RESULTS

The result of this study will be presented under the following headings:-

Part (I): General characteristics of women such as (age, education, and occupation …….etc), table (1, 2)

Part (II): Utilization of antenatal care services during their pregnancy. Table (3)

Part (III): Assessing studied sample knowledge about breast feeding & breast engorgement; it included importance of breast feeding, table (4-7).

Part (IV): Assessing technique of breastfeeding practiced by subjects such as (initiation of breast feeding, position, number & frequency of feeding, nipple withdrawal …etc), table (8).

Part (V): Distribution of subjects according signs & symptoms of their breast engorgement throughout follow up visits, table (9- 12).

Part (VI): Distribution of subjects according to complete recovery from signs & symptoms of breast engorgement throughout follow up visits, table (13).

Part (VII): Relationship between degree of breast engorgement of the studied women in two groups and their general characteristics, table (14).

Relationship between degree of breast engorgement of the studied women in two groups and their antenatal follow up & Practices (technique) of breast feeding , table (15,16).

Part (VIII): Relationship between recovery from breast engorgement of the studied women in two groups and their general characteristics, table (17, - 21).

Part (I): General Characteristics and Family History of the Sample.

Table (1): Distribution of the Samples According To Their General Characteristics.

Variables	Sample groups				T & X^2 Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Age(in years)					
▪ <20	14	31.1	12	26.7	
▪ 20-	14	31.1	20	44.4	
▪ 25-	8	17.8	10	22.2	T= 1. 08
▪ 30-40	9	20	3	6.7	
Mean X⁻ ± SD	**23.9 ± 6.6**		**22.6. ± 4.9**		
Education:					
▪ Illiteracy	4	8.9	7	15.6	
▪ Read & write + Basic education	10	22.2	14	31.1	X^2 =3.3
▪ Secondary equivalent education	22	48.9	14	31.1	
▪ University education	9	20	10	22.2	
Occupation:					
▪ Working	13	28.9	9	20	X^2 =1.0
▪ Housewife	32	71.1	36	80	
Age of Marriage:					
▪ < 20years	27	60	31	68.9	T = 0.89
▪ ≥ 20 years	18	40	14	31.1	
Mean X⁻ ± SD	**22.2 ± 6.4**		**21.04 ± 6.1**		
Duration of Marriage:					
▪ ≤5 years	18	40	14	31.1	X^2 =0.8
▪ >5 years	27	60	31	68.9	
Mean X⁻ ± SD	**5.8 ± 2.8**		**2.3 ± 3.3**		

*Significant, P < 0.05

Table 1 illustrates the distribution of the study subjects according to their general characteristics. It was found that, the mean age was 23.3 ± 5.8 and the mean age of marriage was 21.6 ± 6.3.Concerning their level of education, it was clear that 8.9% of the studied subjects and 15.6% of the control group were illiterate. Those who had secondary or equivalent secondary education constituted 48.9% of the study group and 31.1% of the control group. The majority of both the study & control groups (71.1% & 80%) were housewives.

Table (2): Distribution of the Samples According To Their Family History.

Variables	Sample groups				X² Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Residence:					
▪ Urban	22	48.9	21	46.6	**0.04**
▪ Rural	23	51.1	24	53.4	
Types of Family:					
▪ Extended Family	23	51.1	23	51.1	**identical**
▪ Nuclear Family	22	48.9	22	48.9	
Family Size:					**0.18**
▪ 3- 5	21	46.7	23	51.1	
▪ > 5	24	53.3	22	48.9	
Mean X̄ ± SD	**6.1 ± 2.01**		**5.95 ± 2.02**		
Family Income:					
▪ Unsatisfied(not enough)	29	64.4	23	51.1	
▪ Just enough(enough for living only)	12	26.7	18	40	**2.0**
▪ Satisfy (enough & can save from it)	4	8.9	4	8.9	

*Significant, P < 0.05

This table shows that (51.1% & 53.4%) of both study & control group, respectively, were from rural areas. Considering the type of family, it was observed that similar proportion (51.1%) of both study & control subjects had extended family. In relation to family income, it was observed from the same table that (64.4%) of the study group and (51.1%) of the control group didn't have enough family income. While a minority of both groups (8.9%) were had more than enough for their need.

Part (II): Utilization of Antenatal Care Services during Their Pregnancy.

Table (3): Distribution of the Samples According To Their Follow up Antenatal Care.

Variables	Sample groups				X^2 Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Follow Up Antenatal Care:					**1.4**
▪ Yes	16	35.6	11	24.4	
▪ No	29	64.4	34	75.6	
Reasons For not Seeking Antenatal Care					
Lack of awareness about antenatal care services	13	44.8	16	47.1	
Lack of money (Financial factor)	20	69	24	70.6	
Have no decision making power	25	86.2	28	82.3	-
Waist of time (Long waiting & over crowding center)	5	17.2	6	17.3	
Difficult transportation	19	65.6	23	67.6	
For high risk cases only& Absence of health problems	10	34.5	13	38.2	
Number Of Antenatal Visit:					**2.7**
▪ Non	29	64.4	34	75.5	
▪ < 4 time	8	17.8	8	17.8	
▪ ≥ 4 time	8	17.8	3	6.7	
Breast Preparation During Pregnancy:					**6.4***
▪ Yes	0	0	0	0	
▪ No	45	100	45	100	
Is Woman Received Knowledge About Breast Feeding , Care & Problem Associated With Breast Feeding:					**6.2***
▪ Yes	6	13.3	1	2.2	
▪ No	39	86.7	44	97.8	

*Significant, P < 0.05

As shown in this table, (82.2%) & (93.3) of the study &control group, respectively, did not have or had less than 4 visits for follow-up during their pregnancy. Neither study nor control group performed breast preparation during their pregnancy. Moreover, a sizable proportion of the subject in both groups (86.7% & 97.8%) did not receive any information about breastfeeding and breast care and problems associated with breastfeeding during antenatal follow up visits.

Part (III): *Women's Knowledge About Importance & Practices Of Breast Feeding & Breast Engorgement And Their Sources Of Information.*

Table (4): Distribution of the Samples According To Their Knowledge about the Importance of Breast Feeding.

knowledge	Sample groups				T Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Importance Of Breast Feeding For Infant :					
▪ **Complete & Correct**	9	20	7	15.6	
▪ **Incomplete &Correct**	22	48.9	28	62.2	**4.3** *
▪ **Don't Know & incorrect**	14	31.1	10	22.2	
Mean X⁻ ± SD	**1.9 ± 0.7**		**1.3 ± 0.6**		
Importance Of Breast Feeding For Mother :					
▪ **Complete & Correct**	5	11.1	4	8.9	
▪ **Incomplete &Correct**	17	37.8	27	60	**1.4**
▪ **Don't Know & incorrect**	23	51.1	14	31.1	
Mean X⁻ ± SD	**1.6 ± 0.7**		**1.8 ± 0.6**		
Importance Of Breast Feeding For Society:					
▪ **Complete & Correct**	3	6.7	1	2.2	
▪ **Incomplete &Correct**	13	28.9	1	2.2	**0.11**
▪ **Don't Know & incorrect**	29	64.4	43	95.6	
Mean X⁻ ± SD	**1.6 ± 0.6**		**1.07 ± 0.3**		
Importance Of Colostrums Milk :					
▪ **Complete & Correct**	11	24.5	15	33.3	
▪ **Incomplete &Correct**	33	73.3	30	66.7	**0.9**
▪ **Don't Know & incorrect**	1	2.2	0	0.0	
Mean X⁻ ± SD	**2.2 ± 0.5**		**2.3 ±0.5**		

*Significant, P < 0.05

It was found that (51.1%) of the study & (31.1%) of the control group had no information about benefits of breast feeding for the mother. (64.4%) & (95.6%) of both study & control group, respectively, had incorrect information about benefits of breast feeding for the society.

