

# RESULTS

## RESULTS

**Table (1):**

Distribution of pregnant and six months of postpartum women as regard their acceptance to participate in the study.

Attendance	Acceptance		Refusal		Total No	Z	P-value
	No	%	No	%	2600	15.3	< 0.05
	1800	69.24	800	30.76			

This table shows higher frequency of women who accepted to participate in the study than who refused. The total number of women who attended the outpatient clinic of gynaecology and obstetrics department at Benha University Hospital was 2600 Of whom 69.24% accepted to participate in the study and 30.76% refused.

This difference is of statistical significant.  $P < 0.05$ .

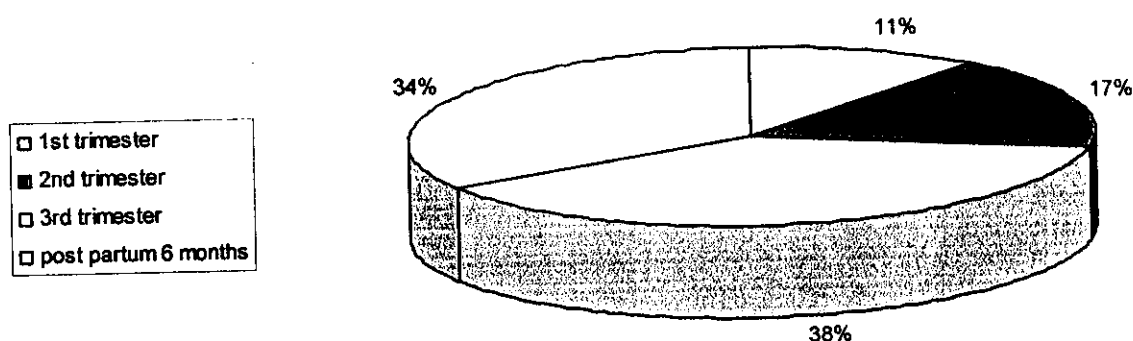
**Table (2):**

Distribution of the study group regarding the stage of pregnancy at the time of the examination.

Time	1 <sup>st</sup> Trimester		2 <sup>nd</sup> Trimester		3 <sup>rd</sup> Trimester		Postpartum 6 months		Total no.	
	No	%	No	%	No	%	No	%	No	%
Female examined	200	11.11	300	16.66	700	38.9	600	33.33	1800	100

This table shows that the female in the 1<sup>st</sup> trimester represented about 11.11% of the study group. Those during the 2<sup>nd</sup> trimester represented about 16.66% of the study group. Those in the 3<sup>rd</sup> trimester represent 38.9% of the study group and those in the six months of postpartum period represented 33.3% of the study group.

**Figure (1):** Distribution regarding time of examination according to stage of pregnancy.



**Table (3):**

Distribution of females suffering from depression as assessed by BDI during pregnancy in comparison to six months of postpartum period.

Presence of depression	Present		Absent		Total No		X <sup>2</sup>	P
	No	%	No	%	No	%		
During pregnancy	149	65.64	1051	66.82	1200	66.76	0.76	>0.05
Postpartum 6monthes	78	34.36	522	33.18	600	33.33		
Total	227	12.61	1483	87.39	1800	100		

This table shows that the prevalence of depression in the studied group is estimated to be 12.61%. About 65% of them are encountered among pregnant women while 34% of them are encountered among post partum women.

**Table (4):**

Age distribution of cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
18-<23	18	12.4	12	15.38	30	13.45	2.5	> 0.05
23-<28	53	36.55	28	35.9	81	36.32		
28-<33	33	22.76	22	28.21	58	24.66		
33-<43	30	20.69	13	16.67	43	19.28		
38-43	11	7.59	3	3.85	14	6.28		

This table shows that the highest frequency of occurrence of depression during pregnancy is encountered at the age group 23-28 years followed by those aged 28-33 years.

However, the highest frequency of occurrence of depression during the six months of postpartum period is shown at those aged 23-28 followed by those aged 28-33. These differences are of non statistical significance.

