RESULTS

The results obtained from the study were presented in the following sequence.

Part I. Demographic characteristics of postpartum mothers and nurses included in the study: Table 1,2 & figure 1-5.

Part II. Nurses knowledge about quality of nursing performance toward immediate postpartum women with normal delivery. Table 3-6 & figure 6.

Part III. Standards for immediate postpartum period. It include.

A-Standards of structure of postpartum unit : Table 7.

B-Standards of nursing care provided for immediate postpartum mothers. Table : 8-12.

C-Standards of newborn baby care during immediate postpartum period Table : 13,14.

Part I

Demographic characteristics of nurses & mothers included in the study.

Table 1

Distribution of postpartum mothers by their socio-demographic & obstetric characteristics.

Items	*Frequency*	*Percent*
Age (years)		
<30	103	68.7
>30	47	31.3
Mean ± SD	23.9 ± 2.7	
Range	20 – 35 years.	
Education :		
Illiterate	54	36.0
Primary	6	4.0
Secondary(diploma degree)	69	46.0
University	21	14.0
Occupation :		
Houswife	125	83.3
Employee	25	16.7
Parity Mean ± SD	1.7 ± 0.3	
Gravidity Mean ± SD	3.1 ± 0.6	

As evident from the table (1) and figure (1,2). Concerning the age, it was found that it ranged from 20-35 years with a mean ± SD of 23.9 ± 2.7. Regarding the level of education, the highest percentage 46% had secondary diploma degree, while, 36% were illiterate and 14% had university degree, Regarding occupation 83.3% of the sample were house wives. Lastly , the mean ± SD of both parity & Gravidity were (1.7 ±0.3) & (3.1 ± 0.6), respectively.

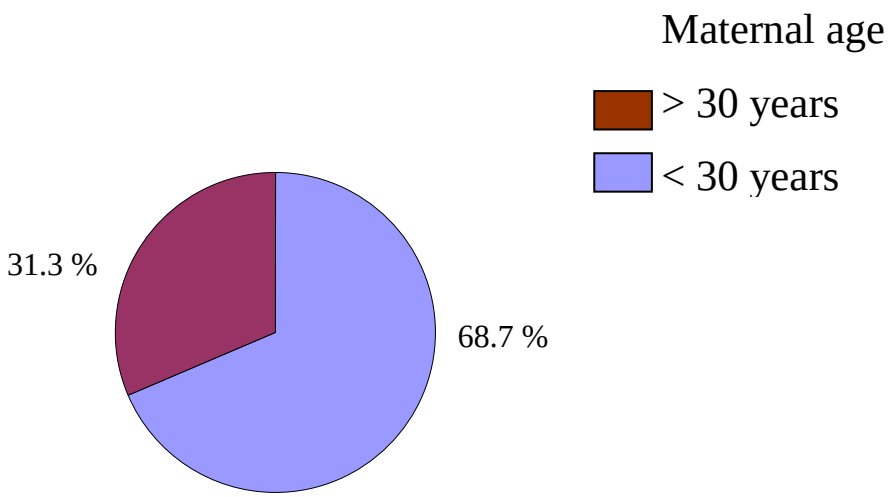


Figure (1): Distribution of postpartum mothers by their age

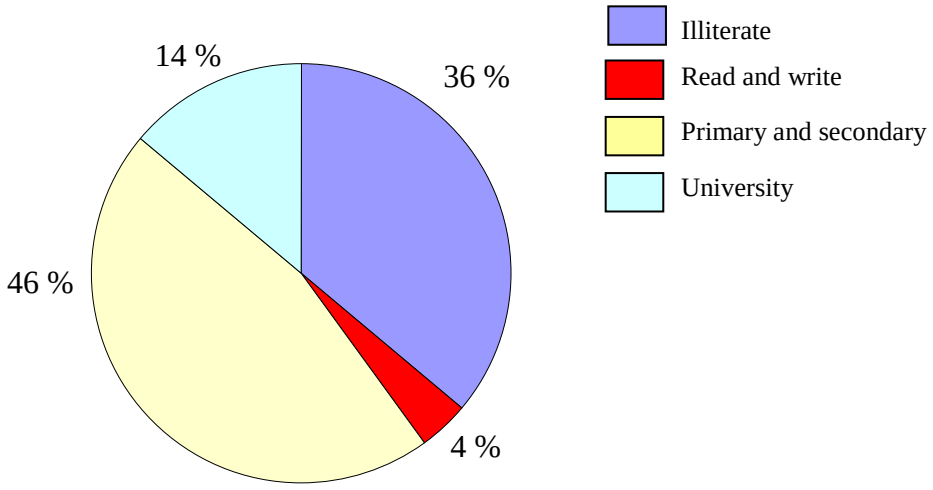


Figure (2): Distribution of postpartum mothers by their educational level.