Table (5): Distribution of the Samples According To Their Knowledge about the Component, Technique of Breast Feeding & Infant Hunger & Satiety Cues.

Knowledge	Sample groups				T Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Components Of Breast Milk :					
▪ Complete & Correct	11	24.4	12	26.7	**0.10**
▪ Incomplete &Correct	16	35.6	19	42.2	
▪ Don't Know & incorrect	18	40	14	31.1	
Mean X⁻ ± SD	1.84 ± 0.8		1.96 ± o.8		
Steps Of Breast Feeding:					
▪ Complete & Correct	0	0.0	0	0.0	**3.3**
▪ Incomplete &Correct	28	62.2	39	86.7	
▪ Don't Know & incorrect	17	37.8	6	13.3	
Mean X⁻ ± SD	1.62 ± o.5		1.9 ± o.3		
Factors That Affect On Breasts Milk Flow :					
▪ Complete & Correct	3	6.7	3	6.7	**0.10**
▪ Incomplete &Correct	24	53.3	35	77.8	
▪ Don't Know & incorrect	18	40	7	15.5	
Mean X⁻ ± SD	1.7 ± 0.6		1.8 ± 0.5		

*Significant, P < 0.05

Table 5 presents distribution of the samples according to their knowledge about the component, technique of breast feeding & infant hunger & satiety cues. Regarding women's knowledge about the component of breast milk, it was found that (40%) of the study & (31.1%) of the control group had no or incorrect information about it. In worth mentioning that most of both study (62.2%) & control (86.7%) group know correct but incomplete steps for breast feeding.

Continue table (5): Distribution of the Samples According To Their Knowledge about the Component, Technique of Breast Feeding & Infant Hunger & Satiety Cues.

Knowledge	Sample groups				T Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Different Suitable Positions For Infant Breasts Feeding :					-
▪ Complete & Correct	1	2.2	2	4.4	
▪ Incomplete &Correct	32	71.1	33	73.4	
▪ Don't Know & incorrect	12	26.7	10	22.2	
Mean X⁻ ± SD	1.8 ± 0.5		1.8± 0.5		
Indicators Of Their Infant Hunger Cues :					**0.02**
▪ Complete & Correct	2	4.4	1	2.2	
▪ Incomplete &Correct	27	60	29	64.5	
▪ Don't Know & incorrect	16	35.6	15	33.3	
Mean X⁻ ± SD	1.7 ± 0.6		1.68 ± 0.5		
Standard Measured That Infant Get All Needed Of Breast Milk (Infant Satiety Cues) :					**1.2**
▪ Complete & Correct	0	0.0	0	0.0	
▪ Incomplete &Correct	16	35.6	24	53.3	
▪ Don't Know & incorrect	29	64.4	21	46.7	
Mean X⁻ ± SD	1.4 ± 0.5		1.53 ± 0.5		

*Significant, P < 0.05

As regard women's knowledge about suitable positions for breast feeding , it was observed that, Only 2.2% & 4.4% of the study & control group, respectively, know the right positioning for breast feeding. Considering the mother's knowledge for infant hunger and satiety cues, it is observed that only 4.4% of the study and 2.2% of the control group had complete knowledge about infant hunger cues, furthermore, and no one from both groups had complete correct answer about infant satiety cues.

Table (6): Distribution of the Samples According To Their Knowledge about the Breasts Engorgement.

Knowledge	Sample groups				T Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Breast's engorgement is a one of the problems associated with Breast Feeding					1.3
▪ Yes	28	62.2	37	82.2	
▪ No	17	37.8	8	17.8	
Mean X⁻ ± SD	**1.6 ± 0.5**		**1.8 ± 0.4**		
Definition of Breast engorgement:					1.2
▪ Correct answer	19	42.2	22	48.9	
▪ In correct answer	26	57.8	23	51.1	
Mean X⁻ ± SD	**1.4 ± 0.5**		**1.5 ± 0.5**		
Causes of Breast engorgement:					1.8
▪ Complete & Correct	0	0.0	1	2.2	
▪ Incomplete &Correct	21	46.7	26	57.8	
▪ Don't Know & incorrect	24	53.3	18	40.0	
Mean X⁻ ± SD	**1.4 ± 0.5**		**1.6 ± 0.5**		
Symptoms of Breast engorgement:					0.9
▪ Complete & Correct	0	0.0	1	2.2	
▪ Incomplete &Correct	22	48.9	30	66.7	
▪ Don't Know & incorrect	23	51.1	14	31.1	
Mean X⁻ ± SD	**1.5 ± 0.5**		**1.6 ± 0.5**		

*Significant, P < 0.05

This table presents distribution of the samples according to their knowledge about the breast engorgement. It was found that, although the proportional percentage for the study sample (62.2 %) and control group (82.2%) know that breasts engorgement is considered one of the most serious problems which interfere with breast feeding, (53.3%) form the study sample & (40 %) from control group did not know about the causes of it. Satisfactory percentage (48.9% & 66.7%) of the study & control group, respectively, reported correct but incomplete answer regarding signs & symptoms of breasts engorgement.

Continue table (6): Distribution of the Samples According To Their Knowledge about the Breasts Engorgement.

Knowledge	Sample groups				T Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Complications of Breast engorgement :					1.8
▪ Complete & Correct	7	15.6	0	0.0	
▪ Incomplete &Correct	11	24.4	21	46.7	
▪ Don't Know & incorrect	27	60.0	24	53.3	
Mean X̄ ± SD	**1.6 ± 0.5**		**1.4 ± 0.5**		
Preventive measures of Breast engorgement:					1.8
▪ Complete & Correct	0	0.0	2	4.4	
▪ Incomplete &Correct	18	40.0	21	46.7	
▪ Don't Know & incorrect	27	60.0	22	48.9	
Mean X̄ ± SD	**1.4 ± 0.5**		**1.6 ± 0.6**		
Management of Breast engorgement:					-
▪ Complete & Correct	8	17.8	4	8.9	
▪ Incomplete &Correct	10	22.2	19	42.2	
▪ Don't Know & incorrect	27	60.0	22	48.9	
Mean X̄ ± SD	**1.6 ± 0. 8**		**1.6 ± 0.7**		

*Significant, P < 0.05

It is noticed from the same table that (60%) form the study sample compared to (53.3%) from control group had no idea about complications of breasts engorgement.

