Emergency Nurses 'performance Regarding Cardiopulmonary Resuscitation: An Educational Intervention

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Abstract: Background: Practicing emergency nurse concerning cardiopulmonary resuscitation (CPR) was of great importance to suitable care like contingency case lives. Nurses are generally the first to limit the necessity for and being cardiopulmonary resuscitation (CPR) on patients with cardiopulmonary arrest in the hospital setting. Cardiopulmonary resuscitation has been observed to decrease in-hospital deaths when to be given from adequately trained health care professionals. Aim of the current research was to estimate the influence of an educational involvement on emergency nurse' achievement concerning cardiopulmonary resuscitation. A quasi-experimental design was done in this study. This research was carried out at the Emergency Department in an accidental hospital affiliated at Zagazig University Hospitals. Subjects: included an appropriate sample from a total of 70 contingency nurses. Tools: Two tools were utilized for information collection. Interviewing questionnaire sheet was concerning with nursing personnel properties and awareness relationship with cardiopulmonary resuscitation and performance checklist sheet. From the results of this research that there was a great statistical variation among information and practical scores of a contingency nurse at pre and post-intervention. The study summarized that educational intervention has greatly become better emergency nurses' performance regarding cardiopulmonary resuscitation.
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1. Introduction

Cardiopulmonary resuscitation (CPR) is a perfect-known medical an established in which chest pressure and synthetic ventilation are as long as to preserve enough bloodstreams to the brain and other absolutely necessary organs (**Catherine et al., 2017).** Cardiopulmonary resuscitation observed that decreases cardiac death and concerning fatalities in-hospital when it is their administered by adequately trained health care professionals (**Simmes, et al., 2012).** The American Heart Association (AHA) is the main power in resuscitation science. Its confirmed traineeship courses are educated toward the world. The potential practice proof-founded medicine, AHA makes more modern are progressive through five years. The 2015 AHA make more modern for CPR and Emergency Cardiovascular Care (ECC) concentrates on subjects included considerable new expansions in resuscitation science and perform duties as an up to date to the 2010 AHA Guidelines for CPR and ECC rather than as a full revision of the guidelines (**Rajeswaran et al., 2018).**

Nurses are usually the headmost professionals to care in the hospital setting, therefore, have to own sufficient competency to supply influential resuscitation. Cardiopulmonary resuscitation has been experienced more than 50 years and more researches have been reported that the information and cleverness were declines within 6 months after first training in CPR **(Passali et al., 2011)** and achievement becomes better when all nurses are authenticated and practicing the closely connected life support practicing courses (**Field et al., 2010).** The goodness of CPR accomplish by saviors be controlled on learners combination, keeping and stratifying the cognitive, behavioral and psychomotor cleverness needed to successfully complete resuscitation (**Soar et al., 2010).**

Nurses are usually beginning reactors in cardiopulmonary arrest and it could be having the power for first essential contingency care. Being emergency care is decisive, the quick motivation of a proficient resuscitation group and BLS carried out competently until the oncoming of these groups awards the patient the better opportunity for the act of coming of automatic circulation **(Saiboon et al., 2016)**. It plays an essential function in contingency administration.

Revivification cleverness in cardiopulmonary resuscitation can be obtained meanwhile mannequin training and estimate can be completed with an observational checklist. Repeated activate training is necessary to keep like cleverness **(Bobrow et al., 2011).** Revivification training styles should be

estimated considerably with a view to becoming better the resuscitation practice (**Taniguchi et al., 2012)**.

Standardized education styles could affect the keeping of revivification cleverness between nurses and utilize of standardized teaching methods may ease the keeping of resuscitation cleverness. Standardized apparatus and its information are chosen in the clinical regions (**Sawyer et al., 2012).**

