-3 min	
sucking	Did not suckle	Suckled but needed encouragement	Suckle rhythmically with lips flanged	
Audible swallowing	None	Only if stimulated	Over 48 hours: frequent	
Mom's evaluation	Not pleased	Somewhat pleased	pleased	

INTERPRETATION OF SCORE:

0-2: High risk

3-6: Moderate risk

7-10: low risk

RESULT & DISCUSSION

SECTION 1: DESCRIPTION OF FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES AMONG POSTNATAL MOTHERS.

Table 4.1 Frequency and Percentage Distribution of Samples Depending on the Demographic Variables in experimental and control group. (N= 60)

SR.NO	DEMOGRAPHIC VARIABLES		EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
			F	%	F	%
1.	Age	a) Below 18 year	0	0	0	0
		b) 18-22 year	9	30	7	23.33
		c) 23-27 year	12	40	16	53.33
		d) 28- 32 year	8	26.67	5	16.67
		e) above 32 year	1	3.33	2	6.67
2.	Area of reside	a) Rural	15	50	12	40
		b) Urban	6	20	5	16.67
		c) Semi Urban	9	30	13	43.33
3.	Education	a) No formal education	3	10	2	6.67
		b) primary school	7	23.33	8	26.67
		c) secondary school	8	26.67	10	33.33
		d) Higher secondary school	6	20	4	13.33
		e) Graduate	6	20	6	20
		f) Diploma	0	0	0	0

4.	Religion	a) Hindu	27	90	27	90
		b) Muslim	2	6.67	3	10
		c) Christian	1	3.33	0	0
		d) other	0	0	0	0
5.	Dietary	a)Vegetarian	8	26.67	8	26.67
		b) Mixed diet	22	73.33	22	73.33
6.	Occupation of mother	a) Daily wedges	1	3.33	0	0.00
		b) private employee	1	3.33	1	3.33
		c) Government employee	0	0.00	0	0.00
		d) Homemaker	28	93.33	29	96.67
7.	parity	a) primipara	13	43.33	10	33.33
		b) multipara	17	56.67	20	66.67
		c)Grandmultiparity	0	0.00	0	0.00
SR.NO	DEMOGRAPHIC VARIABLES		EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
			f	%	f	%
8.	Family Income (In rupees)	a) >135169	0	0.00	0	0.00
		b) 67587-135168	0	0.00	0	0.00
		c) 50560 – 67586	0	0.00	0	0.00
		d) 33793 - 50559	1	3.33	0	0.00
		e) 20274 – 33792	8	26.67	12	40.00
		f) 6768 -20273	21	70.00	18	60.00
		g) <6767	0	0.00	0	0.00

9.	Do you have any knowledge regarding B.E & B.F	a) Yes If Yes mention source of information 1. Family members& relatives 2. Friends & peer group 3. Health personnel 4. Electronic & mass media	10	33.33	12	40.00
		b) No	20	66.67	18	60.00

SECTION 2: DESCRIPTION OF FREQUENCY AND PERCENTAGE DISTRIBUTION OF CLINICAL VARIABLES AMONG POSTNATAL MOTHERS.

Table 4.2 Frequency and percentage distribution of samples depending on the Clinical variables in experimental and control group.

SR.NO	CLINICAL VARIABLES		EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
			F	%	F	%
1.	Frequency of feeding	a) Every 30 min	0	0.00	0	0.00
		b) every 1 hour	0	0.00	0	0.00
		c) every 2 hour	13	43.33	9	30.00
		d) more than 2 hour	17	56.67	21	70.00
2.	Duration of each feeding	a) 05 min	0	0.00	2	6.67
		b) 10 min	7	23.33	5	16.67
		c) 15 min	12	40.00	8	26.67
		d) > 15 min	11	36.67	15	50.00
3.	Birth weight of baby	a) < 2.5 kg	8	26.67	13	43.33
		b) 2.5 – 3.5 kg	22	73.33	17	56.67
		c) > 3.5 kg	0	0.00	0	0.00
	Ge	a) < 37 week	7	23.33	17	56.67

