RESULTS

The results of the current study are presented into five parts as the following :

PART I.

Included general characteristics of mothers and their obstetric history (Tables 1-2).

PART II.

Distribution of mothers knowledge in the pre and post intervention regarding self care during postnatal period (Tables 3-9 & figures 1 - 4).

PART III.

Distribution of mothers performance in the pre and post intervention related to self care during postnatal period (Tables 10-11 & figure 5)

PART IV.

Relation between mothers' knowledge and performance regarding self-care during postnatal period and their general characteristics at different times of assessment (Tables 12 & 13)

PART V.

Mothers' attitude towards self-care guidelines. (Table 14)

Part I: General characteristics of mothers and their obstetric history

Table(1): Frequency distribution of postnatal mothers according to their general characteristics (n=200).

Variables	Frequency	%
Age in (years)		
20-24	119	**59.5**
25-29	56	28.0
30-35	25	12.5
Mean ± SD	24.7 ± 3.7	
Level of Education		
Read & write	76	**38.0**
Basic education	6	3.0
Secondary education	62	31.0
University education	56	28.0
Occupation		
House wife	129	**64.5**
Employer	71	35.5
Residence		
Rural	134	**67.0**
Urban	66	33.0

Table (1) shows that more than half (59.5%) aged from 20 to 24 years with mean age 24.7 ± 3.7 years. More than one third (38.0%) of mothers read and write and (31.0%) had secondary school education and less one third (28.0%) of mothers had university education. (64.5%) were housewives and two thirds (67.0%) lived in rural area.

Table (2): Frequency distribution of postnatal mothers according to their obstetric history (n=200)

Health problems during present pregnancy	Frequency	%
Colic	31	15.5
Backache	91	45.5
Dizziness	72	36.0
Burning urination	25	12.5
Hyperemsis gravidrum	24	12.0

Table (2) reveals that, one half (45.5%) of mothers complained from backache , more than one third (36.0%) complained from dizziness , and only few of them were complained from hyperemsis, burning urination, and colic (12.0%, 12.5%, 15.5% respectively).

Part II: Mothers' knowledge in the pre and post intervention about self-care during postnatal period

Table (3): Frequency distribution of mothers according to their knowledge regarding postnatal period pre and post intervention (n=200)

Items	Pre-intervention				Post-intervention				X^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Definition of postnatal period	85	42.5	115	57.5	168	84.0	32	16.0	68.7	<0.001**
- Physiological changes during postnatal period	93	46.5	107	53.5	158	79.0	42	21.0	45.2	<0.001**
- Type of lochia	59	29.5	141	70.5	120	60.0	80	40.0	37.6	<0.001**
- Causes of increase temperature during postnatal period	89	44.5	111	55.5	165	82.5	35	17.5	62.3	<0.001**
- Warning signs during postnatal period	123	61.5	77	38.5	168	84.0	32	16.0	25.5	<0.001**

***Statistical significant difference (P ≤ 0.05)** ****Highly statistical significant difference (P ≤ 0.001)**

Table (3) reveals that, there was highly statistically significant difference ($p<0.001$) in relation to all items concerning the postnatal period between pre and post intervention **.**

Table (4): Frequency distribution of mothers according to their knowledge about personal hygiene during postnatal period in relation to pre and post intervention (n=200)

Items	Pre-intervention				Post-intervention				X^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Elements of personal hygiene	142	71.0	58	29.0	178	89.0	22	11.0	20.3	<0.001**
- First bath during postnatal period	93	46.5	107	53.5	163	81.5	37	18.5	53.2	<0.001**
-Importance of breast care	127	63.5	73	36.5	174	87.0	26	13.0	29.7	<0.001**
- Importance of perineal hygiene	123	61.5	77	38.5	170	85.0	30	15.0	28.1	<0.001**
-Sitting in warm water	74	37.0	126	63.0	159	79.5	41	20.5	74.2	<0.001**

***Statistical significant difference (P ≤ 0.05)** ****Highly statistical significant difference (P ≤ 0.001)**

Table (4) illustrates the distribution of mothers' knowledge as regards postnatal self-care pre and post intervention. The analysis of findings reveals that, there was a highly significant improvement of mothers' knowledge in all items concerning the self-care in the postnatal period after application of the intervention**.**

Table (5): Frequency distribution of mothers according to their knowledge about nutrition and exercise during postnatal period in relation to pre and post intervention (n=200).