1.1. Significance of the study:

The emergency department (ED) provides emergency care in acute diseases, trauma and intoxication that may cause cardiac arrest for patients. The definition of emergency care health services that are understanding that in cases where postponement of care or lack of success to supply care may be due to death or constant harm to the health of the person demanding care. Cardiopulmonary resuscitation (CPR) is one of the greatest significant hospital care group an established to be augmented by emergency nursing services. There is unanimity as to cardiopulmonary resuscitation and emergency cardiovascular care science with therapy recommendations, which are regularly up to dated every five years. International recommendations advise health professionals to up to date their information every two years (**Rajeswaran et al., 2018)** therefore understanding that great-fineness care is rapidly and effectively to the patient which experiences cardiac arrest is a various operation which demands existing knowledge and practice. From the clinical experiment at the achieved setting, the detection of cardiopulmonary resuscitation cleverness was weak. Especially between contingency nurses who have a small chance to practice CPR **(García et al., 2015)** therefore the aim of this study was to estimate the influence of emergency nurses' performance regarding cardiopulmonary resuscitation: an educational intervention.

1.2. Aim of the study:

The aim of this study was to estimate the influence of emergency nurses' performance regarding cardiopulmonary resuscitation: an educational intervention

This study aimed to evaluate influence of educational intervention on nurses' performance regarding cardiopulmonary resuscitation through the following:

1.2.1 Evaluate nurses' performance regarding cardiopulmonary resuscitation.

1.2.2. Improving the investigation of academic and practical and educational intervention for nurses' performance concerning cardiopulmonary resuscitation.

1.2.3. Assay the influence of the academic and training educational involvement on nurses' performance regarding cardiopulmonary resuscitation**.**

1.3. Research Hypothesis

1.3.1 Implementation of the academic and training educational involvement regarding cardiopulmonary resuscitation good become better nurses' performance**.**

1.3.2 There will be a positive meeting among nurses' information and training regarding cardiopulmonary resuscitation**.**

2. Subjects and Methods

2.1 Research design:

Design a quasi-experimental was utilized in the present research.

2.2 Setting:

Emergency Department at Accidental Hospital, Zagazig University.

2.3 Subjects:

An appropriateness sample for a total of 70 emergency nurses who working at Emergency Department in Accidental Hospital, Zagazig University.

2.4 Tools of data collection: two tools were utilized to collect information:

Tool

I-Self-administered interview questionnaire this tool consisted of 2 parts:-

Part 1:

Involve the nurse's information like cultural level, educational efficiency, information assessment tool concerning the cardiac arrest and cardiopulmonary resuscitation. it include 15 various questions and the total number of correct answers was 59 answers. The total information result was determined by collecting results from the true answers. The total potential result limited between from 1 to 59 scores and averages and SD was determined. The greatest results reflect greater grads of information around CPR.

The total information result was indicated as the following:

Information results were determined as:

Satisfactory information ≥75% of informationresults were limited between from 45 to 59 marks.

Unsatisfactory knowledge <75% of total information result ranged between from 1-44 marks.

Tool II-Surveillance checklist for the emergency nurse performance

It was arranged by the researchers after examine pertinent literature **(Wong et al., 2014),** It was adopted from **(Myerburg, Castellanos 2015, la Chapelle et al., 2012, Jeejeebhoy et al., 2015).** It was interested in estimating the emergency nurse practice concerning cardiopulmonary resuscitation, total practice score as competent practice ≥85% and incompetent practice <85 %(1-99 marks).

2.5Fieldwork:

The research agents were appropriate and prepared by the investigators after examine the closely connected modern literature. Health and accuracy quiz was achieved before beginning the information the action operation. The information action, pre/post and two months next educational practical involvement were carried out by the investigators.

2.5.1 Validity of the tool:

Agents advanced by the investigators were determined by a panel of five specialized to limit choice between alternatives the involved collections obviously and adequately cover the field of content addressed. The rate of the general agreement between experts concerning the structure interviewing questionnaire was 89% and the pre-post-test was 95%.

2.5.2 Reliability of the tool:

The test was frequently to the same patient of emergency nurses on two opportunities and then compared the results The Cronbach's coefficient alpha was 0.879.

2.5.3 Pilot study:

Pilot research was organized and carried out on seven nurses (10%) to quiz their applicability of the advanced agents, based on the results of the pilot study.

2.5.4Administrative and ethical considerations:

The investigators demonstrated the target of the research as a research participant, involving the condition of being anonymous and particularity, their completely to take away from the research at any time. Showing knowledge of approval acquired of each nurse at the starting session and it was informed that the involvement was voluntary.

