

Impact of an Educational Program on Secondary Schools Teachers' Skills about Cardiopulmonary Resuscitation (CPR) in Baghdad City

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Abstract- Study aims: To evaluate Effectiveness of an Educational Program on Secondary Schools Teachers' Skills about Cardiopulmonary Resuscitation (CPR) in Baghdad City and To Find out Relationship between Socio-demographic data and Cardiopulmonary Resuscitation Skills.

Methodology: A Quantitative research uses quasi-experimental design study is conducted throughout the period of (October 20th 2015 to August 25th 2016) in order to assess teachers' Skills towards Cardiopulmonary Resuscitation Skills in Baghdad City Secondary Schools. A stratified sample of (60) teachers, which is selected from (24) secondary schools' (12 males and 12 females), is equally distributed among Karkh and Rusafa Directorates in Baghdad City . The study sample in this study is divided into two groups; (30) teachers for the study group, which is exposed to the health education program, and (30) teachers for the control group, the groups are almost matched relative to their characteristics. The reliability of the questionnaire which is determined through a pilot study and the validity are achieved through a panel of (12) experts. The questionnaire is constructed that is used as a mean of data collection. It consists of (2) major parts ;the first part is concerned with teachers' socio-demographic characteristics of age, gender, marital status, level of education, years of experience in teaching, and participation in training courses. The second part is concerned with teachers' Skills towards Cardiopulmonary Resuscitation Skills that includes teachers' Skills towards Cardiopulmonary Resuscitation Skills (19) items. All teachers are interviewed, and each one was given a time period approximately (5) minutes to performance the steps. Data are analyzed through the application of descriptive statistical data analysis approach that includes, frequencies, percentages, mean of score , standard deviations and figures. inferential statistical data analysis approach that include Pearson Alpha Correlation Coefficient ,Chi-squared test, t-test and Analysis of covariance (ANCOVA).

Results: The study confirmed that the teachers working in the secondary school had very weak level of practice at cardiopulmonary resuscitation and need specific educational program, that great improvement in the levels of the skill of sample in throughout the phases of CPR training program . Teachers in study group demonstrated a considerable benefit of training program of CPR

Conclusion: No differences were found between the study sample (study and control groups) regarding some socio-demographic characteristics such as, gender, Sector, Level of

Education, sources of information's. The study sample (study and control groups) before implementation the educational program have very weak level of cardiopulmonary resuscitation skills. The study group after applying the education program , there were improvements in the cardiopulmonary skills ,but the control group had unsatisfactory skills toward cardiopulmonary resuscitation. Assuming that there were no biases or confounders, the data suggests that the educational programs resulted in statistically significant improvement in skills of cardiopulmonary resuscitation.

Recommendations: The study recommends Continuous education and CPR training programs for teachers every six months. Training must be repeated at regular intervals to maintain the CPR skills. It is essential that there should be cooperation between the Ministry of Health and the Ministry of Education for a training courses to improve the skills of the teaching staff regarding CPR and first aid necessary to save the lives of people in general and students in particular.

Index Terms- Effectiveness, Education program, Cardiopulmonary resuscitation, Skills .

I. INTRODUCTION

Cardiopulmonary resuscitation (CPR) is an important medical process which is necessary for individual who suffer sudden cardiac arrest. It is a combination of rescue breathing and chest compressions which is delivered to the victims who are thought to be in heart stopped⁽¹⁾. In earlier days CPR training was meant only for health care professionals. Later it was noticed that many of these events occurred outside the hospital setting, and that early CPR need to be performed by the bystanders who witnessed the scene. Hence, CPR is said to be a skill for all , Quality of life is also found to be better for victims who immediately receive bystander CPR even in absence of professional assistance , Studies have shown that immediate CPR after collapse due to ventricular fibrillation doubles or even triples the chances of survival. In contrast survival chances decrease by 7-10% for every min, if CPR is delayed⁽²⁾. Cardiac arrest happens when your heart stops pumping blood around your body .If someone has suddenly collapsed, is not breathing normally and is unresponsive, they are in cardiac arrest. Unless immediately treated by CPR this always leads to death within minutes⁽³⁾. Cardiac arrest can be caused by many things and

