International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 6 Issue 1, November-December 2021 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

A Pre-Experimental Study to Assess the Effectiveness of a Competency Teaching Program Regarding Knowledge and Practices of CPR among Staff Nurses in Sacred Heart Hospital at Jalandhar

Ranimol P. V[1], Dr. Priyanka Chaudhary[2], Mrs. Ramanpreet Kaur[3]

[1]M.Sc Nursing, [2]Associate Professor, [3]Assistant Professor,
[1, 2, 3]Desh Bhagat University School of Nursing, Punjab, India

ABSTRACT

Statement of the Problem: A pre- experimental study to assess the effectiveness of a competency teaching program of knowledge and practice regarding Cardio Pulmonary Resuscitation (CPR) guideline among nursing staff at Sacred Heart Hospital Jalandhar. Study Objective: (a) To assess the knowledge of nursing staffs regarding Cardiopulmonary Resuscitation (CPR) guideline. (b) To assess the Practice of nursing staff regarding Cardio Pulmonary Resuscitation (CPR) guideline. (c) To deliver structured competency teaching programme to nursing staff. (d) To reassess the knowledge and practice regarding Cardiopulmonary Resuscitation (CPR) guideline. (e) To find out the correlation between knowledge and practice of nursing staffs regarding Cardiopulmonary Resuscitation (CPR) guideline. Methodology: Pre-test post-test pre- experimental research design. 60 samples were selected by using purposive sampling technique. A structured questionnaire and observation check list was used to assess the knowledge and practice. Results: Descriptive and inferential statistics were used to analyze the data. The Paired t test comparison of pre-test and post-test level of knowledge regarding CPR. As per the Pre-Test knowledge score, it was found that the mean value was 11.58, mean percentage was 38.61. Whereas as per the Post Test knowledge score, it was found that the mean value was 24.03, Mean Percentage 80.11. The mean difference between the pre-test and post-test level of knowledge was 12.45 The calculated t value that is 27.744 was more than the tabulated t value that is 2.00, which was statistically significant at the 0.05 level of significance. Hence, the research hypothesis is rejected. It shows significant change in knowledge of staff nurses. The study findings revealed that the structured competency teaching program improved the knowledge and practice regarding cardio pulmonary resuscitation among nursing staffs.

KEYWORDS: *Pre- Experimental study, Effectiveness, Teaching. Knowledge, CPR, Assess, Pretest, Post Test, Nursing staff, Mean, Difference, Practice, Programme, Findings, Hypothesis, Methodology, Design, Sample, Approach, Conceptual framework*

How to cite this paper: Ranimol P. V | Dr. Priyanka Chaudhary | Mrs. Ramanpreet Kaur "A Pre-Experimental Study to Assess the Effectiveness of a Competency Teaching Program Regarding Knowledge and Practices of CPR among Staff Nurses in Sacred Heart Hospital at Jalandhar" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-1, December 2021, pp.104-143, URL: www.ijtsrd.com/papers/ijtsrd47744.pdf

IJTSRD47744

I. INTRODUCTION

"AN UNEXAMINED LIFE IS NOT WORTH LIVING"

SOCRATES

The heart is the centre of cardiovascular system and it is vitally responsible for just about everything that gives body life ranging from the transportation of oxygen to the success of the immune system. However, the foods we eat and the amount of activity choose to take part in dramatically affect the overall

health of the heart and the many other tissues that make up cardiovascular system.

The heart is a muscular organ about the size of a closed fist that functions as the body's circulatory pump. It takes in deoxygenated blood through the veins and delivers it to the lungs for oxygenation before pumping it into the various arteries. (Which provide oxygen and nutrients to body tissues by transporting the blood throughout the body?)

Each year, a number of persons suffer with an accident or illness, severe to stop their breathing and leads to respiratory arrest. In a small number of these cases, it will even stop their heart beating and leads to cardiac arrest. Sudden cardiac arrest is a major cause of death in developed countries. Sudden death occurs when heartbeat and breathing stops.

The other common causes of sudden death include heart attack, drowning, choking ensuring their survival is to give them emergency treatment known cardiopulmonary, suffocation, trauma, drug reactions, and allergic reactions. The best chance of resuscitation (CPR). CPR can consist of many different things, but the initial, vital part is Basic Life Support (BLS).Cardio means "of the heart" and pulmonary means "of the lungs". Resuscitation is a medical word that means "to revive" or bring back to life. Sometimes cardio pulmonary resuscitation (CPR) can help a person who has stopped breathing, and whose heart may have stopped beating, to stay alive. Despite advances in cardio pulmonary resuscitation (CPR) methods, including the introduction of the Automatic Electrical Defibrillator (AED) and therapeutic hypothermia, only about 10% of adult out-of-hospital cardiac arrest (OHCA) victims survive to hospital discharge, and the majority of survivors have moderate to severe cognitive deficits 3months after resuscitation.

Resuscitation from cardiac arrest is the ultimate whole body ischemia reperfusion (I/R) injury affecting multiple organ systems including brain and heart. In most cases, defibrillation and other means of advanced life support are not immediately developed countries. Sudden death occurs when heartbeat and breathing stops.

The other common causes of sudden death include heart attack, drowning, choking ensuring their survival is to give them emergency treatment known as cardiopulmonary, suffocation, trauma, drug reactions, and allergic reactions the best chance of resuscitation (CPR). CPR can consist of many different things, but the initial, vital part is Basic Life Support (BLS).Cardio means "of the heart" and pulmonary means "of the lungs". Resuscitation is a medical word that means "to revive" or bring back to life. Sometimes cardio pulmonary resuscitation (CPR) can help a person who has stopped breathing, and whose heart may have stopped beating, to stay alive. Despite advances in cardio pulmonary resuscitation (CPR) methods, including the introduction of the automatic electrical defibrillator (AED) and therapeutic hypothermia, only about 10% of adult out-of-hospital cardiac arrest (OHCA) victims survive to hospital discharge, and the majority of survivors have moderate to severe cognitive deficits 3months after resuscitation.

Resuscitation from cardiac arrest is the ultimate whole body ischemia reperfusion (I/R) injury affecting multiple organ systems including brain and heart. In most cases, defibrillation and other means of advanced life support are not immediately available. In urban settings it takes an average of nearly ten minutes for professional help to arrive. During this time victims can only rely upon CPR provided by educated bystanders.

Myocardial Infarction (MI) is the leading cause of death worldwide, in which sudden cardiac arrest (SCA) arising from the same is responsible for over 60% of death (American Heart Association, 2005). India has the highest incidence of heart related disease in the world and number of those affected is likely to increase in the upcoming year. According to Indo US health summit which held in New Delhi, India will have 62 million patient with heart disease by 2015, compared to 16 million in the US (Euas a et al, CADI, Research Foundation, California, USA).

Sudden cardiac arrest is a catastrophic medical emergency that may occur at any time in the hospital or pre-hospital setting. Cardiopulmonary resuscitation (CPR) and basic life support (BLS) are important life-saving, first-aid skills. CPR is an emergency procedure that is performed in an effort to manually preserve intact of brain function until further measures can be taken to restore spontaneous blood circulation and breathing in the person who is experiencing the cardiac arrest. It involves chest compressions and artificial respiration. BLS refers to the maintenance of airway patency and the support of breathing and circulation without the use of equipment, other than a protective device. Therefore, knowledge of CPR is crucial to the improvement of patient survival.

These emergencies can be easily managed by knowledge and practice of resuscitation skills. Nurses are integral part of health care system, and are perceived to be knowledgeable in providing Institutional care to the patient Cardiopulmonary resuscitation is an important medical procedure which

is needed for individuals who face sudden cardiac arrest (American Heart Association 2005). CPR is a combination of rescue breathing and chest compression which is delivered to victim who are thought to be in cardiac arrest. Being important member of health care team nurse are deemed necessary to possess the basic skills and expertise which are needed to perform Cardio Pulmonary Resuscitation. Many times the doctor may not be present near the patient and hence the nurses are expected to provide emergency care. To perform this procedure in a meticulous manner the nurse should be knowledgeable and they should have expertise in the procedure. In contrary to their role, studies from different country have reported poor knowledge among nurses (Mar. H, et.al., 2010).

About 30 % of deaths due to acute myocardial infarction occur within the first hour of the onset and about two-thirds of deaths occur before the victim reaches the hospital. It was also stated that most of early deaths are due to ventricular fibrillation which is treatable. Other causes of sudden death include drowning, suffocation, electrocution, drug overdose and accidental injuries. Many of these deaths can be prevented if the victims get prompt and proper help. Survival of cardiac arrest depends on a series of critical interventions and this sequence is sometimes described as chain of survival. If one of these critical interventions is delayed, the chance of survival would be reduced. In determining the higher chance of survival of the victims, everybody including by standers, first responders, emergency service personnel, paramedics and doctors must be able to play their roles effective when dealing with emergency situations (Buck Barret and Squire, 2010).

The initial goals in emergency first aid are to ensure safety or save life, to prevent an injury or illness from deteriorating or go into complications and promote speedier recovery. Similarly, in trauma cases, apart from definitive and intensive care phase, a comprehensive care must also include pre-hospital as well as emergency and resuscitation phases. These phases must be linked from the injury incident to Pre-hospital care, Emergency Department Services, the Definitive Care and Rehabilitation and Reintegration phases (Abu Hassan Assari, et.al., 2009).

The personnel involved in the management of patients must be trained to ensure a trauma management is standardized and familiar to all Health Personnel. People's heart stops beating every day. For many people this cessation of pulse is premature their "hearts are too good to die". Cardio Pulmonary Resuscitation efforts can restore these hearts to spontaneous activity before the brain has been permanently damaged. As a nurse in many of the cardiac arrest situation he or she will act as a first responder and it all the more important to know how to resuscitate and be familiar with resuscitation equipment, drugs, and procedures. The leading cause of death in the US according to the Centre for Disease Control (CDC.gov) is cardiovascular disease. It's important to remember that Cardiopulmonary Resuscitation (CPR) and First-Aid can be applied in many ways. If a person has drowned, had a heart attack, had a stroke, went into cardiac arrest or is choking proper training could mean the difference between life and death of a patient. If the patient isn't breathing, is unconscious or has no pulse CPR should be applied immediately. Always remember, proper CPR begins with chest compressions. Cardiopulmonary resuscitation (CPR) is the foundational technique for the emergency treatment of cardiac arrest (CA). The standardized training of CPR has been emphasized more than ever. Common people in developed countries and regions have received popular education of CPR program of Advanced cardiac life support (ACLS) training which was launched jointly by Universal Medical Assistance International Center (2014).

Nurses of health services who have received professional education and training should be able to practice CPR accurately and offer advanced cardiac life support to the patient who suffered an attack of cardiac arrest. This is considered as the basic requirement and qualification of licensed nurses. In the wider community it is an expectation that competence in cardiopulmonary resuscitation (CPR) and Advanced Cardiac Life Support (ACLS) is at a high standard in all hospital medical and nursing staff (Buck-Barrett and Squire, 2014). Studies have also identified differences in the quality of ACLS /CPR performed by various healthcare providers. Often chest compression is performed inadequately with slow rates of compression and inadequate depth of compression. Researcher found that after a relatively short time following training, nurse's ACLS/CPR skills were poor. Previous studies of CPR/ACLS knowledge and skills have focused on nurses and other mainstream health professionals (Nyman and Sihvonen, 2012).

Myocardial Infarction (MI) is the leading cause of death worldwide, in which sudden cardiac arrest (SCA) arising from the same is responsible for over 60% of death (American Heart Association, 2005). India has the highest incidence of heart related disease in the world and number of those affected is likely to increase in the upcoming year. According to Indo US health summit which held in New Delhi,

India will have 62 million patient with heart disease by 2015, compared to 16 million in the US (Euas a et al, CADI, Research Foundation, California, USA).

Sudden cardiac arrest is a catastrophic medical emergency that may occur at any time in the hospital or pre-hospital setting. Cardiopulmonary resuscitation (CPR) and basic life support (BLS) are important life-saving, first-aid skills. CPR is an emergency procedure that is performed in an effort to manually preserve intact of brain function until further measures can be taken to restore spontaneous blood circulation and breathing in the person who is experiencing the cardiac arrest. It involves chest compressions and artificial respiration. BLS refers to the maintenance of airway patency and the support of breathing and circulation without the use of equipment, other than a protective device. Therefore, knowledge of CPR is crucial to the improvement of patient survival.

Nurses are an integral part of the healthcare system and are perceived to be knowledgeable in providing institutional care to the patients. Cardio-pulmonary Resuscitation (CPR) is an important medical procedure which is needed for individuals who face 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 cardiac arrest. Being important members of the healthcare team, nurses are deemed to possess the basic skills and expertise which are needed to perform CPR. It is documented that a timely performed CPR can largely prevent sudden death. and it is hence considered to be an important medical procedure. Many times, the doctor may not be present near the patient and hence the nurses are expected to provide this emergency care. To perform the procedure in a meticulous manner, the nurses should be knowledgeable and they should have expertise in the procedure. Contrary to their roles, studies from 9 different countries have reported a poor knowledge among the nurses regarding CPR. A study also reported that interventions can improve the nurses knowledge on CPR (Sita Parajulee and Valarmathi, 2014)

Poor knowledge and skill retention following cardiopulmonary resuscitation training for nursing and medical staff. Cardiopulmonary resuscitation training is mandatory for nursing staff and is important as nurses often discover the victims of in-hospital cardiac arrest. Many different methods of improving this retention have been devised and evaluated. However, the content and style of this training lack standardization. Cardiac nursing is a nursing specialty that works with patients who suffer various conditions of cardiovascular system, such as Unstable angina Cardiomyopathy, Coronary artery diseases, Congestive heart failure, Myocardial infraction, Cardiac dysarrhythmias and Congenital cardiac diseases. Cardiac nurses must assess and care for patients with heart problems that range in severity from arrhythmias to Heart transplant. Nurses must be able to immediately assist in treating or initially diagnose a sudden life threatening emergency. Cardiac nurses monitor patient for any signs of a change in condition, administer medication help with basic personal care need and work with the cardiologist to develop a plan of action for patient care. Cardiac Nurses must acquire specialized skills. including ECG Monitoring, Defibrillation, emergency medication, CPR Techniques (Nisha. L. S, 2013).

Cardiac nurses are responsible for identifying emergency situations and to initiate methods for treating emergency situation. Each nurse should aware of emergency situation, medication, methods of CPR, rate, depth of compressions, Estimative point that, for each minute of delayed assistance to a patient in cardiac arrest the chances of survival are decreased by approximately 10% and that data showed that proper and immediate performance of cardiopulmonary resuscitation (CPR) techniques can double or triple a victim's chance of survival. So, it becomes inarguably essential that medical students must be well trained and required to pursue updated knowledge on CPR maneuvers in order to provide a satisfactory care. This is especially true since the recommendations are that basic training must be provided even for the lay population who are the most likely bystander in these situations. In this effort the AHA trains more than 12 million people in CPR annually, including both the lay population and health professionals. Therefore, medical schools must provide adequate opportunity for acquisition of this competence by its medical students American Heart Association (AHA).

The latest recommendations of the International Liaison Committee on Resuscitation (ILCOR) were released in October 18th, 2010 and were based on a process involving 356 international resuscitation experts from 29 countries who re-viewed, discussed, debated, and produced 411 scientific papers supporting their final recommendations. The changes on previously recommended care during CPR, published in 2010, includes changes on the minimum heart compression rate and depth, the sequence of maneuvers, the different re-commendations for lay people and health professionals, the use of automatic defibrillators in all victims, the use of capnography during CPR, and also changes in the medication protocols and a set of recommendations for care of

these patients upon returning of spontaneous circulation (Rosc).

1. Statement of the Problem

A pre-experimental study to Assess the effectiveness of a competency programme on CPR among the staff nurses at Sacred Heart Hospital in Jalandhar Punjab.

AIMS OF THE STUDY:

The aim of the study was to enhance the effectiveness of a competency programme regarding cardio pulmonary resuscitation among the staff nurses in selected hospital at district Jalandhar, Punjab.

Objectives of the study:-

- To assess the pre test and post test knowledge of staff nurses regarding CPR among the staff nurses.
- To assess the pre test and post test practice regarding CPR among the staff nurses.
- To find out the association between knowledge regarding CPR with selected demographic variables.
- To find out the association between the practice regarding CPR with the selected demographic variables among staff nurses.
- To provide a competency programme regarding CPR to the staff nurses so as to enhance the knowledge and practice.

Need for the Study

Recently American Heart Association (AHA-2010) has revised Cardiopulmonary Resuscitation (CPR) guideline in the year 2010. Many changes have been incorporated in the new recommendation to improve the outcome of patient. Some important change and Recommendation which were made are changing the Basic Life Support(BLS) sequence from Airway, Breathing, Circulation(ABC) to Circulation, Airway, Breathing (CAB), hand only CPR, emphasis on high quality CPR and post resuscitation care. Implementation of this new resuscitation guideline has been shown to improve outcomes of patients. American Heart Association (AHA 2010) has expressed needs for training health care provider about the new guideline. The quality of rescuer education and frequency of retraining are critical factors in improving the effectiveness of resuscitation. Nurses being in the front line of emergency system. It is deemed necessary to train nurse regarding this new resuscitation guideline. For this purpose assessing existing knowledge and practice of nurse will greatly help in planning an effective teaching learning programme for them. Besides, after 2010 American Heart Association (AHA) new guideline, only few studies were conducted in India to document the knowledge of nurses about new Cardiopulmonary Resuscitation (CPR) guideline, and their practice. Hence the present study was conducted to know the existing knowledge, and practice about Cardiopulmonary Resuscitation (CPR) guideline among nursing staffs.

Nurses are an integral part of the healthcare system and are perceived to be knowledgeable in providing institutional care to the patients. Cardio-pulmonary Resuscitation (CPR) is an important medical procedure which is needed for individuals who face 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 cardiac arrest. Being important members of the healthcare team, nurses are deemed to possess the basic skills and expertise which are needed to perform CPR. It is documented that a timely performed CPR can largely prevent sudden death, and it is hence considered to be an important medical procedure. Many times, the doctor may not be present near the patient and hence the nurses are expected to provide this emergency care. To perform the procedure in a meticulous manner, the nurses should be knowledgeable and they should have expertise in the procedure. Contrary to their roles, studies from different countries have reported a poor knowledge among the nurses regarding CPR. A study also reported that interventions can improve the nurses knowledge on CPR (Sita Parajulee and Valarmathi, 2014)

Poor knowledge and skill retention following cardiopulmonary resuscitation training for nursing and medical staff. Cardiopulmonary resuscitation training is mandatory for nursing staff and is important as nurses often discover the victims of in-hospital cardiac arrest. Many different methods of improving this retention have been devised and evaluated. However, the content and style of this training lack standardization. Cardiac nursing is a nursing specialty that works with patients who suffer various conditions of cardiovascular system, such as Unstable angina Cardiomyopathy, Coronary artery diseases, Congestive heart failure, Myocardial infarction, Cardiac dysarrhythmias and Congenital cardiac diseases. Cardiac nurses must assess and care for patients with heart problems that range in severity from arrhythmias to Heart transplant. Nurses must be able to immediately assist in treating or initially diagnose a sudden life threatening emergency. Cardiac nurses monitor patient for any signs of a change in condition, administer medication help with basic personal care need and work with the cardiologist to develop a plan of action for patient care. Cardiac Nurses must acquire specialized skills.

including ECG Monitoring, Defibrillation, emergency medication, CPR Techniques (Nisha. L. S, 2013).

Cardiac nurses are responsible for identifying emergency situations and to initiate methods for treating emergency situation. Each nurse should aware of emergency situation, medication, methods of CPR, rate, depth of compressions, Ventilation and defibrillation. Cardiopulmonary resuscitation (CPR) has been used in hospitals for about 30 years. Early studies of Cardio Pulmonary Resuscitation in highly selected populations demonstrated its effectiveness and Cardio Pulmonary Resuscitation soon became routine for any patient who died in hospital. However, as experience accumulated it became apparent that many patients, particularly those with chronic diseases, did not benefit from Cardio Pulmonary Resuscitation (Varalakshmi, 2012). The researcher reported to date has examined patient preferences regarding Cardio Pulmonary Resuscitation decision-making. International studies suggest that most patients do not consider discussions about Cardio Pulmonary Resuscitation preferences to be cruel or insensitive, and most wishes to participate in decisions regarding Cardio Pulmonary Resuscitation and other life-sustaining therapies. However, many patients are unable to participate during the final stages of life-threatening illnesses. The use of advance directives has been proposed as a means by which competent patients may ensure that their wishes will be carried out. Advance directives are written or verbal statements in which patients set out their preferences regarding life-sustaining treatment in case they later become incompetent. Advance directives have received considerable attention in the United States, where they have widespread legal recognition, but have received less publicity in Australia (Wik, et al, 2011).