Table 2.

Distribution of nurses by their general characteristics.

Items	*Frequency*	*Percent*
Age (years)		
20-24	9	22.5
25-29	23	57.5
30 +	8	20
Mean ± SD	24.9 ± 3.8	
Qualification		
Bachelor degree	3	7.5
Secondary school diploma	37	92.5
Experience (years)		
3 years	3	7.5
5 years	15	37.5
10 +	22	55
Mean ± SD	7.6 ± 1.3	

As indicated in the table (2) and figure (3,4,5). The highest percentage of nurses (57.5%) have their age range of 25-29 years, & the mean ± SD of age was 24.9 ± 3.8 .

Concerning qualification, the greatest majority of nurses (92.5%) were staff nurses with diploma qualification, while the least percentage (7.5%) were having bachelor degree.

Regarding years of experience, slightly more than a half of the nurses (55%) had more than ten years of experience, while about (37.5%) had 5 years of experience & the mean ± SD was 7.6 ± 1.3.

All the nurses (100%) did not attend any conferences about quality of nursing performance in the immediate postpartum period.

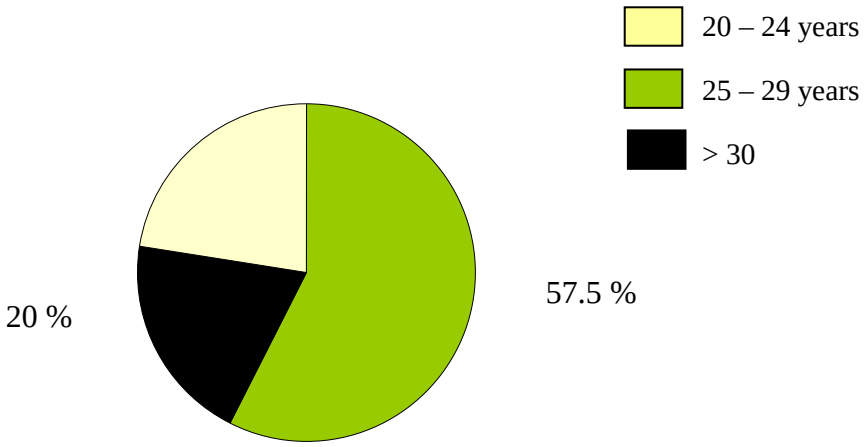


Figure (3): Distribution of nurses by their age.

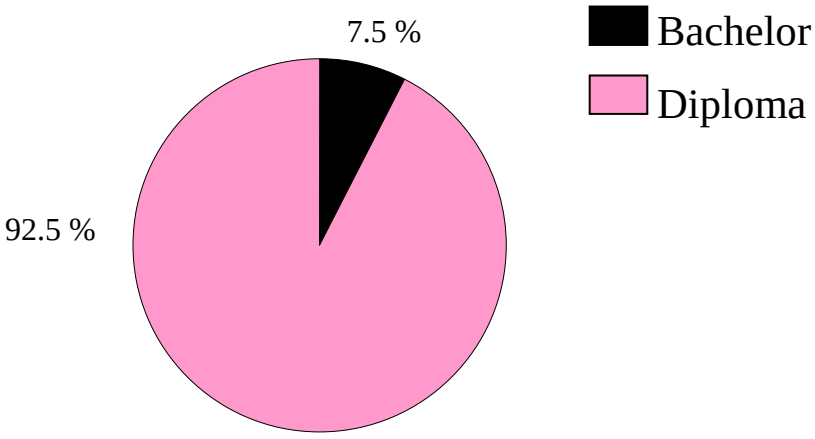


Figure (4): Distribution of nurses by their qualification.

