

**Outcomes of Two Teaching Methods for Police
Health Institute Students regarding Pediatric
Cardio Pulmonary Resuscitation (CPR)**

Thesis

Submitted for Partial Fulfilment of the Requirements for
of Doctorate Degree in Pediatric Nursing

By

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(Master degree in Pediatric Nursing)

2013

Faculty of Nursing
Ain Shams University

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Acknowledgement

First, I feel always indebted to **Allah**, the Most Kind and the Most Merciful.

I am deeply grateful to **Prof. Dr. Iman Ibrahim Abed Al-Moniem**, Professor of Pediatric Nursing and Vice Dean of Community Service and Environment Development Affairs for her constructive criticism, unlimited help and giving me the privilege to work under her supervision.

I would like also to express my deep appreciation and gratitude to **Dr. Hyam Refaat Tantawi**, Ass. Prof. Dr of Pediatric Nursing, Faculty of Nursing, Ain Shams University and Deputy Minister of Higher Education for her supervision, guidance and support throughout this work.

I would like to express my deep thanks to **Dr/ Abd Al-Hamid Salah Abd Al-Hamid**, Consultant Training, Ministry of Health and the American Association Coach of Cardiology Planning, Faculty of Medicine, Cairo University.

Finally, I would like to express my deep appreciation and gratitude to all Police Health Institutes' students who participated as the study subject for their cooperation.

List of Contents

<i>Subject</i>	<i>Page No.</i>
List of Tables.....	i
List of Figures	iv
List of Abbreviations	v
Abstract	vii
Introduction & Aim of the study	1
Review of Literature	5
Subjects and Methods	42
Results.....	48
Discussion	74
Conclusion & Recommendation	89
Summary	91
References	102
Appendices	I
Arabic Summary	-

List of Tables

<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
(1):	Percentage distribution of the studied students according to their demographic.....	49
(2):	Distribution of the students regarding their knowledge related to definition, causes and signs of cardiac arrest in both educational program and booklet guidelines groups	51
(3):	Distribution of nurses regarding their knowledge related to definition, indication and sequence of CPR in both educational program and booklet guidelines groups	52
(4):	Distribution of the students regarding their knowledge related to initial assessment criteria, indication and sequence of CPR in both educational program and booklet guidelines groups.....	53
(5):	Distribution of the students regarding their knowledge related to method to open airway in both educational program and booklet guidelines groups.....	54
(6):	Distribution of the students regarding their knowledge related to breathing assessment in both educational program and booklet guidelines groups	55
(7):	Distribution of the students regarding their knowledge related to breathing ratio for child in both educational program and booklet guidelines groups	56

<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
(8):	Distribution of the students regarding their knowledge related to breathing ratio for infant in both educational program and booklet guidelines groups	57
(9):	Distribution of students regarding their knowledge related to pulse assessment in both educational program and booklet guidelines groups	58
(10):	Distribution of the students regarding their knowledge related to assessment chest compression in both educational program and booklet guidelines groups	59
(11):	Distribution of the students regarding their knowledge related to hand placement for chest compression in both educational program and booklet guidelines groups	60
(12):	Distribution of the students regarding their knowledge related to management of chest compression for the child in both educational program and booklet guidelines groups	61
(13):	Distribution of the students regarding their knowledge related to management of chest compression for the infant in both educational program and booklet guidelines groups	62
(14):	Distribution of the students regarding their knowledge related to rate of chest compression in both educational program and booklet guidelines groups	63

<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
(15):	Distribution of the students regarding their knowledge related to indication and precautions of AED in both educational program and booklet guidelines groups	64
(16):	Distribution of the students regarding their knowledge related to management of choking in both educational program and booklet guidelines groups	65
(17):	Distribution of the students regarding their knowledge related to contraindication and complication of CPR in both educational program and booklet guidelines groups	66
(18):	Distribution of the students regarding their total knowledge related to CPR in both educational program and booklet guidelines groups	67
(19):	Distribution of the students regarding their practices of initial assessment and activates emergency system in both educational program and booklet guidelines groups	68
(20):	Distribution of the students regarding their practices of respiratory assessment, delivers birth and bag mask ventilation throughout the intervention.....	69
(21):	Distribution of the students regarding their practices of circulation assessment and chest compression in both educational program and booklet guidelines groups.....	70

<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
(22):	Distribution of the students regarding their use of the AED in both educational program and booklet guidelines groups	71
(23):	Distribution of students regarding their total practices of CPR in both educational program and booklet guidelines groups	72
(1):	Correlation between total knowledge of the studied students and their total practices regarding CPR	73

List of Figures (in Review of Literature)

<i>Figure.</i>	<i>Title</i>	<i>Page No.</i>
Figure (1):	Anterior view of the heart shows chambers & valves	8
Figure (2):	Interior view of the heart shows superior and inferior vena cava	10
Figure (3):	The factors that determine cardiac function and oxygen delivery to tissues.	34

