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# **A STUDY TO ASSESS THE EFFECTIVENESS OF PLAN TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE**

**REGARDING CARDIO PULMONARY RESUSCITATION  
AMONG NURSING STUDENTS OF SELECTED  
COLLEGE OF NURSING, JHAJJAR, HARYANA**

**Dissertation Submitted To The**

**Pt. B.D. Sharma University of Health Sciences, Rohtak**

**In Partial Fulfillment of The Requirement**

**For The Degree of**

**Bdm College Of Nursing Chhuchhakwas, Jhajjar, Haryana**

**Pt. B.D. SHARMA UNIVERSITY OF HEALTH SCIENCES, ROHTAK**

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**BDM COLLEGE OF NURSING**

**CHHUCHHAWAS JHAJJAR, HARYANA**

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**JHAJJAR , HARYANA.**

**Approved by: BDM COLLEGE DISSERTATION COMMITTEE.**

**RESEARCH GUIDE .....**

**Prof.-**

**Ritesh Parashar**

**Associate professor of Medical Surgical Nursing,**

**BDM College of Nursing**

**Chhuchhakwas jhajjar.**

**PRINCIPAL .....**

**Dr.Chandraprakash Sharma,**

**M.Sc(N),Ph.D.,**

**Principal**

**BDM College of Nursing**

**Chhuchhakwas Jhajjar.**

**A Dissertation Submitted To The Pt. Bd Sharma University Of  
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The Requirement For The Degree Of Master Of Science In Nursing.**

**BDM COLLEGE OF NURSING CHHUCHHAWAS JHAJJAR, HARYANA**

**Guide**

**Mr. Ritesh Parashar**

Associated Professor BDM CON

Chhuchhakwas Jhajjar Haryana

**Co- Guide**

**Mrs. Kavita Yadav**

Assistant Professor BDM CON

Chhuchhakwas Jhajjar Haryana

**Forwarded to Pt. B.D. Sharma, University of Health Sciences, Rohtak.**

**Roll No.**

Master of Science

Medical –Surgical Nursing

BDM College of Nursing

**Dr. Chandraprakash Sharma**

Principal

BDM College of Nursing

Chhuchhakwas, Jhajjar

Chhuchhakwas, Jhajjar

## CHAPTER-I

### INTRODUCTION

#### BACKGROUND OF STUDY

The heart is a hollow muscular organ located in the center of the thorax, where it occupies the space between the lungs (mediastinum) and rest on the diaphragm. It weights approximately 300 gms. Heart is composed of three layer. The inner layer is endocardium, consist of endothelial tissues and lines the inside of the heart and valves. The middle layer is myocardium made up of the muscles fibers and responsible for pumping action. The exterior layer of heart is epicardium. The heart is encased in a thin fibrous sac called as pericardium<sup>1</sup>

Heart is a four chambered structure i.e. ,left and right atria & left and right ventricles. The atria are superior and separated from each other by the inter-atrial septum. The ventricles are inferior and separated with each other by inter-ventricular septum. Right side of the heart carries deoxygenated blood and left side carry oxygenated blood.<sup>2</sup>

Heart is a muscular organ about the size of a fist and is roughly cone shaped. It is about 12cm long, 9 cm across the broadest point and about 6 cm thick .the walls of the heart is specially made up of the special type of muscles called as cardiac muscles<sup>3</sup>.

The heart lies in the thoracic cavity in the media-stinum. It lies obliquely, a little more to the left than right and present a base above and apex below. The apex is 9 cm to the left of the midline the level of 5<sup>th</sup> intercostals space i.e., a little below the nipple and slightly nearer the midline. The base extends to the level of 2<sup>nd</sup> rib.<sup>4</sup>

When the heart suddenly stops beating , which stops oxygen rich blood to the brain and another organ. A person can die from sudden cardiac arrest in minutes if it is not treated. Sudden cardiac arrest is not a heart attack. A heart attack happens when blood flow to a part of heart is slowed or stopped , usually because of a plaque rupture in the coronary arteries. This causes the death of heart muscles. But a heart attack does not mean the heart stops beating.<sup>5</sup>

Cardiac arrest is the sudden loss of cardiac function, when the heart abruptly stops beating. A person whose heart has stopped will loss consciousness and stop normal breathing and their pulse and blood pressure will be absent. Unless resuscitative efforts are begun immediately cardiac arrest leads to the death within a few minutes. This is often reffered by doctor as ‘ Sudden Death’ or ‘Sudden

Cardiac Death'. Cardiac arrest is obviously a serious medical emergency. The mortality rate from cardiac arrest can be reduced by providing immediate CPR and prompt defibrillation.<sup>6</sup>

Cardio-Pulmonary-Resuscitation (CPR) is a technique of basic life support for oxygenating the brain and heart. It is a appropriate definitive medical treatment can restore normal heart and ventilatory action . CPR technique is used to artificially maintain both of the circulation and ventilation. It involve-

1. External cardiac massage( manual heart compression)
2. Artificial ventilation by either mouth to mouth, mouth to nose or mouth to airway technique
3. Management of foreign body or airway obstruction, coricothyroidectomy may be necessary to open the airway

Resuscitation is a method which includes all the measures that applied to revive the patient who have stopped breathing suddenlyand unexpectedly due to either respiratory or cardiac failure.

Cardio Pulmonary Resuscitation is a technique of basic life support for oxygenating the brain and heart until appropriate definitive medical treatment can restore normal heart and ventilator action.<sup>7</sup>

CPR is also known as Basic Life Support (BLS). It is the non-invasive assessment and intervention used to quickly identify and treat the victim of respiratory or cardiovascular emergencies. Survival from sudden cardiac arrest is optimized when the event is witnessed and CPR is initiated immediately. Patients survival declines dramatically if basic CPR is not initiated within first four minutes. CPR is used to support and restore effective oxygenation and circulation with return intact of neurologic function and ROSC( Return Of Spontaneous Circulation).<sup>8</sup>

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. Every nurse and physician should be skilled in CPR because cardiac arrest, the sudden cessation of breathing, and adequate circulation of blood by the heart, may occur at any time or in any setting. Resuscitation measures are divided into two components, basic cardiac life support and advanced cardiac life support.

The American Heart Association establishes the standards for CPR and is actively involved in teaching BCLS and ACLS to health professionals. The American Heart Association recommends that nurses and physicians working with patients be certified in BCLS and ACLS. CPR alone is not enough to save lives in most cardiac arrest. It is a vital link in the chain of survival that supports the victim until more advanced help is available. The chain of survival is composed of the following sequence: early activation of the EMS system, early CPR, early defibrillation and early advanced care. 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 CAB (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 work experience at an earlier age, which will only help them out more down the road. And since the courses are so short, it does not have to interfere with high school<sup>9</sup>.

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. Several authors described the problem of poor performance in CPR, even when provided by medical professionals. Numerous investigations have reported the problem of poor skills retention after various CPR courses. Studies reporting the need for improvement of resuscitation techniques led to the recent changes in BLS and ALS algorithms. Dangers of Sudden Cardiac Arrests (SCA) that can lead to death of an individual within a few minutes. As per WHO census statistics mortality due to cardiac arrest approximately 4280 out of every one lakh people die every year from sudden cardiac arrest<sup>9</sup>.

More than 350,000 cardiac arrest occurs outside the hospital each year in US. In 2015 any mention sudden cardiac arrest mortality in US was 3,66,807. CPR if especially if administered immediately after cardiac arrest, can double or triple a chance of survival.<sup>10</sup> AHA

According to statistics nearly 7.5 lakh people die of sudden cardiac arrest every year in India. On an average, a victim begins to suffer irreversible brain damage four minutes after the cardiac arrest takes place if CPR is not initiated. For every minute that a cardiac arrest victim does not receive CPR, his chance of survival drops by 10%. An effective CPR from a bystander can double a victim chance of surviving a cardiac arrest. While several countries across the world are training the common man in school, college and work place about chest compression or CPR to save sudden cardiac arrest victims from dying. The World Heart Federation says that less than one percent Indians would presently know how to carry the CPR.<sup>11</sup>

Chances of survival of a cardiac arrest patient increase to double to triple if cardiopulmonary resuscitation (CPR) is performed on a person immediately, according to guidelines issued by India Association of Anesthesiologists (ISA). The mortality rate in cases of sudden cardiac arrest (SCA) in India stands approximately at 4,280 to per one lakh patients, accounting for more than 60 per cent of all cardiac death.

Cardiopulmonary resuscitation is an emergency lifesaving procedure which is performed after the heart stops beating, according to the American Heart Association. According to the data published in India Journal of Anaesthesia, about 70 per cent of out-of-hospital cardiac arrests occur at home and 90 per cent of those who suffer out-of-hospital cardiac arrest die. Considering these limitations and recent developments, by the Indian Society of Anaesthesiologists (ISA) along with the experts from All India Institute of Medical Sciences (AIIMS) has developed for resuscitating cardiac arrest victims outside the hospital by the layperson - the compression-only life support (COLS). Experts say that SCA is the malfunction or cessation of electrical and mechanical activity of the heart which is

characterized as a dangerously fast heart rate, irregular rhythm, makes patient unconsciousness with irregular breathing."We recommend three core links for resuscitation in adult by layperson i.e. Early recognition and activation, Early chest compression and Early transfer. Once the rescuer recognizes an unresponsive victim, he/she should call for either an ambulance or any other layperson so that the victim can be transferred for advanced medical management at the earliest. Thereafter, the rescuer should initiate chest compressions," said Dr Rakesh Garg, Professor of Anaesthesiology, Critical Care, Pain and Palliative Medicine at AIIMS. "Compression-Only Life Support (COLS) is a simple, easy to remember. It is the preferred algorithmic approach by a layperson who witnesses a victim collapsing or comes across a victim who has collapsed. It can even be performed by family members who witness the collapse of their near and dear ones. The method can be easily taught and training can also be imparted telephonically, said (Prof) Dr Garg, who is one of the authors of issued guidelines on CPR published in India Journal of Anaesthesia. Abhishek Dubewar, Senior Director - Cardiac and Vascular Group, Medtronic Indian Subcontinent said: "It is imperative to highlight the importance of knowing what to do in a cardiac emergency and stepping up to help. Medtronic had launched the first-of-its-kind program, ChiranjeevHriday- CPR Seeko DilDhadkne Do (Learn CPR and Keep the Heart Beating) at DivyaKumbh 2019 with an objective to provide hands-only CPR training to visitors and first responders at KumbhMela,"We have trained more than 10,000 people in the last 9 months across the country. Our vision also aligns with the government's focus on improving access to diagnosis, treatment and recovery from non-communicable diseases in India, he added. DrSwadeep Srivastava, Founder Heal Foundation said, "As per the survey conducted by Lybrate around 98 per cent Indians are not trained in the basic life-saving technique of cardiopulmonary resuscitation (CPR) during sudden cardiac arrest.<sup>12</sup>

## **STATEMENT OF THE PROBLEM**

**A study to assess the effectiveness of plan teaching programme on knowledge and practice regarding Cardio Pulmonary Resuscitation among nursing students in selected college of nursing jhajjar Haryana**

## **OBJECTIVES:**

1. To assess the knowledge and practice level regarding cardio pulmonary resuscitation among nursing students in selected colleges.



2. To find out the relationship between pretest and posttest knowledge and practice score regarding CPR among nursing students.
3. To find out the association between knowledge regarding cardio pulmonary resuscitation among nursing students with selected socio demographic variables.
4. To find out the association between practice regarding cardio pulmonary resuscitation among nursing students with selected socio demographic variables.
5. To find out the association between practice and knowledge regarding cardio pulmonary resuscitation among nursing students

## OPERATIONAL DEFINITION

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

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

**Structured Teaching Programme:** It refers to systematically developed Instruction designed to provide information regarding cardio pulmonary resuscitation to degree students.

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

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

**Practice** –Action rather than ideas or thought.

**Nursing students:** Students who are doing nursing courses.

## 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 nursing students (such as age, sex, religion, previous information regarding cardio pulmonary resuscitation).

**H3:-** There will be association between the practice and knowledge regarding the cardio- pulmonary- resuscitation.

### **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.

### **LIMITATION**

The study was conducted to those who were,

- Available during data collection period
- In the age group of 19-22 yrs.
- Willing to participate with study
- Able to read and write English

### **THEORETICAL FRAME WORK**

Theoretical 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).

Theoretical 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, nursing 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
- ☐ PTP 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.