2.5.5Educational program intervention: implemented through different four phases:-

2.5.5.1Evaluation phase:

Investigators had to estimate nurses' information concerning cardiopulmonary resuscitation as a pre-test before the valuation of their practice, therefore the investigators meeting each personality confirmed to their obtainable time and fill the questionnaire sheet about their information cardiopulmonary resuscitation, moreover it can write what they required and necessary to teach in connection to cardiopulmonary resuscitation; which include the learners in the designing of the program and supporting them to devise methodically their studying targets, which supplies an elastic education concentrates on the learner's requests and not on the teacher's view of what the learners' necessity to inform. Estimate their practice by utilized cardiopulmonary resuscitation form and compared their findings to the results given by the investigators.

2.5.5.2 Planning phase:

The academic and practical educational program was advanced according to decide in advance actual nurses' requirement (pre-test). It has consisted of two parts (theoretical and practical) as follows: Theoretical as a first part: it has contained the following items; public information for cardiopulmonary resuscitation (definition, indication and importance), cardiopulmonary resuscitation ingredients, Results for each ingredient and minimum and maximum results of cardiopulmonary resuscitation. Practical as a second part: manifestation and re-demonstration for renal transplantation administration. Method of teaching utilized was appearance and discussion by information presentation (computer) Hand out.

2.5.5.3 Implementation phase:

The research was started on the 1st of July 2018 to end of December 2018. Emergency nurses have divided to 10 various little teams in order to keep away from discrepancy with their work, each group had contained seven nurses. The educational intervention was performed during 3 various meetings for each group the investigators supply firstly meeting concerning academically information about cardiac arrest and cardiopulmonary resuscitation. At the practical sessions were worried about training nurses concerning the mechanism of cardiopulmonary resuscitation containing as part of the whole being considered breathing technique, a chest compression mechanism, and a defibrillation and intubation technique. Each meeting involved presenting simple training videos for practical cleverness connected to cardiopulmonary resuscitation nursing administration utilizing audio-visual aids. Each nurse has given the Arabic instructional booklet " cardiopulmonary resuscitation nursing intervention " to attract her awareness, encourage and support her education and practice. The academically part was specific for all nurses until the end of the last meeting.

2.5.5.4. Evaluation phase:

The pre-posttest style was utilized in two times of the evaluation; the first was before the involvement, the second time was after the achievement of the educational involvement which provides for three months.

2.6 Statistical design:

Results were analyzed utilizing IBM SPSS statistical software version 20. Qualitative changeable were compared utilizing the qui square test (X2) as the test of considerable, paired (t) test. The correlation coefficient (r) was utilized to estimate the association among studied changeable. A considerable level worth was a reason when p-value ≤ 0.05 and a greatly considerable level worth was reasoned when p-value ≤ 0.001, while p-value > 0.05 indicates non-significant findings.

3. Results

Table (1): Appears more than 50% of the emergency nurses were from 30 to 39 years and 51.4% had an experiences nursing education. Furthermore, 45.7% had 10-15 years of experience. It also showed that 64.3% had no practical concerning CPR.

Table (2): Observes that greatly statistically considerable variation among average results of information concerning cardiac arrest among the pre and post-involvement phases ($p<0.001$).

Figure (1): Illustrates the total information result of the nurses at various phases of the program through studies.

Table (3): Shows that a greatly statistically considerable variation among nurses practices about basic involvement for cardiopulmonary resuscitation procedure among the pre and post-involvement phases ($p<0.001$).

Table (4): Reveals that a greatly statistically considerable variation among nurses training concerning applying chest compressions among the pre and post-intervention phases ($p<0.001$).

Table (5): Observes that a greatly statistically considerable variation among nurses training concerning to open airway and delivering breath mechanism at both the pre and post intervention phases ($p<0.001$)

Table (6): Reports that a greatly statistically considerable variation among nurses' training concerning defibrillator technique among the pre and post-intervention phases ($p<0.001$).

Table (7): Appears that a greatly statistically considerable variation among nurses training results concerning request intubation among the pre and post-intervention phases ($p<0.001$).

Figure (2): Illustrates the total practice results of the nurses at various phases of the program through studies.

Table (8): shows that a greatly positive association among nurses' information and training results at the post-intervention phase.