Items	Pre-intervention				Post-intervention				X^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Food group during postpartum period	144	72.0	56	28.0	179	89.5	21	10.5	19.7	<0.001**
- Importance of increase fluid	121	60.5	79	39.5	173	86.5	27	13.5	34.7	<0.001**
- Benefit of postpartum exercise	124	62.0	76	38.0	161	80.5	39	19.5	16.7	<0.001**
- Comfort and sleep position	54	27.0	146	73.0	155	77.5	45	22.5	102.2	<0.001**

***Statistical significant difference (P ≤ 0.05)** ****Highly statistical significant difference (P ≤ 0.001)**

Table (5) shows highly significant improvement of mothers knowledge in all items concerning nutrition and exercise in the postnatal period after application of the intervention**.**

Table (6): Frequency distribution of mothers according to their knowledge about sexual relation and family planning methods during pre and post intervention (n=200)

Items	Pre-intervention				Post-intervention				x^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Starting sexual relation	113	56.5	87	43.5	166	83.0	34	17.0	33.3	<0.001**
- Importance of family planning	133	66.5	67	33.5	174	87.0	26	13.0	23.6	<0.001**
- Beginning to use contraception	60	30	140	70	150	75.0	50	25.0	81.2	<0.001**

***Statistical significant difference (P ≤ 0.05)** ****Highly statistical significant difference (P ≤ 0.001)**

Table (6) clarifies that, there was a highly statistically significant difference between pre and post intervention regarding mothers' knowledge related to sexual relation and family planning methods during postnatal period.

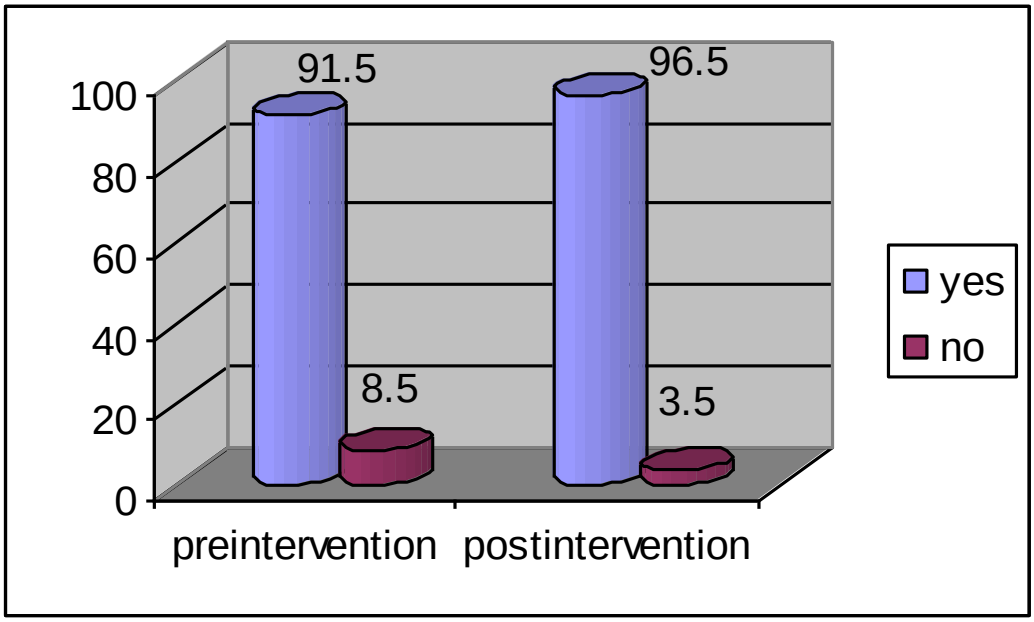

Figure (1): Percentage distribution of mothers regarding acceptance utilization of family planning methods pre and postintervention

Table (7): Frequency distribution of mothers according to their knowledge about breastfeeding and weaning pre and post intervention (n=200).