causes; heart disease – the most common cause of reversible adult cardiac arrest (70%), trauma ,respiratory illness, hanging, SIDS – this is the leading cause of reversible cardiac arrest in children cardiac disease (usually congenital) When the blood stops circulating, the brain is starved of oxygen and the person quickly becomes unconscious and stops breathing. Without treatment, the person will die ⁽⁴⁾.In Canada, were reported, in that heart attacks remain the leading cause of death for Canadians between the ages of 1 and 44. with 13,000 Canadians dying every year as a result of heart attacks , these deaths account for more than cancer, and strokes combined. When first aid training is known to bystanders and nurses in the hospital, research shows increased awareness of potential injury and a reduction of deaths by up to 40% ⁽⁵⁾.The A-B-Cs (Airway, Breathing, Compressions) of cardiopulmonary resuscitation (CPR) changed to C-A-B (Compressions-Airway-Breathing) According to the new changes from American Heart Association, CPR carried out on anybody who doesn't respond and not breathing normally should always begin with immediate chest compressions ⁽⁶⁾.The International Liaison Committee on cardiopulmonary Resuscitation and the American Heart Association (AHA) recommend that CPR training must be implemented in all the community and be include as a standard part of the school curricula , in addressing the link between CPR programs and deaths caused by cardiac arrest, it has become clear that other measures are needed to solve this problem. One solution is to provide basic first aid training, which prepares bystanders to react and provide immediate ⁽⁷⁾.

Objectives :

- 1.To evaluate Effectiveness of an Educational Program on Secondary Schools Teachers' Skills about Cardiopulmonary Resuscitation (CPR) in Baghdad City.
- 2.To Find out Relationship between Socio-demographic data and Cardiopulmonary Resuscitation Skills.

II. METHODOLOGY

Design of Study: Quantitative research uses quasi-experimental design to assess teachers' Skills towards Cardiopulmonary Resuscitation Skills in Baghdad City Secondary Schools. An educational program has been constructed and applied with an approach of pre-test and post-test for the study and control groups for the period of October 20th 2015 to August 25th 2016

Setting of the Study: The study is conducted on (24) secondary schools, which are distributed throughout the educational directorates of Baghdad City, selecting of (60) teachers of secondary schools. The teachers in secondary schools are selected from Al-Rusafa 1st , 2nd , 3rd and Al – karkh 1st , 2nd and 3rd with respect to their residential area as urban Ones.

Sample of the Study: A stratified sample of (60) teachers, which is selected from (24) secondary schools' (12 males and 12 females), is equally distributed among Karkh and Rusafa Directorates in Baghdad City . The study sample in this study is divided into two groups; (30) teachers for the study group, which is exposed to the health education program, and (30) teachers for the control group, the groups are almost matched relative to their characteristics.

Study Instrument: Through review of the related literature and studies, the questionnaire is constructed that is used as a mean of data collection. It consists of (2) major parts ;

the first part is concerned with teachers' socio-demographic characteristics of age, gender, marital status, level of education, years of experience in teaching, and participation in training courses.

The second part is concerned with teachers' Skills towards Cardiopulmonary Resuscitation Skills that includes teachers' Skills towards Cardiopulmonary Resuscitation Skills (19) items The items of teachers' Skills are rated on ;(1) for correct answer and (0) for incorrect answer respectively .The cut of point is Very weak (0-9), weak (10-12), intermediate (13-15) and Good (16-19).

Teachers in study group are presented with Skills test prior to the implementation of the education program and retested after completion of the health educational program. The teachers in the control group are tested as the same time as the study group. Content of checklist questionnaire remained the same for all tests.