Table (1): Distribution of characteristics of the studied nurses (70).

Variable	Frequency	%
Age in years		
	11	15.7
20-29	37	52.9
30-39	22	31.4
40-50		
Mean ±SD	35.73±8.59	
Educational qualification	20	28.6
Secondary nursing education	36	51.4
Technical nursing education	10	14.3
Baculare of nursing	4	5.7
Years of experience		
5-9	25	35.7
10-14	32	45.7
15-19	5	7.1
19-25	8	11.4
Mean ±SD	14.86±7.63	
Residence		
Urban	31	44.3
Rural	39	55.7
Previous training regarding CPR		
No	45	64.3
Yes	25	35.7

Table (2): Distribution of knowledge concerning the cardiac arrest of the nurses' various phases of the program (70).

Knowledge		Pre-intervention Mean ±SD	Post-intervention Mean ±SD	Paired t test	P value
Definition of cardiac pulmonary arrest	2	1.2714±.75989	1.7429±.50176	-.27371	<0.001**
Causes of cardiac pulmonary arrest	5	1.3286±1.17611	4.1143±.95618	-2.42060	<0.001**
Complication of cardiac arrest	5	2.3143±1.33561	4.1143±.94090	-1.39283	<0.001**
Management of cardio pulmonary	5	2.3571±1.35171	4.3286±.95889	-1.57374	<0.001**
Cardiopulmonary resuscitation:					
Definition of CPR	2	.8714±.63523	1.6714±.53083	-.61575	<0.001**
Importance of CPR	6	2.8143±1.13307	4.8000±1.07137	-1.63300	<0.001**
General principles of CPR	4	1.6429±.97855	3.1286±.96190	-1.13241	<0.001**
Indication for CPR	3	.8857±1.02918	2.5714±.71366	-1.41176	<0.001**
Ways to open the airway	3	1.0143±1.05628	2.2286±.74545	-.93043	<0.001**
Depth of chest compression	3	.9000±.93483	2.5571±.71497	-1.40728	<0.001**
Rate of compressions	2	1.1143±.82608	1.6714±.53083	-.34763	<0.001**
Rate of chest compression to the breathing	2	1.1714±.79803	1.7143±.51479	-.34116	<0.001**
Site at which starts chest compressions	2	1.1714±.79803	1.6857±.52593	-.30047	<0.001**
Complications of CPR	5	2.8000±1.09809	4.3286±.92817	-1.20965	<0.001**
Drugs used during cardio pulmonary resuscitation	4	1.6429±.91740	3.0714±.80436	-1.12055	<0.001**
Total	59	23.3000±8.93349	43.7286±5.56105	-17.97784	<0.001**

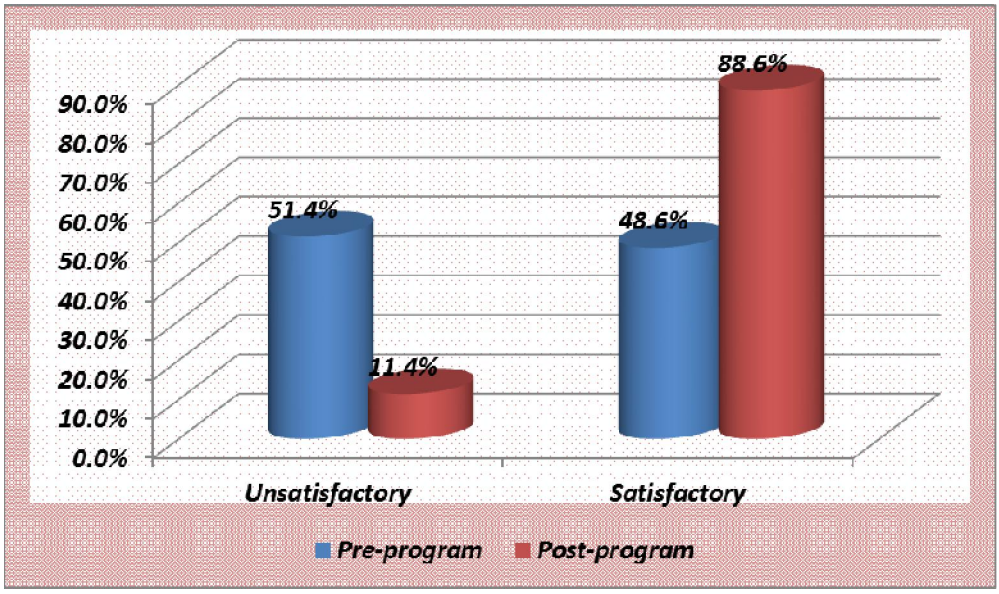

Figure (1): Distribution of total knowledge results of the nurses.