**Table (5):**

Parity of the studied cases of depression during pregnancy in comparison to six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		z	P-value
	No	%	No	%	No	%		
<b>P 0</b>	41	27.52	15	19.23	56	24.66	1.37	> 0.05
<b>P 1</b>	40	26.85	20	25.64	60	26.43	0.2	> 0.05
<b>P 2</b>	30	20.13	16	20.51	46	20.26	0.06	> 0.05
<b>P 3</b>	24	16.11	13	16.67	37	16.29	0.1	> 0.05
<b>P 4</b>	11	7.38	12	15.38	23	10.13	1.8	> 0.05
<b>P 5</b>	3	2.01	2	2.57	5	0.02	0.26	> 0.05

This table shows that the highest percentage of depression encountered among pregnant women was found among P 0 followed by P 1 group.

The highest percentage of depression encountered among postpartum women was found among P 1 followed by P 2 group.  
No significant difference was found.

**Table (6):**

Interval between current pregnancy and previous one in the studied cases of depression during pregnancy in comparison to six months of postpartum period.

	During pregnancy		Postpartum 6 months		Total No		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
0 – 3 years	41	27.52	15	19.23	56	24.67	6.11	<0.05
Less than 3 years	89	59.73	41	52.56	130	57.27		
≥ 3 years	19	12.75	22	28.21	41	18.06		
Total	149	65.64	78	34.36	227	100		

This table shows that women showing spaced pregnancy less than 3 years exhibit the highest frequency of occurrence of depression both during pregnancy and six months of postpartum period than those with proper spacing. These differences are of statistical significance.

**Table (7):**

Occupation in the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy		Postpartum 6 months		Total No		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Working	44	29.53	26	33.33	70	30.80	0.192	> 0.05
Not working	105	70.47	52	66.67	157	69.16		
Total	149	65.64	78	34.36	227	100		

This table shows that non working women exhibit higher frequency of occurrence of depression both during pregnancy as well as during six months of postpartum period. This difference is of no statistical significant.



**Table (8):**

Comparison of educational level in the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
University	30	20.13	25	32.05	55	24.23	14.17	< 0.05
Secondary school	100	67.11	43	55.13	143	63		
Below secondary school	19	12.75	10	12.82	29	12.78		

This table show that the highest frequency of occurrence of depression among the pregnant as well as postpartum women is found in those with secondary educational level. This difference is of statistical significance.

**Table (9):**

Prevalence of family history of mental illness among the studied cases of depression during pregnancy in comparison to six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
No family history	77	51.68	37	47.44	114	50.22	0.513	> 0.05
Positive family history in 1 <sup>st</sup> degree	43	28.86	23	29.49	66	29.07		
Positive family history in 2 <sup>nd</sup> degree	29	19.46	18	23.08	47	20.7		

This table shows that the highest frequency of occurrence of depression among the pregnant as well as post partum are found in those with no family history. This highest difference is of no statistical significance.

**Table (10):**

Premorbid personality for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
<b>Extrovert</b>	71	23.83	34	21.79	105	23.13	5.3	> 0.05
<b>Introvert</b>	78	26.17	44	78.21	122	26.87		
<b>Leader</b>	44	14.77	20	12.82	64	14.1		
<b>Adjusted</b>	80	26.85	35	22.44	115	25.33		
<b>Follower</b>	25	3.39	23	14.74	48	10.57		

This table shows that the highest frequency of occurrence of depression in pregnant as well as post partum women are found in those with premorbid introverted personality and in those with adjusted personality. This difference is of no statistical significance.

**Table (11):**

Premorbid mood for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
<b>Stable</b>	45	11.22	23	12.17	68	11.53	5.09	> 0.05
<b>Irritable</b>	62	15.46	31	16.4	93	15.76		
<b>Emotional</b>	30	7.48	16	8.47	46	7.8		
<b>Emotional unstable</b>	93	23.19	41	21.69	134	22.71		
<b>Cheerful</b>	30	7.48	12	6.35	42	7.12		
<b>Pessimistic</b>	98	24.44	36	19.05	134	22.71		
<b>Optimistic</b>	43	10.72	30	15.87	73	12.37		

This table shows that among the pregnant women the highest frequency of occurrence of depression was encountered among women with premorbid pessimistic mood followed by women with premorbid emotionally unstable mood and in post partum women the highest frequency was encountered among women with premorbid emotionally unstable followed by pessimistic mood. This difference is of no statistical significance.

**Table (12):**

Subjective feeling of stress and its severity for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
No	26	17.45	11	14.1	37	16.3	0.78	> 0.05
Mild	24	16.11	15	19.23	39	17.18		
Moderate	45	30.2	22	28.21	67	29.52		
Severe	54	36.24	30	38.46	84	37		

This table shows that women with subjective feeling of severe stress show the highest frequency of occurrence of depression both during pregnancy and six months of postpartum period. This difference is of no statistical significance.