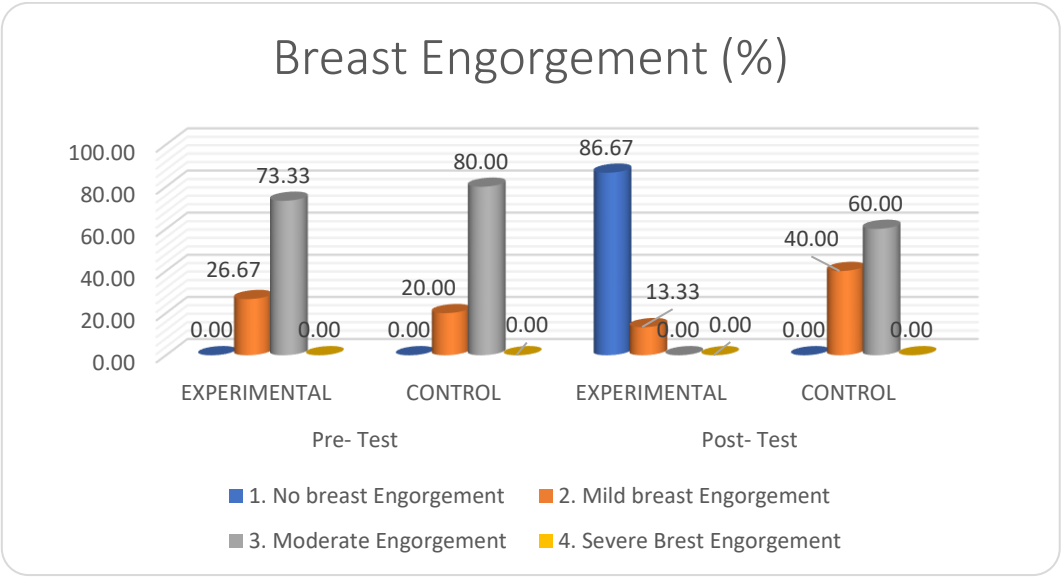
4.		b) 37 – 42 week	23	76.67	13	43.33
		c) > 42 week	0	0.00	0	0.00

SECTION 3: ASSESS THE PRE- TEST AND POST -TEST LEVEL OF BREAST ENGORGEMENT AMONG POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.3 mean, SD, Mean%, overall breast engorgement score of pre-test & post-test level of breast engorgement in experimental and control group.

Level of Breast engorgement	Experimental group				Control group				Difference in mean %
	Overall breast engorgement score	mean	SD	Mean %	Overall breast engorgement score	mean	SD	Mean %	
Pre-test (O1)	6	3.933	0.78	65.5	6	4.06	0.69	67.7	2.21
Post–test(O2)	6	1.133	0.34	18.8	6	3.76	0.72	62.7	43.88

Figure 4.15 frequency and percentage distribution of pre-test and post -test level of breast engorgement among postnatal mothers in experimental and control group.

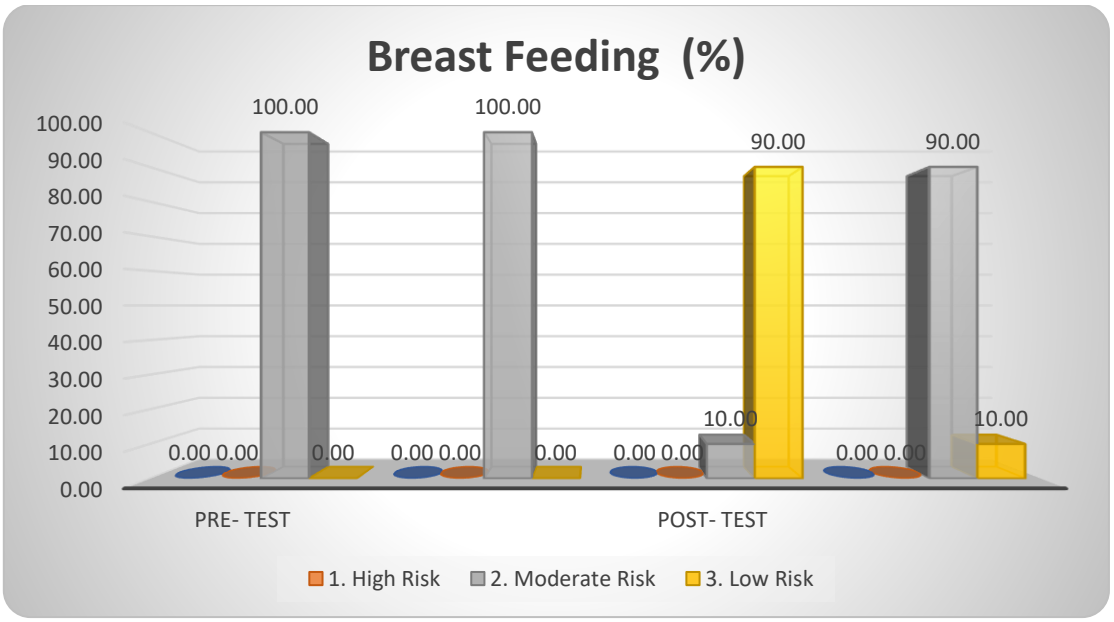


SECTION 4: ASSESS THE PRE- TEST AND POST -TEST LEVEL OF BREASTFEEDING AMONG POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.5 mean, SD, Mean%, overall breastfeeding score of pre-test & post-test level of breastfeeding in experimental and control group.