Items	Pre-intervention				Post-intervention				X^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Importance of breastfeeding	138	69.0	62	31.0	179	89.5	21	10.5	25. 6	<0.001**
- Time of starting breast feeding	93	46.5	107	53.5	164	82.0	36	18.0	54.9	<0.001**
- Definition of weaning	95	47.5	105	52.5	173	86.5	27	13.5	68.8	<0.001**
- Time of starting weaning	68	34.0	132	66.0	157	78.5	43	21.5	80.5	<0.001**

***Statistical significant difference (P ≤ 0.05)** ****Highly statistical significant difference (P ≤ 0.001)**

Table (7) reveals that, there was a highly significant improvement of mothers' knowledge in all items concerning the breastfeeding after application of the intervention**.**

Table (8): Frequency distribution of mothers according to their knowledge about newborn care during postnatal period pre and post intervention (n=200).

Items	Pre-intervention				Post-intervention				X^2	p-value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Importance of baby bath	142	71.0	58	29.0	179	89.5	21	10.5	21.6	<0.001**
- Suitable time for baby bath	115	57.5	85	42.5	169	84.5	31	15.5	35.4	<0.001**
- Antiseptic solution used in stump care	80	40.0	120	60	159	79.5	41	20.5	64.9	<0.001**
- Importance of baby vaccination	136	68.0	64	32.0	172	86.0	28	14.0	18.3	<0.001**
- start schedual of vaccination	107	53.5	93	46.5	190	95.0	10	5.0	12.1	≤0.001**
- Hazards of female genital mutilation **(n=107)**	49	45.8	58	54.2	77	72.0	30	28.0	15.1	<0.001**
- Best time for male circumcision **(n=93)**	50	53.8	43	46.2	80	86.0	13	14	22.9	<0.001**
- Newborn warning signs	118	59.0	82	41.0	165	82.5	35	17.5	26.7	<0.001**

***Statistical significant difference (P ≤ 0.05)** ****Highly statistical significant difference (P ≤ 0.001)**

In relation to mothers knowledge as regards newborn care during postnatal period pre and post intervention. Table (8) shows that there was a highly significant improvement of mothers knowledge in all items concerning the newborn care after application of the intervention**.**

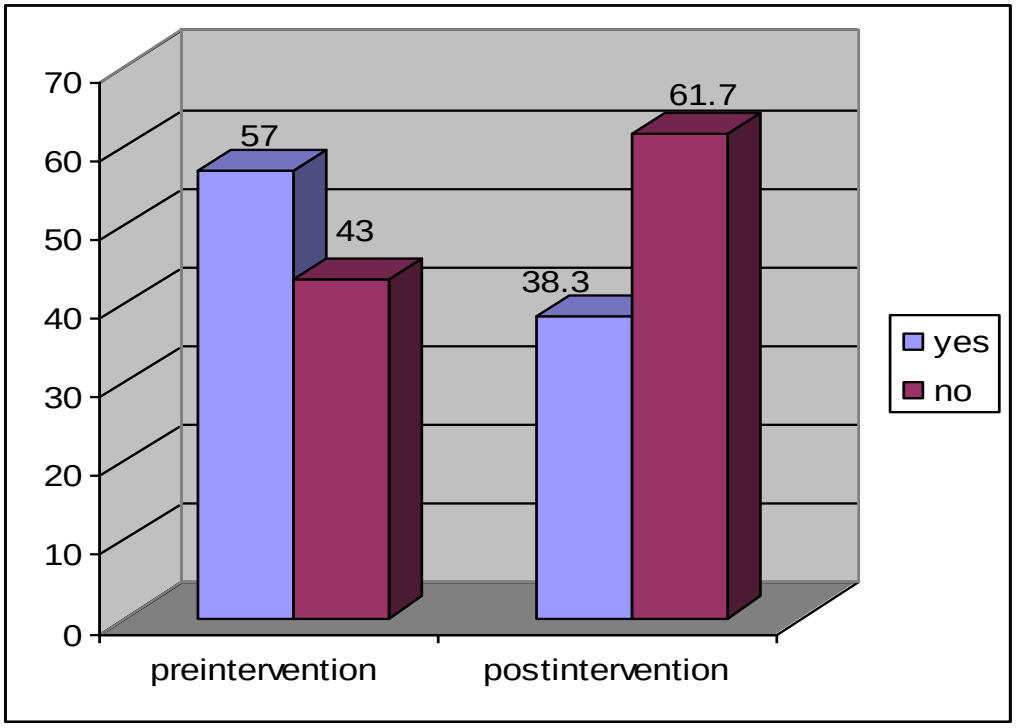

Figure (2): Percentage distribution of mothers regarding persistence agreement of future continues of female circumcision pre and postintervention (n=107).