Statistical Analysis:

The statistical data analysis approach by using (SPSS ver. 20) is used in order to analyze and evaluate the data of the study. A descriptive statistical data analysis approach used to describe the study variables : , frequencies, percentages, mean of score , standard deviations and figures . inferential statistical data analysis approach that include Pearson Alpha Correlation Coefficient ,Chi-squared test, t-test and Analysis of covariance (ANCOVA). For this study the significant P-value≤0.05

III. RESULTS OF THE STUDY

Table 1: Observed the frequencies and the present of demographic characteristics in the study and control groups

		Study group		Control group		Total	
		f	%	f	%	f	%
Gender	Male	15	25.0%	15	25.0%	30	50.0%
	Female	15	25.0%	15	25.0%	30	50.0%
	Total	30	50.0%	30	50.0%	60	100.0%
Age	20-29	5	8.3%	6	10.0%	11	18.3%

	30-39	14	23.3%	12	20.0%	26	43.3%
	40-49	7	11.7%	9	15.0%	16	26.7%
	50≥	4	6.7%	3	5.0%	7	11.7%
	Total	30	50.0%	30	50.0%	60	100.0%
Marital status	single	6	10.0%	10	16.6%	16	26.7%
	married	19	31.7%	15	25.0%	34	56.6%
	divorcee	2	3.3%	4	6.7%	6	10.0%
	Widowed	3	5.0%	1	1.7%	4	6.7%
	Total	30	50.0%	30	50.0%	60	100.0%
Level of Education	College	30	50.0%	30	50.0%	60	100.0%
	Total	30	50.0%	30	50.0%	60	100.0%
Sector	Rusafa	15	25.0%	15	25.0%	30	50.0%
	Karkh	15	25.0%	15	25.0%	30	50.0%
	Total	30	50.0%	30	50.0%	60	100.0%
Yearsof employee	5≤	8	13.3%	6	10.0%	14	23.3%
	6-10	6	10.0%	9	15.0%	15	25.0%
	11-15	7	11.7%	7	11.7%	14	23.3%
	16-20	6	10.0%	5	8.3%	11	18.4%
	21≥	3	5.0%	3	5.0%	6	10.0%
	Total	30	50.0%	30	50.0%	60	100.0%
sources	internet	30	50.0%	30	50.0%	60	100.0%
	Total	30	50.0%	30	50.0%	60	100.0%

In this Table Shows that (50%) of teachers in study and control groups are male and female. Concerning to their ages (23.3%) in study groups, between (30 - 39) years old and (20.0%) in control groups .The marital status, the majority of teachers (31.7%); (25.0%) respectively in study and control groups are married. Concerning educational level, each they are College graduate in the study and control groups. Regarding to the years of employment in teachers most of the teachers (13.3%) in the study groups, Less than 1 - 5years and (15.0%) in control groups, between (6 - 10) years.

Table 3: Distribution of Pretest the Levels of Skill on demographic characteristics of the research sample

Demographics		Levels of Skill									
		Very weak		weak		intermediate		Good		Total	
		f	%	f	%	f	%	f	%	f	%
Sector	Al-Rasafa	30	50.0%	0	0.0%	0	0.0%	0	0.0%	30	50.0%
	Al-Karkh	30	50.0%	0	0.0%	0	0.0%	0	0.0%	30	50.0%
	Total	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%
Age	20-29	11	18.3%	0	0.0%	0	0.0%	0	0.0%	11	18.3%
	30-39	26	43.3%	0	0.0%	0	0.0%	0	0.0%	26	43.3%
	40-49	16	26.7%	0	0.0%	0	0.0%	0	0.0%	16	26.7%
	≤50	7	11.7%	0	0.0%	0	0.0%	0	0.0%	7	11.7%
	Total	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%
Gender	male	30	50.0%	0	0.0%	0	0.0%	0	0.0%	30	50.0%
	female	30	50.0%	0	0.0%	0	0.0%	0	0.0%	30	50.0%
	Total	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%
L. O. E	College	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%
	Total	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%
Source	Internet	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%
	Total	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%

Years of employee	5 ≥	14	23.3%	0	0.0%	0	0.0%	0	0.0%	14	23.3%
	6-10	15	25.0%	0	0.0%	0	0.0%	0	0.0%	15	25.0%
	11-15	14	23.3%	0	0.0%	0	0.0%	0	0.0%	14	23.3%
	16-20	11	18.3%	0	0.0%	0	0.0%	0	0.0%	11	18.3%
	21 ≤	6	10.0%	0	0.0%	0	0.0%	0	0.0%	6	10.0%
	Total	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%
Marital status	single	16	26.7%	0	0.0%	0	0.0%	0	0.0%	16	26.7%
	married	34	56.7%	0	0.0%	0	0.0%	0	0.0%	34	56.7%
	divorcee	6	10.0%	0	0.0%	0	0.0%	0	0.0%	6	10.0%
	Widowed	4	6.6%	0	0.0%	0	0.0%	0	0.0%	4	6.6%
	Total	60	100.0%	0	0.0%	0	0.0%	0	0.0%	60	100.0%

