

**DISSERTATION ON
A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO
MODULE TEACHING PROGRAMME ON KNOWLEDGE
REGARDING CARDIO PULMONARY RESUSCITATION
AMONG UNDER GRADUATE STUDENTS IN SELECTED
COLLEGE,CHENNAI**

**M.SC (NURSING) DEGREE EXAMINATION
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**COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE, CHENNAI – 03.**



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In partial fulfillment of requirements for the degree of award of
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CERTIFICATE

This is to certify that this dissertation titled **“A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO MODULE TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIO PULMONARY RESUSCITATION AMONG UNDER GRADUATE STUDENTS IN SELECTED COLLEGE, CHENNAI”** is a bonafide work done by A.Thadeu james, II year M.Sc Nursing student, College of Nursing, Madras Medical College, Chennai. Submitted to the Tamil Nadu DR.M.G.R. Medical University, Chennai in a partial fulfillment of the University rules and regulations towards the award of degree of Master of Science in Nursing, Branch-I Medical Surgical Nursing, under our guidance and supervision during the academic period from 2015 – 2017.

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God delight in concealing things scientist delight in discovering things for bestowing his blessings upon me leading and guiding me throughout this period of Research.

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ABSTRACT

“ FOCUS ON THE ABILITY AND NOT ON THE DISABILITY”

TITLE

TO ASSESS THE EFFECTIVENESS OF VIDEO MODULE TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIO PULMONARY RESUSCITATION AMONG UNDER GRADUATE STUDENTS IN SELECTED COLLEGES, CHENNAI

Need for the study

Heart disease is the world's largest killer, claiming 17.5 million lives every year. About every 29 seconds, an Indian dies of heart problem. As many as 20,000 new heart patients develop everyday in India, six core Indians suffer from heart disease and 30 percent more are at high risk. The risk of sudden cardiac death from coronary artery disease in adults is estimated to be 1 per 1,000 adults 35 years of age and older per year. About 75 percent to 80 percent of all out-of-hospital cardiac arrests happen at home. Hence, giving skill training to the graduate students to perform CPR can make the difference between life and death for a victim.

Objectives

To assess the exiting level of knowledge regarding cardio pulmonary resuscitation among under graduate students in selected colleges.

To find out the relationship between pretest and posttest knowledge score regarding CPR among under graduate students.

To find out the association between knowledge regarding cadrdio pulmonary resuscitation among under graduate students with selected socio demographic variables.

Keywords

Video module teaching programme. Effectiveness, knowledge ,cardio pulmonary resuscitation

hypotheses

On the basis of the objectives the following hypotheses have been formulated:

H1: There will be a significant difference between pretest and posttest knowledge score regarding cardio pulmonary resuscitation.

H2: There will be a significant association between the knowledge with selected demographic variables of the under graduate students (such as age, sex, religion, previous information regarding cardio pulmonary resuscitation)

CONCEPTUAL FRAME WORK

Conceptual framework for the study was based on the open system theory of J.W.Kenny's. Research design used for this study was one group pretest and posttest design.

Findings

Major findings of the study were regarding the effectiveness of video module teaching on the level of Knowledge. The obtained' value is 20.66 .Hence the null hypothesis was rejected.

There was significant association was found between knowledge scores of under graduate students regarding Cardiopulmonary Resuscitation with their demographic variables such as Source of information ($P < 0.05$). No

significant association was found between knowledge scores of under graduate students regarding Cardiopulmonary Resuscitation with their demographic variables such as age,sex,' previous knowledge, group studied in XII($P>0.05$). The stated hypothesis was accepted.

Based on the findings, the implication and recommendations were drawn.

RESEARCH METHODOLOGY

Research approach	:	Quantitative approach
Duration of the study	:	4 weeks(from 21\11\2016 to 18\12\2016)
Study setting	:	Sir PT Thiyagaraja Arts and Science College, Chennai.
Study Design	:	Pre Experimental One group pre-test post test design
Study population	:	Under Graduate Students
Sample size	:	60 Samples
Sample technique	:	Purposive sampling
Tool	:	Structured questionnaire
Intervention	:	Video module teaching program

SELECTED VARIABLES

Independent variable	:	Video module Teaching Programme.
Dependent variable	:	Knowledge on cardio pulmonary Resuscitation.

Demographic variable : Age, sex, educational status, previous information regarding cardio pulmonary resuscitation, Source of information.

Data Collection Procedure:

After getting approval from the ethical committee, Madras Medical College, Chennai, formal permission was obtained from the Principal Sir PT Thiyaga Raja Arts and Science College HOD concerned department. The data collection was done for the period of 4 weeks. 60 Under Graduate Students were selected by purposive sampling technique. Pre-assessment was done in that using knowledge assessment tool. Video module teaching programme was given to the under Graduate students and post assessment was conducted using the same tool, after 7 days.

Data Analysis:

The data were analyzed using descriptive statistics like mean, standard deviation, percentage and frequency. Inferential statistics like chi- square test paired and unpaired 't' test.

Study Result:

Over all pretest knowledge is 41.2% and after structured teaching programme, overall posttest knowledge is 82.5%. Degree students gaining knowledge score is 41.3%.

Hence, video module teaching is effective in improving knowledge of cardio pulmonary resuscitation and it was statistically significant ($p=0.001$) with the confidence interval of 95%.

Discussion

Knowledge regarding cardio pulmonary resuscitation after video module teaching programme shows a significant ($p=0.001$) result when compared to the pretest knowledge and hence hypothesis was proved. This shows the effectiveness of video module teaching programme is improving the knowledge for under graduate students.

Conclusion

The study was concluded that video module teaching programme on knowledge regarding cardio pulmonary resuscitation is highly effective. Since it is easily understandable and effective programme, which improves the knowledge of under graduate students.

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7.	Informed consent form Tamil
8.	Coding Sheet
9.	English Editing Certificate
10.	Tamil Editing Certificate

LIST OF ABBREVIATIONS

A-B-C	Airway – Breathing – Compressions
ACLS	Advanced Cardiac Life Support
AHA	American Heart Association
ALS	Advanced Life Support
APLS	Advanced Paediatric Life Support
BCLS	Basic Cardiac Life Support
BLS	Basic Life Support
C-A-B	Compressions – Airway – Breathing
CAD	Coronary Artery Disease
CPCR	Cardio Pulmonary Cerebral Resuscitation
CPR	Cardio Pulmonary Resuscitation
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
ERC	European Resuscitation Council
ILCOR	International Liaison Committee on Resuscitation
PTP	Planned Teaching Programme
VF	Ventricular Fibrillation
VT	Ventricular Tachycardia

CHAPTER- I

INTRODUCTION



CHAPTER-I

INTRODUCTION

"Intelligence Without Ambition is a Bird Without Wings"

– Solonar

The heart is the center 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 enough 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, electrical shock, drowning, choking, suffocation, trauma, drug reactions, and allergic reactions. The best chance of ensuring their survival is to give them emergency treatment known as cardiopulmonary 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 cardiopulmonary 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 3 months 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. Therefore a substantial burden of responsibility lies on the shoulders of educators who need to pass on their knowledge and skills of CPR to their trainees in a way simple enough to be remembered and recalled rapidly in a highly stressful moment. It has been shown that correctly performed bystander CPR may positively influence short and long- term survival of cardiac arrest victim.

Recommending that chest compressions be the first step for lay and professional rescuers to revive victims of sudden cardiac arrest, the association said the A-B-Cs (Airway-Breathing-Compressions) of CPR should now be changed to C- A-B (Compressions-Airway-Breathing). For more than 40 years, CPR training has emphasized the ABCs of CPR, which instructed people to open a victim’s airway by tilting their head back,

pinching the nose and breathing into the victim's mouth, and then giving chest compressions. This approach was causing significant delays in starting chest compressions, which are essential for keeping oxygen-rich blood circulating through the body. Changing the sequence from A-B-C to C-A-B for adults and children allows all rescuers to begin chest compressions right away.

People who handle emergencies such as police officers, firefighters, paramedics, doctors and nurses are all trained to do CPR. Many other teens and adults like lifeguards, teachers, child care workers, and may be even your mom or dad know how to do CPR too. Many people may think you need to get a degree to get a healthcare job, but the truth is many jobs simply require applicants to be CPR and First Aid certified. Courses to receive certification in CPR and First Aid are offered at colleges, technical schools, and Red Cross facilities across the country. This makes getting certified easy and very accessible to anyone. People can get both certifications as young as 16 years of age. This means they can start getting credible.

1.1 NEED FOR THE STUDY

CPR is a rescue procedure to be used when the heart and lungs have stopped working. There is a wide variation in the reported incidence and outcome for out of hospital cardiac arrest. These differences are due to definition and ascertainment of cardiac arrest as well as differences in treatment after its onset.

Maximum arrests were because of cardio respiratory arrests. Immediate survivors were 5 out of 6 (83.3%), out of 5 patients only 2 were alive at the end of 24 h (40%), and none of them survived to be discharged. Overall survival to hospital discharge was 3.8% (1.7-13%) of a 3,220 pooled patient group. Analysis of their functional recovery found good outcome in

86.7% (44-89%), moderate impairment in 10.2% (8.5-44%) and severe impairment in 3.1% (2-36%) of survivors from a cohort of 1679 pooled patients. Although, survival from prehospital arrest is diminished in geriatric groups, those who survive often have good functional recovery.

Heart disease is the world's largest killer, claiming 17.5 million lives every year. About every 29 seconds, an Indian dies of heart problem. As many as 20,000 new heart patients develop everyday in India, six core Indians suffer from heart disease and 30 percent more are at high risk. The risk of sudden cardiac death from coronary artery disease in adults is estimated to be 1 per 1,000 adults 35 years of age and older per year. About 75 percent to 80 percent of all out-of-hospital cardiac arrests happen at home. Hence, being trained to perform CPR can make the difference between life and death for a victim. Hence the researcher decided to assess the effectiveness of the video module teaching programme among cardio pulmonary resuscitation.

1.2 Statement of the problem

“A study to assess the effectiveness of video module teaching programme on knowledge regarding cardio pulmonary resuscitation among under graduate students in selected college, Chennai”.

1.3 Objectives

- ❖ To assess the exiting knowledge level regarding cardio pulmonary resuscitation among under graduate students in selected colleges.
- ❖ To evaluate the effectiveness of structured teaching programme on knowledge regarding cardio pulmonary resuscitation among under graduate students in selected colleges.

- ❖ To find out the association between knowledge regarding cardio pulmonary resuscitation among under graduate students with selected socio demographic variables.

1.4 Operational definition

Assess: It is the organized, systematic and continuous process of collecting data from the under graduate students regarding cardio pulmonary resuscitation.

Effectiveness: It refers to the extent to which the video module teaching programme on cardio pulmonary resuscitation has improved the knowledge of students after the implementation of the video module teaching programme as evidenced by the differences in the pretest and posttest.

Video module Teaching Programme: It refers to systematically developed Instruction designed to provide information regarding cardio pulmonary resuscitation to under graduate students.

Cardio pulmonary resuscitation: it is a technique used to restore and maintain breathing and circulation in cardiac arrest victims.

Knowledge: The sum of what is known regarding cardio pulmonary resuscitation.

Under graduate students: who are undergoing the degree (B.sc Zoology) in a selected college.chennai

1.5 Assumption

- ❖ Most of the degree student may have some knowledge regarding cardio pulmonary resuscitation.
- ❖ There will be enhancement in the knowledge of the degree students after administration of STP.

1.6 Hypothesis

H₁: There will be a significant difference between pretest and post test knowledge score regarding cardio pulmonary resuscitation.

H₂: There will be a significant association between the knowledge with selected demographic variables of the degree students (such as age, sex, religion, previous information regarding cardio pulmonary resuscitation).

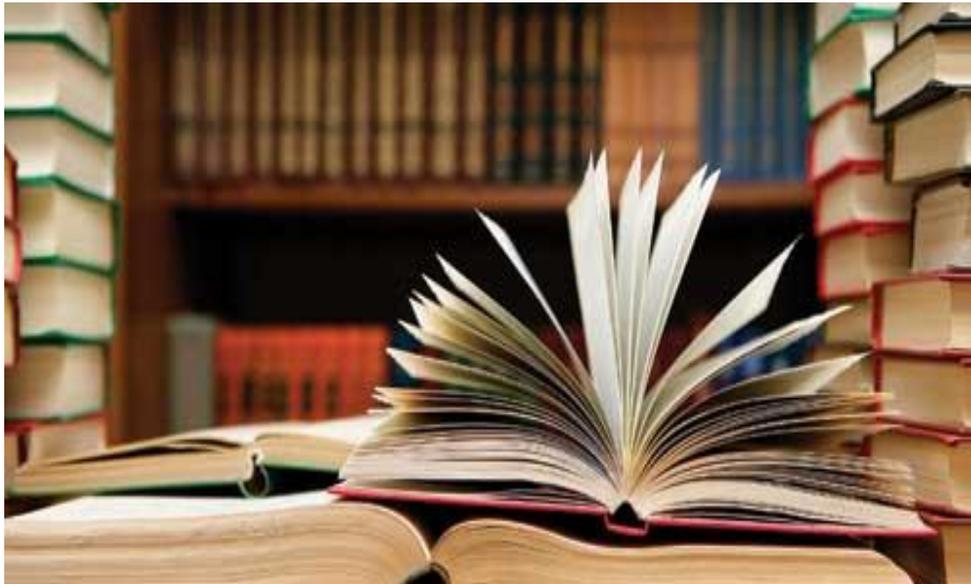
1.7 Delimitations

The study was conducted to those who were,

- ❖ Available during data collection period
- ❖ In the age group of 19-21 yrs.
- ❖ Willing to participate with study
- ❖ Able to read and write English

CHAPTER-II

REVIEW OF LITERATURE



CHAPTER-II

REVIEW OF LITERATURE

2.1 Literature related to study

Review of literature is a key step in research process. Nursing research may be considered a continuous process in which knowledge gained from earlier studies is an integral part of research in general. One of the most satisfying aspects of the literature review is the contribution it makes to the new knowledge, insight and general scholarship of the researchers. 'A literature review is a compilation of resources that provide the ground work for future study.'

Review of literature is defined as a broad, comprehensive, in depth, systematic and critical review of scholarly publications, unpublished scholarly print materials, audio visual materials and personal communications.

2.1.1 The literature reviewed has been presented under the following headings:

2.1.2 Studies related to incidence and prevalence of cardiac arrest

2.1.3 Studies related to knowledge on CPR

2.1.4-Studies related to structured teaching program in CPR

incidence and prevalence of cardiac arrest

Murthy Tvs and Bhavna Hooda, September 16 2015 conducted a prospective study related to cardio cerebral resuscitation is better than CPR. The guidelines for CPR have been in place for decades; but despite their

international scope and periodic update there has been improvement in survival rates in out-of-hospital cardiac arrests for patients who did not received early defibrillation. Instituting the new cardio cerebral resuscitation protocol for managing pre-hospital cardiac arrest

Result:

improved survival of adult patients with witnessed cardiac arrest and an initially shock able rhythm. *Murthy Tvs and Bhavna Hooda, September 16 2015*

Dr. Shankar.H (2015) The study conducted related to cardiac arrest and CPR. The study shows that the sudden cardiac arrest in the hospital setup can be anticipated at any time. Are be prepared to handle such an event around us? We are experienced in our emergency department.

Result :The patients were successfully resuscitated and went home after few days walking their own without any neurological deficits. *Dr. Shankar.H (2015)*

Benjamin. Abella S et al (2014) conducted a study on quality of cardiopulmonary resuscitation during in hospital cardiac arrest. The main objective of this study is to measure multiple parameters of in-hospital CPR quality and to determine compliance with published American Heart Association and international guidelines. The sample consisted of 67 patients who were experienced in-hospital cardiac arrest at the University Of Chicago Hospitals, Chicago.

The result of this study indicates that the importance of high-quality CPR suggests the need for rescuer feedback and monitoring of CPR quality during resuscitation effort. *Benjamin. Abella S et al (2014)*

Eisenberg MS, Becker LJ, et al. 2013. Conduct a prospective study Getting a handle on the number of sudden cardiac arrests is a bit trickier. If one looks only at death certificates the figure is 456,000 per year. I think a more realistic figure is 155,000, the number of sudden deaths in which emergency medical services are called and attempt to resuscitate the individual. This lower figure gives a more realistic picture of the number of persons who are potentially "resuscitatable" from cardiac arrest *Eisenberg MS, Becker LJ, et al. 2013.*

Singh Ranbir L and Team in Rims Hospital, Manipur.(2012) conducted cohort study of 32 children with near drowning, admitted in RIMS Hospital, Manipur during January 2007 to December 2008 revealed that near drowning accounted for 0.29% of total pediatric hospital admissions.

Result: cardiopulmonary resuscitation (CPR) at the scene of rescue and appropriate respiratory and cardiovascular support on arrival, 31 (96.9%) cases had intact survival and only 1 (3.1%) had mild neurological sequelae at the time of discharge. There was no mortality. *Singh Ranbir L and Team in Rims Hospital, Manipur.(2012)*

Vanderschmidt H, Burnap TK, Jhwaites J.K 2012 Sep; 13(9) study conducted by evaluation of a cardio pulmonary resuscitation use for secondary schools. The objective of this study was to test the feasibility of teaching secondary school students to perform cardio pulmonary resuscitation fifty five percent of the practice group in the initial test and 31 percent of the retention studies were able to perform the skills.

Result: The study suggests that it is possible to train secondary school students to perform the ABC, of CPR if they have an opportunity to practice their skill. The study also suggests that the teacher training is an important factor. *Vanderschmidt H, Burnap TK, Jhwaites J.K 2012 Sep; 13(9)*

Studies related to knowledge on CPR

Resuscitation is a technique used by professional health care staff, as well as members of the public. It is essential for all health care professionals to be able to perform basic life support, and training for staff who is commonly involved with resuscitation attempts must take place on a regular basis. If a cardiac arrest occurs in the community, the patient must be moved onto a hard surface and placed on his or her back. Quickly make the environment appropriate for performing life-saving procedures. This could mean moving chairs or tables.

