A Study To Assess The Effectiveness Of Self Instructional Module On Reverse Pressure Softening Technique On The Level Of Breast Engorgement And Breastfeeding Among Postnatal Mothers In Selected Hospitals At Bhopal (M.P.).

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ABSTRACT

Breast engorgement and nipple discomfort are the most frequent breastfeeding issues because of inexperience and poor breastfeeding technique. Such issues negatively impact breastfeeding's success and continuation. In this study, breast massage was used as an intervention to lessen breast engorgement. Quasi Experimental research design is used with one group pretest and posttest research design was used. A total of 30 postnatal mothers were included in the study. Demographic data, breast engorgement and pain assessment scale and LATCH breast feeding assessment scale was used. The study clearly indicates a considerable reduction in breast engorgement indicating that reverse pressure softening technique is effective in reducing engorgement and initiation of breast feeding

Keywords: breast engorgement, breast feeding , reverse pressure softening technique

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.1

Breastfeeding has the potential to save neonatal, infant and young child lives and to reduce morbidity and mortality. It is estimated that promotion of exclusive breastfeeding (EBF) for six months, it means giving nothing to newborn baby only breast milk except vitamins, minerals or medicines, this could prevent 8% of global annual child mortality. Breastfeeding is ranked as one of the safest and most efficient health interventions to achieve the millennium development goal four (MDG4): reduce child mortality. 2

The incidence rate of breast engorgement all over the world is 1:8000, and in India, it is 1:6500. Engorgement symptoms occur most commonly between days 3 and 5, with more than two-thirds of women with tenderness on day 5 but some as late as days 9–10. Two-third of women experience at least moderate symptoms.3

More time spent breastfeeding in the first 48 hrs is associated with less engorgement. The 20% postnatal mothers especially primigravida mothers are affected with breast engorgement from 0 to 4 days of the post-natal period .4

Reverse pressure softening is a new way to soften the circle around the nipple to make latching and getting milk out easy while baby and mother are learning. Latching shouldn't be painful. If areola is soft enough to change shape while feeding, it helps baby gently extend nipple deep inside his mouth, so his tongue and jaws can press on milk ducts under the areola.

Reverse pressure softening (RPS) is a simple intervention that has proven very helpful in the first 14 days postpartum. RPS 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. Interstitial fluid volume increases 30% above normal before edema becomes visible. Early proactive use of RPS causes no harm and may facilitate increased milk transfer, reduce risk of nipple trauma, and help resolve engorgement.6

Here are the different methods to do reverse softening process:
Method 1 – using two hands :- [6]

1. Comfortably lie down or lean back so that your breasts are flat against your chest.
2. Press your fingertips around the base (bottom) of your nipple (choose either finger placement that is comfortable for you (A or B)).
3. Press gently and firmly for 30 to 50 seconds.
4. After 30 to 50 seconds, drag your fingers away from your nipple while still pressing gently.
5. Continue the process by switching your finger positions around your nipple.
6. Repeat until your areola has softened.

Method 2 – one-handed "flower hold"
1. Comfortably lie down or lean back so that your breasts are flat against your chest.
2. Curve your fingertips around the base (bottom) of your nipple (your fingernails must be short to do this) and press gently and firmly for 50 seconds or longer if your breast is very swollen.

SIGNIFICANCE OF THE STUDY
Breast engorgement is a common problem among post-natal women worldwide. Engorgement is an unpleasant, painful condition in which there is swelling and distension of the breasts usually in the early days of the initiation of lactation. Breast engorgement can be relieved by various non-pharmaceutical interventions. Once baby is born, breasts are given a signal to start full milk production. Blood flows to the breasts, and the milk usually comes in 1 to 4 days after the birth. Breast engorgement is when the breast tissue overfills with milk, blood and other fluids and is a common problem in the early days and weeks of breastfeeding.7

PROBLEM STATEMENT
A study to assess the effectiveness of self instructional module on reverse pressure softening technique on the level of breast engorgement and breastfeeding among postnatal mothers in selected hospitals at Bhopal (M.P.).

OBJECTIVES:
1. To assess the pretest level of breast engorgement and breast feeding among the postnatal mothers.
2. Develop a self-instructional module in the form of booklet on Reverse pressure softening technique and apply it as an intervention.
3. To assess the posttest level of breast engorgement and breast feeding among the postnatal mothers.
4. To evaluate the effectiveness of reverse pressure softening technique on level of breast engorgement and breast feeding among the postnatal mothers by comparing pretest and posttest level of breast engorgement and breast feeding.
5. Assess the association between level of breast engorgement and breast feeding among postnatal mothers with their selected demographic variables.

HYPOTHESES

H1: There will be significant difference pre and post test level of breast engorgement and breast feeding of postnatal mothers.

H2: There will be significant difference after implementation of reverse pressure softening technique on the level of breast engorgement among the postnatal mothers.

H3: There will be significant association between pre-test level of breast engorgement and breast feeding among postnatal mothers with their selected demographic variables.

MATERIALS AND METHODS

Research approach	Evaluative approach
Research design	Quasi Experimental research design is used with one group pretest and posttest research design.
Sample	Post natal mothers
Sample size	30
Sampling technique	Non- Probability Sampling technique
Variables	
Independent variable	Reverse Pressure softening technique
Dependent variable	Breast Engorgement and regulation of normal breast feeding
Demographic variables	Age, Educational Status, Monthly Income, Social Support, Type of Family, Number of Pregnancy, Type of Delivery and Area of Living
Setting	Selected hospitals at Bhopal
Duration of study	6weeks

CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

- Postnatal mothers available for data collection at that time.
- Postnatal mothers willing to participate in the study.

Exclusion Criteria

- Postnatal mothers who were unwilling to take part in the study.
- Postnatal natal mothers with associated disorders admitted in critical care units.

DESCRIPTION OF THE TOOL

Section A:- Demographic Variables Data :- In this eight (08) items (age, educational status, monthly income, social support, type of family, number of pregnancy, type of delivery and area of living) were included to collect Socio Demographic Variable data of postnatal mothers the sample under study.

Section B:- Breast engorgement and pain assessment scale :- Engorgement was assessed using 6-Point Self Rated Engorgement Scale from 1 to 6 This is a standardized scale and **Pain** was assessed subjectively by using the visual analogue scale, a subjective measure of self-rated pain on a numerical scale of 1-10.

LATCH is a breastfeeding charting system that provides a systematic method for gathering information about individual breastfeeding sessions.

Section C :- Preparation of a booklet with organized content based on reverse pressure softening technique as self-instructional module (SIM).

SCORING PROCEDURE

Breast Engorgement assessment scoring key:

Classification	:	Scoring
No engorgement	:	1
Mild engorgement	:	2-3
Moderate engorgement	:	4-5
Severe engorgement	:	6

Pain assessment scoring key:

Classification	:	Scoring
No Pain	:	0
Mild Pain	:	1-3
Moderate Pain	:	4-6
Severe Pain	:	7-10

LATCH Breast feeding assessment scoring key:

Classification	:	Scoring

Poor	:	0-3
Moderate	:	4-7
High	:	8-10

METHOD OF DATA COLLECTION

Formal written permission was obtained from the concerned authorities to conduct the study at selected Hospital. Data Collection was done from 25/11/2023 to 20/12/2023.

Initial screening was done based on the inclusion criteria laid down for the study to assess the eligibility to enter in to the study at selected hospitals. Samples were selected by non- probability sampling technique.

Researcher explained postnatal mothers in detail about the study in order to find out the interest regarding participation in the study. Postnatal mothers were requested to sign individual written informed consent provided by the researcher. Data was collected by interview method and assessment scales.

DATA ANALYSIS

After data collection, data were organized, tabulated, summarized and analyzed. The data were analyzed according to objectives of the study by using both descriptive and inferential statistics.

FINDINGS

Table 1: Frequency and percentage distribution of demographic variables of the postnatal mothers.
N = 30

Demographic Variables	Frequency	Percentage
Age		
20 – 24 years	10	33.3
25 – 29 years	8	26.7
30 – 34 years	1	3.3
35 years and above	11	36.7
Educational status		
Matriculation	9	30.0
Intermediate	11	36.7
Graduate	6	20.0
Illiterate	4	13.3
Monthly income		
Rs.5000/- to Rs.10000/-	7	23.3
Rs.11000/- to Rs.15000/-	8	26.7
Rs.16000/- to Rs.20000/-	10	33.3
More than Rs.21000/-	5	16.7
Social support		
Maternal family	13	43.3
In-Laws	12	40.0
Husband	3	10.0
Friends	2	6.7
Type of family		
Nuclear family	13	43.3
Joint family	12	40.0
Extended family	5	16.7
Number of pregnancy		
First pregnancy	19	63.3
Second pregnancy	9	30.0
More than two	2	6.7
Type of delivery		
Normal vaginal delivery	6	20.0
Lower segment cesarean section	24	80.0
Area of living		
Urban area	19	63.3
Rural area	11	36.7

Table 1 . Shows distribution of demographic variables of post natal mothers.

  With regard to age, majority 11 (36.7%) belongs to 20-24 years and more than 35 years 8 (26.7%) belongs to 25-29 years and 1 (3.3%) belongs to between 30–34 years.

With respect to educational qualification, majority 11 (36.7%) were intermediate, 9 (30%) were matriculation, 6(20%) were graduate and the least majority 4 (13.3%) were illiterate.