Very weak (0-9), weak (10-12), intermediate (13-15) and Good (16-19), level of education (L.O.E)

In this Table Shows that all pretest Levels of Skill to be very weak for the research sample (study and control group).

Table 3: Distribution of posttest the Levels of Skill on demographic characteristics of the study group (n = 30).

Demographics		Levels of Skill									
		Very weak		weak		intermediate		Good		Total	
		f	%	f	%	f	%	f	%	f	%
Sector	Al-Rasafa	0	0.0%	0	0.0%	0	0.0%	15	50.0%	15	50.0%
	Al-Karkh	0	0.0%	4	13.3%	5	16.7%	6	20.0%	15	50.0%
	Total	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%
Age	20-29	0	0.0%	0	0.0%	1	3.3%	4	13.3%	5	16.7%
	30-39	0	0.0%	2	6.7%	2	6.7%	10	33.3%	14	46.7%
	40-49	0	0.0%	1	3.3%	1	3.3%	5	16.7%	7	23.3%
	≤50	0	0.0%	1	3.3%	1	3.3%	2	6.7%	4	13.3%
	Total	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%
Gender	male	0	0.0%	0	0.0%	0	0.0%	15	50.0%	15	50.0%
	female	0	0.0%	4	13.3%	5	16.7%	6	20.0%	15	50.0%
	Total	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%
L. O. E	College	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%
	Total	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%
Source	Internet	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%
	Total	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%

Years of employee	5 ≥	0	0.0%	0	0.0%	2	6.7%	6	20.0%	8	26.7%
	6-10	0	0.0%	1	3.3%	1	3.3%	4	13.3%	6	20.0%
	11-15	0	0.0%	1	3.3%	0	0.0%	6	20.0%	7	23.3%
	16-20	0	0.0%	1	3.3%	1	3.3%	4	13.3%	6	20.0%
	21 ≤	0	0.0%	1	3.3%	1	3.3%	1	3.3%	3	10.0%
	Total	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%
Marital status	single	0	0.0%	0	0.0%	2	6.7%	4	13.3%	6	20.0%
	married	0	0.0%	3	10.0%	1	3.3%	15	50.0%	19	63.3%
	divorcee	0	0.0%	0	0.0%	1	3.3%	1	3.3%	2	6.7%
	Widowed	0	0.0%	1	3.3%	1	3.3%	1	3.3%	3	10.0%
	Total	0	0.0%	4	13.3%	5	16.7%	21	70.0%	30	100.0%

very weak (0-9), weak (10-12), intermediate (13-15) and Good (16-19) Level of education(L.O.E).

In this Table Shows that all teachers in Al-Rasafa sector have Good skill and (20.0%) Good skill , (16.7%) intermediate skill and (13.3%) Weak skill in Al-Karkh Sector . the age between (30 - 39) years old have (33.3%) Good skill and age between (20-29),(40-49)have (30%) Good skill .all teachers male have Good skill, while female have (20.0%) Good skill, (16.7%) intermediate skill and (13.3%) weak skill. All teachers colleague graduated and (70.0%) good skill. Information source internet only and (70.0%) good skill. The years of employee (5 ≥) and(11-15) have (20.0%)good skill while The years of employee (6-10) and (16-20) have (13.3%)good skill . the marital status married(50.0%) good skill.

Table 4: Distribution of posttest the Levels of Skill on demographic characteristics of the control group (n = 30).

