"A study to assess the effectiveness of structured teaching programme on knowledge regarding advanced cardiac life support amongstaff nurses working in selected hospital."

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Abstract

Background: More than 300000 persons die of sudden cardiac arrest each year. A patient in cardiac arrest has very little chance of survival unless you, the bystander, Hence, the Present study was undertaken to evaluate the effectiveness of structured teaching programme regarding to educate about advanced cardiac life support skills.

This study examines knowledge regarding advanced cardiac life support among staff nurses and whether level of knowledge varies by content area.

Method: Pre-experimental research design with one group pre test post test without control group was used. The 50 study subjects were selected through convenient sampling technique. Data was collected by means of a Structured Closed Ended knowledge Questionnaire by interview schedule. Data was analyzed by using descriptive and inferential statistical in terms of mean, frequency distribution, percentage 't' test and chi-square test.

Results: In pre-test.out of 50 subjects 10 (20%) had good knowledge followed by 28 (56%) had average knowledge followed by 12 (24%) subjects with poor knowledge no subjects had very poor knowledge regarding advanced cardiac life support. However after STP in post test, 26% subject with excellent, 66% subjects with good, 6.% with average and no subjects had poor knowledge regarding advanced cardiac life support. Hence it indicates that the structured teaching programme was effective in enhancing the knowledge of staff nurses.

Conclusion: The study proved that structured teaching programme on knowledge regardingadvanced cardiac life support was scientific, logical and cost effective strategy.

KeyWords: Effectiveness, structured teaching programme, advanced cardiac life support,Knowledge, Socio-demographic variables.

Introduction

Life is very precious, it doesn't matter where we born but it is matter how you brought up. That means at the time of birth a child he/she doesn't know anything .but day by day he/ she gaining knowledge regarding life. Most of this knowledge's are learned by training, parents teachers, seniors all are part of this training. So proper and systematic

training is essential to lead a better life[1].

Advanced cardiac life support refers to a set of clinical intervention for urgent treatment of cardiac arrest and other life threatening medical emergencies, as well as the knowledge and skills to deploy those intervention .Extensive medical knowledge and rigorous hands on training and practices are required to master advanced cardiac life support. Only qualified health care providers (eg: - physicians, physician's assistants, nurse, parishioners paramedical, respiratory therapists and other special trained health care providers) can provide advanced cardiac life support. As it requires the ability to manage the patients air way, initiate Iv access, read and interpret ECG and under stand emergency pharmacology[2].

Good quality Basic Life Support (BLS) results in better survival. Basic Life Support is an essential skill that all professional nurses need to have. All nursing personals are taught Cardio-Pulmonary Resuscitation (CPR) during their professional training and also during the orientation programme prior to induction as a staff nurse[3]. Sudden cardiac arrest is one of the most causes of death in many countries. Cardiac arrest refers to a sudden, profound disturbance in the heart's rhythm that causes the heart to stop beating completely or slow to the point where the life is unsustainable. Cardiac arrest is not the same as a heart attack. A heart attack, while potentially life threatening, usually offers a short period of time in which treatment can save the person's life. CPR is only likely to be effective if commenced within 6 minutes after the blood flow stops. Because permanent brain cell damage occurs when fresh blood infuses the cells after that time, so initiating immediate Cardio-Pulmonary Resuscitation is very important in saving life of the patients[5].

Now days, the quality of nursing care has been questioned a lot. Hence updating the knowledge and skill is very essential to maintain the quality of nursing care. So that the nursing professionals should be aware of the recent trends in nursing and the ability to recognize the emergency conditions and responding to them in positive way is very important[4].

Resuscitation includes all measures that are applied to revive patients who have stopped breathing suddenly and unexpectedly due to either respiratory or cardiac failure. CPR involves physical interventions to create artificial circulation through rhythmic pressing on the patient's chest to manually pump blood through the heart, called chest compressions, and usually also involves the rescuer exhaling into the patient (or using a device to simulate this) to ventilate the lungs and pass oxygen in to the blood, called artificial respiration[5].

The aim of resuscitation is to sustain life with intact neurological functioning and the same quality of life previously experienced by the patient. Advanced cardiac life support (ACLS) was designed to achieve this aim. Advanced cardiac life support (ACLS) refers to a set of clinical intervention for urgent treatment of cardiac arrest and other life threatening medical emergencies, as well as the knowledge and skills to deploy those interventions. Extensive medical knowledge and rigorous hands on training and practices are required to master ACLS. Only qualified health care providers can provide ACLS, as it requires the ability to manage the patient's airway, initiate IV access, read and interpret ECG and understand emergency pharmacology.