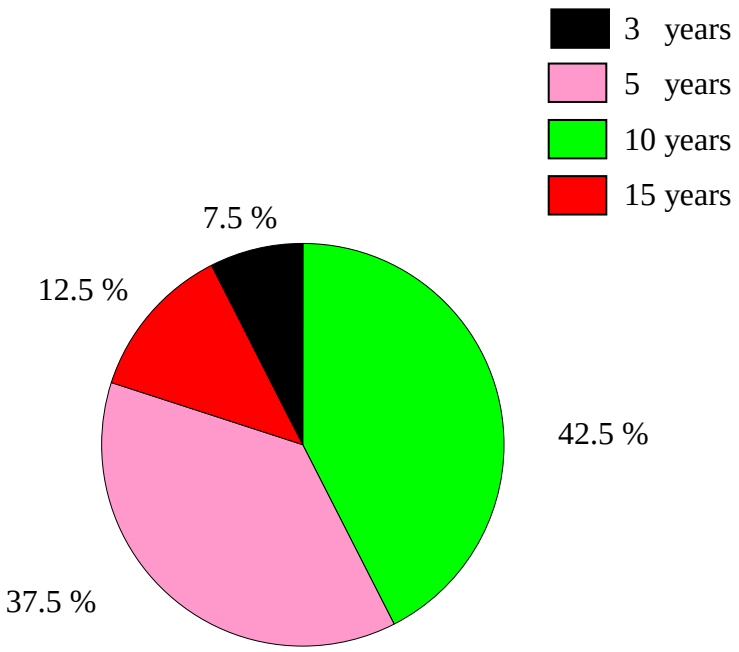


Figure (5): Distribution of nurses by their years of experiences.

Part II.

Nurse's knowledge about quality of nursing performance toward immediate postpartum women with normal delivery .

Table 3:

Distribution of Nurses by their knowledge regarding physiologyical changes during immediate postpartum period.

Physiological changes	*(n = 40)*				*Z*	*P*
	Correct		*Incorrect*			
	No.	*%*	*No.*	*%*		
*Definition of the Postpartum period	27	67.5	13	32.5	2.36	< 0.01*
*Stages of Postpartum period	0	0.0	40	100.0	-	
*Uterine changes through I.P.P.P.	13	32.5	27	67.5	-2.36	<0.001*
*Definition of lochia	29	72.5	11	27.5	3.19	<0.001*
*Types & characteristics of lochia	1	2.5	39	97.5	-19.24	<0.001*
*Bowel elimination condition I.P.P.	5	12.5	35	87.5	-7.17	<0.001*
*Physiology of lactation	1	2.5	39	97.5	-19.24	<0.001*
*Urinary changes in IPPP.	10	25.0	30	75.0	-3.65	<0.001*
*Musculoskeletal changes during I.P.P.P.	2	5.0	38	95.0	-13.06	<0.001*
*Causes of temperature elevation following birth	30	75.0	10	25.0	3.65	<0.001*

(*) Statistically significant.

(I.P.P.P.) Immediate postpartum period.

As evident from the table (3). About two-third of nurses (67.5%) had correct answers about definition of lochia, (75%) of nurses had correct answers about causes of temperature elevation following birth, while all nurses (100%) had incorrect answers about stages of puerperium & psychological changes during immediate postpartum period and low percentage of correct answers were also observed for other items in the table, However, there were statistically significant differences in relation to most items (P<0.001).

Table 4

Distribution of nurses by their knowledge about concept of quality for nursing performance during immediate postpartum period.

Items	*(n = 40)*				*Z*	*P*
	Correct		*Incorrect*			
	No.	*%*	*No.*	*%*		
1- Concept of quality	18	45.0	22	55.0	-0.64	>0.05
2-Immediate Postpartum care for mother						
Objectives of care during IPPP.	33	82.5	7	17.5	5.41	<0.001*
Equipment needed for mother care.	25	62.5	15	37.5	1.64	<0.05*
Steps of infection control during mother care.	13	32.5	27	67.5	-2.36	<0.01*
Components of nursing assessment during immediate post partum period.	3	7.5	37	92.5	-10.21	<0.001*
Postpartum complications .	10	25.0	30	75.0	-3.65	<0.001*
Comfort measures that relieve pain	5	12.5	35	87.5	-7.17	<0.001*
3- immediate baby care						
Objectives of immediate baby care.	33	82.5	7	17.5	10.21	<0.001*
Equipment needed for immediate baby care	29	72.5	11	27.5	3.19	<0.001*
Components of immediate baby care	12	30.0	28	70.0	-2.76	<0.001*
Components of apgar scoring system	3	7.5	37	92.5	-10.21	<0.001*
Complication related to baby in the I.P.P.P.	1	2.5	39	97.5	-19.24	<0.001*