In terms of monthly income, 7 (23.3%) had Rs.5000/- to Rs.10000/-, 8(26.7%) had Rs.11000/- to Rs.15000/- , 10(33.3%) had monthly income of Rs. 16000/- to Rs. 20000/- and 5 (16.7%) had more than Rs. 21000/- of monthly income.

Considering the social support majority mothers 13(43.3%) had maternal family as a support, 12(40%) had In Laws, 3(10%) husbands and least 2(6.7%) had friends as social support.

In terms of type of family, majority 13 (43.3%) lives in nuclear family, 12(40%) lives in joint family and 5(16.7%) lives if extended family.

Considering number of pregnancy majority mothers 19(63.3%) had first pregnancy, 9(30%) had second pregnancy and only 2(6.7%) with more than two pregnancies.

With regard to type of delivery, majority 24 (80%) underwent lower segment cesarean section and 6(20%) delivered normal vaginal delivery.

With respect to area of living, majority 19 (63.3%) were live in urban area and 11 (36.7%) were live in rural area.
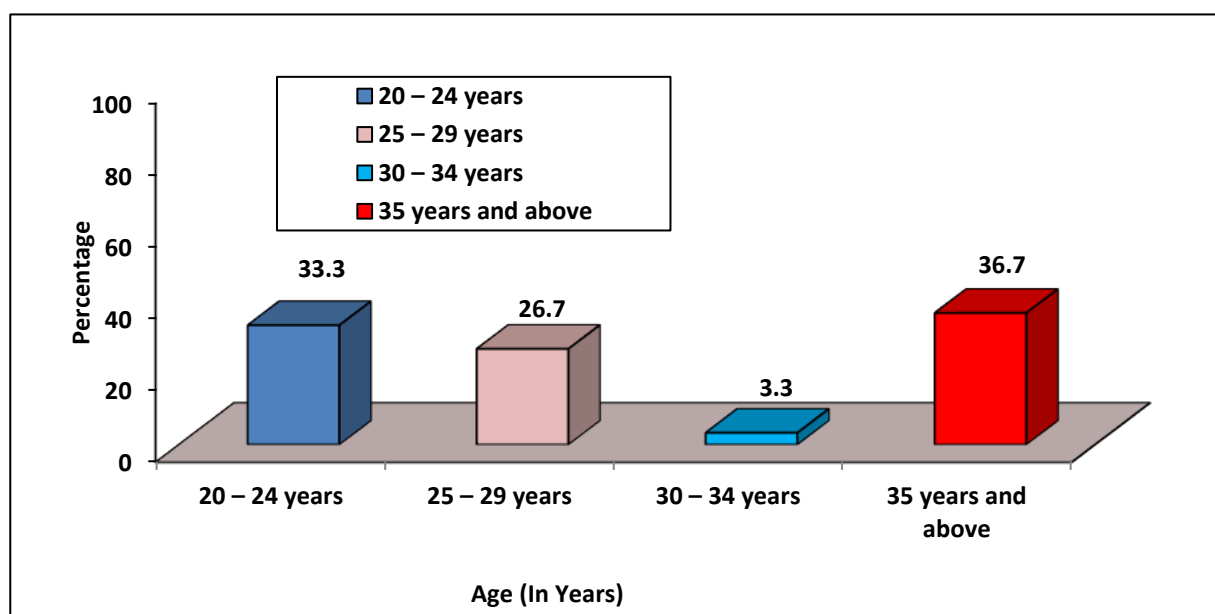

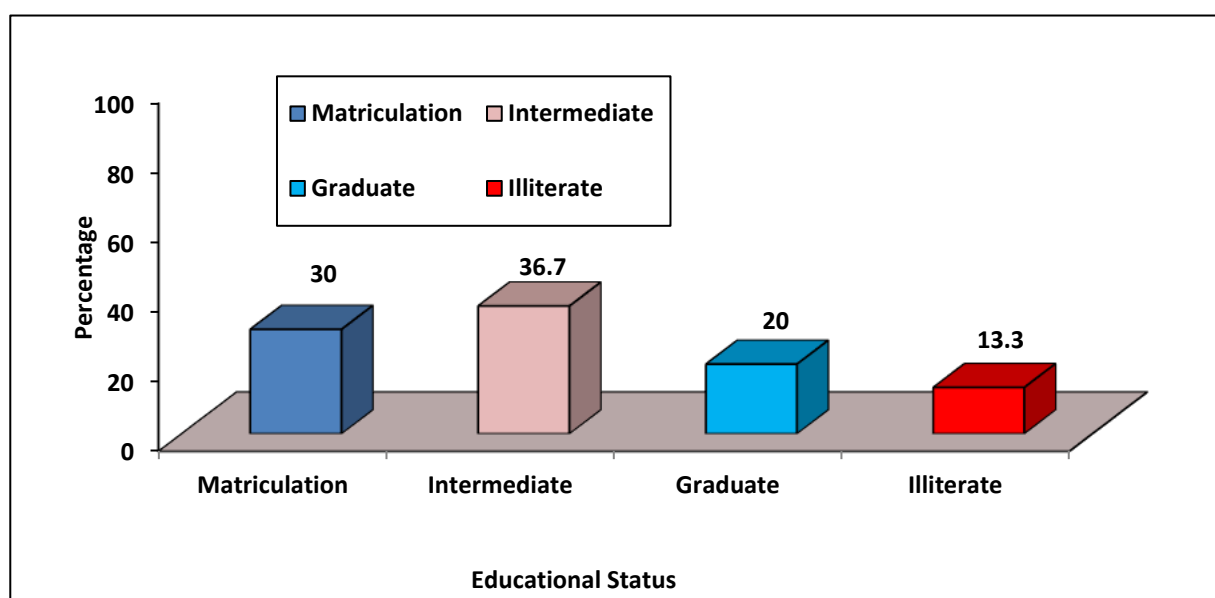**Figure 1 :- Bar diagram showing the percentage distribution of age of postnatal mothers.**

Figure 2 :- Bar diagram showing the percentage distribution of educational status of postnatal mothers.
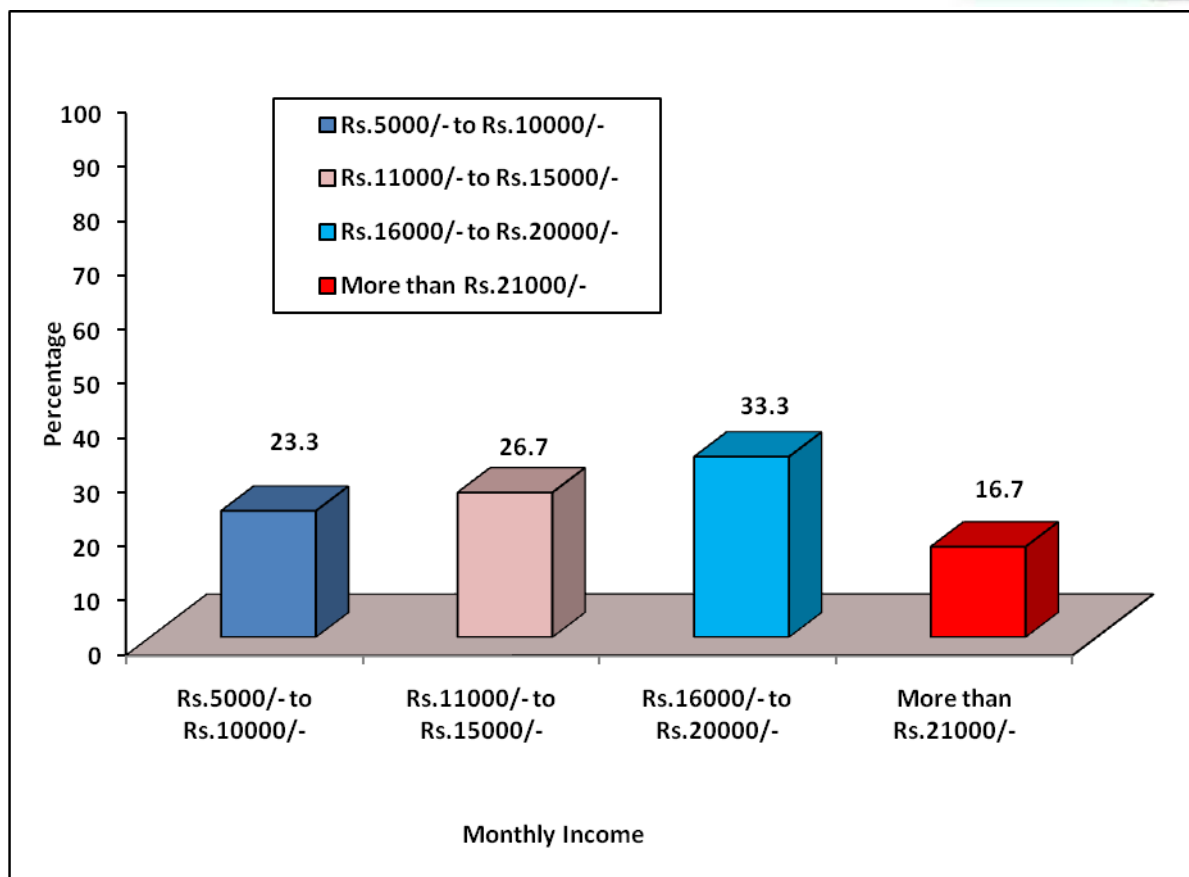
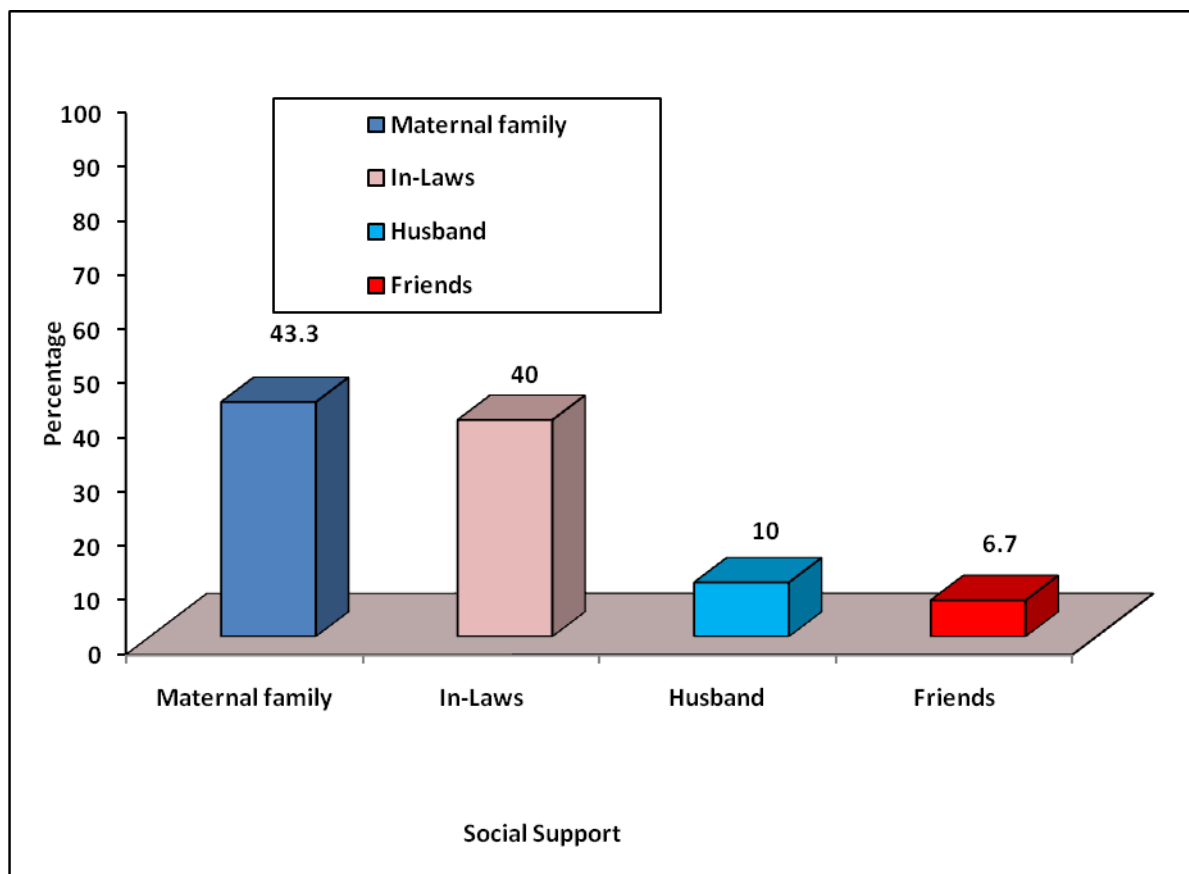**Figure 3 :- Bar diagram showing the percentage distribution of monthly income of postnatal mothers.**

