

# Results

**Results of the study will be presented in the following parts :**

**Part I :-** Characteristics of the studied nurses .(Table 1)

**Part II :-** Nurse's knowledge working with cardiac arrest patients  
(Tables 2,3,4,5,6,7,8,9) .

**Part III :-**Nurse's performance about nursing care for cardiopulmonary  
resuscitation during cardiac arrest toward the patients(Tables  
10,11,12).

**Part IV :-** The relation between nurses knowledge and practice in  
relation to their demographic characteristics (Tables  
13,14,15,16.17, 18) .

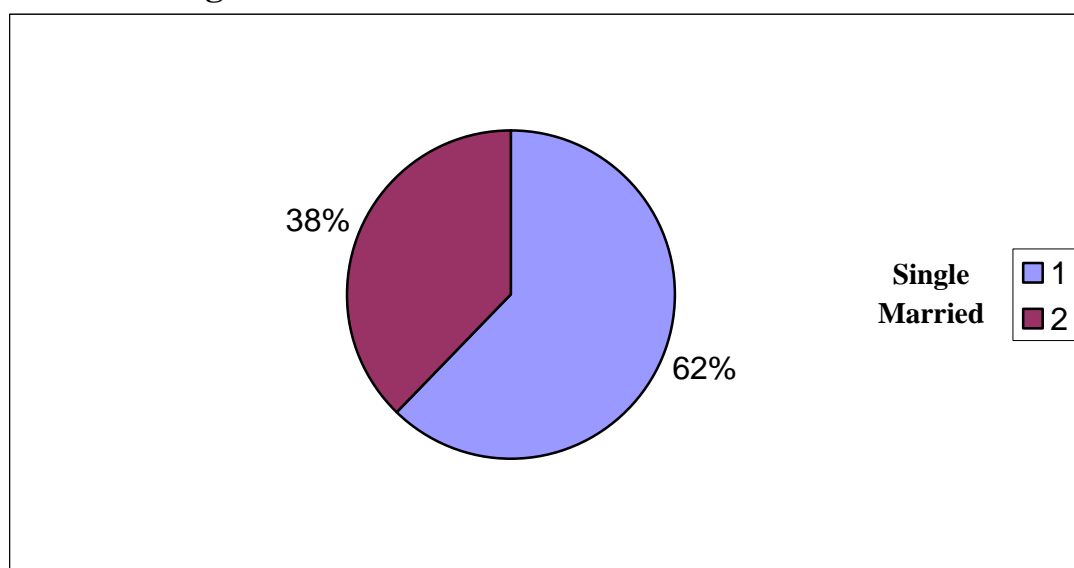
**Part I :- Characteristics of the studied nurses.**

**Table :- ( 1 )** Number and percentage distribution of the studied nurses according to their characteristics.

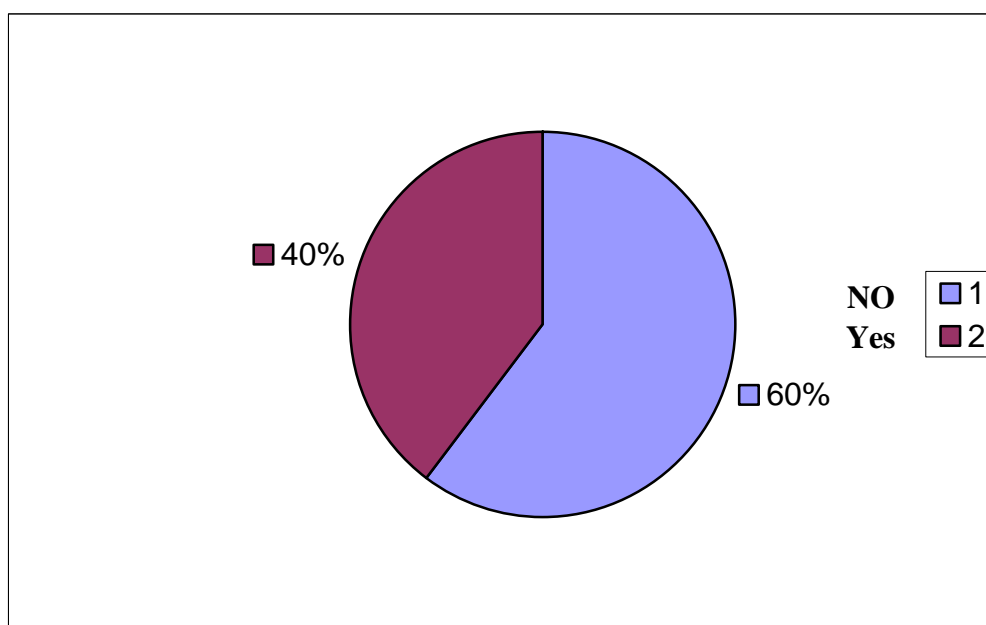
Units Items	ICU &CCU units	
	Number 53	Percentage %
<b>Age(years)</b>		
< 20	14	26.4
20-26	22	41.5
>26	17	32.1
<b>Marital status:</b>		
Single	33	62.3
Married	20	37.7
<b>Level Of Education</b>		
Secondary school	33	62.3
Technical school	5	9.4
Bachelor degree	15	28.3
<b>Experience in units (years)</b>		
< 2	15	28.3
2-4	19	35.8
>4	19	35.8
<b>Attending previous training program in units</b>		
No	32	60.3
Yes	21	39.6