Tom Sirmons, August 2, 2011, A wealth of recent research reaches the same conclusion: those who suffer cardiac arrest are far more likely to survive long-term if a bystander immediately begins proper CPR. That's especially true when emergency medical personnel are unable reach the scene within eight minutes. BUT - considering that brain damage from lack of blood flow begins as soon as four minutes after heart failure, the need for CPR administration is vital, in the truest sense of that word, no matter how good you think EMT response-time is in your area. And there's more: If you learned CPR five or more years ago, you are almost certain to apply it incorrectly. Granted, survival rates are higher even among those who receive outdated CPR, but the American Heart Association now stresses that maintaining blood flow to the organs is more important than trying to restore breathing via mouth- to-mouth resuscitation.

Karan Prakash Singh 2 May 2011 and team conducted a study to assess the knowledge and personal experience with CPR among students. This study shows that 75.9% of dentist had received information about basic CPR but only 66.0% had the current concept of performing it and only 12% had received practical training in basic CPR. 1 in 10 dentists had seen patients

suffering from cardiopulmonary arrest in their practice, but none -of them mentioned any fatality, because CPA.

Result:The level of knowledge was significantly higher among faculty dental practitioner compared with local dental practitioner. In addition a positive linear correlation was found between educational level and knowledge level. *Vanderschmidt H, Burnap TK, Jhwaites J.K 2012 Sep; 13(9)*

Malekk J, Kurzova A, Berankova M and Knor J, 2010 September 20, conducted study regarding the knowledge level of CPR in secondary school students of non-medical specialization in the Czech Republic. The aim was constant attention given to the education in CPR mainly among adolescents. Results demonstrated that in spite of the effort to increase the level of knowledge in CPR in Laymen, the actual level of knowledge is low and more frequent repetition of courses should be considered. In the future, we shall evaluate the effectiveness of new educational film. *Malekk J, Kurzova A, Berankova M and Knor J, 2010 September 20,*

Losert H et al (2009) conducted a observational study on quality of cardiopulmonary resuscitation among 95 highly trained staff nurses in an emergency department of the tertiary care hospital, Austria. The findings of this study was highly trained professionals in an emergency department can achieve appropriate chest compression rates during CPR with a low hands-off ratio. Increased attention must be paid in all situations to the avoidance of hyperventilation.

Thoren Ann-Britt et al (2009) conducted a study on Possibilities for, and obstacles to, CPR training among 401 cardiac care patients and 311 co-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.

Nursing Times, October, 2009, conducted a study In the hospital environment, remove the headboard from the bed and adjust the mattress, so it is suitable for performing chest compressions, and move the cardiac arrest trolley next to the patient's bed. These procedures should take a very short time when you work effectively as a team. The advanced life support stage continues until resuscitation efforts are terminated or the patient is transferred to intensive care. Good basic life support and defibrillation are the top priority. There is no robust data to show that drugs used in cardiac resuscitation alter long-term outcomes (Resuscitation Council UK, 2002). Performing basic life support. *Nursing Times, October, 2009*,

BMY Cheung (2008) Conducted a study regarding knowledge of CPR among the public by telephone questionnaire survey in Hongkong . Telephone interview method was used for this study. Study was conducted among 357 people; approximately 12% had received CPR training. CPR knowledge in Hongkong was poor, even among the previously trained and especially with regard to circulatory maintenance. The most common reason for not taking CPR training was lack of time. Intensified educational efforts and exploration

of new approaches to improve this first stage in the chain of survival are warranted.

Sanders AB, Kern KB, and Berg RA (2007) conducted a study by on survival and neurological outcome alter cardio pulmonary resuscitation with four different chest compressions ventilation ratios. The objective was to determine 24 hours survival and neurological outcome. The result shows that there was no statistically significant difference in 24 hours survival among 4 groups. There were significant differences in 24 hour Neurological function, as elevated by using the swine cerebral performance category scale. *Sanders AB, Kern KB, and Berg RA (2007)*

Celenza T, Gennat, Brien D, 2007 November, conducted a study on community competence in CPR. The aim of this study was to determine community application of CPR skills in an emergency and to assess the value of training programmes in raising community competence. Telephone survey was conducted, the population was chosen randomly. Sub sample performed a practical demonstration of CPR skills using manikin as the victim, performance was assessed by two observers using pre-determined criteria. *Celenza T, Gennat, Brien D, 2007 November,*

Lan H Kerridge et al (2007) 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. *Lan H Kerridge et al (2007)*

studies related to structured teaching program in cpr

Resuscitation Council (UK) Both ventilation and compressions are important for victims of cardiac arrest when the oxygen stores become depleted: about 2 - 4 min after collapse from ventricular fibrillation (VF), and immediately after collapse for victims of asphyxial arrest. Previous guidelines tried to take into account the difference in causation, and recommended that victims of identifiable asphyxia (drowning; trauma; intoxication) and children should receive 1 min of CPR before the lone rescuer left the victim to get help. But most cases of sudden cardiac arrest out of hospital occur in adults and are of cardiac origin due to VF (even though many of these will have changed to a non-shockable rhythm by the time of the first rhythm analysis). These additional recommendations, therefore, added to the complexity of the guidelines whilst applying to only a minority of victims. Many children do not receive resuscitation because potential rescuers fear causing harm. This fear is unfounded; it is far better to use the adult BLS sequence for resuscitation of a child than to do nothing. For ease of teaching and retention, laypeople.

White L, Rogers J, Bloomingdale M, Fahrenbruch C, Culley L, Subido C, Eisenberg M, Rea T, 2015 Jan 5 conducted a study A total of 100 students underwent the three hour training programme, ranging in age from 14 -19 years. Of these, 44 (44%) were female and 56 (56%) were males. 70% of students performed all CPR steps and 75% all AED steps. Students scored better in chest compression (CC) performance, particularly the parameters, achieving adequate release of CC (85%), correct CC depth (83%) and correct hand positioning (66%). 50% of students achieved the correct CC rate

according to the set standard (90-110/min). Students tended to perform CC at a faster rate as 90% of students were achieving a rate between 90-120/min. No student was performing CC under 90/min. 50% of students achieved, on average, the correct ventilation volume according to the accepted standard (500 - 800mls). While 84% of students were delivering ventilations with an open airway, 40% of students were delivering ventilations in excess of the standard. This study shows that school children have the capacity to acquire CPR/AED skills from a three hour programme in BLS. Consistent with previous studies, students also had greater confidence in their ability to perform CPR/AED skills and a greater willingness to intervene in an emergency situation after training (Vaillancourt, 2008, Donohoe et al. 2006). The results of this study show that students performed quality CC at an acceptable standard. They had greater difficulty performing adequate ventilations, with problems inflating in excess of the standard. This supports existing evidence that delivering ventilations is a difficult skill for lay people and argues that it would be reasonable to simplify CPR procedures and concentrate lay rescuers' energy on CC (Sanders and Ewy, 2005, Kellum, 2007). Chest compression-only CPR has also the added advantage of eliminating mouth-to-mouth contact and associated risk of contracting infection, which was identified as the greatest barrier to performing CPR in this study.

A study conducted by White L et.al (2007) on Dispatcher-assisted cardiopulmonary resuscitation: risks for patients not in cardiac arrest reveals that the frequency of serious injury related to dispatcher-assisted bystander CPR among non arrest patients was low. When coupled with the established benefits of bystander CPR among those with arrest, these results support an assertive program of dispatcher- assisted CPR.

Shanta Chandrasekaran, Sathish Kumar, 2010, A cross-sectional study was conducted by assessing the responses to 20 selected basic questions regarding Basic Life Support, among students of nursing colleges in Tamilnadu, India to study the awareness of Basic Life Support (BLS), in nursing colleges. After excluding the incomplete response forms the data was analysed on 1,054 responders. The results were analysed using an answer key prepared with the use of the Advanced Cardiac

Life Support manual. Out of 1,054 responders no one among them had complete knowledge on BLS. Only 2 out of (0.19%) had secured 80 - 89% marks, 10 out of (0.95%) had secured 70 - 79% marks, 40 of (4.08%) had secured 60 - 69% marks and 105 (9.96%) had secured 50 - 59% marks. A majority of them that is 894 (84.82%) had secured less than 50% marks. Awareness of BLS among students in nursing colleges is very poor and teaching is required.

Karthik Murugiah And Team In 2006 conducted a study about the widespread knowledge of CPR is a critical to improving survival in sudden cardiac death. YouTube and internet video site which is growing source health care information for source, content and quality of information about CPR. Of 800 videos screened 52 met inclusion criteria with mean duration of 233 and view count 37 per day. 48 % videos were by individuals with unspecified credentials. Scene safety assessment in 65% videos. Only 69% videos demonstrated the correct compression- ventilation ratio while 63.5%, 34.6%, and 40.4% gave information on location rate and depth of chest compression respectively. 19% videos incorrectly recommended checking pulse. Videos judge the best source for CPR information were not the once most viewed. Information on this platform is unregulated; hence content by trusted by sources should be posted to provide accurate and easily accessible

information about CPR. You Tube may have a potential role in video assisted learning of CPR and as a source of information for CPR in emergency.

Anil Kumar Parashar, February 2006 A study was conducted regarding the effectiveness of planned teaching programme (PTP) on knowledge and practice of Basic Life Support among high school students in Bangalore. The research design used for the study was quasi-experimental design. The sample consisted of 40 rural high school students. The study was conducted in rural high school of Mangalore and the subjects were selected through simple random sampling technique. The study showed that majority (87.5%) of the students had inadequate knowledge and (100%) had poor practice. The planned teaching programme facilitated them to update their knowledge and practice related to Basic Life Support. Hence, the planned teaching programme is an effective teaching strategy to improve knowledge and practice of sample on BLS.

2.2 Conceptual framework

conceptual framework provides closed description of variables suggesting ways or method to conduct the study and guiding the interpretation, evaluation and integration of study finding stated that (Wood and Harber, 1994).

Conceptual Framework for this study was based on open system theory of J.W.Kenny's (1998). In this main focus is on the part and their interrelationship which makeup and describe the whole. He defined system 'as a complex interaction which means the system consists of two or more converted elements which form an organized whole.

In the present study, degree students considered as a system with the elements with variable factors related knowledge regarding CPR, which interacted with the students in determining their knowledge.

Input

According to the theorist input refers to energy, matter and information. all system must receive varying type and amounts of information from the environment. in this system the input was to maintain its homeostasis. in this study the information related cpr.

Elements which has,

- ❖ Closed ended questionnaire
- ❖ STP on CPR

Throughout

According to Kenny through put refers to the process by which the system process inputs and release on output.

In the present study the throughput considering out processing of inputs which are pre and post test regarding the knowledge of CPR

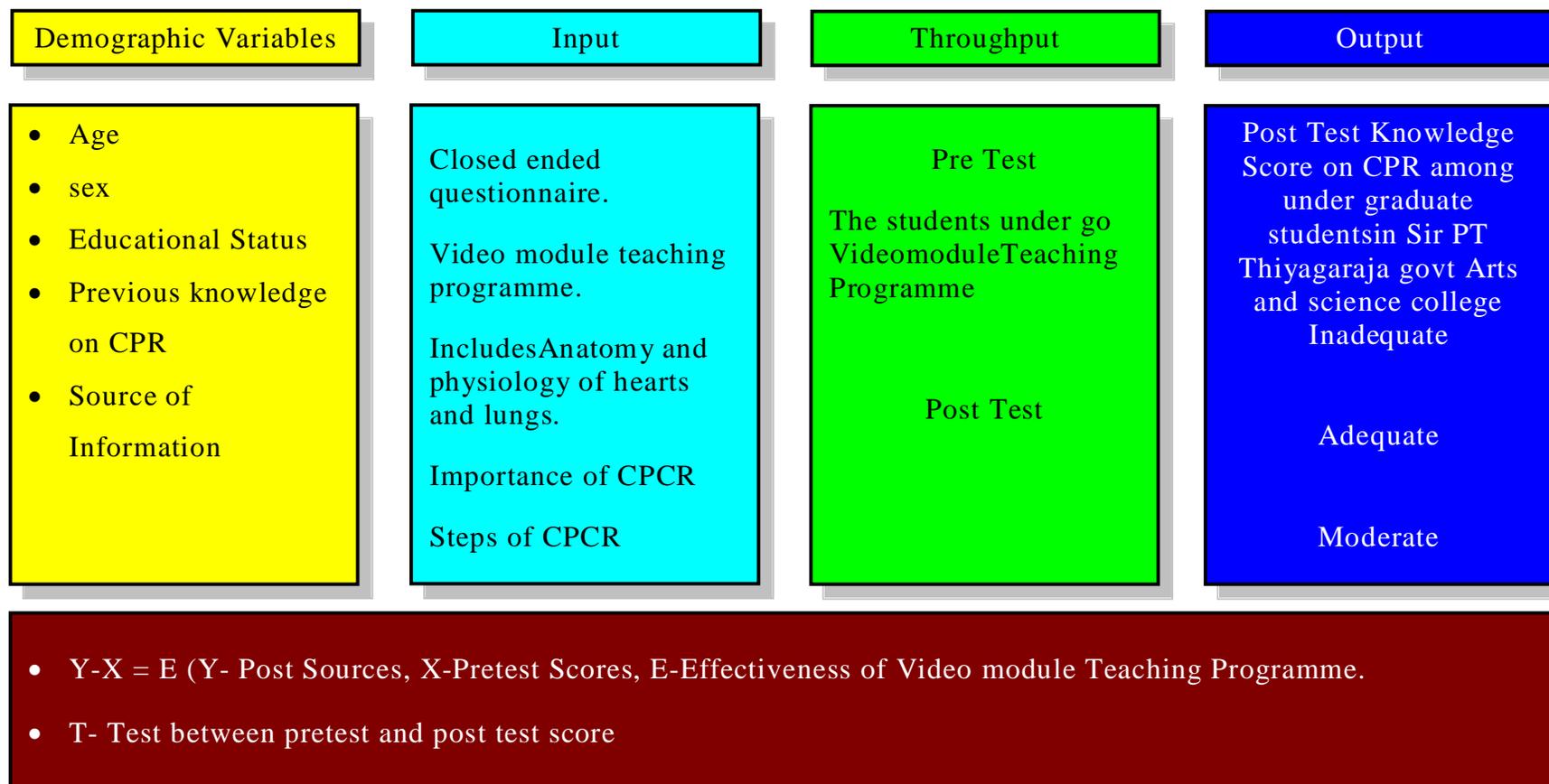
Output and feedback

According to Kenny feedback refers to output which is returned to the system that allows it to monitor itself overtime in an attempt to more clearly to a steady state known as equilibrium or homeostasis. Feedback may be +ve,-ve or neutral.

In this study the output is the post test knowledge score of students which are divided into 5 groups such as very poor, poor, average, good and excellent.

Feedback is difference in mean percentage of pre and post test knowledge score of student regarding CPR.

Dr.J.W.Kenny's Open System Model



CHAPTER-III

RESEARCH

METHODOLOGY



CHAPTER-III

RESEARCH METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure for gathering valid and valuable data for the purpose of investigation. The methodology of this study includes the research approach, research design, setting of the study, population sample and sampling technique, development of tool, data collection procedure and plan for data analysis.

3.1 Research approach

Research design refers to the researchers overall plan for obtaining answer to the research questions and it spells out the strategies that the research depots to develop information that is adequate, accurate objective and interpretable. (Polit and Hungler, 2002)

The design selected for the present study was Pre experimental design and approach in which one group pretest and posttest design ..

3.2 Duration of the study

The study was conducted for the period of 4 weeks (From 21/11/2016 to 18/12/2016)

3.3 Setting of the study

The study was conducted in Sir P.T.Thiyagaraja Govt Arts and Science College, Tondaiarpet, Chennai.It is nearly 3km away from the Broadway bus stand.

3.4 Study design

O1 x O2

The symbols used are

Knowledge of CPR before implementing structured teaching programme.

X - Structured teaching programme regarding CPR

Knowledge of CPR after implementing structured teaching programme

E - Effectiveness of structured teaching programme

Table 3.4

GROUP	PRETEST	INTERVENTION	POSTTEST
Experimentalgroup	O ₁	X	O ₂

3.5 Study Population

Population refers to the aggregate or totally of those conforming to a set of specification. (polit and Beck,2006)

The population of this study was under graduate students.

3.6 Sample Size

Sampling refers to the process of selecting the portion of population to represent the entire population. (Polit and Hungler, 2002)

The students studying in SirPTThiyagarajaGovt Arts and Science College, Tondaiarpeta, Chennai

Sample size

Sample is subset of the population selected for a particular study and the number of sample are the subjects.(Burns N,2001)

The sample size was 60 students in a selected college, chennai.

3.7 Sampling criterion

3.7.1 Inclusion criteria

This study was conducted for the student who were,

- ❖ Under graduate students
- ❖ Studying III year B.Sc(zoology) in SirPTThiyagarajaGovt Arts and Science College, Tondaiarpeta,
- ❖ Age between (19-21)
- ❖ Able to read English and /or tamil

3.7.2 Exclusion criteria

- ❖ Not willing to participate
- ❖ Not available during the time of data collections

3.8 Sampling technique

Sampling technique refers to the process of selecting a portion of the population to represent the entire population.(Polit and Beck,2007)

Purposive sampling technique is a judgment sampling that involves the conscious selection from the research of certain subjects of element to include the study.(Denise F Polit,2004)

Purposive sampling technique was used to select the subjects for the study.