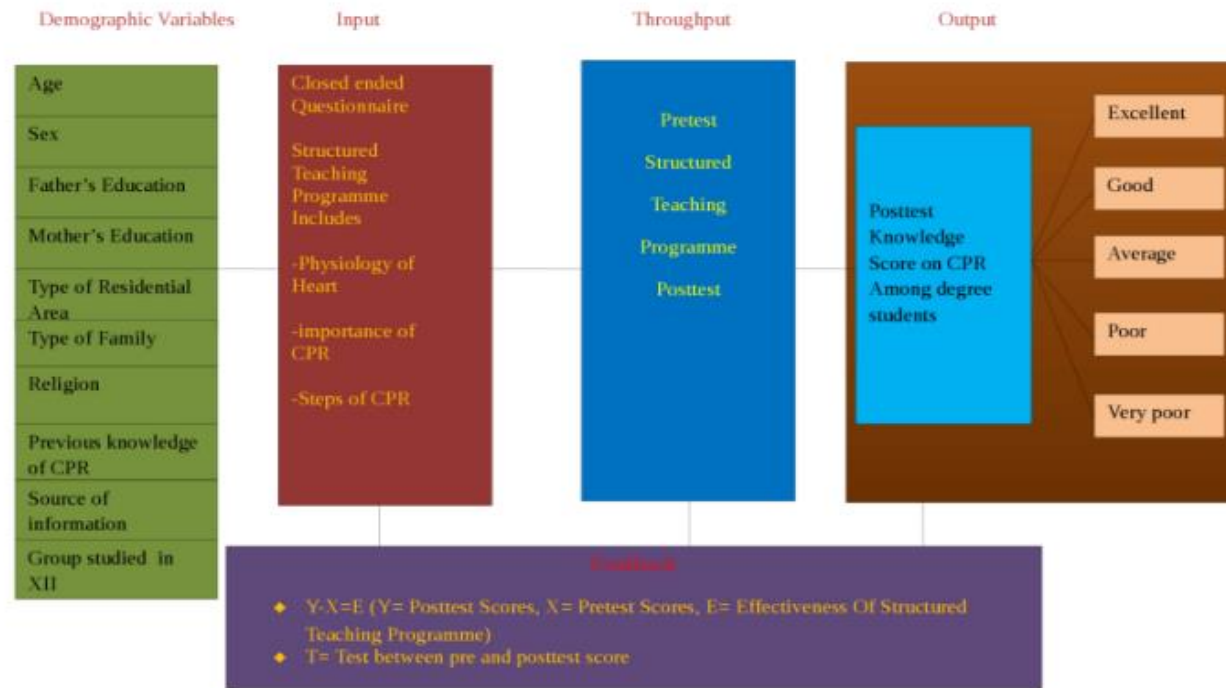


Fig 1.1.J.W.KENNY'S OPEN SYSTEM MODEL

## CHAPTER- II

### REVIEW OF LITERATURE

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 complication 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.

The literature reviewed has been presented under the following headings:

- A) Review of literature related to knowledge
- B) Review of literature related to practice

#### **A) Review of literature related to knowledge**

1. **Qara fadiJandali (2019)** In this study, we assess the knowledge of nonmedical people regarding cardiopulmonary resuscitation in the case of out-of-hospital cardiac arrest. A cross-sectional survey containing 22 questions was administered to individuals aged  $\geq 18$  years, who were not health care providers. Sample included residents of Jeddah, Saudi Arabia. The survey included knowledge about cardiac arrest findings, previous experience with CPR, knowledge of basic life support (BLS), and concerns related to CPR. The fully completed survey forms of 600 respondents were analysed. Out of these, 28.7% stated that they had previously received training in CPR. Regarding manifestations of cardiac arrest, 40.7% suggested loss of consciousness, 36.8% suggested cessation of breathing, and 24.7% suggested cessation of circulation. Only 11.7% among respondents were found to be able to perform chest compressions. Also, only 9.2% could perform mouth-to-mouth ventilation, and 29.5% were able to perform both. While 55.5% knew the location for performing chest compressions, 44.7% knew the correct depth, and only 18.5%



knew the correct compression–ventilation rate. Bystander CPR had been performed by only 10.7%. In our sample, we found lack of knowledge.<sup>12</sup>

2. **–Kordahl Inger Lund** 2019 a study to assess Relationship between level of CPR training, self-reported skills, and actual manikin test performance—an observational study Quality of bystander cardiopulmonary resuscitation (CPR) skills may influence out of hospital cardiac arrest (OHCA) outcomes. We analyzed how the level of CPR training related to indicators of good CPR quality and also the relationship between self-reported skills and actual CPR performance. Two hundred thirty-seven persons trained in standardized BLS curricula were divided into three groups according to the level of training: *group I* (40 h basic first aid training), *group II*, and *group III* (96 h advanced first aid, group III had also some limited additional life support training courses). We recorded the participants' real-life CPR experience and self-reported CPR skills, and then assessed selected CPR quality indicators on a manikin. The data were analyzed with multivariate logistic regression. Differences between groups were analyzed with ANOVA/MANOVA. Out of 237 participants, 125 had basic training (group I), 84 reported advanced training (group II), and 28 advanced training plus additional courses (group III). Group II and III had shorter start-up time, better compression depth and hand positioning, higher fraction of effective rescue ventilations, shorter hands-off time, and thus a higher chest compression fraction. Chest compression rate did not differ between groups.<sup>13</sup>
3. **Oteir Alaa O, et al,** (2019) a cross-sectional study Cardiopulmonary resuscitation level of knowledge among allied health university students in Jordan: This is a cross-sectional study assessing CPR knowledge among AHP students. A multidisciplinary expert panel designed a survey, which then was piloted to 20 potential participants. The survey had two sections, including demographics and knowledge questions. Knowledge questions scores ranged from 0 to 10, where 10 indicates all questions were answered correctly. A total of 883 students completed the surveys and were included in the study. The mean age was 21 years ( $\pm 1.6$ ) and the majority were females (73.1%). A total of 693 (78.5%) students did not receive previous CPR training and the top barriers to receiving CPR training were unawareness of training opportunities and a lack of time. Participants had a mean CPR knowledge score of 3.9 ( $\pm 1.7$ ) out of 10 maximum potential points. Trained participants had a higher mean score compared with Untrained participants had a higher mean score compared with the untrained (4.6 ( $\pm 1.6$ ) vs 3.8 ( $\pm 1.6$ ),  $p < 0.001$ ). Previous training (adjusted  $\beta = 0.6$ ; 95% CI 0.2 to 0.9;  $p < 0.001$ ) and being in the physical therapy programme (adjusted  $\beta = 0.5$ ; 95% CI 0.1 to 0.8;  $p = 0.01$ ) were associated with higher knowledge. There is poor knowledge of CPR among AHP students including trained individuals. Efforts to increase the awareness of CPR should target students and professionals who are highly likely to encounter

patients requiring CPR. Compulsory training courses, shorter training periods as well as recurrent and regular refreshing courses and use of various media devices are recommended. untrained (4.6 ( $\pm$ 1.6) vs 3.8 ( $\pm$ 1.6),  $p < 0.001$ )<sup>14</sup>.

4. **Alsharari et al Owaid Abdulmajeed** 2018 study to assess the current status of knowledge and attitude towards cardiopulmonary resuscitation (CPR) among the university students in the northern region of Saudi Arabia. A cross-sectional, prospective study was conducted among the students of four northern region universities of Saudi Arabia (Jouf, Hail, Northern Borders, and Tabuk) between March and November 2017. A self-administered questionnaire was prepared in both Arabic and English languages and distributed to all the participants. All the data were collected and analyzed by using SPSS version 21. *Results.* A total of 947 students from four universities completed the questionnaire: Jouf (57%), Hail (15%), Northern Borders (13%), and Tabuk (15%). Although 72% of students have previous knowledge about CPR, 49% of them lack knowledge about a medical emergency. Moreover, 59% failed to answer regarding CPR where only 41% wrote the ABC steps in the correct sequence. However, 67% of the participants had very poor knowledge, 89% of participants desired to receive additional CPR training course, and 49% of the students thought that CPR training should be a mandatory graduation requirement for all universities. There were no significant differences between male and female students. Students from medicine-related colleges have significantly () more knowledge and scored better compared with non-medicine-related colleges. Tabuk University scored better compared to the others, but the overall knowledge and attitude scored were low. *Conclusions.* Overall knowledge about CPR among the university students was not satisfactory; however, attitude towards CRP training was very positive. Our results suggested that there is a need for improvement of CPR education among Saudi university students.<sup>15</sup>

5. **MohannadEidAbuRuz, MahfuzJudeh & Jarrah** Samiha, 2018 study evaluated public awareness, knowledge and attitudes towards basic life support in Jordan. A descriptive, cross-sectional design with a convenience sample of 300 Jordanian adults aged over 18 years, recruited from three metropolitan areas in the northern, middle and southern regions. A total of 87 participants (29%) stated that they have received training about cardiopulmonary resuscitation (CPR). Among them, 20 participants (23%) received their training through the media. The highest response rate for cardiac arrest signs was chest pain ( $n = 129$ , 43%). Participants who received training had greater knowledge of the three signs of consciousness evaluation. The numbers of participants who received training and performed chest compression, mouth-to-mouth ventilation, and both compression and

ventilation were higher than those who did not receive training. Overall, 256 participants (88.3%) reported that they would perform CPR on someone from their family without hesitation. The most important concern about performing CPR was making a mistake.<sup>16</sup>

6. **Pozo Pozo del Pozo Javier Francisco, 2016, Basic life support knowledge of secondary school students in cardiopulmonary resuscitation training using a song** This pre-test/post-test control design study enrolled secondary school students from two middle schools randomly chosen in Córdoba, Andalusia, Spain. The study included 608 teenagers. A random sample of 87 students in the intervention group and 35 in the control group, aged 12-14 years were selected. The intervention included a cardiopulmonary resuscitation song and video. A questionnaire was conducted at three-time points: pre-intervention, one month and eight months post-intervention. On global knowledge of cardiopulmonary resuscitation, there were no significant differences between the intervention group and the control group in the trial pre-intervention and at the month post-intervention. However, at 8 months there were significant differences with a p-value = 0.000 (intervention group, 95% CI: 6.39 to 7.13 vs. control group, 95% CI: 4.75 to 5.92), ( $F_{(1,120)}=16.644$ ,  $p=0.000$ ). In addition, significant differences about students' basic life support knowledge about chest compressions at eight months post-intervention ( $F_{(1,120)}=15.561$ ,  $p=0.000$ ) were found. Our study showed that incorporating the song component in the cardiopulmonary resuscitation teaching increased its effectiveness and to remember the cardiopulmonary resuscitation algorithm.<sup>1</sup>
7. **MutazM.AlharbiAbdullahS.Alrowithit** Exploring the extent of knowledge of CPR skills among school teachers in Riyadh, KSA This cross-sectional study was conducted using a 12-statement questionnaire about CPR knowledge that was administered to teachers of general educational schools in Riyadh. As many as 43% of school teachers knew about CPR, but 57% had no previous information about CPR. Sources of information about CPR included previous study at a university (29.3%), training courses (15.2%), TV (24.2%), and the Internet (18.2%). When faced with a case that needed CPR, 38.9% of teachers performed CPR, while 37% called an ambulance. Approximately 53% agreed that CPR training courses should be mandatory. Only 63% of teachers knew the contact numbers for emergency services. This study has revealed a critical issue that a majority of school teachers do not have adequate knowledge about CPR.<sup>18</sup>
8. **SoSun Kim ,Young SookRoh** 2016 A questionnaire study to assess the Status of cardiopulmonary resuscitation curricula for nursing students: In this study, we explored the status of curricula for nursing students and identified the priorities for curricula improvement using importance–performance analysis. A cross-sectional, descriptive survey was conducted, which included 62 instructors in charge of resuscitation training. The participants completed the self-administered, 32-item Resuscitation Curricula

Attributes Importance–Performance Scale. With Wilcoxon signed-rank test, an importance–performance analysis matrix was created. There was a significant overall mean difference between importance and performance in all 32 items, with “recognition of arrest rhythms” showing the largest difference. Importance–performance analysis suggests that the priorities for improvement are “nursing record documentation” and “recognition of arrest rhythms”. The development of cardiopulmonary resuscitation curricula should focus on attributes that are expected of practitioners and are relevant to current healthcare environment needs.<sup>19</sup>

**9. Feridun Koşar Mustafa, Mutlu Vural et al** Cardiopulmonary resuscitation knowledge among nursing students: a questionnaire study The questionnaire comprised of three parts about CPR knowledge: the first dealing with general questions to understand the importance of CPR in clinical practice; the second comprising the main goal and accuracy of CPR intervention; and the last consisting of questions targeting the indications, methods, and effectiveness of CPR. Descriptive statistics and multiple response analyses were done by IBM SPSS version 20. The students had good knowledge about the importance of CPR in clinical practice and stood average in knowing its indications and effectiveness. The mean score was  $64.62 \pm 17.84$  out of 100 points. While only 11% of them were completely aware about the universal compression ventilation ratio, 16.2% were aware of the current. The mean score was  $64.62 \pm 17.84$  out of 100 points. While only 11% of them were completely aware about the universal compression ventilation ratio, 16.2% were aware of the current compression depth. In addition, 21.8% of participants have only indicated the order of CPR being compression, airway, and breathing. Knowledge of CPR is good among the nursing students. However, skills of CPR have to be improved by current training programs at regular intervals. Their knowledge and practical approach have to be updated with the current guidelines in CPR.<sup>20</sup>

**10. Kelechi E Okonta1, Boma A. N. Okoh2** (2015) Theoretical knowledge of cardiopulmonary resuscitation among clinical medical students in the University of Port Harcourt, Nigeria. A cross-sectional study on the knowledge of CPR among clinical medical students (4<sup>th</sup>–6<sup>th</sup> year classes) of the University of Port Harcourt. The data collected were analyzed using the Epi info version 7 statistical packages and Chi-square test was used to compare proportions with  $P < 0.05$  considered significant. Two hundred and forty-five questionnaires were distributed with 177 (72.2%) duly filled. The male to female ratio was 1.5:1, the age range was 19–40 years with a mean of  $24.50 \pm 2.79$  years. The 6<sup>th</sup> year class had 109 (61.6%) respondents, 5<sup>th</sup> year had 49 (27.7%) and 4<sup>th</sup> year had 19 (10.7%). Forty-six (26.0%) of students had some form of CPR training and 11 (6.2%) admitted having performed CPR. Of the 46 students that had CPR training, 39 (84.8%) did so because it was given to them at some point in their medical training, while 7 (15.5%) acquired the training due to personal interest. One hundred and two (74.6%) students scored  $< 50\%$ , while 45 (25.4%) scored  $> 50\%$ . The number of students scoring  $> 50\%$  increased with increasing class level ( $P <$

0.001). Students with some prior training in CPR (50.0%) scored above average compared to the students without CPR training (16.8%) ( $P < 0.001$ ). There is a need to periodically and constantly organize CPR for the medical students and incorporating the training in their medical curriculum to enhance better understanding of the procedure.<sup>21</sup>