Table (9): Frequency distribution of mothers according to their knowledge about self-care for minor discomfort during postnatal period pre and post intervention (n=200).

Items	Pre-intervention				Post-intervention				X^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Definition of self care	78	39.0	122	61	151	75.5	49	24.5	54.43	<0.001**
❖ Self-care about										
- After pain	100	50.0	100	50.0	162	81.0	38	19.0	42.5	<0.001**
- Backache	116	58.0	84	42.0	168	84.0	32	16.0	32.8	<0.001**
- Piles	48	24.0	152	76.0	142	71.0	58	29.0	88.6	<0.001**
- Urinary incontinence	58	29.0	142	71.0	149	74.5	51	25.5	82.9	<0.001**
- Constipation	124	62.0	76	38.0	177	88.5	23	11.5	37.7	<0.001**
- Perineal pain	84	42.0	116	58.0	161	80.5	39	19.5	62.5	<0.001**
- Breast engorgement	100	50.0	100	50.0	169	84.5	31	15.5	54.1	<0.001**
- Cracked nipple	79	39.5	121	60.5	161	80.5	39	19.5	70.1	<0.001**

***Statistical significant difference (P ≤ 0.05)** ****Highly statistical significant difference (P ≤ 0.001)**

Table (9) reveals that, there was a highly significant improvement of mothers knowledge in all items concerning the self-care after application of the intervention**.**

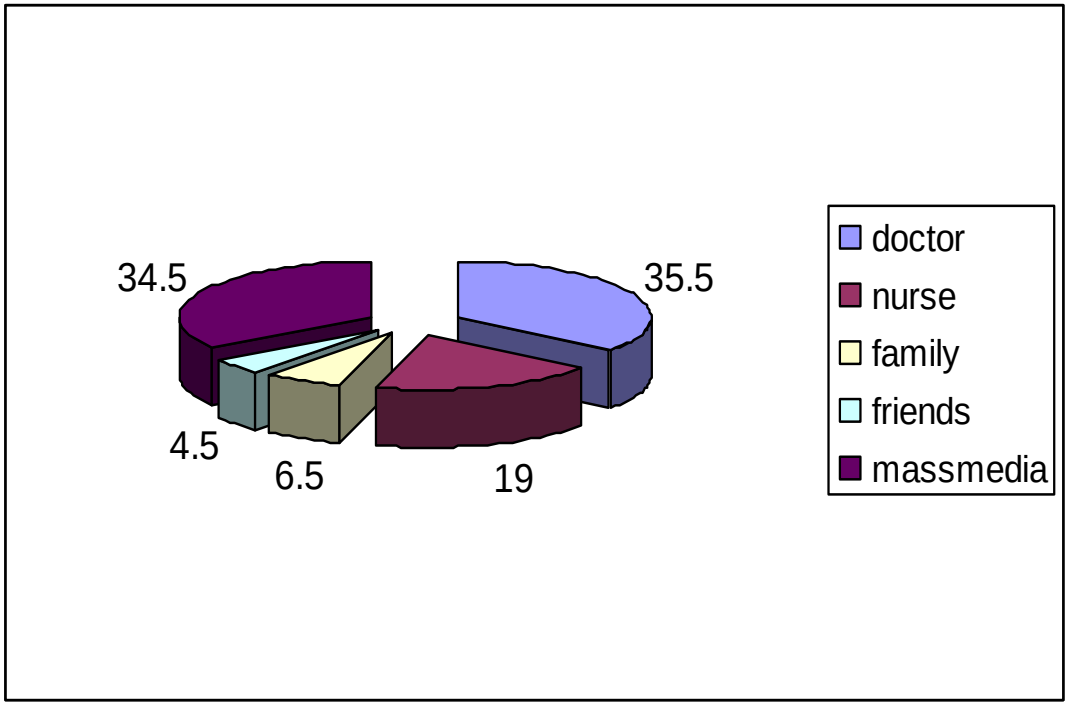

Figure (3): Percentage distribution of mothers regarding to their sources of information about self-care during postnatal period.