Figure 4 :- Bar diagram showing the percentage distribution of social support of postnatal mothers.
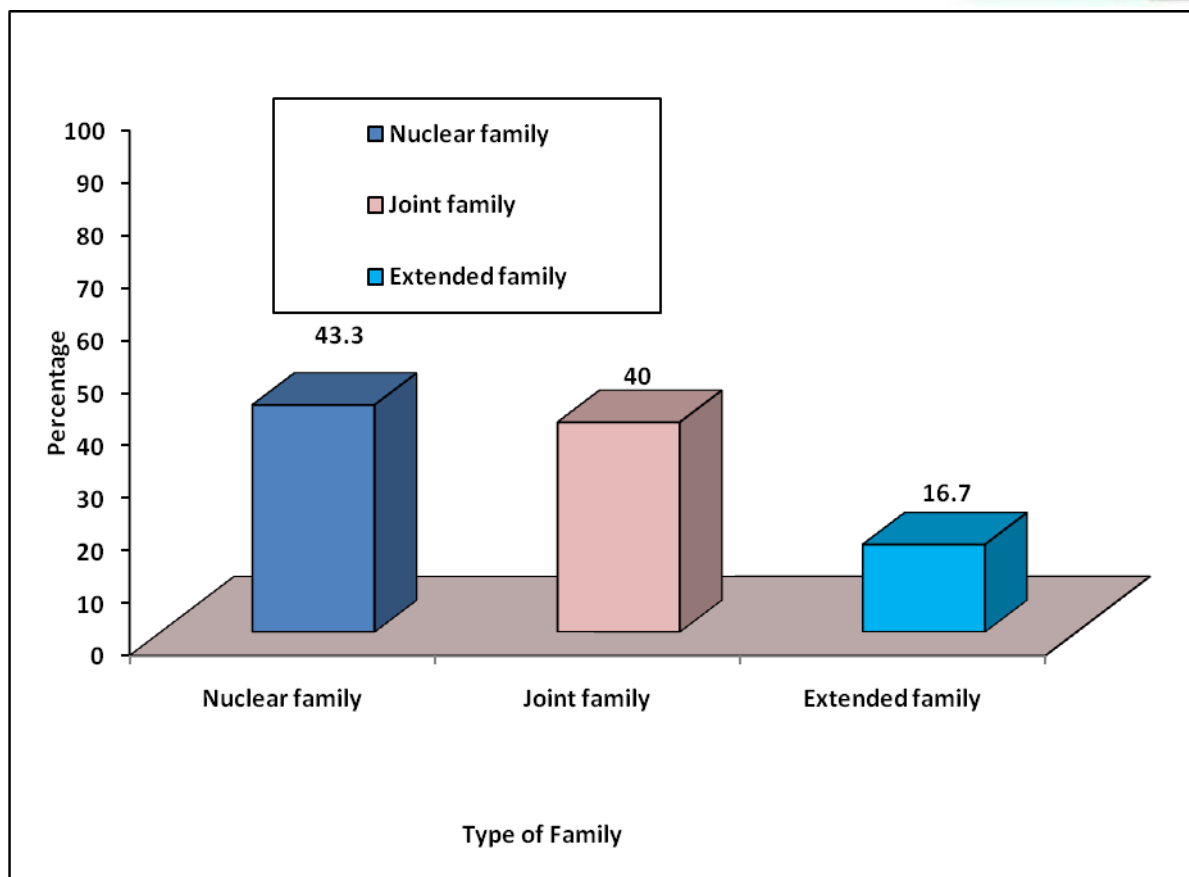
Figure 5 :- Bar diagram showing the percentage distribution of type of family of postnatal mothers.
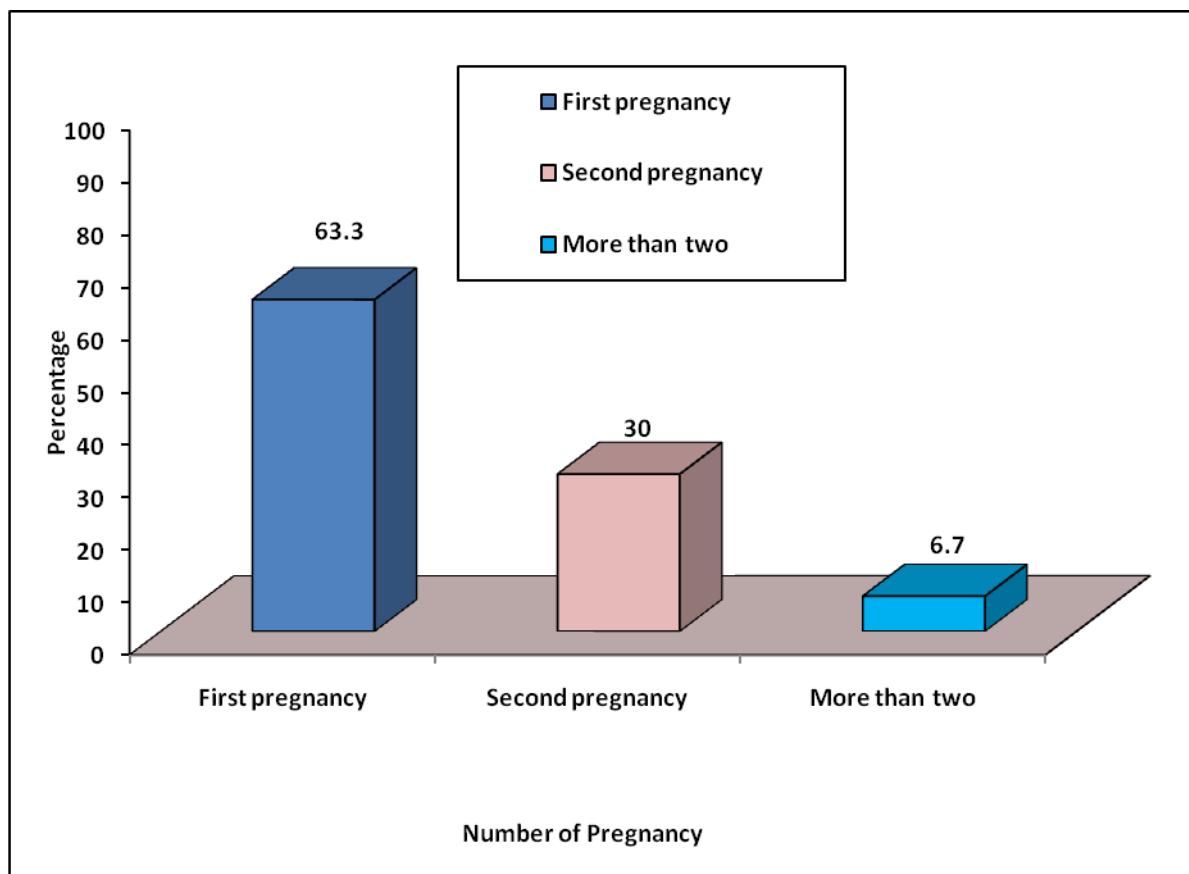