**11. Valoración del nivel de conocimientos y su adecuación en materia de** Assessment of the knowledge level and its relevance in terms of CPR in medical personnel of the hospital emergency medical system of the Autonomous Community of the Region of Murcia RCP en el p A 20-question survey based on American Heart Association (AHA) and Spanish Society of Medicine and Intensive Care (SEMICYUC) recommendations was carried out. Evidence-based results strongly suggest that participants do not follow the international standards as regards training in CPR. Sixty four point seven percent of the participants attend at least one CPR course after 2010, but 10.1% never took a refresher course. Thirty percent of the faculties, 90% of the medical residents and 7% of the nursing staff did not obtain the training required by the AHA in hospital emergency services (one course every two years). Our results show that the higher number of courses received, the higher is the level of knowledge regarding CPR that health staff obtain. There is a need for new approaches as regards the learning methodology used in CPR courses. Our results show that healthcare staff are aware of the need to acquire knowledge on CPR via regular training.<sup>22</sup>

**12. Latino and Enfermagem** (2011) conducted a study to assess theoretical knowledge of nurses working non hospital urgent and emergency care units. Concerning cardiac arrest and resuscitation. The study was conducted using descriptive study with quantitative approach. The population comprised 91 nurses of the Huecuv in the metropolitan region of Campinas working on the day shift (8hours), data were collected through a questionnaire divided in to parts. The sample was composed of 73 (80.2%) individual, three (2.7%) of the nurse refused to participant, eight (7.3%) were on vacation (or) sick leave, a total of the nurses incorrectly answered, these individual do not know the Basic life support (BLS) guidelines. Only 37% answered it correctly.<sup>23</sup>

**13. Sita. P. Valarmathi Selvaraj** (2011) conducted a study to assess knowledge of nurses in college of medical science – teaching hospital, Bharathpur, Nepal. the study was conducted using cross—sectional design with the sample of 175 nurses. The study result was the mean  $\pm$  SD of all total knowledge score was  $11.45 \pm 2.67$  (the maximum possible score was 21) the authors concluded in general, the knowledge of the nurses was found to be low, thus suggesting a need for educational intervention.<sup>24</sup>



**14. Kanstad, B. K and Nilsen, S. A** (2011) conducted a study to assess cardiopulmonary resuscitation (CPR) knowledge and attitude to performing by stander CPR among secondary school students in Norway. The study was conducted using questionnaire were distributed to 9 secondary school with 376 sample (16 to 19) were included. The study result reveled 90% knew the national medical emergency telephone numbers (113). 83% using to perform by sander cardiopulmonary resuscitation. In a given situation and among this 16% had perform full basic life support. The authors concluded as by providing students with good quality basic life support (BLS) training in school, the upcoming generation in Norway may strength on first part of the chain of survey in out of hospital cardiac arrest (CA).<sup>25</sup>

**15. Bhatnagar Vidhu, etal** 2017 Cardiopulmonary resuscitation: Evaluation of knowledge, efficacy, and retention in young doctors joining postgraduation program The study type was interventional, nonrandomized with end point classification as efficacy study. Study Interventional model was single group assignment. A questionnaire-based study was conducted on 41 first year PG students. Their educational qualification was Bachelor of Medicine and Bachelor of Surgery. The study was conducted; 3 months after, these PG students joined hospital for their PG studies. The questionnaire designed by the Department of Anesthesiology and Critical Care was given as the pretest (before the CPR training program was initiated), posttest (immediately after the CPR training program was concluded), and residual knowledge test (conducted after 6 months of the CPR training program). After collection of data, a descriptive analysis was performed to evaluate results. Statistical analysis was conducted for determining the test of significance using two-tailed, paired *t*-test. The average overall score was 25.58 ( $\pm 5.605$ ) marks out of a maximum of 40 marks in the pretest, i.e., 63.97%. It improved to 33.88 ( $\pm 3.38$ ) marks in posttest, i.e., 84.74%. After 6 months in the residual knowledge test, the score declined to 26.96 ( $\pm 6.09$ ) marks, i.e., 67.4%. The CPR training program being conducted was adequately efficacious, but a refresher course after 6 months could help taking the knowledge and skills acquired by training.<sup>26</sup>

**16. Mittal R Savaliya1, Mukeshkumar B Vora2, SN Gorynwala1** 2018An evaluation of knowledge and practices toward the basic life support/cardiopulmonary resuscitation among undergraduate dental students.<sup>27</sup>

**17. „Jalali Amir, AfshinGoodarzi [...], (2013) Study of Survival Rate After Cardiopulmonary Resuscitation (CPR) in Hospitals of Kermanshah** In this prospective study, 320 samples were examined. A purposive sampling method was used, and data was collected using a researcher-made information form with content and face validity and reliability of  $r = 0.79$ . Data was analyzed with STATA9 software and statistical tests, including calculation of the success rate, relative risk (RR), chi-square and

Fisher at significance level of  $P < 0.05$ . The initial success rate of cardiopulmonary resuscitation was equal to 15.3%, while the ultimate success rate (discharged alive from the hospital) was as 10.6%. The six-month success rate after resuscitation was 8.78% than those who were discharged alive. There were no significant statistical differences between different age groups regarding the initial success rate of resuscitation ( $P = 0.14$ ), and the initial resuscitation success rate was higher in patients in morning shift ( $P = 0.02$ ).<sup>28</sup>

## Literature Review Related to Practice

1. Mayureshkumar Pareek, Vandana Parmar, Jigisha Badheka 2018 Study of the impact of training of registered nurses in cardiopulmonary resuscitation in a tertiary care center on patient mortality. Training regarding CPR was given to the nurse and CPR mortality 1-year before basic life support (BLS) and advance cardiac life supported (ACLS) training were collected and compared with post training 1 year CPR mortality. A total of 632 adult patient suffering in hospital cardiac arrest over the study period. CPR was attempted in 294 patient during the pre-BLS/ACLS training period and in 338 patient in the post BLS/ACLS period. In the pre BLS period 58 (19.37) patient had return to spontaneous circulation while during the post BLS 102(30.1) had spontaneous circulation.<sup>29</sup>
2. Lavanya 2017 Attitude knowledge and practice study on CPR among the medical and nursing interns. 100 samples were taken for the study and 30 questions were present. Median of nursing interns is 6 while median of medical interns is 5. This indicates that both have poor knowledge and practice.<sup>30</sup>
3. Epsi Anbu J An evaluative study to assess the effectiveness of structured teaching programme on knowledge regarding Cardio Pulmonary Resuscitation among degree students in selected colleges, Komarapalayam was conducted by as a partial fulfillment of the requirements for the degree of Master of Science in nursing at Anbu college of nursing, Komarapalayam affiliated to the Tamil Nadu Dr.M.G.R. Medical University, Chennai. The study was conducted in Anbu Arts and Science College, Komarapalayam. The population for this study was degree students. Purposive sampling technique was used to select the sample. Data collection tool consisted of demographic variables, questionnaire regarding Anatomy and Physiology of Heart, Cardiac arrest and CPR to assess the level of knowledge among degree students. The content validity of the tool was done by 5 experts in different fields. Reliability was obtained by Karal Pearson's method, the score was  $r=0.9$  which was highly reliable. Pilot study was conducted in Anbu arts and Science College (other department) to find out the feasibility of conducting the study. The collected data was tabulated, analyzed and

interpreted by using descriptive and inferential statistical methods. Major findings of the study were regarding the effectiveness of STP on the level of Knowledge. The obtained 't' value is 20.66 .Hence the null hypothesis was rejected.<sup>31</sup>



# 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.

### **RESEARCH DESIGN AND 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 quasi experimental design and approach in which one group pre and post design without control group.

### **RESEARCH DESIGN**

**O1-----X-----O2**

**O2-O1=E**

The symbols used are:

O1 - knowledge of CPR before implementing structured teaching programme.

X - Structured teaching programme regarding CPR

O2 - knowledge of CPR after implementing structured teaching programme

E - Effectiveness of structured teaching programme

### **SETTING OF THE STUDY:**

The study was conducted in - BDM College of Nursing Jhajjar

### **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 nursing students.

### **SAMPLING AND SAMPLING TECHNIQUE:**

**a)Sample**



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

The students in nursing section are the sample.

### **b) 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 50

### **c) 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.

### **INCLUSION CRITERIA:**

This study was conducted for the student who were-

- All Nursing students
- Age group(19-22)
- Able to read English.

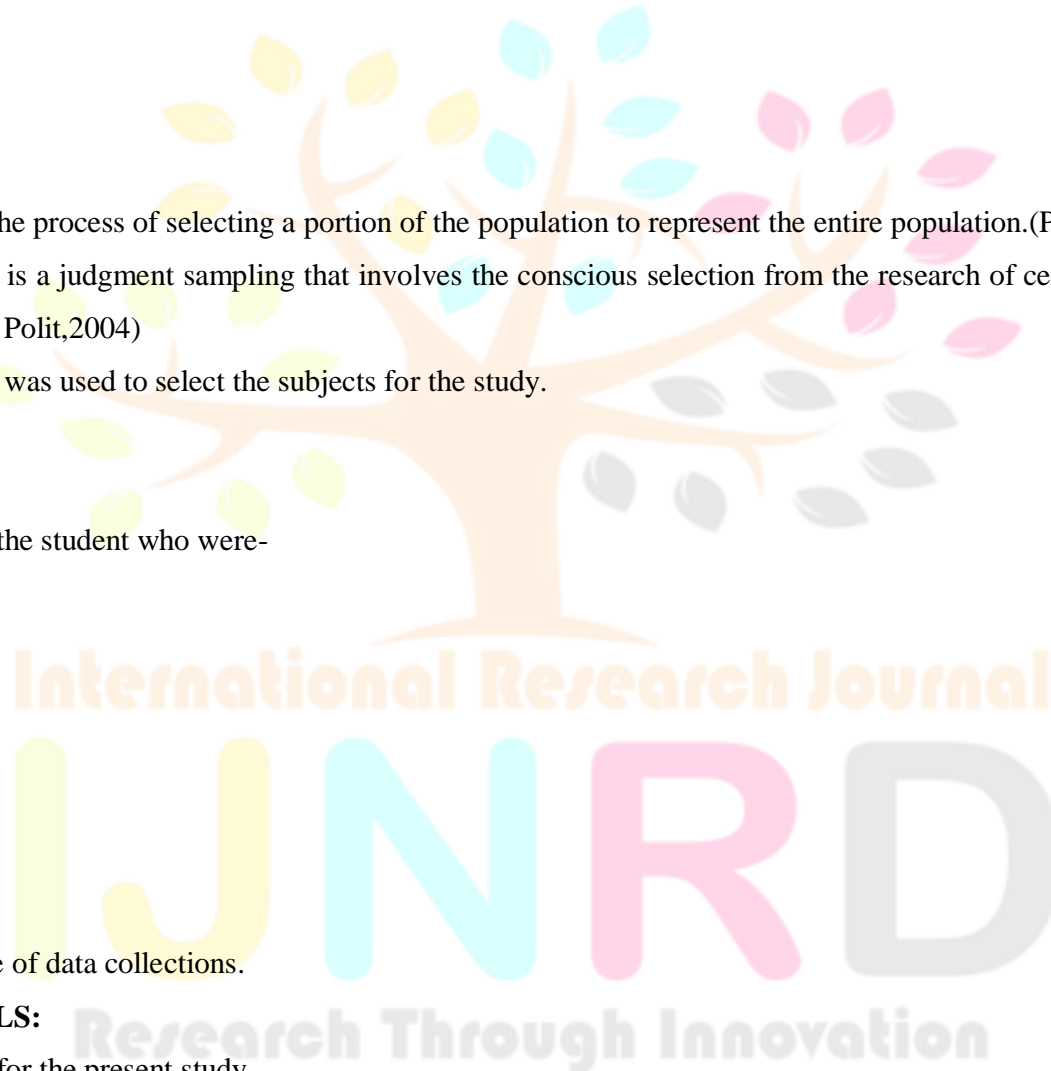
### **EXCLUSION CRITERIA:**

- Not willing to participate
- Not able to read English
- Not available during the time of data collections.

### **DEVELOPMENT OF TOOLS:**

The following tools was used for the present study-

1. Plan teaching programme regarding CPR among nursing students.
2. Questionnaire to assess the knowledge regarding CPR among nursing students.



## 3. Checklist related to practice.

**THE STEPS USED FOR PREPARING TOOL:****1. 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.



**Fig. 3.1 Schematic presentation of research design****2. 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.

**C) Checklist**

It was prepared to assess the practice of students regarding CPR.

**3. 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.

**4. Preparation of the final draft:**

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

**DESCRIPTION OF THE TOOL:****Construction of Questionnaire**

The questionnaire consists of 2 parts.

**Part A:**

It consists of demographic characteristics such as age, sex, socioeconomic status, Type of family, Residential area, course in nursing, previous knowledge of CPR.

**Part B:**

1) **Questionnaire related to knowledge-** It consists of knowledge items regarding CPR. This section consists of 35 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 45 items there was 35 maximum obtainable score.

2) **Checklist related to practice -**

**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: 3.1- Scoring the level of knowledge regarding the questionnaire**

Level of knowledge	Percentage of scores	Actual score
Very poor	<20%	0-7
Poor	21% to 40%	8-14
Average	41% to 60%	15-21
Good	61% to 80%	22-28
Very good	81% to 100%	29-35

**Table:3.2- Scoring the level of knowledge related to the checklist**

Level of knowledge	Percentage of score	Actual score
Poor	0-50%	0-5
Good	51-100%	6-10

**4. Test of Validity and Reliability****a) Validity**

Validity is the degree to which an instrument measures what it is supposed to measure. (Polit and Beck, 2007)

Content validity of the questionnaire and lesson plan was established and sent to experts from various fields such as medical and surgical nursing (n=3), doctorate in medicine (n=1), biostatistician (n=1). Their opinion and suggestions were considered to modify the tools.

