Nurse's Knowledge toward Cardio-Pulmonary Resuscitation at critical care unit in Baghdad city

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Abstract: *Cardiopulmonary resuscitation (CPR) remains the crucial interventions that can be life-saving during cardiac arrest.*
Objectives: *the study aimed to determine the nurses' knowledge toward Cardiopulmonary resuscitation and to find out the relationship between nurses knowledge and socio-demographic data .A non- probability (purposive) sample were gathered of 50 nurses who work at critical care unit in three hospitals and centers in Baghdad city (Iben-Al-Betar center, Iraqi Center for Cardiac disease, and Baghdad teaching hospital) from 23th of February to the 25th of March 2015.*
Result : *The results of the study indicated that (54%) of the study sample were females and (74%) at age group (24-33) years old, (90 %) were graduate from college, (80%) have (≤5 years) experience in critical unit, and only (20%) have training session and most of them (70%) inside the Iraq , About (68%) of the nurses records a Low level of knowledge toward electrocardiogram changes, (24%) record a moderate level and (8%) record a high knowledge.*
Conclusions: *According to the findings, the study conclude that a highly significant statistical associations were found between educational levels, with nurses knowledge toward cardiopulmonary resuscitation*
Recommendation: *More ever Based on the findings the study recommended to Preparing a special training program to promote nurses knowledge concerning cardiopulmonary resuscitation added to that Encourage the nurses to complete their academic study to provide a qualified staff in critical care unit.*
Keywords: *Cardiopulmonary resuscitation, Critical care unit, Nurse's knowledge.*

I.   Introduction

Cardiopulmonary resuscitation (CPR) is an emergency procedure which is attempted in an effort to return life to a person in cardiac arrest [1]. Over a relatively short period of about 45 years in the evolution of hospital practice, cardio-pulmonary resuscitation (CPR) has been elevated from its original historical position as a new experimental technique to its contemporary status as a clinically universal procedure. As a result of this, all hospital-based health care professionals are expected to be proficient and competent in the performance of this life saving procedure. [2] CPR is also referred to as "basic life support" (BLS). This procedure expects nurses and other skilled practitioners such as medical doctors, paramedics and first aiders to perform it as a response to either cardiac or respiratory arrest [3]. It is indicated in those who are unresponsive with no breathing or only gasps. It may be attempted both in and outside of a hospital. CPR involves chest compressions at a rate of at least 100 per minute in an effort to create artificial circulation by manually pumping blood through the heart. In addition the rescuer may provide breaths by either exhaling into their mouth or utilizing a device that pushes air into the lungs. The process of externally providing ventilation is termed artificial respiration [4]. An administering of an electric shock to the heart, termed defibrillation, is usually needed to restore a viable or "perfusing" heart rhythm. Defibrillation is only effective for certain heart rhythms, namely ventricular fibrillation, pulseless ventricular tachycardia, a systolic and pulse less electrical activity. CPR may however induce a shockable rhythm [5]. CPR is generally continued until the person regains return of spontaneous circulation (ROSC) or is declared dead. CPR is indicated for any person who is unresponsive with no breathing or only gasps as breathing as it is most likely that they are in cardiac arrest. CPR training: CPR is being administrated while a second rescuer prepares for defibrillation [6]. There are many factors effect on the performance of CPR that includes: The education and training of nurses in the techniques and skills of providing effective CPR, The role that nurse educators play in training nurses to perform CPR effectively and the role of nurses in the provision of CPR and the use of AEDs and defibrillation techniques [7.]

II.   Methodology

A descriptive study was carried out starting from 11th December 2014 to the 25th May 2015 to determine the nurses' knowledge toward Cardiopulmonary resuscitation. A non- probability (purposive) sample were gathered of 50 nurses who work at critical care unit in three hospitals and centers in Baghdad city (Iben-Al-Betar center, Iraqi Center for Cardiac disease, and Baghdad teaching hospital) from 23th of February to the

25th of March 2015. To achieve the objectives of the study, the researcher established the questionnaire format was composed of two parts and introductory page that invites the subjects to participate in the study, part I: socio demographic information sheet and part II: cardiopulmonary resuscitation. The content validity of the instrument was presented to the panel of (7) experts. Reliability of the instrument scales was determined by using the test retest method = 0.83, Data was collected by nurses self- report using a questionnaire format and analyzed by the application of descriptive and inferential statistical methods.

III. Results

Table3: Distribution of nurses' knowledge by their Socio Demographic Characteristics.

Items		F	%	Cumulative Percent
Gender				
	Male	23	46.0	.046
	Female	**27**	**54.0**	**100.**
	Total	50	100.0	
Age (year)				
	24 – 33 years	**37**	**.074**	**74.0**
	34 – 43 years	9	18.0	92.0
	Above 43 years	4	8.0	100.0
	Total	50	100.0	
				± 6.9100Mean ± SD = 3
Level of education				
	College	**45**	**90.0**	**90.0**
	Higher education	5	10.0	100.0
	Total	**50**	**100.0**	
Number of years in critical care unit				
	≤ 5 years	**40**	**80.0**	80.0
	6- 10 years	7	14.0	94.0
	11-15 years	1	2.0	96.0
	Above 15 years	2	4.0	100.9
	Total	50	100.0	
Training session				
	yes	10	20.0	20.0
	no	**40**	**80.0**	**100.0**
	Total	50	100.0	
If yes				
	Outside the Iraq	3	30.0	30.0
	Inside the Iraq	**7**	**70.0**	**100.0**
	Total	10	100.0	

F. = frequency, %= Percentage

Table (1) **:** The demographic characteristics of (50) nurses indicated that the majority (54 %) of the sample were females .In relation to the age group the highest percentage (74 %) of nurses were (24-33) years old, while the lowest percentage (8 %) of the sample were (above 43) years old. About the educational level most of the study samples (90 %) have Bachelorate level, (52%) of sample work (1-5 yrs.) in Hospital and (80%) work (1-5 yrs.) in critical care unit .most of the sample (80%) didn't have training session. About (20%) of the nurses have training session and most of them (70%) inside the Iraq.