Demographics		Levels of Skill									
		Very weak		weak		intermediate		Good		Total	
		f	%	f	%	f	%	f	%	f	%
Sector	Al-Rasafa	15	50.0%	0	0.0%	0	0.0%	0	0.0%	15	50.0%
	Al-Karkh	15	50.0%	0	0.0%	0	0.0%	0	0.0%	15	50.0%
	Total	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
Age	20-29	5	16.7%	0	0.0%	0	0.0%	0	0.0%	5	16.7%
	30-39	14	46.7%	0	0.0%	0	0.0%	0	0.0%	14	46.7%
	40-49	7	23.3%	0	0.0%	0	0.0%	0	0.0%	7	23.3%
	≤50	4	13.3%	0	0.0%	0	0.0%	0	0.0%	4	13.3%
	Total	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
Gender	male	15	50.0%	0	0.0%	0	0.0%	0	0.0%	15	50.0%
	female	15	50.0%	0	0.0%	0	0.0%	0	0.0%	15	50.0%

	Total	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
L. O. E	College	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
	Total	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
Source	Internet	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
	Total	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
Years of employee	5 ≥	8	26.7%	0	0.0%	0	0.0%	0	0.0%	8	26.7%
	6-10	6	20.0%	0	0.0%	0	0.0%	0	0.0%	6	20.0%
	11-15	7	23.3%	0	0.0%	0	0.0%	0	0.0%	7	23.3%
	16-20	6	20.0%	0	0.0%	0	0.0%	0	0.0%	6	20.0%
	21 ≤	3	10.0%	0	0.0%	0	0.0%	0	0.0%	3	10.0%
	Total	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%
Marital status	single	6	20.0%	0	0.0%	0	0.0%	0	0.0%	6	20.0%
	married	19	63.3%	0	0.0%	0	0.0%	0	0.0%	19	63.3%
	divorcee	2	6.7%	0	0.0%	0	0.0%	0	0.0%	2	6.7%
	Widowed	3	10.0%	0	0.0%	0	0.0%	0	0.0%	3	10.0%
	Total	30	100.0%	0	0.0%	0	0.0%	0	0.0%	30	100.0%

Very weak (0-9), weak (10-12), intermediate (13-15) and Good (16-19), level of education (L.O.E)

In this Table Shows that all posttest Levels of Skill to be very weak for the control sample.

Table 5: Comparison between Study groups(Pretest , Posttest-1and Posttest-2)for: Sector, Age, Gender, Level of Education, Marital Status, Years of employee and Source of Information.

Demographic Characteristics	Study group n = 30 For Teachers' Skills Chi-square					
	Pretest			Posttest		
	Q²	df	Sig.	Q²	df	Sig.
Sector				12.86	1	0.02
Age (year)				1.67	3	0.95
Gender				12.86	1	0.02
Educational level	No statistics are computed because Sector, Age (year) Gender, Educational level, Marital status, Years of employee and Information sources are a constant.					
Marital status				7.29	3	0.29
Years of employee				4.94	4	0.76
Information sources	No statistics are computed because Information sources is a constant					

Q2= P. Value, df= degree of freedom , Sig.= Significant

In this Table indicates in the pretest that there is No statistics are computed because Sector, Gender, Educational level, Marital status, Years of employee and Information sources are a constant. Posttest-1 that there is significant between level of skills and Sector, Gender, (sig.= 0.02) , no significant between level of skills and Age (year), Marital status, Years of employee, and No statistics are computed because Educational level, Information sources are a constant. Posttest-2 that there is significant between level of skills and Sector, Gender, and Age (year) (sig.= 0.01), (sig.= 0.04), (sig.= 0.01) , no significant between level of skills and Marital status, Years of employee, and No statistics are computed because Educational level, Information sources are a constant.

IV. DISCUSSION

Part I: Discussion of demographic characteristics of the study sample (secondary schools teachers).

This study used a randomized clinical trial design to test the efficacy of skill building training program in Cardiopulmonary Resuscitation. The sample consists of 60 teachers who were randomly allocated to either a control group (n=30) and a study group (n=30). Throughout the course of the present study and as it has been shown in table (4-1) that (50%) of teachers in study and control groups are male and female.

Regarding their ages (23.3%) years for the study group and (20.0%) years for the control group which ranged between (30-39) years old and (11.7%); (15.0%) in study and control groups which ranged between (40 - 49) years old. The marital status, the majority of teachers (31.7%); (25.0%) respectively in study and control groups were married and (10.0%);(16.6%) in study and control groups were single.