3.9 Research Variables

Variables are concepts at different levels of abstraction that are concisely defined to promote their measurements and manipulation within a study (polit&Beck 2008)^{[31][32]}.

Independent variable: Video module teaching programme

Dependent variables: Knowledge of the students among
cardio pulmonary resuscitation

Influencing variable: Age, sex, , education, occupation, type of family,
previous knowledge, information through.

3.10 Development and Description of the Tool

The following tools was used for the present study-

Video module teaching programme regarding CPR among under graduate students.

Questionnaire to assess the knowledge regarding CPR among under graduate students.

The steps used for preparing tool

Review of related literature:

The literature (nursing book, medical and surgical book, journals, reports and articles) was referred to prepare the tools and guide also consulted.

3.10.1 PREPARATION OF TOOL

A) Lesson plan

It consists of preface, physiology of heart, indications of CPR, importance of CPR, steps in CPR and complications of CPR.

B) Questionnaire

It was prepared to assess the knowledge of degree students regarding CPR.

Consultation with guide and research committee

The blue prints were given to the experts in research committee .The research guide and committee members were consulted before finalizing the tool.

Preparation of the final draft

Final draft of the tool was prepared after consulting with the expert and research committee.

3.10.2 DESCRIPTION OF THE TOOL

Construction of Questionnaire

The questionnaire consists of 2 parts.

Part A:

It consists of demographic characteristics such as age, sex, , Type of family, Residential area, Religion, previous knowledge of CPR.

Part B

It consists of knowledge items regarding CPR. This section consists of 30 items. Each item has four options with one most correct answer. For each item, the correct answer carries the score of 'one' and wrong answer carries

the score of 'Zero'. There for 30 items there was 30 maximum obtainable score.

Scoring Procedure

To assess the level of knowledge of students, the score was grouped into item like very poor, poor, average, good and very good based on knowledge scores.

Scoring procedure

Table: Scoring the level of knowledge

Level of knowledge	Percentage of scores	Actual scores
Very poor	<20%	0-9
Poor	21% to 40%	10-18
Average	41% to 60%	19-27
Good	61% to 80%	28-36
Very Good	81% to 100%	37-45

3.11 CONTENT VALIDITY

After construction of questionnaire for the study on “ A Study to assess the effectiveness of video module teaching programme on knowledge regarding Cardio Pulmonary Resuscitation among under graduate students in selected college chennai”, it was tested for its validity and reliability.

Validity of the tool was assessed using Content validity. It was determined by experts from Nursing and Medical. They suggested certain modifications in tool. After the modifications they agreed this tool for evaluate the effectiveness of video module teaching programme on

knowledge regarding Cardio Pulmonary Resuscitation among under graduate students in selected college at Chennai.

3.12. RELIABILITY OF THE RESEARCH TOOL

After pilot study, reliability of the tool was assessed by using Test-retest reliability method and its correlation coefficient r -value was 0.84(knowledge). This correlation coefficient is very high and it is good tool for evaluate the effectiveness of video module teaching programme on knowledge regarding Cardio Pulmonary Resuscitation among under graduate students in selected college chennai

3.13 PILOT STUDY

A pilot study was conducted in the same under graduate students in selected college at Chennai to test the feasibility of the study. Formal permission was obtained from the principal Sir PT Thiyagaraja govt arts and science college chennai The pilot study was conducted for a period of one day at Sir PT Thiyagaraja govt arts and science college chennai Based on the inclusion criteria, under graduate students were selected by Purposive sampling techniques. List of under graduate students were selected from Sir PT Thiyagaraja govt arts and science college chennai itself then ten samples were chosen from it. After a self introduction, the investigator explained the nature of the study to the samples. A pre-test was given to the pre experimental group. After a pre-test, in pre experimental group, module teaching teaching programme was provided to 10 members through LCD (PowerPoint) and CPR demonstration was demonstrated by the investigator regarding all the aspects of CPR procedure, and how to give CPR to the clients.

On the 7thday, post test was conducted to the pre experimental group. The Pilot study confirmed the adequacy of the tool and technique. Hence no modification was required to the tool.

3.14 ETHICAL CONSIDERATION

Prior to the data collection written permission was obtained from the Principal, College of Nursing, Madras Medical College, Chennai – 03.

3.15 DATA COLLECTION PROCEDURE

3.15.1 Period of data collection

Period of data collection is one month. During this period, the investigator collected both pre test, teaching with video module teaching programme and then post test.

3.15.2 Stages of data collection

The data was collected in following three steps:

a) Pre-test

Pretest was conducted among under graduate students who are studying in Sir PT Thiyagaraja govt arts and science college by giving questionnaire to assess the knowledge on CPR, before implementation of video module Teaching.

b) Implementation of video assisted structure teaching

Immediately after pretest, Video assisted structure teaching was given to the same undergraduat students in selected college CPR.

c) Post test

Evaluation was done by conducting post test after 7 days of implementation of Video module teaching . Post test was conducted by using the questionnaire used for the pretest.

3.16 INTERVENTION PROTOCOL

Table 3.16 intervention protocol

	Experimental group
Place	Sir PT Thiyaga raja govt arts and science college chennai
Administrator	Investigator
Duration	30 minutes
Time	Morning
Frequency	One time
Intervention	Video module teaching programme
Recipient	Under graduate students Sir PT Thiyaga raja govt arts and science college chennai

3.17 Data entry and Data Analysis

The collected data was arranged in master sheet (coding sheet) spss version has been applied

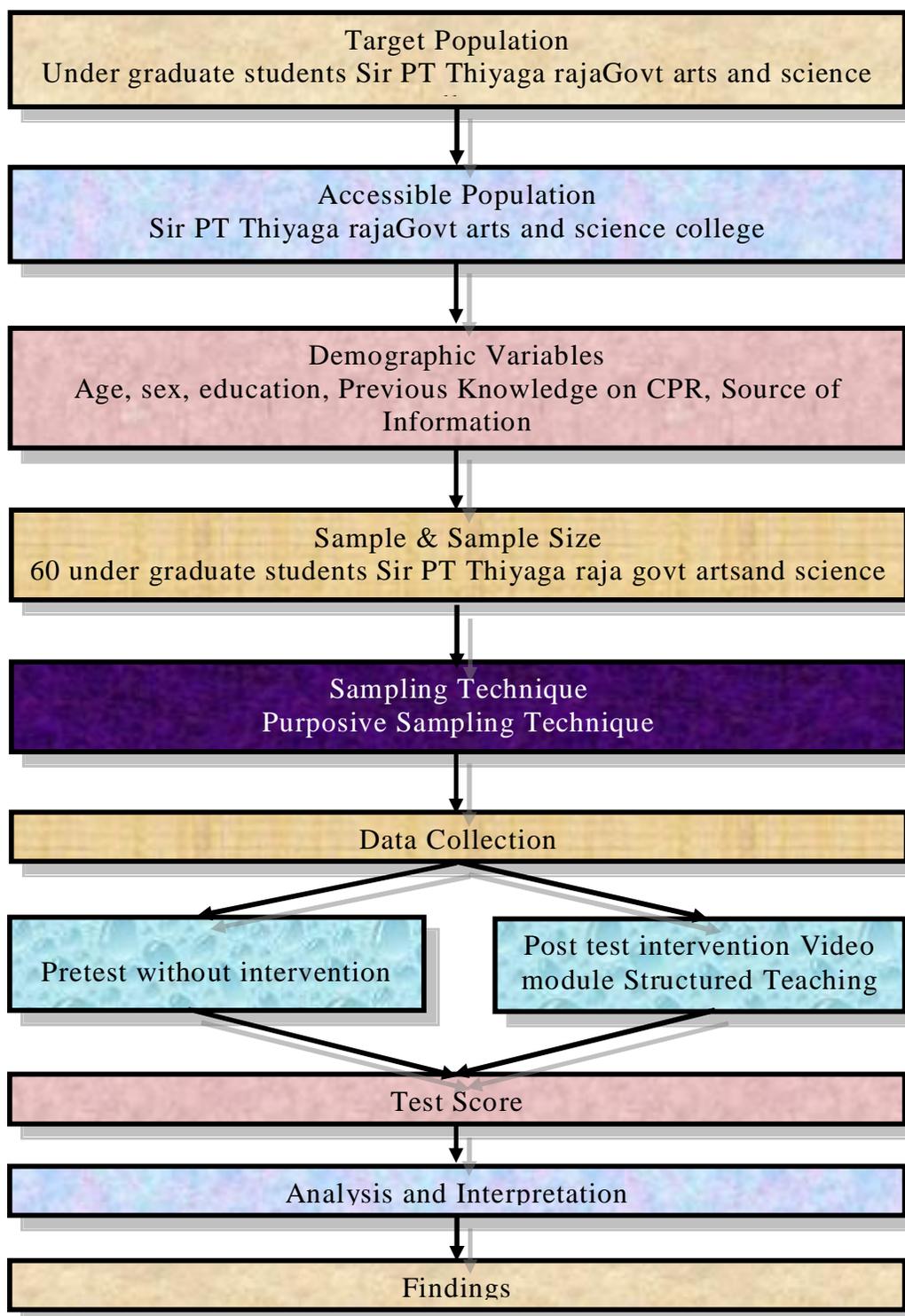
Data Analysis

The collected data was analyzed by using descriptive statistics such as percentage, mean, & Standard Deviation. The collected data was presented in the form of tables and figures.

Protection of Human Subject

The proposed study was conducted after the approval of dissertation committee of the college of nursing permission was obtained from the principal of the college of nursing. Due consent was obtained from the head of the medical surgical nursing department for the pilot study and main study oral consent of each subject was obtained before starting the data collection and assurance was given to them that the anonymity of each individual would be maintained.

3.18 SCHEMATIC PRESENTATION OF THE STUDY



CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION



CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

“All great truths are simple in final analysis and easily understood: if they are not, they are not great truths”

– Napoleon Hill

The term “analyses” refers to the computation of certain measures along with searching for patterns of relationship that exists among data groups. (Kothari .C.R., 2004).

During analyses, the emphasis is on identifying themes and patterns in the data. Interpretation may focus on the usefulness of the findings for the clinical practice or may toward theorizing (Burns Nancy and Grove .S.K., 2007).

This chapter deals with analyses and interpretation of the information collected from 60 degree students who were studied in Sir PT Thiagaraja Govt Arts and Science College, Chennai. The present study was designed to assess the effectiveness of structured teaching programme on Cardio Pulmonary Resuscitation among degree students. Collected data was tabulated, analysed and interpreted using descriptive and inferential statistics.

OBJECTIVES OF THE STUDY

To assess the knowledge level regarding cardio pulmonary resuscitation among degree students in a selected college. Chennai

To evaluate the effectiveness of structured teaching programme on knowledge regarding cardio pulmonary resuscitation among degree students in a selected college.

To find out the association between knowledge regarding cardio pulmonary resuscitation among degree students with their selected socio demographic variables.

4.1 ORGANIZATION OF FINDINGS:

Section I: - Descriptive analysis of demographic variables.

Section II: - Assessment of knowledge of degree students regarding CPR prior to implementation of STP.

Section III:- Comparison of pre-test and post-test knowledge scores of the degree students regarding CPR. Area wise comparison of mean, standard deviation and mean percentage of pre and post-test knowledge scores of degree students regarding CPR.

Section IV:- Association between the knowledge and their selected demographic variables

HYPOTHESIS

H₁: There will be a significant difference between pre-test and post-test knowledge score regarding cardio pulmonary resuscitation.

H₂: There will be a significant association between the knowledge with selected demographic variables of the degree students such as age, sex, religion, previous information regarding cardio pulmonary resuscitation.

SECTION I: - DESCRIPTIVE ANALYSIS OF DEMOGRAPHIC VARIABLES

This section deals with the percentage distributions of the selected demographic variables of the degree students.

Table 1: Demographic Profile

(N: 60)

Demographic variables		frequency	%
Age	< 19 years	0	0.0%
	19 - 21 years	55	91.7%
	> 21 years	5	8.3%
Sex	Male	33	55.0%
	Female	27	45.0%
Year of studying	1st year	0	0.0%
	2nd year	0	0.0%
	3rd year	60	100.0%
Previous knowledge about CPR	Yes	50	83.3%
	No	10	16.7%
Religion	Hindu	52	86.7%
	Christian	5	8.3%
	Muslim	3	5.0%

The above table depicts the demographic information of cardio pulmonary resuscitation degree students those who are participated in the study. The demographic data of the samples is presented in relation to their personal characteristics such as age, sex, education religion and previous knowledge about CPR.

OBJECTIVE-1:TO ASSESS THE KNOWLEDGE LEVEL REGARDING CARDIO PULMONARY RESUSCITATION AMONG DEGREE STUDENTS IN SELECTED COLLEGES

Table-2: Student Pretest Knowledge Score

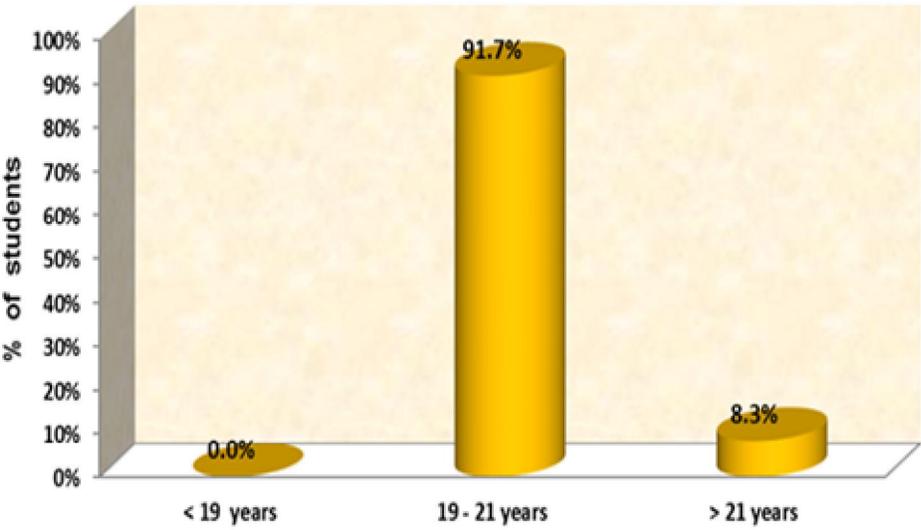
Domains	Maximum score	Mean	SD	%
Anatomy and physiology	3	1.72	0.78	57.3%
Meaning of CPR	4	1.48	0.60	37.0%
Before procedure	6	2.73	1.06	45.5%
During procedure	10	5.15	1.34	51.5%
After procedure	7	3.00	1.22	42.9%
Total	30	14.08	2.42	46.9%

The above tables reveals each domain wise students pre-test percentage of knowledge score regarding CPR before Video Module Teaching. They are having more score in **Anatomy and physiology** (57.3%) and minimum score in **Meaning of CPR** (37.0%). Overall they are having 46.9% of score.

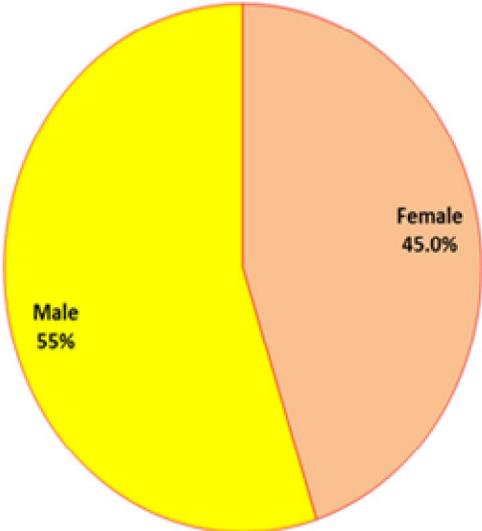
Table-3: Pretest Level of Knowledge Score

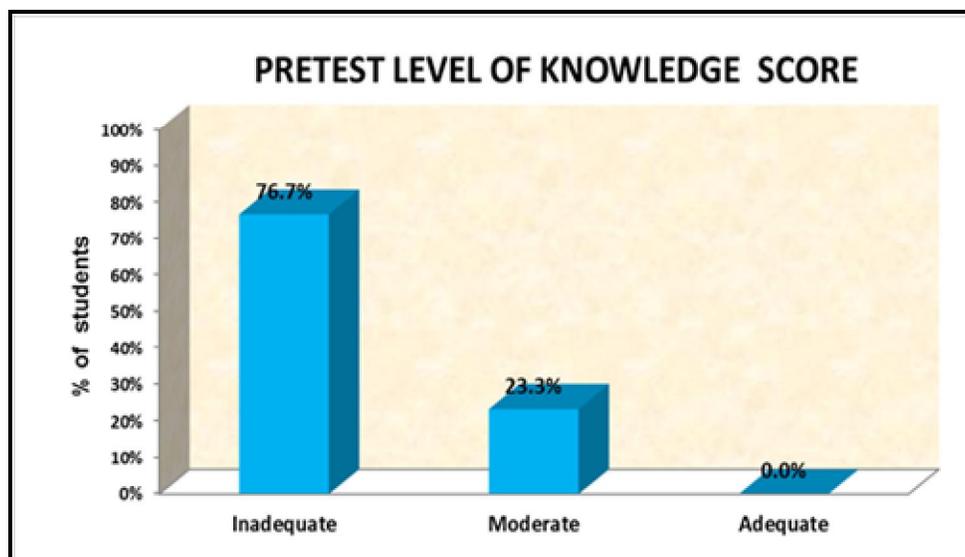
Level of knowledge	No. of students	%
Inadequate	46	76.7%
Moderate	14	23.3%
Adequate	0	0.0%
Total	60	100%