**Table (13):**

Depressive symptoms for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78			
	No	%	No	%	X <sup>2</sup>	P-value
<b>Social isolation</b>	97	65.1	53	67.95	0.4	> 0.05
<b>Sad,tearful,crying</b>	116	77.85	68	87.18	1.7	> 0.05
<b>Difficult concentration, remembering</b>	40	26.85	59	59.6	5.16	< 0.05
<b>Sleep disturbance</b>	137	91.95	63	80.77	2.47	< 0.05
<b>Altered appetite</b>	137	91.95	60	76.92	3.1	< 0.05
<b>Sexual dysfunction</b>	131	87.92	59	31.05	0.4	< 0.05
<b>Loss of interest</b>	133	89.26	68	87.18	0.48	> 0.05
<b>Guilt feeling</b>	110	73.83	58	74.36	0.08	> 0.05
<b>Suicidal though</b>	8	5.37	12	15.38	2.53	< 0.05
<b>Lethargy</b>	129	86.58	58	74.36	2.29	< 0.05

This table shows that the most prevailing symptoms of depression among the pregnant woman were sleep disturbance, altered appetite and loss of interest while in post partum women, the most prevailing symptoms were sadness, tearful, crying, loss of interest and sleep disturbance.

Suicidal thought was detected in 5.3 % of depressed women during pregnancy and in 15.38 % of six months postpartum depressed women.

**Table (14):**

Presence of anxiety symptoms for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78			
	No	%	No	%	z	P-value
<b>Irritability and anger n =142</b>	86	57.75	56	71.79	2.08	< 0.05
<b>Inability to relax n =126</b>	77	57.68	49	62.82	1.6	> 0.05
<b>Insomnia n =75</b>	116	77.85	59	75.64	0.34	> 0.05
<b>Noticeable restless n =159</b>	107	71.81	52	66.67	0.8	> 0.05
<b>Nervousness n =167</b>	124	82.22	43	55.13	4.5	< 0.05
<b>Obsessional thinking n =17</b>	5	3.36	12	15.38	3.3	< 0.05

This table shows that higher percentage of women complaining of anxiety symptoms during pregnancy and six months of postpartum period.

Obsessional thought was detected in 3.3 % of depressed women during pregnancy and in 15.38 % of six months postpartum depressed women.

**Table (15):**

Presence or absence of somatic symptoms for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		z	P-value
	No	%	No	%		
Wt gain than expected n =67	49	32.89	18	23.08	1.5	> 0.05
LL oedema n =59	57	38.26	2	2.56	5.8	< 0.05
Severe nausea and vomiting n =34	34	22.82	0	0	4.57	< 0.05
Elevated Bp n =52	48	32.21	4	5.13	4.6	< 0.05
Headache n = 112	94	63.09	18	23.68	5.7	< 0.05
Backache n =123	101	67.79	22	28.21	5.6	< 0.05
Vaginal discharge n =51	16	10.74	35	44.87	5.85	< 0.05

This table shows that depressed women during pregnancy exhibited higher percentage of backache and headache while six months post partum depressed women exhibited higher percentage of vaginal discharge and backache. These differences were of statistical significance.



**Table (16):**

Marital state for the studied cases of depression during pregnancy in comparison to six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Z	P-value
	No	%	No	%		
Married with satisfied relation n =77	49	32.89	28	35.9	0.45	> 0.05
Married with marital problems n =88	54	36.24	34	43.59	1.07	> 0.05
Separated n =35	24	16.11	11	14.1	0.39	> 0.05
Divorced n =5	1	0.67	4	5.13	2.17	< 0.05
Widow n =2	1	0.67	1	1.28	0.47	> 0.05
Remarried before n =18	13	8.72	5	6.41	0.61	> 0.05

This table shows that higher percentage of depression was encountered in depressed women during pregnancy and six months of postpartum period when there is marital problems.

**Table (17):**

Social score according to **Fahmy and El Sherbini (1983)** for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		z	P-value
	No	%	No	%	No	%		
<b>Low</b>	106	71.14	30	38.46	136	59.91	4.77	< 0.05
<b>Middle</b>	42	28.19	47	60.26	89	39.20	4.7	< 0.05
<b>High</b>	1	0.67	1	1.28	2	00.88	0.47	> 0.5

This table shows that as regard social score, the depressed women during pregnancy shows higher percentage in low social score, while the depressed women during six months of postpartum period shows higher percentage in middle social score. This difference is of statistical significance.