### **b) Reliability**

Reliability of the tools was tested by implementing the tool and structured teaching programme on 5 students admitted in other departments in Anbu Arts and Science College. Test retest method where Karl's Pearson's correlation formula was used to find out the reliability of tool. The r value was  $r = 0.9$ .

## **5. Ethical Consideration**

Prior to the data collection written permission was obtained from the Principal,

### **Data Collection Procedure:**

#### **Period of data collection**

During this period, the investigator collects both pre test, teaching with structured teaching programme and then posttest.

#### **Stages of data collection**

The data was collected in following three steps:

##### **a) Pre-test**

Pretest was conducted among nursing students who were in college by giving questionnaire to assess the knowledge on CPR, before implementation of PTP.

##### **b) Implementation of PTP**

Immediately after pretest, PTP was given to the same students regarding CPR.

##### **c) Posttest**

Evaluation was done by conducting posttest after 7 days of implementation of PTP. Post test was conducted by using the questionnaire used for the pretest.



# CHAPTER-IV

The diagram illustrates the relationship between Problems, Research, and Education. It features three overlapping circles: a pink circle labeled 'Problems', a yellow circle labeled 'Research', and an orange circle labeled 'Education'. The intersection of 'Problems' and 'Research' is shaded with red diagonal lines. The intersection of 'Research' and 'Education' is shaded with blue diagonal lines. The intersection of all three circles is shaded with both red and blue diagonal lines. Arrows point from the 'Problems' circle to a box labeled 'Wrong process'. An arrow points from the 'Research' circle to a box labeled 'Methodology'. An arrow points from the 'Education' circle to a box labeled 'Experiment'. A dashed arrow points from the 'Education' circle to a box labeled 'Question'. A box labeled 'Misunderstand' points to the intersection of 'Problems' and 'Research'. A box labeled 'Theories' points to the intersection of 'Research' and 'Education'. A box labeled 'Solution' points to the intersection of all three circles. Below the diagram, five students are sitting on the floor, looking at books and papers.

## CHAPTER-IV

### DATA ANALYSIS AND INTERPRETATION

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 50 nursing students who were studied in BDM college of Nursing .The present study was designed to assess the effectiveness of plan teaching programme on Cardio Pulmonary Resuscitation among degree students. Collected data was tabulated, analyzed and interpreted using descriptive and inferential statistics.

#### OBJECTIVES OF THE STUDY:

1. To assess the knowledge and practice level regarding cardio pulmonary resuscitation among nursing students in a selected college.
2. To evaluate the effectiveness of plan teaching programme on knowledge regarding cardio pulmonary resuscitation among nursing students in a selected college.
3. To find out the association between knowledge regarding cardio pulmonary resuscitation among nursing students with their selected socio demographic variables.
4. To find out the association between practice regarding cardio pulmonary resuscitation among nursing students with their selected socio demographic variables.

#### ORGANIZATION OF FINDINGS:

**Section I:** - Descriptive analysis of demographic variables.

**Section II:** - Assessment of knowledge and practice of nursing students regarding CPR prior to implementation of PTP.

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

**Section IV: - Association between the knowledge, practice and their selected demographic variables****HYPOTHESIS:**

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

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

H3: There will be association between the practice and knowledge regarding the cardio- pulmonary- resuscitation.

**SECTION I: - DESCRIPTIVE ANALYSIS OF DEMOGRAPHIC VARIABLES.**

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

**TABLE NO 4. 1:-FREQUENCY AND PERCENTAGE DISTRIBUTION OF STUDENTS ACCORDING TO THE DEMOGRAPHIC VARIABLES:**

SR.NO.	Demographic Variables	Frequency	Percentage
1.	<b>Age</b>		
	a)18-20 years	24	48%
	b)20-22 years	26	52%
	c) > 22 years	0	0%
2.	<b>Gender</b>		
	a)Male	17	34%
	b) Female	33	66%
3.	<b>Area</b>		
	a) Rural	30	60%
	b) Urban	20	40%

4.	<b>Socio- economic status of family</b>  a) Upper class b) Middle class c) Lower class	19 17 14	38% 34% 28%
5.	<b>Type of family</b>  a) Nuclear b) Extended c) Joint	26 10 14	52% 20% 28%
6.	<b>Course in nursing</b>  a) ANM b) GNM c) BSc NURSING d) Other	0 14 36 0	0% 28% 72% 0%
7.	<b>Previous knowledge about CPR</b>  A) Yes B) No	25 25	50% 50%

Regarding age, 48%(24) of respondents are in the age group of 18 -20 years, 52%(26) of respondents are in the age group of 20-22 years.

According to the sex, 34 %( 17) of respondents are male students and 66% (33) of respondents are female students.

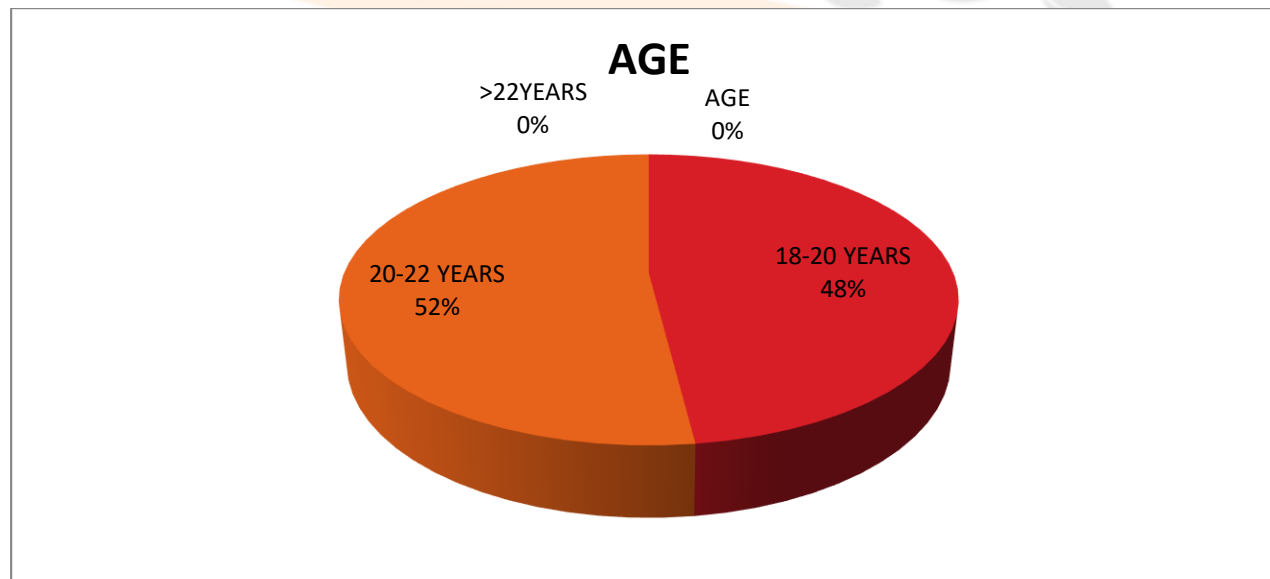
.According to the residential area of degree students, 40 %( 20) of respondents are from urban area and 60 %( 30) of respondents are from rural area.

According to the socio-economic status 38%(19) students belongs to upper class family, 34%(17) students belongs to the middle class family, 28%(14) students belongs to the lower class.

According to the type of family, 22 %( 11) of students belong to joint family, 52 %( 26 ) of students belong to nuclear family.

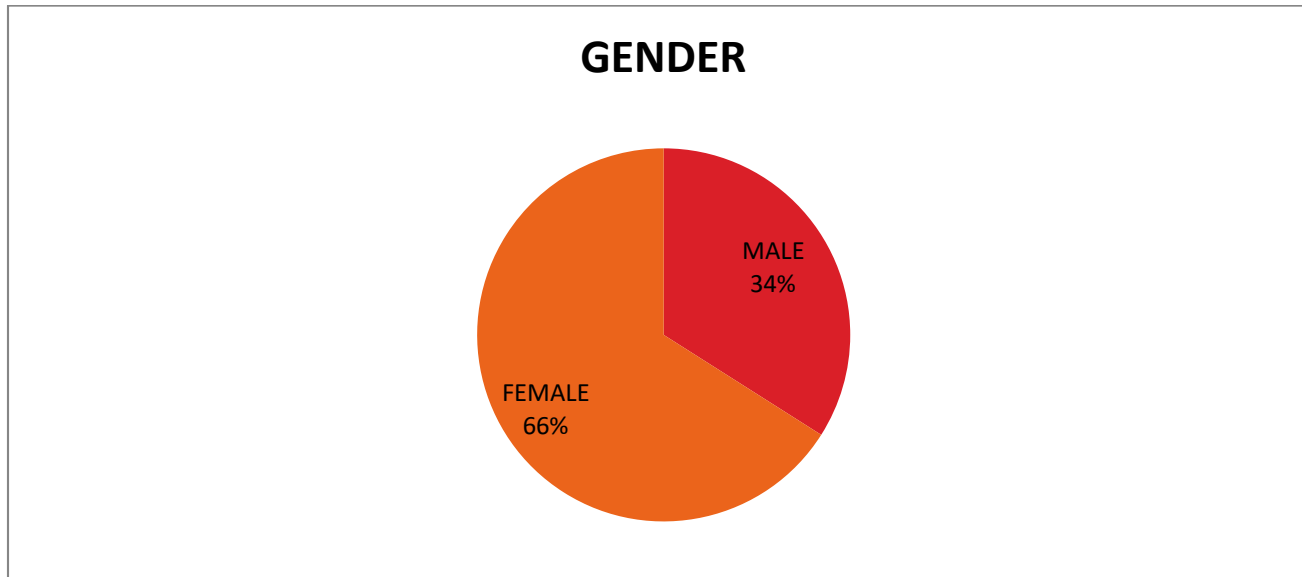
According to the course in nursing there is no student who is doing ANM or Other course in nursing, 28%(14) students doing GNM, 72% (36) students doing BSC Nursing .

According to their previous knowledge, 56 %( 28) of students are having previous knowledge about CPR and 44 %( 22) of students are not having knowledge about CPR.