In the absence of advance directives, Cardio Pulmonary Resuscitation decisions are generally made by healthcare professionals in consultation with patients' Families. The aim of this study was to compare the opinions of patients and healthcare professionals about several aspects of Cardio Pulmonary Resuscitation: who should be involved in making the decision, what issues are considered important, and how these decisions should be communicated. The ability of health staff to identify life threatening situations and quickly response to it appropriately is very important in determining the survival of the victims. In dealing with these situations, certain measures such as Cardio Pulmonary Resuscitation have to take place immediately. It is important to remember that when indicated, a good Cardio Pulmonary Resuscitation is better that bad Cardio Pulmonary Resuscitation, but even bad Cardio Pulmonary Resuscitation is a thousand times better than no Cardio Pulmonary Resuscitation at all (Kandary. H, et.al., 2010). In India especially in southern part 10.3% of death happen due to sudden cardiac death. The most common sudden death that is caused by heart attack occurs outside of a hospital. Furthermore the survival rate in such cases is very low. It is estimated that the survival rate after cardiac arrest depends on the quality of cardiopulmonary resuscitation (CPR), alarm Response and time to defibrillation (Anastasia, Kozamania, et.al., 2012).

Cardio Pulmonary Resuscitation has been divided in to basic cardiac life support and advanced cardiac life support because most of the cardio pulmonary arrests occur outside the hospitals and the people who initiate the resuscitation measures in these scenarios are not paramedical or medical personnel. Basic cardiac life support (BCLS), which is usually taught to general population who are the first responders who initiate the resuscitation, measures. So the researcher felt that to know the ability of staff to give first aid and Cardio Pulmonary Resuscitation, to assess the coverage of first aid and Cardio Pulmonary Resuscitation training among staff in all occupational categories.

During the clinical experience in cardiac unit, the researcher personally experienced and witnessed lack of knowledge among nursing staff. So the researcher decided to do a study on A Study To Assess the effectiveness of a competency programme regarding Knowledge, and Practice of Cardio Pulmonary Resuscitation Guidelines among the staff nurses.

Scope of the study:

This study will impart the view to assess the effectiveness of a competency programme regarding CPR knowledge and practice among the staff nurses and to assess the nursing staff‘s Knowledge and practice after structured teaching programme regarding CPR..

DELIMITATIONS OF THE STUDY

1. The study is delimited to nursing staff working in selected hospitals.
2. The study sample is delimited to only 60.
3. The study is delimited to only 30 questions will be asked in structured questionnaire.
4. Available during data collection period
5. In the age group of 22-40 yrs.
6. Willing to participate with study
7. Able to co-operate and respond to the study.

Research Question

How much will be the effectiveness of a competency programme regarding the CPR among the staff nurses.

Hypothesis

There is a significant difference between pre-test and pos-test knowledge and practice regarding revised CPR guideline among the staff nurses.

Operational Definitions

Study

A detailed investigation and analysis of a subject or situation.

Assess

Evaluate or estimate the nature, ability, or quality of.

Effectiveness

It refers to the gained level of knowledge level of knowledge and attitudes determined by significant difference between pre-test and pos-test scores.

Structural Teaching Programme

It refers to written, verbal and visual instructions systematically developed and designed for a selected group of arts and science students.

Knowledge

Knowledge is defined as information that was acquired through learning or experience.

Practice

Frequency repeated or customary action habitual performance, a succession of a similar kind.

Cardio Pulmonary Resuscitation

Cardiopulmonary resuscitation (CPR) consists of the use of chest compressions and artificial ventilation to maintain circulatory flow and oxygenation during cardiac arrest.

Selected types of CPR

1. Airway
2. Breathing
3. Circulation

Assumptions

Lack of knowledge among nursing staff about performance of CPR.

Practice and improving their knowledge help them to save the patient's life.

Structured teaching programme helps the staff to get a clear cut knowledge regarding CPR.

2. Review of Literature

A literature review is an organized written presentation of what has been published on a topic by scholars. The purpose of review is to convey to the reader what is currently known regarding the topic of interest (Nancy burns, 2005).

A literature review helps to lay the foundation for a study and can also inspire new research ideas. It can help with orientation to what is known and not known about an area of inquiry, to ascertain what research can best make a contribution to the existing base of evidence. Literature review throws light on the findings reported about the problems under the study.

on a topic and illuminate the significance of the study. A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. The literature review relevant for this study is presented on the following sections. Although retention of certain skills deteriorated over the 6 months among a significant number of participants from both groups, 84% of the 30-min training group still was judged, overall, to perform cardiopulmonary resuscitation adequately. Moreover, 93% still were performing chest compressions adequately and 93% continued to apply the automated. External defibrillator and deliver shocks correctly. The study concluded that Using innovative learning techniques, 30-min cardiopulmonary resuscitation and automated external defibrillator training is as effective as traditional multi-hour courses, even after 6 months. Thirty-minute courses should decrease labour intensity, demands on resources, and time commitments for cardiopulmonary resuscitation courses, thus facilitating more widespread and frequent retraining Jensen L.M et.al (2009),conducted a study about significance of clinical experience on learning outcome from resuscitation It was a randomized controlled study with an aim of determining whether half a year of clinical experience before participation in an Advanced Life Support (ALS) course increases the immediate learning outcome and retention of learning. The material used in this study was a prospective single blinded randomized controlled study of the learning outcome from a standard ALS course on a volunteer sample of the entire cohort of newly graduated doctors from Copenhagen University. The outcome measurement was ALS-competence assessed using a validated composite test including assessment of skills and knowledge. The intervention used was half a year of clinical work before an ALS course.

The intervention group received the course after a half-year of clinical experience. The control group participated in an ALS course immediately following graduation. There was no difference between the intervention and control groups with regard to the immediate learning outcome. The intervention group had significantly higher retention of learning compared to the control group, intervention group mean 82% (CI 80–83), control group mean 78% (CI 76–80), P = 0.002. The magnitude of this difference was medium (effect size = 0.57).the study concluded

that Half a year of clinical experience, before participation in an ALS course had a small 12 but statistically significant impact on the retention of learning, but not on the immediate learning outcome.

Christina et.al (2010) conducted a study to assess and compare the theoretical knowledge on BLS and ALS in nurses and doctors. A total of 82 nurses and 134 doctors agreed to respond to a questionnaire containing demographic questions, resuscitation experience questions and 15 theoretical knowledge questions. Our study demonstrated that nurses and doctors working in Greece have knowledge gaps in current BLS and ALS guidelines. However, resuscitation training had a positive effect on theoretical CPR knowledge. Furthermore, nurses and doctors who worked in high-risk areas for cardiac arrest, scored significantly higher than those who worked in low-risk areas. Those who had encountered more than 5 cardiac arrests the previous year, scored significantly better. Finally the percentage of nurses who had attended the ALS course was quite low thus ALS training should be incorporated into the nursing.

Pediatr et.al (2007), The study findings includes the greatest guideline changes are in the area of basic life support. The new guidelines emphasize the new chest compression/ventilation ratio for trained health professionals, which is now 15:2 for all children except neonates. Also emphasized is the need for harder and faster chest compressions, and the need to avoid hyperventilation, as have some other previous recommendations. The researches concluded that the most recent AHA guidelines for paediatric resuscitation are focused primarily on basic life support care. They are based on the best available scientific evidence, although further research is required to validate these changes and provide new evidence for future guidelines,

The Related Review of Literature has been organized under the Following Headings

1. Importance of CPR training
2. Knowledge of CPR
3. Success rate of CPR
4. Literature review related to knowledge

1. Importance of CPR Training

American academy of paediatrics and American heart foundation (2006) e studies and published guidelines to deal with the life threatening medical emergencies in children. It involves training school teachers, athletic teachers, staffs and students regarding emergency medical service system, cardiopulmonary cerebral resuscitation and preparedness of school to respond to emergency in children.

Wan, E and Auner, J, R (2014) explained the preparedness of school to responds to emergencies in children. Because children is a significant proportion of their day in school and internal injuries are likely to occur. American heart association stressed the need for the school leaders to establish emergencies response plans to deal with life threatening emergencies. Establishing and practicing a medical response plan (MERP) involving athletics trainers, school nurses, and teachers.

American Red Cross (2014) has begun instituting its newly revised training programme and materials for all first aid. Cardio pulmonary resuscitation, automated external defibrillation and emergency cardio resuscitate care courses. A new teaching technique that the Red Cross will be using is the practice. While you watch method of instruction, which helps to make training more engaging.

Adams, K.F (2013) justified that an often full hospital notes may not available immediately at the time of admission. Otherwise the variations in clinicians practice may relate to a number of factors. There may be among others, fear of upsetting the patients, feelings that it is not the right time that CPR was thought about but not documented.

Abella, B.S (2013) said that patient rights and autonomy has changed since studies were published and indeed, involvement in discussing CPR decisions is now part of the foundation training requirements for all junior doctors. Nurses may play a central role and patients found discussing CPR with trained nurse practitioners. Bates, E. R (2012) said that when patients are ventilated too rapidly, this decreases venous return by increasing intra thoracic pressure and decreases cardiac output, a combination associated with worse outcomes. A study at a well – known major academic medical centre recoded bagging rates for all patients in cardiac arrest. The average bagging rate was 55 compressions per minute. When bagging in that frequent, venous return and therefore cardiac output are severely compromised.

Culic, V (2012) said that previous audits of CPR decisions were performed within our department in 2000 and 2002. Our patients had CPR decisions in 20/103 cases (19.4%) in 2000 and an improvement to 43/113 decisions (39.8%) in 2002, following the introduction of resuscitation status document.

Studies on knowledge related to 2005/2010 American Heart Association guidelines on advanced cardiac life support. Introduction Review of literature is the key step in the research process, which helps to lay a foundation for the study. The literature review

provides a background for understanding current knowledge

Studies on practice related to American Heart Association guidelines on advanced cardiac life support.

Interventional studies on knowledge related to 2005/2010 American Heart Association guidelines on advanced cardiac life support.

Roppolo P. L et. al (2007), conducted a study about effectiveness and retention of training for CPR and AED. It was a abbreviated (30 min) course group (cardiopulmonary resuscitation, choking, and automated external defibrillator use).Immediately after training, and at 6 months, participants were provided identical individual testing scenarios. Computerized recordings of compression rate/depth, ventilation rates, and related pauses were obtained and subsequently rated by blinded reviewers. The result of the study is like that Performance following 30-min training was either equivalent or superior ($p < 0.007$) to the multi-hour Heart saver-Automated External Defibrillator training in all measurements, both immediately and 6 months after training.

Although retention of certain skills deteriorated over the 6 months among a significant number of participants from both groups, 84% of the 30-min training group still was judged, overall, to perform cardiopulmonary resuscitation adequately. Moreover, 93% still were performing chest compressions adequately and 93% continued to apply the automated. External defibrillator and deliver shocks correctly. The study concluded that Using innovative learning techniques, 30-min cardiopulmonary resuscitation and automated external defibrillator training is as effective as traditional multi-hour courses, even after 6 months. Thirty-minute courses should decrease labour intensity, demands on resources, and time commitments for cardiopulmonary resuscitation courses, thus facilitating more widespread and frequent retraining Jensen L.M et.al (2009),conducted a study about significance of clinical experience on learning outcome from resuscitation It was a randomized controlled study with an aim of determining whether half a year of clinical experience before participation in an Advanced Life Support (ALS) course increases the immediate learning outcome and retention of learning. The material used in this study was a prospective single blinded randomized controlled study of the learning outcome from a standard ALS course on a volunteer sample of the entire cohort of newly graduated doctors from Copenhagen University. The outcome measurement was ALS-competence assessed using a validated composite test including assessment of skills and knowledge. The intervention used was half a year of clinical work before an ALS course.

The intervention group received the course after a half-year of clinical experience. The control group participated in an ALS course immediately following graduation. There was no difference between the intervention and control groups with regard to the immediate learning outcome. The intervention group had significantly higher retention of learning compared to the control group, intervention group mean 82% (CI 80–83), control group mean 78% (CI 76–80), $P = 0.002$. The magnitude of this difference was medium (effect size = 0.57).the study concluded that Half a year of clinical experience, before participation in an ALS course had a small 12 but statistically significant impact on the retention of learning, but not on the immediate learning outcome.

Christina et.al (2010) conducted a study to assess and compare the theoretical knowledge on BLS and ALS in nurses and doctors. A total of 82 nurses and 134 doctors agreed to respond to a questionnaire containing demographic questions, resuscitation experience questions and 15 theoretical knowledge questions. Our study demonstrated that nurses and doctors working in Greece have knowledge gaps in current BLS and ALS guidelines. However, resuscitation training had a positive effect on theoretical CPR knowledge. Furthermore, nurses and doctors who worked in high-risk areas for cardiac arrest, scored significantly higher than those who worked in low-risk areas. Those who had encountered more than 5 cardiac arrests the previous year, scored significantly better. Finally the percentage of nurses who had attended the ALS course was quite low thus ALS training should be incorporated into the nursing.

2. Knowledge of CPR

Kellerman (2014) studied the effects of adding first responder defibrillation to an urban emergency medical services system served by paramedics. Half of the participating fire – engine companies were given automatic external defibrillators and the staff was instructed to defibrillate patients immediately in the event of a cardiac arrest.

Eisenbuger (2014) conducted study on life supporting first aid training of the public. Sincethe introduction around 1960 of external CPR basic life support without equipment is A (Airway), B (mouth to mouth breathing), C (chest compression), training courses by instructions have been provided to medical and to some lay persons. Skills are effectively performed by trained persons compared to untrained control groups.

The new CPR guidelines (2010) are based on a scientific consensus which reached by 281 international experts. Chest compressions (100/min, 4 – 5 cm deepshould be performed in a ratio 30:2. Endo tracheal introduction is the golden standard and other devises may be employed as well as depending on individual skills.

Teerlink, J. R (2013) disagree about CPR decisions and may do not want to discuss the issue with patients, fearing it may cause distress.

Sackner – Bernstein (2013) showed that only 1/34 doctors would discuss CPR, but 59/100 patients wanted such a discussion. There may be concerns of upsetting patients by raising the issue of CPR, but only 1/100 patients became distressed while talking about CPR.

De Luca, G. (2012) studied 97 cardiac arrests and found that the chest compression rate was <80 per min in 37% of patients and <70 per min in 25% of patients. Higher compression rates were significantly correlated with initial return of spontaneous circulation. For a rate of 95 compressions per min, there was a 75% return and for 40 compressions per min, a 42% return. Perhaps in contrast to traditional thought, chest compression rates really do matter.

Shautha Chandrasekaran (2011) conducted a study to assess the awareness of basic life support (BLS) in vinayaka mission kirupanada variya, medical college in selam. Using a cross sectional method, sample of 150 in medical, dental, and nursing students, faculty in the study. Group were survey lacking in the awareness of Basic life support (BLS). BLS was poor in all students. The author concluded emphases the cognitive approach to general perception and skill of Basic life support (BLS).

Latino and Enfermagem (2011) conducted a study to assess theoretical knowledge of nurses working non hospital urgent and emergency care units. Concerning cardiac arrest and resuscitation. The study was conducted using descriptive study with quantitative approach. The population comprised 91 nurses of the Huecuv in the metropolitan region of Campinas working on the day shift (8hours), data were collected though a questionnaire divided in to parts. The sample was composed of 73 (80.2%) individual, three (2.7%) of the nurse refused to participant, eight (7.3%) were on vacation (or) sick leave, a total of the nurses incorrectly answered, these individual do not know the Basic life support(BLS) guidelines. Only 37% answered it correctly.

Sita. P. Valarmathi Selvaraj (2011) conducted a study to assess knowledge of nurses in college of medical science – teaching hospital, Bharathpur, Nepal. the study was conducted using cross—sectional design with the sample of 175 nurses. The study result was the mean ± SD of all total knowledge score was11.45 ±2.67(the maximum possible score was 21) the authors concluded in general, the knowledge of the nurses was found to be low, thus suggesting a need for educational intervention.

Smite Chandhery, et.al., (2011) conducted a study to assess the knowledge of cardiopulmonary resuscitation(CPR) among doctors and nurses. the study was conducted using pre test and post test method with the 117 sample. the study result reveled only 3 participant only 3 participant only scored 80 - 90 % mark in pre test where as rest of secreted less than 50% mark. The author concluded as basic life support (BLS) work shop is essential to improve knowledge and skill.

Kanstad, B. K and Nilsen, S. A (2011) conducted a study to assess cardiopulmonary resuscitation (CPR) knowledge and attitude to performing by stander CPR among secondary school students in Norway. The study was conducted using questionnaire were distributed to 9 secondary school with 376 sample (16 to 19) were included. The study result reviled 90% knew the national medical emergency telephone numbers (113). 83% using to perform by sander cardiopulmonary resuscitation. In a given situation and among this 16% had perform full basic life support. The authors concluded as by providing students with good quality basic life support (BLS) training in school, the upcoming generation in Norway may strength on first part of the chain of survey in out of hospital cardiac arrest (CA).

Anastasia, Kozamani (2010) conducted a study to assess the awareness about Cardiopulmonary Resuscitation (CPR) among nurses from both urban and rural area hospital staff. The study was conducted using of hospital settings a sample of 310 nurses in the American heart association (AHA) 2008. The study result of the study result revealed 81% of educational level of participants 237 of no knowledge(V=0.139),P=(0.019) the authors concluded as the maintained that affect the attitude of nurses in initiating cardiopulmonary resuscitation(CPR) is their lack of systematic training in contact, personal experience of nurses has a positive outcome since it reinforces the capacity of initiating of cardiopulmonary resuscitation(CPR).

Rusenbland, A, Lappets, N (2010) conducted a study to assess the awareness about cardiopulmonary resuscitation(CPR) among staff nurses and doctors the was conducted quetionarrie method with a sample of 3144 employees. The study result of the study revealed in the intervention hospital physician had the

higher knowledge present but other health professional including nurses and assistant nurse reached a relatively high level post test improvement was inversely related to tea level of previous knowledge and was thus most marked among other health care professional and tea mated among physician. the author concluded as most of the staff nurses, doctors overall theoretical knowledge increase after systematic standardized training in cardiopulmonary resuscitation (CPR).

Shasta Chandrasekaran and Sathish Kumar (2010) conducted a study to assess awareness of basic life support(BLS) among medical, dental, nursing students and doctors, the study was conducted using a cross- sectional study was conducted by assessing response to 20 selected question regarding basic life support(BLS), 20 selected basic question regarding basic life support. the sample of 345 medical students,19 dental students,319 nursing students, 72 doctors, only out of 1054(0.19%) had secured 80 to 89% marks. A majority them that is 894(84.82%) had secured less than 50% marks, awareness of medical, dental, and nurses of medical, nursing students is very poor.

Karan Prakash Singh (2010) conducted a study to assess the knowledge and personal experience with cardiopulmonary resuscitation (CPR) among dentist in Udaipur, India. Using a method in questionnaire. This study result study revealed66.0% had the correct concept of performing it and only 12% had received practical training in basic cardiopulmonary resuscitation (CPR). 75.9% of dentist had received information about basic cardiopulmonary resuscitation (CPR). The author revealed in the significantly higher among faculty dental participated compared with local dental practionar a positive near correlation was found between education level and knowledge level.

Nagashima, K (2010) conducted a study to assess the survey of cardio pulmonary resuscitation(CPR) knowledge of the nursing staff & nursing students in the Asahikour, medical college & hospital. Using a method in survey. The surveyed the knowledge of the 66 nursing staff on cardiopulmonary resuscitation (CPR) in sample of 119. A study result the study revealed the average score of the test among the nursing staff and students. nurses were 61 point and 54 points the ability defined as an indication of capacity of participation cardiopulmonary resuscitation(CPR) of the nursing staff was 17%, the student nurse was 0%. The author was conducted in the cardiopulmonary resuscitation (CPR) knowledge both the staff nurses and students nurses.

Zahoer, H and Hague, Z (2009) conducted a study to assess the knowledge about Basic Life Support (BLS). Among undergraduate medical students, the study was conducted using cross sectional design with a sample of 61 students in the state of Karachi, in Pakistan. The study result revealed 57.3% had no knowledge, among those 34% had heard basic life support some were, 22.9% had some knowledge, 22% had complete knowledge ($P<0.05$) the authors concluded as most of the medical students although had not attend the course still they had only some knowledge about Basic Life Support(BLS). AL-Turki YA, et.al., (2008) conducted a study to assess the knowledge and attitudes towards cardiopulmonary resuscitation(CPR) among university students in Riyadh, Saudi Arabia. The study was conducted by cross-sectional survey design with a sample of 2250 students, the study result reveled 31% did not have prior cardiopulmonary resuscitation(CPR) information.12.7% of individual uncounted a situation that require the use of cardiopulmonary resuscitation(CPR).only 14% of them performed it. 48.2% individual lack of cardiopulmonary resuscitation (CPR) knowledge. The author concluded as the knowledge on topic was insufficient. Thus, more focus should be placed on improvement of cardiopulmonary resuscitation(CPR) skill.

B. B. Osinaike and D. A. Aderin (2007) conducted a study to assess the knowledge of cardiopulmonary resuscitation(CPR) among Doctors in a Nigerian Hospital. The study was conducted using a close-ended 12 questionnaire was administered to 69 doctors. The result was revealed that mean score for the whole group. The author concluded as average doctor has an inadequate knowledge in cardiopulmonary resuscitation (CPR). Thus suggest need training to all doctors.