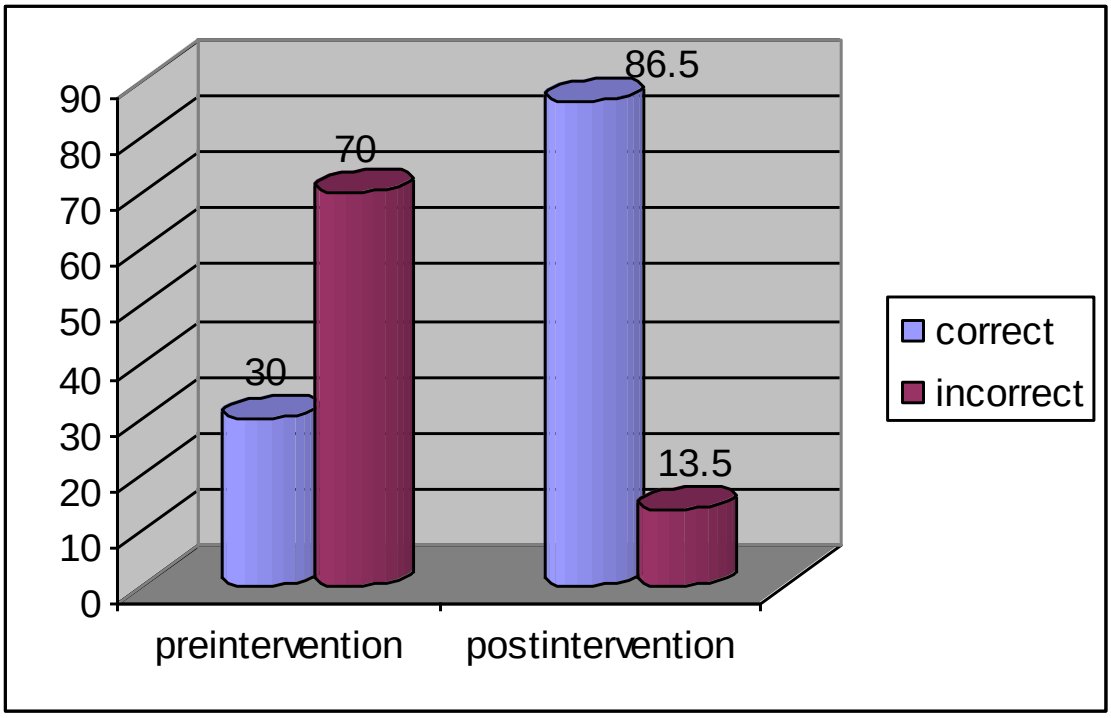

Figure (4): Percentage distribution of mothers according to their total knowledge about self-care scores pre & post intervention.

Part III: Mothers' performance in pre and post intervention related to self-care during postnatal period.

Table (10): Frequency distribution of mothers according to their performance about self care during postnatal period in relation to pre and post intervention (n=200)

Items	Pre intervention				Post intervention				X^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
- Perineal hygiene	60	30.0	140	70.0	161	80.5	39	19.5	20.8	<0.001**
- Episitomy care	43	21.5	157	78.5	129	64.5	71	35.5	19.6	<0.001**
- Lochia assessment	50	25.0	150	75.0	155	77.5	45	22.5	19.4	<0.001**
- Breast care	41	20.5	159	79.5	147	73.5	53	26.5	18.6	<0.001**
-Technique of breastfeeding	34	17.0	166	83.0	174	87.0	26	13.0	3.7	<0.001**
- Breast milk expression	82	41.0	118	59.0	156	78.0	44	22.0	23.7	<0.001**
- Breast engorgement	60	30.0	140	70.0	182	91.0	18	9.0	8.5	<0.004*

*statistical significant difference (P ≤ 0.05) **highly statistical significant difference (P ≤ 0.001)

Concerning mothers performance about their self-care during postnatal period pre and post intervention. Table (10) illustrates that, there was a highly significant improvement of mothers performance in all self-care items during the postnatal period after application of the intervention.

Table (11): Frequency distribution of mothers according to their performance about newborn care during pre and post intervention (n=200).