As evident from the table (4). Concerning nurses' knowledge about concept of quality of nursing performance, it was noticed that (45%) had correct answers about concept of quality in nursing with no statistical significance differences, ($p > 0.05$). while all nurses (100%) had incorrect answers about definition of nursing performance & standard concepts.

Regarding to their knowledge about immediate postpartum care to mothers, it was evident that the highest percentage in correct answers was about objectives of this care (82.5%) and the lowest was about components of immediate postpartum nursing assessment (7.5%). There were different p-value of statistically significant differences ($P<0.001$, 0.01, 0.05) for all items of this approach.

Table 5

Distribution of Nurses regarding their knowledge about infection control measures.

Infection control measures	*Nurses' knowledge*				*Z*	*P*
	Correct		*Incorrect*			
	No.	*%*	*No.*	*%*		
1-Definition of terms :						
- Infection .	31	77.5	9	22.5	4.17	< 0.001*
- Infection control	15	37.5	25	62.5	-1.64	<0.05*
- Cleaning	30	75.0	10	25.0	3.65	<0.001*
- Disinfection	20	50.0	20	50.0	-	-
- Sterilization	23	57.0	17	42.5	0.96	>0.05
- Principles of aseptic technique	5	12.5	35	87.5	-7.17	<0.001*
-Methods of infection transmission	29	72.5	11	27.5	3.19	<0.001*
- Steps of cleaning instrument before sterilization	13	32.5	27	67.5	-2.36	<0.001*
- Infection control measures	10	25.0	30	75.0	-3.65	<0.001*

As shown in the table, the highest percentage for correct answers was about definition of infection (77.5%) while the lowest percentage was about principles of aseptic technique (12.5%). There were statistically significant differences of the same value ($p < 0.001$).

It was observed that most items of this approach had low percentage for correct answers with different P-values.