Figure 6 :- Bar diagram showing the percentage distribution of number of pregnancy of postnatal mothers.
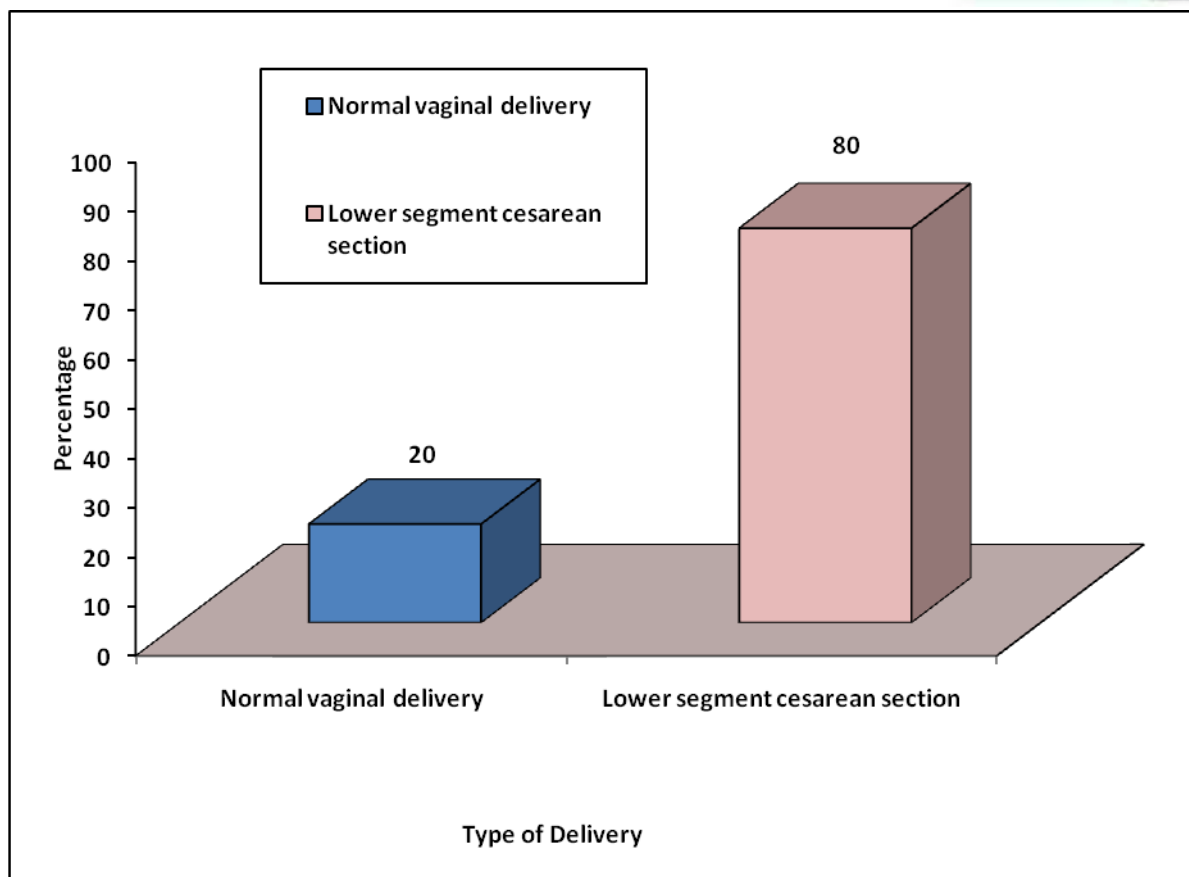
Figure 7 :- Bar diagram showing the percentage distribution of type of delivery of postnatal mothers.
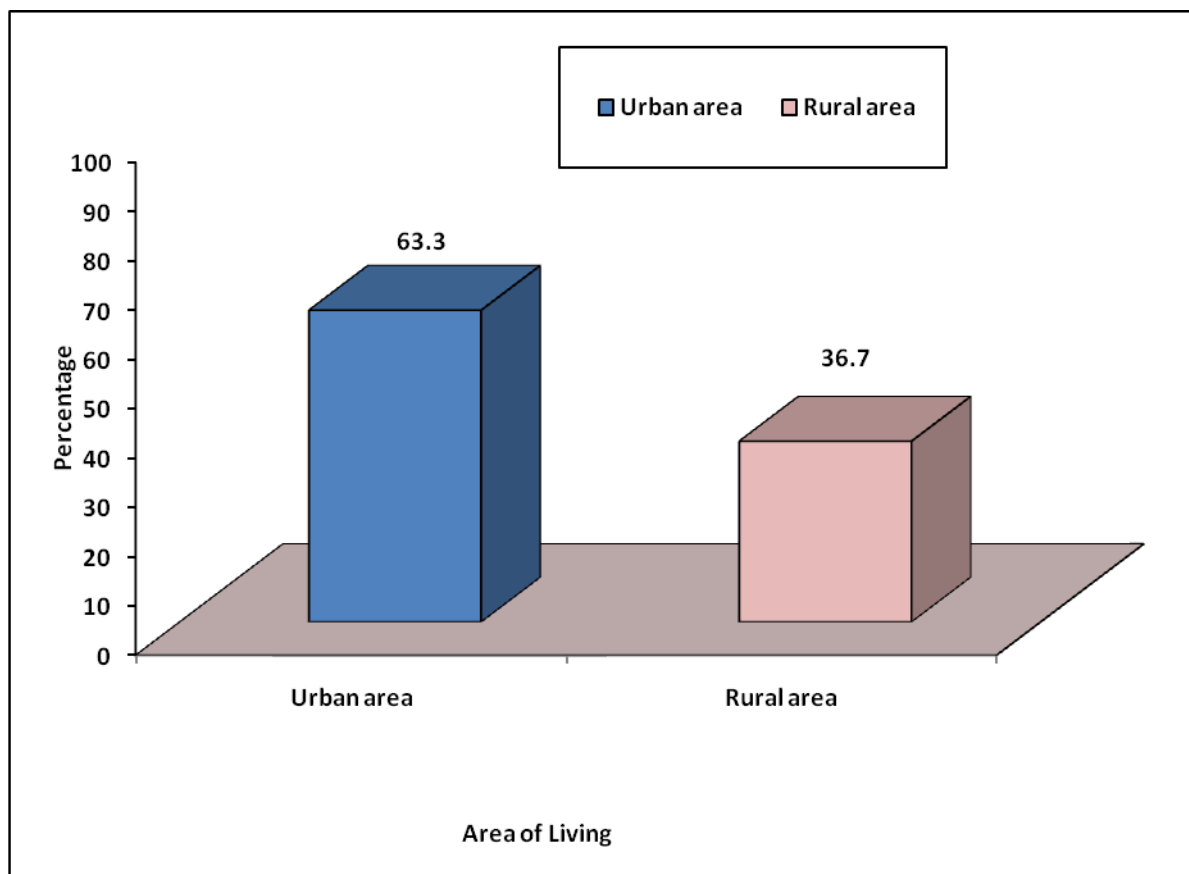

Figure 8 :- Bar diagram showing the percentage distribution of area of living of postnatal mothers.

OBJECTIVE 1
ASSESS THE PRETEST LEVEL OF BREAST ENGORGEMENT AND BREAST FEEDING AMONG THE POSTNATAL MOTHERS.
Table 2: Frequency and percentage distribution of pretest level of breast engorgement among postnatal mothers. N = 30

Level of Breast Engorgement	Frequency	Percentage
No engorgement (1)	0	0
Mild engorgement (2 – 3)	2	6.7
Moderate engorgement (4 – 5)	27	90.0
Severe engorgement (6)	1	3.3

The table.2 shows the pre- test frequency and percentage distribution of level of breast engorgement among postnatal mothers. The pre-test score showed 27(90%) postnatal mothers having moderate engorgement, 2(6.7%) having mild engorgement and 1(3.3%) had severe breast engorgement .