It is also observed that, high percentage (60% & 48.9%) from both the study & control group, respectively; don't know the preventive and management measures regarding breasts engorgement.

Table (7): Comparison Between Study Group And Control Group Regarding Score Of Knowledge About Breast Feeding And Breast Engorgement.

Score	Sample groups				T Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Breast Feeding:					
Unsatisfactory *	40	88.9	39	86.7	**0.6**
Average **	5	11.1	5	11.1	
Good ***	0	0	1	2.2	
Mean X⁻ ± SD	**42.5 ± 7.2**		**43.6 ± 9.8**		
Breast Engorgement:					
Unsatisfactory *	37	82.2	41	91.1	**o.7**
Average **	8	17.8	3	6.7	
Good ***	0	0	1	2.2	
Mean X⁻ ± SD	**44. 0 ± 8.7**		**42.6 ± 8.9**		

*Significant, P < 0.05

Poor *	*< 50 % of the total score.*
Average **	*50 - < 75 % of the total score.*
Good ***	*75 - 100 % of the total score.*

It was obvious from **table 7** that mothers' knowledge regarding breast feeding and breast engorgement was very poor. The majority of both study & control group, respectively, got unsatisfactory score of knowledge. It is not worthily to mention that none from study subject & only 2.2% from control subject got good score for knowledge about breast feeding and breast engorgement.
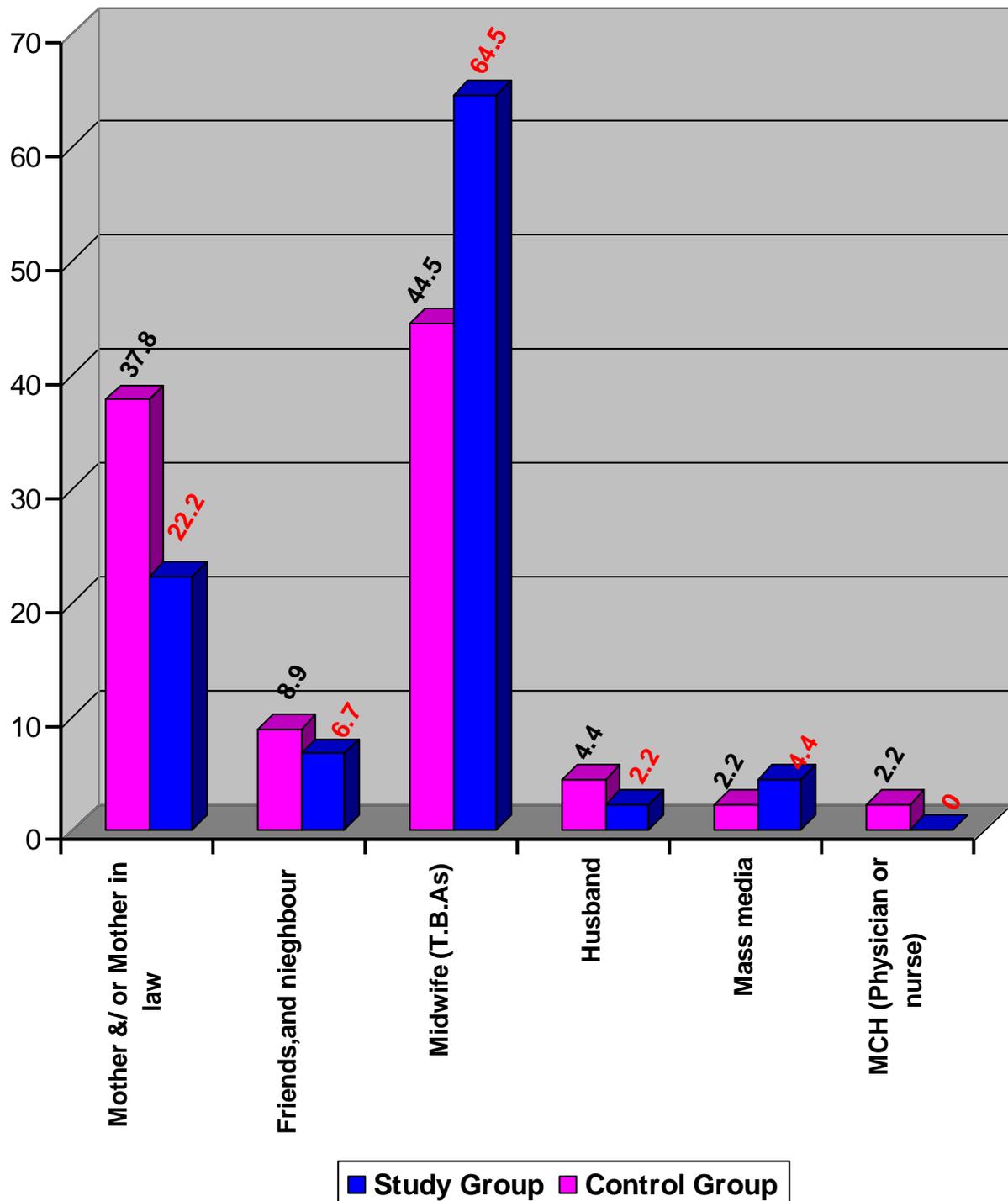
Sources of Mother's Information

Figure 1: Summarizes women's sources of information about their knowledge of importance & practices of breast feeding & breast engorgement

Part (IV): Technique of Breastfeeding Practiced By Subjects.

Table (8): Distribution of the Samples According To Their Practices Regarding Breast Feeding.

Variables	Study Group (n=45)		Control Group (n=45)		X^2 & T Test
	N	%	N	%	
Initiation Of Breast Feeding					X^2=0.68
• 1st postpartum day	2	4.4	1	2.2	
• 2nd postpartum day	20	44.5	23	51.1	
• 3rd postpartum day	23	51.1	21	46.7	
Giving Prelacted Feeds					-
• Yes	45	100	45	100	
• No	0.0	0.0	0.0	0.0	
Newborn Positions During Feeding					X^2=5.6*
• Cradle position	6	13.3	14	20	
• Cross Cradle position	17	37.8	9	31.1	
• Lateral (sidling) position	22	48.9	22	48.9	
• Foot ball position	0	0.0	0	0.0	
Women Breasts & General Hygiene Before Feeding:					X^2=3.9*
• Yes	6	13.3	1	2.2	
• No	39	86.7	44	97.8	
Parts That Introduced Into The Infant's Mouth During Feeding :					X^2=0.97
• Nipple	32	71.1	36	80.0	
• Nipple and areola	13	28.9	9	20.0	

*Significant, P < 0.05.