**Table (18):**

Educational level of the husband for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
University	93	62.42	34	43.59	127	55.95	7.2	< 0.05
Secondary	51	34.23	39	50	90	39.65		
Below secondary	5	3.36	5	6.41	10	4.41		

This table shows that as regard educational level of the husband, the depressed women during pregnancy showed the highest percentage with university level education of the husband, while postpartum depressed women showed higher percentage with secondary level education of the husband. This difference is of statistical significance.

**Table (19):**

History of psychiatric illness of the husband for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Positive	44	29.53	24	30.77	68	29.96	0.02	> 0.05
Negative	105	70.47	54	69.23	159	70.04		

This table shows that as regard psychiatric illness of the husband, higher percentage of depressed women both during pregnancy and during six months of postpartum period were detected among those whom their husbands with negative history of psychiatric illness. This difference is of no statistical significance.

**Table (20):**

Age of menarche for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Less than 11 y	56	37.58	23	29.49	79	34.8	0.59	> 0.05
11-14	86	57.72	50	64.1	136	59.91		
Older than 14	7	4.7	5	6.41	12	5.29		

This table shows that age of menarche had highest percentage between 11 and 14 years in depressed women during pregnancy as well as during six months of postpartum period. This difference is of no statistical significance.

**Table (21):**

History of age of first conception for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Less than 20 y	32	21.48	19	24.36	51	22.47	2.81	> 0.05
20 - ≤ 30	89	59.73	51	65.38	140	61.67		
30 - 40	28	18.79	8	10.26	36	15.86		

This table shows that age of first conception was more common among those aged 20-<30 years in depressed women both during pregnancy and six months of postpartum period. This difference is of no statistical significance.

**Table (22):**

History for the regulatory of menstrual cycle for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Regular	71	47.65	33	42.31	104	45.81	0.39	> 0.05
Not regular	78	52.35	45	57.69	123	54.19		

This table shows that higher percentage of depressed women both during pregnancy and six months of postpartum period has history of irregular menstrual cycle. This difference is of no statistical significance.

**Table (23):**

History of oral contraceptive pills use for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Positive	49	32.89	35	44.87	84	37	2.66	> 0.05
Negative	100	67.11	43	55.13	143	63		

This table shows that 32% of depressed women during pregnancy had history of oral contraceptive pills use; while 44% of six months post partum depressed women had history of oral contraceptive pills use. This difference is of no statistical significance.



**Table (24):**

History of abortion for cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
History of abortion	39	26.17	22	28.21	61	26.87	0.029	> 0.05
No history of abortion	110	73.83	56	71.79	166	73.13		

This table shows that 26% of depressed women during pregnancy and 28% of six months postpartum depressed women had history of abortion. This difference is of no statistical significance.

**Table (25):**

History of PMDD for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Positive	50	33.56	29	37.18	79	34.8	0.16	> 0.05
Negative	99	66.44	49	62.82	148	65.2		

This table shows that 33% of depressed women during pregnancy and 37% of six months postpartum depressed women had history of PMDD. This difference is of no statistical significance.

**Table (26):**

History of depression in previous pregnancy for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P-value
	No	%	No	%	No	%		
Positive	64	42.95	44	56.41	108	47.58	3.19	> 0.05
Negative	85	57.05	34	43.59	119	52.42		

This table shows that higher percentage of depression was found in depressed pregnant women with negative history of depression in previous pregnancy while in six months postpartum depressed women higher percentage was found in women with positive history of post partum depression. This difference is of no statistical significance.

**Table (27):**

Degree of depression using Hamilton Depressive Scale for the studied cases of depression during pregnancy and six months of postpartum period.

	During pregnancy N = 149		Postpartum 6 months N=78		Total No N=227		X <sup>2</sup>	P- value
	No	%	No	%	No	%		
Mild 18-25 score	31	20.81	8	10.26	39	17.18	6.13	< 0.05
Moderate 26-28 score	70	46.98	34	43.59	104	45.81		
Severe 29-50 score	48	32.21	36	46.15	84	37		

This table shows that as regard degree of depression, moderate degree represented the highest percentage among depressed pregnant women, while severe degree of depression represented the highest percentage among six months postpartum depressed women. This difference is of statistical significance.