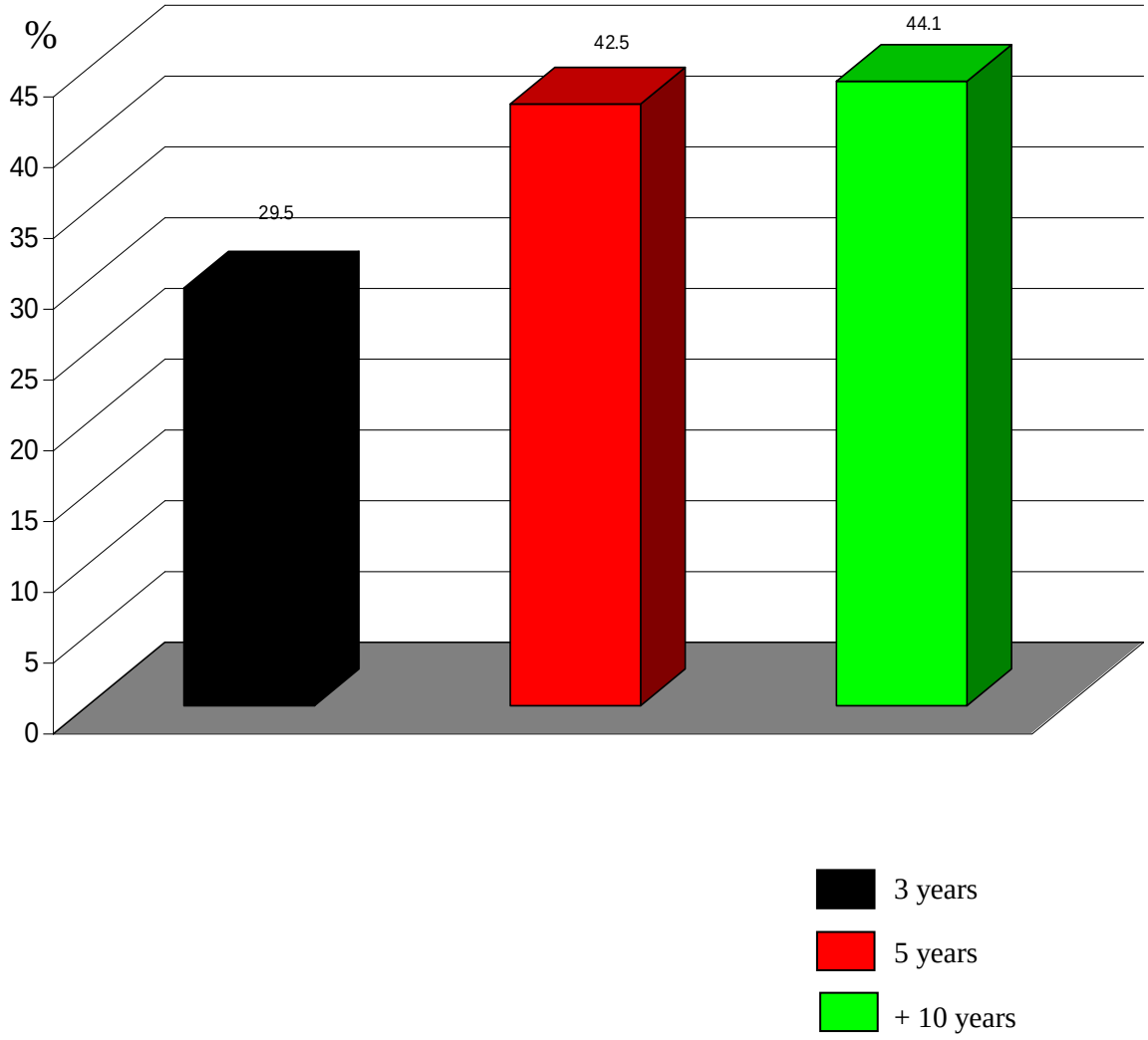
Table 6

Distribution of nurses' knowledge about the components of discharged postpartum plan

Components of discharged postpartum plan	***(n = 40)***				***Z***	***P***
	Correct		***Incorrect***			
	No.	***%***	***No.***	***%***		
*Breast feeding	22	55.0	18	45.0	0.64	>0.05
*Nutrition during puerperium	18	45.0	22	55.0	0.64	>0.05
*Postpartum exercises	0	0.0	40	100.0	-	
*Episiotomy care	13	32.0	27	67.5	-2.36	<0.01*
*Family planning	10	25.0	30	75.0	-3.65	<0.001*
*warning signs for women	15	37.5	25	62.5	-1.64	<0.05*
*Warning signs for baby	1	2.5	39	97.5	-19.24	<0.001*
*Neonatal care	29	72.5	11	27.5	3.19	<0.001*

As seen in the table, there were lack of knowledge related to most items where most of their answers were incorrect and the highest (100%) were about postpartum exercises while the highest correct answers were about neonatal care (72.5%) and there were statistically significant differences ($p<0.001$).

Figure (6): Distribution of nurses' knowledge about the quality of immediate postpartum care by their years of experiences.



As the figure shows, as experience years of nurses increased, their knowledge about the quality of immediate postpartum care increased. The highest mean percentage of nurses knowledge (44.1%) was for nurses with+10 experience years.

Part III.

Standards for immediate postpartum period

A- Standards of structure of postpartum unit.

Table 7.

Mean score and percentage distribution for structures of postpartum unit in different shifts.