Need for the study

The American Heart Association (AHA) states that 88 percent of the 383,000 cases of sudden cardiac arrest that occur each year outside of a hospital happen at home. The survival rate for those who experience this condition is less than eight percent. Administering CPR and

chest compressions immediately can double or triple a person's chance of surviving this life-threatening condition, according to the AHA.

The nursing staffs hold great responsibility in saving life of the patients admitted in the hospital. Saving life demands only two hands and some basic knowledge. Poor knowledge and skill retention following cardiopulmonary resuscitation training for nursing and medical staff has been documented over the past 20years. Cardiopulmonary resuscitation training was mandatory for nursing staff and important as nurses often discover the victim of in hospital cardiac arrest[3.] As every health professional the nurse must need a specialized skill and knowledge in ACLS unfortunately the nurse has not good knowledge in ACLS .the knowledge start from the curriculum of nursing[6].

Poor knowledge and skill retention following cardiopulmonary resuscitation training for nursing and medical staff has been documented over the past 20years. Cardiopulmonary resuscitation training was mandatory for nursing staff and important as nurses often discover the victim of in hospital cardiac arrest[3] Nursing informatics applications have increased significantly within the past few years. Nurses must now face the vast challenge of learning and working within the age of technology. Nurses encounter the use of technology daily. Also, it is the basis for changing the way patient care is being delivered. So the student nurses hold great responsibilities in achieving the updated information pertaining to the nursing profession, and it is vital to brought up the each student nurses in competitive manner. The ACLS programme has become popular worldwide, the nursing education must be appropriate as in the advancement of the profession, and it's status relay on the base of education[8].

Therefore the investigator felt to conduct structure teaching programme on knowledge regarding selected advanced cardiac life support.

Statement of the problem:

"A study to assess the effectiveness of structured teaching programme on knowledge regarding advanced cardiac life support among staff nurses working in selected hospitals at Karad."

Objectives Of The Study

1. To assess the existing knowledge regarding advanced cardiac life support among staff nurses working in selected hospital at Karad.
2. To determine the effectiveness of structured teaching programme on knowledge regarding advanced cardiac life support among staff nurses working in selected hospital at Karad.
3. To find out the association between post test knowledge scores regarding advanced cardiac life support with their selected socio-demographic variable among staff nurses working in selected hospital at Karad.

Methodology

Methodology is the most important part of any research study. It includes various steps that are generally adopted by the researcher in studying the research problem along with the logic behind them.

The present study was aimed at assessing the effectiveness of structured teaching programme on knowledge regarding advanced cardiac life support among staff nurses working in selected hospitals at Karad.

Research Approach

An evaluative approach was used to evaluate the effectiveness of structure teaching programme on knowledge regarding advanced cardiac life support among staff nurses working in selected hospitals at Karad. An evaluative research approach is generally applied where the primary objective is to determine the extent to which a given strategy meets the desired result.

Research Design

The research design adopted for this study was pre experimental one group pre test -post test design. Here one experimental group of staff nurses were selected without randomization and no control group was used.

PopulationThe population includes staff nurses working in the selected hospitals at mandyaduring the period of data collection

Sample: The sample for the present study composed 50 Staff nurses of selected hospitals at Karad.

Sampling Technique

The convenient sampling technique was used to select sample for the present study. The clients were selected conveniently and who met both the inclusion and exclusion criteria of the study.

Sample Size

This study composed of 50 staff nurses of selected hospitals.

Variables under the Study

Variable is a content that has measurable changing attributes. Variables are qualities, properties, or characteristics of persons, things, or situation that change or vary.

- **Dependent Variable;** In this study, it refers to the knowledge of staff nurses regarding advanced cardiac life support .
- **Independent Variable:** In this study it refers to the structured teaching programme on knowledge regarding advanced cardiac life support among staff nurses.

Socio-demographic Variables: In this study socio-demographic variables refer to age, gender, religion, education, income, year of experience, attending any health education programme on ACLS.

Setting of the Study

The present study was conducted at selected Krishna hospital&medical research centre Karad.

The study setting was selected according to the availability staff nurses and investigators convenience.

Method of Data Collection

Permission was obtained from the Dean, hospital. Ethical clearance was done.
Consent was obtained from the participants.

Pre test data was collected by researcher herself by using Structured closed ended questionnaire with interview schedule. Structured teaching programme intervened with the advanced cardiac life support.

Seven days after intervention, post test data was collected by using structure questionnaire method, was completed within 45 days.