Figure 9 :-Bar diagram showing percentage distribution of pretest level of breast engorgement among postnatal mothers

Table 3: Frequency and percentage distribution of pretest level of pain among postnatal mothers.
N = 30

Level of Pain	Frequency	Percentage
No pain (0)	0	0
Mild pain (1 – 3)	1	3.3
Moderate pain (4 – 6)	22	73.4
Severe pain (7 – 10)	7	23.3

The table.3 shows the pre- test frequency and percentage distribution of level of pain among postnatal mothers. The pre-test score showed 22(73.4%) postnatal mothers having moderate, 1(3.3%) having mild pain and 7(23.3%) had severe pain.
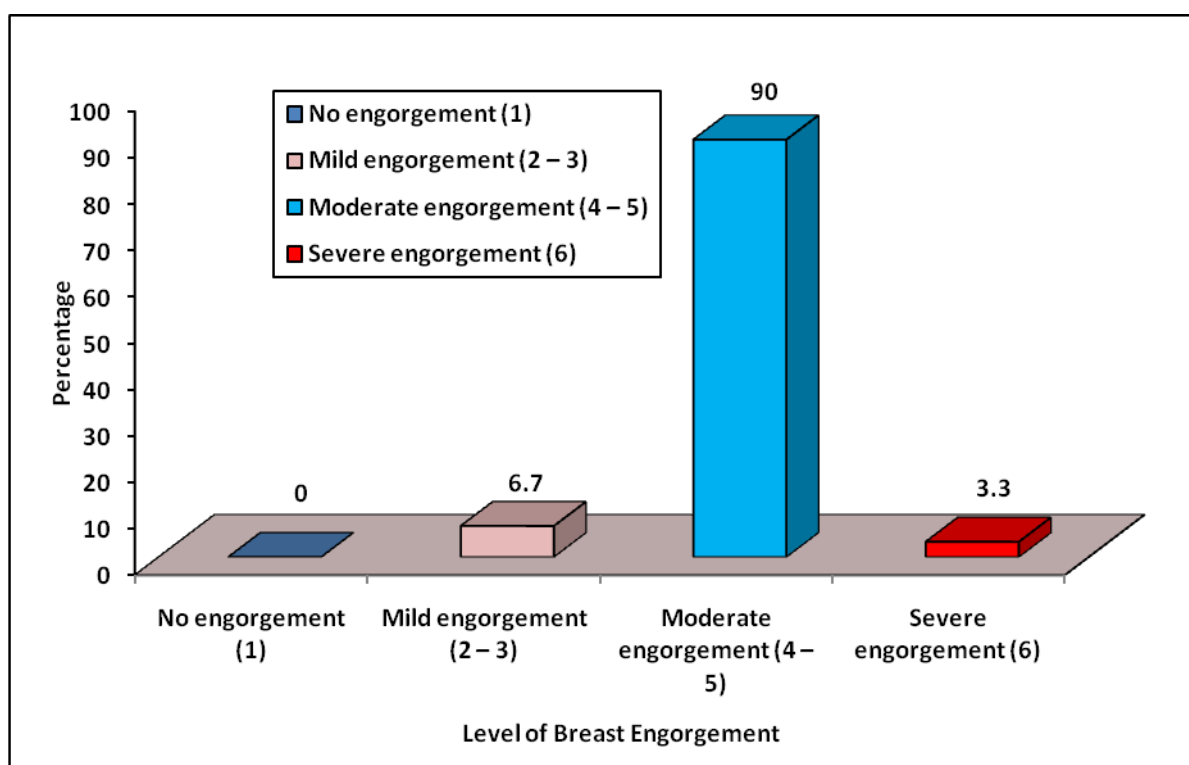
Figure 10:- Bar diagram showing percentage distribution of pretest level of pain among postnatal mothers.

Table 4: Frequency and percentage distribution of pretest level of breast feeding among postnatal mothers.
N = 30

Level of Breast Feeding	Frequency	Percentage
Poor (0 – 3)	14	46.7
Moderate (4 – 7)	16	53.3
High (8 – 10)	0	0

The table.4 shows the pre- test frequency and percentage distribution of level of breast feeding among postnatal mothers. The pre-test score showed 14(46.7%) postnatal mothers having poor level of breast feeding and 16(53.3%) having moderate level of breast feeding.

Figure 11 :- Cone diagram showing percentage distribution of pretest level of breast feeding among postnatal mothers

OBJECTIVE 3
ASSESS THE POSTTEST LEVEL OF BREAST ENGORGEMENT AND BREAST FEEDING AMONG THE POSTNATAL MOTHERS.

Table 5: Frequency and percentage distribution of post test level of breast engorgement among postnatal mothers.
N = 30

Level of Breast Engorgement	Frequency	Percentage
No engorgement (1)	4	13.3
Mild engorgement (2 – 3)	20	66.7
Moderate engorgement (4 – 5)	6	20.0
Severe engorgement (6)	0	0

The table.5 shows the post test frequency and percentage distribution of level of breast engorgement among postnatal mothers. The posttest score showed 20(66.7%) postnatal mothers having mild breast engorgement, 6(20%) having moderate breast engorgement and no engorgement found in 4(13.3%) postnatal mothers.

Figure 12 :-Bar diagram showing percentage distribution of post test level of breast engorgement among postnatal mothers

Table 6: Frequency and percentage distribution of post test level of pain among postnatal mothers.
N = 30

Level of Pain	Frequency	Percentage
No pain (0)	4	13.3
Mild pain (1 – 3)	24	80.0
Moderate pain (4 – 6)	2	6.7
Severe pain (7 – 10)	0	0