Level of Breastfeeding	Experimental group				Control group				Difference in mean %
	Overall breast feeding score	mean	SD	Mean%	Overall breast feeding score	mean	SD	Mean%	
Pre-test (O1)	10	4.600	0.85	46	10	4.30	0.53	43	3
Post–test(O2)	10	7.733	0.98	77.3	10	5.30	0.87	53	24.33

Figure 4.16 frequency and percentage distribution of pre-test and post -test level of breastfeeding among postnatal mothers in experimental and control group.



SECTION 5: ASSESS THE EFFECTIVENESS OF REVERSE PRESSURE SOFTENING TECHNIQUE ON THE LEVEL OF BREAST ENGORGEMENT AMONG POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP.

paired "t" test was used to test the significance of difference in level of breast engorgement among

postnatal mother as measured six-point breast engorgement scale across two group measures.

The analysis shows that in experimental group pre-test (mean=3.933),(SD=0.784), Post-test (mean=1.133), (SD=0.345), pre-test & post -test (mean differences 2.80), (paired t value 20.149), (df =29), p value < 0.0001. Inferance is significant. Significant reduction breast engorgement in experimental group(P< 0.0001). thus, the research hypothesis H1 was accepted. Therefore, RPS is effective on the breast engorgement among postnatal mother.

The analysis shows that in Control group pre-test (mean=4.066),(SD=0.69), Post-test (mean=3.766), (SD=0.72), pre-test & post -test (mean differences 0.30), (paired t value 3.5), (df =29), p value < 0.001. Inferance is significant. Significant reduction breast engorgement in control group (P< 0.0001). In control group "t" is lee than the experimental group. Therefore, RPS is effective on the breast engorgement among postnatal mother.

Table 4.9: unpaired t- test to assess effectiveness of rps on the level of breast engorgement among postnatal mothers in experimental and control group.

(N=60)

Table 4.9.1: mean, standard deviation, mean differences and unpaired 't' value of pre-test level of breast engorgement among postnatal mothers of experimental and control group.

Level of breast engorgement	Mean	SD	Mean differance	Unpaired t value	df	P Value	Inferance
Experimental Group	3.933	0.78	0.133	0.69	58	0.48	**NS**
Control group	4.066	0.69					

***P< 0.05 Significant, ** P<0.01 Highly Significant & *** P< 0.001 Very highly significant, NS- Not significant**

Table 4.9.2: Mean, standard deviation, mean differences and unpaired 't' value of Post-test level of breast engorgement among postnatal mothers of experimental and control group. (N=60)

Level of breast engorgement	Mean (post-test)	SD (post-test)	Mean differance	Unpaired t value	df	P Value	Inferance
Experimental Group	1.133	0.345	2.633	17.898	58	0.001	**Significant**
Control group	3.766	0.727					

***P< 0.05 Significant, ** P<0.01 Highly Significant & *** P< 0.001 Very highly significant, NS- Not significant**

SECTION 6: ASSESS THE EFFECTIVENESS OF REVERSE PRESSURE SOFTENING TECHNIQUE ON THE LEVEL OF BREASTFEEDING AMONG POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP.

paired "t" test was used to test the significance of difference in level of breastfeeding among postnatal mother as measured via Christi breastfeeding assessment tool across two group measures.

The analysis shows that in experimental group pre-test (mean=4.600), (SD=0.85), Post- test (mean=7.733), (SD=0.98), pre-test & post -test (mean differences 3.133), (paired t value 15.97), (df =29), p value < 0.00001. Inferance is significant. Significant reduction breastfeeding in experimental group (P< 0.00001). thus, the research hypothesis H1 was accepted. Therefore, RPS is effective on the breastfeeding among postnatal mother.

The analysis shows that in control group pre-test (mean=4.300),(SD=0.534), Post- test (mean=5.300), (SD=0.876), pre-test & post -test (mean differences 1.0), (paired t value 7.37), (df =29), p value < 0.00001. Inferance is significant. Significant reduction breastfeeding in control group (P< 0.00001). thus, the research hypothesis H1 was accepted. Therefore, RPS is effective on the breastfeeding among postnatal mother.