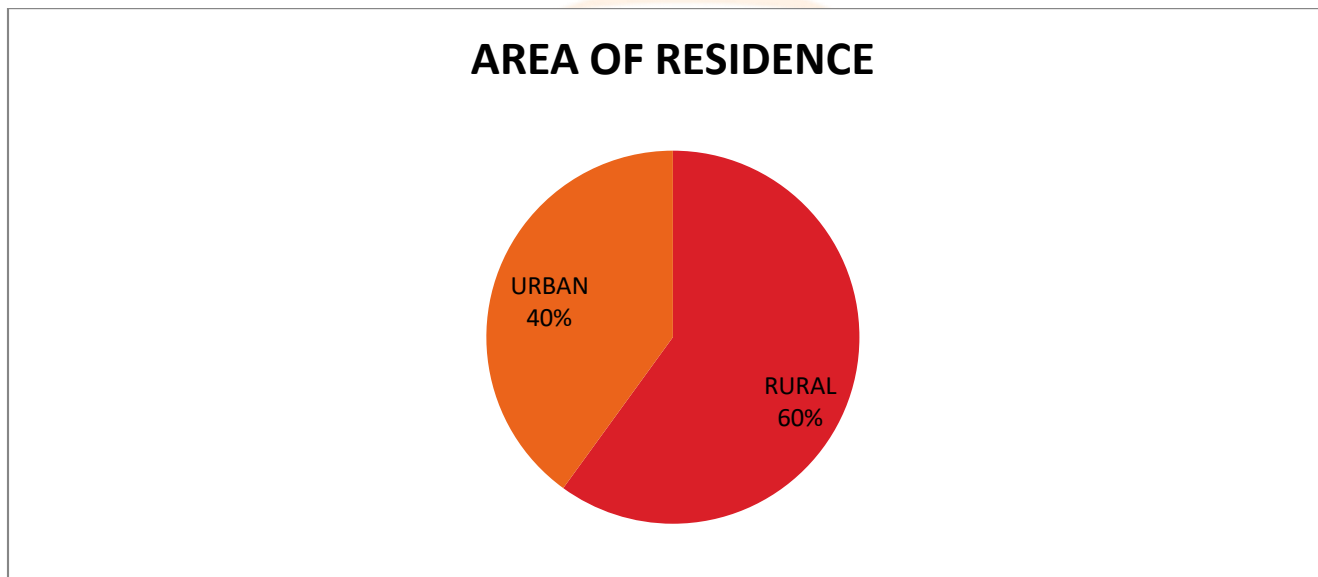


**Fig. 4.1: Pie chart showing percentage distribution of age of nursing student.**

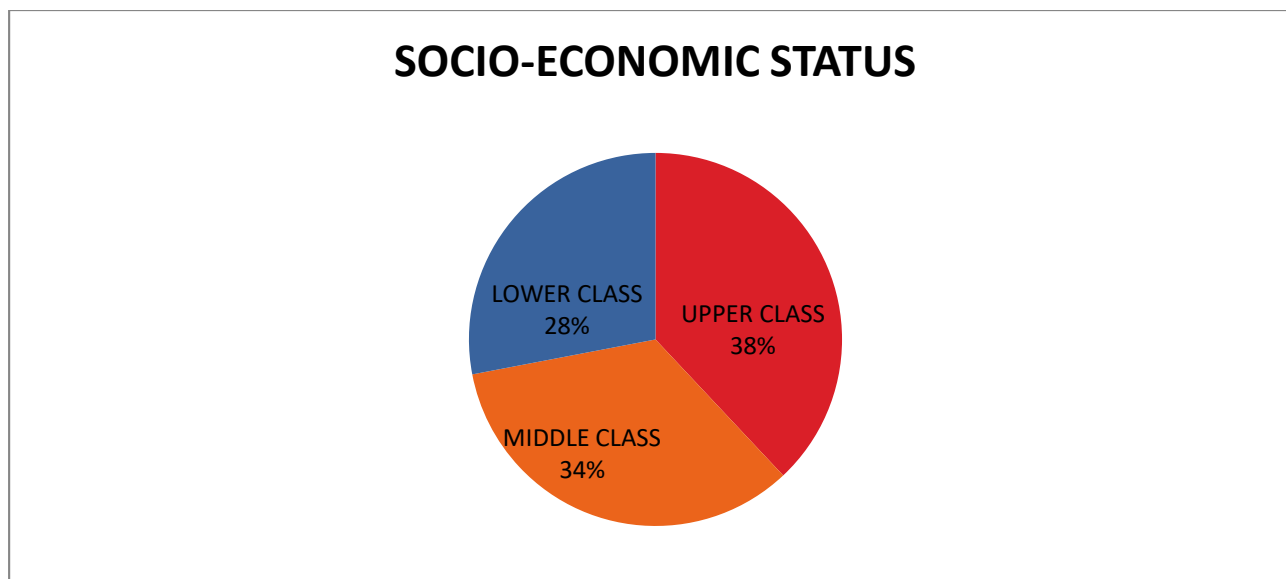




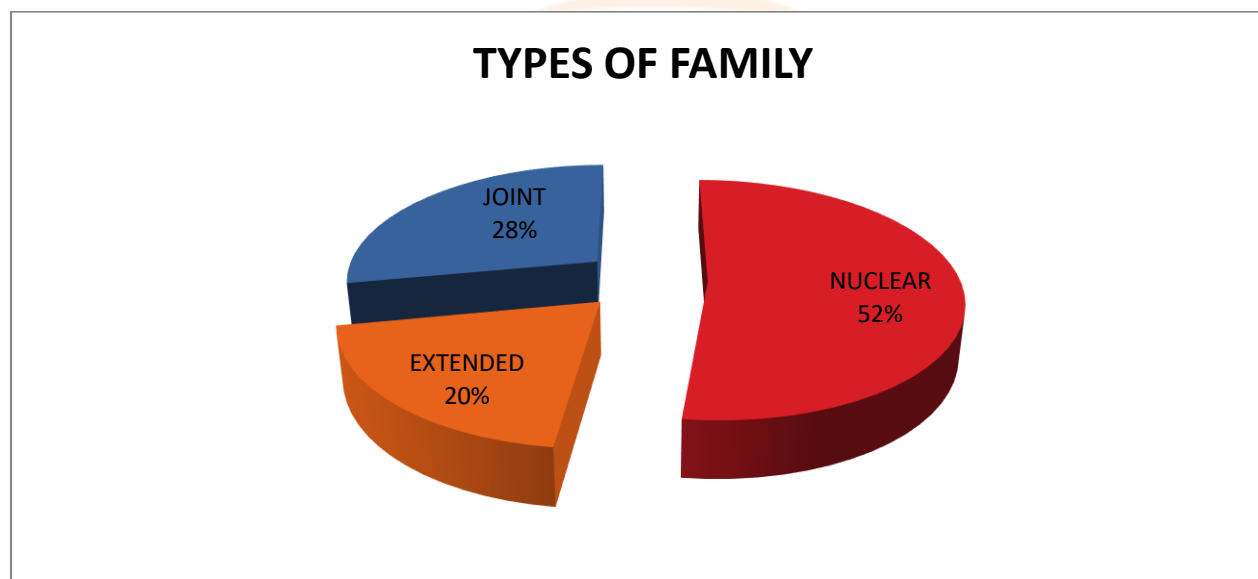
**Fig. 4.2:** Pie chart showing percentage distribution of gender of nursing students.



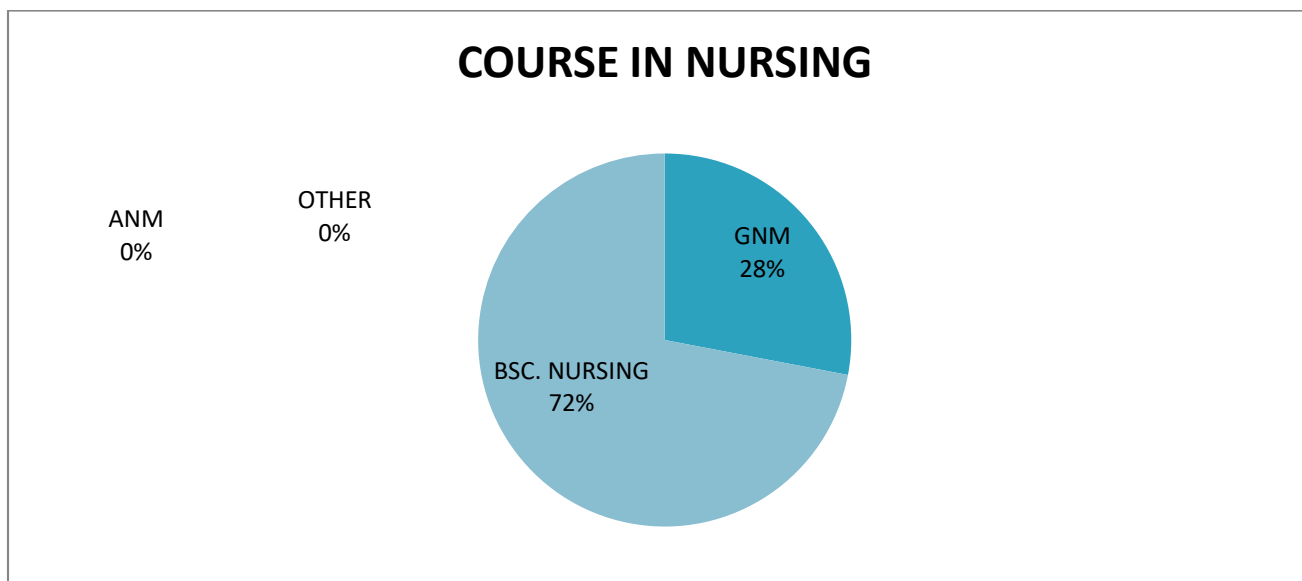
**Fig. 4.3: Pie chart showing percentage distribution of area of residence of nursing students.**



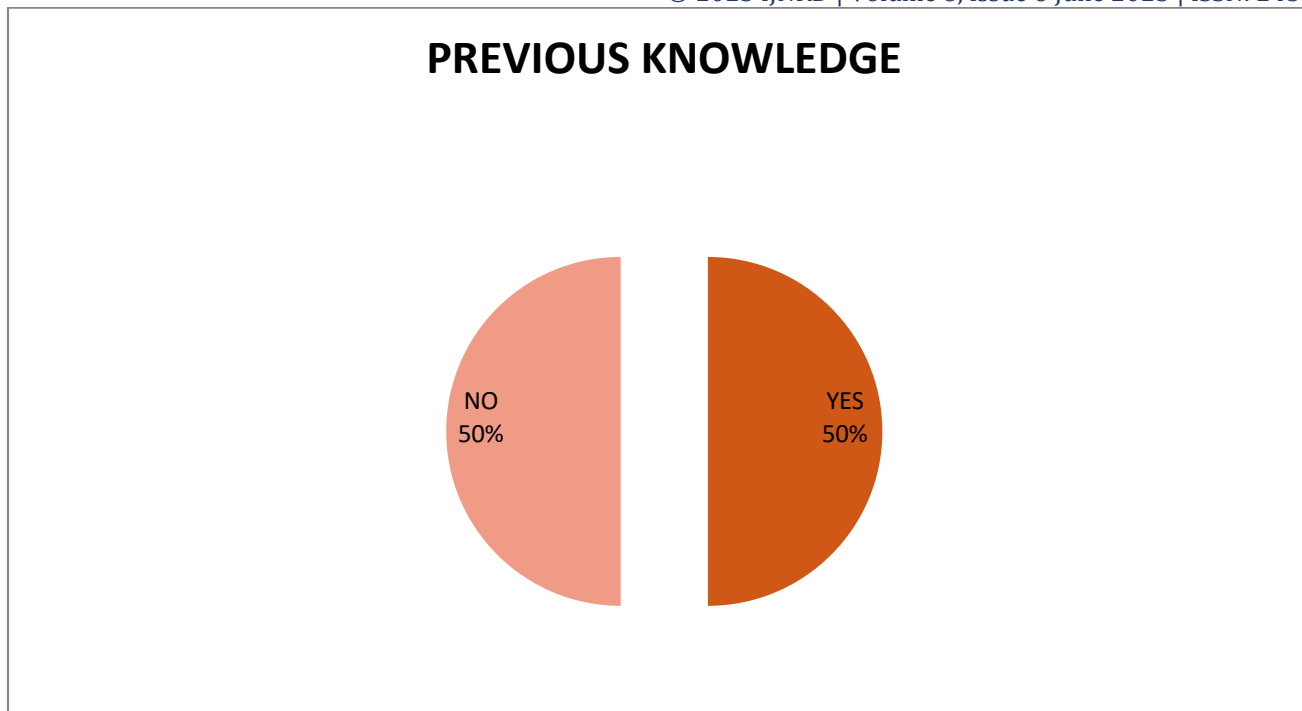
**Fig. 4.4: Pie chart showing percentage distribution of socio- economic status of nursing students.**



**Fig. 4.5: Pie chart showing percentage distribution of types of family of nursing students.**



**Fig. 4.6: Pie chart showing percentage distribution of course in nursing of nursing students.**



**Fig. 4.7:** Pie chart showing percentage distribution of previous knowledge of nursing students.

**Section II:** - Assessment of knowledge and practice of nursing students regarding CPR prior to implementation of PTP.(Pre-test knowledge)

SR. NO.	Knowledge		Practice	
	Max. score-35		Max. score-10	
	Min. score- 0		Min. score-0	
Pre-test score	Scoring	Frequency of sample	Scoring	Frequency of sample

	1. 0-7	0	1. 0-5	38
	2. 8-14	0	2. 6-10	12
	3. 15-21	18		
	4. 22-28	29		
	5. 28-35	3		

Table 4.2- Scoring the level of knowledge regarding the questionnaire

**Section III:** - Assessment of knowledge and practice of nursing students regarding CPR after implementation of PTP.(Post-test knowledge)

Sr. No.	Knowledge Max. score-35 Min. score- 0		Practice Max. score-10 Min. score-0	
Post-test Score	Scoring	Frequency of sample	Scoring	Frequency of sample
	1. 0-7	0	1. 0-5	0
	2. 8-14	0	2. 6-10	50
	3. 15-21	0		
	4. 22-28	30		
	5. 28-35	20		

**Section IV:** - Comparison of pretest and posttest knowledge and practice scores of the nursing students regarding CPR. Area wise comparison of mean, standard deviation and mean percentage of pre and post test knowledge scores of nursing students regarding CPR.

Sr. No.	Pretest Result	Post- test result
1. Knowledge		



a) Mean b) Mode c) Median d) Standard Deviation	Mean- 22.98 Mode- 24 Median- 23.5 Standard Deviation- 2.03	Mean- 27.5 Mode-30 Median-28 Standard Deviation- 3.14
2. Practice		
a) Mean b) Mode c) Median d) Standard Deviation	Mean- 4.4 Mode- 4 Median- 4 Standard Deviation- 1.44	Mean- 8 Mode- 8 Median- 8 Standard Deviation-0.67

**Table:4.4** - Comparison of pretest and posttest knowledge and practice scores of the nursing students regarding CPR. Area wise comparison of mean, standard deviation and mean percentage of pre and post test knowledge scores of nursing students regarding CPR.

**Section V:** - Association between the knowledge and their selected demographic variables.

Sr. No.	Socio-Demographic Variables	DF	Chi square value	Tabulated value	Significance
1.	Age	8	14.61	15,51	<b>Not</b>
2.	Gender	4	1.7022	9.49	<b>Not</b>
3.	Area of Residence	4	5.5539	9.49	<b>Not</b>
4.	Socioeconomic status	8	.3897	15.51	<b>Not</b>
5.	Types of family	8	4.714	15.51	<b>Not</b>
6.	Course in nursing	12	5.716	21.03	<b>Not</b>
7.	Previous knowledge	3	14.32	7.82	<b>Yes</b>

**Table 4.5-** Association between the knowledge and their selected demographic variables.

Chi square was calculated to find out the association between the knowledge scores and demographic variables of the nursing students. The study findings revealed that association between the level of knowledge and their selected demographic variables. It was interpreted that there was significant association found between knowledge scores of nursing students regarding Cardio pulmonary Resuscitation with their demographic variables such as Source of previous knowledge ( $P < 0.05$ ). No significant association was found between knowledge scores of nursing students regarding Cardiopulmonary Resuscitation with their other demographic variables such as age, sex, socioeconomic status, residential area, type of family, course in nursing. The stated hypothesis was accepted.

**Section VI: - Association between the practice and their selected demographic variables**

Sr. No.	Socio-Demographic Variables	DF	Chi square value	Tabulated value	Significance
1.	Age	8	3.125	15.51	Not
2.	Gender	4	14.789	9.49	Yes
3.	Area of Residence	4	.271	9.49	Not
4.	Socioeconomic status	8	3.77	15.51	Not
5.	Types of family	8	1.337	15.51	Not
6.	Course in nursing	12	0.069	21.03	Not
7.	Previous knowledge	3	3.77	7.82	Not

**Table 4.6-** Association between the practice and their selected demographic variables.

Chi square was calculated to find out the association between the knowledge scores and demographic variables of the nursing students. The study findings revealed that association between the level of knowledge and their selected demographic variables. It was interpreted that there was significant association found between knowledge scores of nursing students regarding Cardio pulmonary Resuscitation with their demographic variables such as gender ( $P < 0.05$ ). No significant association was found between knowledge scores of nursing students regarding Cardiopulmonary Resuscitation with their other demographic variables such as age, previous knowledge, socioeconomic status, residential area, type of family, course in nursing. The stated hypothesis was accepted.

