Research Article

A Study to Assess the Effectiveness of Training Program on Knowledge and Practices Regarding Advanced Cardiovascular Life Support (ACLS) among Staff Nurses in MMIMS & R Hospital

Alka Walia[1], Simaranjit Kaur[2], Vinay Kumari[3]

[1]MSc Nursing M.M College of Nursing, [2]Assistant Professor, College of nursing, Adesh University (Bathinda), [3]Professor, Chitkara School of Health Sciences, Chitkara University , Punjab, India

Abstract

Advance cardiovascular life support is a level of medical care which is used for clients with life threatening illness. Death can occur at any time due to causes like stroke, poisoning, accidents, suicide, injury, medication error, shock and cardiac arrest. Among these, cardiac arrest deaths remain major cause of mortality. Therefore, one of the measures to improve survival is by introducing the concept of "chain of survival". The elements of the chain of survival include recognition of early warning signs, activation of the emergency medical system, basic cardiopulmonary resuscitation, defibrillation, intubation and intravenous delivery of medications. Advance cardiac life support (ACLS) refers to a set of clinical interventions for the urgent treatment of cardiac arrest and other life threatening medical emergencies. Extensive medical knowledge and rigorous hands-on training and practice are required to master ACLS. Only qualified health care providers, physicians, paramedics, nurses, respiratory therapists, pharmacists, and other specially trained health care providers can provide ACLS, as it requires the ability to manage the patient's airway, initiate IV access, read and interpret electrocardiograms, and understand emergency pharmacology. Therefore, training program on ACLS is required for staff nurses, to gain knowledge and improve skill. Quantitative approach was selected with pre-test - post-test only design. 36 samples were chosen (working in ICU/ ICCU/ emergency/ medical wards / surgical wards) using random sampling technique. Training program was given to the study subjects and a structured questionnaire and structured checklist was used to collect data regarding Advanced cardiovascular life support of subjects before and after the administration of training program. Findings revealed that the mean post-test sore was greater than the mean pre-test score. Thus it is concluded that the training program on Advanced cardiovascular life support was effective for teaching and improving staff nurse's knowledge and practices.

Key words: *Training, ACLS, staff nurses*

Introduction

Death can occur at any time due to causes like stroke, poisoning, accidents, suicide, injury, medication error, shock and cardiac arrest. Among these, cardiac arrest deaths remain major cause of mortality[1]. As per World Health Organization (WHO) census, statistics mortality due to cardiac causes has overtaken mortality due to all cancers put together. Approximately, 4280 out of every one lakh people die every year from cardiac arrest in India alone[2]. The survival rate of intra-hospital post-cardiac arrest patients, related to the identification of cardiac arrest and care performance by nurses trained in Advance Cardiac Life Support (ACLS), and by untrained nurses. Therefore, one of the measures to improve survival is by introducing the concept of "chain of survival" and Only qualified health care. physicians, paramedics, nurses, respiratory therapists, pharmacists, and other specially trained health care providers can provide ACLS, as it requires the ability to manage the Defibrillation is by far the most effective treatment among the components recommended in the American Heart Association(AHA) Advance Cardiovascular Life Support (ACLS) guidelines[3].

Objectives

1. To assess and compare knowledge practice regarding ACLS before and after administration of training program.

2. To assess and compare practices of staff nurses regarding ACLS before and after administration of training program.

3. To determine the relationship between knowledge and practice of staff nurses regarding ACLS.

4. To determine the association of knowledge and practice of staff nurses regarding ACLS with selected variables.

Material and Method

Quasi-experimental One group pre-test post-test design. The design can be represented as[4]:

OK1P1 X OK2P2X1OK3 P 3X1 OP4OK 4P5.

$\mathbf{O_{K1P1}}$= denotes the assessment of knowledge and practice regarding ACLS before implementation of ACLS training program

X = ACLS training program

$\mathbf{O_{K2P2}}$ = denotes the first posttest Knowledge and practice of staff nurses regarding ACLS after implementation of ACLS training program

$\mathbf{X_1}$= Individualized feedback on ACLS for identified knowledge and practice deficit areas

$\mathbf{O_{K3P3}}$= denotes the second posttest of knowledge and practice of staff nurses regarding ACLS

$\mathbf{O_{P4}}$= denotes the third posttest of practice of staff nurses regarding ACLS

$\mathbf{O_{K4P5}}$= denotes the assessment of posttest knowledge and practice of staff nurses regarding ACLS

VARIABLES UNDER STUDY : Independent variable: Advance Cardiovascular Life Support training program.**Dependent variable**: Knowledge and practice of staff nurses regarding ACLS.