Table 4.12, unpaired t- test to assess effectiveness of rps on the level of breastfeeding among postnatal mothers in experimental and control group.

(N=60)

Table 4.12.1: Mean, standard deviation, mean differences and unpaired 't' value of Pre-test level of breastfeeding among postnatal mothers of experimental and control group.

Level of breastfeeding	Mean	SD	Mean differance	Unpaired t value	df	P Value	Inferance
Experimental Group	4.600	0.855	0.3	1.692	58	0.109	**NS**
Control group	4.300	0.534					

***P< 0.05 Significant, ** P<0.01 Highly Significant & *** P< 0.001 Very highly significant, NS- Not significant**

Table 4.12.2: Mean, standard deviation, mean differences and unpaired 't' value of Post-test level of breastfeeding among postnatal mothers of experimental and control group.

Level of breastfeeding	Mean (post-test)	SD (post-test)	Mean differance	Unpaired t value	df	P Value	Inferance

Experimental Group	7.733	0.980	2.433	10.133	58	0.001	**Significant**
Control group	5.300	0.876					

***P< 0.05 Significant, ** P<0.01 Highly Significant & *** P< 0.001 Very highly significant, NS- Not significant**

SECTION 7: ASSOCIATION FOR PRE- TEST LEVEL OF BREAST ENGORGEMENT AMONG POSTNATAL MOTHERS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES WITH CLINICAL VARIABLE IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.13 Frequency, χ^2 distribution, p-value on the pre-test level of breast engorgement among postnatal mothers in experimental group with their demographic variables.

SR NO.	DEMOGRAPHIC VARIABLES		LEVEL OF BREAST ENGORGEMENT EXPERIMENTAL GROUP		χ^2 value df	p-value
			≤ Median	>Median		
			f	f		
1.	Age	a) Below 18 year	0	0	3.602 (df=3)	0.30 NS
		b) 18-22 year	7	2		
		c) 23-27 year	10	2		
		d) 28- 32 year	6	2		
		e) above 32 year	0	1		
2.	Area of residence	a) Rural	12	3	0.435 (df= 2)	0.805 NS
		b) Urban	4	2		
		c) Semi Urban	7	2		
3.	Education	a) No formal education	0	3	**12.46 (df= 4)**	**0.01 S**
		b) primary school	5	2		
		c) secondary school	7	1		
		d) Higher secondary school	6	0		
		e) Graduate	5	1		

		f) Diploma	0	0		
4.	**Religion**	a) Hindu	20	7	1.014 (df= 2)	0.602 NS
		b) Muslim	2	0		
		c) Christian	1	0		
		d) other	0	0		
5.	**Dietary pattern**	a) Vegetarian	6	2	0.017 (df= 1)	0.896 NS
		b) Mixed diet	17	5		
6.	**Occupation of mother**	a) Daily wages	1	0	0.652 (df= 2)	0.722 NS
		b) private employee	1	0		
		c) Government employee	0	0		
		d) Homemaker	21	7		
7.	**parity**	a) primipara	10	3	0.001 (df= 1)	0.977 NS
		b) multipara	13	4		
		c)Grandmultiparity	0	0		
8.	**Family Income (In rupees)**	a) >135169	0	0	5.144 (df= 2)	0.076 NS
		b) 67587-135168	0	0		
		c) 50560 – 67586	0	0		
		d) 33793 - 50559	0	1		
		e) 20274 – 33792	5	3		
		f) 6768 -20273	18	3		

		g) <6767	0	0		
9.	**Do you have any knowledge regarding B.E & B.F**	a) Yes If Yes mention source of information 1. Family members& relatives 2. Friends & peer group 3. Health personnel 4. Electronic & mass media	7	3	0.373 (df=1)	0.542 NS
		b) No	16	4		
CLINICAL VARIABLES						
1.	**Frequency of feeding**	a) Every 30 min	0	0	0.810 (df= 1)	0.368 NS
		b) every 1 hour	0	0		
		c) every 2 hour	11	2		
		d) more than 2 hour	12	5		
2.	**Duration of each feeding**	a) 05 min	0	0	0.289 (df= 2)	0.865 NS
		b) 10 min	5	2		
		c) 15 min	9	3		
		d) > 15 min	9	2		
3.	**Birth weight**	a) < 2.5 kg	6	2	0.017 (df= 1)	0.896 NS
		b) 2.5 – 3.5 kg	17	5		

		c) > 3.5 kg	0	0		
4.	**Gestational week at time of delivery**	a) < 37 week	5	2	0.140 (df= 1)	0.708 NS
		b) 37 – 42 week	18	5		
		c) > 42 week	0	0		

***P< 0.05 Significant, ** P<0.01 Highly Significant & *** P< 0.001 Very highly significant, NS- Not significant**

Table 4.14 Frequency, χ^2 distribution, p-value on the pre-test level of Breast Engorgement among postnatal mothers in control group with their demographic variables.