AGE DISTRIBUTION



GENDER DISTRIBUTION





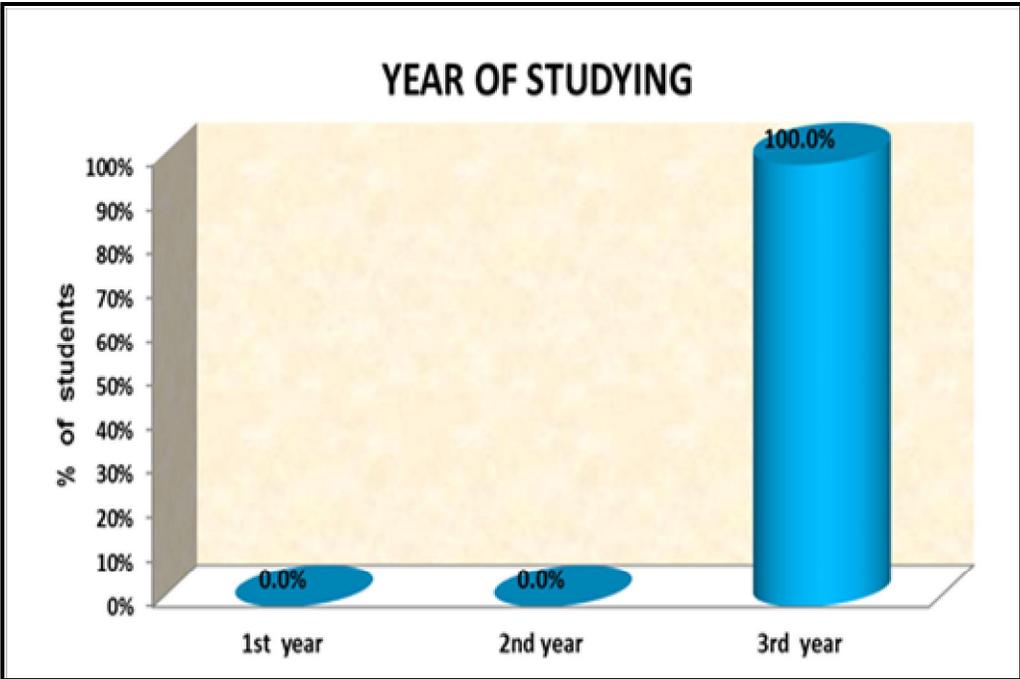
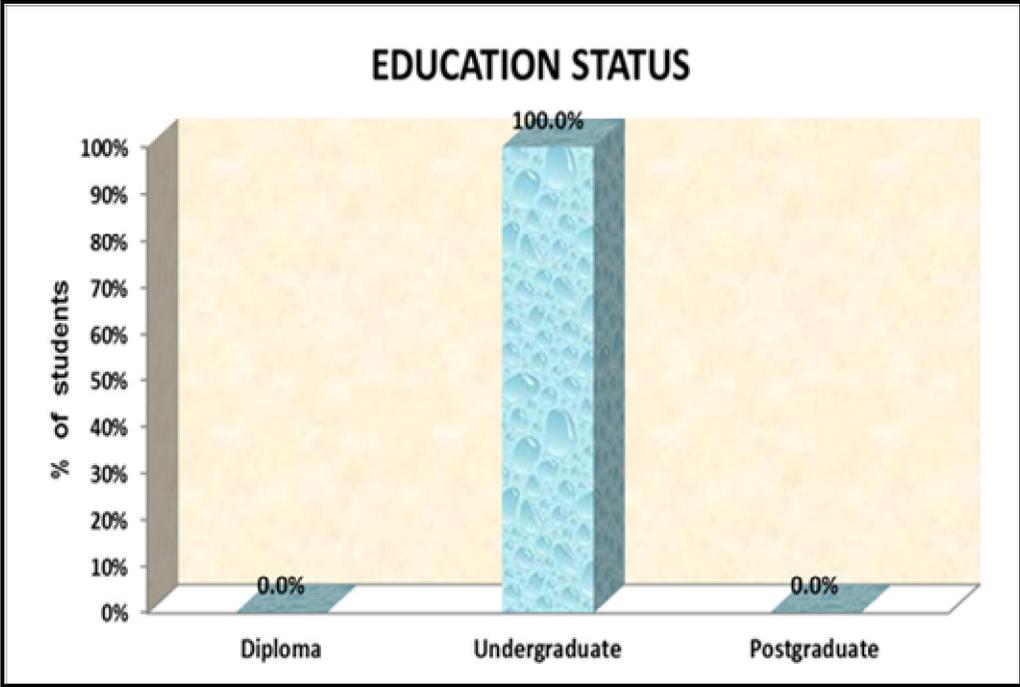
The above table reveals the students pre-test level of knowledge score before the administration of Video Module Teaching. 76.7% of them are having inadequate level of knowledge score, 23.3% of them are having moderate level of knowledge score and none of them are having Adequate level of knowledge score.

SCORE INTERPRETATION

Minimum score = 1 Maximum score = 2 questions = 36 Total score = 72

Grade	Score	% of score
Inadequate	0 – 15	0% - 50%
Moderate	16 – 22	51% - 75%
Adequate	23 – 30	76% - 100%

The above table depicts the level of post-test percentage of knowledge score regarding of Video Module Teaching. 76.7% of them are having inadequate level of knowledge score, 23.3% of them are having moderate level of knowledge score and none of them are having Adequate level of knowledge score.



OBJECTIVE-2: TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIO PULMONARY RESUSCITATION AMONG DEGREE STUDENTS IN SELECTED COLLEGES.

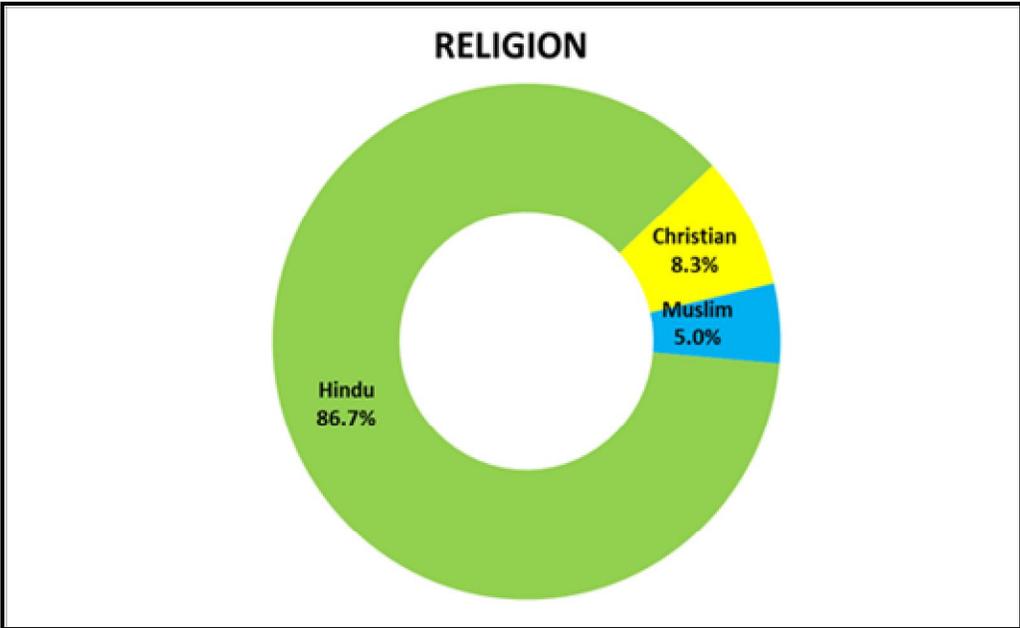
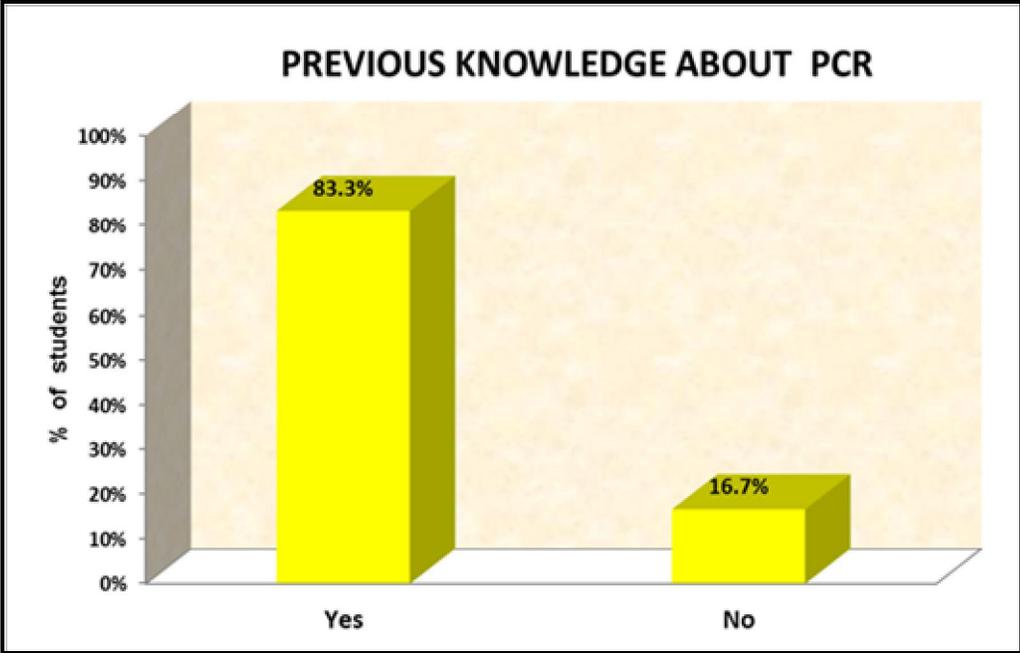
Table-4: Students Posttest Knowledge Score

Domains	Maximum score	Mean	SD	%
Anatomyand physiology	3	2.57	.56	85.7%
Meaning of CPR	4	3.27	.78	81.8%
Before procedure	6	4.70	1.08	78.3%
During procedure	10	8.08	1.31	80.8%
After procedure	7	5.42	.96	77.4%
Total	30	24.04	2.24	80.2%

The above table reveals each domain wise students post-test percentage of knowledge score regarding CPR after Video Module Teaching. They are having more score in **Anatomy and physiology** (85.7%) and minimum score in steps in CPR (77.4%). Overall they are having 80.2% of score. The above table compares pre test and post test mean score .

Considering **Meaning** of CPR ,in pre-test, clients are having 1.32 score where as in post test they are having 1.90 score , so the difference is 0.58. This difference between pre test and post test is large and it is statistically significant.

Considering before procedure in pre-test , clients are having 0.88 score where as in post-test they are having 1.86 score , so the difference is 0.98 This difference between pre test and post test is large and it is statistically significant.



Considering during procedure ,in pre-test , clients are having 1.38 score where as in post-test they are having 2.38 score , so the difference is 1.00. This difference between pre test and post test is large and it is statistically significant.

Considering after procedure ,in pre-test , clients are having 1.16 score where as in post-test they are having 1.74 score , so the difference is 0.58. This difference between pre test and post test is large and it is statistically significant.

Statistical significance was calculated by using student's paired 't'test.

Table 5: Posttest Level of Knowledge Score

Level of knowledge	No. of students	%
Inadequate	0	0.0%
Moderate	13	21.7%
Adequate	47	78.3%
Total	60	100%

The above table reveals the students post-test level of knowledge score after the administration of Video Module Teaching. None of them are having inadequate level of knowledge score, 21.7% of them are having moderate level of knowledge score and 78.3% of them are having adequate level of knowledge score.

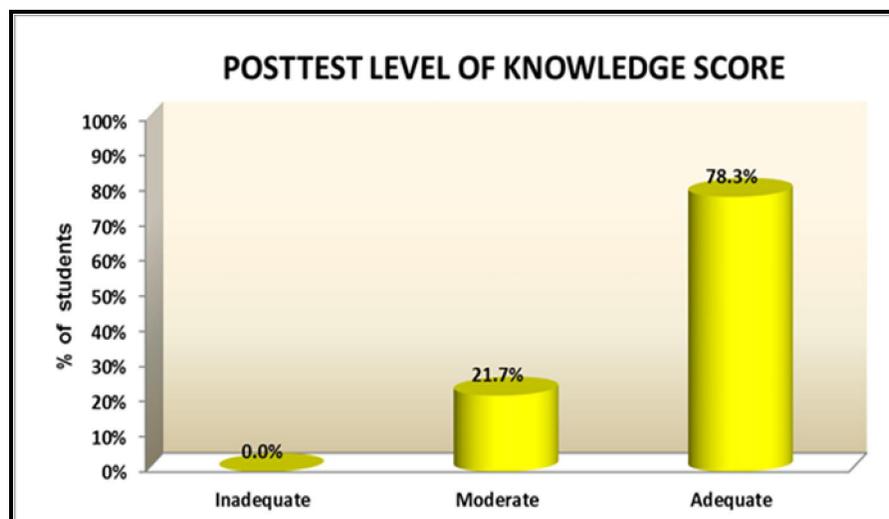


Table 6: Comparison of Pretest and Posttest Knowledge Ability Score

Knowledge on	Test				Mean Difference	Student's paired t-test
	Pretest		Posttest			
	Mean	SD	Mean	SD		
Anatomy and physiology	1.72	0.78	2.57	.56	0.85	t=6.77 P=0.001*** significant
Meaning of CPR	1.48	0.60	3.27	.78	1.79	t=13.67, P=0.001*** significant
Before procedure	2.73	1.06	4.70	1.08	1.97	t=11.70, P=0.001*** significant
During procedure	5.15	1.34	8.08	1.31	2.93	t=12.05, P=0.001*** significant
After procedure	3.00	1.22	5.42	.96	2.42	t=12.98, P=0.001*** significant

*** very high significant at $P \leq 0.001$

Table no.6 compares pretest and posttest mean knowledge score.

Considering **Anatomy and physiology**, in pretest, students are having 1.72 score where as in posttest they are having 2.57 score, so the difference is 0.85. This difference between pretest and posttest is large and it is statistically significant.

Considering **Meaningof CPR** , in pretest, students are having 1.48 score where as in posttest they are having 3.27 score , so the difference is 1.79. This difference between pretest and posttest is large and it is statistically significant

Considering **Before procedure** aspects , in pretest, students are having 2.73 score where as in posttest they are having 4.70 score , so the difference is 1.97 This difference between pretest and posttest is large and it is statistically significant

Considering **During procedure** aspects , in pretest, students are having 5.15 score where as in posttest they are having 8.08 score , so the difference is 2.93 This difference between pretest and posttest is large and it is statistically significant

Considering **After procedure** aspects , in pretest, students are having 3.00 score where as in posttest they are having 5.42 score , so the difference is 2.42 This difference between pretest and posttest is large and it is statistically significant

Table 7: Comparison of Overall Pre and Posttest Knowledge Score

	No. of students	knowledge score Mean \pm SD	Mean Difference	Student's paired t-test
Pre-test	60	14.08 \pm 2.42	9.96	t=27.17 P=0.001*** DF =59 significant
Post-test	60	24.04 \pm 1.91		

DF= Degrees of Freedom *** very high significant at $P \leq 0.001$

Table no 7 shows the comparison of overall pretest and posttest knowledge score.

Considering overall knowledge score, in pretest, students are having 14.08 score where as in posttest they are having 24.03 score, so the difference is 9.96. The difference between pretest and posttest score is large and it is statistically significant. Differences between pretest and posttest score was analyzed using students paired t-test.

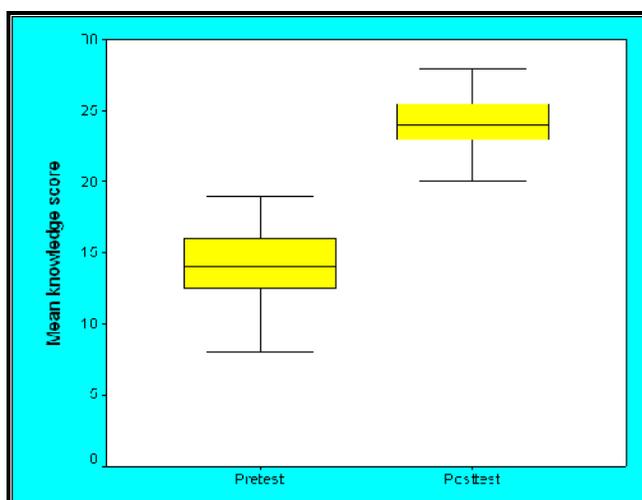


Fig:9: Box-plot Compares the pretest and posttest knowledge score among students on CPR, before and after administration of Video Module Teaching.

Table 8: Pretest and Posttest Level of Knowledge Score

Level of knowledge score	Test				Extended McNemar's test
	Pretest		Posttest		
	n	%	n	%	
Inadequate	46	76.7%	0	0.0%	$\chi^2=53.07$ $p=0.001$ *** DF= 2 significant
Moderate	14	23.3%	13	21.7%	
Adequate	0	0.0%	47	78.3%	
Total	60	100%	60	100%	

Fig10 DF= Degrees of Freedom*** very high significant at $P \leq 0.001$

Table 8 compares the pre test and post test knowledge score regarding CPR before and after Video Module Teaching

In pretest, 76.7% of them are having inadequate level of knowledge score, 23.3% of them are having moderate level of knowledge score and none of them are having Adequate level of knowledge score.

In posttest, None of them are having inadequate level of knowledge score, 21.7% of them are having moderate level of knowledge score and 78.3% of them are having adequate level of knowledge score.