Figure 1: Level of Nurse's Knowledge toward Cardiopulmonary Resuscitation

This figure demonstrate the total Nurse's knowledge toward Cardiopulmonary resuscitation , the majority (68%) have low knowledge in comparison with (24%) moderate knowledge and just (8%) have high knowledge .

Table 4: Association between Nurse's knowledge with years of experience in CCU and age group.

Nurses Knowledge Experience in CCU	Low	Moderate	High	Total
≤ 5 years	29	7	4	40
6- 10 years	2	5	0	7
11-15 years	1	0	0	1
Above 15 years	2	0	0	2
Total	34	12	4	50
Chi square	11.156	6	0.084	
Nurses Knowledge Age group	Low	Moderate	High	Total
24 – 33 years	25	8	4	37
34 – 43 years	6	3	0	9
Above 43 years	3	1	0	4
Total	34	12	4	50
Chi square	CV=1.853	Df= 4	Sig =0.763	

CV=computed value, df = degree of freedom, sig= significance

This table shows there are no statistical association between nurses' knowledge and (years of experience in CCU and age group)

Table 3: Association between socio-demographic information and Nurse's Knowledge toward Cardiopulmonary Resuscitation.

Total score of Nurse's knowledge					T test			
Gender	F	%	Mean	SD	CV	df	p	sig
Male	27	54.0	1.4074	.63605	0.088	48	0.99	NS
Female	23	46.0	1.3913	.65638				
Total score of Nurse's knowledge					T test			
Educational Level	F	%	Mean	SD	CV	df	p	sig
postgraduate	45	90.0	1.4444	.65905	1.494	48	0.000	HS
Higher education	5	10.0	1.0000	.00000				
Total score of Nurse's knowledge					ANOVAs test			
Training session	F	%	Mean	SD	CV	df	p	sig
yes	10	20.0	54.6316	6.90249	0.353	48	**.328**	Ns
no	40	80.0	56.0833	3.67939				
Total score of Nurse's knowledge					T test			
If yes	F	%	Mean	SD	CV	df	p	sig
outside the Iraq	3	30	53.6923	4.93938	0.603	8	.496	Ns
inside the Iraq	7	70	55.1200	7.77989				

CV = computed value, F = frequency, SD = standard deviation, DF = degree of freedom, S = Significant, NS = not significant, HS= high significant

This table shows that high significant statistical associations were found between educational levels while no association with another item (gender and training sessions)

IV.   Discussion

Part 1: Discussion of Socio-Demographic Characteristics of nurse's knowledge toward Cardiopulmonary Resuscitation. Throughout the course of data analysis of (50) nurses who work in critical care unit: the result indicates that the majority of the study sample (54 %) were females in comparison with (46%) male, most of them (74%) at the age group (24 – 33 years). About the educational level and number of years working in critical care unit and hospital, about (90%) graduate from the college and (52%) work less than five years in hospital and (80%) in critical care unit , (80%) don't have training session. This finding comes along with the study done by Bull Alex who conducted a cross-sectional study in a Capital Health Region of al Kuwait including all register nurse working in primary health care centers and indicated that the majority of the subject (59%) were females and most of them (63 %) between the (20-30) years old .(46%) postgraduate , (44%) have less than 5 years working in CCU and hospital and (57%) have less than 1 years training session .[8]

Part 2: Discussion nurses knowledge level and association with socio-demographic data

In relation to nurses knowledge toward Cardiopulmonary Resuscitation; a Low level of nurses knowledge takes a highest percentage (68%), (24%) moderate knowledge and just (8%) have high knowledge toward CPR and there are a high statistical association between Nurses knowledge with the educational level (p value 0.0001). These findings comes compatible with the study done by Sita Parajulee who performed a cross sectional study at the College of Medical Sciences-Teaching Hospital, Bharatpur, Nepal, among the nurses who were working in the hospital during October, to assess the knowledge of nurses towards CPR and to study the

association between the nurses knowledge scores and selected demographic variables, the study indicates that the knowledge of the nurses was found to be low, thus suggesting a need for educational interventions , significant association with educational level were found.[9]

V. Conclusions

From the present study findings, the researcher has got the following conclusions.

- A high percentage of Nurses who work in critical care unit were females at age group (24-33) years old and most of them have a college level, $\leq$ 5 years' experience in critical care unit and the majority have a training sessions
- Most nurses' responses toward Cardiopulmonary Resuscitation were at the Low level of knowledge.
- Statistical associations were found between educational levels toward nurses' knowledge.

Recommendations

1. Preparing a special training program to promote nurses knowledge concerning Cardiopulmonary Resuscitation.
2. Encourage the nurses to complete their academic study to provide a qualified staff in critical care unit.
3. Activating the role of continuing educational units in each hospital.

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