Hamilton. R (2005) Performed a systematic review to assess nurses knowledge and retention following cardiopulmonary resuscitation (CPR) training. the study conducted using the cumulative index to nursing and allied health literature. MIDLIN and British Nursing Index. paper published between 1992 to 2002 were obtained. The result reveled 105 primary and 157 secondary reference were Identified of these 24 met the criteria and were included in the final literature sample the author concluded as an-in hospital scenario - based video should be devised and tested to assess the efficacy of this medium in resuscitation training for nurse.

Patricia (2005) Conducted a study to assess the awareness about cardiopulmonary resuscitation(CPR) & Basic life support(BLS) among the third year under graduate nursing students. The study was conducted

using non experimental survey method. with a sample of 130 students in Australia. The study result revealed that (78%). they were well prepared to perform cardiopulmonary resuscitation (CPR) & Basic life support (BLS) P=0.001. The authors concluded as most of the nursing students although from both discipline had significant gaps in knowledge of cardiopulmonary resuscitation (CPR) & Basic life support (BLS) nursing students out performed.

Peter Larsen, et.al., (2004) A study conducted to assess basic aspects of knowledge and attitude towards resuscitation in a news land, urban community. Using a telephone survey method with a sample of 400 (over 17 years age). The study result was revealed that 74% of subject had previously been taught cardiopulmonary resuscitation of these 12% had been taught during the previous year. only 4% knowledge an acceptable rate of which to perform chest compression and only 9% knowing the correct compression. to ventilation ration for adult cardiopulmonary resuscitation(CPR). The authors concluded as attitude of the community towards cardiopulmonary resuscitation are positive theoretical knowledge relating to basic cardiopulmonary resuscitation (CPR) is poor.

Broomfield. R (2004) conducted a study to assess the retention of basic cardio pulmonary resuscitation (CPR) skill and knowledge. By qualified nurses following 25 course in professional development in university of fesside college of health, in England. A study conducted using a quasi experimental design, with the sample of 19 nurse. The namely eight point testing question tool, and 26 point knowledge question, whole a 3 hour cardio pulmonary resuscitation (CPR) skills redden an initial improvement. that decreases in retention of skill lower. later was significant CP=0.0001. the dated in cardiopulmonary resuscitation(CPR) knowledge also reveled in initial improvement but the decrease retention of knowledge two weeks later. the author concluded as that retention of skills and knowledge quickly deterrents if not used or updated regularly.

3. Success Rate of CPR

Fazel, R (2014) conducted a study on 566 patients regarding the effectiveness of newly established emergency medical facilities. Technicians trained to use defibrillators programme in rural areas. During the 18 – month study, 64% of victims survived primary cardiac arrest with EMT intervention. However, prior to this implementation, only 3.6% had survived.

In Perth, Australia (2014), 231 patients treated with defibrillation by ambulance officers without fall paramedic skills, 40 (22.7%) survived through 28 days after discharge from the hospital. The proportion of survivors in this study is similar to that receiving full paramedic services.

Investigators in Monroe country (2013) New York, evaluated 463 cases with pre hospital cardiac arrest to which advanced life support level units responded. The48 patients who were found to be in ventricular fibrillation or ventricular tachycardia 26 and who received CPR within four min and were treated according to advanced cardiac life support protocols within 10 min by ALS – level providers, had a survival rate of 33%. In comparison, similar patients who received CPR within 4 min but for whom ALS – level care was delayed beyond 10 min, had a survival rate only of 20%.

Bakhtiar Ali (2013) said that sudden cardiac death is a major clinical problem causing 300,000 to 400,000 deaths annually and 63% of all cardiac deaths. Despite the overall decrease in cardio – vascular mortality, the proportion of cardio – vascular death from sudden cardiac death has remained constant. Survival rates among patients who have out – of – hospital cardiac arrest vary from 5% to 18% depending on the presenting rhythm.

Meine, TP (2012) said that many older people on hospital wards are frail. This high prevalence of frailty is partly as a result of the ageing population but also as a consequence of less – dependent individuals leaving hospitals at an early stage by variety of supported discharges scheme. This hospital population is at higher risk of cardio – pulmonary arrest and their likelihood of survival to discharge if CPR is required is negligible. In recent audit, out of 307 deaths over a year, there were 31 arrest calls on the acute elderly medicine wards in this trust, but no survivors to discharge.

Spencer et.al (2011) conducted a study about The 2010 American heart association guidelines for cardiopulmonary resuscitation and emergency cardiac care: an overview of the changes to paediatric basic and advanced life support. 13 This article presents the 2010 AHA major guideline changes to paediatric basic life support (BLS) and paediatric advanced life support (PALS) and the rationale for the changes. The following topics are covered in this article: (1) current understanding of cardiac arrest in the paediatric population, (2) major changes in paediatric BLS, and (3) major changes in PALS.

Nagashima et.al (2003) conducted a survey on knowledge of and experience in cardiopulmonary resuscitation (CPR) and on knowledge of the Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care (ECC) established in

2000 Three hundred and four nurses at Asahikawa Medical College Hospital were asked to fill in questionnaires is the method of study The results show that more than 80% of the nurses are much interested in CPR. Most of the nurses had received education and training in CPR as students or after graduation. However, cases of cardiopulmonary arrest and CPR were experienced by only about 40% of the nurses. Most of the nurses had never heard of the Guidelines for CPR and ECC in 2000.The researchers concluded that there is a need to provide more education (on CPR) to nursing staff. 2.3 Studies on practice related to 2005/2010 American Heart Association guidelines on advanced cardiac life support Rodgers et.al (2010), conducted a study whether there was a correlation between written and practical evaluations in an ACLS course. The method of the study is by 34 senior nursing students from four nursing programs participated in two separate ACLS classes, completing both the written and practical evaluations. Immediately following the courses, all participants served as team leader for a video recorded simulated cardiac arrest event.

A panel of expert ACLS instructors who did not participate as instructors in the courses reviewed each video and independently scored team leaders 'performances. The result of the study was Spearman's rhocorrelation coefficient between the written test scores and practical skills performance was 0.194 (2tailedsignificance = 14 0.272).the study reached a conclusion that The ACLS written evaluations was not a predictor of participant skills in managing assimilated cardiac arrest event immediately following an ACLS course. Both work in concert to define participant knowledge and neither should be used exclusively to determine participant competence. Graham, Crouch (1993) conducted a study about Nurses' skills in basic life support. The study includes Cardiopulmonary resuscitation (CPR) skills are fundamental to the function of health professionals, but studies have shown them to be inadequate and outdated. This week, Nursing Standard launches a three part weekly series on resuscitation. Parts two and three will address the associated ethical issues and measures of outcomes and accountability. The series begins with a survey in a district general hospital which aimed to establish nurses' levels of awareness on the current recommendations for CPR laid down by the Resuscitation Council of the UK. The results show a poor knowledge level and recommendations are offered.

King et.al (2011) conducted a study to compare the effectiveness of static simulation to high-fidelity simulation when teaching advanced cardiac life support guidelines. Using a quasi-experimental design, 49 BSN students were randomly assigned to 2 groups of either static or high fidelity simulation. There were no significant differences between the static and high fidelity simulation groups on the written examination. The high-fidelity simulation group outperformed the static simulation group on mega code performance.

Stiell et.al (2004) conducted a Study to test the incremental effect on the rate of survival after out-of-hospital cardiac arrest of adding a program of advanced life support to a program of rapid defibrillation. The method of the study contains controlled clinical trial was conducted in 17 cities before and after advanced-life-support programs were instituted and enrolled 5638 patients who had had cardiac arrest outside the hospital. Of those patients, 1391 were enrolled 15 during the rapid-defibrillation phase and 4247 during the subsequent advanced life-support phase. Paramedics were trained in standard advanced life support, which includes end tracheal intubations and the administration of intravenous drugs. The result of study showed that from the rapid-defibrillation phase to the advanced-life-support phase, the rate of admission to a hospital increased significantly (10.9 percent vs. 14.6 percent, P

4. Literature Review Related to Practice

Rodgers, et.al., (2014) conducted a study whether there was a correlation between written and practical evaluations in an ACLS course. The method of the study is by 34 senior nursing students from four nursing programs participated in two separate ACLS classes, completing both the written and practical evaluations. Immediately following the courses, all participants served as team leader for a video recorded simulated cardiac arrest event. A panel of expert ACLS instructors who did not participate as instructors in the courses reviewed each video and independently scored team leaders performances. The result of the study was Spearman's rhocorrelation coefficient between the written test scores and practical skills performance was 0.194 (2tailedsignificance =0.272).the study reached a conclusion that The ACLS written evaluations was not a predictor of participant skills in managing assimilated cardiac arrest event immediately following an ACLS course. Both work in concert to define participant knowledge and neither should be used exclusively to determine participant competence.

Graham and Crouch (2014) conducted a study about Nurses' skills in basic life support. The study includes Cardiopulmonary resuscitation (CPR) skills are fundamental to the function of health professionals,

but studies have shown them to be inadequate and outdated. This week, Nursing Standard launches a three-part weekly series on resuscitation. Parts two and three will address the associated ethical issues and measures of outcomes and accountability. The series begins with a survey in a district general hospital which aimed to establish nurses' levels of awareness on the current recommendations for CPR laid down by the Resuscitation Council of the UK. The results show a poor knowledge level and recommendations are offered.

King, et.al., (2013) conducted a study to compare the effectiveness of static simulation to high-fidelity simulation when teaching advanced cardiac life support guidelines. Using a quasi-experimental design, 49 BSN students were randomly assigned to 2 groups of either static or high fidelity simulation. There were no significant differences between the static and high fidelity simulation groups on the written examination. The high-fidelity simulation group outperformed the static simulation group on mega code performance.

Stiell, et.al., (2013) conducted a Study to test the incremental effect on the rate of survival after out-of-hospital cardiac arrest of adding a program of advanced life support to a program of rapid defibrillation. The method of the study contains controlled clinical trial was conducted in 17 cities before and after advanced-life-support programs were instituted and enrolled 5638 patients who had had cardiac arrest outside the hospital. Of those patients, 1391 were enrolled during the rapid-defibrillation phase and 4247 during the subsequent advanced-life-support phase. Paramedics were trained in standard advanced life support, which includes end tracheal intubations and the administration of intravenous drugs. The result of study showed that From the rapid-defibrillation phase to the advanced-life-support phase, the rate of admission to a hospital increased significantly (10.9 percent vs. 14.6 percent, P<0.001), but the rate of survival to hospital discharge did not (5.0 percent vs. 5.1 percent, P=0.83). The multivariate odds ratio for survival after advanced life support was 1.1 (95 percent confidence interval, 0.8 to 1.5); after an arrest witnessed by a bystander, 4.4 (95 percent confidence interval, 3.1 to 6.4); after cardiopulmonary resuscitation administered 3.7 (95 percent confidence interval, 2.5 to 5.4); and after rapid defibrillation, 3.4 (95 percent confidence interval, 1.4 to 8.4). There was no improvement in the rate of survival with the use of advanced life support in any subgroup. The researchers reached a conclusion that the addition of advanced-life-support interventions did not improve the rate of survival after out-of-29 hospital cardiac arrest in a previously optimized emergency-medical-services system of rapid defibrillation. In order to save lives, health care planners should make cardiopulmonary resuscitation by citizens and rapid-defibrillation responses a priority for the resources of emergency-medical-services systems.

Lan, H. Kerridge, et.al., (2013) conducted a study on decision making in CPR attitudes of hospital patients and healthcare professional. The purpose of this study was to examine the opinions of patients and healthcare professionals regarding the process of making decisions about cardiopulmonary resuscitation. The samples consist of 511 health care professionals and 152 patients at the John Hunter Hospital, Newcastle, New South Wales. 80% of patients and 99% of healthcare professionals thought patients' views should be taken into account when making CPR decisions. More patients than healthcare professionals indicated that doctors should be the main decision makers. Most patients and healthcare professionals wanted their views in their medical records. Results indicated that the 80% patients, 99% of health care professionals want to be involved in CPR decision making and many want some form of advance directives.

Brenner (2012) has conducted a study on Determinants of reluctance to perform CPR among 280 categorical emergency nurses and internal nurses and respective program applicants at a 655 bed Brooklyn, New York. A direct relationship was observed between training level and reluctance to perform mouth-to-mouth respiration. This study showed that 74% of experienced staff nurses, 95.5% junior-level nurses were willing to perform mouth-to-mouth respiration.

Thoren Ann-Britt, et.al., (2012) has conducted a study on Possibilities for, and obstacles to, CPR training among 401cardiac care patients and 311co-habitants. The aim of the study was to investigate the level of cardiopulmonary resuscitation (CPR) training among cardiac patients and their co-habitants. According to the answers given by the patients, 46% of the patients and 33% of the co-habitants had attended a CPR course at some time. Younger persons were more often willing to undergo training than older persons. Of those patients who had previously attended a course or who were willing to undergo training, 72% were prepared to do so together with their co-habitant. The main outcome was the two-thirds of the patients did not believe that their co-habitant had taken part in CPR training. More than half of these would like their co-habitant to attend such a course. Seventy-two percent were willing to participate in

CPR instruction together with their co-habitant. Major obstacles to CPR training were doubts concerning the co-habitant's willingness or physical ability and their own medical status.

3. RESEARCH METHODOLOGY

The methodology is the most important part of research as it is the framework for conducting a study. It indicates the general pattern for organizing the procedures together valid reliable data for an investigation research methodology defined as the analysis of principles of methods, rules, postulates employed by a discipline ".This chapter deals with the methodology adopted to assess effectiveness of a competency programme regarding knowledge and practice of CPR among nursing staff in selected nursing hospitals of Jalandhar, Punjab.

This chapter includes:

- Research approach
- Research design
- Research setting
- Population of study
- Target population
- Sample and sampling technique
- Inclusion and exclusion criteria
- Variable
- Selection and development of tool
- Description of tool
- Validity of tool
- Pilot study
- Reliability of tool
- Data collection procedure
- Ethical considerations
- Plan of data analysis
- Summary.

Research Approach

Experimental approach a sub type of quantitative approach was used for the present study.

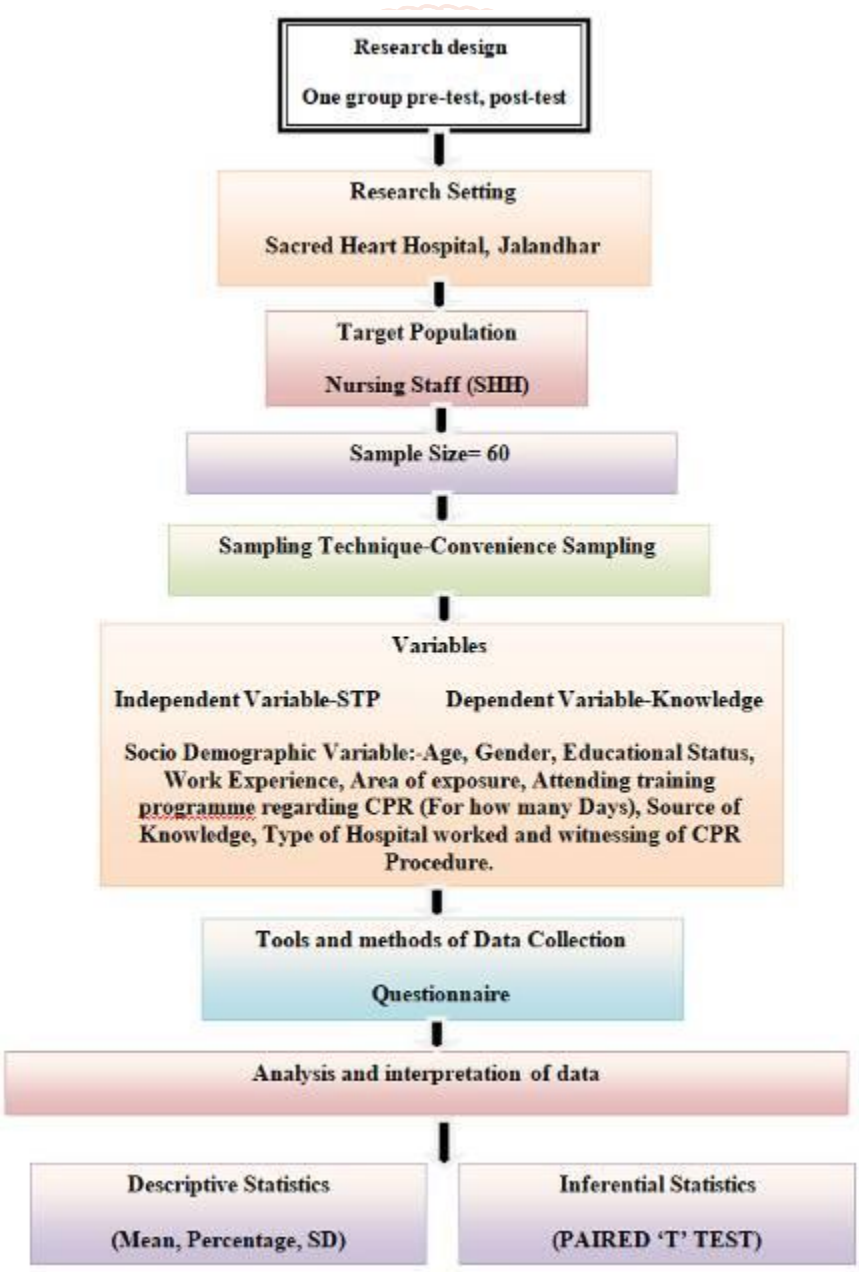


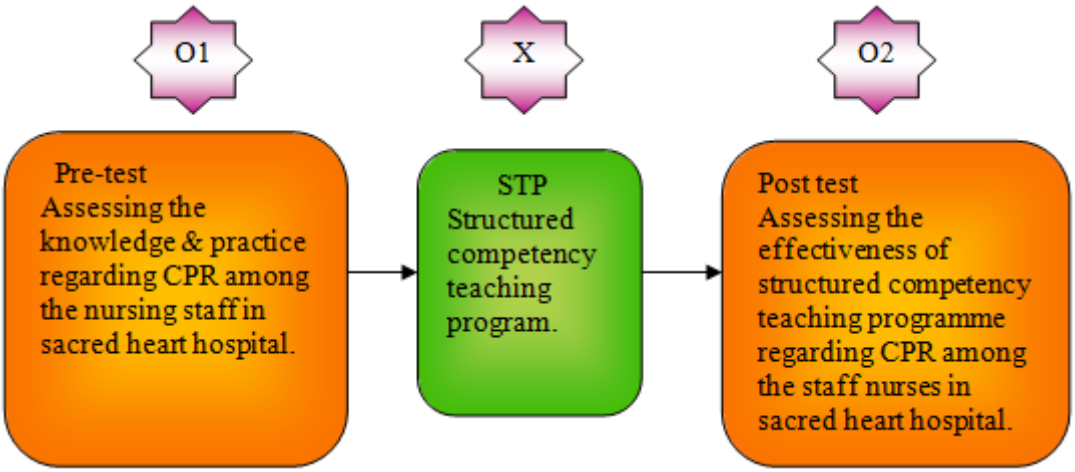
Figure 2 The Schematic Representation of Research Design

Research Design

One group pre test and post test design was used in the study.

The research design helps the researcher in the selection of subjects, manipulation of experimental variables, testing the research hypothesis procedure of data collection and types of statistical analysis to be used to interpret the data.

A one group pre test, post test experimental study design was adopted in the study. A pre test was administered by means of a questionnaire method depicted as Q1 then a competency teaching programme was delivered, depicted as X, post test was conducted by using the same questionnaire depicted as Q2. The schematic representation of the study design is depicted as below. 35



Diagrammatical representation:

01	x	02
Pre test	STP	post test

Setting of the Study

The study was conducted among the nursing staff at Sacred Heart Hospital Jalandhar.

Population

The population of the study includes the nursing staff at Sacred Heart Hospital Jalandhar.

Sample Size

The sample size for the present study is 60.

Sampling Techniques

The Nursing staff (60) were selected by conveniences sampling technique.

Inclusion criteria

1. Nursing staff of selected hospitals of Jalandhar, Punjab.
2. Those who were present at the time of data collection.
3. Who can understand and respond in English

Exclusion criteria

1. ANM staff
2. Those who were not willing to participate.
3. Those staff who were absent during data collection procedure.

Variables

A. Independent variable

Structured competency teaching programme regarding CPR

B. Dependent Variable

Knowledge of nursing staff regarding cardio pulmonary resuscitation

Practice of nursing staff in performance of CPR

Development of tool

An extensive study and review of literature helped in preparation of the tool.

A validated tool and an observational scale is used as the tool for this study.

Description of the tool

Part I: - This part contains items such as demographic data which include age, sex, educational status, work experience, area of exposure, attending of CPR training programme, source of knowledge got from, type of hospital worked and witnessing of CPR procedure.