Development of the Tool

A Structured closed ended Questionnaire was prepared by extensive review of literatures and on the basis of guide's opinion. The tool validity was obtained from 8

experts from different states. According to the expert's opinion, warm exercises were included and items was organised in order. The tool contains 2 main sections. They are,

1. General information of ACLS- 16 items with maximum score of 16 marks.

2. Importance and skills of ACLS-20 items with maximum score of 20 marks.

So these aspects were included with an aim to assess the knowledge of staff nurses regarding advanced cardiac life support.

Description of Tool

The instrument was divided into two parts:

- **Part – I**

It consists of 7 items regarding the demographic information of the subjects such as age, gender, religion, education, income, year of experience, attending any health education programme on ACLS.

- **Part – II**

Data was collected by means of Structures questionnaire with Interview scheduled used. It consists of 36 knowledge items related to ACLS. These items were closed ended, multiple choice questions. The tool was made with 2 sections they are,

- SECTION A: The first section includes of eight questions, each questions were carries 1 mark. It consists of knowledge questions regarding general information of advanced cardiac life support.
- SECTION B: The second section includes of four questions, each questions were carries 1 mark. It consist of knowledge questions regarding importance and skills of advanced cardiac life support.

Scoring:

Each question has one correct option and each possible correct response is assigned one mark and the wrong answer carries zero mark. The total numbers of possible correct options are 36. For the present study the score is classified as

Level of knowledge	**Range score**	**Percentage** (%)
Excellent	29-36	81-100
Good	22-28	61-80
Average	15-21	41-60
Poor	7-14	21-40
Very poor	0-6	0- 20

Content validity of the Tool The constructed tool was given to 8 experts in related fields for content validity. They were from the departments of Medical Surgical Nursing. The tool

was modified according to the suggestions of the expert's opinion to include aspects regarding general information about advanced cardiac life support. After the modification, the tool was implemented. So these aspects were included with an aim to assess the knowledge of about advanced cardiac life support.

Results

The purpose of analysis is to reduce the data to intelligible and interpretable forms so that the relation of problems can be studied and tested. The interpretation of tabulated data can bring to light these real meaning of the finding of the study.

Analysis and interpretation of data for the present study is based on data collected from 50 staff nurses.

The data collected were tabulated, analyzed and interpreted by using descriptive and inferential statistics. The data themselves do not provide us answers to our research questions. The amount of data collected in a study is too expensive to be reliably described by mere perusal. In order to meaningfully answer the research questions, the data must be processed and analyzed in some order. The data is analyzed on the basis of the objectives and hypothesis of the study.

Discussion

Advanced cardiac life support refers to a set of clinical intervention for urgent treatment of cardiac arrest and other life threatening medical emergencies, as well as the knowledge and skills to deploy those intervention

The present stud*y* was conducted to evaluate the effectiveness of structured teaching programme on knowledge regarding advanced cardiac life support among staff nurses working in selected hospital at Karad. In order to achieve the objectives of the present study, pre experimental one group pre test post test design with an evaluative approach was adopted. The subject was selected by convenient sampling technique. The sample comprised of 50 staff nurses and the data were collected from them before and after the administration of STP. The findings are the four sections,

Section I: Description of socio-demographic characteristics of sample.

Findings revealed that Out of 50 subjects, 44% of the subjects were between the age group of above 50 years, followed by 38% in the age group of 35-50 years, 18% were below 35 years age, 52% of subjects were females and remaining 48% were males, 76% of subjects were from Hindu religion, 14% of subjects were from Muslim, and remaining 10% were from Christian, 18% of the subjects had GNM, 20% up to BSc Nursing, 40% had PPBSc Nursing, 18% had Post graduate and above, 12% subjects had an income below Rs 5000/-, followed by 48% subjects with income between Rs. 5001/-- 8000/-, 40% had Rs 8001/ and above, 82% of the subjects were not attending health education campian,18% of the subjects were attending health education campaign.

A study was conducted regarding ACLS among staff nurses.The high technology medical treatment is extremely important in maintaining quality of care and in estimating the impact of changes in therapies,patient health condition. Conducted an evaluative study to evaluate a standard information package comprising written and audio-visual aids for advanced cardiac life support. These questionnaire that evaluate the staff nurses initial knowledge of ACLS and the treatment option available and a post information package questionnaire that

evaluates the staff nurses knowledge of ACLS option after being informed according to the protocol, The initial knowledge was assessed among staff nurses , staff nurses were then guided through the information package. All subjects answered in post–intervention package. All the subjects who received information improved their knowledge of ACLS,this improvement was statistically significant.

Section II: Description of level of knowledge of subjects regarding ACLS.

Comparison of level of knowledge of staff nurses regarding ACLS in pre-test and post-test.