It is observed that only 4.4% & 2.2% of the study & control subjects, respectively, initiated breastfeeding in the first postpartum day, immediately after recovery from delivery, while (51.1%) and nearly one half (46.7%) of them initiated breastfeeding during the third day after delivery. Furthermore all babies for subjects (100%) took prelacted feeds as glucose or sweetened water. The table also reveals that (71.1%) of the study & (80%) of the control group introduce the nipple only into the infant's mouth during breastfeeding.

Continue table (8): Distribution of the Samples According To Their Practices Regarding the Breast Feeding.

Variables	Sample groups				X^2 & T Test
	Study Group (n=45)		Control Group (n=45)		
	N	%	N	%	
Breast Feeding Is Practiced :					
▪ bilateral	13	28.9	16	35.6	X^2=0.61
▪ unilateral	32	71.1	29	64.4	
Did you practice rooming in:					
▪ Yes	45	100	45	100	-
▪ No	0	0.0	0	0.0	
Number Of Breast Feeding Per Day :					
▪ 3 time / day	17	37.8	15	33.3	
▪ 4-7 time / day	22	48.9	26	57.8	
▪ 8-12 time / day	6	13.3	4	8.9	T=0.44
Mean X̄ ± SD	4.7±2.2		4.5±1.9		
Duration Of Newborn Lactation (Unilateral) :					
▪ < 10 minutes	20	44.4	24	53.3	
▪ 10- minutes	18	40.0	13	28.9	T=0.45
▪ 15- minutes	7	15.6	8	17.8	
▪ 20- 45 minutes	0	0.0	0	0.0	
Mean X̄ ± SD	11.06±3.6		10.7±3.9		
Nipple Withdrawal From Infant Mouth After Feeding:					
▪ Spontaneously infant left	11	24.4	11	24.4	-
▪ Grasp nipple from the infant's mouth	34	75.6	34	75.6	

*Significant, P < 0.05.

64.4% of the control group & (71.1%) of the study group use only one side to breastfeed their infants. Fortuity, all of the subjects in our setting reported the practice rooming in for breastfeeding. When the method of nipple withdrawal was checked among of the study & control subjects, the result was that, the majority and similar proportion of both groups (75.6%) usually pull nipple out from the infant's mouth.

Part (V): Distribution of Subjects according To Degree of Breast Engorgement and Its Signs & Symptoms throughout Follow up Visits.

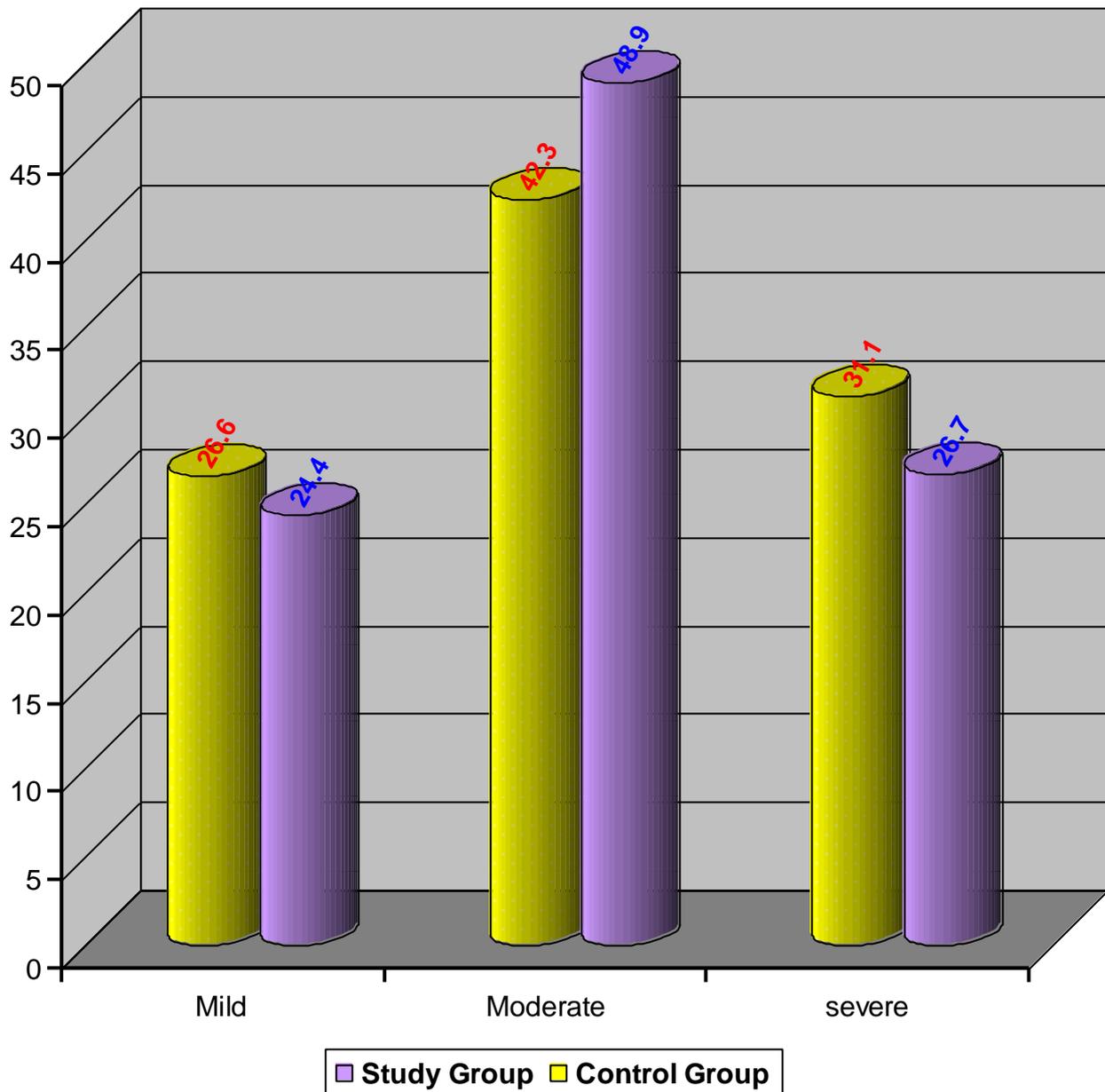**Incidence (Severity) of Breast Engorgement before Application of Nursing Measures.**

Figure 2 presents distribution of the samples according to severity degree of breast engorgement before application of nursing measures.