Part ii: - An observation check list was used to assess the practices of CPR among nursing staff. This part consisted of 24 observational points to assess the various steps of CPR during the procedure among the nursing staff.

Part iii: - A questionnaire was distributed to nurses in order to assess the Knowledge regarding CPR procedure. This part consists of 30 questions to assess the knowledge regarding CPR. Each correct answer carried 1 score and wrong answer carried 0 score.

PRETEST

Assessing the effectiveness of a competency programme regarding the knowledge and practice of CPR among the nursing staff at sacred heart hospital jalandhar, Punjab

POSTTEST

Assessing the effectiveness of competency teaching programme regarding CPR among nursing staff at sacred heart hospital jalandhar.

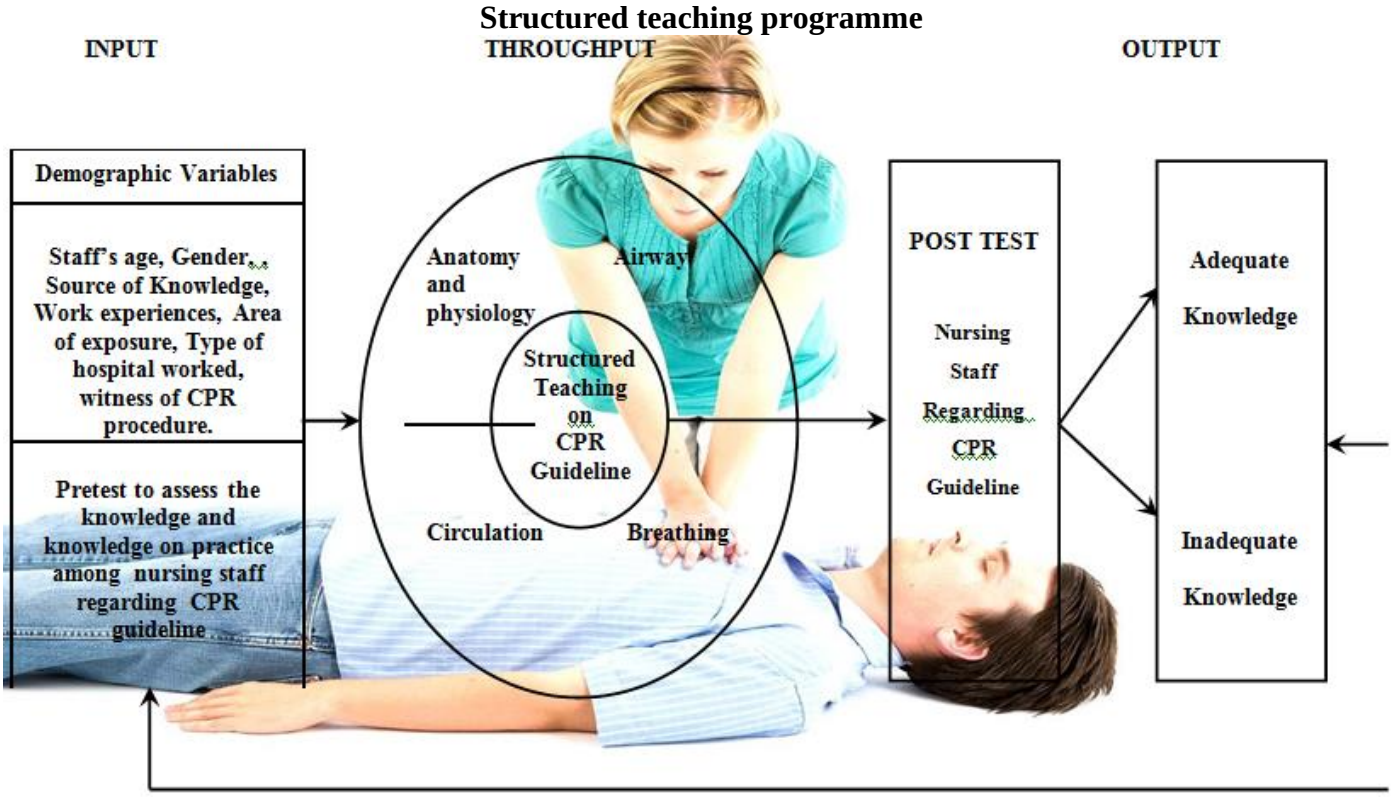


Figure. 1 The Modified Conceptual Framework Based on Von Vertalanffy General System Model (19687

Conceptual Framework 27

Conceptual framework for this study was derived from system theory 1968. It serves as a model for viewing people as interacting with environment. System can be opened or closed. Open system have varying degree of interaction with environment from which the system receives. Input and output in the form of matter, energy or information. The feedback may be positive, negative or neutral. This study aims at determining the effectiveness of video assisted teaching module regarding the revised Cardio pulmonary resuscitation. Present study is based on 'system model'. The components of system are input, through put, output and feedback.

Input

It is the information needed by the system based on the demographic variables like age of staff, gender, attending the CPR training programme educational status, work experience, area of exposure, source of knowledge, type of hospital worked, witnessing of CPR procedure. In this study the input is the assessment of knowledge and practice regarding Cardio pulmonary resuscitation guideline.

Throughput

Throughput is the security phase where a structured teaching was administered regarding revised Cardio pulmonary resuscitation guideline.

Output

Information are continuously processed through the system and revealed as output in an altered state. In this study the output is the expected gain in the knowledge and knowledge on practice of nursing staff regarding CPR.

Feed back

The feedback is the environment responsible for the system. System feedback may be mutual, positive or negative. If the feedback is negative the process is again reassessed. In this present study the feedback was not included.

Criteria measures or knowledge:

s. no	Level of knowledge	Knowledge score	Percentage (%) of knowledge	Pre-test	Post-test
1	Inadequate	(0-10)	36.7%	22	0%
2	Moderate	(11-20)-	63.3%-	38	8-(13.3%)
3	Adequate	(21-30)	0%	0	52(86.7%)

Total score =30
Score for right answer =01
Score for wrong answer = 0

Knowledge of nursing staff regarding the cardio pulmonary resuscitation. It was considered to be the most appropriate tool to elicit response from the sample.

Table. 1 Shows the Reliability of Instrument **Item**	**Split Half Reliability**
Awareness about CPR among selected nursing staff in the selected hospitals Punjab.	0.8

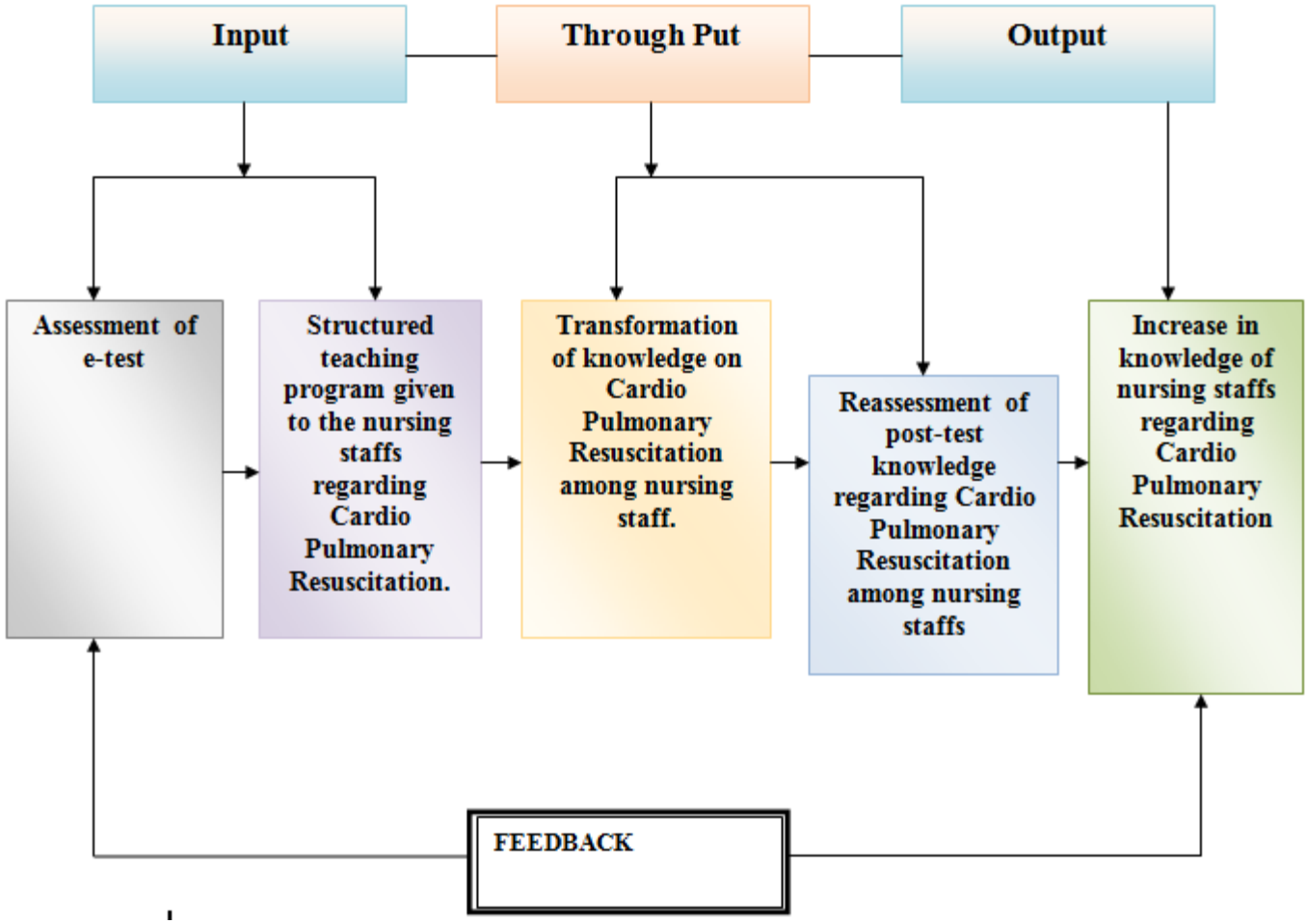


FIGURE 0.1: Conceptual framework of general system theory

Validity of tool: The content validity of tool was determined by expert opinion of the relevance of items.

Content validity

The tool was given to 5 experts in the field of medical surgical nursing. All the comments and the suggestions given by the experts were duly considered and corrections were made after discussion with the research guide.

Reliability

Split half method was adopted to make sure the reliability of the tool. The value was 0.8 for knowledge. The tool is reliable for the selected population.

PILOT STUDY

Pilot study was conducted among six nursing staff of Govindum Medicity Hospital Jalandhar, to identify the reliability of tool and feasibility of the study. The total sample size was 60 in Sacred Heart hospital Jalandhar. The sample for pilot study was selected on the basis of inclusion criteria. After getting permission from the Administrator of the Hospital. Pre-test was conducted by using the knowledge questionnaire and practice questionnaire. After that the structured competency teaching programme regarding Cardio pulmonary Resuscitation was given, and then post test was conducted. The pilot study report showed that there was an increase in the knowledge and practice towards CPR among nursing staff. It was found to be appropriate and feasible conduct the main study.

Data Collection Procedure

After getting official permission from our Principal I sent a requisition letter to the Administrator of the hospital. The researcher met the staff of sacred heart hospital introduction given and their co-operation was obtained. The study was conducted after winning the confidence of the staff, using the questionnaire schedule a pre-test was conducted for the selected nursing staff. After the pre-test, structured teaching programme was given regarding CPR. The post test was conducted after 30 minutes interval of teaching. The total number of people interviewed was 60.

Ethical consideration:

1. Written permission was taken from the administrator of sacred heart hospital Jalandhar, Punjab.
2. Ethical clearance was obtained from the ethical committee of sacred heart hospital Jalandhar, Punjab.
3. An informed verbal consent was taken from each study sample.
4. Confidentiality and anonymity of study sample was maintained throughout the study.

Plan of Data Analysis

The analysis of the data was done in accordance with objectives. The investigator adopted descriptive and inferential statistics to analyze the data. The demographic variables were analyzed by using frequency distribution and percentage. Comparison of pre-test and post-test scores were computed on the basics of paired' test.

Summary

This chapter deals with the research design, research setting, target population, sample and sampling technique, inclusion and exclusion criteria, description of tool, validity of tool, ethical consideration, pilot study, reliability of tool, data collection procedure, and plan of data analysis as a methodology used in pre-experimental study to check the effectiveness of a competency teaching program regarding the cardio pulmonary resuscitation among the nursing staff.

4. DATA ANALYSIS AND INTERPRETATION

ANALYSIS AND INTERPRETATION OF DATA

Analysis and interpretation was done in accordance with the objectives laid down for the study. The purpose of analysis is to reduce the data into an interpretable and meaningful form so that the result can be compared and significance can be identified.

This chapter deals with the analysis and interpretation of data collected from staff nurses. The data was analyzed by calculating the score in terms of frequency, percentage, mean, standard deviation, chi- square, and paired T-test.

Objectives of the study:-

- To assess the pre-test and post-test knowledge of staff nurses regarding CPR among the staff nurses.
- To assess the pre-test and post-test practice regarding CPR among the staff nurses.
- To find out the association between knowledge regarding CPR with selected demographic variables.

- To find out the association between the practice regarding CPR with the selected demographic variables among staff nurses.
- To provide a competency programme regarding CPR to the staff nurses so as to enhance the knowledge and practice.

Plan of Analysis:
Analysis and interpretation of data was done according to the objectives using descriptive and inferential statistics. The level of significance chosen was at $p \leq 0.05$.

Organization of Analyzed Data:
The analyzed data was organized according to the objectives and presented under the following sections:

SECTION-A
Description of demographic profile of staff nurses
This section describes the demographic characteristics of the sample of staff nurses under study. The data obtained describes the characteristics pertaining the age, gender, educational status, work experience, area of exposure, attended training, source of knowledge, type of hospital worked in, witnessed CPR procedure.

TABLE: 1 DEMOGRAPHIC PROFILE OF STAFF NURSES

SECTION-1 SOCIO DEMOGRAPHIC PROFORMA		Percentage(%)	Frequency(f)
Age of the Participant in years	24-26	73.3%	44
	>26	26.7%	16
Gender	Male	41.7%	25
	Female	58.3%	35
Educational Status.	G.N.M.	23.3%	14
	Post Basic Bsc	45.0%	27
	Bsc	31.7%	19
	Msc	0.0%	0
Work Experience in years	0-2	16.7%	10
	3-5	65.0%	39
	> 6	18.3%	11
Area of Exposure	ICCU	21.7%	13
	Emergency room	18.3%	11
	General ward	33.3%	20
	Operation Theatre	26.7%	16
Did you Attend any CPR Training programme	Yes,	56.7%	34
	No	43.3%	26
if yes how many Days	2 days	25.0%	15
	4 days	66.7%	40
	7 days	8.3%	5
Source of Knowledge regarding CPR	CPR training programme	31.7%	19
	Health personnel	28.3%	17
	Teachers	30.0%	18
	Mass Media	10.0%	6
	Printed media	0.0%	0
Type of Hospital you Worked	Private hospital	55.0%	33
	Govt hospital	33.3%	20
	Both	11.7%	7
Did you Witness any CPR procedure	Yes	81.7%	49
	No	18.3%	11

Table 1 reveals that the staff nurses of age 24-26 were studied and the findings were as follows:

S. No. 1: Represents the age group of the staff nurses. It was found that majority of Staff nurses 44 (73.3%) belong to age group of 24-26years, followed by 16(26.7%) belong to age group of less than 26 years.

S. No. 2 Represents gender of staff nurses, depicts that the majority 35(58.3%) were females, followed by 25(41.7%) were males.

S. No. 3 Represents educational status which shows that majority of staff nurses 27(45.0%) are Post Basic B.Sc., followed by 19(31.7%) are B.Sc., 14(23.3%) are G.N.M. and none of them is M.Sc.

S. No. 4 Represents the work experience of the staff nurses and depicted that more than half of the 39(65%) have the experience of 3-5 years, 11(18.3%)have the experience of more than 6 years, and 10(16.7%) have the experience of 0-2 years.

S. No. 5 Denoting the area of exposure of the staff nurses20 (33.3%) have experience of working in General Ward, 16(26.7%) have working experience of Operation Theatre, 13(21.7%) have experience of ICCU and 11(18.3%) have experience of working in Emergency room.

S. No 6 Represents that more than half of the staff nurses 34(56.7%) had attended the CPR training programme, 26(43.3%) did not attend the CPR training programme.

S. No. 7 Represents that amongst those who attended the training programme, 40 (66.7%) attended 4 days' training, followed by 15(25.0%) attended 2 days' training programme and 5(8.3%)attended 7 days' training programme.

S. No. 8 Most of the staff nurses 19(31.7%)had their knowledge of CPR from CPR training programme, 18(30.0%) got knowledge from their teachers, followed by 17(28.3%) got knowledge from health personnel's, and 6(10.0%) got knowledge from mass media.

S. No. 9 Depicts that more than half of the staff nurses 33(55%) worked in private hospitals and 20(33.3%) worked in Government hospitals.

S. No. 10 Shows that 49(81.7%) staff nurses had witnessed the CPR procedure and 11(18.3%) had not witnessed any CPR procedure.

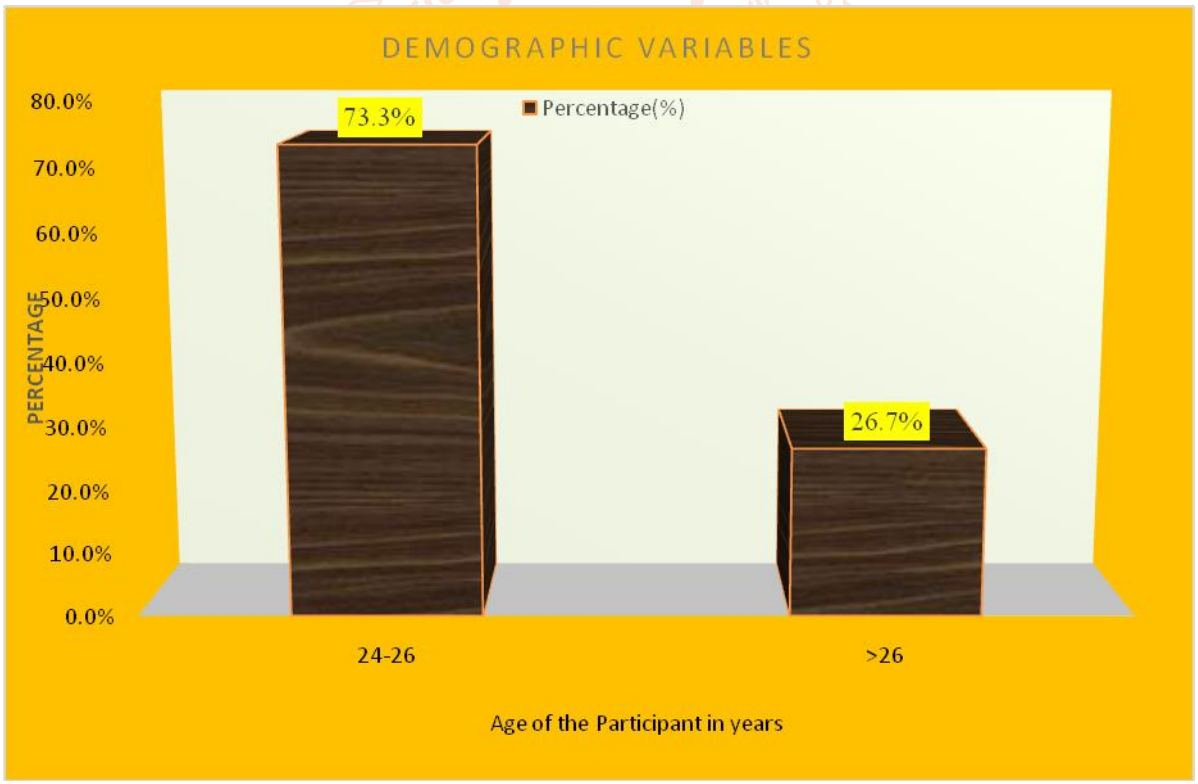


Figure No. 2: Bar diagram showing the percentage distribution of staff nurses according to their age.