Table (3): Distribution of practice about pre and preparatory intervention concerning cardiopulmonary resuscitation procedure between the studied nurses at various phases of the program (70).

Basic intervention	Pre-intervention				Post-intervention				Chi-square χ^2	P Value
	Not Done		Done		Not Done		Done			
	No	%	No	%	No	%	No	%		
***Pre procedure*:**										
Activate cardiac arrest team	34	48.6	36	51.4	4	5.7	66	94.3	32.50	<0.001**
Document time of onset of cardiac arrest	43	61.4	27	38.6	12	17.1	58	82.9	28.77	<0.001**
Keep patient at left lateral position	45	64.3	25	35.7	6	8.6	64	91.4	46.91	<0.001**
Prepare equipment	34	48.6	36	51.4	4	5.7	66	94.3	32.50	<0.001**
Keep privacy.	30	42.9	40	57.1	16	22.9	54	77.1	6.34	<0.05*
During procedure (Basic intervention):										
Assess patient's consciousness.	32	45.7	38	54.3	9	12.9	61	87.1	18.24	<0.001**
Don't transport patient	38	54.3	32	45.7	0	0.0	70	100.0	52.15	<0.001**
Immediately call out for help.	39	55.7	31	44.3	18	25.7	52	74.3	13.05	<0.001**
Palpate the carotid artery	33	47.1	37	52.9	11	15.7	59	84.3	16.04	<0.001**
Ensure a clear air way.	42	60.0	28	40.0	11	15.7	59	84.3	29.17	<0.001**

Table (4): Distribution of practice about application of chest compression technique between the studied nurses at various phases of the program. (70)

applying Chest compressions	Pre-intervention				Post-intervention				Chi-square χ^2	P Value
	Not Done		Done		Not Done		Done			
	No	%	No	%	No	%	No	%		
Hand position	43	61.4	27	38.6	14	20.0	56	80.0	24.88	<0.001**
Place patient at supine position during compression	40	57.1	30	42.9	19	27.1	51	72.9	12.91	<0.001**
Place hand in the centre of chest, slightly above the sternum	34	48.6	36	51.4	14	20.0	56	80.0	12.68	<0.001**
Chest compressions should be performed at a rate of at least 100 per minute.	36	51.4	34	48.6	9	12.9	61	87.1	23.87	<0.001**
Chest compressions should be performed at a depth of at least 2inch (5 cm)	54	77.1	16	22.9	20	28.6	50	71.4	33.13	<0.001**
Allow complete chest recoil after each chest compression	51	72.9	19	27.1	19	27.1	51	72.9	29.25	<0.001**
Minimize interruption	43	61.4	27	38.6	18	25.7	52	74.3	18.15	<0.001**
Perfume continuous manual left displacement	47	67.1	23	32.9	21	30.0	49	70.0	19.33	<0.001**

Table (5): Distribution of practice of open air way delivering breath technique between the studied nurses at various phases of the program. (70)