**SECTION-7 Association between knowledge and practice-**

Variable	DF	TABULATED VALUE	CALCULATED VALUE	SIGNIFICANCE
Pre-test knowledge and practice	3	6.30	3.14	NO SIGNIFICANCE
Post- test knowledge and practice	3	6.30	0	NO SIGNIFICANCE

Chi square was calculated to find out the association between the knowledge scores and practice score of the nursing students. It was interpreted that there was no significant association found between knowledge scores of nursing students regarding Cardio pulmonary Resuscitation with their practice score.

**SECTION-8 EFFECTIVENESS OF PLAN TEACHING PROGRAMME (Z- TEST)**

Sr. No.	Variable	Tabulated Value	Calculated Value	Significance
1	Effectiveness between pre-test knowledge and post –test knowledge	2.0	8.82	Yes
2	Effectiveness between pre-test practice and post –test practice	2.0	15.69	Yes

Z test was used to find out the effectiveness of plan teaching programme. It was interpreted that there was effectiveness of PTP regarding the knowledge and practice of cardio-pulmonary resuscitation.

# CHAPTER-V DISCUSSION AND SUMMARY



## CHAPTER-V

### DISCUSSION AND SUMMARY

#### DISCUSSION AND SUMMARY

The aim of the present study was to assess the effectiveness of plan teaching programme on Cardiopulmonary Resuscitation among nursing students in a selected college at Jhajjar. The study was conducted by using quasi-experimental design. Sample size was 50 nursing students selected by purposive sampling technique. The effectiveness of plan teaching programme was evaluated by questionnaire and checklist. The responses were analyzed through descriptive statistics (mean, frequency, percentage and standard deviation) and inferential statistics (z- test.)

#### DISCUSSION ON THE FINDINGS BASED ON THE OBJECTIVES OF THE STUDY:

##### Objective-1

To assess the knowledge as well as practice level regarding cardio pulmonary resuscitation among nursing students in selected college.

##### Finding-1

The study findings revealed that 0 of students had Very poor knowledge, 0 of students had poor knowledge, 18 of students had average knowledge 29 had good knowledge and the remaining 3 has very good knowledge .

The study findings revealed that 38 of students had poor knowledge, 12 had good knowledge. .

##### Discussion-1

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.

##### Objective-2

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

### **Finding-2**

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 23.5 ,whereas in post test the mean score was 27.5 revealing the difference of 4 shows the effectiveness of PTP

### **Discussion-2**

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 PTP gives better result.

### **Objective-3**

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

### **Finding-3**

The study findings revealed that association between the level of knowledge and their selected demographic variables. It was interpreted that there was significant association found between knowledge scores of nursing students regarding Cardiopulmonary Resuscitation with their demographic variables such as Source of previous knowledge ( $P < 0.05$ ). No significant association was found between knowledge scores of nursing students regarding Cardiopulmonary Resuscitation with their other demographic variables such as age, sex, socioeconomic status, residential area, type of family, course in nursing. The stated hypothesis was accepted.

### **Discussion-3**

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 socioeconomic status, course in nursing.

### **Objective-4**

To find out the association between knowledge regarding cardio pulmonary resuscitation among nursing students with practice..

### **Finding-4**

The study findings revealed that there is no association between the level of knowledge and practice.



## SUMMARY

The present study was to “Assess the effectiveness of plan teaching programme on knowledge regarding Cardio Pulmonary Resuscitation among nursing students in a selected college, Jhajjar.”

### IMPLICATION OF 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.

#### Nursing Practice:

Nurses have the responsibility to improve the knowledge level of nursing students. The present study will help the nurse to know the effectiveness of plan teaching programme on knowledge and practice regarding Cardiopulmonary Resuscitation. It will help in creating the awareness among students about the Cardiopulmonary Resuscitation. Cardiopulmonary Resuscitation is one of the emergency management.

#### Nursing education:

Student has to update their knowledge and practice regarding Cardiopulmonary Resuscitation in emergency management. The faculty member has to motivate the student to learn about the Cardiac arrest and its immediate care.

#### Nursing administration:

The present study proposed to help the health administrator to create awareness about the effectiveness of structured teaching programme on knowledge and practice regarding Cardiopulmonary Resuscitation among nursing students to give a valuable life. Administrators have to educate the students through media regarding the practice of CPR.

#### 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.

### LIMITATION:

- The study was limited to degree students between the age group of (19-22 yrs)
- The study had only one group to prove the effectiveness of Plan teaching programme
- The samples were selected by purposive sampling technique. .

### **RECOMMENDATIONS:**

The study can be replicated in large sample size.

A similar study can be done in different settings and in different population.

A comparative study can be done to having two groups.

### **CONCLUSION:**

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





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Research Through Innovation

## ANNEXURE -1





## B.D.M. College of Nursing

### Permission Letter

#### Conducting Research Pilot Study

From: -

Ms. Arti

M.Sc. Nursing Final Year (Batch 2019-20)

BDM College Of Nursing,

Chhuchhakwas Jhajjar, Haryana

To:- **The Principal**

BDM College Of Nursing,

Chhuchhawas Jhajjar Haryana

**Subject: - Request For permission to conduct research study.**

**Respected Sir/Madam,**

I am a final year M.Sc. Nursing student [Arti] of BDM College Of Nursing, Chhuchhawas Jhajjar Haryana. I have selected the topic as mentioned below for the dissertation to be submitted to the **Pt. B.D. Sharma University Rohatak Haryana** as a partial fulfillment for the award of **Master of Science in Nursing**.

**Topic:- “A study to assess the effectiveness of plan teaching programme on knowledge and practice regarding Cardio Pulmonary Resuscitation among nursing students in selected college of nursing jhajjar Haryana.**

I request you to kindly give me permission to conduct research study.

Kindly do the needful action and oblige me.

Thanking you,

Your's sincerely

## ANNEXURE-2

### Permission Letter Conducting Research Main Study

From: -

Ms. Arti

M.Sc. Nursing Final Year (Batch 2019-20)

BDM College Of Nursing,

Chhuchhakwas Jhajjar, Haryana

To,

**The Principal**

BDM College Of Nursing,

Chhuchhawas Jhajjar Haryana

**Subject: - Request For permission to conduct research study.**

**Respected Sir/Madam,**

I am a final year M.Sc. Nursing student [Arti] of BDM College Of Nursing, Chhuchhawas Jhajjar Haryana. I have selected the topic as mentioned below for the dissertation to be submitted to the **Pt. B.D.Sharma University Rohtak Haryana** as a partial fulfillment for the award of **Master of Science in Nursing**.

**Topic:-“ A study to assess the effectiveness of plan teaching programme on knowledge and practice regarding Cardio Pulmonary Resuscitation among nursing students in selected college of nursing Jhajjar Haryana.**

I request you to kindly give me permission to conduct research study. Kindly do the needful action and oblige me.

Thanking you,

Your's sincerely

Arti

### ANNEXURE- 3

#### Letter seeking expert's opinion and suggestion for the content

##### Validity of the tool used for the study.

From,

Arti

M.Sc Nursing 2<sup>nd</sup> year

B.D.M.College of Nursing,Chhuchhkawas,Jhajjar

To

\_\_\_\_\_-\_\_\_\_\_  
\_\_\_\_\_-\_\_\_\_\_  
\_\_\_\_\_

**Forwarded through**

**Dr. Chanderprakash Sharma**

Principal, B.D.M. College of nursing,

Chhuchhkawas, Jhajjar

**Sub: Expert opinion for content validation of research tool.**

**Respected Sir/Madam,**

I **Arti** a post graduate student of B.D.M. College of nursing, anticipate Your valuable self; if you would accept to validate my research tool on the topic “**A study to evaluate the effectiveness of plan teaching programme on knowledge and practice regarding Cardio Pulmonary Resuscitation among degree students in a selected college,jhajjar.**”

It would be highly appreciable if you would kindly affirm your acceptance to endorse your Valuable suggestions on this topic. I had attached the details of the study along with the research tool.

**Thanking you**

Date:

Yours faithfully,

Arti

Msc Nsg.2<sup>nd</sup> year

#### ANNEXURE-4

### CERTIFICATE OF CONTENT VALIDITY

This is to be certify that tool developed by Miss Arti MSc. Nursing 2<sup>nd</sup> year student of BDM college of nursing validated by undersigned and can proceed with this tool and conduct the main study for dissertation entitled-**“A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING CPR AMONG THE STUDENT OF NURSING IN SELECTED COLLEGE OF NURSING ,JHAJJAR HARYANA.”**

Date-

Signature & seal of expert-

Place-

Name & Designation





## ANNEXURE - 5

### LIST OF EXPERT-

1. **Kavita Yadav**  
Assistant professor  
BDM College of nursing
2. **Ritesh Parashar**  
Assistant professor  
BDM College of nursing
3. **Vijay Bharadwaj**  
Vice – principal  
Govt. college of nursing Alwar
4. **Pawan**  
Assistant Professor

Agrsen college of Nursing Bahadurgar

**5. Dr. Arvind Das**

Cardiologist

Max Hospital Gurgaon.

**6. Dr. Arun**

Cardiologist

Max Hospital Gurgaon.

**7. Dr. Neeraj**

Cardiologist

Max Hospital Gurgaon.



**ANNEXURE -6**



## CERTIFICATE OF CONTENT VALIDITY

This is to be certify that tool developed by Miss Aanchal Singhal MSc. Nursing 2<sup>nd</sup> year student of BDM college of nursing validated by undersigned and can proceed with this tool and conduct the main study for dissertation entitled-"A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING CPR AMONG THE STUDENT OF NURSING IN SELECTED COLLEGE OF NURSING ,HAJJAR HARYANA."

Date-  
seal of expert- 25.02.2020

Place-  
Designation

Signature &  
(Vijay Bhordwaj)  
vice - principal  
Name &  
Govt. College of Nursing,  
ALWAR (Raj.)

Research Through Innovation

## ANNEXURE-7

### CERTIFICATE FOR ENGLISH EDITING

### TO WHOM SO EVER IT MAY CONCERN

This is to certify that dissertation **A study to assess the effectiveness of plan teaching programme on knowledge and practice regarding Cardio Pulmonary Resuscitation among nursing students in selected college of nursing Jhajjar Haryana**” Conducted by Ms. Arti M.Sc. Nursing student Bdm college of Nursing, Chhuchhakwas, Jhajjar. Research tool is edited for English language accuracy and appropriateness by **Sh. Aanad, English lecturer of BDM Senior Secondary School Chhuchhakwas Jhajjar.** .

Date: 15.03.2020

Place: Jhajjar

(Signature)



## ANNEXURE-8

### QUESTIONNAIRE

This questionnaire is to assess the knowledge regarding CPR. It has 2 sections. Section-A and Section-B. Select the answer which is appropriate and place the tick mark on the answer. All the information provided should be kept confidentially.