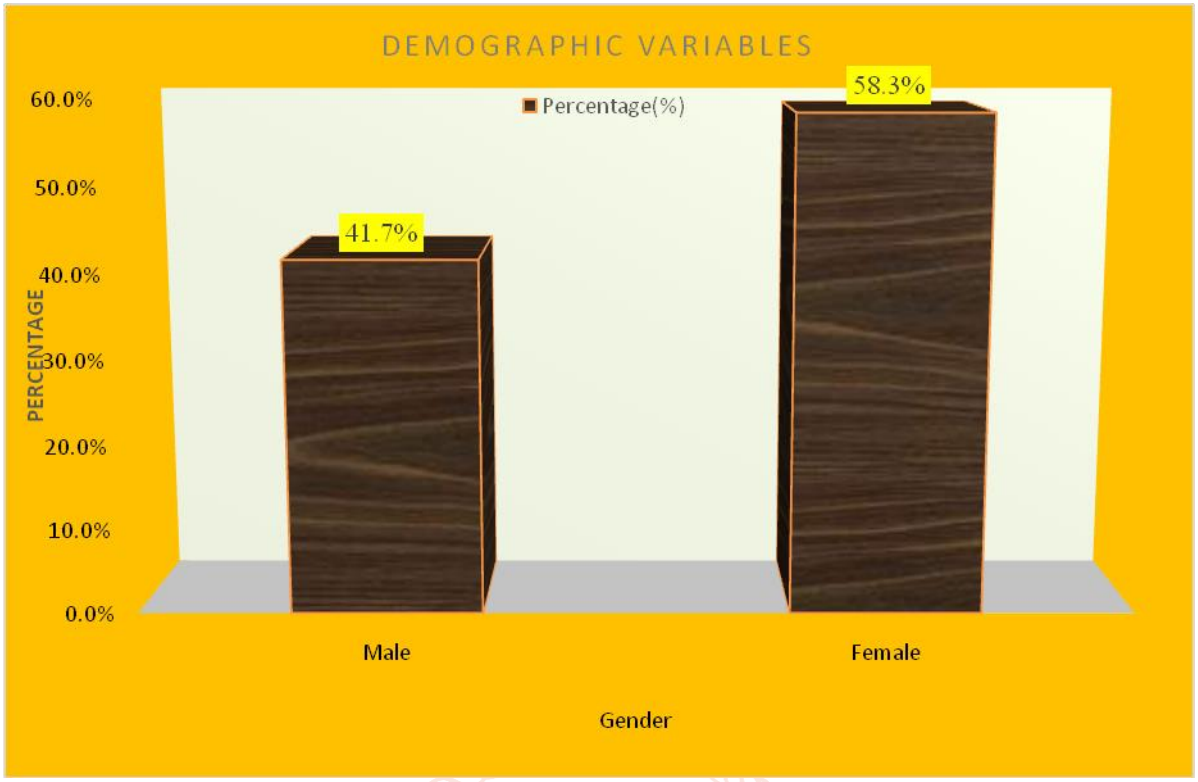


Figure no. 3: Bar diagram showing the percentage distribution of staff nurses according to their Gender.

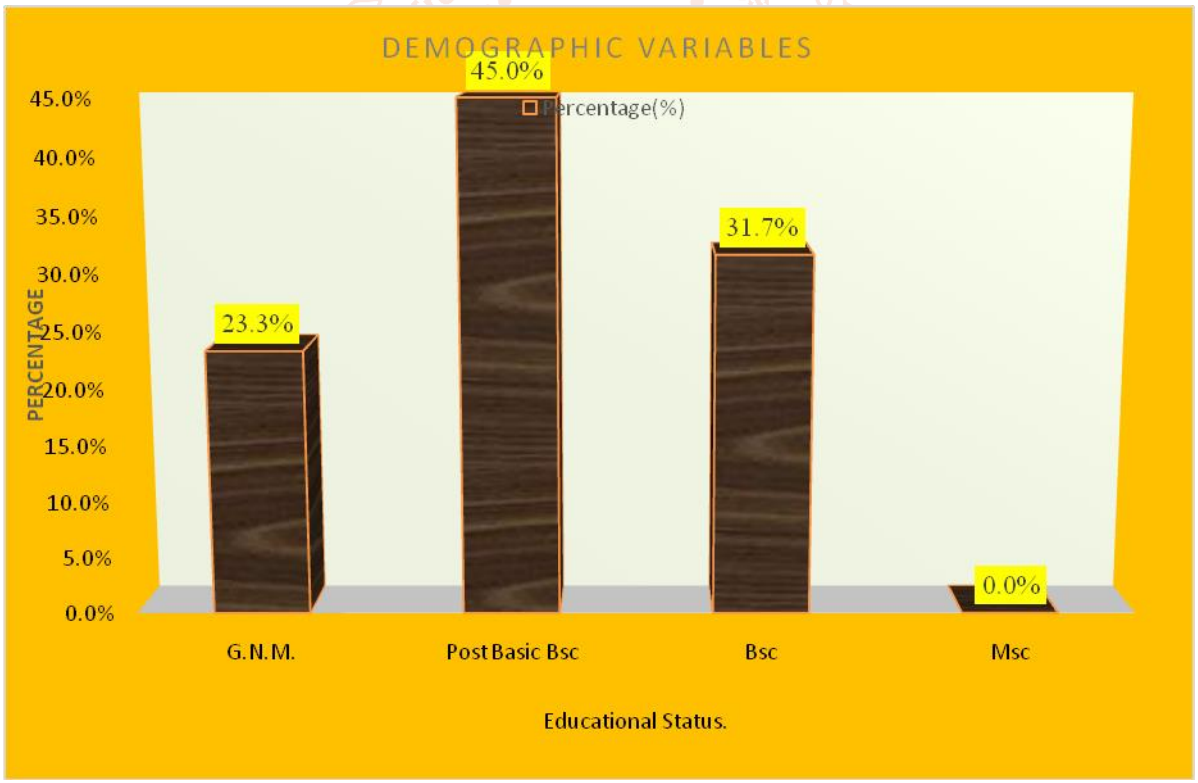


Figure no. 4: Bar diagram showing the percentage distribution of staff nurses according to their Educational Status.

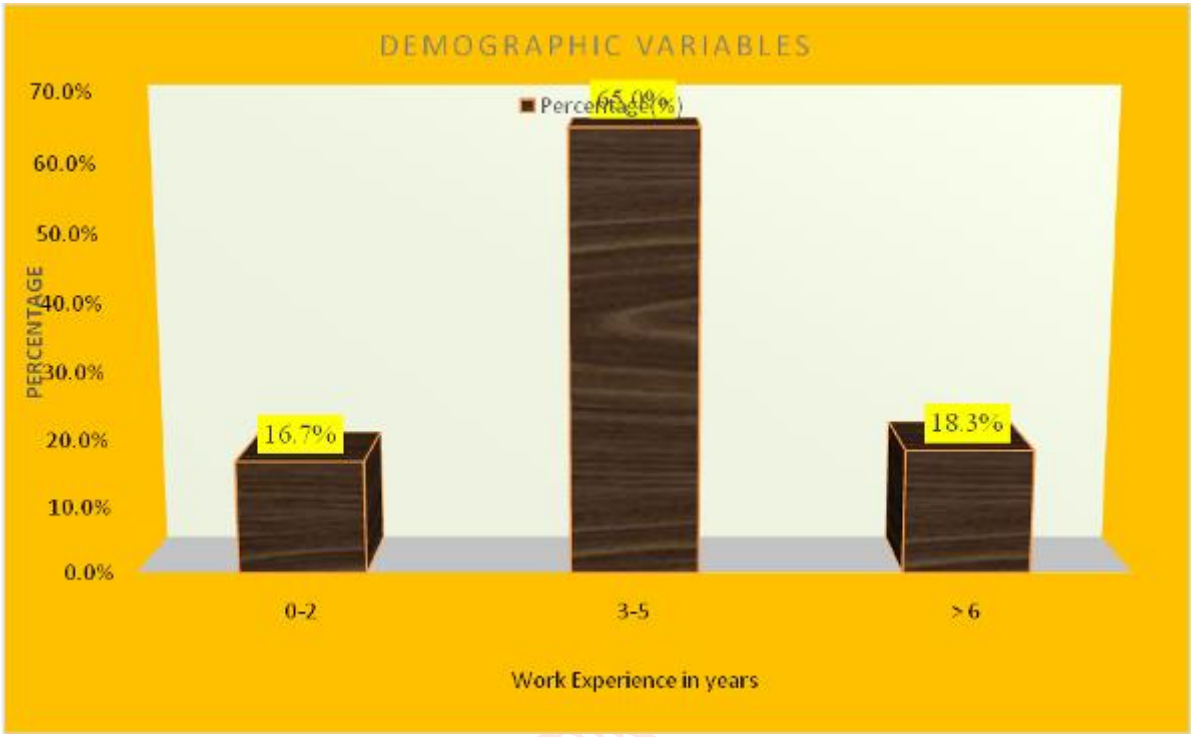


Figure no. 5: Bar diagram showing the percentage distribution of staff nurses according to their Work Experience in years. 33

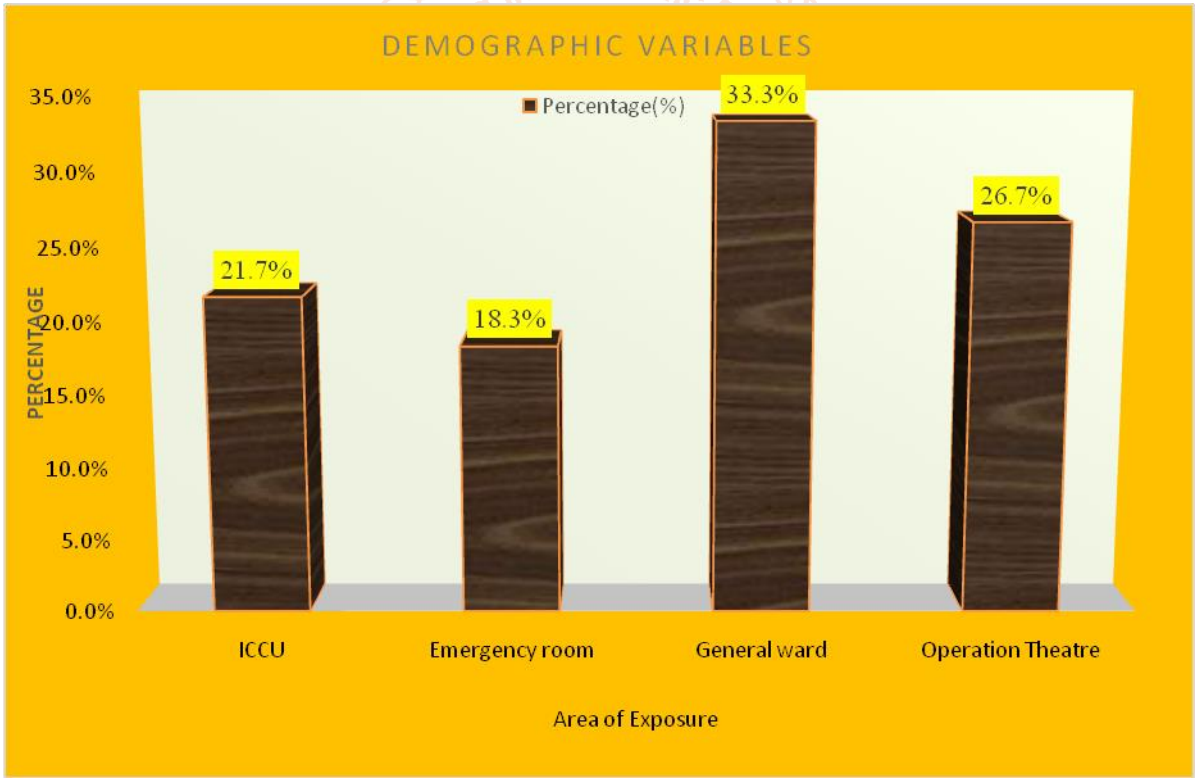


Figure no. 6: Bar diagram showing the percentage distribution of staff nurses according to their Area of exposure.

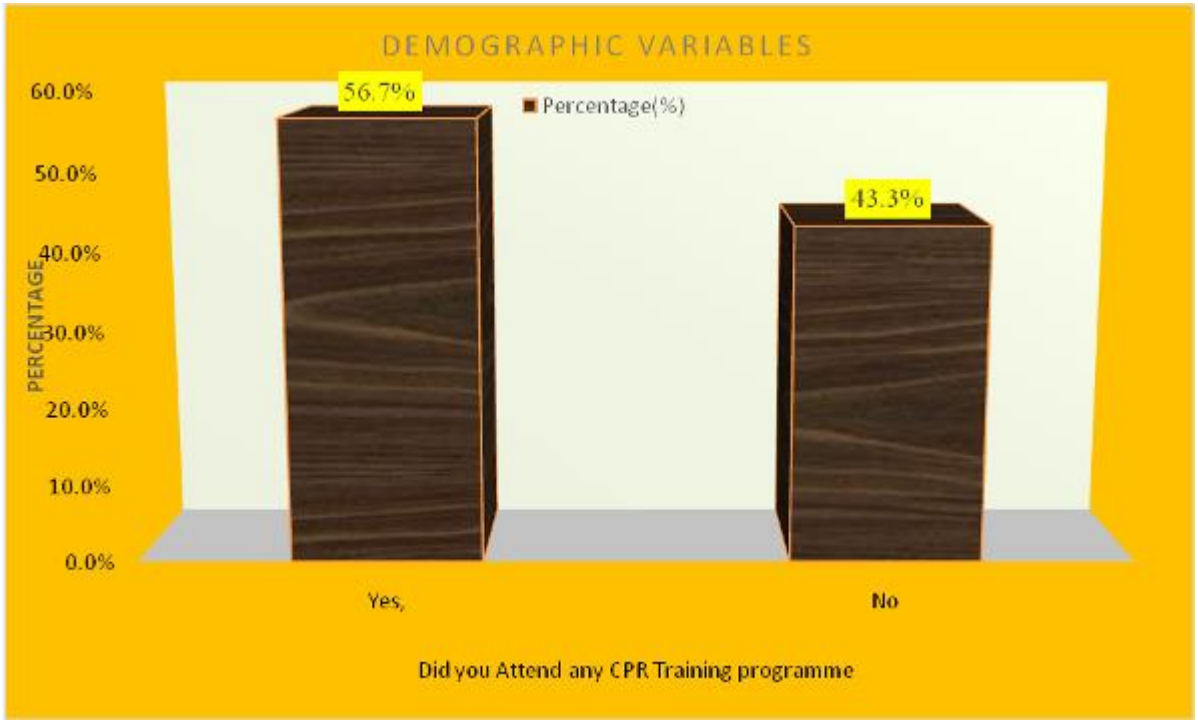


Figure no. 7: Bar diagram showing the percentage distribution of staff nurses according to their Attending of CPR training programme. 34

Figure no. 8: Bar diagram showing the percentage distribution of staff nurses according to the Number of days they had attended their training programme.

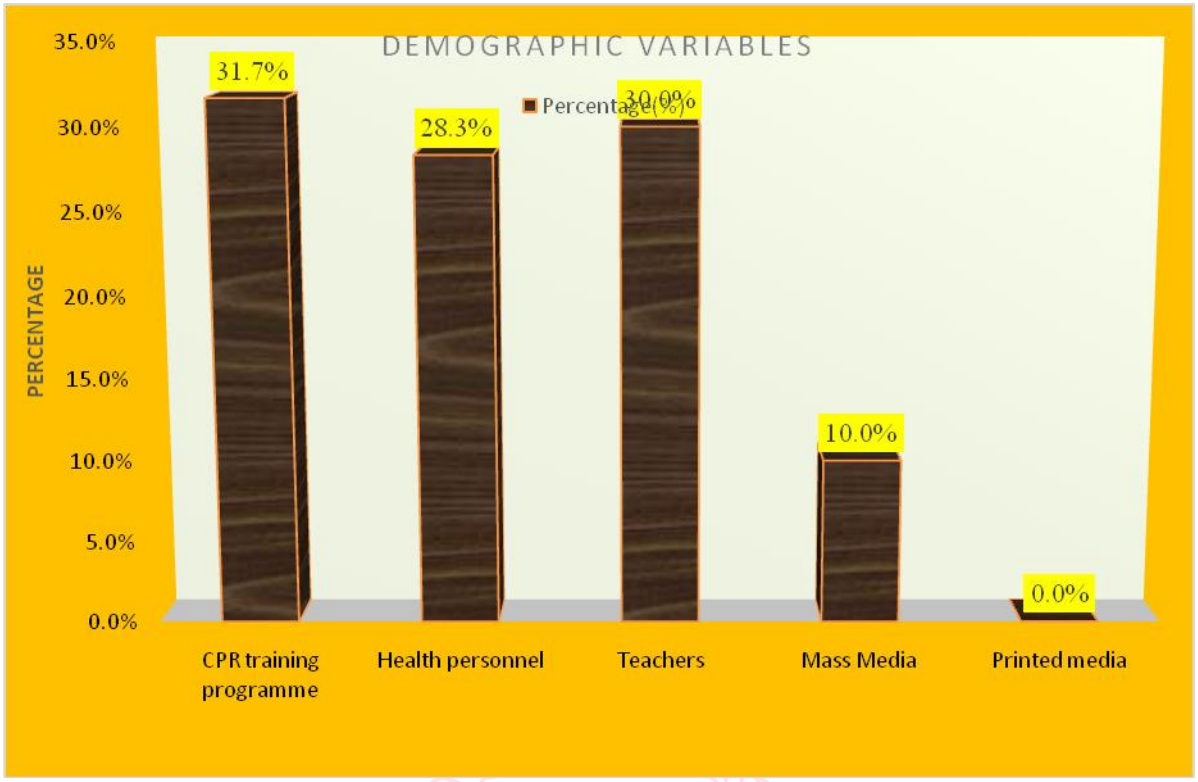


Figure no. 9: Bar diagram showing the percentage distribution of staff according to their Source of Knowledge regarding CPR. 35

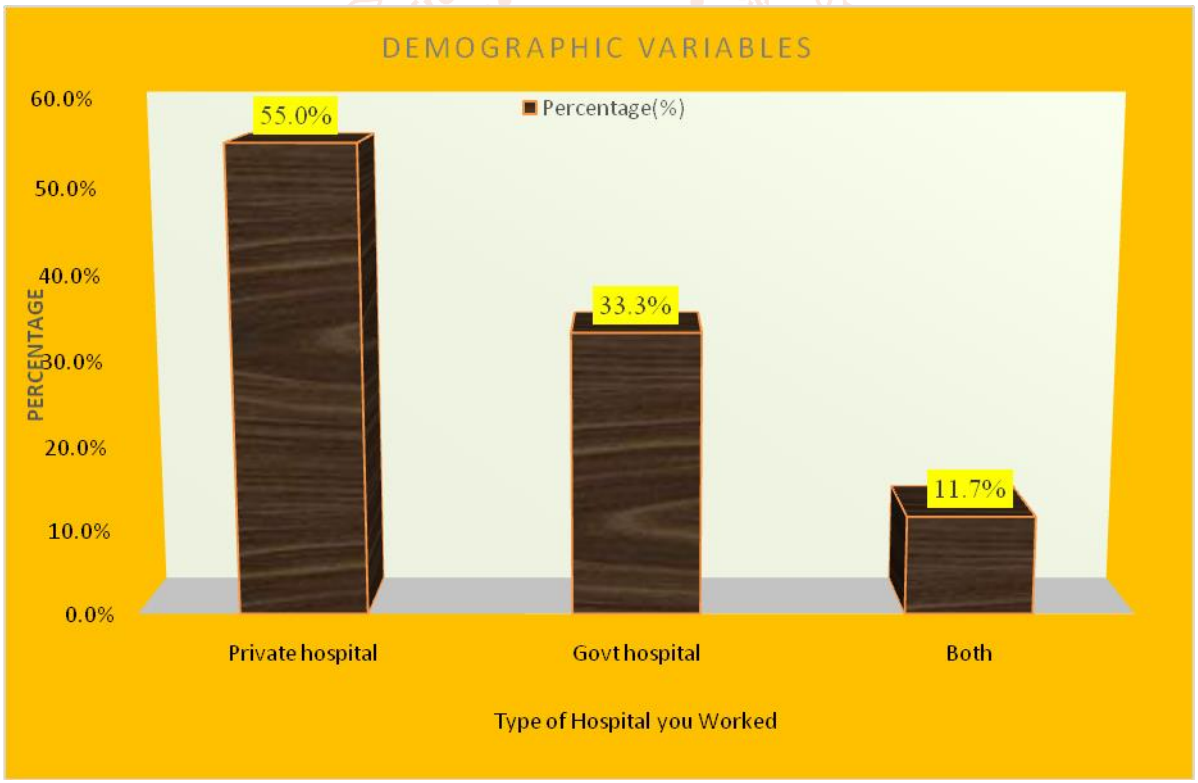


Figure no. 10: Bar diagram showing the percentage distribution of staff nurses according to the Type of hospital they worked in.