This table shows that nurse's age , finding of the present study revealed that less than half (41.5%)were in the age group ( 20 – 26years) . As regard their level of education it was found that the more than half of them (62.3% ) were having diploma in nursing . As regard, their marital status was found ( 62.3%)were single .It is clear that the years of experience (35.8%) were >4 years, more than half of studied nurse ( 60.3%) did not receive previous training program .

**Figure (1) : The percentage distribution of the studied nurses according to their Marital status**



**Figure (2) : The percentage distribution of the studied nurses according to their attending to previous training program**



***Part II: Nurse's knowledge working with cardiac arrest patients.***

***Table(2):-***Basic nurses knowledge regarding to cardiac arrest and nursing management .

<b>Nurses Knowledge</b>	<b>Satisfactory</b>		<b>Unsatisfactory</b>	
	<b>no</b>	<b>%</b>	<b>no</b>	<b>%</b>
- Definition of cardiac arrest	49	92.5	4	7.5
- Most common causes of cardiac arrest	43	81.1	10	18.9
- What's happen during CA	26	49.1	27	50.9
- sings and symptoms of CA	48	90.6	5	9.4
-Nursing action for patient with cardiac arrest	34	64.2	19	35.8

\* In this table the majority (92.5%) of nurses hade satisfactory knowledge about definition of cardiac arrest while the minority (9.4%)had unsatisfactory knowledge about sings & symptoms of cardiac arrest .

**Table (3) :-** Nurses knowledge regarding to Cardio pulmonary resuscitation (nursing management and their complication).

Nurses Knowledge	Satisfactory		Unsatisfactory	
	no	%	no	%
- Cardiac resuscitation is	39	73.6	14	26.4
-Nursing action before applying CPR	44	83.0	9	17.0
- Position for CPR	50	94.3	3	5.7
-Method for opening air way	32	60.4	21	39.6
-When stop of breathing occur the nurse should be	40	75.5	13	24.5
-Time that nurse should provide ventilation during CPR	12	22.6	41	77.4
-Site for assessing pulse during CPR	36	67.9	17	32.1
- Ratio of ventilation: breathing : chest compressions (one rescuer)	7	13.2	46	86.8
-Ratio of ventilation: breathing : chest compressions (two rescuer)	19	35.8	34	64.2
- Site of chest compressions	17	32.1	36	67.9
- Nursing care during CPR for tracheostomy patient	26	49.1	27	50.9
Complication of chest compression during CPR	17	32.1	36	67.9

\* This table illustrates that the majority of nurses(94.3%) had satisfactory knowledge about (position for cardiopulmonary resuscitation) and (86.8%) had unsatisfactory knowledge about ratio of ventilation: breathing : chest compressions (one rescuer) .