SETTING : The present study was conducted at **Maharishi Markandeshwer Institute of Medical Science and Research Hospital**, Mullana, which is 950 bedded multi-specialty hospital situated in the campus of Maharishi Markandeshwer University, Mullana, Ambala. The data was collected from staff nurses working in ICU, CCU, emergency, Medical ward and surgical wards.

SAMPLING: The sampling technique used was random sampling technique.

SAMPLE SIZE: The sample size for the present study was 36.

DESCRIPTION OF TOOLS:

A structured knowledge questionnaire, and observational checklist were used for the data collection in the study. The structured knowledge questionnaire was divided into two parts as under:

SECTION I– consists of 6 questions related to the background data of eligible students.

SECTION II- consists of 40 knowledge items

Covering the following areas:

Concept of ACLS, Components of ACLS & its techniques, Rhythm of ACLS, Medication.

The structured practice checklist consists of 60 practice items based on the content on Advance cardiovascular life support.

Major Findings

1. The mean 4thpost-test knowledge score (36.36) was significantly (F=322.8, P≤ 0.01) higher than the mean pre-test knowledge score (18.08).

2. The mean 5thpost-test practice score (52.33) was significantly (F=1073.9, P≤ 0.01) higher than the mean pre-test practice score (12.97).

3. There was no correlation between post knowledge with post practice of staff nurses regarding ACLS (r=0.053, p>0.05).

4. The knowledge and practice of staff nurses regarding ACLS was not significantly (p≤0.05) associated with selected variables.

CONCLUSION DRAWN FROM THE STUDY:

The mean posttest knowledge score in all areas of knowledge questionnaire was significantly higher than pretest knowledge score.

The mean posttest practice score in all the areas of practice was significantly higher than the mean pretest practice score.

Discussion

In the present study the 3rdpost intervention of knowledge score 36.3±3.09 and 4th post intervention of practice score 52.3±2.51with mean difference of 18 in knowledge score and 39.26 in practice score. The computed t value was found to be significant (t=31.0, p=0.00) and (t=26.6, p=0.00) at 0.05 level of significance. Similarly, in a study is conducted by **Amal Saied Taha Refaey** reported that on the second post-test the knowledge score 36.6±3.97 and practice score 2.25±18.7. The difference between mean knowledge and practice score was found to be statistically significant

Implications

1. Nursing Education

— Student nurses should be educated about Advance Cardiovascular Life Support.

— In service education should be planned for the nurses to upgrade their knowledge and practice regarding ACLS

— Induction program should be organized by continuous nursing education cell of an institution for the staff nurses regarding evidenced based procedure.

— Educational aids should be developed regarding ACLS

2. Nursing Administration

· Nurse administrator should organize various in-service education/ program /workshop to update the knowledge and practice of nursing employees on Advance Cardiovascular life supported.

· Nurse administrator should employ and encourage the use of new and creative teaching strategies utilizing the latest technologies directed towards the goal of enhancing the knowledge and practice of staff nurses regarding ACLS.

· Nursing administrator should appoint a nurse responsible for training regarding ACLS.

3. Nursing Practice

— Nurses play a vital role in providing care to the patient, so it is imperative for nurses to provide ACLS.

— Nurse educator should use a standardized, valid and reliable structured knowledge questionnaire and observation checklist to assess the knowledge and practice among staff nurses.

— Nurse educator should assess baseline knowledge and practice of staff nurses regarding ACLS.

— Nurses should follow the proper guidelines and technique for Advance Cardiovascular life support.

— Nurses should re-evaluate the level of knowledge and practice after implementation of training program to determine the practice.

Recommendations

· The study can be replicated on a larger sample of staff nurses in different setting for making broad generalization.

· A true experimental study can be conducted with training program regarding ACLS

· A study can be conducted to assess the knowledge and attitude among staff nurses regarding ACLS.

· A descriptive study to assess the knowledge and practice of staff nurses regarding ACLS.

· Various teaching strategies like demonstration, video teaching regarding ACLS can be developed.

Conflict of Interest: No

Source of Funding: Self

Ethical Clearnce: Ethical approval to conduct the study was obtained from the institutional Ethical Committee of M.M University, Mullana, Ambala, Haryana.

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