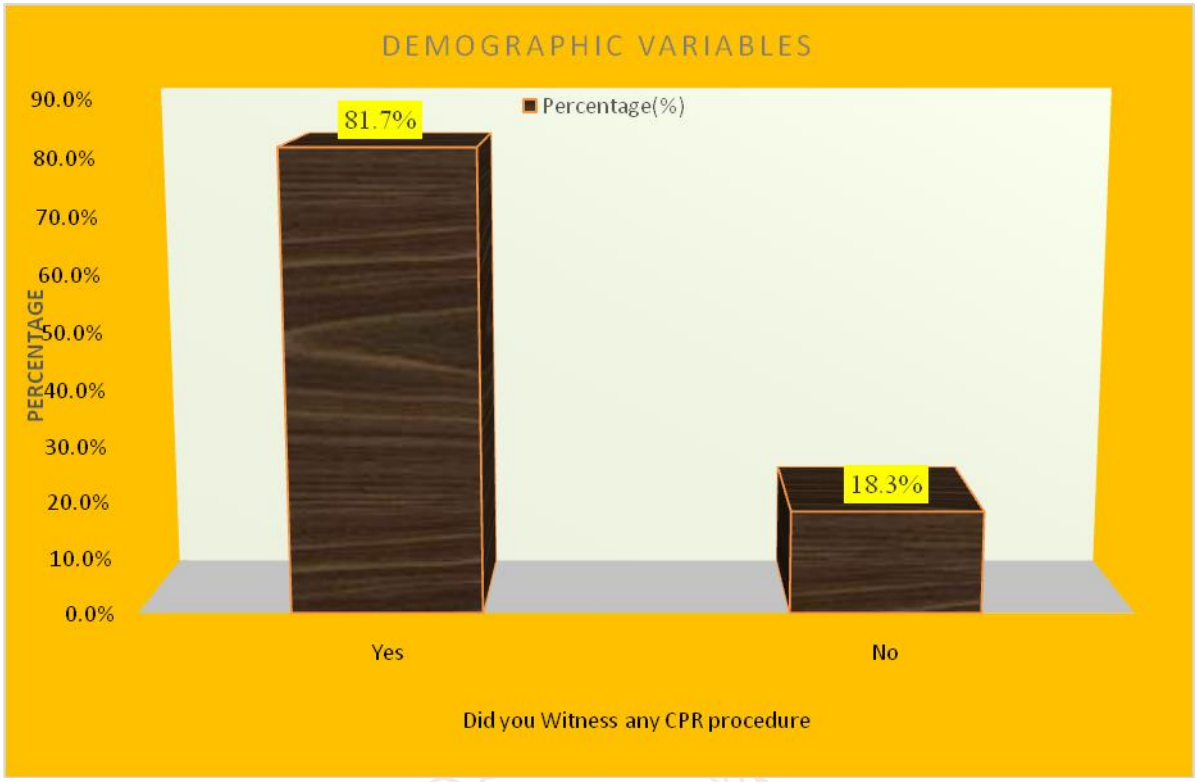


Figure no. 11: Bar diagram showing the percentage distribution of staff nurses If they had witnessed any CPR procedure.

SECTION – B

4.1. Main analysis and interpretation of data

Table – 2: Frequency & Percentage distribution of pre-test level of knowledge of staff nurses regarding CPR.

CRITERIA MEASURE OF KNOWLEDGE SCORE	
Score Level (N=60)	Pre
Inadequate (0-10)	22(36.7%)
Moderate (11-20)	38(63.3%)
Adequate (21-30)	0(0%)
Maximum=30 Minimum =0	

Table 2 Represents the Frequency & Percentage distribution of pretest level of knowledge regarding CPR. It was found that majority of staff nurses 38(63.3%) had moderate level of knowledge, followed by 22(36.7%) had inadequate knowledge and none of them 0(0%) had adequate knowledge.

Hence, it can be concluded from above the findings that majority of staff nurses had average pre-test level of knowledge regarding CPR.

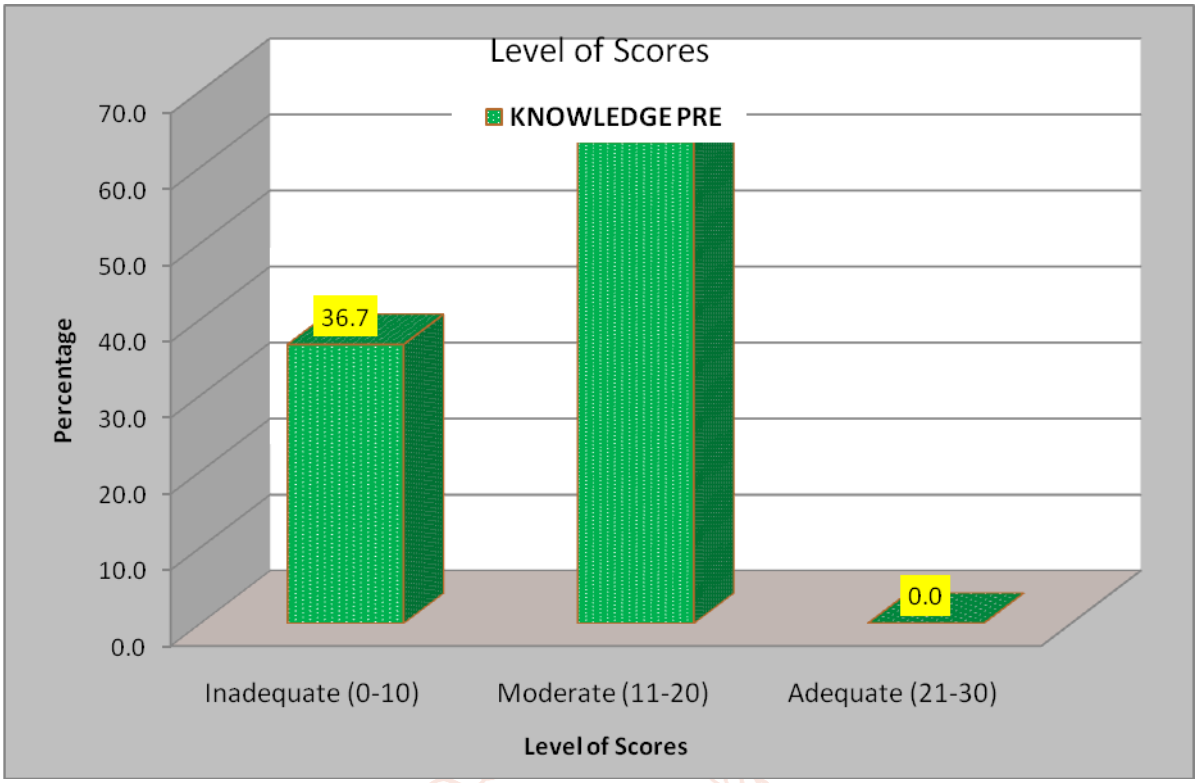


Figure no. 12: Bar diagram showing the percentage distribution of pre-test knowledge regarding CPR amongst the staff nurses.

Table – 3: Descriptive statistics of pre-test level of knowledge regarding CPR among staff nurses. 37

PRE KNOWLEDGE Score	Mean	Median	S.D.	Range	Maximum	Minimum	Mean%
Pre Score	11.58	11	2.149	9	16	7	38.61
Maximum= 30 Minimum= 0							

Table 3 Represents the descriptive statistics of pretest level of knowledge regarding CPR among staff nurses. It was found that the mean value was 11.58, median score was 11, maximum score was 16, minimum score was 7, range of score was 9 and mean percentage was 38.61%.

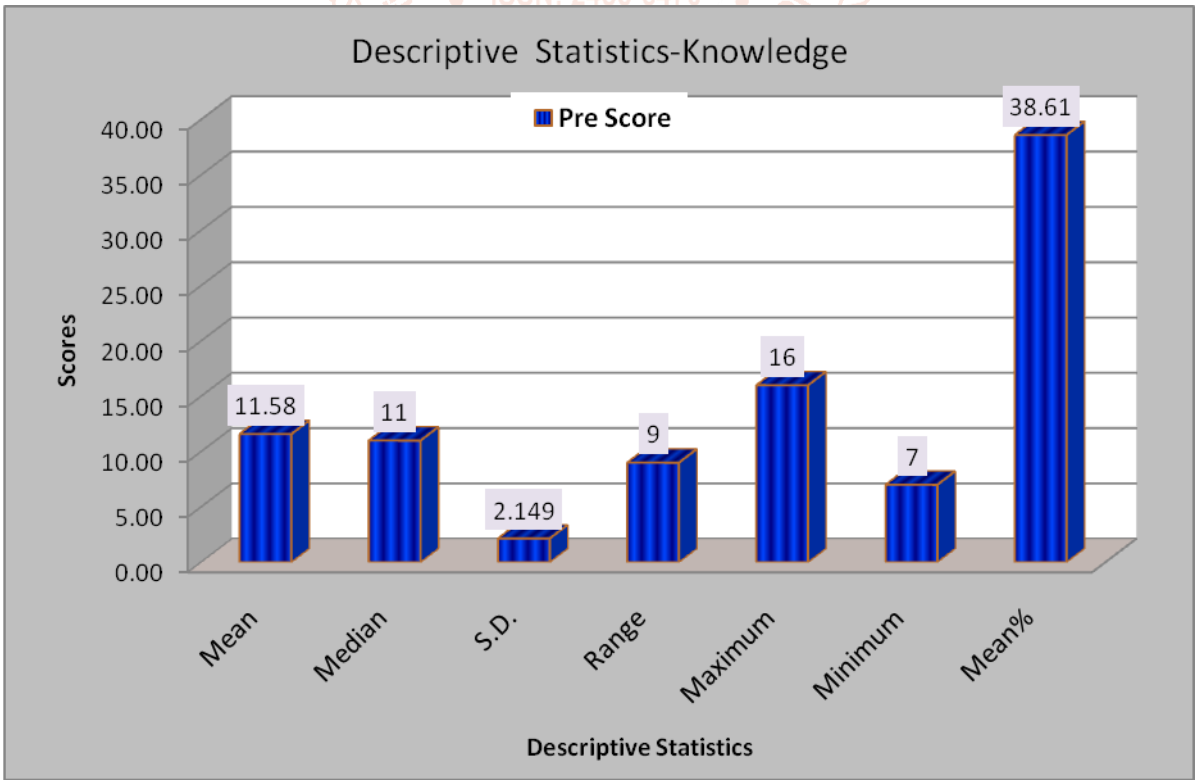


Figure no. 13: Bar diagram representing descriptive statistics of pre-test level of knowledge regarding CPR among staff nurses.

Table – 4: Frequency & Percentage distribution of post-test level of knowledge regarding CPR among staff nurses.

CRITERIA MEASURE OF KNOWLEDGE SCORE	
Score Level (N=60)	Post
Inadequate (0-10)	0(0%)
Moderate (11-20)	8(13.3%)
Adequate (21-30)	52(86.7%)
Maximum=30 Minimum =0	

Table 4 Represents the Frequency & Percentage distribution of post-test level of knowledge regarding CPR among staff nurses. 52(86.7%) had adequate level of knowledge, followed by 8(13.3%) had moderate knowledge but none of them had inadequate knowledge.

Hence, it can be concluded from above the findings that majority of women had adequate post-test level of knowledge after administration of structured teaching regarding knowledge of CPR.

N = 60

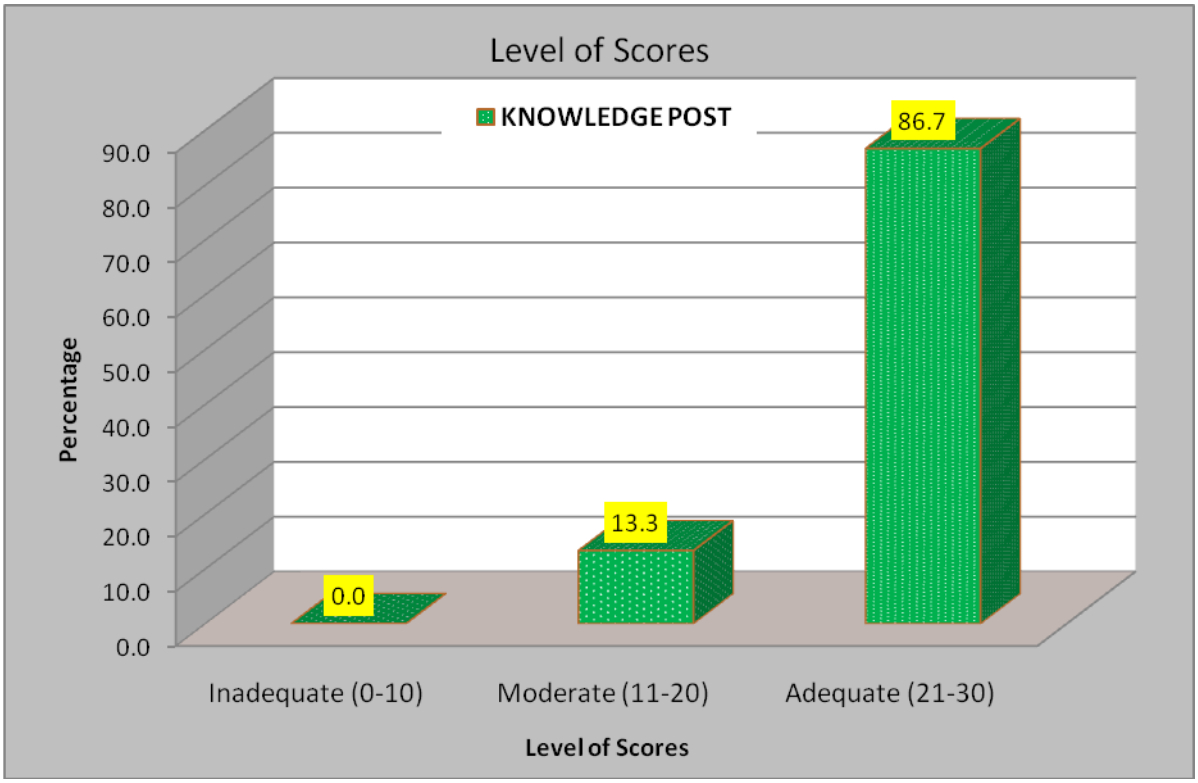


Figure no. 14: Bar diagram representing percentage distribution of post-test level of knowledge regarding CPR among staff nurses.

Table – 5: Descriptive statistics of post-test level of knowledge regarding CPR among staff nurses.

N-60

POST KNOWLEDGE Score	Mean	Median	S.D.	Range	Maximum	Minimum	Mean%
Post Score	24.03	25	2.400	9	29	20	80.11
Maximum= 30 Minimum= 0							

Table 5 Represents the descriptive statistics of post-test level of knowledge regarding CPR among staff nurses. It was found that the mean value was24.03, median score was 25, maximum score was 29, minimum score was 20, range of score was 8 & mean percentage was 80.11%

N = 60

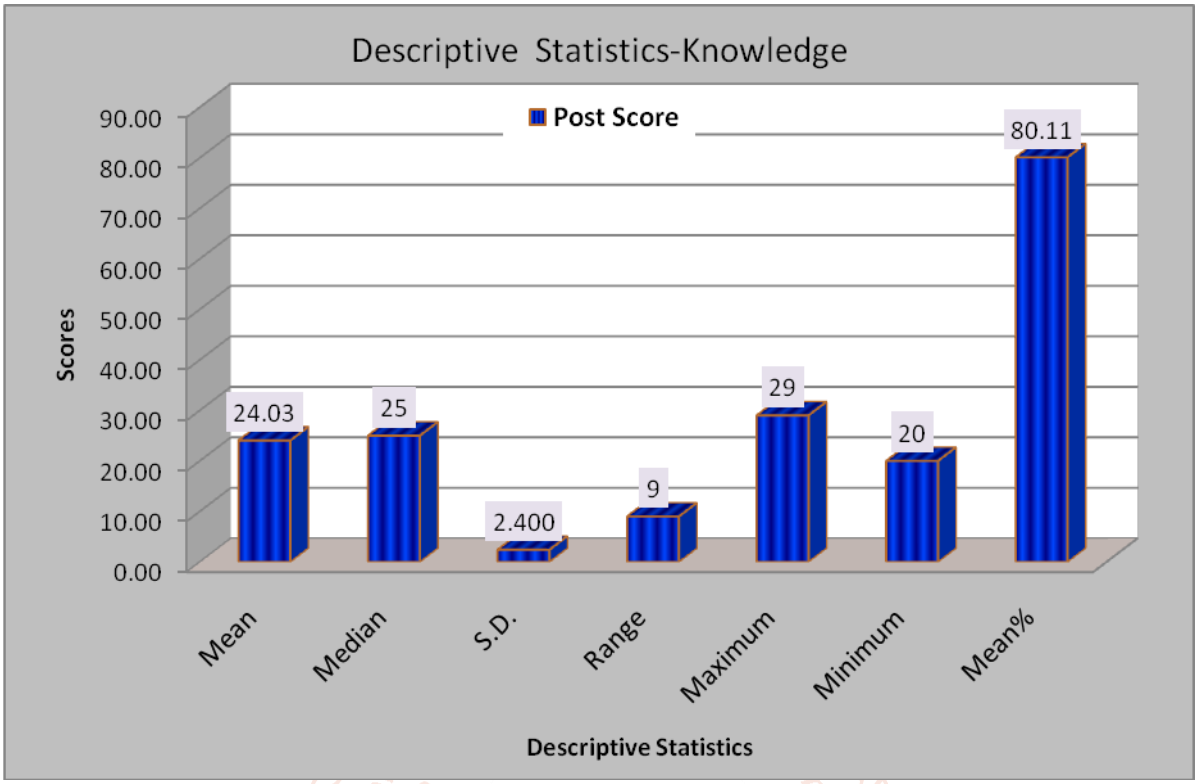


Figure no. 15: Bar diagram representing descriptive statistics of post-test level of knowledge regarding CPR among staff nurses.

SECTION – B

4.2. Main analysis and interpretation of data

Table – 2: Frequency & Percentage distribution of pre-test level of practice of staff nurses regarding CPR.

CRITERIA MEASURE OF PRACTICE SCORE	
Score Level (N=60)	Pre
Poor Practice (0-24)	31(51.7%)
Average Practice (25-48)	29(48.3%)
Good Practice (49-72)	0(0%)
Maximum=72 Minimum =0	

PRE PRACTICE Score	Mean	Median	S.D.	Range	Maximum	Minimum	Mean%
Pre Score	25.22	25	5.609	22	36	14	35.02
Maximum= 72 Minimum= 0							

Table 3 Represents the descriptive statistics of pretest level of practice regarding CPR among staff nurses. It was found that the mean value was 25.22, median score was 25, maximum score was 36, minimum score was 14, range of score was 22 and mean percentage was 35.02% and S.D. was 5.609.

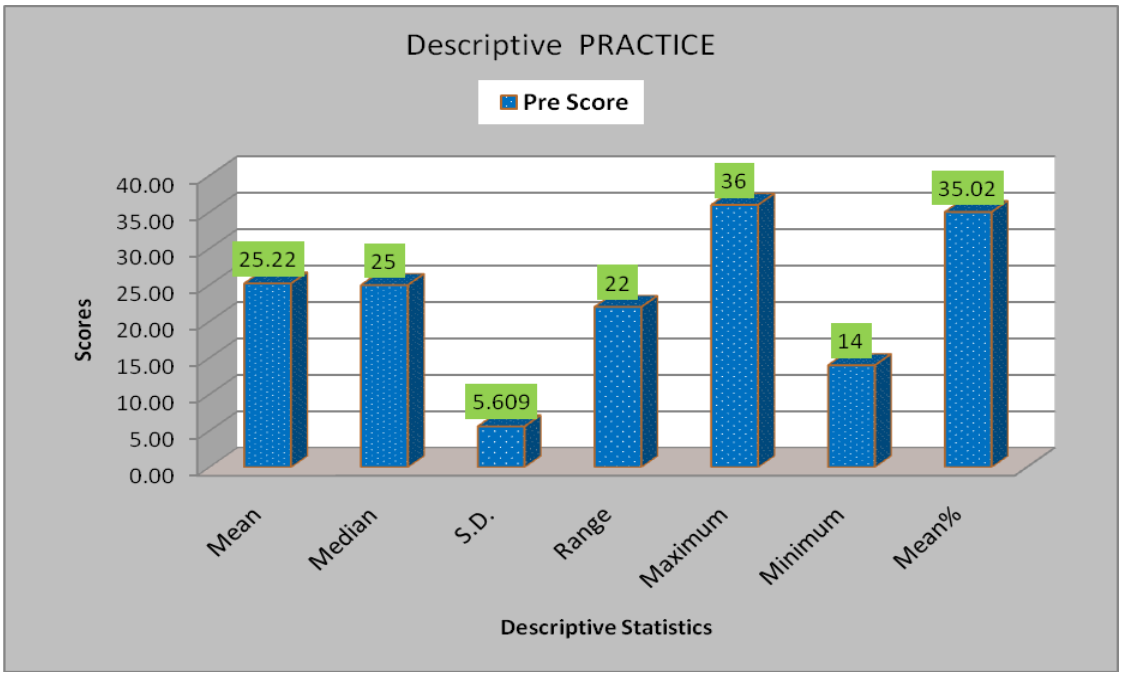


Figure no. 13: Bar diagram representing descriptive statistics of pre-test level of practice regarding CPR among staff nurses.

Table – 4: Frequency & Percentage distribution of post-test level of practice regarding CPR among staff nurses.

CRITERIA MEASURE OF PRACTICE SCORE	
Score Level (N=60)	Post
Poor Practice (0-24)	1(1.7%)
Average Practice (25-48)	16(26.7%)
Good Practice (49-72)	43(71.7%)
Maximum=72 Minimum =0	

Table 4 Represents the Frequency & Percentage distribution of post-test level of practice regarding CPR among staff nurses. 43(71.7%) had good practice, followed by 16(26.7%) had average practice and 1(1.7%) had poor practice.