**Table (28):**

Serum estradiol for cases of depression during pregnancy and six months of postpartum period.

	Mean	+_SD	Range
1 <sup>st</sup> trimester	2.95	0.74	2 - 4
2 <sup>nd</sup> trimester	9.1	2.9	3 - 12
3 <sup>rd</sup> trimester	13.95	1.9	11 -17
6 months postpartum	1.19	0.55	0.4 -2
F	100.78		
P-value	< 0.05		

This table shows that the one – way Anouva test used for comparison of the mean of four groups revealed that the lowest mean was encountered among post partum depressed women followed by those of 1<sup>st</sup> trimester. The difference between these two means and the other two groups is of statistical significance.

**Table (29):**

Serum progesterone for cases of depression during pregnancy and six months of postpartum period.

	Mean	+_SD	Range
1 <sup>st</sup> trimester	19.5	7.8	10 -30
2 <sup>nd</sup> trimester	47.2	21.8	25 -100
3 <sup>rd</sup> trimester	110.9	19.3	90 -140
6 months postpartum	8.4	6.7	1.5 -20
F	88.48		
P-value	< 0.05		

This table shows that the one – way Anouva test used for comparison of the mean of four groups revealed that the lowest mean was encountered among post partum depressed women followed by those of 1<sup>st</sup> trimester. The difference between these two means and the other two groups is of statistical significance.

**Table (29):**

Serum progesterone for cases of depression during pregnancy and six months of postpartum period.

	Mean	+_SD	Range
1 <sup>st</sup> trimester	19.5	7.8	10 -30
2 <sup>nd</sup> trimester	47.2	21.8	25 -100
3 <sup>rd</sup> trimester	110.9	19.3	90 -140
6 months postpartum	8.4	6.7	1.5 -20
F	88.48		
P-value	< 0.05		

This table shows that the one – way Anouva test used for comparison of the mean of four groups revealed that the lowest mean was encountered among post partum depressed women followed by those of 1<sup>st</sup> trimester. The difference between these two means and the other two groups is of statistical significance.

**Table (31):**

Period of lactation in the studied cases of postpartum depression.

	Postpartum 6 months N=78		P – value
	No	%	
<b>Less than 1 month</b>	38	48.7	> 0.05
<b>1 -3 month</b>	28	35.89	< 0.05
<b>More than 3 months</b>	12	15.39	< 0.05

Z1 between less than 1 month and 1-3 month = 1.2

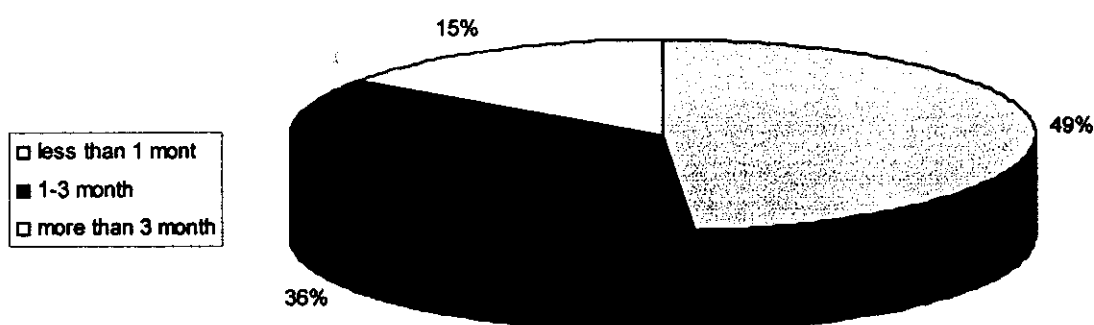
Z2 between less than 1 month and more than 3 months = 4.04

Z3 between 1-3 months and more than 3 months = 2.64

This table shows that the least percentage of six months postpartum depressed women was encountered among those who practice lactation more than 1 month.

This difference is of statistical significance.

**Figure (3): Period of lactation in cases of postpartum depression.**





**Table (32):**

Health state of baby in mothers with postpartum depression.

	Postpartum 6 months N=78	
	No	%
Good health	31	39.75
Bad health	47	60.25
P- value	> 0.05	
Z	1.85	

This table shows the higher percentage of six months postpartum depressed women had baby with bad health than those who had healthy babies.

This higher difference is of no statistical significance.