**Table (4):-** Nurses knowledge regarding to external defibrillator, uses ,nursing care and their complication.

Nurses Knowledge	Satisfactory		Unsatisfactory	
	no	%	no	%
- Definition of defibrillator	51	96.2	2	3.8
- Uses of defibrillator	51	96.2	2	3.8
- Unit to measure electric shock for defibrillator	18	34.0	35	66.0
- Ideal electric sock given to patient	42	79.2	11	20.8
-Site of defibrillator paddles	44	83.0	9	17.0
- To decrease electricity on the skin for defibrillation should be use	50	94.3	3	5.7
- Nursing observation during defibrillation	44	83.0	9	17.0
- Nursing care after given defibrillation shock	40	75.5	13	24.5
- Complication of defibrillator	49	92.5	4	7.5

\*This table shows that the majority of nurses(96.2%) had satisfactory knowledge bout definition and uses of defibrillator ,While the minority (5.7%) had unsatisfactory knowledge about (To decrease electricity on the skin for defibrillation should be use) .

**Table(5):-** Nurses knowledge regarding to emergency drug used during CPR and common side effect.

Nurses Knowledge	Satisfactory		Unsatisfactory	
	no	%	no	%
-Most common drug used during cardiopulmonary resuscitation	49	92.5	4	7.5
-Nursing care during given atropine & adrenaline for patient	46	86.8	7	13.2
- Complication when give atropine over dose	48	90.6	5	9.4

\* This table illustrates that the majority of nurses (92.5%) had satisfactory knowledge about most common drugs used during cardiopulmonary resuscitation , the lowest (9.4%) had unsatisfactory about complication when give atropine over dose .

**Table (6):-** Nurses knowledge about tracheostomy ,suctioning care and Crash cart (content & preparation).

Nurses Knowledge	Satisfactory		Unsatisfactory	
	no	%	no	%
- Nursing care for patient with Endotracheal tub	19	35.8	34	64.2
- Precaution during suctioning	23	43.4	30	56.6
<b>Crash cart:-</b>	30	56.6	32	43.4
- Content of emergency cart				
- Preparation of emergency cart according to priority	11	20.7	42	79.3

\* This table shows that more than half of nurses ( 79.3%) had unsatisfactory knowledge about Preparation of emergency cart according to priority, less than half (35.8%) had satisfactory about Nursing care for patient with Endotracheal tub



**Table (7) :-** Nurses knowledge regarding Cardiac arrest & nursing care during cardiopulmonary resuscitation.

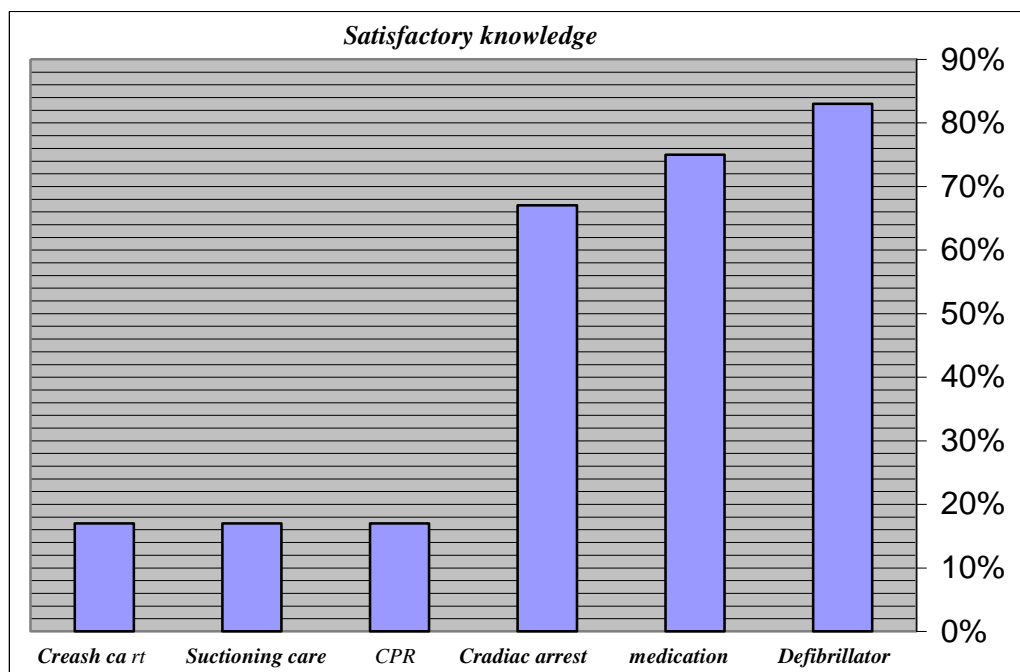
Item	Satisfactory		Unsatisfactory	
	no 53	%	no 53	%
<b>1-Basic knowledge about Cardiac arrest and nursing management .</b>	36	67.9	17	32.1
<b>2-Nursing care during Cardio pulmonary resuscitation and their complication.</b>	9	17.0	44	83.0
<b>3-Nursing care for external defibrillator, uses and complication.</b>	44	83.0	9	17.0
<b>4- Emergency drug used during CPR and common side effect.</b>	40	75.5	13	24.5
<b>5-Nursing care for tracheostomy and suctioning care.</b>	9	17.0	44	83.0
<b>6-Crash cart content and preparation.</b>	9	17.0	44	83.0