Statistically there is a significant difference between pre and post test knowledge score. It was confirmed using extended McNemar's test

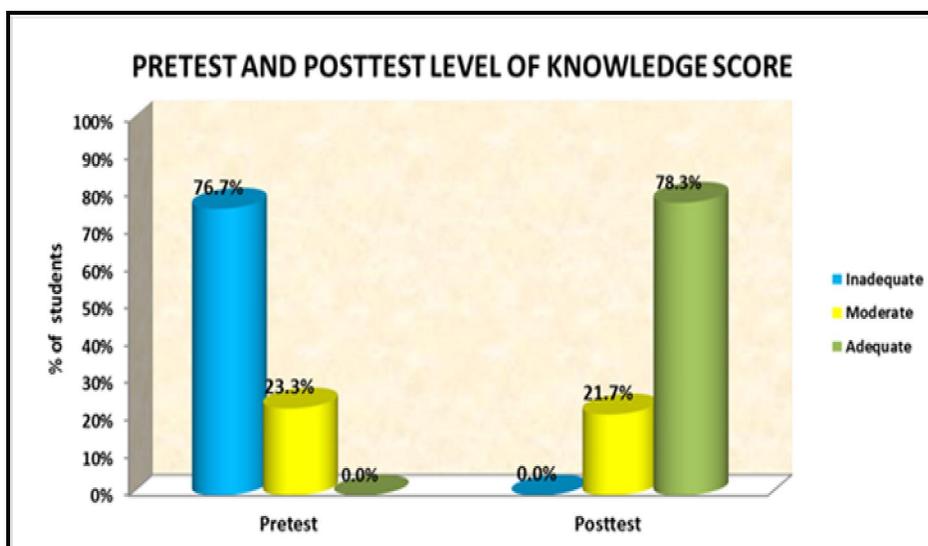


Table 9: Percentage of Knowledge Gain Score

	Max score	knowledge score Mean \pm SD	Mean Difference in knowledge score with 95% Confidence interval	Percentage of knowledge gain score with 95% Confidence interval
Pretest	30	14.08 \pm 2.42	9.96 (9.21 -10.68)	33.2%
Posttest	30	24.04 \pm 1.91		(30.7% -35.6%)

The above table reveals the same domain On an average, students are gained 33.2% of knowledge score after administration of Video Module Teaching. Differences between pretest and posttest score was analysed using mean difference with 95% confidence interval and proportion with 95% Confidence interval. This 32.9% knowledge gain score shows the effectiveness of Video Module Teaching.

Table-10: Effectiveness of Video Module Teaching

Domains	Pretest knowledge	Posttest knowledge	% of knowledge gain
Anatomy and physiology	57.3%	85.4%	28.1%
Meaning of CPR	37.0%	78.8%	41.8%
Before procedure	45.5%	83.6%	38.1%
During procedure	51.5%	84.0%	32.5%
After procedure	42.9%	79.8%	36.9%
Overall	46.9%	80.2%	33.3%

The above table reveals each domain wise percentage of knowledge gain.

In Anatomy and physiology, students are gained 28.1% of knowledge.

In **Meaning** of CPR, students are gained **41.1%** of knowledge.

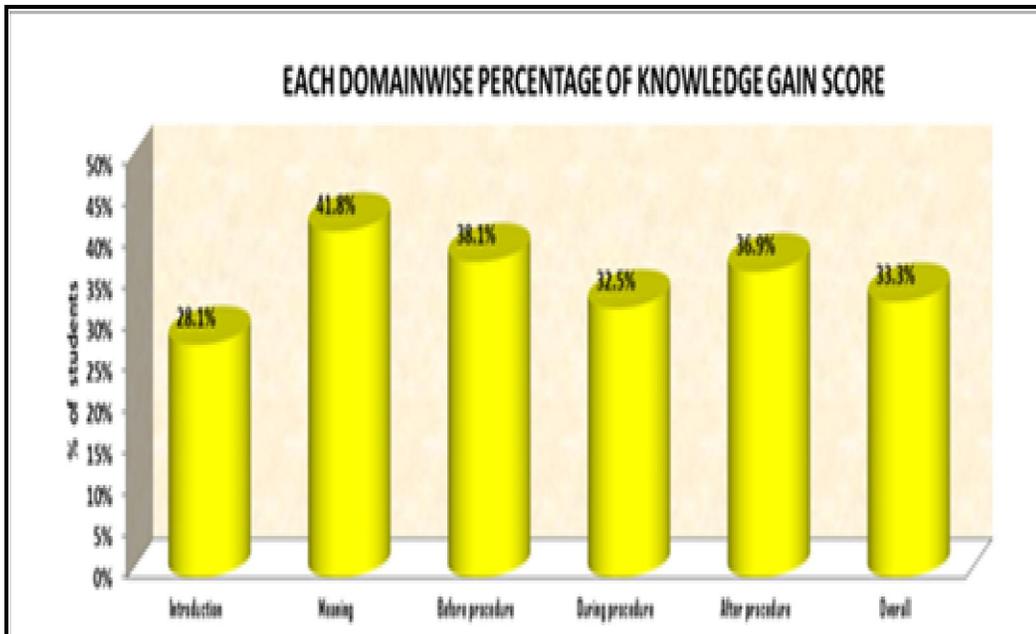
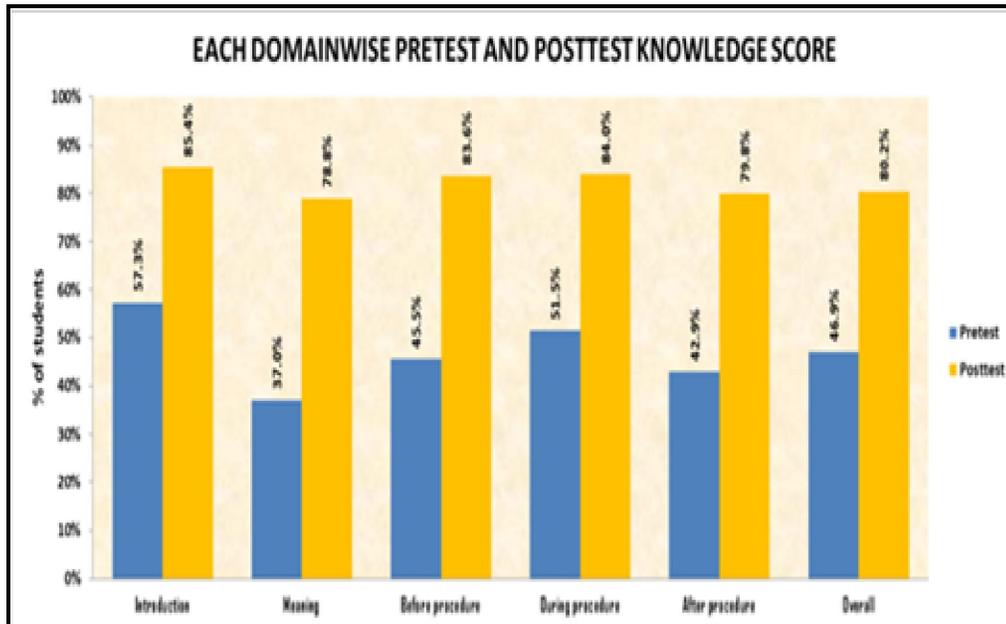
In **Before procedure** aspects, students are gained **38.1%** of knowledge score.

In **During procedure** aspects, students are gained **32.5%** of knowledge score.

In **After procedure** aspects, students are gained **36.9%** of knowledge score.

Overall they gained **33.3%** of knowledge score after intervention.

This shows the effectiveness **Video Module Teaching**.



OBJECTIVE-5: TO FIND OUT THE ASSOCIATION BETWEEN KNOWLEDGE REGARDING CARDIO PULMONARY RESUSCITATION AMONG DEGREE STUDENTS WITH SELECTED SOCIO DEMOGRAPHIC VARIABLES

Table 11: Association Between Pretest Level of Knowledge Score and Students Demographic Variables

Demographic variables		Pretest level of knowledge score				Total	Chi square test
		Inadequate		Moderate			
		N	%	N	%		
Age	19 - 21 years	43	78.2%	12	21.8%	55	$\chi^2=0.84$ p=0.36 DF=1 NS
	> 21 years	3	60.0%	2	40.0%	5	
Sex	Male	24	72.7%	9	27.3%	33	$\chi^2=2.74$ p=0.10 DF=1 NS
	Female	22	81.5%	5	19.5%	27	
Education	Undergraduate	46	76.7%	14	23.3%	60	$\chi^2=0.00$ p=1.00 DF=1 NS
Year of studying	3rd year	46	76.7%	14	23.3%	60	$\chi^2=0.00$ p=1.00 DF=1 NS
Previous knowledge about CPR	Yes	37	74.0%	13	26.0%	50	$\chi^2=1.19$ p=0.27 DF=1 NS
	No	9	90.0%	1	10.0%	10	
Religion	Hindu	42	80.8%	10	19.2%	52	$\chi^2=4.41$ p=0.11 DF=2 NS
	Christian	3	60.0%	2	40.0%	5	
	Muslim	1	33.3%	2	66.7%	3	

DF= Degrees of Freedom Not significant P> 0.05 NS= Not significant.

The above table reveals the association between pretest level of knowledge score with students demographic variables. None of the demographic variables are significantly associated with their pretest level of knowledge score. It was confirmed using chi square test.

Table 12: Association Between Post-Test Level of Knowledge Score and Students Demographic Variables

Demographic variables		Post-test level of knowledge score				Total	Chi square test
		Moderate		Adequate			
		N	%	N	%		
Age	19 - 21 years	10	18.2%	45	81.8%	55	$\chi^2=4.72$ p=0.03* DF=1 S
	> 21 years	3	60.0%	2	40.0%	5	
Sex	Male	11	33.3%	22	66.7%	33	$\chi^2=6.52$ p=0.01** DF=1 S
	Female	2	7.4%	25	92.6%	27	
Education	Undergraduate	13	21.7%	47	78.3%	60	$\chi^2=0.00$ p=1.00 DF=1 NS
Year of studying	3rd year	13	21.7%	47	78.3%	60	$\chi^2=0.00$ p=1.00 DF=1 NS
Previous knowledge about CPR	Yes	8	16.0%	42	84.0%	50	$\chi^2=5.67$ p=0.02* DF=1 S
	No	5	50.0%	5	50.0%	10	
Religion	Hindu	12	23.1%	40	76.9%	52	$\chi^2=4.41$ p=0.11 DF=2 NS
	Christian	1	20.0%	4	80.0%	5	
	Muslim			3	100.0%	3	

DF= Degrees of Freedom Not significant P> 0.05 NS= Not significant.

* significant at P≤0.05 ** high significant at P≤0.01

The above table reveals the association between posttest level of knowledge score with students demographic variables. younger, female, previous knowledge on CPR students are gained more knowledge score than others. It was confirmed using chi square test.

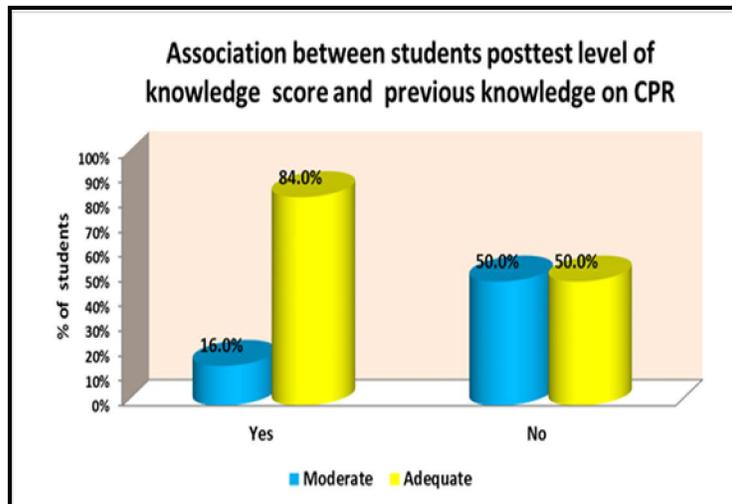
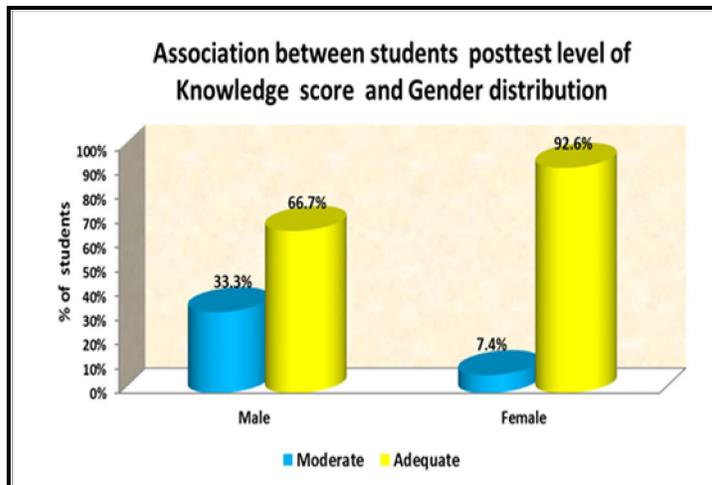
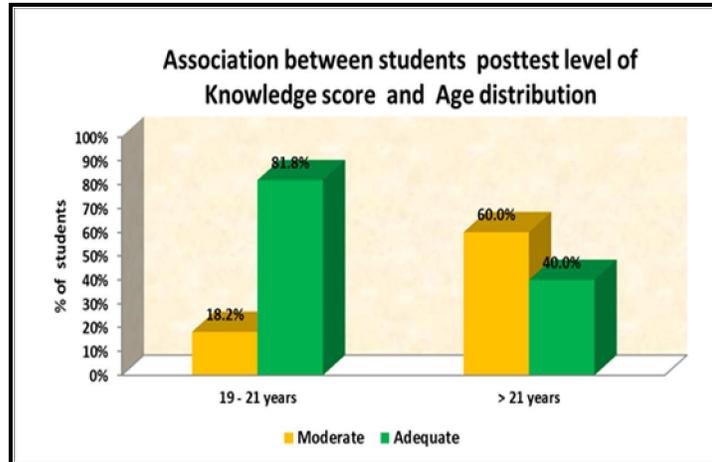
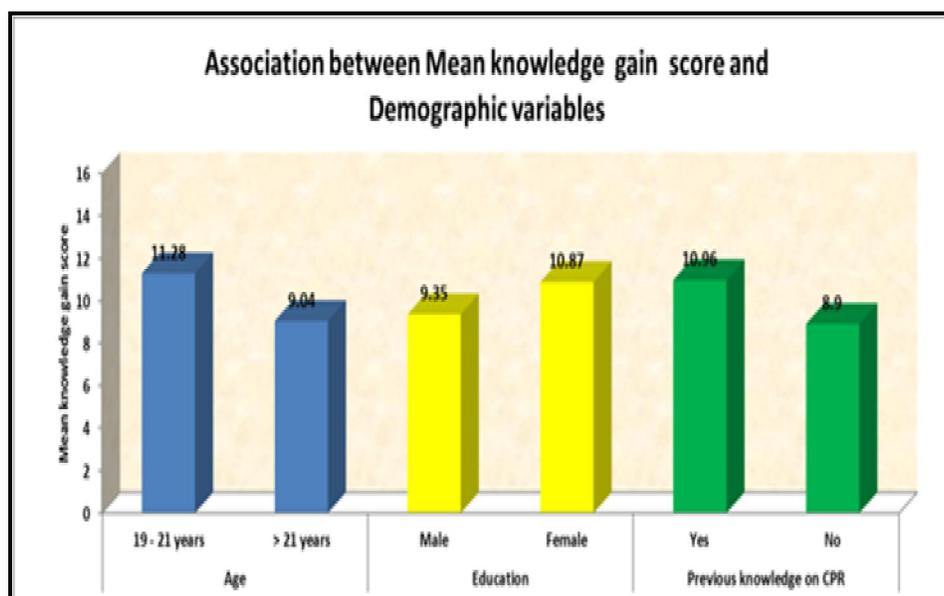


Table 13: Association Between Knowledge Gain Score and Students Demographic Variables

Demographic variables		n	Knowledge gain score						Oneway ANOVA F-test/ t-Test
			Pretest		Posttest		Knowledge gain score= posttest-pretest		
			Mean	SD	Mean	SD	Mean	SD	
Age	19 - 21 years	55	13.20	2.44	24.48	1.91	11.28	2.40	t=1.97 P=0.05* S
	> 21 years	5	13.80	2.05	22.84	2.07	9.04	2.88	
Sex	Male	33	13.94	2.38	23.29	1.83	9.35	2.87	t=2.05 P=0.05* S
	Female	27	14.26	2.51	25.13	2.00	10.87	2.84	
Education	Undergraduate	60	14.08	2.42	24.03	1.91	9.95	2.84	t=1.95 P=0.06 NS
Year of studying	3rd year	60	14.08	2.42	24.03	1.91	9.95	2.84	t=1.95 P=0.06 NS
Previous knowledge about CPR	Yes	50	14.20	2.52	25.16	1.95	10.96	2.96	t=2.07 P=0.05* S
	No	10	13.50	1.84	22.40	1.65	8.90	2.28	
Religion	Hindu	52	13.85	2.37	23.92	1.94	10.07	2.70	F=2.98 P=0.06 NS
	Christian	5	15.00	2.35	23.60	2.30	8.60	3.13	
	Muslim	3	16.67	2.31	23.33	.58	6.67	2.89	

Fig 16 Not significant $P > 0.05$ NS= Not significant * significant at $P \leq 0.05$

The above table reveals the association between knowledge gain score with students demographic variables. younger, female, previous knowledge on CPR students are gained more knowledge score than others. It was confirmed using oneway analysis of variance F-test and student independent t-test.



CHAPTER-V
SUMMARY OF THE
STUDY RESULTS



CHAPTER-V

SUMMARY OF THE STUDY FINDINGS

The aim of the present study was to assess the effectiveness of structured teaching programme on Cardiopulmonary Resuscitation among degree students in a selected college at . The study was conducted by using pre experimental design. Sample size was 60 degree students selected by purposive sampling technique.