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Distribution of subjects according severity of signs & symptoms of breast engorgement before appling nursing measures.
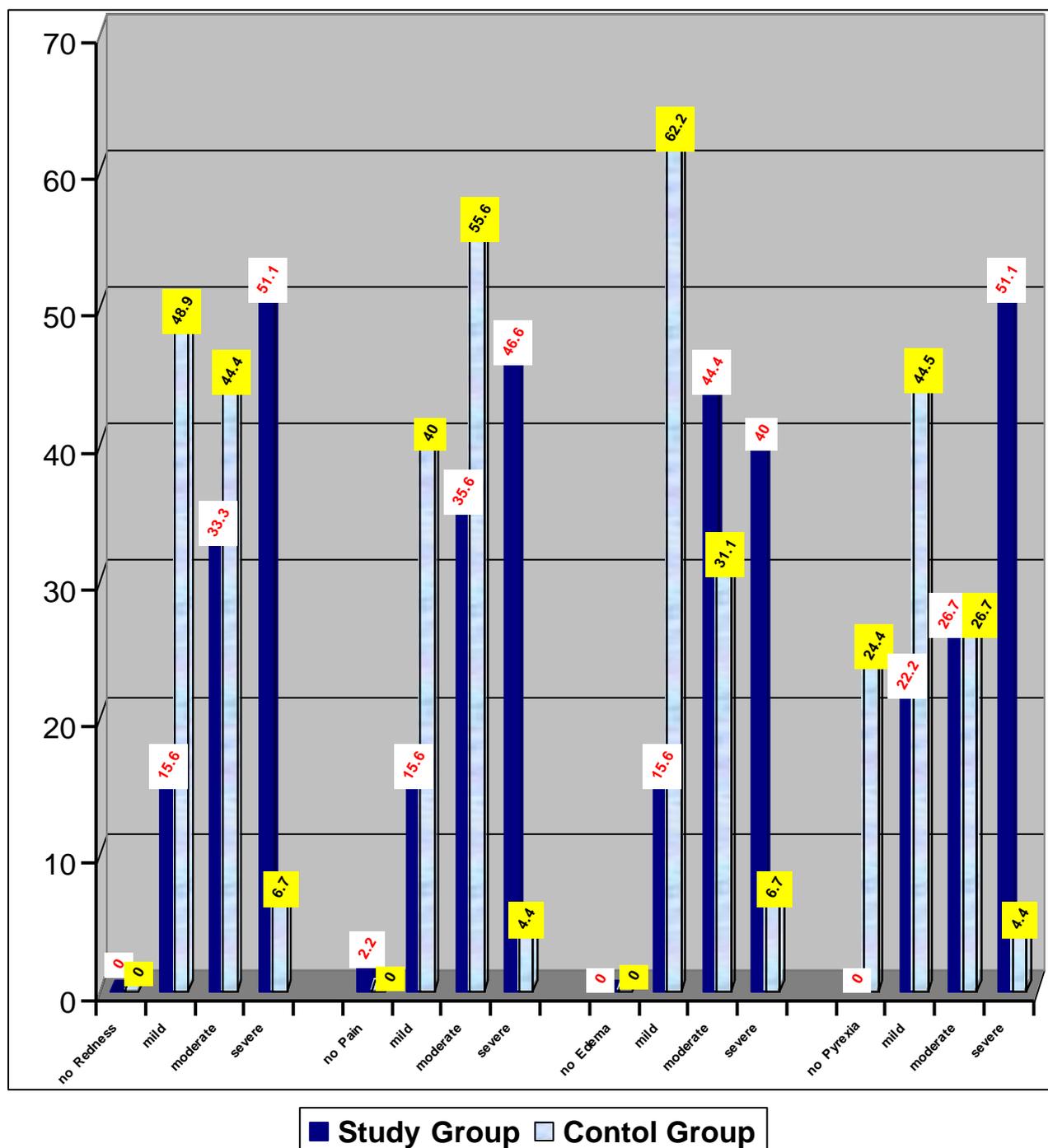

Study Group ☐ **Contol Group**

Figure 3 illustrates distribution of the samples according to severity degree of signs & symptoms breast engorgement before application of nursing measures.

Table (9): Distribution of the Sample According To Scoring of Redness in the Breast Engorgement throughout Follow up Visits (By Using Reeda Scale).

Breast Engorgement throughout Follow up Visits	Scoring of Redness				$\bar{X} \pm SD$	T Test
	Non %	Mild %	Moderate %	Sever %		
3rd day						
Study Group	0.0	15.6	33.3	51.1	2.4 ±0.7	5.7*
Control Group	0.0	48.9	44.4	6.7	1.6 ±0.6	
4th day						
Study Group	35.5	48.9	11.2	4.4	0.8 ±0.8	7.1*
Control Group	2.2	20	51.1	26.7	2.0 ±0.8	
5th day						
Study Group	95.6	4.4	0.0	0.0	0.04±0.2	12.9*
Control Group	13.3	35.6	20	31.1	1.8 ±0.9	
7th day						
Study Group	100	0.0	0.0	0.0	0.0	5.0*
Control Group	33.3	28.9	22.2	15.6	1.2 ±1.1	
9th day						
Study Group	100	0.0	0.0	0.0	0.0	13.3*
Control Group	24.4	75.6	0.0	0.0	0.8 ±0.4	

*Significant, P < 0.05

The table shows that, in the 3rd day (before intervention), (51.1%) compared to (6.7%) of the control group had severe redness. After intervention, it was found that, the percentage of severe redness declined to 4.4% in the 4th day and completely absents by the 5th day in the study group. While increased to 26.7% in the 4th day and 31.1% by the 5th day in the control group. Concerning the complete recovery from redness, the table shows that, it was achieved among the whole study group (100%) by the 7th day, while in control group, only (24.4%) of the sample were completely recovered by the 9th day.

Table (10): Distribution of the Sample According To Scoring of Pain in the Breast Engorgement (By Using Analog Scale).

Breast Engorgement throughout Follow up Visits	Scoring of Pain				$\bar{X} \pm SD$	T Test
	Non %	Mild %	Moderate %	Sever %		
3rd day						
Study Group	2.2	15.6	35.6	46.6	2.3±0.7	5.5[*]
Control Group	0.0	40.0	55.6	4.4	1.6±0.6	
4th day						
Study Group	53.3	40.0	6.7	0.0	0.7±0.8	6.9*
Control Group	2.2	24.4	49.0	24.4	2.0±0.8	
5th day						
Study Group	97.8	2.2	0.0	0.0	1.6±0.8	2.4*
Control Group	13.3	40.0	15.6	31.1	2.0±0.8	
7th day						
Study Group	100	0.0	0.0	0.0	0.0±0.0	20.0*
Control Group	31.1	33.3	17.8	17.8	1.2±1.1	
9th day						
Study Group	100	0.0	0.0	0.0	0.0±0.0	13.3*
Control Group	20.0	80.0	0.0	0.0	0.8 ±0.4	

*Significant, P < 0.05

Regarding to severe pain, the table shows that, in the postpartum 3rd day (before intervention), there is (46.6%) of the study sample compared to 4.4% of the control group suffer from severe pain, while, In the 4th day this percentage declined to 0.0% in the study group. while increased to 31.1% In the 5th day and completely absents by the 9th day in the control group.

When the complete recovery from pain was considered, the entire study group (100%) was recovered by the 7th day postpartum, while only 20% in the control group were recovered completely until the 9th day postpartum.

Table (11): Distribution of the Sample According To Scoring of Edema in the Breast Engorgement by Using (Newton's Scale).