Hence, it can be concluded from above the findings that majority of staff nurses had good post-test level of practice after administration of structured teaching regarding practice of CPR.

N = 60

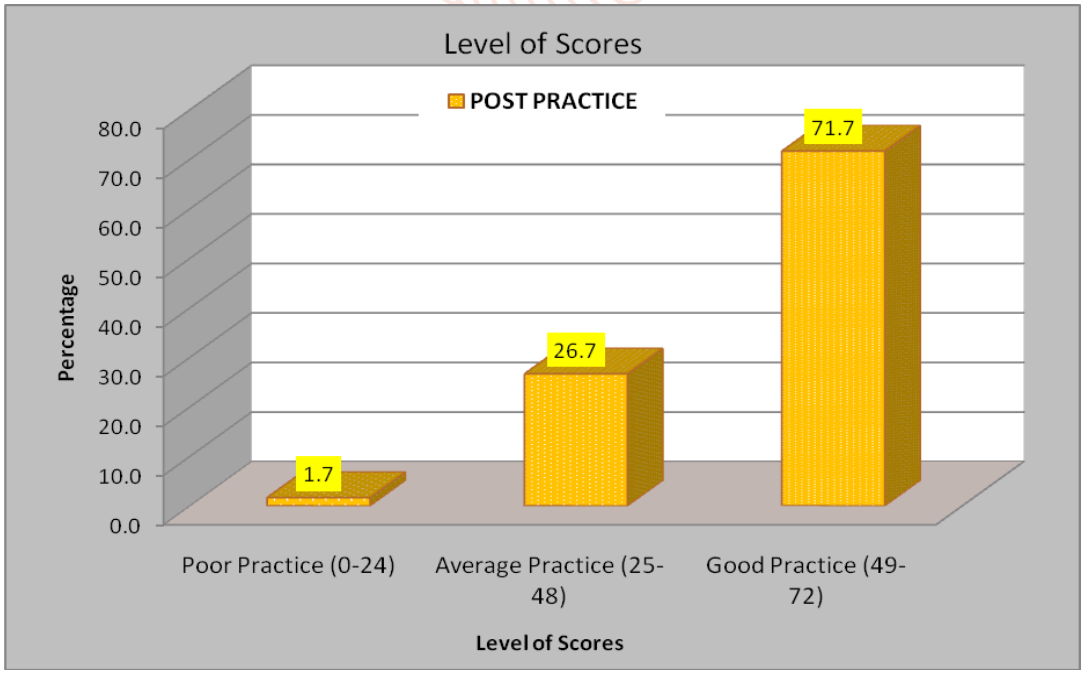


Figure no. 14: Bar diagram representing percentage distribution of post-test level of practice regarding CPR among staff nurses.

Table – 5: Descriptive statistics of post-test level of practice regarding CPR among staff nurses.

N = 60

POST PRACTICE Score	Mean	Median	S.D.	Range	Maximum	Minimum	Mean%
Post Score	50.67	50	5.219	43	60	17	70.37
Maximum= 72 Minimum= 0							

Table 5 Represents the descriptive statistics of post-test level of practice regarding CPR among staff nurses. It was found that the mean value was 50.67, median score was50, maximum score was 60, minimum score was17, range of score was 43& mean percentage was 70.37% and S.D. was 5.219.

N = 60

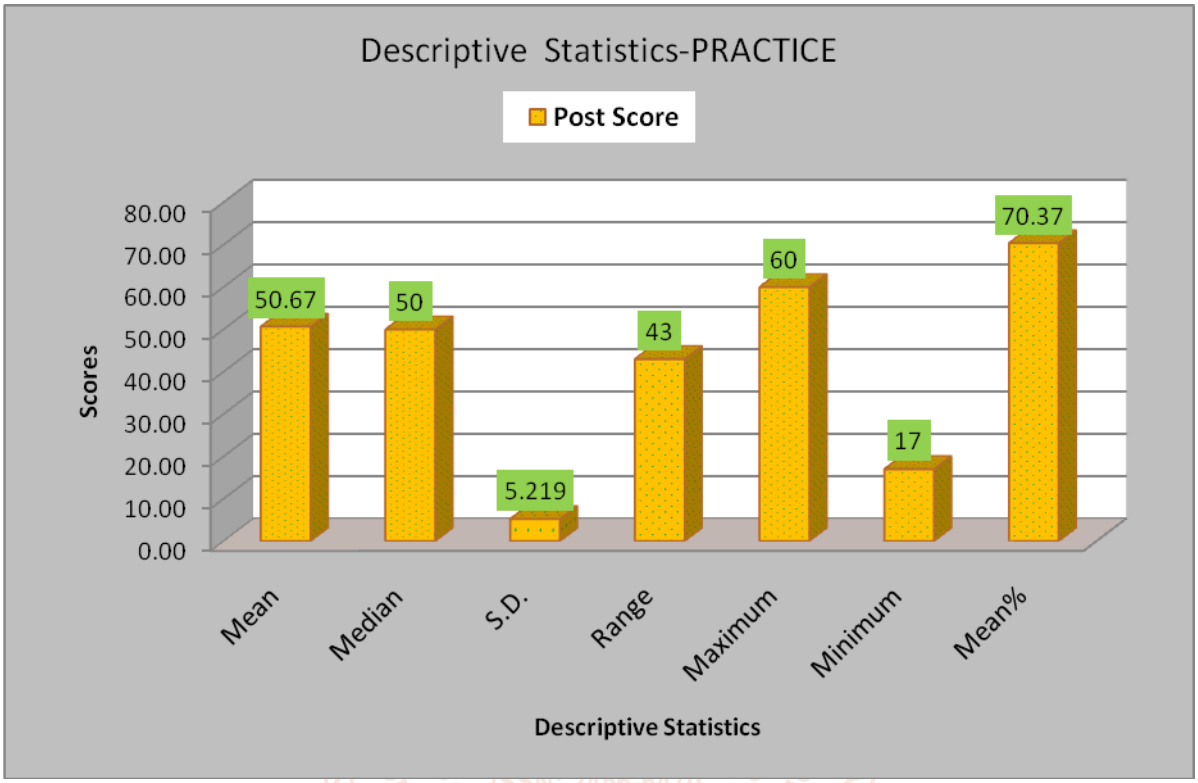


Figure no. 15: Bar diagram representing descriptive statistics of post-test level of practice regarding CPR among staff nurses.

SECTION – C

Table – 6: Comparison of frequency & percentage distribution of pre-test and post-test level of knowledge regarding CPR among staff nurses.

CRITERIA MEASURE OF KNOWLEDGE SCORE		
Score Level (N=60)	**Pre**	**Post**
Inadequate (0-10)	22(36.7%)	0(0%)
Moderate (11-20)	38(63.3%)	8(13.3%)
Adequate (21-30)	0(0%)	52(86.7%)
Maximum=30 Minimum =0		

Table 6 represents the comparison of frequency & percentage distribution of pre-test and posttest level of knowledge regarding CPR among staff nurses. As per the Pre-Test level of knowledge, it was found that majority of staff nurses of 38(63.3%) had moderate level of knowledge, followed by 22(36.7%) had inadequate knowledge and 0(0%) of them had adequate knowledge.

Whereas as per the Post Test level of knowledge, it was found that majority of staff nurses52(86.7%) had adequate level of knowledge, followed by 8(13.3%) had moderate knowledge but none of them had inadequate knowledge.

Hence, it can be concluded from above the findings that majority of staff nurses had adequate post-test level of knowledge after administration of structured teaching regarding knowledge of CPR.

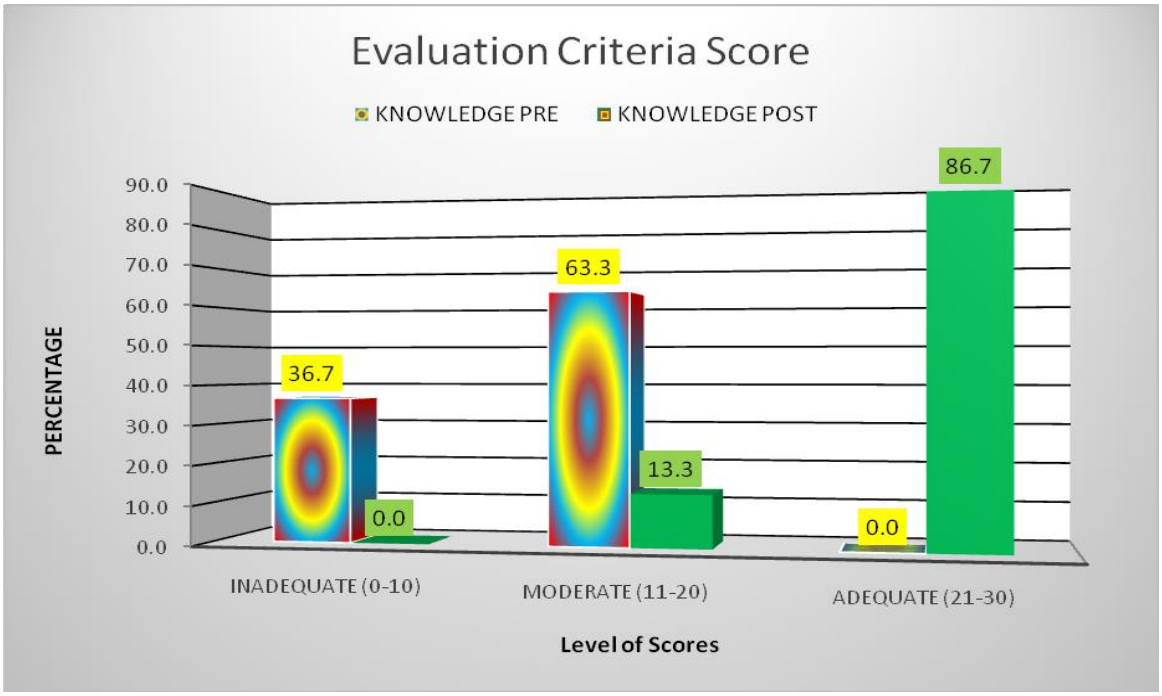


Figure no. 16: Bar diagram representing comparison of percentage distribution of pre-test and post-test level of knowledge regarding CPR among staff nurses.

Table – 7: Comparison of descriptive statistics of pre-test and post-test Scores of knowledge regarding CPR among staff nurses.

Paired T Test		Mean	S.D.	Median Score	Maximum	Minimum	Range	Mean %	Range
KNOWLEDGE	PRE	11.58	2.15	11	16	7	9	38.61	30
	POST	24.03	2.40	25	29	20	9	80.11	30

Table 7 represents the comparison of descriptive statistics of pre-test and post-test level of knowledge regarding CPR among staff nurses.

As per the Pre-Test knowledge score, it was found that the mean value was 11.58, standard deviation was 2.5, maximum score was 16, minimum score was 07, range of score was 9& mean percentage was 38.61. Whereas as per the Post Test knowledge score, it was found that the mean value was 24.03, median score was 25, maximum score was 29, minimum score was 20, range of score was 9& mean percentage was 80.11%.

N = 60

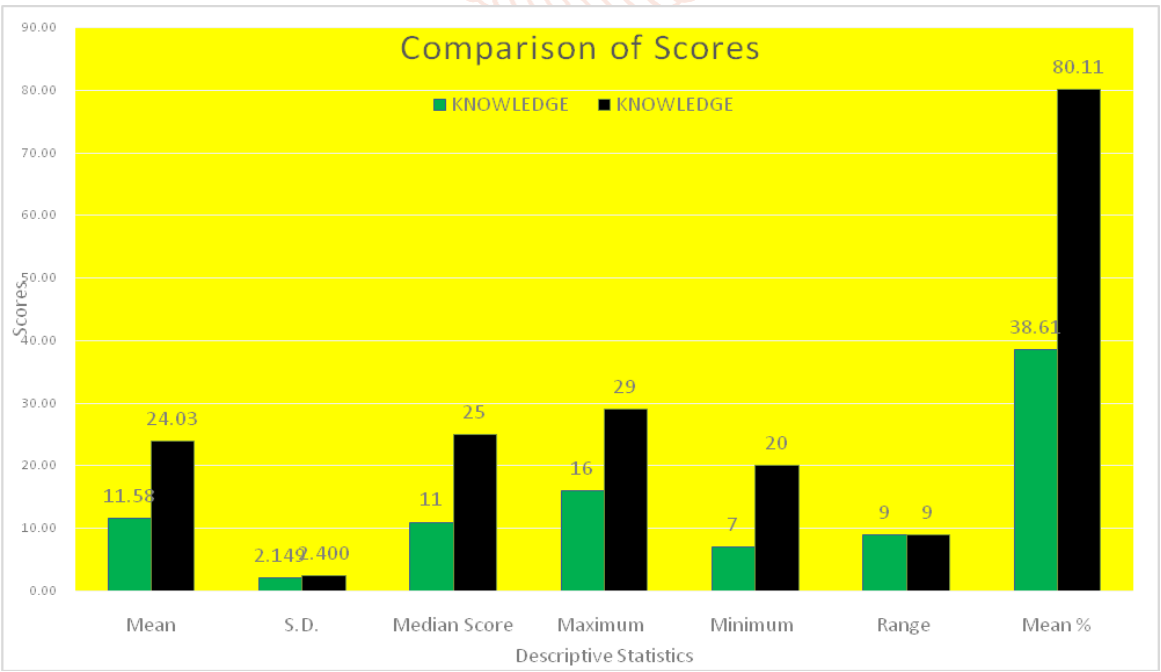


Figure no. 17: Bar diagram representing comparison of descriptive statistics of pre-test and post-test knowledge scores regarding CPR among staff nurses.

Table – 8: Comparison of pre-test and post-test level of knowledge regarding CPR among staff nurses.

N-60

Paired T Test		Mean	S.D.	Mean %	Mean Difference	Paired T Test	P value	Table Value at 0.05	Result
KNOWLEDGE	PRE	11.58	2.149	38.61	12.450	27.744	<0.001	2.00	Significant
	POST	24.03	2.400	80.11					
Maximum= 30 Minimum= 0 * Significance Level 5%									

Table 8 represents the Paired t test comparison of pre-test and post-test level of knowledge regarding CPR. As per the Pre-Test knowledge score, it was found that the mean value was 11.58, mean percentage was 38.61. Whereas as per the Post Test knowledge score, it was found that the mean value was 24.03, Mean Percentage 80.11. The mean difference between the pre-test and post-test level of knowledge was 12.45 The calculated t value that is 27.744 was more than the tabulated t value that is 2.00, which was statistically significant at the 0.05 level of significance.

Hence, the research hypothesis is rejected. It shows significant change in knowledge of staff nurses.

Table – 9: Comparison of pre-test and post-test level of knowledge representing effectiveness of structured teaching programme.

N = 60

KNOWLEDGE	PRE	POST	Effectiveness
Mean %	38.61	80.11	41.50
Mean	11.58	24.03	12.45

Table 9 represents the comparison of pretest and posttest level of knowledge regarding CPR among staff nurses age24-26.

It was found that the Mean percentage pre-test knowledge score was 38.61 and the Mean percentage post-test knowledge score was 80.11.Therefore, the difference between pre-test and post-test level of knowledge represented that the score gain was (41.5). percentage wise. The Mean pre-test knowledge was 11.58 and the post-test Mean knowledge was 24.03, therefore, the difference between pre-test and post-test level of knowledge represented that score gain was 12.45.

Hence it can be concluded that administration of structured teaching was effective regarding improving level of knowledge regarding CPR among staff nurses.

N = 60

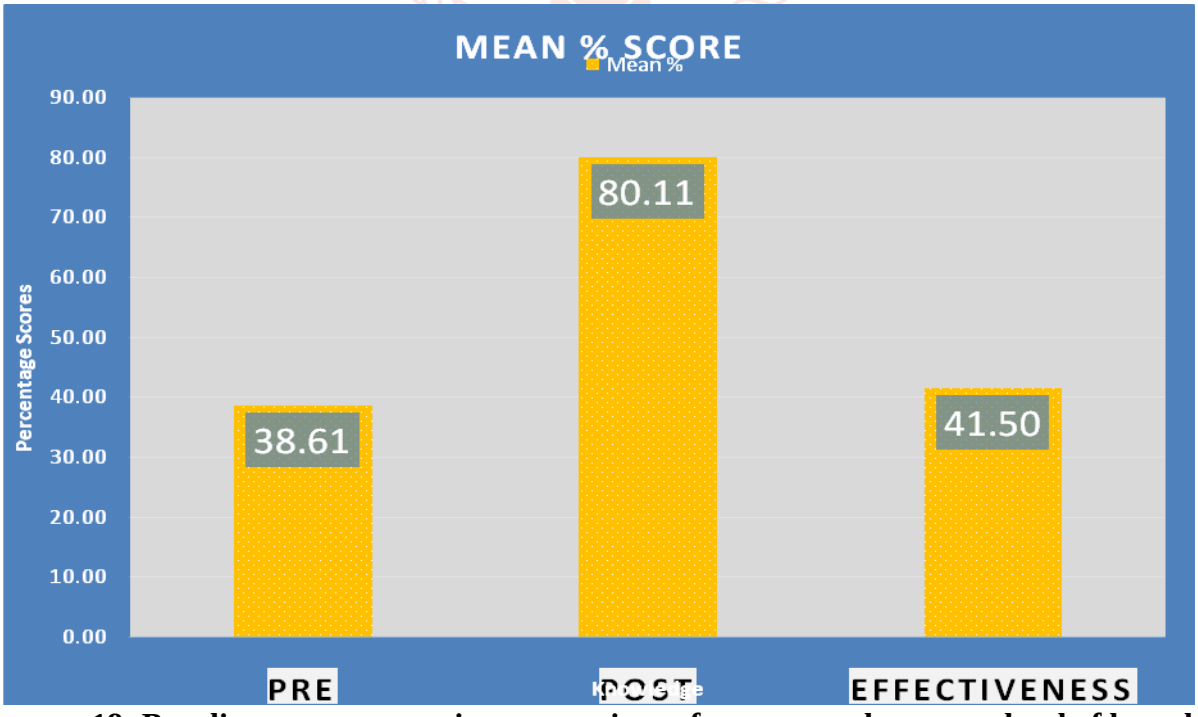


Figure no. 18: Bar diagram representing comparison of pre-test and post-test level of knowledge representing effectiveness regarding CPR among staff nurses age24-26.

Table – 10: Item wise analysis representing comparison of pre-test and post-test level of knowledge representing effectiveness of structured teaching regarding CPR among staff nurses.

	Area>	KNOWLEDGE Questions>>	Pre Correct (%)	Post Correct (%)
Item wise Analysis	SECTION-A	Qno.1	70.0%	90.0%
		Qno.2	50.0%	80.0%
		Qno.3	55.0%	93.3%
		Qno.4	50.0%	90.0%
		Qno.5	28.3%	65.0%
		Qno.6	40.0%	83.3%
		Qno.7	35.0%	76.7%
		Qno.8	43.3%	81.7%
		Qno.9	35.0%	83.3%
		Qno.10	31.7%	60.0%
		Qno.11	40.0%	81.7%
		Qno.12	38.3%	73.3%
		Qno.13	26.7%	75.0%
		Qno.14	38.3%	66.7%
		Qno.15	30.0%	91.7%
		Qno.16	43.3%	90.0%
		Qno.17	31.7%	83.3%
		Qno.18	41.7%	96.7%
		Qno.19	36.7%	83.3%
		Qno.20	53.3%	63.3%
		Qno.21	31.7%	75.0%
		Qno.22	23.3%	86.7%
		Qno.23	35.0%	86.7%
		Qno.24	36.7%	85.0%
		Qno.25	26.7%	90.0%
		Qno.26	30.0%	85.0%
		Qno.27	36.7%	90.0%
		Qno.28	48.3%	73.3%
		Qno.29	30.0%	58.3%
		Qno.30	41.7%	65.0%

N = 60

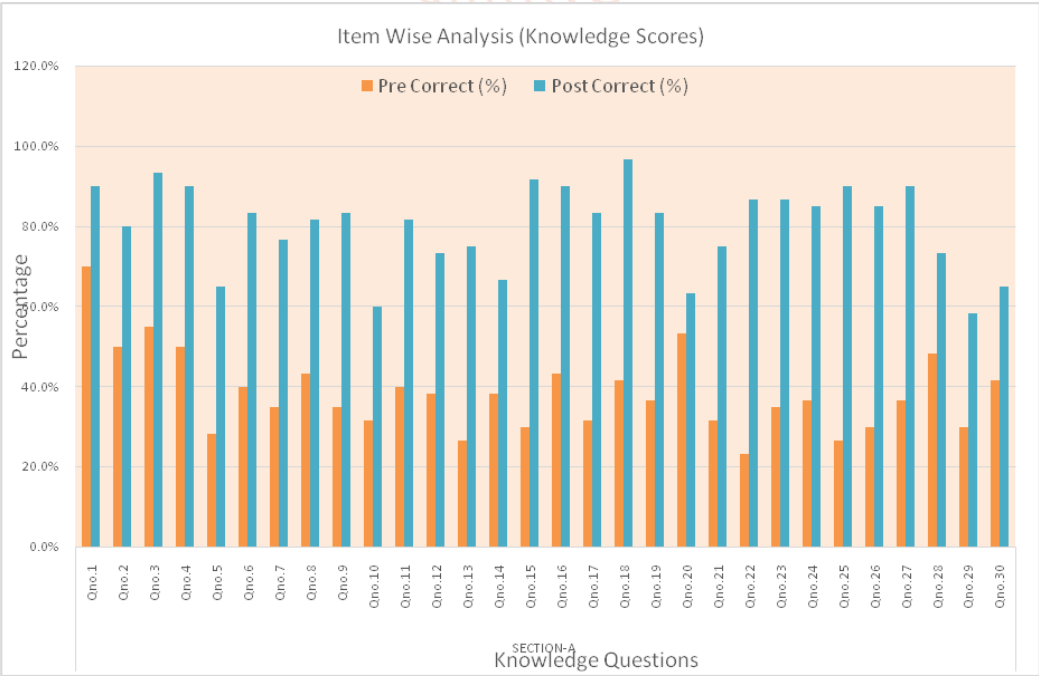


Figure no. 19: Bar diagram representing Item wise analysis representing comparison of pre-test and post-test level of knowledge representing effectiveness of structured teaching plan regarding CPR among staff nurses.