The effectiveness of structured teaching programme was evaluated by questionnaire.

The responses were analyzed through descriptive statistics (mean, frequency, percentage and standard deviation) and inferential statistics (paired 't' test.)

objectives of the study were

To assess the knowledge level regarding cardio pulmonary resuscitation among degree students in a selected college

To evaluate the effectiveness of structured teaching programme on knowledge regarding cardio pulmonary resuscitation among degree students in a selected college.

To find out the association between knowledge regarding cardio pulmonary resuscitation among degree students with selected socio demographic variables

5.1 Major findings of the study

A) Findings of the demographic variables

The study findings revealed that (01)02% of students had Very poor knowledge, (26)52% of students had poor knowledge, (22)44% of students had average knowledge and the remaining (01)02% had good knowledge.

B) Pretest level of knowledge score regarding video module teaching

The study findings revealed that comparison of overall mean, SD and mean percentage of pre and post test knowledge scores shows that over all pre test mean score was 18.6+_4.14 which is 41.33% whereas in post test the mean score was 35.8+3.5 which is 79.5% revealing the difference of 38.17% shows the effectiveness of STP.

C) Posttest percentage of knowledge score regarding cardio pulmonary resuscitation among under graduate students

The study findings revealed that association between the level of hemoglobin and their selected demographic variables. It was interpreted that there was significant association found between knowledge scores of degree students regarding Cardiopulmonary Resuscitation with their demographic variables such as Source of information ($P < 0.05$).

Effectiveness of structured teaching programme

No significant association was found between knowledge scores of degree students regarding Cardiopulmonary Resuscitation with their other demographic variables such as age, sex, father's education, mother's education, residential area, type of family, previous knowledge, group studied in XII ($P > 0.05$). The stated hypothesis was accepted.

CONCLUSION

The present study had been supported by a series of other studies, which confirmed that the structured teaching programme on video module teaching was effective. The subjects of the study revealed that structured teaching programme helped in gaining knowledge on cardio pulmonary resuscitation. From the analysis and results, it was concluded that the **structured teaching programme was effective.**

CHAPTER-VI

DISCUSSION



CHAPTER-VI

DISCUSSION

Based on the objectives of the study and hypotheses, this chapter deals with the detailed discussion of the results of the data interpreted from the statistical analysis. The purpose of the study was to evaluate the effectiveness of video module teaching programme on knowledge regarding cardio pulmonary resuscitation among under graduate students in selected college at Chennai..

DISCUSSION OF DEMOGRAPHIC VARIABLES

- ❖ Majority of the participants age were between 19-21 years (53.4%)
- ❖ All were males and female was participated in the study
- ❖ Regarding educational status were graduated students 93.3 % degree students were participated
- ❖ All participants were with previous CPR knowledge through their higher secondary

6.1 FINDINGS BASED ON THE OBJECTIVES

The first objective was assess the knowledge level regarding cardio pulmonary resuscitation among under graduate students in selected college chennai

63.3% of the participants were having adequate level of knowledge score, 36.7% of them were having moderate level of knowledge score and none of them were having adequate level of knowledge score.

Discussion

The above findings were supported by the study conducted by Hassan Zaheer studied the knowledge of CPR in 60 Students. They demonstrated about the CPR using Manikins. After 7 days the knowledge level of the student was assessed and it was improved.

The second objective was educate the under graduate students with video module teaching programme regarding cardio pulmonary resuscitation.

Participant were gained 20.0% of knowledge regarding meaning and 40.4% of knowledge regarding Introduction and 31.5 % regarding CPR before procedure and 27.3 % knowledge regarding during procedure activities and 22.5 % knowledge regarding after procedure activities of CPR .

The above findings were supported by the study conducted by Larsen P, Pearson J, studied about the Cardiopulmonary Resuscitation. Here the sample received the knowledge about CPR. So the researcher concluded that the STP gives better result.

The third objective was evaluating the effectiveness of video module teaching programme on knowledge regarding Cardio Pulmonary Resuscitation among under graduate students in selected college chennai

- ❖ Pretest level of knowledge regarding of CPR mean score was 2.42 and post test level score was 3.22.
- ❖ Pretest level of knowledge on Introduction of CPR mean score was 1.88 and post test score was 3.90.
- ❖ Pretest level of knowledge on Before procedure of CPR mean score was 3.47 and posttest score was 5.68

- ❖ Pretest level of knowledge on During procedure of CPR mean score was 13.90 and post test score was 21.27.
- ❖ Pretest level of knowledge on After procedure of CPR mean score was 4.12 and post test score was 5.70 .

Hence hypothesis (H_1) There is a significant difference between pretest and post test knowledge score regarding cardio pulmonary resuscitation was retained.

Sanders AB reported that Cardiopulmonary Resuscitation knowledge among degree students was important. There was no significant association between the level of knowledge and their selected demographic variables like age, sex, residential area, type of family and education of parents.

The fourth objective was find out the association between knowledge regarding cardio pulmonary resuscitation among under graduate students in selected college at chennai degree students with selected demographic variables.

None of the demographic variables are significantly associated with their pretest level of knowledge and in post test students are gained more knowledge.

Hence the hypothesis (H_2) H_2 There is a significant association between the knowledge with selected demographic variables of the under graduate students such as age, sex, education status, , previous information regarding cardio pulmonary resuscitation was detained in pretest and retained in post test.

CHAPTER-VII
IMPLICATION,
RECOMMENDATION
& CONCLUSION



CHAPTER VII

IMPLICATION RECOMMENDATIONS AND CONCLUSION

The degree students had a good knowledge after structured teaching programme about CPR. The structured teaching programme was effective to improve the level of knowledge.

7.1 Implications the study

According to Tolsma (1995) the section of the research report that focuses on nursing implication usually includes specific suggestions for nursing practice, nursing education, nursing administration and nursing research.

Implications for nursing practice

Nurses have the responsibility to improve the knowledge level of degree students.

The present study will help the nurse to know the effectiveness of structured teaching programme on knowledge regarding Cardiopulmonary Resuscitation. It will help in creating the awareness among students about the Cardiopulmonary Resuscitation.

Cardiopulmonary Resuscitation is one of the emergency management.

Implications for nursing education

Student has to update their knowledge regarding Cardiopulmonary Resuscitation in emergency management.

The faculty member has to motivate the student to learn about the Cardiac arrest and its immediate care.

Implications for nursing administration

The present study proposed to help the health administrator to create awareness about the effectiveness of structured teaching programme on knowledge regarding Cardiopulmonary Resuscitation among degree students to give a valuable life.

Administrators have to educate the students through media regarding the practice of CPR.

Implications for nursing research

The study will be valuable reference for further research.

The findings of the study would help to expand the scientific body of professional knowledge upon which further research can be conducted.

7.2 Recommendations

The study recommended the following for further research

- A similar study can be replicated on a large scale basis
- A Comparative study can be conducted to assess the effectiveness of structured teaching programme on cardio pulmonary resuscitation
- A comparative study can be done between video module instructions and other methods such as self instructional module to evaluate the effectiveness in improving the cardio pulmonary resuscitation knowledge among under graduate students

- A study can be conducted to assess the current knowledge, skill and attitude of nursing staffs on mangement of cardio pulmonary resuscitation.
- Investigator recommends the under graduate students to conduct cardio pulmonary resuscitation workshop periodically.

7.3 Limitations

The study was limited to degree students between the age group of (19-21 yrs)

The study was limited only in assessing knowledge and not the practice due to time constraints

Because of the short duration of the study could not follow up assessment and observation could not be done.

CONCLUSION

The Results of the study shows that the video module teaching programme was effective in improved their knowledge level of under graduate students regarding cardio pulmonary resuscitation.

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APPENDICES



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CERTIFICATE OF APPROVAL

To
A.Thadeu James
I Year M.Sc.(Nursing) Student
College of Nursing
Madras Medical College
Chennai 600 003

Dear A.Thadeu James,

The Institutional Ethics Committee has considered your request and approved your study titled "**A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO MODULE TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIO PULMONARY RESUSCITATION AMONG UNDER GRADUATE STUDENTS IN SELECTED COLLEGES OF CHENNAI**" NO. 07072016.

The following members of Ethics Committee were present in the meeting hold on **12.07.2016** conducted at Madras Medical College, Chennai 3

1.Prof. C. Rajendran, MD.	Chairperson
2.Prof. Isaac Christian Moses,MD.,Dean(FAC)MMC ,Ch-3	Deputy Chairperson
3.Prof. Sudha Seshayyan, MD., Vice Principal, MMC.Ch- 3.	Member Secretary
4.Prof. B.Vasanthi,MD.,Prof of Pharmacology, MMC,	Member
5.Prof. P.Raghumani.MS., Professor of Surgery, Inst. of surgery	Member
6.Prof. Md Ali, MD.,DM., Prof & HOD of MGE, MMC,Ch-3.	Member
7.Prof. Baby Vasumathi.,MD, Director. Inst. of O&G,	Member
8.Prof. K.Ramadevi.,MD, Director, Inst of Bio-Chemistry, MMC,	Member
9.Prof. R.Padmavathy,MD., Professor, Inst.of Pathology, MMC,Ch	Member
10.Prof.S.Tito, MD, Director, Inst.of Inter Med, Ch-3.	Member
11.Tmt.J.Rajalakshmi, Junior Administrative Officer,MMC,Ch	Layperson
12.Thiru.S.Govindasamy., B.A.B.L., High Court, Chennai-1	Lawyer
13.Tmt.ArnoldSaulina, MA., MSW.,	Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary - Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by A.Thadeu james, M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in his study titled, " A Study to assess the effectiveness of video module teaching programme on knowledge regarding Cardio Pulmonary Resuscitation among under graduate students in selected colleges of Chennai ", has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in

concern with their respective guide. Then he can proceed to do the research.



Signature with seal

25/11/16.

Dr. S. MAYIL VAHANAN, M.D.,
DIRECTOR & PROFESSOR
INSTITUTE OF INTERNAL MEDICINE
MMC & RGGGH
REG. No. 36893

Name:

Designation:

College:

Place:

Date:

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Mr. A. THADEUJAMES, M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, "A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO MODULE TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIO PULMONARY RESUSCITATION AMONG UNDER GRADUATE STUDENTS IN SELECTED COLLEGS OF CHENNAI, has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.



Signature with seal



Name: Mrs. Lezy Sarna

Designation: Vice Principal

College: Apollo College of Nursing, Chennai

Place:

Date:

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Mr. A. THADEUJAMES, M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, "A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO MODULE TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIO PULMONARY RESUSCITATION AMONG UNDER GRADUATE STUDENTS IN SELECTED COLLEGS OF CHENNAI, has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

Signature with seal

A. Merun
9/11/16

Name: *A. MERUN*

Designation: *Lecturer*

College: *Apollo College of Nursing*



Place: *Chennai*

Date: *9-11-16*

LETTER SEEKING PERMISSION TO CONDUCT STUDY

From,
Mr. A. THADEU JAMES
II Year M.Sc Nursing, student
College of Nursing,
Madras Medical College,
Chennai - 600003.

To,
The Principal,
Sir P.T Thiyaga raja Govt boys college,
Chennai -600081.

Through,

The Principal,
College of Nursing,
Madras Medical College,
Chennai - 600003.

Respected Madam,

Sub: Requisition for permission to conduct research study.

M.Sc(N) II year student of college of Nursing ,Madras Medical College, Chennai-3. As a partial fulfillment of the Master of Science in Nursing I have under taken the following research study which has to be submitted to the Dr. M.G.R. University, Chennai .My topic is **"A study to assess the effectiveness of Video module teaching Programme among undergraduate students for cardiopulmonary resuscitation on in selected college at Chennai** duration from 20.11.2016 to 18.12.2016 between 8.00am to 4.00pm.

In this regard I seek permission to conduct the study in your institution., I assure you that my presence will not disturb the routine function of your institution.

Thanking you

A. Thadeu James
Yours sincerely,

Forwarded

James
19/11/16
DR. V. KUMARI, M.Sc(N), Ph.D.,
PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003.

Forwarded to H.O.D
of 2017 by G.M necessary

G. [Signature]

23/11/16

Date 19.11.16
Place: Chennai-3

PRINCIPAL
SIR THEAGARAYA COLLEGE
CHENNAI-600 021.

REQUISITION LETTER

From

A. Thadeu James,
M.Sc. (N)., II year student,
College of Nursing,
Madras Medical College, Chennai -03.

To

The Director,
Internal Medicine
Rajiv Gandhi Government General Hospital,
Madras Medical College, Chennai – 03.

Through

The Principal,
College of Nursing, Madras Medical College, Chennai- 03.

Respected Sir/Madam,

**Sub: Requesting permission to conduct research at Sir P.T. Thiyagaraja
Government Arts College, Washermenpet, Chennai- 81.**

I, M.Sc. Nursing II year student have to conduct the research study for the fulfillment of M.Sc.(N)., programme. My topic is **“A study to assess the effectiveness of video module teaching programme on cardio pulmonary resuscitation among under graduate students in selected college at Chennai ”** from 21/11/2016 to 18/12/2016 at 8am-4pm. I assure that I will not disturb the routine activities of the under graduate students.

With due respect, I request your good self to kindly permit me to conduct this study.

Thanking You

Yours sincerely,

A. Thadeu James

(A. Thadeu James)

Dr. V. Kumari
21/11/16
DR. V. KUMARI, M.Sc(N)., Ph.D.,
PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003.

Permitted
S. Mayil Vahanan
22/11/16

Dr. S. MAYIL VAHANAN, M.D.,
DIRECTOR & PROFESSOR
INSTITUTE OF INTERNAL MEDICINE
MMC & RGGGH
REG. No. 36893

INFORMED CONCENT FORM

Title of the study: "A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO MODULE TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIOPULMONARY RESUSCITATION AMONG UNDER GRADUATE STUDENTS IN SELECTED COLLEGES OF CHENNAI.

Sample Number :

Name of the Participant :

Name of the Principal investigator : Mr.A.Thadeu James

Whether Participant's consent was Asked: (yes / No)

(If the Answer to the above question is yes, write the following phrase:

You agree with the manner in which consent was asked from you and given by you.

You agree to take part in this study)

(If answer to the above question is No give reason (S)

Name and Signature of / Thumb impression of the participant (legal representative)

Name: ----- Signature -----

Date -----

Name and Signature of the investigator of his representative consent:

Name ----- Signature -----

Date -----

ஆராய்ச்சி ஒப்புதல் படிவம்

ஆராய்ச்சி தலைப்பு : இதய நுரையீரல் இயக்கமுறை பற்றி காணொலி மூலம் கற்பித்தல்

ஆய்வாளர் பெயர் : ஆ.ததேயு ஜேம்ஸ்
பங்கேற்பாளர் பெயர் :
தேதி :
வயது/ பால் :
ஆராய்ச்சி சேர்க்கை எண் :

- ❖ செவிலியர் முதுநிலை பட்டதாரி மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமுமின்றி, முழு மனதுடனும், சுய நினைவுடனும் நான் பங்குபெற சம்மதிக்கிறேன்.
- ❖ செவிலியர் முதுநிலை பட்டதாரி மேற்கொள்ள போகும் பரிசோதனைகளை மிக தெளிவாக எனக்கு விளக்கிக் கூறினார்.
- ❖ எனக்கு விருப்பமில்லாத பட்சத்தில் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் விலகலாம் என்பதையும் ஆய்வாளர் மூலம் அறிந்துகொண்டேன்.
- ❖ இந்த ஆராய்ச்சி ஒப்புதல் கடிதத்தில் உள்ள விவரங்களை நன்கு புரிந்து கொண்டேன்.
- ❖ நான் ஆராய்ச்சியாளருடன் ஒத்துழைக்க சம்மதிக்கிறேன். எனக்கு உடல்நலக்குறைவு ஏற்பட்டால் ஆராய்ச்சியாளரிடம் தெரிவிப்பேன்.
- ❖ இந்த ஆராய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும்போது என்னைக் குறித்த அடையாளம் வெளிவராது என்பதை அறிவேன்.
- ❖ எனக்கு இந்த ஒப்புதல் கடிதத்தின் நகல் கொடுக்கப்பட்டது.

ஆய்வாளர் கையொப்பம்

தேதி

பங்கேற்பாளர்

கையொப்பம்

தேதி

ஆராய்ச்சி தகவல் தாள்

ஆராய்ச்சி தலைப்பு : இதய நுரையீரல் இயக்க முறை பற்றி காணொலி காட்சி மூலம் விளக்கும் முறை

ஆய்வாளர் பெயர் : ஆ.ததேயு ஜேம்ஸ்

பங்கேற்பாளர் பெயர் :

தேதி :

வயது/ பால் :

இடம் : சா.பி.தியாகராஜா கல்லூரி, சென்னை.

ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமுமின்றி முழுமனதுடனும் சம்மதிக்கிறேன். இதில் பங்கேற்பதன் நோக்கம். இந்த ஆராய்ச்சியில் தகவல்களை தெரிவித்துக்கொள்வதற்காகவும், அதனை பயன்படுத்தவதற்காக மட்டும் தான்.

இந்த ஆராய்ச்சியின் நோக்கம், இதய நுரையீரல் இயக்கமுறை மற்றும் சுவாசபயிற்சி முறை பற்றிய அறிவுத்திறன் கற்றுத்தருவது.

ஆராய்ச்சி மேற்கொள்ளும் முறை

இந்த ஆராய்ச்சியில் இதயம் மற்றும் நுரையீரல் மற்றும் அதன் செயல்பாட்டை இழந்துவிட்டால் உடனடியாக மேற்கொள்ளப்படும் முதல் உதவி பற்றி கற்றுத்தருவதற்கு முன்பு மற்றும் பின்பு அவருடைய அறிவுத்திறன் அறியப்படும்.