Items	Pre intervention				Post intervention				X^2	P value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
1-Spong bath										
-Eye care	72	36.0	128	64.0	162	81.0	38	19.0	26.4	<0.001**
-Face care	192	96.0	8	4.0	196	98.0	4	2.0	97.9	<0.001**
-The scalp, ear and neck care	49	24.5	151	75.5	142	71.0	58	29.0	26.5	<0.001**
-The trunk and arm care	95	47.5	105	52.5	170	85.0	30	15.0	31.9	<0.001**
-Stump care	61	30.5	139	69.5	166	83.0	34	17.0	17.9	<0.001**
-Legs care	81	40.5	119	59.5	183	91.5	17	8.5	16.6	<0.001**
-diaper care	62	31.0	138	69.0	172	86.0	28	14.0	14.6	<0.001**
2- Tub bath	130	65.0	70	35.0	184	92.0	16	8.0	12.2	<0.001**
3- Care of male Circumcised	55	27.5	145	72.5	175	87.5	25	12.5	10.8	≤ 0.001**

*Statistical significant difference (P ≤ 0.05) **Highly statistical significant difference (P ≤ 0.001)

In relation to mothers performance as regards newborn care during postnatal period pre and post intervention. Table (11) reveals that there was a highly significant improvement of mothers performance in all newborn care items during the postpartum period after application of the intervention.

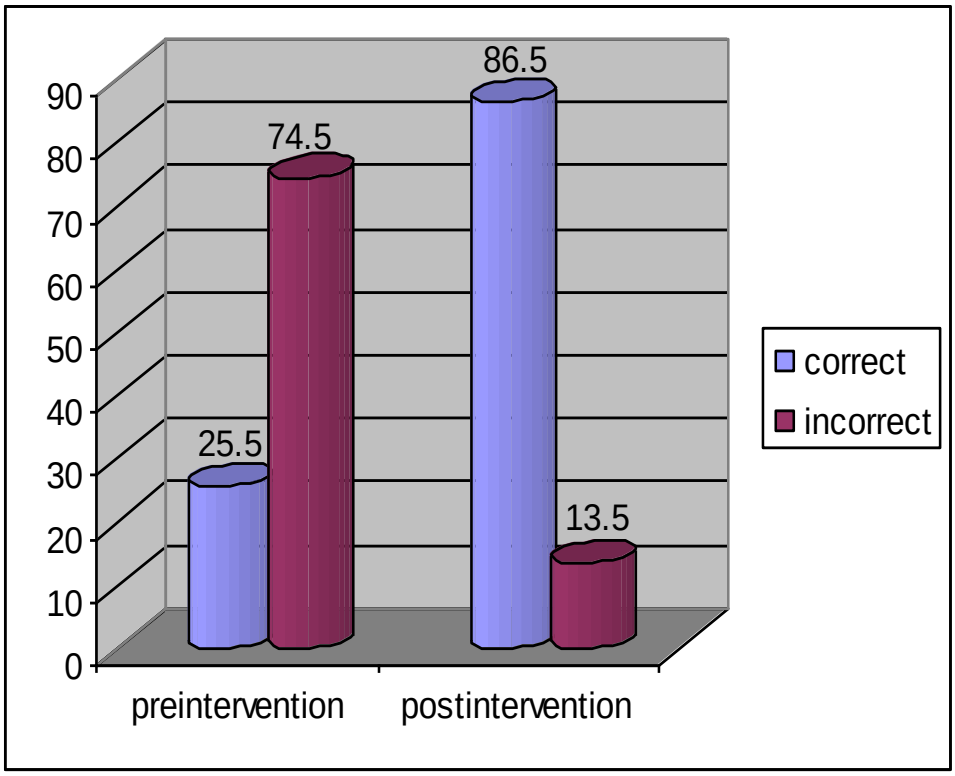

Figure (5) Percentage distribution of mothers according to their Total performance about self care scores pre & post intervention

Part IV: Relation between mothers knowledge and performance related to self-care during postnatal period and their characteristics at different times of assessment

Table (12): Relation between mothers general characteristics data and their total knowledge score pre and post intervention (n=200).

General Characteristics	Postpartum mothers knowledge							
	pre intervention				Post intervention			
	Correct		Incorrect		Correct		Incorrect	
	No	%	No	%	No	%	No	%
Age in (years)								
20-24	35	17.5	84	42	99	49.5	20	10
25-29	15	7.5	41	20.5	52	26	4	2
30-35	10	5	15	7.5	22	11	3	1.5
	χ^2 = 1.48		p >0.05		χ^2 = 3.10		p >0.05	
Level of education								
Read & write	9	4.5	67	33.5	51	25.5	25	12.5
Basic education	1	0.5	5	2.5	6	3	0	0.0
Secondary education	17	8.5	45	22.5	61	30.5	1	0.5
University education	33	16.5	23	11.5	55	27.5	1	0.5
	χ^2 = 36.52		p <0.001**		χ^2 = 42.71		p <0.001**	
Occupation								
House wife	10	5	119	59.5	103	51.5	26	13
Employer	50	25	21	10.5	70	35	1	0.5
	χ^2 = 85.65		p <0.001**		$\chi^{2=}$ 13.78		p <0.001**	
Residence								
Rural	9	4.5	125	62.5	108	54	26	13
Urban	51	25.5	15	7.5	65	32.5	1	0.5
	χ^2 = 104.82		p <0.001**		χ^2 = 12.11		p <0.001**	