Delivering breath	Pre-intervention				Post-intervention				Chi-square χ^2	P Value
	Not Done		Done		Not Done		Done			
	No	%	No	%	No	%	No	%		
Open the airway and give breathing: Head-tilt/chin-lift manoeuvre.										
Hand position	54	77.1	16	22.9	20	28.6	50	71.4	33.13	<0.001**
Place the fingers of the other hand under the bony part	54	77.1	16	22.9	25	35.7	45	64.3	24.43	<0.001**
Grasp the angles of the patient 's lower jaw and lifting with both hands.	49	70.0	21	30.0	31	44.3	39	55.7	9.45	<0.05*
Ensure a clear air way.	50	71.4	20	28.6	13	18.6	57	81.4	39.50	<0.001**
Deliver breathing.										
A- perform the bag valve mask Ensure a tight seal between the mask and the patient's face	43	61.4	27	38.6	27	38.6	43	61.4	7.31	<0.001**
Squeeze the bag with two hand	38	54.3	32	45.7	24	34.3	46	65.7	5.76	<0.001**
Administer 100% oxygen at 15 litre/minute	54	77.1	16	22.9	25	35.7	45	64.3	24.43	<0.001**
Compress the ambo-bag in rhythmical fashion.	38	54.3	32	45.7	7	10.0	63	90.0	31.47	<0.001**
Attach the bag to an oxygen source	51	72.9	19	27.1	20	28.6	50	71.4	27.46	<0.001**
Pinch the patient's nostrils closed	46	65.7	24	34.3	17	24.3	53	75.7	24.27	<0.001**
Put the mouth completely over the patient's mouth.	51	72.9	19	27.1	30	42.9	40	57.1	12.91	<0.001**
After 30 chest compression, give 2 breaths.	37	52.9	33	47.1	24	34.3	46	65.7	4.91	<0.05*
Deliver each rescue breath over one second with enough force.	55	78.6	15	21.4	20	28.6	50	71.4	35.17	<0.001**
Give sufficient tidal volume to produce visible chest rise	49	70.0	21	30.0	31	44.3	39	55.7	9.45	<0.05*
Avoid excessive ventilation	43	61.4	27	38.6	9	12.9	61	87.1	35.36	<0.001**

Table (6): Distribution of practice of defibrillator in technique among the studied nurses. (70)

Basic intervention	Pre-intervention				Post-intervention				Chi-square χ^2	P Value
	Not Done		Done		Not Done		Done			
	No	%	No	%	No	%	No	%		
Verify that patient is unresponsive.	54	77.1	16	22.9	24	34.3	46	65.7	26.05	<0.001**
Verify ECG reading of ventricular tachycardia, or ventricular fibrillation	47	67.1	23	32.9	27	38.6	43	61.4	11.46	<0.001**
Plug defibrillator into electric outlet.	41	58.6	29	41.4	21	30.0	49	70.0	11.58	<0.001**
Turn on defibrillator power.	47	67.1	23	32.9	25	35.7	45	64.3	13.84	<0.001**
Prepare patient and/or paddles with proper conductive agent	47	67.1	23	32.9	27	38.6	43	61.4	11.46	<0.001**
Checks that defibrillator is in asynchronous mode.	57	81.4	13	18.6	24	34.3	46	65.7	31.90	<0.001**
Deliver defibrillated										<0.001**
Turn on ECG recorder.	53	75.7	17	24.3	24	34.3	46	65.7	24.27	<0.001**
Command all persons to move away from bed	48	68.6	22	31.4	21	30.0	49	70.0	20.83	<0.001**
Turn off oxygen source during actual	59	84.3	11	15.7	11	15.7	59	84.3	65.82	
Stand away from bed area										<0.001**
Places the paddles at proper site on chest.	49	70.0	21	30.0	21	30.0	49	70.0	22.40	<0.001**
Apply paddles with firm pressure (11kg pressure)	48	68.6	22	31.4	13	18.6	57	81.4	35.58	<0.001**
Depress discharge buttons on defibrillator.	41	58.6	29	41.4	15	21.4	55	78.6	20.11	<0.001**
Deliver 3 stacked shocks, **with biphasic shock energy of 120 to 200**	49	70.0	21	30.0	15	21.4	55	78.6	33.27	<0.001**
Compressions should be resumed immediately delivery of the electric shock										
Assess patient cardiac rhythm	38	54.3	32	45.7	15	21.4	55	78.6	16.06	<0.001**
If first defibrillation unsuccessful, immediately charge paddles to 300 joules	35	50.0	35	50.0	16	22.9	54	77.1	11.13	<0.001**

Table (7): Distribution of practice of intubation technique between the studied nurses at various phases of the program.