Concerning educational level, each they are College graduate in the study and control groups, this finding presented and evidence that this educational level is usual one for the secondary school teachers probably worldwide.

Regarding to the years of employment in teachers most of the teachers (13.3%) in the study groups, Less than 1 - 5years and (15.0%) in control groups, between (6 - 10) years and (11.7%);(11.7%) in study and control groups which ranged between(11-15).

Concerning sources of information, each they are internet only in the study and control groups. All of the study and control group respectively had no opportunity to be involved in training courses concerning Cardiopulmonary Resuscitation (CPR) skills this disagree with the International Liaison Committee on Resuscitation and the American Heart Association (AHA) recommend that CPR training should be implemented throughout the community and be incorporated as a standard part of the school curriculum (8).

Part II: . Discussion of teachers' skills of both groups (control and study groups).

Cardiopulmonary Resuscitation training should be an integral part of medical curriculum while many medical schools had acknowledged the problems and attempted to provide solution. There remained to be a number of issues to be resolved including how much time in which point of curriculum should be specified for CPR training and who should be responsible for this training(9)Given the importance of practical skills to perform an effective CPR a well-designed practical course is the widely accepted solution. Tables 4.2 Showed that all pretest Levels of Skill were very weak for the both groups (study and control groups). The study confirmed that the teachers working in the secondary school had very weak level of practice at cardiopulmonary resuscitation and need specific educational program and training session.(10)stated that insufficient skills of basic lifesaving are caused by a lack of self-efficacy and poor skill retention.The results confirmed that the teachers' skills toward Cardiopulmonary Resuscitation monitoring within this study was poor at the pretest period.Distribution of posttest levels of skill according to demographic characteristics of the study group in table (4.3) showed that great improvement in the levels of the skill of sample in throughout the phases of CPR training program but in table (4.4) showed that no improvement in the levels of the skill of sample in throughout the phases of CPR training program. Teachers in study group demonstrated a considerable benefit of training program of CPR.This improvement in performance demonstrates the effectiveness of the program.The impact of the CPR course was measured by comparing between the control group, that had never received training in CPR, and study (experimental) group which had received training in CPR, Consistently better results were seen in the trained group compared to the control group for all performance items.

Part III: Discussion of the relationship between teachers' skills and demographic characteristics of those teachers of both groups.

In relation to association between teachers' skills and demographic characteristics of study sample (control and study groups) the findings of table (4.5) shows that in the pretest there is no statistical association are computed because Sector, Gender, Educational level, Marital status, Years of employee and Information sources are a constant (very weak level).

Results reveals that in the Posttest there is significant association between levels of skills and Sector, Gender, (sig.= 0.02), no significant association between levels of skills and Age (year), Marital status, and Years of employee, and No statistics are computed because Educational level, Information sources are a constant(11)agree this result mentioned that there was significant negative correlation between age and total basic life. (12)agrees with this result when he mentioned that there was significant negative association between age and CPR skills and he disagrees with this result when he mentioned that there was significant negative association between gender and CPR skills.

The researcher confirmed that these results gives an assurance that the teachers working in secondary school have very weak level in the performance of steps CPR but the researcher observed according to the data the educational program resulted in statistically significant improvement in CPR skill

V. CONCLUSIONS

No differences were found between the study sample (study and control groups) regarding some socio-demographic characteristics such as, gender, Sector, Level of Education, sources of information's. The study sample (study and control groups) before implementation the educational program have very weak level of cardiopulmonary resuscitation skills. The study group after applying the education program , there were improvements in the cardiopulmonary skills ,but the control group had unsatisfactory skills toward cardiopulmonary resuscitation. Assuming that there were no biases or confounders, the data suggests that the educational programs resulted in statistically significant improvement in skills of cardiopulmonary resuscitation.

VI. RECOMMENDATIONS

The study recommends Continuous education and CPR training programs for teachers every six months. Training must be repeated at regular intervals to maintain the CPR skills. It is essential that there should be cooperation between the Ministry of Health and the Ministry of Education for a training courses to improve the skills of the teaching staff regarding CPR and first aid necessary to save the lives of people in general and students in particular.

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