List of Abbreviations

CA	: Cardiac Arrest
AAP	: American Academy of Pediatrics
ACEP	: American College of Emergency Physicians
AHA	: American Heart Association.
APLS	: Advanced Pediatric Life Support
APRV	: Airway Pressure Release Ventilation
ARDS	: Acute Respiratory Distress Syndrome
ATP	: Adenosine Triphosphate
BAL	: Broncho Alveolar Lavage
BLs	: Basic Life Support
BVs	: Blood Vessels
CHF	: Congestive Heart Failure
CPR	: Cardio Pulmonary Resuscitation
HCPs	: Health Care Providers
HFOV	: Frequency Oscillatory Ventilation
HFOV	: High-Frequency Oscillatory Ventilation
HHFNC	: Humidified High-Flow Nasal Cannula Therapy
PALS	: Pediatric Advanced Life Support
SKCDPH	: Seattle and King County Department of Public Health
U.S.	: United States of America
WHO	: World Health Organization

ABSTRACT

Background: During the last 20 years there have been different approaches to teaching nurse students cardiopulmonary resuscitation, including video self-instruction and self-instruction learning. Receiving cardiopulmonary resuscitation with compressions of adequate depth and frequency, and ventilations of adequate volume improves the chance of survival. **Aim:** This study aimed to evaluate the outcomes of two teaching methods for Police Health Institutes' students regarding pediatric cardiopulmonary resuscitation. **Research design:** A quasi-experimental design was utilized to conduct this study. **Settings:** The study was conducted at Police Health Institutes for males and females. **Subjects:** A convenience sample included 100 (50 from males and 50 females) students (who study pediatric nursing) divided into two groups in the previously mentioned settings over 6 months period. **Tools of data collection:** A pre-designed questionnaire sheet to assess students' knowledge regarding cardiopulmonary resuscitation and observation checklists to assess students' practice regarding cardiopulmonary resuscitation (Pre/post tests). **Results:** The current study revealed that most of the studied sample had unsatisfactory knowledge and practice pre teaching methods intervention while their level was improved post intervention by using the two methods of teaching. **Conclusion:** The current study concluded that, two teaching methods were helpful in creating awareness of cardiopulmonary resuscitation added to studied sample with educational program had more improvement compared to instructional Booklet in this study. Moreover, significant improvement was observed on improving the skills of the studied sample about different age group application of cardiopulmonary resuscitation. **Recommendation:** The current study recommended that Awareness programs about cardiopulmonary resuscitation should be held periodically for student.

Key words: Cardiopulmonary resuscitation- Teaching methods- Educational program- Instructional booklet guidelines- Knowledge- Skills.

Introduction

Cardiopulmonary Resuscitation (CPR) is an emergency life saving procedure that combines chest compression often with artificial ventilation in an effort to manually preserve intact brain function until further measures are taken to restore spontaneous blood circulation and breathing in a child who is in cardiac Arrest (CA). It is indicated in those who are unresponsive with no breathing or abnormal breathing (*Mayo Foundation for Medical Education and Research [MFMER], 2015*).

Cardiac arrest occurs in case of cessation of effective heart beat and blood circulation and it is one of the causes of sudden or unexpected death which may occur at any time or place. CPR operation, as a basic skill, is one of the most important inventions of the history of medicine and a rapid and urgent intervention to prevent death or postpone it in a pediatric patient with CA (*Alferd, 2015*).

Various levels of CPR include: Basic Life Support (BLS) measures which are conducted for opening the airway and oxygenation and maintaining blood circulation at the primary level, advanced resuscitation measures that are done for maintaining blood circulation and oxygenation at the advanced level and long-term resuscitation measures that are done for brain or cerebral resuscitation and improvement of

the brain tissue and stabilization of the pediatric patient (*Abd-El-Meguid et al., 2014*).

According to *American Heart Association [AHA], (2013)* 300,000 American die from heart disease, This is alarming number as half of thses victims die suddenly due to CA. Receiving CPR with compressions of adequate depth and frequency, and ventilations of adequate volume improves the chance of survival. During the last 20 years there have been different approaches to teaching nurse students CPR, including video self instruction and self-instruction learning (*AHA, 2013*).

The outcomes of two teaching methods could improve performance of the students regarding CPR also, but the educational program improve more than using the other media for teaching because of the multiple advantage of educational program compared with self reading (*Hegazy et al., 2013*).

Significance of the study:

While in Egypt nearly of 21.73% from illness and accident died from CA due to lack of knowledge and practice of nurses about CPR. So that the school and Faculties of Nursing in Egypt must promote understanding of global health by providing its students with access to international opportunities and by fostering international exchanges

(*Gordon et al., 2014*). All School of Nursing students are required to have a valid CPR card over the duration of their study. So, that nurses are required to take the BLS for Health-Care Providers (HCPs) course from AHA (*AHA, 2013*).

Aim of the Study

This study aimed to evaluate the outcomes of two teaching methods for Police Health Institutes' students regarding pediatric CPR. Through:

- 1- Assessing knowledge and practice of nursing students regarding CPR.
- 2- Developing and implementing educational program and instructional booklet guidelines with video for students' regarding to pediatric CPR.
- 3- Evaluating the effect of educational program and instructional booklet guidelines with video on nursing students' knowledge and practice related to pediatric CPR
- 4- Comparing between the effect of educational program and instructional booklet guidelines with video on students' knowledge and practice related to pediatric CPR.

Research Hypothesis:

The educational program will improve knowledge and practice of Police Health Institutes' students regarding pediatric CPR more than instructional booklet guidelines with video.