இதனால் ஆய்வாளருக்கான பயன்

இந்த ஆய்விற்குபின் ஆய்வாளர் சமூகத்தில் ஏற்படும் இயற்கை பேரிடரால் பாதிக்கப்பட்டவர்களை உடனடியாக இதய சுவாச இயக்குமுறை பயிற்சி மூலம் காப்பதற்கு இப்பயிற்சி பேருதவியாக இருக்கும்.

இதனால் பங்கேற்பாளருக்கான பயன்

இந்த ஆய்வு மூலம் இதயம் நுரையீரல் செயல்பாடு இழந்தவர்களுக்கு உடனடியாக தகுந்த முறையில் சிறப்பு முதலுதவி அளிக்கப்படும்.

- ❖ இந்த ஆராய்ச்சியில் பங்கேற்க விருப்பம் இல்லை என்றால் உங்களின் முழு மனதுடன் நீங்கள் இந்த ஆராய்ச்சியில் இருந்து விலகிக்கொள்ளலாம் என்பதை தெரிவிக்கிறேன்.
- ❖ இந்த ஆராய்ச்சியில் உங்களைப் பற்றிய தகவல்களை பாதுகாப்பாக வைத்துக்கொள்கிறேன் என்பதை தெரிவிக்கிறேன்.
- ❖ இந்த ஆராய்ச்சியின் தகவல்களை வெளியிடும்போது, உங்களை பற்றிய அடையாளங்கள் வெளிவராது என்பதை உறுதி கூறுகிறேன்.

ஆய்வாளர் கையொப்பம்

தேதி

பங்கேற்பாளர் கையொப்பம்

செவிலியர் கல்லூரி
சென்னை மருத்துவக் கல்லூரி, சென்னை-3

பகுதி-1
சூய குறிப்புகள்

- 1) வயது
- அ) 18 வயதுக்கு கீழ்
- ஆ) 19-21 வயது
- இ) 22-24 வயது
- 2) கல்வித்தகுதி
- அ) மேல்நிலைக் கல்வி
- ஆ) இளங்கலை
- இ) முதுகலை
- 3) பாலினம்
- அ) ஆண்
- ஆ) பெண்
- இ) திருநங்கை
- 4) மதம்
- அ) இந்து
- ஆ) முஸ்லிம்
- இ) கிறிஸ்தவர்
- 5) எந்த ஆண்டு இளங்கலை படிப்பு பயின்று வருகிறீர்கள்
- அ) முதலாமாண்டு
- ஆ) இரண்டாமாண்டு
- இ) மூன்றாமாண்டு
- 6) இதய நுரையீரல் இயக்கமுறை பற்றிய முன் அனுபவம் உள்ளதா?
- அ) ஆம்
- ஆ) இல்லை

பகுதி-2

இதய இயக்கமுறை அறிவு பற்றிய கேள்விகள்

- 1) கீழ்காணும் செயல் முறைகள் அடிப்படை உயிர் காக்கும் முறை எது?
- அ) நாடி துடிப்பு, பாதி மூச்சு விடுதல், அழுத்தம் கொடுத்தல்
- ஆ) மூச்சு பாதை, மூச்சு விடுதல்
- இ) அழுத்தம் கொடுத்தல், மூச்சுபாதை, மூச்சுவிடுதல்
- 2) பெரியவர்களுக்கு எந்த பகுதியில் நாடி துடிப்பு பார்க்க வேண்டும்
- அ) மணிக்கட்டு தமணி
- ஆ) மூளைக்கு செல்லும் பகுதி
- இ) தொடை இடுக்கு பகுதி
- 3) ஒருவர் சுய நினைவு இன்றி, நாடிதுடிப்பு இல்லாமல் இருப்பதை காண்கிறீர்கள் உங்களிடம் முகமூடி இல்லை (Mask) ஆகையால் உங்களின் உடன் நடவடிக்கை என்ன?
- அ) 108 அழைப்பது
- ஆ) இதய நுரையீரல் மறு இயக்க முறை தொடங்குவது, பிறகு வாய் மூலம் மூச்சு கொடுப்பது.
- இ) அவசர சிகிச்சை உதவி வரும் வரை காத்திருப்பது
- 4) கீழ்காண்பவற்றில் பெரியவர்களின் காப்பாற்றும் முறையுள் தொடர் வரிசை எது?
- அ) சுதாரித்தல், அவசர உதவி அழைத்தல், இதய துடிப்பை அதிகப்படுத்துதல்
- ஆ) சுதாரித்தல், உடனே இதய நுரையீரல் இயக்கமுறை ஆரம்பித்தல் மருந்து கொடுத்தல்
- இ) இதய நுரையீரல் இயக்க முறை ஆரம்பித்தல், அவசர உதவி அழைத்தல், இதய துடிப்பை அதிகப்படுத்துதல்
- 5) ஒரு வயதுக்குள்ளான குழந்தைக்கு இரண்டு சுவாசம் கொடுப்பவர் முறை 1 அழுத்தம் கொடுத்தல் மற்றொன்று மூச்சு கொடுத்தல் வரைமுறை என்ன?
- அ) 30:2
- ஆ) 30:1
- இ) 15:2

- 6) நீங்கள் முகமூடி வழியாக சுவாசம் கொடுக்க முயற்சி செய்கிறீர்கள் அனால் காற்று உள்ளே செல்ல இல்லை உங்களின் அடுத்த நடவடிக்கை என்ன?
- அ) கழுத்து பாகத்தை உடந்துதல்
- ஆ) ஊதுதல்
- இ) மூச்சு பாதை சரியாக உள்ளதா பார்ப்பது
- 7) உங்கள் கண்முன்பு ஒருவர் நிலை குலைந்து (collapsed) சரிந்து கிடக்கிறார் உங்களின் முதல் நடவடிக்கை என்ன?
- அ) அவரை எழுப்ப முயற்சி செய்ய வேண்டும்
- ஆ) அவர் மூச்சு விடுகிறாரா என்று பார்க்க வேண்டும்
- இ) உதவிக்கு ஆட்களை அழைக்க வேண்டும்
- 8) ஒருவர் மூச்சு விடாமல் மயங்கிய நிலையில் இருக்கிறார். நீங்கள் முதலில் செய்ய வேண்டியது என்ன?
- அ) உடனே இரண்டு மூச்சு கொடுத்தல்
- ஆ) உடனே முப்பது இதய அழுத்தம் கொடுத்தல்
- இ) நாடி துடிப்பு பார்க்க வேண்டும்
- 9) உடனடி சுவாசம் கொடுப்பது அவசியமா?
- அ) ஆமாம்
- ஆ) இல்லை
- 10) இதய நுரையீரல் இயக்கமுறை கொடுத்துக் கொண்டு இருக்கும் போது அந்த நபர் வாந்தி எடுத்தால் என்ன செய்ய வேண்டும்?
- அ) இதய நுரையீரல் இயக்கமுறை கொடுப்பதை நிறுத்தவேண்டும்
- ஆ) இதய நுரையீரல் இயக்க முறை தொடர்ந்து கொடுக்க வேண்டும்
- இ) ஒரு பக்கமாக படுக்க வைத்து வாந்தி சுத்தம் செய்ய வேண்டும் பின் இதய நுரையீரல் இயக்கமுறை தொடர வேண்டும்
- 11) படுக்கையில் வைத்து இதய நுரையீரல் இயக்கமுறை செய்யலாமா?
- அ) ஆம்
- ஆ) இல்லை

- 12) கீழ்காண்பவற்றில் எந்த முறை இதயம் முழுவதுமாக சுருங்கி இருக்கிறது என்பதை உணர்த்துகிறது?
- அ) அரைமுதல் ஒரு இன்ச் வரை கீழ்நோக்கி அழுத்தத்திற்கு இடையில் நெஞ்சை அழுத்துதல்
- ஆ) முழு கையுமும் நெஞ்சு மேலிருந்து எடுத்துவிட்டு பார்க்கவும்
- இ) மேலோட்டமாக நெஞ்சை அழுத்துதல் அதன்மூலம் வேகமாக கையை எடுக்க வேண்டிய அவசியம் இல்லை.
- 13) இதய நுரையீரல் இயக்க முறை எவ்வளவு நேரம் கொடுக்க வேண்டும்
- அ) 10 வினாடிக்குள் கொடுக்கவும்
- ஆ) 15 வினாடிகள்
- இ) 30 வினாடிகள்
- 14) சுய நினைவை இழந்து ஒருவர் இருக்கும் போது அவருக்கு சுவாசம் கொடுப்பவர் அவர்களுக்கு கொடுக்க வேண்டிய இதய அழுத்தத்தின் எண்ணிக்கை எத்தனை?
- அ) 100/நிமிடம்
- ஆ) 120/நிமிடம்
- இ) 130/நிமிடம்
- 15) இதய நுரையீரல் இயக்கமுறை கொடுத்தவர்க்கு நாடிதுடிப்பு மற்றும் சுவாசம் இருந்தால் அடுத்து செய்ய வேண்டியது என்ன?
- அ) அவரை சரியான முறையில் படுக்க வைக்க வேண்டும்
- ஆ) ஒருபக்கமாக சாய்ந்து படுக்க வைக்க வேண்டும்
- இ) மல்லார்ந்து படுக்க வைக்க வேண்டும்
- 16) இதய அழுத்தம் கொடுக்கும் போது இரத்த சுருக்கம் ஆவதின் அவசியம் என்ன?
- அ) இதயத்திற்கு செல்லவேண்டிய இரத்த ஓட்டம் குறையும்
- ஆ) உடம்பில் புற பகுதிகளுக்கு இரத்த ஓட்டம் குறையும்
- இ) முக்கியமான உறுப்புகளுக்கு இரத்த ஓட்டம் குறையும்
- 17) பெரியவர்களின் இதய அழுத்தம் ஆழம் எவ்வளவு அழுத்த வேண்டும்
- அ) எவ்வளவு வேண்டுமானாலும்
- ஆ) இரண்டு இன்ச் அளவு
- இ) இரண்டு மற்றும் இரண்டு புள்ளி நான்கு ஆழத்திற்கு

- 18) நாடி துடிப்பு எவ்வளவு நேரம் பார்க்க வேண்டும்
- அ) 2 நொடிகளுக்கு மேல் இல்லாமல்
- ஆ) 5 நொடிக்கு இல்லாமல்
- இ) 10 நொடிக்கு இல்லாமல்
- 19) பாதிக்கப்பட்டவர் கழுத்தில் அடிபட்டுள்ளது அவரால் வாயை திறக்க முடியவில்லை மூச்சுபாதை திறக்க எது சரியான முறை?
- அ) தலை கீழ்தாங்கி தாரைட தூக்குதல்
- ஆ) தாடை பகுதியை திறக்க வேண்டும்
- இ) கழுத்து பகுதியை மேல் பக்கமாக தூக்குதல்
- 20) பாதிக்கப்பட்ட குழந்தைக்கு எங்கு நாடிதுடிப்பு பார்க்க வேண்டும்?
- அ) மணிக்கட்டு தமணி
- ஆ) மூளைக்கு செல்லும் பகுதி
- இ) முழங்கை மேல் உள்ள தமணி
- 21) பாதிக்கப்பட்டவர் மூச்சு விட முடியாமல் திணறி கொண்டு இருக்கிறார் ஆனால் நாடிதுடிப்பு 100/நிமிடம் உள்ளது. காப்பாற்றுபவர் என்ன செய்ய வேண்டும்?
- அ) 5 முதல் 6 நொடிக்குள் 1 சுவாசம் கொடுக்கவும்
- ஆ) 3 முதல் 5 நொடிக்குள் 1 மூச்சு வாசம் கொடுக்கவும்
- இ) ஒன்றும் செய்ய வேண்டாம்
- 22) பாதிக்கப்பட்டவர் மூச்சு விடவில்லை ஆனால் நாடிதுடிப்பு 50 /நிமிடம் உள்ளது. காப்பாற்றுபவர் என்ன செய்ய வேண்டும்?
- அ) இதய அழுத்தத்துடன் இதய நுரையீரல் இயக்கமுறை தொடங்கவும்
- ஆ) ஒரு சுவாசம் 5 முதல் 6 நொடிக்குள் தொடங்கவும்
- இ) ஒரு சுவாசம் 3 முதல் 5 நொடிக்குள் தொடங்கவும்

- 23) ஒரு பெரியவர் உணவகத்தில் சாவப்பிட்டு கொண்டு இருக்கிறார். தீரென்று கழுத்தை இறுக்கி பிடித்துக் கொள்கிறார். அவர்சொக்கிங் உண்டார் என்பதை காப்பாற்றுபவர் உறுதி செய்கிறார். அவரது முதல்வேலை என்ன?
- அ) முதுகை தட்டுவது
- ஆ) வயிற்றை மேல் நோக்கி அழுத்தவும்
- இ) மேல்நோக்கி நெஞ்சு பகுதியை அழுத்தவும்
- 24) பாதிக்கப்பட்டவர் சோக்கிங் (choking) சுயநினைவு இழந்துவிட்டார் காப்பாற்றுபவர் என்ன செய்ய வேண்டும்?
- அ) முதுகை தட்டலும்/நெஞ்சு பகுதி அழுத்தலும்
- ஆ) அடைப்பை எடுக்க வேண்டும்
- இ) உடனே இதய நுரையீரல் இயக்க முறை ஆரம்பிக்கலும்
- 25) எப்பொழுது அடைப்பை (choking) காப்பாற்ற செய்யும் முயற்சியை விடவேண்டும்
- அ) அடைப்பு எடுத்த பிறகு
- ஆ) பாதிக்கப்பட்டவர் சுயமாக மூச்சு விடும் போது
- இ) மேல் கூறிய ஏதாவது ஒன்று நிகழ்ந்தாலும்
- 26) எப்பொழுது நாம் இரத்த ஓட்டம் சரியாக உள்ளதா என்பதை சரிபார்க்க வேண்டும்?
- அ) இதய அழுத்தத்திற்கு பிறகு, மூச்சு சுவாசத்திற்கு பிறகு
- ஆ) முதல் இதய அழுத்தம் மற்றும் சுவாசம் முடிந்தபிறகு
- இ) 30 இதய அழுத்தம் 2 சுவாசம் முடிந்த பிறகு
- 27) பாதிக்கப்பட்டவருக்கு இதய அழுத்தம் கொடுப்பதற்கு முன் என்ன பார்க்க வேண்டும்?
- அ) கண் பார்வை விரிந்துள்ளதா
- ஆ) மூளைக்கு செல்லும் தமனி துடிப்பு இருக்கிறதா
- இ) முச்சுத்திணறல்

- 28) இதயத்துடிப்பை மேம்படுத்துவது எந்த முறை?
- அ) நாம் நம் கைகள் மூலம் அழுத்தம் கொடுக்கும்போது
- ஆ) செயற்கு சுவாசம் கொடுத்தல்
- இ) மருந்து கொடுத்தல்
- 29) இதய நுரையீரல் இயக்கமுறையை எப்பொழுது நிறுத்த வேண்டும்?
- அ) விலா எலும்பு முறியும்போது
- ஆ) நாடித்துடிப்பு மற்றும் மூச்சு நிற்கும்பொழுது
- இ) கழுத்து எலும்பு முறிவு ஏற்படும்போது
- 30) மூளைக்கு செல்லும் பிராணவாயு தடைப்பட்டால் மூளை எவ்வளவு நேரத்தில் செயல் இழந்துவிடும்?
- அ) 2 நிமிடம்
- ஆ) 3 நிமிடம்
- இ) 4 நிமிடம்

QUESTIONNAIRE

Instruction to the participants:

This questionnaire is to assess the knowledge regarding CPR. It has 2 Parts. Part-A and Part-B the answer which is appropriate and please tick mark () on the answer. All the information provided will be kept confidential.