Application of intubation	Pre-intervention				Post-intervention				Chi-square χ^2	P Value
	Not Done		Done		Not Done		Done			
	No	%	No	%	No	%	No	%		
Applying intubation: Continue to ventilation & oxygenation.	48	68.6	22	31.4	17	24.3	53	75.7	27.59	<0.001**
Prepare Equipment	39	55.7	31	44.3	10	14.3	60	85.7	26.40	<0.001**
The anaesthetist may require.	41	58.6	29	41.4	11	15.7	59	84.3	27.53	<0.001**
Recommence ventilation and oxygenation once intubation is completed.	37	52.9	33	47.1	8	11.4	62	88.6	27.54	<0.001**
Continues CPR once intubation.	40	57.1	30	42.9	10	14.3	60	85.7	28.00	<0.001**
Established venous access	48	68.6	22	31.4	16	22.9	54	77.1	29.47	<0.001**
Asepsis should be maintaining.	44	62.9	26	37.1	18	25.7	52	74.3	19.57	<0.001**
The correct rate of infusion is required.	54	77.1	16	22.9	10	14.3	60	85.7	55.72	<0.001**
Accurate documentation	51	72.9	19	27.1	14	20.0	56	80.0	39.31	<0.001**
Applying Post resuscitation care										
Assess patient ‘s condition	39	55.7	31	44.3	15	21.4	55	78.6	17.36	<0.001**
Check arterial blood gases.	43	61.4	27	38.6	16	22.9	54	77.1	21.35	<0.001**
Monitor patient's cardiac rhythm.	38	54.3	32	45.7	11	15.7	59	84.3	22.88	<0.001**
Continue respiratory therapy	47	67.1	23	32.9	5	7.1	65	92.9	53.96	<0.001**
Assess patient’s level of consciousness.	40	57.1	30	42.9	7	10.0	63	90.0	34.88	<0.001**

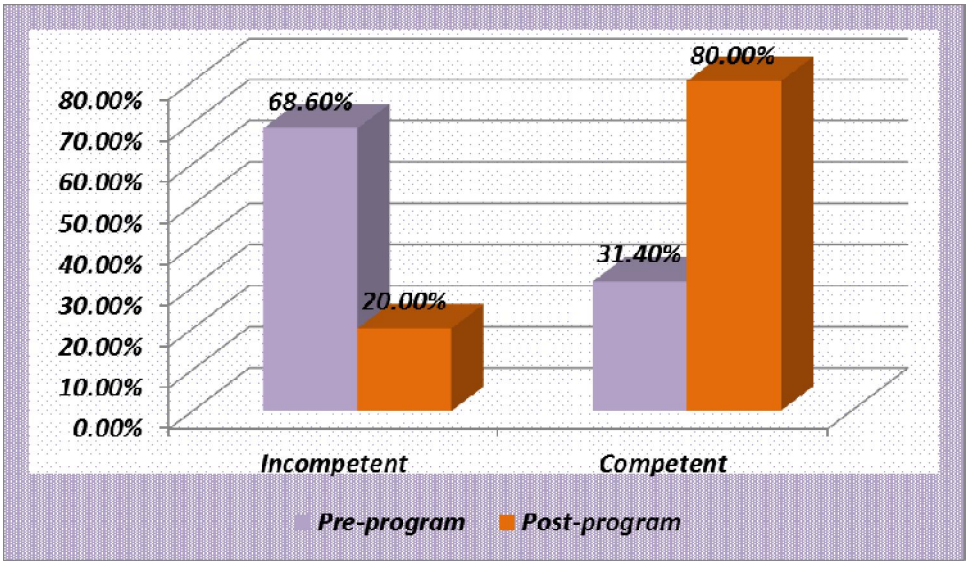

Figure (2): Distribution of total practice result of the studied nurses.

Table (8): Distribution of correlation between studied nurses' knowledge and practice at different phases of intervention.