Items	*Shifts*			*F ANOVA (p- value)*
	Morning	*Afternoon*	*Night*	
	Mean ± SD	*Mean ± SD*	*Mean ± SD*	
Physical structure & related supplies	2.72 ± 0.45	2.26 ±0.44	2.44 ±0.5	12.33
	54.4%	45.2%	48.8%	(> 0.001)
Furniture	1.53± 0.26	1.5 ±0	1.5 ± 0	0.69
	38.3%	37.5%	37.5%	(> 0.05)
Equipment	3.88 ± 0.39	3.07 ± 0.25	2.97 ± 0.34	14.47
	32.3%	25.6%	24.8%	(< 0.001)*
Supplies	7.68 ± 0.99	5.52 ± 1.02	5.2 ± 0.95	93.3
	56.8%	42.5%	40%	(< 0.001)*
Medication	7.89 ± 0.83	7.4 ± 0.73	7.8 ± 72	6.04
	49.3%	46.3%	48.8%	(<0.001)*

As shown in the table. Concerning morning shift, it was noticed that all items in the table had higher mean score and percentage compared to the other two shifts (afternoon & night). However, there were statistically significant differences only in relation to equipment, supplies & medication ($p<0.001$). All mean scores and percentages in the table reflect poor structure of postpartum unit in the hospital.

B- Standards of nursing care for immediate postpartum mother

Table 8

Distribution of mean scores and percentage of standards of admission procedure and infection control measures for postpartum mothers in different shifts.

Items	***Shifts***			***F ANOVA (p- value)***
	Morning	***Afternoon***	***Night***	
	Mean ± SD	***Mean ± SD***	***Mean ± SD***	
1- Admission care	1.79 ± 0.52 59.7%	1.64± 1.58 54.1%	1.74 ±0.55 58%	0.29 (> 0.05)
2- Infection control standards	4.72± 0.58 47.2%	3.65 ±0.78 36.5%	2.98 ± 0.84 29.8%	69.31 (< 0.001)*

As shown in the table. Regarding admission procedures application, the highest percentage was in the morning shift (59.7%) & the lowest percentage was in the afternoon shift (54.1%) with no statistical significance differences (P>0.05). On the other hand, concerning infection control standards, it was noticed that morning shift also represents the highest percentage (47.2%) while night shift had the lowest percentage (29.8%) and there was a statistical significance difference (P< 0.001).

Table 9

Mean scores of standards of general & local assessment for immediate postpartum mothers in different shifts.

Items	*Shifts*			*F ANOVA (p- value)*
	Morning	*Afternoon*	*Night*	
	Mean ± SD	*Mean ± SD*	*Mean ± SD*	
* General assessment -General appearance	0.77 ±0.29	0.45 ±0.21	0.49 ± 0.41	15.44
	(77%)	(45%)	(49%)	(< 0.001)*
- vital signs per schedule	0.48 ±0.1	0.48 ± 0.14	0.38 ±0.24	5.78
	(48%)	(48%)	(38%)	(>0.001)
- Lower extremities	0.0± 0.0	0.01 ±0.07	0.12 ± 0.85	0.92
	(0.0%)	(1%)	(12%)	(> 0.05)
* Local assessment - uterine fundus	3.76 ±2.4	3.03 ± 1.9	1.81 ±2.2	9.99
	(37.6%)	(30.3%)	(18.1%)	(< 0.001)*
-bladder elimination	0.57 ±0.45	0.57 ±48	0.32 ± 0.47	4.73
	(28.5%)	(28.5%)	(16%)	(< 0.001)*
- Comfort level assessment	0.26±0.25	0.37 ±0.28	0.58 ± 0.58	8.2
	(8.7%)	(12.3%)	(29.8)	(< 0.001)*

As evident from the table, there were poor nursing assessment during immediate postpartum period. Related to general assessment, the morning shift had the highest percentage in general assessment (77%) , while the afternoon shift had the lowest percentage (45%). There were statistical significance differences (P< 0.001). Vital signs assessment were applied by equal percentage in morning & afternoon shift (48%). Lower extremities assessment was not done in morning shift (0.0%) but at night shift was done by percentage of (12%).

Regarding local assessment , the morning shift had the highest percentage in fundus assessment (37.6%). Bladder condition assessment was applied by equal percentage in morning & afternoon shifts (28.5%), and there were statistical significance differences (P<0.001) between shifts.

Table 10

Mean scores of nursing care procedures for immediate postpartum mothers in different shifts.