Breast Engorgement throughout Follow up Visits	Scoring of Edema				$X^- \pm SD$	T Test
	Non %	Mild %	Moderate %	Sever %		
3rd day						
Study Group	0.0	15.6	44.4	40.0	2.2±0.7	5.7*
Control Group	0.0	62.2	31.1	6.7	1.4±0.6	
4th day						
Study Group	62.2	28.9	6.7	2.2	0.5±0.7	0.9
Control Group	4.4	31.1	51.1	13.3	1.7±0.7	
5th day						
Study Group	71.1	28.9	0.0	0.0	0.3±0.5	6.3*
Control Group	20.0	33.3	17.8	28.9	1.5±1.1	
7th day						
Study Group	100	0.0	0.0	0.0	0.0±0.0	7.5*
Control Group	28.9	57.8	8.9	4.4	0.9±0.8	
9th day						
Study Group	100	0.0	0.0	0.0	0.0±0.0	5.6*
Control Group	55.6	42.2	2.2	0.0	0.5±0.6	

*Significant, P < 0.05

It is observed that, in the 3rd day (before intervention), (40%) of the study sample compared to (6.7%) of the control group had severe edema. After intervention, it was found that, the percentage of severe redness declined to 2.2% in the 4th day and completely absents by the 5th day in the study group. While increased to 28.9% in the 5th day and completely absents by the 9th day in the control group. concerning the complete recovery from edema , the table shows that , it was achieved among the whole study group (100%) by the 7th day ,while in control group, (55.6%) of the sample were completely recovered by the 9th day postpartum.

Table (12): Distribution of the Sample According To Degree of Measuring Temperature (Pyrexia)

Breast Engorgement throughout Follow up Visits	Scoring of Pyrexia				$X^- \pm SD$	T Test
	Non %	Mild %	Moderate %	Sever %		
3rd day						
Study Group	0.0	22.2	26.7	51.1	2.3±0.8	1.02
Control Group	24.4	44.4	26.7	4.4	1.1±0.8	
4th day						
Study Group	80.0	15.6	4.4	0.0	1.3±0.5	2.2*
Control Group	0.0	51.1	44.5	4.4	1.5±0.6	
5th day						
Study Group	100	0.0	0.0	0.0	0.0±0.0	9.2*
Control Group	26.7	28.9	40	4.4	1.2±0.9	
7th day						
Study Group	100	0.0	0.0	0.0	0.0±0.0	9.0*
Control Group	33.3	15.6	51.1	0.0	1.17±0.9	
9th day						
Study Group	100	0.0	0.0	0.0	0.0±0.0	1.8
Control Group	93.3	6.7	0.0	0.0	0.07±0.3	

*Significant, P < 0.05

Regarding to severe pyrexia, the table shows that, in the postpartum 3rd day (before intervention), (51.1%) of the study sample compared to 4.4% of the control group suffer from severe pyrexia, while, In the 4th day it was found that, complete absence of severe pyrexia in the study group. while remaining the same percentage until the 5th day in the control group. When the complete recovery from pyrexia was considered, the entire study group (100%) was recovered by the 5th day postpartum, while 93.3% of the control group was recovered completely by the 9th day postpartum.

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Part (VI): Distribution of Subjects According To Complete Recovery from Breast Engorgement and Its Signs & Symptoms throughout Follow up Visits .

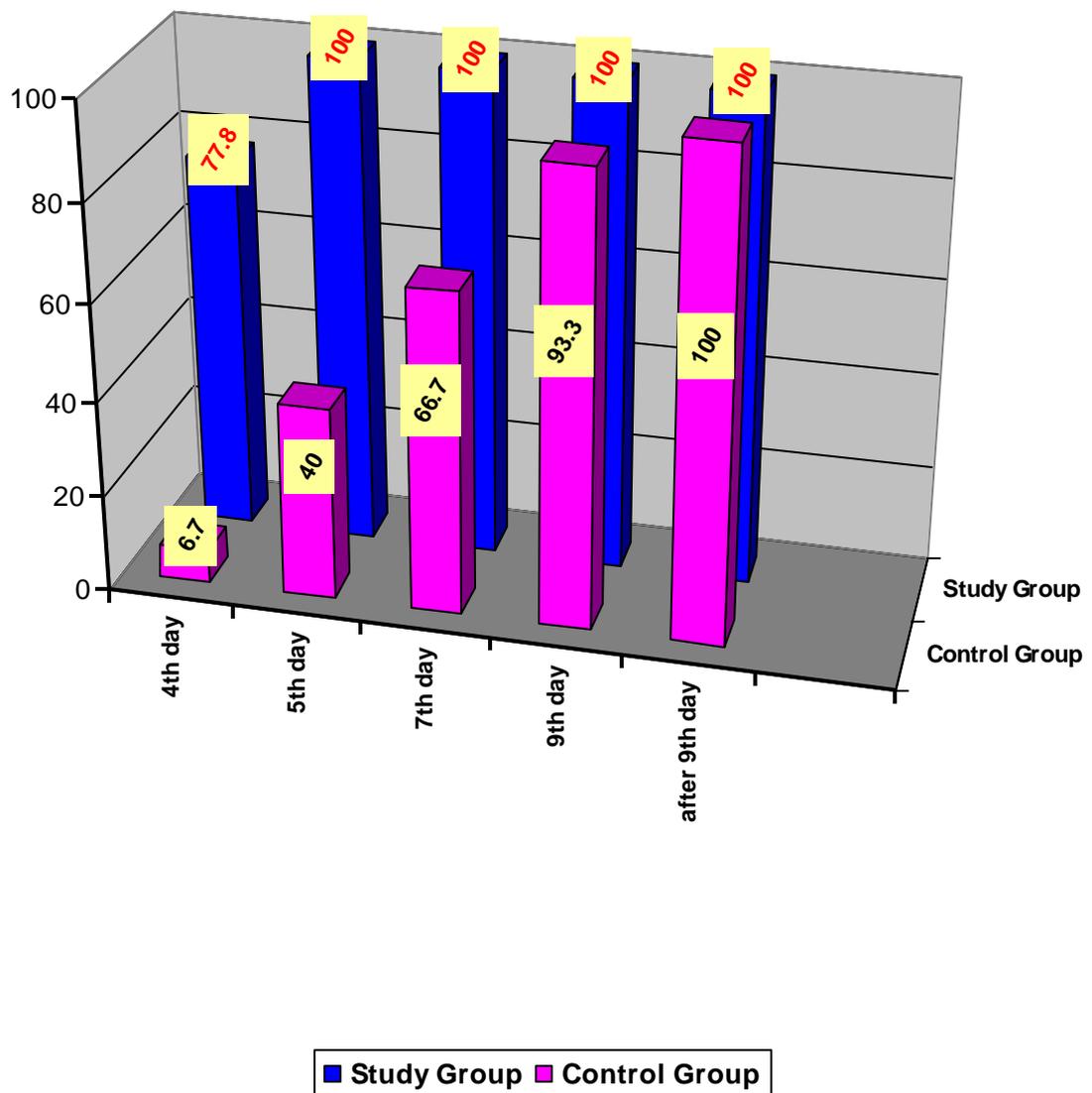**Comparison between Study and control groups regarding complete recovery from breast engorgement through follow up .**

Figure 4 shows comparison between study and control group regarding their complete recovery from breast engorgement throughout follow up visits.