\* This table illustrates that the majority of nurses (83.0%) had satisfactory knowledge level about external defibrillator, uses & complication and (75.5%) of nurses had satisfactory about emergency drugs used during CPR and common side effect, While (83.0%) unsatisfactory knowledge level about nursing care during cardiopulmonary resuscitation & their complication, crash cart (content & preparation) and suctioning care .

**Table (8) :-** Most common area of satisfactory nurses knowledge regarding to cardiac arrest & nursing care during CPR.

Items	Satisfactory Knowledge	
	no 53	%
1-Nursing care for external defibrillator, uses and complication.	44	83.0
2- Emergency drug used during CPR and common side effect.	40	75.5
3-Basic knowledge about Cardiac arrest and nursing management .	36	67.9
4-Nursing care during Cardio pulmonary resuscitation and their complication.	9	17.0
5-Nursing care for tracheostomy and suctioning care.	9	17.0
6-Crash cart content and preparation.	9	17.0

\* This table shows that the majority of nurses(83.0%) had satisfactory knowledge level about external defibrillator ,use and complication while the minority of nurses (17.0%) had satisfactory knowledge level about nursing care during CPR & their complication, suctioning care and crash cart.



**Figure (3):-** Most common satisfactory nurses knowledge regarding to cardiac arrest & nursing care during CPR.

**Table:- (9) :-** Mean score of nurses knowledge regarding to cardiac arrest and nursing care during cardiopulmonary resuscitation .

Item	Knowledge score		
	Mean.	$\pm$	S.D
1-Basic knowledge about Cardiac arrest and nursing management .	37.74	$\pm$	8.69
2-Nursing care during Cardio pulmonary resuscitation and their complication.	36.96	$\pm$	21.51
3-Nursing care for external defibrillator, uses and complication.	73.77	$\pm$	17.01
4- Emergency drug used during CPR and common side effect.	26.98	$\pm$	6.07
5-Nursing care for tracheostomy and suctioning care.	7.93	$\pm$	7.17
6-Crash cart content and preparation.	7.74	$\pm$	7.24
Total knowledge	218.11	$\pm$	38.87

\*This table shows the highest mean score (73.77  $\pm$ 17.01) of nurses knowledge level about nursing care for external defibrillator ,while the lowest mean score (7.74 $\pm$ 7.24) in nurses knowledge level about crash cart (contain & preparation).

***Part III : Nurses performance about nursing care for cardiopulmonary resuscitation during cardiac arrest.***

**Table(10):-** Number and percentage distribution of studied nurses level of performance during cardiopulmonary resuscitation and external defibrillator .

Item	Satisfactory		Unsatisfactory	
	no 53	%	no 53	%
<b>1- CPR ( Two rescuer ) :-</b> * For unresponsiveness.	16	30.2	37	69.8
* For air way.	16	34.0	35	66.0
* When getting tired.	23	43.4	30	56.6
<b>2-External Defibrillator :-</b> * During procedure.	18	34.0	35	66.0
* Post procedure care of equipment .	20	37.7	33	62.3
* Post procedure care of patient .	24	45.3	29	54.7

\*This table shows that less than half of nurses (45.3%) had satisfactory in nurses performance level about external defibrillation(post procedure care of patient )& and more than half (69.8%) had unsatisfactory nurses performance about CPR (for unresponsiveness) .