Item	*Shift*			*F ANOVA (p- value)*
	Morning	*Afternoon*	*Night*	
	Mean ± SD	*Mean ± SD*	*Mean ± SD*	
- Perineal care	5.31 ±1.9	4.73 ± 1.97	5.18 ±2.4	1.04
	(19%)	(16.9%)	(18.5%)	(>0.05)
- Breast care	6.15 ±1.8	5.88 ±2.34	5.49 ±1.78	1.39
	(36.1%)	(34.6%)	(32.3%)	(> 0.05)
-provide comfort measures & psychological support	1.6± 0.5	0.41± 0.61	0.79± 0.36	9.07
	(9%)	(3.4%)	(6.6%)	(<0.001)*
-Maintenance of fluid balance & Nutrition	0.53 ±0.12	0.53 ± 0.16	0.78 ± 0.59	8.06
	(26.5%)	(26.5%)	(39%)	(< 0.001)*
-Provide health education	1.71 ±1.8	1.29 ± 0.6	1.21± 0.99	2.36
	(24.4)	(18.4)	(17.2)	(> 0.05)

The results of this table revealed that the morning shift had the highest percentage in perineal care (19%), breast care (36.1%), and comfort measures (9%) but the differences were not significant.

Concerning fluid balance & nutrition , it was observed that the morning & after noon shifts had equal low percentages (26.5%) while the night shift had the highest (39%) and there were statistical differences (P<0.001) between shifts.

Table 11

Distribution of Nurses' performance for immediate postpartum care according to level of quality to the mothers.

Items	*Excellent*	*Good*	*Average*	*Poor*
- Admission care	16	43	53	38
- Infection control standards.	0	0	50	100
*** General postpartum assessment :**				
- General appearance	42	0	82	26
- Vital signs perschedule	0	2	129	19
- Lower extremities assessment	0	0	0	150
*** Local assessment**				
- Uterine fundus	0	7	45	98
- Bladder condition	0	11	36	103
- Discomfort level assessment	0	0	0	150
***nursing care procedures during immediate postpartum period.**				
- perineal care	0	0	1	149
- breast care	0	4	37	109
-provide comfort measures & Psychological support	0	0	0	150
*** Providing Health education**	0	0	9	141

As evident from table (11). Regarding admission care the nursing performance was average (53), while in infection control procedures it was poor (100).

Concerning general postpartum assessment the nursing performance for the majority of sample (129) was average, in vital signs assessment & poor in lower extremities assessment for all mothers.

On the other hand, the nursing performance for the majority was poor in local assessment. It was found that nursing performance in all nursing care procedures given to immediate postpartum mothers was also poor.

Table 12

Distribution of mothers by their satisfaction regarding immediate postpartum nursing care.

Mother's satisfaction	***N = 150***	
	No.	***%***
- Satisfied	44	29.3%
- Unsatisfied	106	70.7%
Z test	- 6.2	
P value	< 0.01	

As shown in table (12), 70.7% of the mothers were unsatisfied by nursing care given to them.

C-Standards of newborn baby care during immediate postpartum period.

Table 13

Mean scores and percentage of standards of newborn baby care for newborn babies for the immediate postpartum mothers in different shifts.

Newborn baby care	*Shifts*			*F ANOVA (p- value)*
	Morning	*Afternoon*	*Night*	
	Mean ± SD	*Mean ± SD*	*Mean ± SD*	
1- Apgar score at 1,5 minutes	0.42 ± 0.19 (42%)	0.19± 0.25 (20%)	0.1 ±0.2 (10%)	30.2 (< 0.001)*
2-Keep air way clearance & warmth	2.0 ± 0 (100%)	2.0 ±0 (100%)	2.0 ± 0 (100%)	-
3- Cord care	4.06 ± 0.78 (81.2%)	3.38 ± 0.96 (68.5%)	3.62 ± 1.12 (72.4%)	6.35 (< 0.001)*
4- Eye care	5.14 ± 1.4 (57.1%)	5.05 ± 1.36 (56.1%)	5.1 ± 1.24 (56.7%)	0.05 (> 0.05)
5- weighing the baby	0.0± 0.0 (0.0%)	0.0 ±0.0 (0.0%)	0.0 ± 0.0 (0.0%)	-
6-Physical &neurological examination	0.5 ± 0.0 (50%)	0.49 ± 0.07 (49%)	0.47 ± 0.13 (47%)	2.49 (> 0.05)

The results of table (13) revealed that, apgar score and cord care in the morning shift was the highest (42%) & (81.2%) in comparison to the other two shifts and there were statistical significant differences (P< 0.001).