Demographic Data

This section requires some personal data of the participants. Each item has few options. Select the correct the option

PART-A

- 1) Age (in years)
 - a) 18
 - b) 19
 - c) 20
 - d) 21

- 2) Sex
 - a) Male
 - b) Female

- 3) Religion
 - a) Hindu
 - b) Muslim
 - c) Christian

- 4) Previous knowledge about CPR
 - a) Yes
 - b) No

- 5) If yes, Source of Information through
- a) Media
 - b) Books
 - c) Relatives
 - d) Friends
- 6) Studied which group in XII
- a) Maths with Biology
 - b) Computer Science
 - c) Pure Science
 - d) Vocational
 - e) Others specify

PART-B

- 1) The Heart consist of
- a) 2 chambers
 - b) 3 chambers
 - c) 4 chambers
 - d) 5 chambers
- 2) Shape of the Heart is
- a) Oval
 - b) Round
 - c) Close Fist
 - d) Diamond
- 3) The heart sits within a fluid – filled cavity called
- a) The pericardial cavity
 - b) The Peritoneal cavity
 - c) The Pleural cavity
 - d) The synovial cavity

- 4) The heart is located in
- a) The right side
 - b) The left side
 - c) 2/3 right side, 1/3 left side
 - d) Centre of throzx
- 5) The arteries cary
- a) Oxygenated blood
 - b) Deoxygenated blood
 - c) Nutrients
 - d) Oxygen
- 6) The normal Blood pressure is
- a) 120/80 mgHg
 - b) 90/60mmHg
 - c) 150/90mmHg
 - d) 180/100mmHg
- 7) The sounds of a normal heateat are known as
- a) lubb and dupp
 - b) lupp and lupp
 - c) ldupp and lupp
 - d) dupp and dupp

QUESTIONS ABOUT CARDIAC ARREST

- 8) Cardiac arrest means
- a) Abrupt loss of heart function
 - b) Loss of kidney function
 - c) Loss of brain function
 - d) Loss of energy

- 9) Cardiac arrest is mainly caused by
- a) Fever & Vomiting
 - b) Coronary artery- disease
 - c) Diarrhoea
 - d) Tuberculosis
- 10) Cardiac arrest is diagnosed by
- a) Absence of breathing, no pulse
 - b) Absence of breathing
 - c) Decreased blood pressure
 - d) Presence of pulse
- 11) Where will you check for pulse while Cardiac arrest
- a) Radial pulse
 - b) Ulnar pulse
 - c) Carotid pulse
 - d) Femoral pulse
- 12) The immediate management of Cardiac arrest is
- a) Maintaining fluid
 - b) CPR
 - c) Checking temperature
 - d) Medication Administration

Questions regarding CPR

- 13) CPR means
- a) Cardio pulmonary Resuscitation
 - b) Cerebral Pulmonary Resuscitation
 - c) Cardiac pump ratio
 - d) Cardio Pulse Resuscitation

- 14) BLS means
- a) Basic Live support
 - b) Body live support
 - c) Basic life support
 - d) Basic long support
- 15) ACLS means
- a) Advanced Cardiac life support
 - b) Active cardiac life support
 - c) Advance cardiac long support
 - d) Activity Cardiac life support
- 16) The abbreviation of ABC
- a) Airway Breathing Circulation
 - b) Airway Berathing Compression
 - c) Analysis Blood count
 - d) None of the above
- 17) CPR is a technique that involves
- a) Cardiac Compressions
 - b) Chest compressions without artificial respiration
 - c) Fluid administration
 - d) Pulmonary compressions
- 18) The main indicator of CPR
- a) Cardiac arrest & Respiratory arrest
 - b) Leg fractures
 - c) Sinusitis
 - d) Rib fractures

19) The components of CPR are

- a) Airway and Breathing
- b) Circulation
- c) Chest compressions and Defibrillation
- d) All the above

20) While performing CPR, the place should be

- a) Hard surface
- b) Soft surface
- c) Any place
- d) Others

21) Position of CPR

- a) Prone
- b) Sitting
- c) Supine
- d) Standing

22) While performing CPR your chest compressions should be

- a) Hard and fast, with as few interruptions as possible
- b) Gentle and slow
- c) Hard but slow with frequent interruptions to check for a pulse
- d) Gentle but fast.

23) How many compressions must be delivered within 1 minutes when giving adult CPR?

- a) 100
- b) 120
- c) 50
- d) 80

24) Duration need for delivering a regular breath

- a) Two seconds
- b) One seconds
- c) 15 seconds
- d) 20 seconds

25) When one man adult CPR is being performed, what should be the duration for checking the breathing of the victim?

- a) Maximum 10 seconds
- b) Maximum 20 seconds
- c) Maximum 30 seconds
- d) Maximum 40 seconds

26) Depth of compression in adult

- a) 2 cm
- b) 5 cm
- c) 1.5 cm
- d) 2.5 cm

27) What is the ratio of compression-ventilation for infant or child CPR?

- a) 30:1
- b) 15:1
- c) 30:2
- d) 15:2

33) What is the first link in the adult "chain of survival"?

- a) Early recognition
- b) Preventing heart disease
- c) Avoiding tobacco use
- d) Early CPR

34) CPR is highly effective, when it is performed?

- a) Start immediately after collapses
- b) Start within 15 minutes
- c) Start within 30 minutes
- d) Start within 1 hour

35) After compression, open the airway by?

- a) Head tilt chin maneuver
- b) Haad maneuver
- c) Abdominal thrust
- d) Chin lifting maneuver

- 28) What is the ratio of compression –ventilation for adult CPR?
- a) 30:1
 - b) 15:1
 - c) 30:2
 - d) 15:2
- 29) If two rescuers, the ratio of compression is
- a) 30:1
 - b) 15:1
 - c) 30:2
 - d) 15:2
- 30) What compression method should be used for an adult?
- a) Heel of one hand, other hand on top
 - b) Both hands put together
 - c) One hand only
 - d) Use of fingers pad
- 31) If you are performing CPR on a child and their chest does not rise with the first breath, what should you do?
- a) Adjust the airway and give your second breath
 - b) Perform abdominal thrusts and look in the airway
 - c) Stop efforts to resuscitate the child
 - d) Attempt a second breath without changes
- 32) What is the proper hand position when performing chest compressions on a 6 years old?
- a) With one or two hands, lower half of breast bone
 - b) With two hands encircling the chest, thumbs on the breast bone
 - c) Two hands, upper third of the breast bone
 - d) Early CPR

LESSON PLAN ON CPR

Name of the Investigator : A.Thadeu james

Topic : **Cardio Pulmonary Resuscitation**

Participants : Under graduate students Sir PT Thiyaga Raja Govt Arts and Science College

Method of Teaching : Video module teaching programme

Teaching Aids : Power point, Video module

Date : 04 -12- 2016 Morning Session

CARDIO PULMONARY RESUSCITATION

INTRODUCTION

Cardio pulmonary resuscitation, commonly known as CPR, is an emergency procedure performed in an effort to manually preserve intact brain function until further measures are taken to restore spontaneous blood circulation and breathing in a person who is in cardiac arrest.

BASIC LIFE SUPPORT: (CPR)

Basic life support refers to maintain the airway, support respiration and circulation without the use of equipment. Each year, a number of babies and children will suffer with an accident or illness severe enough 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. The best chance of ensuring their survival is to give them emergency treatment known as cardiopulmonary resuscitation (CPR). CPR can consist of many different things, but the initial, vital part is Basic Life Support (BLS). Basic life support is a type of medical care used on someone with a lifethreatening injury or condition until full medical care can be given. An emergency responder or someone trained in BLS can provide this critical care. Basic life support consists of cardiopulmonary resuscitation and, when available, defibrillation using automated external defibrillators (AED). The keys to survival from sudden cardiac arrest (SCA) are early recognition and treatment, specifically, immediate initiation of excellent CPR and early defibrillation. The ability to deliver Basic Life Support, and apply basic aspects of first aid, are important community skills that have been shown to save lives. BLS includes maintaining airway and supporting breathing and circulation without the

help of any equipment .It comprises of repagination of signs of sudden cardiac arrest, heart attack ,stroke, obstruction of airway by a foreign body.

INTRODUCTION OF HEART:

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 artery (which provide oxygen and nutrients to body tissues by transporting the blood throughout the body). The heart is located in the thoracic cavity medial to the lungs and posterior to the sternum. On its superior end, the base of the heart is attached to the aorta, pulmonary arteries and veins, and the vena cava. The inferior tip of the heart, known as the apex, rests just superior to the diaphragm. The base of the heart is located along the body's midline with the apex pointing toward the left side. Because the heart points to the left, about 2/3 of the heart's mass is found on the left side of the body and the other 1/3 is on the right.

ANATOMY OF HEART:

Pericardium

The heart sits within a fluid-filled cavity called the pericardial cavity. Pericardium is a type of serous membrane that produces serous fluid to lubricate the heart and prevent friction between the ever beating heart and its surrounding organs.

Structure of the Heart Wall

The heart wall is made of 3 layers: pericardium, myocardium and endocardium.

- Epicardium. The epicardium is the outermost layer of the heart wall
- Myocardium. The myocardium is the muscular middle layer of the heart wall that contains the cardiac muscle tissue.
- Endocardium. Endocardium is the simple squamous endothelium layer that lines the inside of the heart.

Chambers of the Heart

The heart contains 4 chambers: the right atrium, left atrium, right ventricle, and left ventricle

Valves of the Heart

The heart functions by pumping blood both to the lungs and to the systems of the body. The heart valves can be broken down into two types:

- Atrioventricular and
- Semilunar valves.

Conduction System of the Heart

The conduction system starts with the pacemaker of the heart—a small bundle of cells known as the sinoatrial (SA) node. The SA node is located in the wall of the right atrium inferior to the superior vena cava. The SA node is responsible for setting the pace of the heart as a whole and directly signals the atria to contract. The signal from the SA node is picked up by another mass of conductive tissue known as the atrioventricular (AV) node. The AV node is located in the right atrium in the inferior portion of the interatrial septum. The AV node picks up the signal sent by the SA node and transmits it through the atrioventricular (AV) bundle. The AV bundle is a strand of conductive tissue that runs through the interatrial septum and into the

interventricular septum. The AV bundle splits into left and right branches in the interventricular septum and continues running through the septum until they reach the apex of the heart. Branching off from the left and right bundle branches are many Purkinje fibers that carry the signal to the walls of the ventricles, stimulating the cardiac muscle cells to contract in a coordinated manner to efficiently pump blood out of the heart.

Physiology of the Heart

Coronary Systole and Diastole

At any given time the chambers of the heart may be found in one of two states:

- Systole. During systole, cardiac muscle tissue is contracting to push blood out of the chamber.

- Diastole. During diastole, the cardiac muscle cells relax to allow the chamber to fill with blood. Blood pressure increases in the major arteries during ventricular systole and decreases during ventricular diastole. This leads to the 2 numbers associated with blood pressure—systolic blood pressure is the higher number and diastolic blood pressure is the lower number. For example, a blood pressure of 120/80 describes the systolic pressure (120) and the diastolic pressure (80).

The Cardiac Cycle

The cardiac cycle includes all of the events that take place during one heart beat.

Blood Flow through the Heart

Deoxygenated blood returning from the body first enters the heart from the superior and inferior vena cava. The blood enters the right atrium and is pumped through the tricuspid valve into the right ventricle. From the right ventricle, the blood is pumped through the pulmonary semilunar valve into the pulmonary trunk. The pulmonary trunk carries blood to the lungs where it releases carbon dioxide and absorbs oxygen. The blood in the lungs returns to the heart through the pulmonary veins. From the pulmonary veins, blood enters the heart again in the left atrium.

The left atrium contracts to pump blood through the bicuspid (mitral) valve into the left ventricle. The left ventricle pumps blood through the aortic semilunar valve into the aorta. From the aorta, blood enters into systemic circulation throughout the body tissues until it returns to the heart via the vena cava and the cycle repeats.

CENTRAL OBJECTIVES

Help the Firemen to acquire knowledge and understanding about cardio pulmonary cerebral resuscitation and its procedure and to develop desirable attitude and skill to provide cardio pulmonary cerebral resuscitation care to the clients in all emergency & rescue situations.

SPECIFIC OBJECTIVES:

The Firemen will be able to

- define cardio pulmonary resuscitation
- explain the indications of cardio pulmonary resuscitation
- enlist the principles of cardio pulmonary resuscitation
- write about the assessment of cardio pulmonary resuscitation
- enumerate the basic technique of CPR
- determine the cardio pulmonary cerebral resuscitation standards and training
- enlist the contraindications of CPR
- list out the complications

S.no	Time	Specific objectives	Content	AV Aids	Researcher's activity	Firemen's activity	Evaluation
1	5min	define cardiopulmonary resuscitation	Resuscitation includes all measures that are applied to review patients who have stopped breathing suddenly and unexpectedly due to either respiratory or cardiac feature -Stephrania 2002	Power Point	Explaining	Listening	
2	5min	explain the indications of cardiopulmonary resuscitation	<p>Most indications:</p> <ul style="list-style-type: none"> • Cardiac arrest(trauma) • Respiratory arrest(drowning) <p>Indications :</p> <ul style="list-style-type: none"> • CPR should be performed immediately on any person who has becomeunconscious and is found to be pulse less. • Loss of effective cardiac activity is generally due to the spontaneous initiation of a non perfusing arrhythmia, sometimes referred to as amalignant arrhythmia. <p>The most common nonperfusing arrhythmias include the following:</p> <ul style="list-style-type: none"> • The main indication for CPR is cardiac arrest(a condition in which a person's heart 				

S.no	Time	Specific objectives	Content	AV Aids	Researcher's activity	Firemen's activity	Evaluation
3	5min	enlist the principles of cardiopulmonary resuscitation	<p>was stopped). It is used on people in cardiac arrest in order to oxygenate the blood and maintain a cardiac output to keep vital organs live. blood circulation and oxygenation are absolute requirements in transporting oxygen to the tissues.</p> <ul style="list-style-type: none"> The brain may sustain damage after blood flow has been stopped for about 4mts and irreversible damage after about 7mts. If blood flow ceases for 1 to 2hrs, the cells of the body die unless they get an adequately gradual blood flow, because of that CPR is generally only effective if performed within 7mts of stoppage of blood flow. <p>Principles: Failure of the circulation for 3-4 mins will lead to irreversible cerebral damage (Docherty & hall 2002). Basic life support (BLS) can be provided (RCUK 2000b) Resuscitation is the emergency treatment of any condition in which the brain fails to receive enough oxygen.</p> <ul style="list-style-type: none"> An immediate assessment by the rescuer to ensure that cardiopulmonary resuscitation may safely proceed. 	Power Point	Explaining	Listening	
4	5 mins	the assessment of cardiopulmonary resuscitation		Power Point	Explaining	Listening	

S.no	Time	Specific objectives	Content	AV aids	Researcher's activity	Firemen's activity	Evaluation
5	5 mins	enumerate the technique of CPR	<ul style="list-style-type: none"> • Assessment by the rescuer of the likelihood of injury sustained by the patient, particularly injury to the cervical spine. Although there may be no external evidence of injury, the immediate situation may provide the necessary evidence. • Check the patient's level of consciousness by gently shaking his shoulders and asking loudly if he is alright if there is no response the rescuer should commence the BLS assessment immediately. <p>TECHNIQUE: (C-A-B)</p> <p>In its full, standard form, CPR comprises the following 3 steps, performed in order:</p> <ul style="list-style-type: none"> • Chest compressions (C) • Airway (A) • Breathing (B) <p>For lay rescuers, compression-only CPR is recommended.</p> <p>Positioning for CPR is as follows:</p>	Power point	Explaining	Listening	

			<ul style="list-style-type: none">➤ CPR is most easily and effectively performed by laying the patient supine on a relatively hard surface, which allows effective compression of the sternum➤ Delivery of CPR on a mattress or other soft material is generally less effective➤ The person giving compressions should be positioned high enough above the patient to achieve sufficient leverage, so that he or she can use body weight to adequately compress the chest. <p>For an unconscious adult, CPR is initiated as follows:</p> <ul style="list-style-type: none">➤ Give 30 chest compressions➤ Perform the head-tilt chin-lift maneuver to open the airway and determine if the patient is breathing➤ Before beginning ventilations, look in the patient's mouth for a foreign body blocking the airway➤ Chest compression				
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			<p>The provider should do the following:</p> <ul style="list-style-type: none">• Place the heel of one hand on the patient's sternum and the other hand on top of the first, fingers interlaced• Extend the elbows and the provider leans directly over the patient• Press down, compressing the chest at least 2 inches (5 cm)• Release the chest and allow it to recoil completely• The compression depth for adults should be at least 2 inches (instead of up to 2 inches, as in the past)• The compression rate should be at least 100/min• The key phrase for chest compression is, "Push hard and fast"• Untrained bystanders should perform chest compression-only CPR• After 30 compressions, 2 breaths are given; however, an intubated patient should receive continuous compressions while ventilations are given 8-10 times per minute				
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			<ul style="list-style-type: none">• This entire process is repeated until a pulse returns or the patient is transferred to definitive care• To prevent provider fatigue or injury, new providers should intervene every 2-3 minutes (ie, providers should swap out, giving the chest compressor a rest while another rescuer continues CPR Ventilation)• If the patient is not breathing, 2 ventilations are given via the provider's mouth or a bag-valve-mask (BVM). If available, a barrier device (pocket mask or face shield) should be used.• To perform the BVM or invasive airway technique, the provider does the following:• Ensure a tight seal between the mask and the patient's face• Squeeze the bag with one hand for approximately 1 second, forcing at least 500 mL of air into the patient's lungs• To perform the mouth-to-mouth technique, the provider does the following:• Pinch the patient's nostrils closed to assist with an airtight seal•				
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			<ul style="list-style-type: none">• Put the mouth completely over the patient's mouth• After 30 chest compression, give 2 breaths (the 30:2 cycle of CPR)• Give each breath for approximately 1 second with enough force to make the patient's chest rise• Failure to observe chest rise indicates an inadequate mouth seal or airway occlusion• After giving the 2 breaths, resume the CPR cycle				
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S.no	Time	Specific objectives	Content	AV aids	Researcher's activity	Firemen's activity	Evaluation
6	5 mts	the cardio pulmonary resuscitation standards and training	<p><u>Standards and Training:</u></p> <p>The resuscitation council UK formed in 1981 aims to promote the education of lay and professional personnel in the most effective methods of resuscitation appropriate to their needs.</p> <p>A resuscitation training officer (RTO), who should be responsible for training in resuscitation, equipment maintenance and the auditing of resuscitation/ clinical trails.</p>	Power point	Explaining	Listening	
7		enlist the contraindications	<p>Contraindications:</p> <ul style="list-style-type: none"> • The only absolute contraindication to CPR is a do-not-resuscitate (DNR) order or other advanced directive indicating a person's desire to not be resuscitated in the event of cardiac arrest. • A relative contraindication to performing CPR is if a clinician justifiably feels that the intervention would be medically futile. 	Power point	Explaining	Listening	

S.no	Time	Specific objectives	Content	AV aids	Researcher's activity	Firemen's activity	Evaluation
8		List out the complications of CPR	<p>Complications:</p> <ul style="list-style-type: none"> • Fractures of ribs or the sternum from chest compression (widely considereduncommon) • Gastric insufflation from artificial respiration using noninvasive ventilationmethods. 	Power point	Explaining	Listening	

Conclusion:

Despite its nature, CPR is unlikely to restart the heart, its main purpose into maintain a flow of oxygenate blood to the brain and the heart, which are both the most essential organs to human life, effective CPR helps by delaying tissue death and extending the brief window of opportunity for a successful resuscitation without permanent brain damage.

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A.D. AROCKIASAMY

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Date of Examination	24/11/2016

Signature / thumb impression of the candidate.

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