The table.6 shows the post test frequency and percentage distribution of level of pain among postnatal mothers. The post test score showed 24(80%) postnatal mothers having mild pain, 2(6.7%) having moderate pain and no pain in 4(13.3%) postnatal mothers.
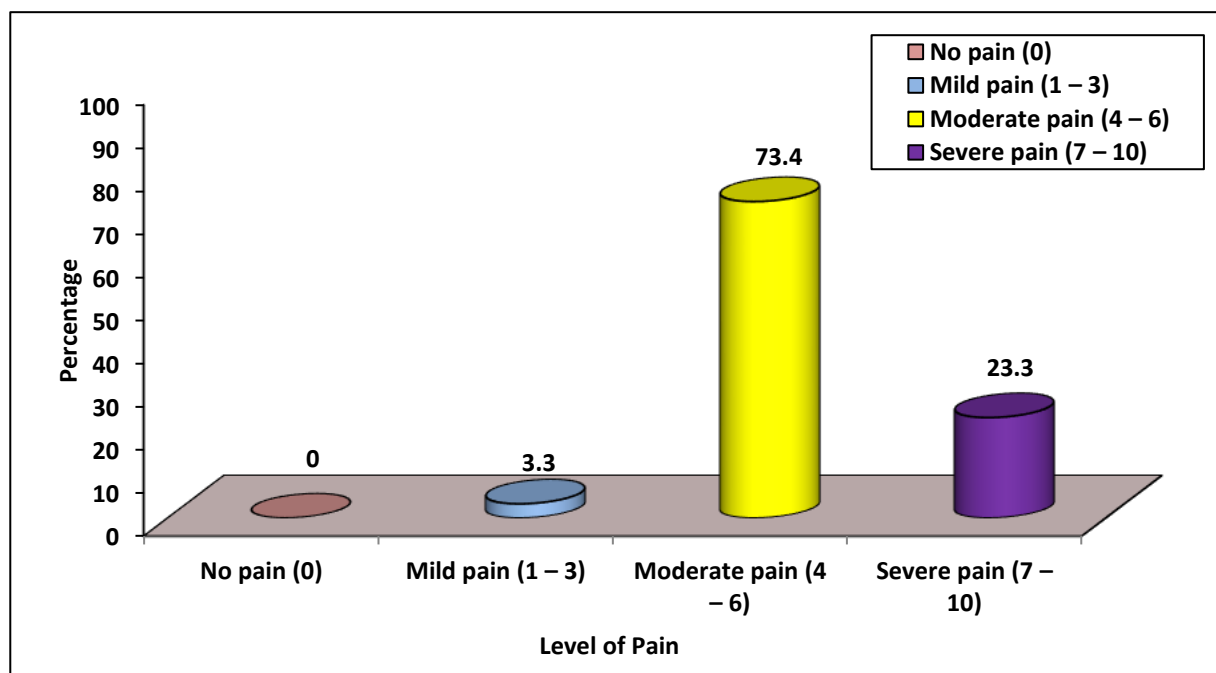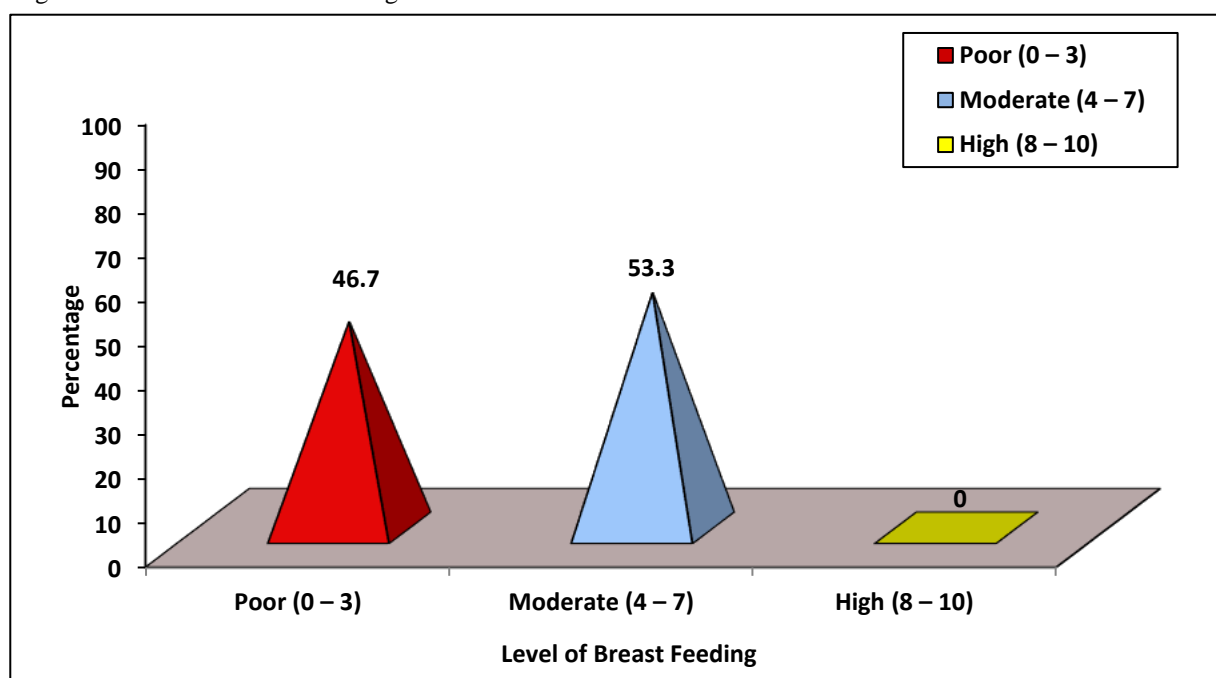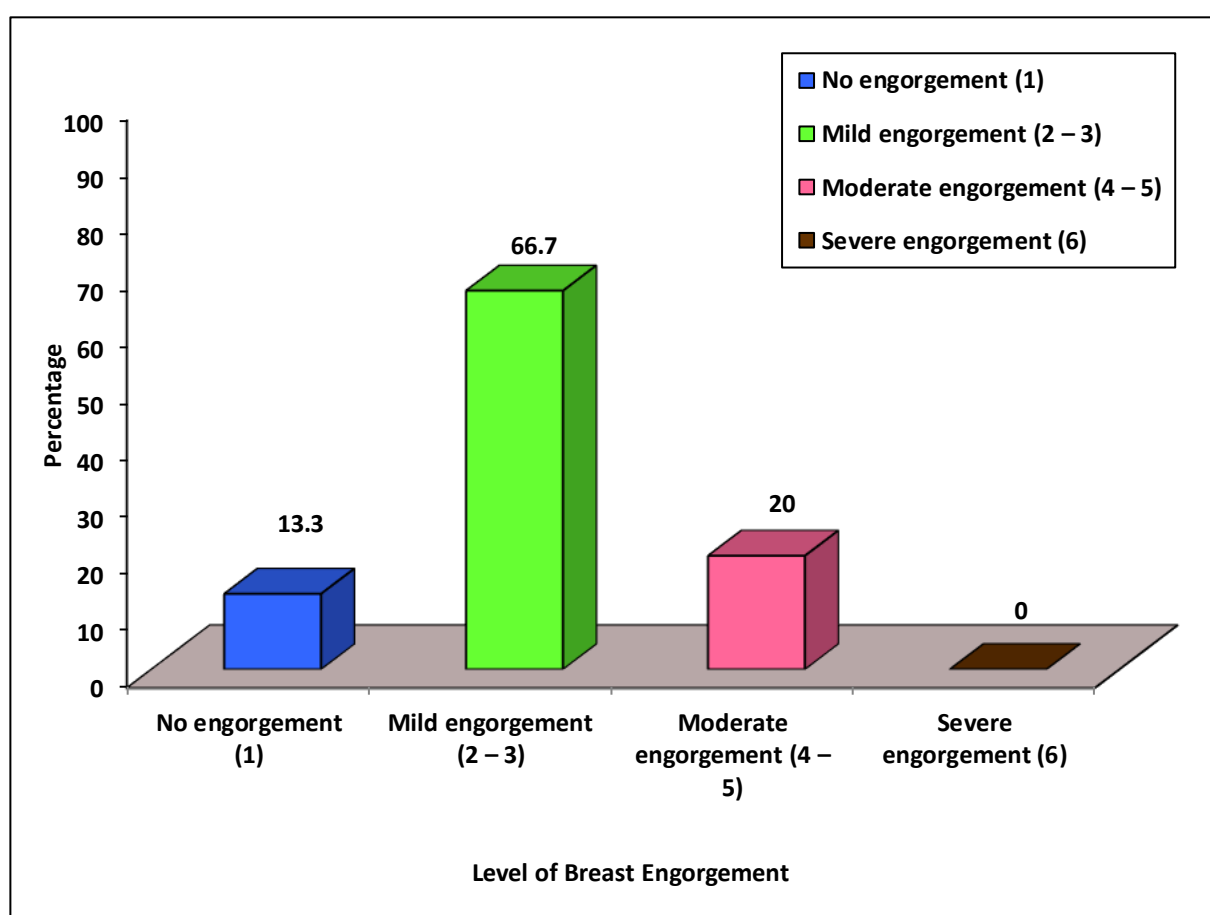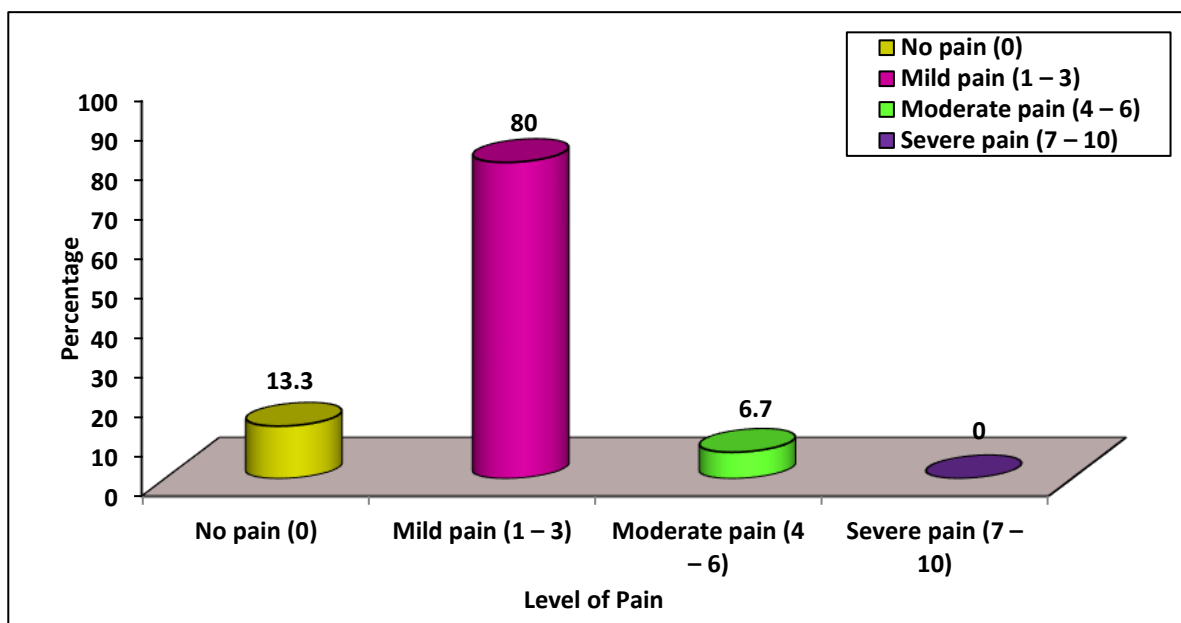
Figure 13 :-Bar diagram showing percentage distribution of post test level of pain among postnatal mothers

Table 7: Frequency and percentage distribution of post test level of breast feeding among postnatal mothers.
N = 30

Level of Breast Feeding	Frequency	Percentage
Poor (0 – 3)	0	0
Moderate (4 – 7)	17	56.7
High (8 – 10)	13	43.3

The table.7 shows the post test frequency and percentage distribution of level of breast feeding among postnatal mothers. The post test score showed 17(56.7%) postnatal mothers having moderate level of breast feeding and 13(43.3%) postnatal mothers having high level of breast feeding.
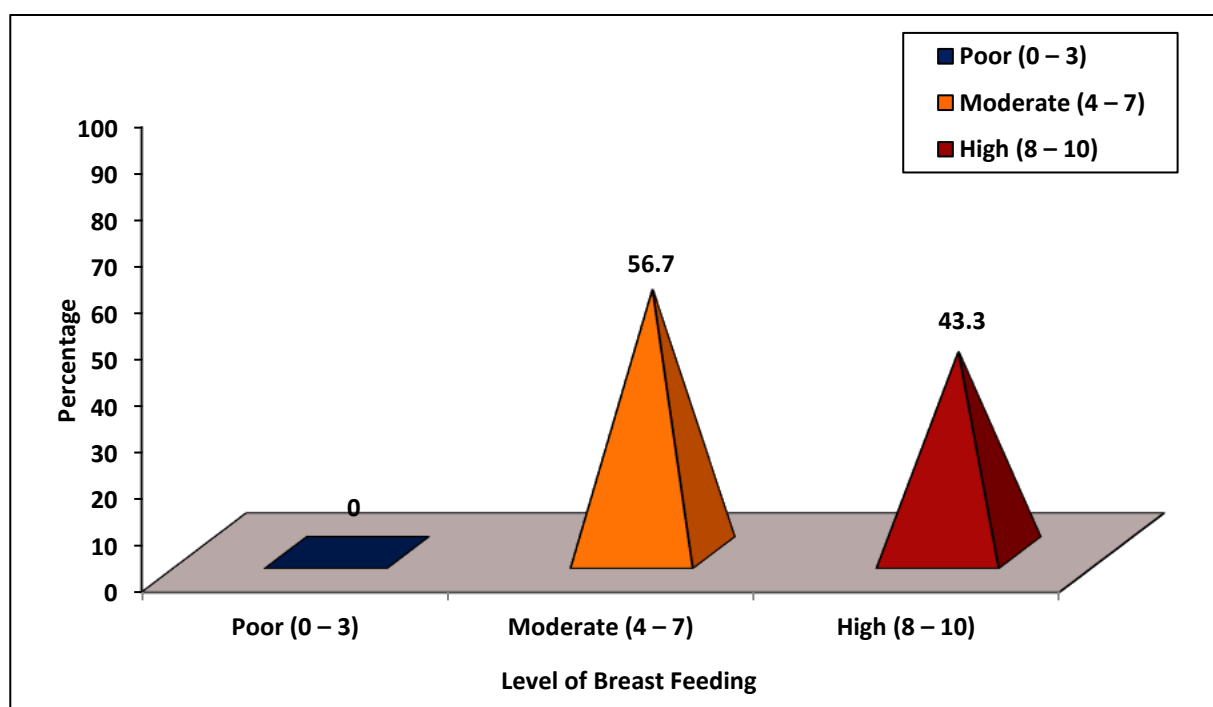