It was found that weighing the baby was not done at any shift (0.0%) reversely keeping air way clearance & warmth done by equal percentage throughout the three shifts (100%).

Concerning Eye care & physical examination, the morning shift had the highest percentage (57.1%) & (50%) in comparison to the other two shifts and there were no statistical significant differences (P> 0.05).

Table 14

Number distribution for nursing performance of immediate baby care according to level of quality (Total sample 150).

Items	*Excellent*	*Good*	*Average*	*Poor*
- Apgar scoring system.	0	0	71	79
- Keep air way clearance & warmth	150	0	0	0
- Cord care	24	35	77	14
- Eye care	12	54	56	28
- Weighing the baby	0	0	0	150
- Measure chest & head circumferences,	0	0	0	150
- Complete physical & neurological	0	0	146	4
examination.	0	0	0	150
- Identification of the baby.				

It was noticed that the highest number in average nursing performance was related to physical & neurological examination. The highest number in excellent nursing performance was related to air way clearance and warming the baby and nursing performance in one third of sample was good related to eye care while nursing performace for most procedures was poor.

Fig. (7): Distribution of the quality of nursing performance for immediate postpartum care in different shifts

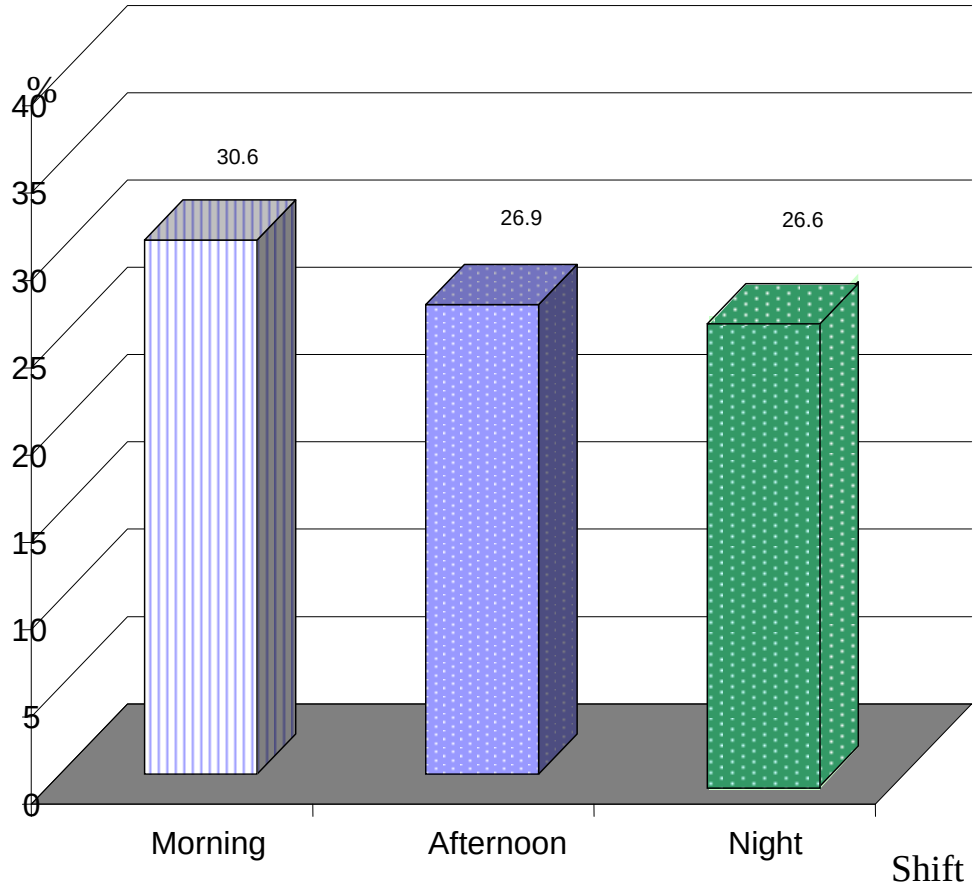


Figure (7) shows the highest percentage of nursing performance was in the morning shift (30.6%) followed by the afternoon shift (26.9%) and the lowest percentage of performance was in the night shifts (26.6%) with no significant differences.