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Table (13) Comparison between Study Group and Control Group Regarding Complete Recovery from Signs & Symptoms of Breast Engorgement throughout Follow up Visits.

S & S	Sample Group	Complete Recovery From Signs & Symptoms Of Breast Engorgement Throughout Follow Up Visits.										X^2 Test
		3rd day		4th day		5th day		7th day		9th day		
		N	%	N	%	N	%	N	%	N	%	
Redness	Study Group	0	0	16	35.5	43	95.6	45	100	45	100	64.2*
	Control Group	0	0	1	2.2	6	13.3	15	33.3	11	24.4	
Pain	Study Group	1	2.2	24	53.3	44	97.8	45	100	45	100	60.8*
	Control Group	0	0	1	2.2	6	13.3	14	31.1	9	20	
Edema	Study Group	0	0	28	62.2	32	71.1	45	100	45	100	57.2*
	Control Group	0	0	2	4.4	9	20	13	28.9	25	55.6	
Pyrexia	Study Group	0	0	36	80	45	100	45	100	45	100	29.8*
	Control Group	11	24.4	0	0	12	26.7	15	33.3	42	93.3	

*Significant, P < 0.05

The table reveals that the complete recovery from (redness, pain & edema) for the study group throughout follow up visits was at the postpartum seventh day, while for the control group it extended after the ninth day postpartum. However, the complete recovery from pyrexia for the study group was at the postpartum fifth day compared to later than ninth day postpartum for the control group.

Part (VII): Relationship between Degree of Breast Engorgement of the Studied Women in Two Groups and Their General Characteristics, Antenatal Follow up And Practices Of Breast Feeding.

Table (14): Relationship between Degree of Breast Engorgement of the Studied Women in the Two Groups and Their General Characteristics.

Variables	Sample groups	
	Study Group (n=45)	**Control Group (n=45)**
	Mean $X^- \pm SD$	Mean $X^- \pm SD$
Age / Year :		
▪ <20	2.4 ± 0.6	2.3 ± 0.8
▪ 20-	2.3 ± 0.6	2.2 ± 0.7
▪ 25-	1.9 ± 0.6	1.7 ± 0.7
▪ 30-40	1.2 ± 0.3	0.5 ± 0.0
r Test	**- 0.8***	**- 0.7***
Education:		
▪ Illiteracy	3.0 ± 0.0	1.8 ± 0.8
▪ Read & write + Basic education	2.6 ± 0.5	2.4 ± 0.8
▪ Secondary equivalent education	1.8 ± 0.6	1.9 ± 0.7
▪ University education	1.4 ± 0.5	1.7 ± 0.5
r Test	**- 0.95***	**- 0.6***
Occupation:		
▪ Working	2.4 ± 0.7	2.2 ± 0.8
▪ Housewife	1.9 ± 0.7	2.0 ± 0.8
r Test	**+ 0.81***	**+ 0.74***
Age of Marriage:		
▪ <20years	2.4 ± 0.7	2.0 ± 0.7
▪ ≥ 20 years	1.8 ± 0.6	1.9 ± 0.8
r Test	**- 0.8***	**- 0.7***

* Significant Association
+ Positive Association   - Negative Association

Strong significant negative correlation association was found between the degree of breast engorgement and the age & age of marriage for both the study and control sample. The percent of illiterate women in both groups (3.0± 0.0&1.8±0.8) had got high level of engorgement as compared to university educated women (1.4 ± 0.5 & 1.7± 0.5) in both groups.

Table (15) Relationship Between Degree Of Breast Engorgement Of The Studied Women In The Two Groups And Their Family History & Antenatal Follow Up.

Variables	Sample groups	
	Study Group (n=45)	Control Group (n=45)
	Mean $\bar{X} \pm SD$	Mean $\bar{X} \pm SD$
Residence:		
▪ Urban	2.3 ± 0.6	2.28 ± 0.8
▪ Rural	1.8 ± 0.6	1.83 ± 0.7
r Test	Identical	
Number Of Antenatal Visit:		
▪ Non	2.3 ± 0.6	2.2 ± 0.7
▪ < 4 time	1.9 ± 0.8	2.0 ± 0.8
▪ ≥ 4 time	1.3 ± 0.5	3.0 ± 0.0
r Test	- 0.78*	- 0.70*
Women Knowledge About Breast Engorgement :		
▪ Complete & Correct	1.3 ± 0.5	1.4 ± 0.5
▪ Incomplete &Correct	1.8 ± 0.8	1.9 ± 0.8
▪ Don't Know & incorrect	2.4 ± 0.5	2.6 ± 0.6
r Test	+ 0.82*	+0.89*
Family Income:		
▪ Unsatisfied(not enough)	2.5 ± 0.6	2.7 ±0.6
▪ Just enough(enough for living only)	1.7 ± 0.8	1.9 ± 0.8
▪ Satisfy (enough & can save from it)	1.2 ± 0.5	1.0 ± 0.5
r Test	- 0.86*	- 0.88*

* Significant Association

+ Positive Association   **- Negative Association**

The table illustrates that, level of breast engorgement increased in urban areas (2.3±0.6 &2.28 ± 0.8) compared to rural ones (1.8 ± 0.6 & 1.83 ± 0.7). It was observed a strong significant negative correlation association between the degree of breast engorgement and the numbers of antenatal visits for both the study and control sample, respectively, **r= -0.78, -0.70**. In addition, Strong significant negative correlation association was found between the degree of breast engorgement and family income for both the study and control sample, respectively, **r = - 0.86, - 0.88**.

Table (16): Relationship between Degree of Breast Engorgement of the Studied Women in the Two Groups and Their Practices (Technique) Of Breast Feeding.