**Table (11):-** Nurses performance regarding to emergency medication, suctioning care and crash cart (content & preparation )

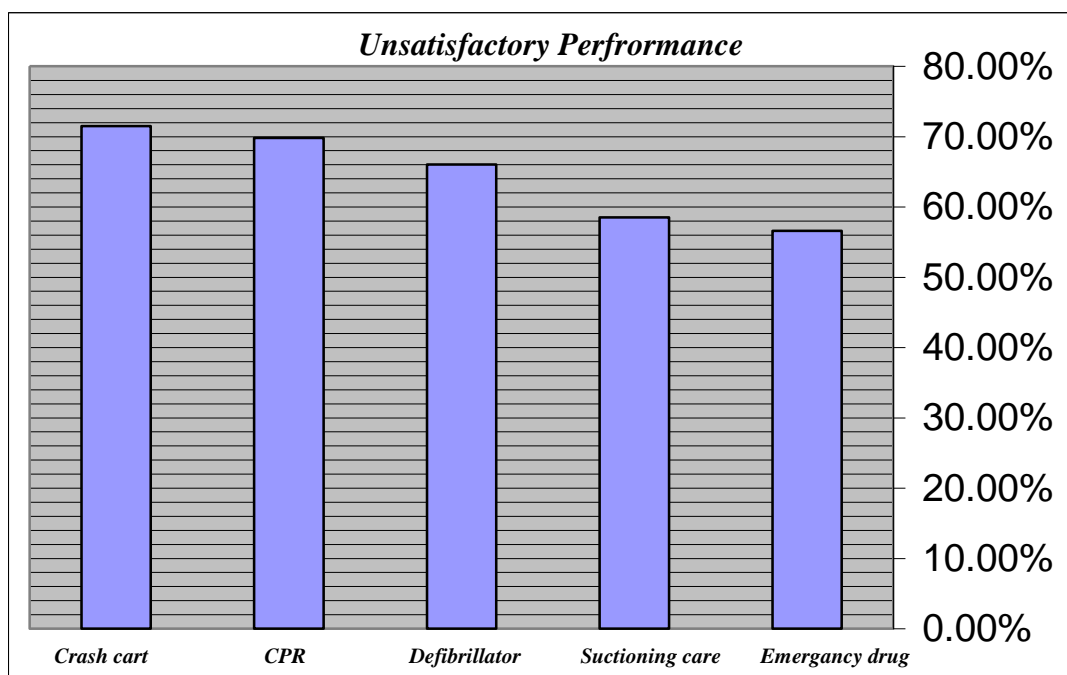
Item	Satisfactory		Unsatisfactory	
	no 53	%	no 53	%
<b>3- Emergency medication:-</b> *Preparation.	23	34.4	30	56.6
Procedure .	24	45.3	29	54.7
Administration of IV infusion.	20	37.7	33	62.3
Evaluation .	18	34.0	35	66.0
<b>4-Nursing care for tracheostomy &amp; Suctioning care.</b>	22	41.5	31	58.5
<b>5-Crash cart</b> (content& preparation)	15	28.3	38	71.7

\* this table illustrates that less than half of nurses ( 45.3%) had satisfactory practice level about emergency medication (Procedure ) and (41.5%) of nurses had satisfactory performance level bout nursing care for tracheostomy and suctioning care .While more than half of nurses (71.7%) had unsatisfactory performance about crash cart (content & preparation) .

**Table (12) :-** Most common area of unsatisfactory nurses performance regarding to cardiac arrest &nursing care during CPR.

Item	Unsatisfactory performance	
	no 53	%
Emergency medication	30	56.6
-nursing care for tracheostomy &suctioning care	31	58.5
External defibrillator	35	66.0
-Cardio pulmonary resuscitation	37	69.8
-Crash cart	38	71.5

\*This table shows that the majority of nurses (71.5%) had unsatisfactory performance about crash cart ( content & preparation and more than half (56.6%) had unsatisfactory performance level about emergency medication .