Figure 14 :-Cone diagram showing percentage distribution of post test level of breast feeding among postnatal mothers

OBJECTIVE 4
EVALUATE THE EFFECTIVENESS OF REVERSE PRESSURE SOFTENING TECHNIQUE ON LEVEL OF BREAST ENGORGEMENT AND BREAST FEEDING AMONG THE POSTNATAL MOTHERS BY COMPARING PRETEST AND POSTTEST LEVEL OF BREAST ENGORGEMENT AND BREAST FEEDING.

Table 8: Assessment of the effectiveness of reverse pressure softening technique by Comparison of pretest and post test breast engorgement score among postnatal mothers.

N = 30

Breast Engorgement	Mean	S.D	Mean Difference& %	Paired "t" test & p-value
Pretest	4.50	0.68	1.90	t=9.251
Post Test	2.60	0.96	(31.7%)	p=0.0001, S***

***p<0.001, S – Significant

Table. 8 presents the comparison of pre-test and post-test overall mean score of breast engorgement, standard deviation and its of level of significance.
The mean pre-test score of breast engorgement during the first observation on 2nd day was 4.50.There was decrease in the mean post-test breast engorgement score from the 2nd to 5th day from 4.50 to 2.60.
It is concluded that there was a significant reduction in the mean post test breast engorgement score.

Table 9: Assessment of the effectiveness of reverse pressure softening technique by Comparison of pretest and post test pain score due to breast engorgement among postnatal mothers.

N = 30

Pain	Mean	S.D	Mean Difference & %	Paired "t" test & p-value
Pretest	5.56	1.13	3.20	t=12.524
Post Test	2.36	1.15	(32.0%)	p=0.0001, S***

***p<0.001, S – Significant

Table. 9 presents the comparison of pre-test and post-test overall mean score of pain, standard deviation and its of level of significance.
The mean pre-test score of pain due to engorgement during the first observation on 2nd day was 5.56.There was decrease in the mean post-test breast engorgement score from the 2nd to 5th day from 5.56 to 2.36.
It is concluded that there was a significant reduction in the mean post test pain score

Table 10: Assessment of the effectiveness of reverse pressure softening technique by Comparison of pretest and post test breast feeding score among postnatal mothers.

N = 30

Breast Feeding	Mean	S.D	Mean Difference & %	Paired "t" test & p-value
Pretest	3.86	1.54	3.50	t=10.455
Post Test	7.36	1.18	(35.0%)	p=0.0001, S***

***p<0.001, S – Significant

Table. 10 presents the comparison of pre-test and post-test overall mean score of breast feeding, standard deviation and its of level of significance.
The mean pre-test score of breast feeding during the first observation on 2nd day was 3.86. There was increase in the mean post-test breast feeding score from the 2nd to 5th day from 3.86 to 7.36.
It is concluded that there was a significant improvement in the mean post test breast feeding score.

OBJECTIVE 5
ASSESS THE ASSOCIATION BETWEEN LEVEL OF BREAST ENGORGEMENT AND BREAST FEEDING AMONG POSTNATAL MOTHERS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table 11: Association of pretest level of breast engorgement among postnatal mothers with selected demographic variables.

N = 30

Demographic Variables	Mild		Moderate		Severe		Chi-Square & p-value
	F	%	F	%	F	%	
Age							χ^2=31.403
20 – 24 years	1	3.3	9	30.0	0	0	d.f=6
25 – 29 years	1	3.3	7	23.3	0	0	p=0.0001
30 – 34 years	0	0	0	0	1	3.3	S***

Demographic Variables	Mild		Moderate		Severe		Chi-Square & p-value
	F	%	F	%	F	%	
35 years and above	0	0	10	33.3	0	0	
Educational status							χ^2=5.107 d.f=6 p=0.530 N.S
Matriculation	1	3.3	8	26.7	0	0	
Intermediate	1	3.3	10	33.3	0	0	
Graduate	0	0	5	16.7	1	3.3	
Illiterate	0	0	4	13.3	0	0	
Monthly income							χ^2=8.569 d.f=6 p=0.199 N.S
Rs.5000/- to Rs.10000/-	0	0	7	23.3	0	0	
Rs.11000/- to Rs.15000/-	1	3.3	7	23.3	0	0	
Rs.16000/- to Rs.20000/-	0	0	10	33.3	0	0	
More than Rs.21000/-	1	3.3	3	10.0	1	3.3	
Social support							χ^2=9.619 d.f=6 p=0.142 N.S
Maternal family	1	3.3	12	40.0	0	0	
In-Laws	1	3.3	11	36.7	0	0	
Husband	0	0	2	6.7	1	3.3	
Friends	0	0	2	6.7	0	0	
Type of family							χ^2=3.625 d.f=4 p=0.459 N.S
Nuclear family	0	0	12	40.0	1	3.3	
Joint family	1	3.3	11	36.7	0	0	
Extended family	1	3.3	4	13.3	0	0	
Number of pregnancy							χ^2=10.216 d.f=4 p=0.037 S*
First pregnancy	0	0	19	63.3	0	0	
Second pregnancy	1	3.3	7	23.3	1	3.3	
More than two	1	3.3	1	3.3	0	0	
Type of delivery							χ^2=8.704 d.f=2 p=0.013 S*
Normal vaginal delivery	2	6.7	4	13.3	0	0	
Lower segment cesarean section	0	0	23	76.7	1	3.3	
Area of living							χ^2=0.734 d.f=2 p=0.693 N.S
Urban area	1	3.3	17	56.7	1	3.3	
Rural area	1	3.3	10	33.3	0	0	

*p<0.05, S – Significant, N.S – Not Significant

Table 11 shows the Chi-Square analysis, which was used to bring out the association between the pre test level of breast engorgement among postnatal mothers with their selected demographic variables

With regard to age, the obtained x^2 value 31.403 at df=6 , which was statistically significant at P<0.05 level. Hence it was inferred that there was statistically significant association between age and level of breast engorgement among postnatal mothers.

With regard to educational status, the obtained x^2 value 5.107 at df=6 , which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between educational status and level of breast engorgement among postnatal mothers.

With regard to monthly income, the obtained x^2 value 8.569 at df=6 , which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between monthly income and level of breast engorgement among postnatal mothers.

With regard to social support, the obtained x^2 value 9.619 at df=6 , which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between social support and level of breast engorgement among postnatal mothers.

With regard to type of family, the obtained x^2 value 3.625 at df=4 , which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between type of family and level of breast engorgement among postnatal mothers.

With regard to number of pregnancy, the obtained x^2 value 10.216 at df=4 , which was statistically significant at P<0.05 level. Hence it was inferred that there was statistically significant association between number of pregnancy and level of breast engorgement among postnatal mothers.

With regard to type of delivery, the obtained x^2 value 8.704 at df=2, which was statistically significant at P<0.05 level. Hence it was inferred that there was statistically significant association between type of delivery and level of breast engorgement among postnatal mothers.

With regard to area of living, the obtained x^2 value 0.734 at df=2, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between area of living and level of breast

engorgement among postnatal mothers.

Table 12: Association of pretest level of pain due to breast engorgement among postnatal mothers with selected demographic variables.