In pre-test out of 50 subjects 10 (20%) had good knowledge followed by 28 (56%) have average knowledge followed by 12 (24%) subjects with poor knowledge no subjects had very poor knowledge However after STP, in post test, 26% subject with excellent, 66% subjects with good, 6% with average and no subjects had poor knowledge regarding ACLS.

A similar experimental study was conducted to assess the effectiveness of teaching programme regarding knowledge of ACLS at America. 48 samples were selected randomly. The prior knowledge assessment was carried out using a questionnaire followed by teaching programme sessions regarding knowledge on BLS. Results showed that the obtained‘t’ value [23.27, $P<0.05$] was higher than the table value indicating the effectiveness of clinical practice guidelines. The study concluded that the teaching was found to be effective in improving the knowledge of the staff nurses.

Section III: Assessment of the effectiveness of the STP on knowledge regarding advanced cardiac life support.

Paired‘t’ test was used to find out the significance of the differences between the pretest knowledge and post test knowledge scores of staff nurses regarding ACLS.As the calculated’t’ value (19.14) was much higher than table t value (2.010) the hypothesis: **H1** - There is significant differences between pre-test and post test knowledge scores of the staff nurses regarding ACLS was accepted. Findings revealing the presence of significant difference between pre-test and post-test knowledge scores, hence the structured teaching programme is proved to be effective.

The overall findings reveal that the post-test mean knowledge score 31.42 with SD ±4.44 which is 83.5% of total score was more when compared to the pre-test mean knowledge score 18.19 with SD ±6.83which is 51.52% of total score. The overall effectiveness of STP on selected post dialysis complications and its prevention, mean score was 12.26 with SD ±4.49 which is 34.15% of total score.

Hence it indicates that the STP was effective in enhancing the knowledge of staff nurses regarding ACLS.

A similar pre experimental research study conducted was conducted to evaluate the effectiveness of STP on improving the knowledge regarding basic nursing skills among nursing students at Karad. Using purposive sampling technique 50 subjects were selected .Data was collected by using Structured closed ended questionnaire. Results showed that (($t=32.75$, $p<0.05$) the STP is highly effective and the study generalised that structured teaching programme Module was highly effective in improving the knowledge regarding basic nursing skills for hospitalized persons among the BSc nursing students [34].

So this study supports present that STP can enhance the knowledge, this can be witnessed by checking the pre test and post test knowledge scores.

Section IV: Association between post-test knowledge scores of staff nurses regarding advanced cardiac life support with selected socio demographic variables.

Chi-square test was used to determine the association between the socio demographic variables and knowledge of subjects regarding ACLS. No significant association was found between the post test knowledge scores of clients with their socio- demographic variables like age, gender, religion, education, income, year of experience, attending any health education campaign relationship with the ACLS.

Conclusion

The main focus of this "A study to assess the effectiveness of structured teaching programme on knowledge regarding advanced cardiac life support among staff nurses working in selected hospitals at Karad." at Krishna Hospital & Medical Research Centre. The data was collected from 50 sample.

The conclusions drawn from the study are as follows:

- ✓ Majority 44% of the subjects were between the age group of above 50 years.
- ✓ 52% of the were Females.
- ✓ 76 % of subjects were Hindus
- ✓ 44% of the subjects had B.B.Sc. (N)
- ✓ 48% of the subject had monthly income about Rs 5001/- 10,000 Rs
- ✓ 60% of the subjects had experience of 1-3 years
- ✓ 82% of the subjects are not attended any health education Campaign.
- ✓ After STP in post test, 40% subject with excellent, 46.66% subjects with good, 6.67% with average and 6.67% subjects with poor knowledge regarding ACLS.
- ✓ Paired't' test was used to find out the significance of the differences between the pretest knowledge and post test knowledge scores of staff nurses regarding ACLS . As the calculated't' value (19.13) was much higher than table t value (2.010).
- ✓ Hypothesis: **H1** - There is significant differences between pretest and post test knowledge scores of the staff nurses regarding ACLS is accepted. Findings revealing the presence of significant difference between pre-test and post-test knowledge scores, hence the structured teaching programme is proved to be effective The overall findings reveal that the post-test knowledge score (22.06 ± 4.176) was more when compared to the pre-test knowledge score (7.8 ± 2.27). Hence it indicates that the STP was effective in enhancing the knowledge of staff nurses.
- ✓ Chi-square test was used to determine the association between the socio demographic variables and knowledge of subjects regarding ACLS. No significant association was found between the post test knowledge score of staff nurses with their socio- demographic variables like age, gender, religion, education, income,year of experience and attending any health education campaign regarding ACLS.

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