#### SECTION-A (Demographic variables)

##### Q.1 Age-

- a) 18-20 years
- b) 20-22 years
- c) More than 22 years

##### Q.2 Gender

- a) Male
- b) Female

##### Q.3 Area of residence-

- a) Rural
- b) Urban

##### Q.4 Socioeconomic status of family-



- a) Upper class
- b) Lower class
- c) Middle class

**Q.5 Type of family-**

- a) Nuclear
- b) Extended
- c) Joint

**Q.6 Course in nursing**

- a) ANM
- b) GNM
- c) B. Sc nursing
- d) Other

**Q.7 Previous knowledge about CPR**

- a) Yes
- b) No

**SECTION-B (Questionnaire related to knowledge)**

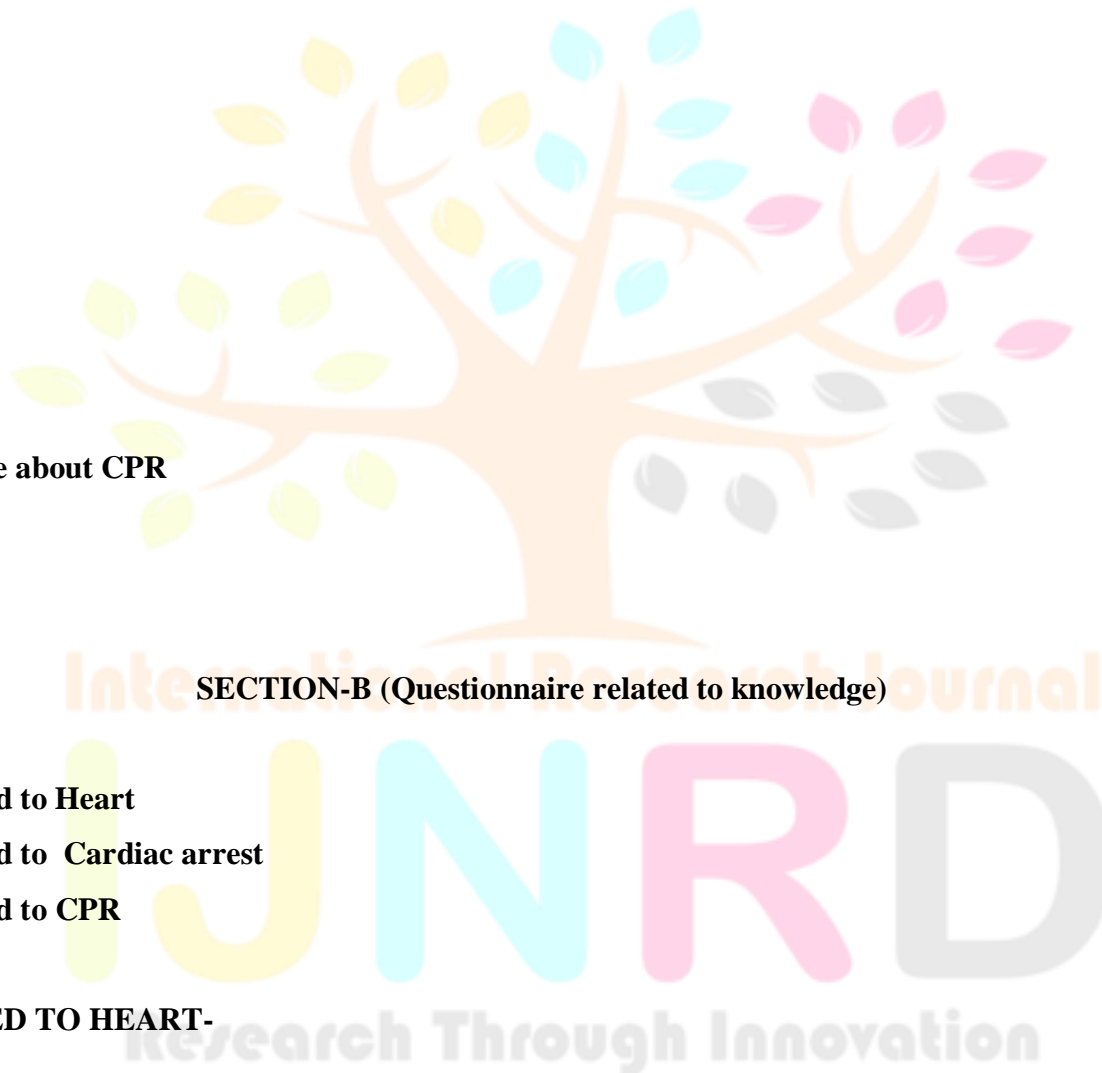
**It includes-**

1. Questions related to Heart
2. Questions related to Cardiac arrest
3. Questions related to CPR

**QUESTIONS RELATED TO HEART-**

**Q.1 Heart is consist of-**

- a) 2 chamber
- b) 4 chamber



- c) 3 chamber
- d) 5 chamber

**Q.2 Shape of heart-**

- a) Oval
- b) Round
- c) Closed fist
- d) Diamond

**Q.3 Primary pacemaker of heart is-**

- a) A-V Node
- b) S-A Node
- c) Bundle of his
- d) All of the above

**Q.4 Electrical activity of heart is monitored by-**

- a) EEG
- b) ECG
- c) USG
- d) EMG

**Q.5 Normal heart rate is-**

- a) 40-60 beats/min
- b) 60-100beats/min
- c) 100-120beats/min
- d) 100-140 beats/min



**Q.6 Circulation from heart to lungs and from the lungs is called-**

- a) Systemic
- b) Pulmonary
- c) Aortic
- d) None

**Q.7 Circulation from heart to body is called as**

- a) Pulmonary
- b) Systemic
- c) Aortic
- d) None

**Q.8 The heart sits within a fluid filled cavity called as-**

- a) Pericardial cavity
- b) Peritoneal cavity
- c) Pleural cavity
- d) Abdominal cavity

**QUESTIONS RELATED TO CARDIAC ARREST-**

**Q.9 Cardiac arrest means-**

- a) Abrupt loss of heart function
- b) Loss of brain function
- c) Loss of energy
- d) All of the above

**Q.10 Cardiac arrest is mainly caused by-**

- a) Fever and vomiting





- b) Coronary artery disease
- c) Respiratory disease
- d) All of the above

**Q.11 Pulse which should be checked during cardiac arrest-**

- a) Radial pulse
- b) Brachial pulse
- c) Carotid pulse
- d) Apical pulse

**Q.12 Immediate management of cardiac arrest is-**

- a) Cardio-pulmonary resuscitation
- b) Ventilation
- c) Defibrillation
- d) All of the above

**QUESTION REGARDING CPR**

**Q.13 CPR stands for-**

- a) Cardio-pulmonary resuscitation
- b) Cerebral-pulmonary resuscitation
- c) Cardiac pump ratio
- d) None

**Q.14 BLS means-**

- a) Basic life support
- b) Body life support
- c) Basic live support



d) Basic long support

**Q.15 ACLS means-**

- a) Active Cardiac Life Support
- b) Activity Cardiac Life Support
- c) Advance Cardiac life Support
- d) Advance Cardiac Long Support

**Q.16 CAB stands for-**

- a) Circulation, airway, breathing
- b) Compression, airway, breathing
- c) Coronary, artery, breathing
- d) None

**Q.17 Position given during CPR-**

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

**Q.18 Main indication of CPR-**

- a) Sinusitis
- b) Fracture
- c) Cardiac arrest and respiratory arrest
- d) Stroke

**Q.19 Main technique of CPR-**



- a) Airway and breathing
- b) Chest compression and artificial ventilation
- c) Fluid administration
- d) None

**Q.20 During CPR , surface should be-**

- a) Smooth
- b) Hard
- c) Any
- d) Other

**Q.21 Compression rate in 1 minute during CPR to adult-**

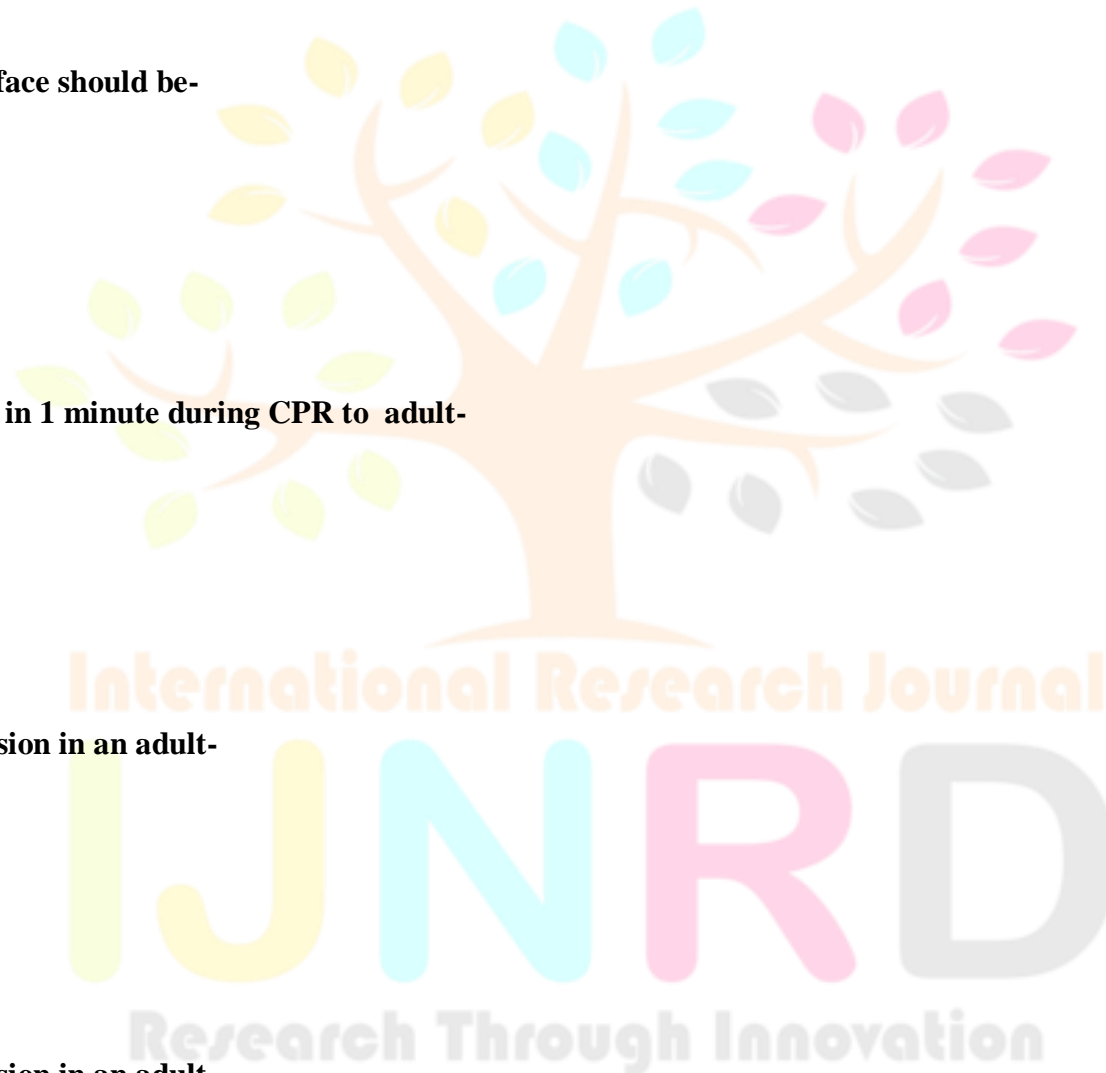
- a) 100
- b) 120
- c) 160
- d) 200

**Q.22 Depth of compression in an adult-**

- a) 2cm
- b) 5cm
- c) 3cm
- d) 10 cm

**Q.23 Depth of compression in an adult-**

- a) 2.5cm
- b) 3.5cm



- c) 5cm
- d) 10 cm

**Q. 24Chest compression during CPR should be-**

- a) Hard and fast, with very few interruption
- b) Gentle and slow
- c) Hard but slow with interruption
- d) Gentle but fast

**Q. 25During CPR which compression method should be used for an adult-**

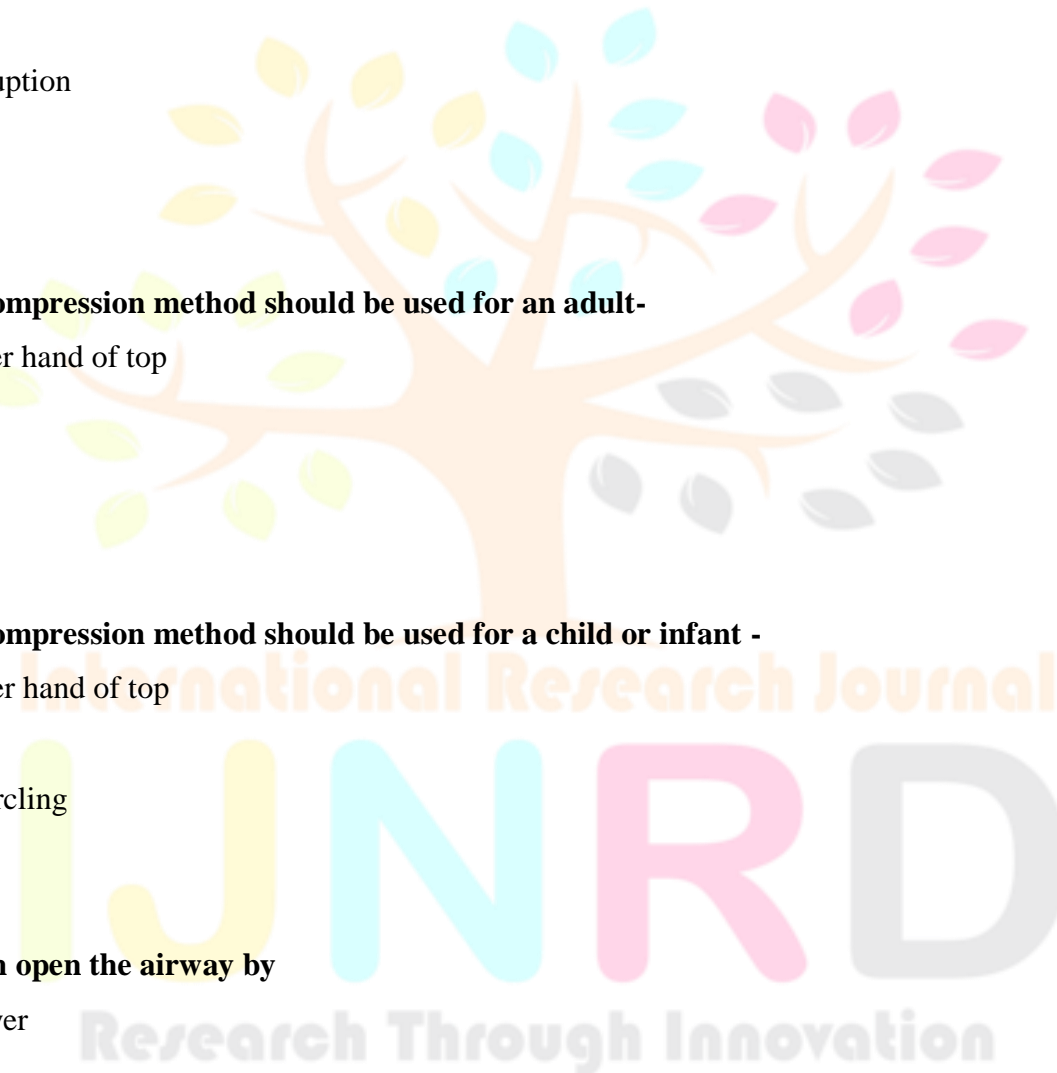
- a) Heal of one hand and other hand of top
- b) Both hands put together
- c) One hand only
- d) Use of finger pads

**Q. 26During CPR which compression method should be used for a child or infant -**

- a) Heal of one hand and other hand of top
- b) Use of one finger
- c) 2 fingers or 2thumbs encircling
- d) Use of finger pads