**Figure (4) :-** Most common unsatisfactory nurses performance regarding to cardiac arrest & nursing care during CPR.



***Part IV :- The relation between nurses knowledge and practice in relation to their characteristics .***

**Table (13):** Relation between knowledge score, age and years of experience of studied nurses in both units .

Age Years of experience	NO	Knowledge score/ 330			F Test	P Value
		Mean	±	SD		
Age(years) < 20	17	219.4	±	33.4	0.69	>0.05
20-26	29	213.8	±	43.1		
>26	7	232.9	±	32.5		
Years of experience < 2 years	15	222.5	±	34.6	1.44	>0.05
2-4 years	19	204.0	±	41.7		
> 4 years	19	225.7	±	41.1		

\* This table shows high mean score ( $232.9 \pm 32.5$ ) between total knowledge and age group( >26 years) .Also high mean score (  $225.7 \pm 41.1$ ) between total knowledge and years of experience ( > 4years) in both units , (this mean when increase age and years of experience increase knowledge) but without statistical significant.

**Table (14) :** Relation between knowledge score , level of education and previous training of Studied nurses in both units.

Knowledge With	no	Knowledge score/ 330			F Test	P Value
		Mean	±	SD		
<b>Education</b>	33	212.1	±	42.4	3.65	<0.05
Secondary school						
Technical school	5	196.0	±	24.1		
Bachelor degree	15	238.7	±	24.5		
<b>Previous training</b>	21	218	±	30.56	t test	P Value
Yes						
No	32	217.5	±	47.5	0.10	>0.05

\*The highest knowledge mean score ( $238.7 \pm 24.5$ ) was presented by bachelor degree nurses as regard level of education .

\*There was a significant relation between nurse knowledge scores & level of education P value = ( $<0.05$ ).

**Table(15):** Relationship between practice scores , age and years of experience of the studies nurses in both units .

Practice With	no	Practice score/ 366			F Test	P Value
		Mean	±	SD		
Age(years) < 20 20-26 >26	17	241.8	±	13.29	2.53	>0.05
	29	234.3	±	16.44		
	7	228.3	±	5.38		
Years of experience < 2 years 2-4 years > 4 years	15	239.1	±	16.10	1.56	>0.05
	19	230.5	±	12.99		
	19	236.3	±	14.19		

\*The high mean score ( 241.8 ±13.29) was presented in age group (< 20years) with practice . Also ,the highest mean score ( 239.1± 16.10) related to nurses with less than( 2 year) of experience . There is no statistical significance difference was found with P value = (> 0.05).

**Table (16):** Relation between practice mean scores , level of education and previous training of studied nurses in both units .

Practice With	no	Practice score/ 366			F Test	P Value
		Mean	±	SD		
<b>Education</b>	33	237.8	±	13.68	1.138	>0.05
Secondary school						
Technical school	5	227.6	±	20.59		
Bachelor degree	15	234.3	±	15.67		
<b>Previous training</b>	21	237.72	±	15.67	<b>t test</b>	<b>P Value</b>
Yes						
No	32	233.67	±	14.05	0.89	>0.05

\* In this table, high practice mean score ( $237.72 \pm 15.67$ ) related to studies nurses have previous training with practice. Also the highest mean score ( $237.8 \pm 13.68$ ) related to studies nurses about level of education (secondary school) with practice without statistical significant P value = ( $>0.05$ )

**Table (17):-** Relation between total knowledge and total practice in both units .

Practice	Knowledge				Total	
	Unsatisfactory		Unsatisfactory			
	no	%	no	%	no	%
Unsatisfactory	2	6.9	27	93.1	29	54.7
Satisfactory	5	20.8	19	79.2	24	45.3
Total	7	13.2	40	86.8	53	100
X <sup>2</sup> 2.225			P value >0.05			

\*This table reveals that the majority of nurses ( 93.1%) had unsatisfactory knowledge and practice . their is no statistically significant in relation between total nurse's knowledge and total nurse practice.

**Table (18):-** Correlation coefficient for nurses knowledge, practice , age and years of experience .

Units Items	ICU &CCU	
	r	p
Age With knowledge	0.21	>0.05
Age With practice	0.41.	>0.05
years of experience with knowledge	0.21	>0.05
years of experience with practice	0.41.	>0.05

\*This table illustrates the positive correlation between practice with age & years of experience without statistical significant. Also this table shows correlation between knowledge with age & years of experience .