Table No: Table Showing Association of Scores and Demographic Variables

This section deals with the findings related to the association between score and selected demographic variables. The chi-square test was used to determine the association between the score levels and selected demographic variables

Demographic Variables		Levels (N=60)			Association with PRE KNOWLEDGE Score				
Variable	Opts	Adequate	Moderate	Inadequate	Chi Test	P Value	df	Table Value	Result
Age of the Participant in years	24-26		26	18	1.279	0.258	1	3.841	Not Significant
	>26		12	4					
Gender	Male		14	11	0.992	0.319	1	3.841	Not Significant
	Female		24	11					
Educational Status.	G.N.M.		10	4	1.461	0.482	2	5.991	Not Significant
	Post Basic Bsc		18	9					
	Bsc		10	9					
	Msc		0	0					
Work Experience in years	0-2		5	5	1.715	0.424	2	5.991	Not Significant
	3-5		27	12					
	> 6		6	5					
Area of Exposure	ICCU		8	5	3.840	0.279	3	7.815	Not Significant
	Emergency room		5	6					
	General ward		12	8					
	Operation Theatre		13	3					
Did you Attend any CPR Training programme	Yes,		23	11	0.629	0.428	1	3.841	Not Significant
	No		15	11					
if yes how many Days	2 days		10	5	0.861	0.650	2	5.991	Not Significant
	4 days		24	16					
	7 days		4	1					
Source of Knowledge regarding CPR	CPR training programme		11	8	1.328	0.723	3	7.815	Not Significant
	Health personnel		11	6					
	Teachers		11	7					
	Mass Media		5	1					
	Printed media		0	0					
Type of Hospital you Worked	Private hospital		20	13	4.756	0.093	2	5.991	Not Significant
	Govt hospital		11	9					
	Both		7	0					
Did you Witness any CPR procedure	Yes		33	16	1.854	0.173	1	3.841	Not Significant
	No		5	6					

Table ?? shows the association between the level of score and socio demographic variables. Based on the 3rd objectives used to Chi-square test used to associate the level of knowledge and selected demographic variables. There is no significance association between the level of scores and other demographic variables (age, gender,

educational status, work experience in years, area of exposure, if attended CPR training programme, number of days of training, source of knowledge, type of hospital they worked in, if they witnessed any CPR procedure) The calculated chi-square values were less than the table value at the 0.05 level of significance

Post Score

Table No: Table Showing Association of Scores and Demographic Variables

This section deals with the findings related to the association between score and selected demographic variables. The chi-square test was used to determine the association between the score levels and selected demographic variables

Demographic Variables		Levels (N=60)			Association with POST KNOWLEDGE Score				
Variable	Opts	Adeqate	Moderate	Inadequate	Chi Test	P Value	df	Table Value	Result
Age of the Participant in years	24-26	38	6		0.013	0.909	1	3.841	Not Significant
	>26	14	2						
Gender	Male	22	3		0.066	0.797	1	3.841	Not Significant
	Female	30	5						
Educational Status.	G.N.M.	12	2		0.226	0.893	2	5.991	Not Significant
	Post Basic Bsc	24	3						
	Bsc	16	3						
	Msc	0	0						
Work Experience in years	0-2	8	2		0.565	0.754	2	5.991	Not Significant
	3-5	34	5						
	> 6	10	1						
Area of Exposure	ICCU	11	2		0.473	0.925	3	7.815	Not Significant
	Emergency room	9	2						
	General ward	18	2						
	Operation Theatre	14	2						
Did you Attend any CPR Training programme	Yes,	30	4		0.167	0.683	1	3.841	Not Significant
	No	22	4						
if yes how many Days	2 days	12	3		1.154	0.562	2	5.991	Not Significant
	4 days	36	4						
	7 days	4	1						
Source of Knowledge regarding CPR	CPR training programme	15	4		2.016	0.569	3	7.815	Not Significant
	Health personnel	15	2						
	Teachers	17	1						
	Mass Media	5	1						
	Printed media	0	0						
Type of Hospital you Worked	Private hospital	28	5		0.292	0.864	2	5.991	Not Significant
	Govt hospital	18	2						
	Both	6	1						
Did you Witness any CPR procedure	Yes	42	7		0.210	0.647	1	3.841	Not Significant
	No	10	1						

Table shows that the association between the level of score and socio demographic variable. Based on the 3rd objectives used to Chi-square test used to associate the level of knowledge and selected demographic variables. There is no significance association between the level of scores and other demographic variables (age, gender,

educational status, work experience in years, area of exposure, if attended CPR training programme, number of days of training, source of knowledge, type of hospital they worked in, if they witnessed any CPR procedure) The calculated chi-square values were less than the table value at the 0.05 level of significance

5. DISCUSSION

This is a one group pre test and post test experimental design intended to assess the knowledge regarding CPR among the nursing staff of Sacred Heart Hospital, Jalandhar, Punjab. The results of the study were discussed according to the objectives.

- The first objective of the study was To assess the pre test and post test knowledge of staff nurses regarding CPR among the staff nurses. The pre test is conducted by using questionnaire method. The mean score of the Pre test knowledge was 38.61. The pre test findings reveal that the nursing staff has inadequate knowledge regarding CPR.

A similar type of study was conducted Rev. Latino and Enfermagem (2011) Conducted a study to assess theoretical knowledge of nurses working non hospital urgent and emergency care units. Concerning cardiac arrest and resuscitation. The study was conducted using descriptive study with quantitative approach. The Population comprised 91 nurses of the Huecuv in the metropolitan region of Campinas working on the day shift (8hours), data were collected though a Questionnaire divided in to parts. The sample was composed of 73 (80.2%) individual do not know the Basic life support(BLS) guidelines. Only 37% answered it correctly.

The Second Objectives of the Study is to assess the pre test and post test practice of staff nurses regarding CPR among the staff nurses. The pre test is conducted by using questionnaire method. The mean score of the Pre test practice was 38.61. The pre test findings reveal that the Sacred Heart Hospital nursing staff have inadequate knowledge regarding CPR.

A similar type of study was conducted by B. E. Brenner (2012) has conducted a study on Determinants of reluctance to perform CPR among 280 categorical Emergency nurses and internal nurses and respective program applicants at a 655 bed Brooklyn, New York. A direct relationship was observed between training level and reluctance to perform mouth-to-mouth respiration. This study showed that 74% of experienced staff nurses, 95.5% junior-level nurses were willing to perform mouth-to mouth respiration.

The Third Objective of the Study was to Deliver a competency Teaching Programme on Cardio Pulmonary Resuscitation Among the Nursing Staff. The structured teaching programme was given through lecture to all the staff. All the staffs were attentive to health education. It was given for 20 minutes. All of them were willing to follow the instructions given and some where more interactive in getting clarification for their doubts.

A similar studies conducted by Eisenhurger. P (1999) recommended the life supporting first aid training for the public. In the 1960's introduced external cardiopulmonary resuscitation (CPR) and basic life support without equipment that is

A –Airway, B- Breathing, C-Chest Compression training given to the medical personal and later to some but not all lay persons.

The Fourth Objective of the Study was to Re-assess the Knowledge and Practice Regarding Cardio Pulmonary Resuscitation (CPR) Guideline The score of the Post test knowledge was 80.11. The paired 't' test is used to evaluate the effectiveness of structured competency teaching programme by comparing Pre test and Post test score of knowledge. It was found that the calculated value't' is greater than that of table value. This confirms that there is significant difference between Pre test and Post test, score CPR with regard to the knowledge. Therefore alternative hypothesis is accepted and that increase Post test score was due to structured teaching programme.

The score of the Post test Practice was 8.18. The paired 't' test is used o evaluate the effectiveness of structured teaching programme by comparing Pre test and Post test score of knowledge. It was found that the calculated value't' is greater than that of table value. This confirms that there is significant difference between Pre test reluctance to perform mouth-to-mouth respiration. This study showed that 74% of experienced, three (2.7%) of the nurse refused to participate, eight (7.3%) were on vacation (or) This study showed that 74% of experienced staff nurses, 95.5% junior-level nurses were willing to perform mouth-to mouth respiration. and Post test, score CPR with regard to the knowledge. Therefore alternative hypothesis is accepted and that increase Post test score was due to structured teaching Programme.

A similar study conducted by M. M. Parnell (2012) to assess the knowledge and practice among medical students regarding cardio pulmonary resuscitation. The subjects were provided with repeated teaching sessions about cardio pulmonary resuscitation steps. After the intervention, it was found that the

knowledge and practice of staffs on cardio pulmonary resuscitation technique was improved significantly.

The Fifth Objective of the Study was to Find Out the Co-relation Between Knowledge and Practice of Final Year Nursing Students Regarding Cardio Pulmonary Resuscitation (CPR) Guideline

The Karl Pearson's Correlation Coefficient was used to find out the relationship between knowledge and practice regarding Cardio Pulmonary resuscitation among Nursing Staff. The 'r' value of pre-test is +0.97 and post test +0.90.It shows that there is a positive correlation between knowledge and practice score. This implies that the practice of staff improve when the knowledge increases about cardio pulmonary resuscitation (CPR) guideline.

A similar study conducted by Donald (2011) to assess the knowledge and practice on cardio pulmonary resuscitation module revealed that the knowledge level is correlated to the practice level on cardio pulmonary resuscitation techniques positively and moderately.

6. Summary, Conclusion, Nursing Implication, Limitation and Recommendations

Summary

A pre-experimental study to "Assess the effectiveness of a structured teaching program on knowledge and Practice regarding Cardio Pulmonary Resuscitation among nursing staff at Sacred Heart Hospital Jalandhar Punjab."

One group Pre-test and Post-test experimental design was adopted in this study. Nursing staff were considered as the samples for the study. Sample size was 60. The data was collected by questionnaire method which includes demography data, multiple choice questionnaire and observation check list to assess the knowledge and Practice regarding CPR. Descriptive and inferential statistics were used to analyze the data. The pre-test score was less in knowledge and practice aspects regarding CPR among nursing staff. Education was given about the CPR and various methods of CPR. The findings of the study revealed that there was improvement in the post test knowledge score.

The purpose of the study was to assess the effectiveness of structured teaching program on the knowledge and practice towards CPR techniques among staff nurses.

The following Objectives were set for the Study

- To assess the knowledge of final year nursing students regarding Cardiopulmonary Resuscitation (CPR) guideline.
- To assess the Practice of final year nursing students regarding Revised Cardio Pulmonary Resuscitation (CPR) guideline.
- To deliver video assisted teaching programme to final year nursing student.
- To re-assess the knowledge and practice regarding revised Cardiopulmonary Resuscitation (CPR) guideline.
- To find out the correlation between knowledge and practice of final year nursing students regarding revised Cardiopulmonary Resuscitation (CPR) guideline.

Hypothesis Set for the Study

H1 The knowledge and practice towards Cardio Pulmonary Resuscitation techniques will be significantly improved by video assisted teaching.

H2 There will be a positive correlation between the knowledge and practice scores in pre-test and post-test.

Major Findings of the Study were as Follows

It was found that the Mean percentage pre-test knowledge score was 38.61 and the Mean percentage post-test knowledge score was 80.11.Therefore, the difference between pre-test and post-test level of knowledge represented that the score gain was (41.5). Percentage wise. The Mean pre-test knowledge was 11.58 and the post-test Mean knowledge was 24.03, therefore, the difference between pre-test and post-test level of knowledge represented that score gain was 12.45.Hence it can be concluded that administration of structured teaching was effective regarding improving level of knowledge regarding CPR among staff nurses. The Paired t test comparison of pre-test and post-test level of knowledge regarding CPR. As per the Pre-Test knowledge score, it was found that the mean value was 11.58, mean percentage was 38.61. Whereas as per the Post Test knowledge score, it was found that the mean value was 24.03, Mean Percentage 80.11. The mean difference between the pre-test and post-test level of knowledge was 12.45 The calculated t value that is 27.744 was more than the tabulated t value that is 2.00, which was statistically significant at the 0.05 level of significance. Hence, the research hypothesis is rejected. It shows significant change in knowledge of staff nurses.

Conclusion

A structured competency teaching program regarding Cardio Pulmonary Resuscitation guideline was given to assess the effectiveness of teaching program among nursing staff. The post-test score of knowledge and practice were highly Significant when compared to pre-test score using the paired't' test. Thus the present study shows that the structured

competency teaching was effective in improving the knowledge and practice towards CPR techniques among nursing staff.

A positive correlation was found between the knowledge and practice score both in pre-test and post-test when tested using the karl pearson correlation coefficient. This shows that the improvement in knowledge about the CPR guideline helps in developing favourable practice towards the CPR techniques among nursing staff. Hence the formulated hypothesis was accepted.

Based on the study findings. It's concluded that the level of knowledge regarding CPR guideline among nursing staffs was poor. This clearly indicates the need for appropriate education intervention for enhancing nursing Knowledge about CPR guideline.

Nursing Implications

Some of the implications from the present study in various areas of nursing are as follows.

Nursing Practice

- The nurse should be equipped with up to date knowledge of CPR, so that they are able to impart appropriate knowledge to the students.
- The present study would help the nurses, acquire in depth knowledge on CPR.
- Nurses can be provided in service education to update their knowledge regarding cardio pulmonary resuscitation.

Nursing Education

- The findings of the study indicate that all the arts college students should be made aware of the need of observing the teaching the CPR.
- Health can be established through mass media like posters, pamphlets, charts, samples, demonstrations and videos etc.,
- Student nurse and teaching faculty can be provided with in-service education to update their knowledge regarding CPR.
- Efforts should be made to improve and expand nursing curriculum to provide more content concerning awareness of CPR.

Nursing Administration

- Periodic seminars and symposium can be arranged regarding CPR.
- Nursing administration should take initiative to conduct the period health education programme to improve the awareness of CPR.

Nursing Research

- Adequate allocution of funds, nursing personnel to conducting the research.

Limitations

- The limited sample size places limitation on the generalization of the study findings.
- The researcher could not use randomized sampling technique in this study.
- This study assessed the student knowledge and practice and attitude of the Staff was not assessed.

Recommendations

- A study can be conducted with a larger sample size to confirm the results of the study.
- The comparative study can be conducted with in nursing college students.
- A similar study can be conducted by using experimental and control group.
- A study can be conducted among the other college students.
- A study can be conducted among the arts college students.
- Study can be conducted using random sampling technique.
- Study can be conducted with different educational level of nursing students.
- Study can be conducted with educational intervention aimed at improving the knowledge of nurses.

REFERENCE

Books

[1] Ajay Singh (2002), "First Aid and Emergency Care" (8th Edition), Indore

[2] Arun kumar Paul (2005), "Step by step Critical Care" (1st Edition) New Delhi: Jaypee Medical Publishers

[3] Barbara cleaver (2006), "Authorized first aid manual of St. Johns ambulance association" (8th Edition), London: Cooling Brown publishers

[4] Black, J.M and Jacobs, EM (2005), "Medical Surgical Nursing Clinical Management of Continuity of Care", (5th Edition) W.B.Saunders Company, Philadelphia

[5] Clayton E Jones (2002), "First aid and CPR" (3rd Edition) Boston: Jones and Barthel publishers.

[6] Davidson (2002), "Principles and Practice of Medicine" (19th Edition), Churchill Livingstone publishers, New York

[7] Dugas (1983), "Introduction to Patient Cares" (4th Edition) W.B. Sounders company, Philadelphia.

[8] Gupta S.P (2004), "Statistical Method", (32nd Edition), Sultan Chant and son's Education publishers, New Delhi.

[9] Holloway N.M (1999), "Medical Surgical Care Planning" 3rd Edition, Spring House Publishers New Delhi.

[10] Ignastsvesus Donna V and Work man Linda (2004), "Text Book of Medical Surgical Nursing", (4th Edition), WB Sawnders company Philadelphia.

[11] Gupta S.P.(2004), "Statistical Method",(32nd edition), sultan chant and son's Education publishers, New Delhi.

[12] Holloway N.M (1999), "Medical Surgical Care Planning", 3rd edition Spring House publishers, New Delhi

[13] Ignastsvesus Donna. V (2004), "Text Book of Medical Surgical Nursing", (4th edition), WB Saunders Company, Philadelphia

[14] Kusum Samant (2000), "First Aid Manual of Accident and Emergency", (1st edition), New Delhi: Vora medical publishers

[15] Mike Walsh, (1985), "A New Approach to Accident and Emergency Nursing", (1st edition), Red Wood Burn Ltd, London

[16] Nettina. M. Sandra (2001), "The Lippincott Manual of Nursing Practice", (7th Edition), international student Edition, Lippincott company.

[17] Norman. G. Kirby and Stephen, J. Mather (2006), "Hand Book of First Aid", (4th Edition), London.

[18] Pillai, R.S.N and Bhagavathi (1993), "Statistics Theory and Practice", (2nd Edition), S chant company Ltd, New Delhi.

[19] Polit, D.F and Hungler, BP (1999), "Nursing Research Principles and Methods", (6th Edition), Lippincott, Philadelphia.

[20] Potter, Patricia and Perry Anne, (2005), "Basic Nursing Theory and Practice", (4th Edition), Mosby Publisher, USA

[21] Praveen Aggarval, Ranga Rao, (2002), "First aid in Emergency", (1st EditionNew Delhi: CBS Publishers.

[22] Selvarajan, R. (2005), "Basic Life Support", (1st Edition) Coimbatore: Kovai Publishers.

[23] Yalayya Swamy, N.N (1998), "First Aid and Emergency Nursing", (2nd Edition), Gahanna Book Publishers, Bangalore

Journals

[1] Atherley, G.R. Hale, A.R and McKenna, S.P (1973), "The Prevention of Accidents at Work", The role of First Aid Training. Royal Society of Health Journal, 93 (4): 192-194

[2] Bhattacharya, A.K and Saha S.K (2007), "Epilepsy Awareness Among Parents of School Children", Journal of India Medical Association, 150 (5): 243-06, 250

[3] Boyal, J.J and Agazzi. G (2007), "Venomous Snake Bite Management",

Journals

[1] Atherley, G.R. Hale, A.R and McKenna, S.P (1973), "The Prevention of Accidents at Work", The role of First Aid Training. Royal Society of Health Journal, 93 (4): 192-194

[2] Bhattacharya, A.K and Saha S.K (2007), "Epilepsy Awareness Among Parents of School Children", Journal of India Medical Association, 150 (5): 243-06, 250

[3] Boyal, J.J and Agazzi. G (2007), "Venomous Snake Bite Management", Wilderness Environmental Medicine, 18 (3): 190-202

[4] Carter, Y.H Morgan, P.S, and Lancashire, R.J (1995), "General Practitioners Attitudes to Child Injury Prevention in the UK: A National Postal Questionnaire", (see comment), Injury Prevention 1 (3): 164-168

[5] De Mario, V.J and Cuells, G.A (2001), "Pre Hospital Advanced Life Support" Canadian Journal of Emergency Medicine 37 (6): 612-8

[6] Dick W.F and Bram ink A.M (1999), "Cardio Pulmonary Resuscitation", Journal of Anesthesia, 48 (5): 290-300

[7] Selvarajan, R (2005), "Basic Life Support", (1st Edition), Coimbatore, Kovai Publisher.

[8] Praveen Aggarval, Ranga Rao, (2002), "First Aid in Emergency", (1st Edition), New Delhi: C.B.D Publishers.

[9] Potter, Patricia and Perry Anne, (2005), "Basic Nursing Theory and Practice", (4th Edition), Mosby Publisher, USA

[10] Polit, D.F and Hungler, BP (1999), "Nursing Research Principles and Methods", (6th Edition), Lippincott, Philadelphia.s

[11] Norman. G. Kirby and Stephen, J. Mather (2006), "Hand Book of First Aid", (4th Edition), London.