Total practice score	Total knowledge score			
	Knowledge pre-intervention		Knowledge post-intervention	
	r	P value	r	P value
Practice **pre-intervention**	0.436	<0.001**	-	-
Practice **post-intervention**	-	-	0.578	<0.001**

4. Discussion

Nurses are usually the primary care giver for patient at the Emergency Department. Practicing of emergency nurses is an effect on the competence and results of cardiopulmonary resuscitation. Therefore, this research aimed to investigate the effectiveness of educational involvement relating to CPR between nurses in the Emergency Department. The present study results confirmed the stated hypothesis; that educational intervention concerning cardiopulmonary resuscitation develops the knowledge. (**Rajeswaran et al., 2018).**

Concerning the personnel properties of the studied nurses, the current results indicated that studied nurses had age group from 30-39 years, with years of experience ranged from 10-14, and more 50% of them technical nursing teaching. These results are confirmed with ***Hussain and Lyneham. (2009)***, assessed that the nurses level at Bahrain of information concerning cardiopulmonary resuscitation (11) it was added that the nurses' age between from twenty to fifty years old and on the other hand the majority of nurses in the study had a secondary nursing education. Moreover the study findings agreed with ***Mustafa and Jaddoue 2014)*** in the research estimated" Knowledge of nurses towards cardiopulmonary resuscitation ".

The findings of present research illustrated the plurality of nurses hadn't previous practical course concerning to CPR. This finding is in confirmed with **Damjan et al. (2012)** estimate"effects of using of the impedance threshold device in cardiopulmonary resuscitation". [(29)]Clearly that about 30% of the nurses doesn't have any previous practices concerning CPR, and particularly were prepared to present the practical program. Furthermore ***Nagashema et al. (2012)*** studied to research nurses' information and experience in cardiopulmonary resuscitation, was in disparity with the current research and clearly that the plurality of the nurses is many concerned in CPR, and great of them been given teaching and practical in CPR as students or after the graduation.

Moreover, the results of the current research supply the greatest of studied nurses' had an unsuitable level of information concerning all information items regarding CPR at pre-intervention phase. These results may reasons to that there is a shortage of achievement teaching practical program concerning cardiopulmonary resuscitation for nurses at the studied setting.

As regarding the influence of the educational involvement on studied nurses information, the current research results in explained that there was greatly considerable advancement of nurses' information directly post education. These results are in agreement with ***Abd-Allah et al. (2017)*** in Egypt, in the research, to evaluate the influence of an educational program on cardiopulmonary resuscitation between nursing student's achievement. Who particular that educational program greatly becomes better informed of the studied nursing student. Moreover, the current research results appear that there was a considerable increase in the total information score post-intervention.

As observances the practice of CPR between nurses, the current research results demonstrate that the plurality of the studied nurses had disqualified practice concerning the application of CPR at pre the program phase, which has been strongly increased directly post-intervention. This result is in confirmed with ***Elazazay et al., (2012)***. In Egypt, in this research was to estimate the performances of a cardiopulmonary resuscitation training program on critical care nurses information and practice at the cancer institute, who explains that studied nurses effectiveness was unsatisfactory in all performance concerning items at pre-intervention phase and nurses effectiveness has been strongly become better directly post-intervention.

In concerning the nurse training and the application of chest compression technique, the research results in appear that the nurses had disqualified practice at pre-intervention phase and greatly become better directly post-intervention. This result was confirmed with ***Meissner (2012),*** in the study to discuss basic life support cleverness between high school students before and after animation training (39) who showed that considerable advanced and good retention ratio of CPR practice after the educational program.

Furthermore the current research results observed that the total training outcome of the nurses concerning CPR was disqualified at pre-intervention and begin to be addition competent at post-intervention, this result was greatly confirmed by ***Elazazay (2012),*** in the previously a fomentation study, it was mentioned that all nurses had poor practice at pre the program (100%), while 98.2% of them had good practice directly post the program.

5. Conclusion

Based on the study's findings: the educational training program for nurses regarding cardio pulmonary resuscitation (CPR) play a vital role in performance, and it is highly improved studied nurses practice regarding CPR.

6. Recommendations

There is a requirement for new approaches as concerning the education methodology utilized in CPR courses.

The frequency of the practice could maybe once every 6 months to avoid deterioration in CPR information and cleverness.

The organization may be wanted to support training, fineness observation and quality confidence of other healthcare practitioners' effectiveness, which may help in making a strong chain of survival in the animation results. There is a requirement to build extremely good animation officers, as there is room for becoming better their education and training.

7. Limitation

Program taken long time for implementation because emergency nurse had a lot of tasks at their working setting.

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