**Figure (4): Health state of baby in mother showing postpartum depression.**



**Table (33):**

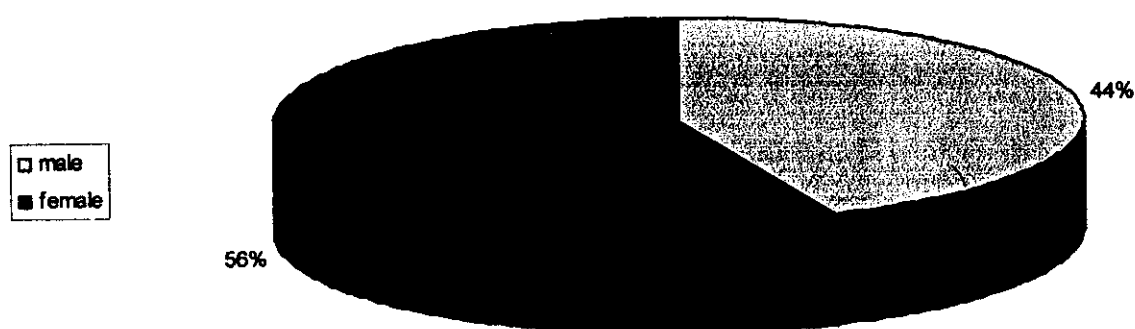
Sex of baby in the studied cases of postpartum depression.

	Postpartum 6 months N=78	
	No	%
Male	34	43.59
Female	44	56.41
P - value	> 0.05	
Z	1.14	

This table shows the higher percentage of six months postpartum depressed women had female babies than those who had male babies.

This difference is of no statistical significance.

**Figure (5): Sex of baby in cases of postpartum depression.**



**Table (34):**

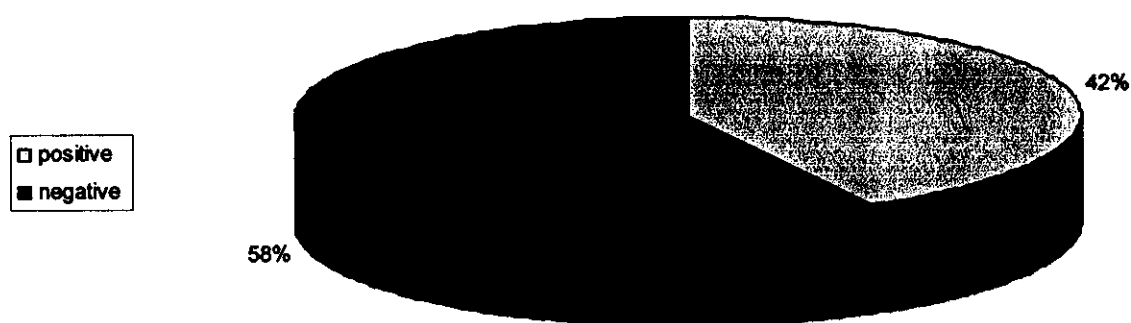
Attitude of father towards sex of baby in the studied cases of postpartum depression.

	Postpartum 6 months N=78	
	No	%
Positive	33	42.31
Negative	45	57.69
P - value	> 0.05	
Z	1.3	

This table shows that higher percentage of six months postpartum depressed women was found with negative attitude of a father towards the sex of their babies than those with positive attitude.

This difference is of no statistical significance.

**Figure (6): Attitude of father towards sex of baby in cases of postpartum depression.**



**Table (35):**

Attitude of mother towards sex of baby in the studied cases of postpartum depression.

	Postpartum 6 months N=78	
	No	%
<b>Positive</b>	24	44.88
<b>Negative</b>	43	55.12
<b>P - value</b>	> 0.05	
<b>Z</b>	1.14	

This table shows that higher percentage of six months postpartum depressed mothers was found among those who have negative attitude towards the sex of their babies than who had positive attitude.

This difference is of no statistical significance.

**Figure (7): Attitude of mother towards sex of baby in cases of postpartum depression.**



**Table (36):**

History of depression during current pregnancy in the studied cases with postpartum depression.

	Postpartum 6 months N=78	
	No	%
Positive	60	76.92
Negative	18	23.08
P – value	< 0.05	
Z	5.6	

This table shows that higher percentage of women with postpartum depression had history of depression during current pregnancy than those who had not.

This difference is of statistical significance.

**Figure (8): Depression during pregnancy in cases with postpartum depression.**