*Statistical significant difference (P ≤ 0.05)

**Highly statistical significant difference (P ≤ 0.001)

Table (12) shows that mothers lived in rural areas with lower educational background had poor knowledge compared to other mothers. Also there is a highly statistically significant relations in between knowledge and their Level of education, Occupation and Residence, Meanwhile there is insignificant difference between knowledge and their age.

Table (13): Relation between mothers general characteristics data and their total Performance score pre and post intervention (n=200).

General Characteristics	Postpartum mothers performance							
	pre intervention				Post intervention			
	Correct		Incorrect		Correct		Incorrect	
	No	%	No	%	No	%	No	%
Age in (years)								
20-24	31	15.5	88	44	104	52	15	7.5
25-29	13	6.5	43	21.5	48	24	8	4
30-35	7	3.5	18	9	21	10.5	4	2
	$\chi^2 = 0.25$ $p > 0.05$				$\chi^2 = 0.24$ $p > 0.05$			
Level of education								
Read & write	2	1	74	37	58	29	18	9
Basic education	0	0.0	6	3	4	2	2	1
Secondary education	18	9	44	22	57	28.5	5	2.5
University education	31	15.5	25	12.5	54	27	2	1
	$\chi^2 = 49.71$ $p < 0.001$**				$\chi^2 = 16.38$ $p < 0.001$**			
Occupation								
House wife	6	3	123	61.5	104	52	25	12.5
Employer	45	22.5	26	13	69	34.5	2	1
	$\chi^2 = 83.14$ $p < 0.001$**				$\chi^2 = 10.75$ $p \leq 0.001$**			
Residence								
Rural	7	3.5	127	63.5	109	54.5	25	12.5
Urban	44	22	22	11	64	32	2	1
	$\chi^2 = 87.87$ $p < 0.001$**				$\chi^2 = 9.24$ $p < 0.002$**			

* **Statistical significant difference (P ≤ 0.05)**
****Highly statistical significant difference (P ≤ 0.001)**

Table (13) shows that mothers lived in rural areas with lower educational background had poor performance compared to other mothers. Also the same table clears that there is a highly statistically significant relations in between performance and Level of education, Occupation and Residence, Meanwhile there is insignificant difference between performance and age.

Part V: Mothers' attitude towards self-care guidelines

Table (14): Frequency distribution of mother's attitude towards self-care guidelines. (n=200)

Items	Satisfied		Uncertain		Unsatisfied	
	No.	%	No.	%	No.	%
Post-partum period concept & its physical changes.	175	87.5	10	5.0	15	7.5
Self-care concept during post-partum period.	148	74.0	24	12.0	28	14.0
Maternal complication during post-partum period.	185	92.5	9	4.5	6	3.0
Negative attitude towards maternal self-care.	176	88.0	21	10.5	3	1.5
Neonatal care during post-partum period.	154	77.0	34	17.0	12	6.0
Newborn cleaning by parturient mothers.	187	93.5	7	3.5	6	3.0
Breast-feeding complication and solutions.	179	89.5	9	4.5	12	6.0
Expedent program of immunization.	189	94.5	7	3.5	4	2.0
Female genital mutilation and male cercumcision.	166	83.0	24	12.0	10	5.0
Weaning procedures and infant nutrition.	154	77.0	30	15.0	16	8.0
Infection prevention and control for sepsis.	145	72.5	23	11.5	32	16.0
Total mean score	170.5	--	17.0	--	12.5	--
Total mean score percent	--	85.25%	--	8.5%	--	6.25%

Regarding the mother's attitude towards self-care guidelines, results in table (14) shows that the majority of mothers were satisfy about the self-care guidelines (Total mean score percent = 85.25%). The few percentages of mothers who were uncertain and dis-satisfied the guidelines (8.5% and 6.25% respectively), they were referred their refusal to the very long subjects and its complexity.