Variables	Sample groups	
	Study Group	**Control Group**
	Mean X- ± SD	Mean X- ± SD
Initiation Of Breast Feeding After C.S :		
▪ **First postpartum day**	1.0 ± 0.0	1.0 ± 0.0
▪ **2nd postpartum day**	1.9 ± 0.7	2.0 ± 0.8
▪ **3rd postpartum day**	2.2 ± 0.7	2.2 ± 0.7
r Test	**+ 0.74***	**+ 0.75***
Breasts & General Hygiene Before Feeding:		
▪ **Yes**	1.3 ± 0.5	1.4 ± 0.5
▪ **No**	2.5 ± 0.6	2.4 ± 0.6
r Test	**+ 0.82***	**+ 0.80***
Parts That Introduced Into The Infant's Mouth During Feeding:		
▪ **Nipple**	2.3 ± 0.6	2.7± 0.5
▪ **Nipple and areola**	1.3 ± 0.5	1.9 ± 0.8
r Test	**+ 0.70***	**+ 0.91***
Breast Feeding Is Practiced (lactation):		
▪ **bilateral**	1.4 ± 0.5	1.4 ± 0.6
▪ **unilateral**	2.3 ± 0.6	2.4 ± 0.6
r Test	**+ 0.71***	**+ 0.80***
Nipple Withdrawal After Feeding:		
▪ **Spontaneously infant left**	2.5 ± 0.5	2.2 ± 0.6
▪ **Grasp nipple from the infant's mouth**	2.8 ± 0.6	2.7 ± 0.5
r Test	**+ 0.96***	**+ 0.98***
Number Of Breast Feeding Per Day :		
▪ **3 time / day**	2.5 ± 0.5	2.5 ± 0.5
▪ **4-7 time / day**	1.7 ± 0.6	1.9 ± 0.8
▪ **8-12 time / day**	0.8 ± 0.0	1.0 ± 0.0
r Test	**- 0.99***	**- 0.97***

* Significant Association

+ Positive Association   - Negative Association

Table 16   illustrates that degree of engorgement increased with delaying initiation breast feeding in both groups. In addition, women who introduce nipple only into infant's mouth during feeding and who practiced unilateral lactation had higher degree of engorgement in both groups.

Part (VIII): Relationship between Recovery level From Breast Engorgement of the Studied Women in Two Groups and Their Sociodemgraphic Data.

Table (17) Relationship Between Recovery Level Of Breast Engorgement Of The Studied Women In The Two Groups Throughout Follow Up Visits And Their Age.

Age / Year	Group	Follow up visits				
		4^h day	5th day	7th day	9th day	> 9th day
▪ < 25 -	**Study Group (n=45)**	78.6	100.0	-	-	-
	Control Group (n=45)	0.0	25.0	53.1	90.6	100.0
▪ 25 -	**Study Group (n=45)**	75.0	100.0	-	-	-
	Control Group (n=45)	30.0	80.0	100.0	-	-
▪ 30-40	**Study Group (n=45)**	77.8	100.0	-	-	-
	Control Group (n=45)	0.0	66.7	100.0	-	-
r Test	**Study Group**	+ 0.93 *				
	Control Group	+ 0.81 *				

* Significant Association
+ Positive Association   -Negative Association

It was observed that, in the control group, 90.6% of women who aged less than 25 years were relieved from breast engorgement on the ninth day. While all in the study group were relived from breast engorgement on the fifth day. In addition the entire control group who aged 30-40 years was relived from breast engorgement on the seventh day, while none of the women in the study group had breast engorgement on the fifth day.

Table (18) Relationship Between Recovery Level Of Breast Engorgement Of The Studied Women In The Two Groups Throughout Follow Up Visits And Their Education.

Education	Group	Follow up visits				
		4^h day	5th day	7th day	9th day	$> 9^{th}$ day
▪ Illiteracy, Read & write	Study Group (n=45)	42.9	100.0	-	-	-
	Control Group (n=45)	0.0	9.5	28.6	85.7	100.0
▪ Secondary equivalent education	Study Group (n=45)	90.9	100.0	-	-	-
	Control Group (n=45)	14.3	64.3	100.0	-	-
▪ University education	Study Group (n=45)	100.0	-	-	-	-
	Control Group (n=45)	11.1	77.8	100.0	-	-
r Test	Study Group	+ 0.87 *				
	Control Group	+ 0.75 *				

* Significant Association
+ Positive Association   - Negative Association

Table 18   illustrates that the majority of the illiterate, read & writing women in the control group (85.7%) relieved from breast engorgement on the ninth day. On the other hand the entire study group was recovered from breast engorgement on the fifth day.

The table also shows that 11.1% of the control group who had university education was relieved from breast engorgement on the fourth day and all of them were relieved on the seventh day. All women in the study group who had the same level of education were relieved from breast engorgement on the fourth day.

Table (19) Relationship Between Recovery Level Of Breast Engorgement Of The Studied Women In The Two Groups Throughout Follow Up Visits And Their Occupation.

Occupation	Group	Follow up visits				
		4^{h} day	5th day	7th day	9th day	$> 9^{th}$ day
▪ Working	Study Group (n=45)	38.5	100.0	-	-	-
	Control Group (n=45)	0.0	33.3	66.7	100.0	-
▪ Housewives	Study Group (n=45)	90.6	100.0	-	-	-
	Control Group (n=45)	8.3	41.7	66.7	91.7	100.0
r Test	Study Group	+0.93 *				
	Control Group	+0.69 *				

* Significant Association
+ Positive Association   **-Negative Association**

The table shows that only 8.3% from housewives among the control group were recovered from breast engorgement on the fourth day and 91.7% of them were relieved on ninth day as compared with (90.6%) from housewives of the study group who were recovered on the fourth day and all of them were relieved on fifth day.

Table (20) Relationship Between Recovery Level Of Breast Engorgement Of The Studied Women In The Two Groups Throughout Follow Up Visits And Their Age Of Marriage.

Age of marriage	Group	Follow up visits				
		4^h day	5th day	7th day	9th day	> 9th day
▪ < 20 years	**Study Group (n=45)**	70.4	100.0	-	-	-
	Control Group (n=45)	9.7	41.9	64.5	90.3	100.0
▪ ≥ 20 years	**Study Group (n=45)**	88.9	100.0	-	-	-
	Control Group (n=45)	0.0	35.7	71.4	100.0	-
r Test	**Study Group**	**+ 0.97** *				
	Control Group	**+ 0.76** *				

* Significant Association
+ Positive Association   -Negative Association

It was noticed that only 9.7% of the control group who married before 20 years old were recovered from breast engorgement on the fourth day and 41.9% of them were relieved on the fifth day. In comparison, (70.4%) of the study group who married at the same age was relieved on the fourth day and all of them were relieved on the fifth day.

The table also shows that (88.9%) of the study group who married ≥20 years old was relieved on the fourth day. In comparison, none of the women in the control group recovered on the same day.

Table (21) Relationship Between Recovery Level Of Breast Engorgement Of The Studied Women In The Two Groups Throughout Follow Up Visits And Their Residence.

Residence	Group	Follow up visits				
		4^h day	5th day	7th day	9th day	$> 9^{th}$ day
▪ **Urban**	**Study Group (n=45)**	77.2	100.0	-	-	-
	Control Group (n=45)	0.0	28.6	52.4	85.7	100.0
▪ **Rural**	**Study Group (n=45)**	87.0	100.0	-	-	-
	Control Group (n=45)	12.5	50.0	79.2	100.0	-
r Test	**Study Group**	**+ 0.99** *				
	Control Group	**+ 0.74** *				

* Significant Association
+ Positive Association   **-Negative Association**

The table shows that only 12.5% of the rural women among the control group were relieved from breast engorgement on the fourth day and 50% from them were relieved on the fifth day as compared with (87%) of the same dwellers of the study group who were relieved on the fourth day and all of them relieved on the fifth day.