SR NO.	**DEMOGRAPHIC VARIABLES**		**LEVEL OF BREAST ENGORGEMNET CONTROL GROUP**		**χ^2 value df**	**p-value**
			≤ Median	**>Median**		
			f	**f**		
1.	**Age**	a) Below 18 year	0	0	1.802 (df=3)	0.615 NS
		b) 18-22 year	4	3		
		c) 23-27 year	12	4		
		d) 28- 32 year	4	1		
		e) above 32 year	2	0		
2.	**Area of residence**	a) Rural	10	2	3.540 (df=2)	0.170 NS
		b) Urban	2	3		
		c) Semi Urban	10	3		
3.	**Education**	a) No formal education	1	1	3.239 (df=4)	0.519 NS
		b) primary school	6	2		
		c) secondary school	6	4		
		d) Higher secondary school	4	0		
		e) Graduate	5	1		

		f) Diploma	0	0		
4.	**Religion**	a) Hindu	19	8	1.212 (df=1)	0.271 NS
		b) Muslim	3	0		
		c) Christian	0	0		
		d) other	0	0		
5.	**Dietary pattern**	a) Vegetarian	5	3	0.655 (df=1)	0.418 NS
		b) Mixed diet	17	5		
6.	**Occupation of mother**	a) Daily wages	0	0	0.376 (df=1)	0.540 NS
		b) private employee	1	0		
		c) Government employee	0	0		
		d) Homemaker	21	8		
7.	**parity**	a) primipara	7	3	0.085 (df=1)	0.770 NS
		b) multipara	15	5		
		c) Grandmultiparity	0	0		
8.	**Family Income (In rupees)**	a) >135169	0	0	0.455 (df=1)	0.500 NS
		b) 67587-135168	0	0		
		c) 50560 – 67586	0	0		
		d) 33793 - 50559	0	0		
		e) 20274 – 33792	8	4		
		f) 6768 -20273	14	4		
		g) <6767	0	0		

9.	**Do you have any knowledge regarding B.E & B.F**	a) Yes If Yes mention source of information 1. Family members& relatives 2. Friends & peer group 3. Health personnel 4. Electronic & mass media	10	2	1.023 (df=1)	0.312 NS
		b) No	12	6		
CLINICAL VARIABLES						
1.	**Frequency of feeding**	a) Every 30 min	0	0	1.591 (df=1)	0.207 NS
		b) every 1 hour	0	0		
		c) every 2 hour	8	1		
		d) more than 2 hour	14	7		
2.	**Duration of each feeding**	a) 05 min	2	0	3.026 (df=3)	0.388 NS
		b) 10 min	4	1		
		c) 15 min	7	1		
		d) > 15 min	9	6		
3.	**Birth weight of baby**	a) < 2.5 kg	9	4	0.197 (df=1)	0.657 NS
		b) 2.5 – 3.5 kg	13	4		
		c) > 3.5 kg	0	0		
4.	**Gestational week at the time of delivery**	a) < 37 week	12	5	0.151 (df=1)	0.697 NS
		b) 37 – 42 week	10	3		
		c) > 42 week	0	0		

SECTION 8: ASSOCIATION FOR PRE- TEST LEVEL OF BREASTFEEDING AMONG POSTNATAL MOTHERS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES & CLINICAL VARIABLE IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.15 Frequency, χ^2 distribution, p-value on the pre-test level of breastfeeding among postnatal mothers in experimental group with their demographic variables.