N = 30

Demographic Variables	Mild		Moderate		Severe		Chi-Square & p-value
	F	%	F	%	F	%	
Age							χ^2=14.221 d.f=6 p=0.027 S*
20 – 24 years	1	3.3	5	16.7	4	13.3	
25 – 29 years	0	0	8	26.7	0	0	
30 – 34 years	0	0	0	0	1	3.3	
35 years and above	0	0	9	30.0	2	6.7	
Educational status							χ^2=4.826 d.f=6 p=0.566 N.S
Matriculation	1	3.3	5	16.7	3	10.0	
Intermediate	0	0	10	33.3	1	3.3	
Graduate	0	0	4	13.3	2	6.7	
Illiterate	0	0	3	10.0	1	3.3	
Monthly income							χ^2=4.586 d.f=6 p=0.598 N.S
Rs.5000/- to Rs.10000/-	0	0	6	20.0	1	3.3	
Rs.11000/- to Rs.15000/-	1	3.3	4	13.3	3	10.0	
Rs.16000/- to Rs.20000/-	0	0	8	26.7	2	6.7	
More than Rs.21000/-	0	0	4	13.3	1	3.3	
Social support							χ^2=4.474 d.f=6 p=0.613 N.S
Maternal family	1	3.3	8	26.7	4	13.3	
In-Laws	0	0	11	36.7	1	3.3	
Husband	0	0	2	6.7	1	3.3	
Friends	0	0	1	3.3	1	3.3	
Type of family							χ^2=5.300 d.f=4 p=0.258 N.S
Nuclear family	1	3.3	7	23.3	5	16.7	
Joint family	0	0	10	33.3	2	6.7	
Extended family	0	0	5	16.7	0	0	
Number of pregnancy							χ^2=9.700 d.f=4 p=0.046 S*
First pregnancy	1	3.3	17	56.7	1	3.3	
Second pregnancy	0	0	4	13.3	5	16.7	
More than two	0	0	1	3.3	1	3.3	
Type of delivery							χ^2=2.727 d.f=2 p=0.256 N.S
Normal vaginal delivery	0	0	6	20.0	0	0	
Lower segment cesarean section	1	3.3	16	53.3	7	23.3	
Area of living							χ^2=3.408 d.f=2 p=0.182 N.S
Urban area	0	0	13	43.3	6	20.0	
Rural area	1	3.3	9	30.0	1	3.3	

*p<0.05, S – Significant, N.S – Not Significant

Table 12 shows the Chi-Square analysis, which was used to bring out the association between the pre test level of pain due to breast engorgement among postnatal mothers with their selected demographic variables

With regard to age, the obtained x^2 value 14.221at df=6 , which was statistically significant at P<0.05 level. Hence it was inferred that there was statistically significant association between age and level of pain due to breast engorgement among postnatal mothers.

With regard to educational status, the obtained x^2 value 4.826 at df=6, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between educational status and level of pain due to breast engorgement among postnatal mothers.

With regard to monthly income, the obtained x^2 value 4.586 at df=6, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between monthly income and level of pain due to breast engorgement among postnatal mothers.

With regard to social support, the obtained x^2 value 4.474 at df=6, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between social support and level of pain due to breast engorgement among postnatal mothers.

With regard to type of family, the obtained x^2 value 5.300 at df=4, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between type of family and level of

pain due to breast engorgement among postnatal mothers.

With regard to number of pregnancy, the obtained x^2 value 9.700 at df=4, which was statistically significant at P<0.05 level. Hence it was inferred that there was statistically significant association between number of pregnancy and level of pain due to breast engorgement among postnatal mothers.

With regard to type of delivery, the obtained x^2 value 2.727 at df=2 , which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between type of delivery and level of pain due to breast engorgement among postnatal mothers.

With regard to area of living, the obtained x^2 value 3.408 at df=2, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between area of living and level of pain due to breast engorgement among postnatal mothers.

Table 13: Association of pretest level of breast feeding among postnatal mothers with selected demographic variables.

N = 30

Demographic Variables	Poor		Moderate		Chi-Square & p-value
	F	%	F	%	
Age					χ^2=4.688 d.f=3 p=0.196 N.S
20 – 24 years	6	20.0	4	13.3	
25 – 29 years	2	6.7	6	20.0	
30 – 34 years	0	0	2	6.7	
35 years and above	0	0	4	13.3	
Educational status					χ^2=2.362 d.f=3 p=0.501 N.S
Matriculation	6	20.0	3	10.0	
Intermediate	4	13.3	7	23.3	
Graduate	2	6.7	4	13.3	
Illiterate	2	6.7	2	6.7	
Monthly income					χ^2=3.827 d.f=3 p=0.281 N.S
Rs.5000/- to Rs.10000/-	3	10.0	4	13.3	
Rs.11000/- to Rs.15000/-	6	20.0	2	6.7	
Rs.16000/- to Rs.20000/-	3	10.0	7	23.3	
More than Rs.21000/-	2	6.7	3	10.0	
Social support					χ^2=1.617 d.f=3 p=0.655 N.S
Maternal family	7	23.3	6	20.0	
In-Laws	4	13.3	8	26.7	
Husband	2	6.7	1	3.3	
Friends	1	3.3	1	3.3	
Type of family					χ^2=2.086 d.f=2 p=0.352 N.S
Nuclear family	6	20.0	7	23.3	
Joint family	7	23.3	5	16.7	
Extended family	1	3.3	4	13.3	
Number of pregnancy					χ^2=2.932 d.f=2 p=0.231 N.S
First pregnancy	9	30.0	10	33.3	
Second pregnancy	3	10.0	6	20.0	
More than two	2	6.7	0	0	
Type of delivery					χ^2=0.033 d.f=1 p=0.855 N.S
Normal vaginal delivery	3	10.0	3	10.0	
Lower segment cesarean section	11	36.7	13	43.3	
Area of living					χ^2=0.433 d.f=1 p=0.510 N.S
Urban area	8	26.7	11	36.6	
Rural area	6	20.0	5	16.7	

N.S – Not Significant

Table 13 shows the Chi-Square analysis, which was used to bring out the association between the pre test level of breast feeding among postnatal mothers with their selected demographic variables

With regard to age, the obtained x^2 value 4.688 at df=3 , which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between age and level of breast feeding among postnatal mothers.

With regard to educational status, the obtained x^2 value 2.362 at df=3, which was not statistically significant at P<0.05

level. Hence it was inferred that there was no statistically significant association between educational status and level of breast feeding among postnatal mothers.

With regard to monthly income, the obtained x^2 value 3.827 at df=3, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between monthly income and level of breast feeding among postnatal mothers.

With regard to social support, the obtained x^2 value 1.617 at df=3, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between social support and level of breast feeding among postnatal mothers.

With regard to type of family, the obtained x^2 value 2.086 at df=2, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between type of family and level of breast feeding among postnatal mothers.

With regard to number of pregnancy, the obtained x^2 value 2.932 at df=2, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between number of pregnancy and level of breast feeding among postnatal mothers.

With regard to type of delivery, the obtained x^2 value 0.033 at df=1 , which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between type of delivery and level of breast feeding among postnatal mothers.

With regard to area of living, the obtained x^2 value 0.433 at df=1, which was not statistically significant at P<0.05 level. Hence it was inferred that there was no statistically significant association between area of living and level of breast feeding among postnatal mothers.

CONCLUSION

The aim of the present study is to evaluate the effectiveness of the Reverse Pressure Softening (RPS) technique on breast engorgement and breastfeeding among the postnatal mothers in selected hospitals at Bhopal (M.P.).

With regard to level of breast engorgement the study findings revealed that there is significant difference in the mean pre-test and post-test values by the obtained t-value 9.251 which is statistically significant at p<0.001. Hence the hypothesis H1 are accepted.

With regard to level of pain due to breast engorgement the study findings revealed that there is significant difference in the mean pre-test and post-test values by the obtained t-value 12.524 which is statistically significant at p<0.001. Hence the hypothesis H1&H2are accepted.

With regard to level of breast feeding the study findings revealed that there is significant difference in the mean pre-test and post-test values by the obtained t-value 10.455 which is statistically significant at p<0.001. Hence the hypothesis H1 & H2 are accepted.

Pre test association of level of breast engorgement and breast feeding in showed that there is statistically significant association between the level of breast engorgement and their selected demographic variables. Hence the hypothesis H3 is accepted.

DISCUSSION

The above findings were consistent with the findings of the another study conducted by **Amal F. Mohammed and Nabaweya S. Shehata (2020)** to evaluate the effectiveness of evaluate the instructional module's effectiveness on breast problems among post-cesarean section mothers. The sample size consisted of 100 women who were selected by using purposive sampling technique. The pretest findings revealed that 30(30%) had breast engorgement and the post test level showed decrease in the breast engorgement rate of 6(6%).8

The above findings were consistent with the findings of the study conducted by **Mounika M, Kalabarathi S, Padmapriya D (2022)** to determine the effectiveness of reverse pressure softening technique on level of breast engorgement among postpartum mothers. A true experimental research with pre and post test control group was adopted in this study and the study was conducted in Saveetha Medical College And Hospitals. Based on the inclusion criteria 60 postpartum mothers (Experimental – 30, Control – 30) were recruited using purposive sampling by using lottery method. Reverse pressure softening technique was administered for the duration of 10 minutes divided in two sessions both morning and evening for about 3 days. The findings revealed that the mean difference score in the experimental group was 1.24 and the calculated t test value of t = 6.495 was found to be statistically significant at p< 0.0001 level which depicted clearly that, there was a significant decrease in the level of breast engorgement after circulation of reverse pressure softening technique among post partum mothers in the experimental group.9

The above findings were consistent with the findings of the study conducted by **Akansha Massey (2022)** to assess the efficacy of Reverse Pressure Softening Technique among postnatal mothers in selected hospitals at Kanpur. A quasi experimental pre-test post test control group design was adopted in this study. 100 postnatal mothers who had undergone caesarean section was selected as sample for this study. The study findings revealed that there is a significant difference between the mean values from the pre-test and the post-test in terms of the degree of breast engorgement. This is shown by the t-values of 4.22 and 17.21, which are statistically significant at the p<0.05 level. The findings

of the study showed that there was a significant difference between the mean values before and after breastfeeding. This was shown by the t-values, which were 0.88 and 4.39, respectively, which are statistically significant at the $p<0.05$ level. The findings of the study demonstrated that the intervention technique known as reverse pressure softening (RPS) is effective.[10]

IMPLICATIONS

Nursing implications include specific suggestions in nursing practice nursing education, nursing administration and nursing research. In order to prevent newborn mortality and morbidity, breast engorgement, and breast cancer, health professionals, especially maternity nurses, play a crucial role in encouraging and supporting postpartum mothers to exclusively breastfeed their infants.

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