SR NO.	DEMOGRAPHIC VARIABLES		LEVEL OF BREASTFEEDING EXPERIMENTAL GROUP		χ^2 value df	p-value
			≤ Median	>Median		
			f	f		
1.	Age	a) Below 18 year	0	0	2.837 (df=3)	0.418 NS
		b) 18-22 year	8	1		
		c) 23-27 year	9	3		
		d) 28- 32 year	8	0		
		e) above 32 year	1	0		
2.	Area of residence	a) Rural	11	4	4.615 (df=2)	0.099 NS
		b) Urban	6	0		
		c) Semi Urban	9	0		
3.	Education	a) No formal education	3	0	3.678 (df=4)	0.451 NS
		b) primary school	7	0		
		c) secondary school	7	1		
		d) Higher secondary school	4	2		
		e) Graduate	5	1		
		f) Diploma	23	4		
4.	Religion	a) Hindu	2	0	0.513 (df= 2)	0.774 NS
		b) Muslim	1	0		
		c) Christian	0	0		

		d) other	8	0		
5.	**Dietary pattern**	a) Vegetarian	18	4	1.678 (df=1)	0.195 NS
		b) Mixed diet	1	0		
6.	**Occupation of mother**	a) Daily wages	1	0	0.330 (df=2)	0.848 NS
		b) private employee	0	0		
		c) Government employee	24	4		
		d) Homemaker	12	1		
7.	**parity**	a) primipara	14	3	0.632 (df=1)	0.427 NS
		b) multipara	0	0		
		c)Grandmultiparity	0	0		
8.	**Family Income (In rupees)**	a) >135169	0	0	0.175 (df=2)	0.916 NS
		b) 67587-135168	0	0		
		c) 50560 – 67586	1	0		
		d) 33793 - 50559	7	1		
		e) 20274 – 33792	18	3		
		f) 6768 -20273	0	0		
		g) <6767	0	0		

9.	**Do you have any knowledge regarding B.E & B.F**	a) Yes If Yes mention source of information 1. Family members& relatives 2. Friends & peer group 3. Health personnel 4. Electronic & mass media	8	2	0.577 (df=1)	0.448 NS
		b) No	18	2		
CLINICAL VARIABLES						
1.	**Frequency of feeding**	a) Every 30 min	0	0	0.084 (df=1)	0.773 NS
		b) every 1 hour	0	0		
		c) every 2 hour	11	2		
		d) more than 2 hour	15	2		
2.	**Duration of each feeding**	a) 05 min	0	0	0.292 (df=2)	0.864 NS
		b) 10 min	6	1		
		c) 15 min	10	2		
		d) > 15 min	10	1		
3.	**Birth weight of baby**	a) < 2.5 kg	8	0	1.678 (df=1)	0.195 NS
		b) 2.5 – 3.5 kg	18	4		
		c) > 3.5 kg	0	0		
4.	**Gestational week at time of delivery**	a) < 37 week	7	0	1.405 (df=1)	0.236 NS
		b) 37 – 42 week	19	4		
		c) > 42 week	0	0		

***P< 0.05 Significant, ** P<0.01 Highly Significant & *** P< 0.001 Very highly significant, NS- Not significant**

Table 4.16 Frequency, χ^2 distribution, p-value on the pre-test level of breastfeeding among postnatal mothers in control group with their demographic variables.

SR NO.	DEMOGRAPHIC VARIABLES		LEVEL OF BREASTFEEDING CONTROL GROUP		χ^2 value df	p-value
			≤ Median	>Median		
			f	f		
1.	Age	a) Below 18 year	0	0	1.296 (df=3)	0.730 NS
		b) 18-22 year	5	2		
		c) 23-27 year	10	6		
		d) 28- 32 year	3	2		
		e) above 32 year	2	0		
2.	Area of residence	a) Rural	6	6	2.515 (df=2)	0.284 NS
		b) Urban	4	1		
		c) Semi Urban	10	3		
3.	Education	a) No formal education	2	0	2.513 (df=4)	0.642 NS
		b) primary school	5	3		
		c) secondary school	6	4		
		d) Higher secondary school	2	2		
		e) Graduate	5	1		
		f) Diploma	0	0		
4.	Religion	a) Hindu	18	9	0.00 (df=1)	1.00 NS
		b) Muslim	2	1		
		c) Christian	0	0		
		d) other	0	0		

5.	**Dietary pattern**	a) Vegetarian	6	2	0.341 (df=1)	0.559 NS
		b) Mixed diet	14	8		
6.	**Occupation of mother**	a) Daily wages	0	0	0.517 (df=1)	0.472 NS
		b) private employee	1	0		
		c) Government employee	0	0		
		d) Homemaker	19	10		
7.	**parity**	a) primipara	6	4	0.300 (df=1)	0.584 NS
		b) multipara	14	6		
		c)Grandmultiparity	0	0		
8.	**Family Income (In rupees)**	a) >135169	0	0	0.625 (df=1)	0.429 NS
		b) 67587-135168	0	0		
		c) 50560 – 67586	0	0		
		d) 33793 - 50559	0	0		
		e) 20274 – 33792	9	3		
		f) 6768 -20273	11	7		
		g) <6767	0	0		
9.	**Do you have any knowledge regarding B.E & B.F**	a) Yes If Yes mention source of information 1. Family members& relatives 2. Friends & peer group 3. Health personnel 4. Electronic & mass media	8	4	0.00 (df=1)	1.00 NS
		b) No	12	6		

CLINICAL VARIABLES						
1.	**Frequency of feeding**	a) Every 30 min	0	0	**6.429 (df=1)**	**0.011 S**
		b) every 1 hour	0	0		
		c) every 2 hour	3	6		
		d) more than 2 hour	17	4		
2.	**Duration of each feeding**	a) 05 min	2	0	6.450 (df=3)	0.092 NS
		b) 10 min	1	4		
		c) 15 min	6	2		
		d) > 15 min	11	4		
3.	**Birth weight of baby**	a) < 2.5 kg	9	4	0.068 (df=1)	0.794 NS
		b) 2.5 – 3.5 kg	11	6		
		c) > 3.5 kg	0	0		
4.	**Gestational week at time of delivery**	a) < 37 week	10	7	1.086 (df=2)	0.297 NS
		b) 37 – 42 week	10	3		
		c) > 42 week	0	0		

***P< 0.05 Significant, ** P<0.01 Highly Significant & *** P< 0.001 Very highly significant, NS- Not significant**

CONCLUSION

Breast engorgement is a common and often painful condition in the postpartum period, which can interfere with effective latching and lead to early cessation of breastfeeding if not properly. On the basis of present study, to assess effectiveness of Reverse pressure softening technique on the level of breast engorgement and breast feeding among postnatal mothers admitted in NAMO hospital, Silvassa. The findings of the study revealed that most postnatal mothers experienced moderate breast engorgement in the pre-test. However, this condition was reported to reduce to mild or no breast engorgement in the post-test among the postnatal mothers. In the pre-test, the majority of participants were classified as having a moderate risk level for breastfeeding which decreased to low in the post-test among postnatal mothers. The control group also showed a slight reduction in breast engorgement, likely due to routine hospital care. Thus, the study concluded that the Reverse Pressure Softening (RPS) technique was effective in reducing breast engorgement and improving breastfeeding among postnatal mothers who underwent a caesarean section.

REFERENCE

1. Rajbir Kaur, Parvesh Saini, Current Trends in Diagnosis and Treatment, Original research article, July-December 2017;1(2):72-75 https://www.ctdt.co.in/doi/CTDT/pdf/10.5005/jp-journals-10055-0017
2. Dutta DC, Konar H. Textbook of obstetrics including perinatology and contraception. 6th ed. Calcutta: New Central book agency (P) Ltd; 2004. p. 149-150, 451-453.
3. Indrani D and Sowmya MV, A Study to Find the Prevalence of Breast Engorgement among Lactating Mothers, Journal of Reproductive Medicine Gynaecology & Obstetrics Category: Medical Type: Literature Article, DOI:10.24966/RMGO-2574/100023 https://www.heraldopenaccess.us/openaccess/a-study-to-find-the-prevalence-of-breast-engorgement-among-lactating-mothers
4. Mrs Purnima Amit Das, Ph.D Scholar, Malwanchal University, Indore, M.P. Dr. Jitendra Chicholkar,"the effect of breast massage on reduction of breast engorgement among mothers undergone caesarean section", IJCRT2311372 International Journal of Creative Research Thoughts (IJCRT) www.ijcrt.org, © 2023 IJCRT | Volume 11, Issue 11 November 2023 | ISSN: 2320-2882 https://ijcrt.org/papers/IJCRT2311372.pdf
5. Dr. Ashok Sharma, the effectiveness of reverse pressure softening technique on the level of breast engorgement and breastfeeding among postnatal mothers, International Journal of Creative Research Thoughts (IJCRT) Volume 11, Issue 12 December 2023 | ISSN: 2320-2882 www.ijcrt.org
6. Priyanka Sandeep Pednekar, Effectiveness of Reverse Pressure Softening of Areola in Women with Postpartum Breast Engorgement. (2021). Indian Journal of Physiotherapy and Occupational Therapy - An International Journal, 15(2), 50-58. https://doi.org/10.37506/ijpot.v15i2.14513 https://www.medicopublication.com/index.php/ijpot/article/view/14513
7. Hinal Mahida, Rajshree, Jeenath Justin Doss. K. 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 at Fatepura. A and V Pub International Journal of Nursing and Medical Research 2024; 3(2):91-3. doi: 10.52711/ijnmr.2024 DOI: 10.52711/ijnmr.2024.19
8. Ms. Nidhi Dwivedi, Prof. Sujata Deo, Mrs. Sumanlata, (Jan. – Feb. 2025), Effectiveness Of Reverse Pressure Softening Technique On The Level Of Breast Engorgement And Breast Feeding Among Postnatal Mothers At Queen Mary Hospital, IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 14, Issue 1 Ser. 1 (Jan. – Feb. 2025), PP 27-37, DOI: 10.9790/1959-1401012737 **www.iosrjournals.org**
9. Miss. Ashwini Biradi1, Mrs. Jayashri, Dr. Deelip Somaninga Natekar (Jan-2025), Effectiveness of Reverse Pressure Softening Technique on Level of Breast Engorgement among Post-Partum Mothers at Selected Hospitals of Bagalkot, Scholars Journal of Applied Medical Sciences Abbreviated Key Title: Sch J App Med Sci ISSN 2347-954X (Print) | ISSN 2320-6691 (Online) DOI: https://doi.org/10.36347/sjams.2025.v13i01.038 https://www.saspublishers.com/media/articles/SJAMS_131_242-247.pdf
10. Princy Thomas, Manju Chhugani, Jahanara Rahman, Neha Varun, effectiveness of breast massage on mild breast engorgement, breast milk ph and suckling speed of neonate among the postnatal mothers,

October 2017, International Journal of Current Research 9(10):58821-58826
https://www.researchgate.net/publication/321823284_EFFECTIVENESS_OF_BREAST_MASSAGE_ON_MILD_BREAST_ENGORGEMENT_BREAST_MILK_pH_AND_SUCKLING_SPEED_OF_NEONATE_AMONG_THE_POSTNATAL_

11. Padmasree S. R., Linda Varghese*, Aswathy S. Krishnan Effectiveness of prenatal teaching on prevention of breast engorgement, August 2017 International Journal of Reproduction Contraception Obstetrics and Gynecology 6(9):3927 DOI:10.18203/2320-1770.ijrcog20174037
https://www.researchgate.net/publication/319342596_Effectiveness_of_prenatal_teaching_on_prevention_of_breast_engorgement
12. Mega Hasanul Huda, MS, Roselyn Chipojola, MS, and Shu-Yu Kuo, PhD, (July 6, 2021),Journal of human lactation, Volume 38, Issue 1, https://doi.org/10.1177/08903344211029279
https://journals.sagepub.com/doi/abs/10.1177/08903344211029279
13. Nadia Mahmoud Mohamed, Eman Hussein Abd Elbary ,Isis Emile Gohar ,June 2024 ,Effect of Reverse Pressure Softening Technique on Breast Engorgement Among Postnatal Women, The Egyptian Journal of Health Care is an international journal publishing, Volume 15, Issue 2, Pages 1930-1947
DOI: 10.21608/ejhc.2024.413829
https://ejhc.journals.ekb.eg/article_413829.html
14. Mounika M*, Kalabarathi S,Padmapriya D, A study was to determine the effectiveness of reverse pressure softening technique on level of breast engorgement among postpartum mothers, ORIGINAL RESEARCH Submitted: 11.01.2022; Accepted: 5.02.2022; Published online: 23.02.2022
https://www.researchgate.net/profile/Padma-Priya-9/publication/383497940_Effectiveness_of_reverse_presure_softening_technique_on_level_of_breast_engorgement_among_postpartum_mothers_at_Saveetha/links/66d034e2fa5e11512c3ce95a/Effectiveness-of-reverse-presure-softening-technique-on-level-of-breast-engorgement-among-postpartum-mothers-at-Saveetha.pdf
15. Dhoom Sushmaben, Janaki Maradiya, Jeenath Justin Doss. K., A Study to Assess the Effectiveness of Cabbage Leaf Application on Pain and Hardness in Breast Engorgement and its Effect on the Duration of Breast feeding among Postnatal mother in selected hospital at Dharampur, A and V Pub Journal of Nursing and Medical Research. 2024; 3(2):67-0.
DOI: 10.52711/jnmr.2024.15
https://www.jnmronline.com/HTMLPaper.aspx?Journal=A%20and%20V%20Pub%20Journal%20of%20Nursing%20and%20Medical%20Research;PID=2024-3-2-7