**Q. 27After the compression open the airway by**

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



**Q.28CPR is highly effective when it is performed-**

- a) Start immediately after collapse
- b) Start within 5 minutes
- c) Start within 1 hour
- d) Start within 30 minutes

**Q. 29Ratio of compression-ventilation for an infant or child CPR is**

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

**Q.30 Ratio of compression-ventilation for an adult CPR is-**

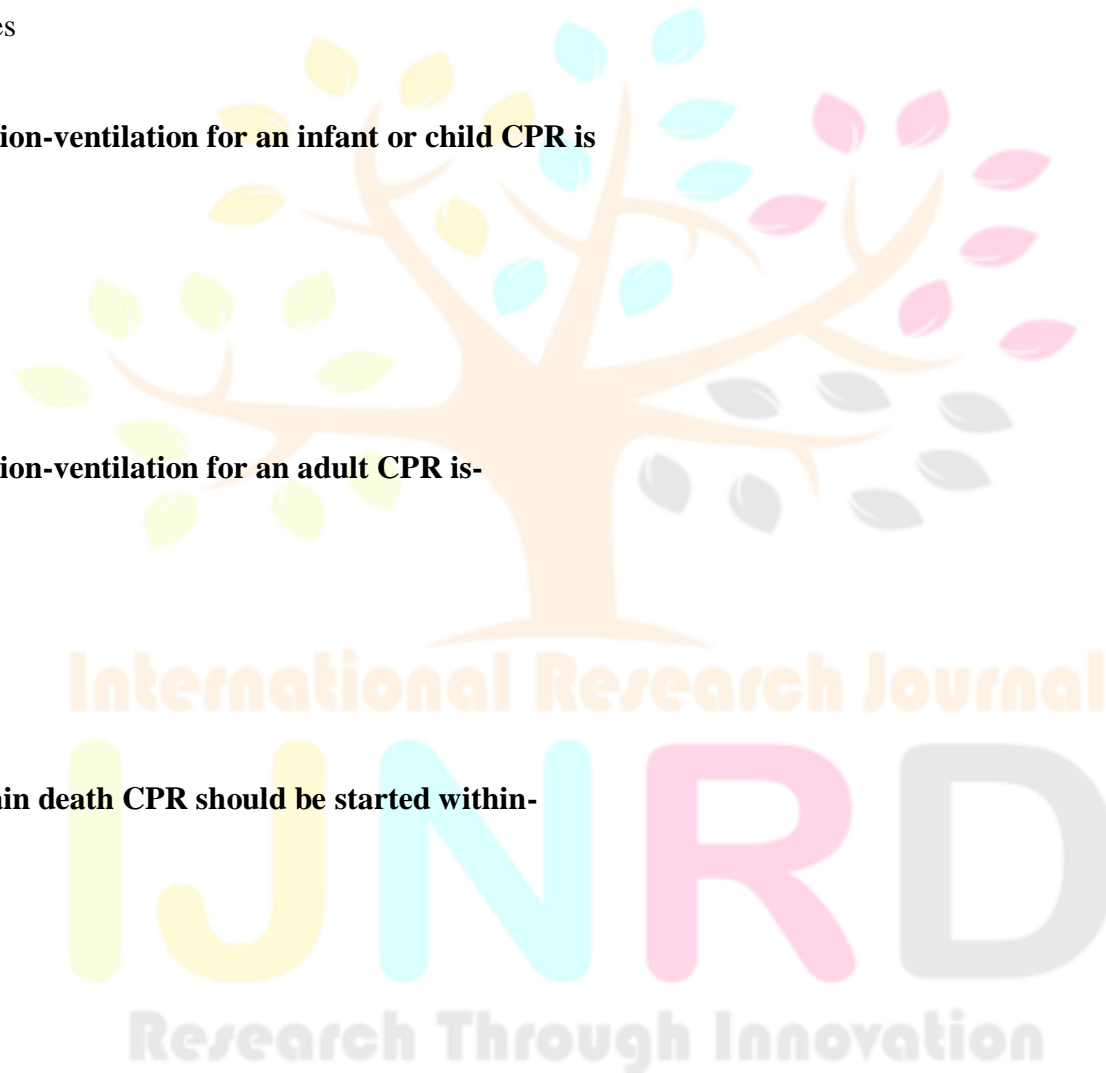
- a) 30:1
- b) 15:1
- c) 30:2
- d) 15:2

**Q.31To prevent the brain death CPR should be started within-**

- a) 6 minutes
- b) 10 minutes
- c) 1 hour
- d) Within 30 minutes

**Q.32CPR is used for-**

- a) Oxygenate the blood



- b) Maintain the cardiac output
- c) Revive the client
- d) All of the above

**Q.33 After how long CPR should be stop-**

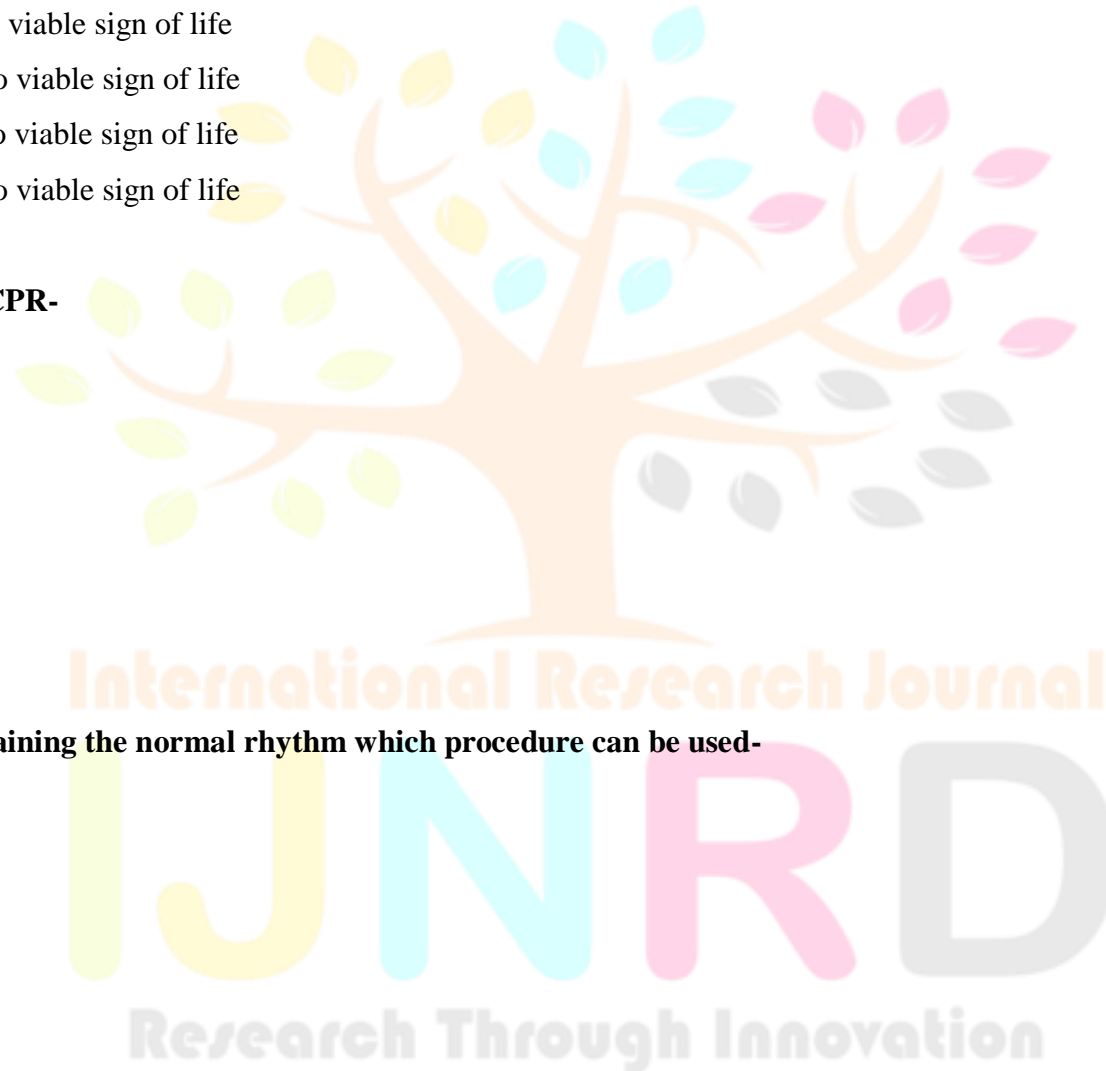
- a) After 10 minutes of no viable sign of life
- b) After 15 minutes of no viable sign of life
- c) After 20 minutes of no viable sign of life
- d) After 30 minutes of no viable sign of life

**Q.34 Complication of CPR-**

- a) Rib fracture
- b) Sternum fracture
- c) Pneumothorax
- d) All of the above

**Q.35 If person is not gaining the normal rhythm which procedure can be used-**

- a) Cardiac monitoring
- b) Ventilation
- c) Defibrillation
- d) Intubation





**ANSWER KEY OF QUESTIONNAIRE**

Q.NO.	ANSWER	Q.NO.	ANSWER
1	B	19	b
2	C	20	b
3	B	21	a
4	B	22	b
5	B	23	a
6	B	24	a
7	B	25	a
8	A	26	c
9	A	27	a
10	B	28	a
11	C	29	d
12	A	30	c
13	A	31	a
14	A	32	d
15	C	33	c
16	A	34	d
17	B	35	c
18	C		

**Section-C (Checklist for CPR)**

SR.NO.	STEPS	REMARKS
1.	Assessed for responsiveness; shake and ask ‘Are you ok?’ If no response then assess the CAB.	
2.	Call for the emergency and initiate the CPR if patient is unconscious and unresponsive.	
3.	Placed the patient in flat surface and in supine position.	
4.	Started the procedure within 30 seconds.	
5.	Placed the hand in right position.	
6.	Compressions are in proper depth	
7.	Compression are in proper rate	
8.	Respiration is given by using personal protective equipment.	
9.	Chest is lifting during respiration	
10.	Ratio of compression and respiration is 30:2	



## ANNEXURE-8

### Performa For Experts Opinion For Content Validity Of Tools

**Respected Sir/Madam**

Kindly go through the content and place right mark against questionnaire in the following column ranging from very relevant to not relevant, when found needs modification kindly give your opinion in the remark column. Your expert opinion and kind cooperation will be highly appreciated and great fully acknowledge.

#### SECTION- A (Socio-Demographic Variables)

Sr. No.	Items are adequate	Items are relevant	Items are accurate	Items to be modified	Remarks
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Suggestions if any-

Signature of expert-

Date-

Name and Designation

**SECTION-B (Questionnaire related to knowledge)**

Sr. No.	Items are adequate	Items are relevant	Items are accurate	Items to be modified	Remarks
1.					
2.					
3.					
4.					
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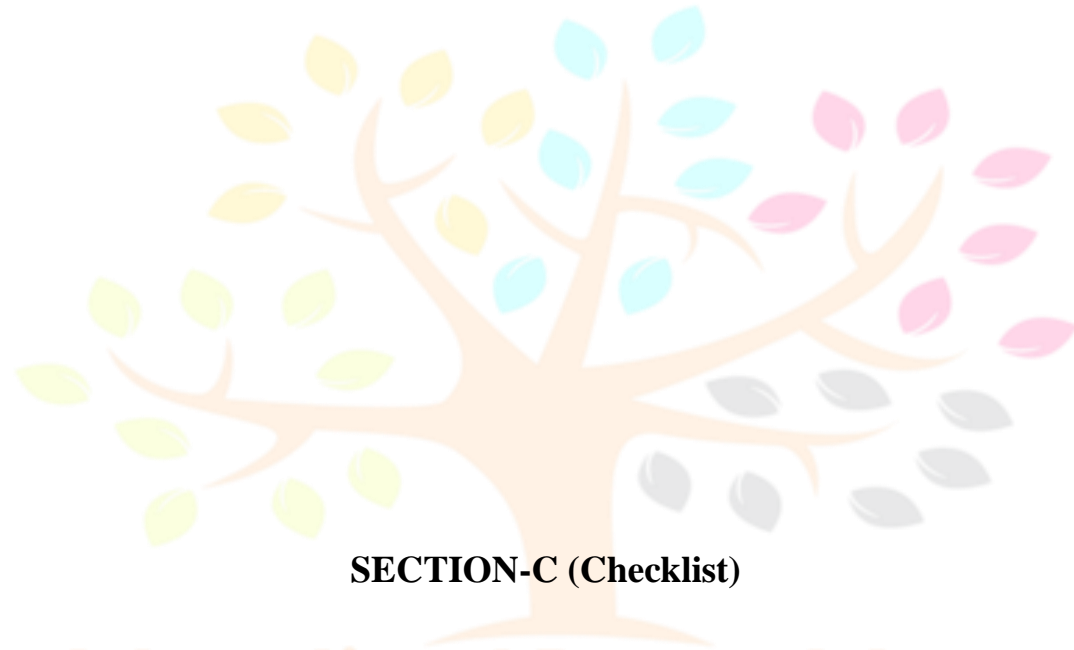
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30.					
31.					
32.					
33.					
34.					
35.					

Suggestion if any-

Signature of Expert-

Date-

Name and designation



### SECTION-C (Checklist)

Sr. No.	Items are adequate	Items are relevant	Items are accurate	Items to be modified	Remarks
1.					
2.					
3.					
4.					
5.					
6.					
7.					



8.					
9.					
10.					

**Suggestion if any-**

**Signature of Expert-**

**Date-**

**Name and designation**



# LESSON

# PLAN

International Journal of Novel Research and Development

# IJNRD

Research Through Innovation

## LESSON PLAN

- **Student Teacher Name** – Ms. Arti
- **Topic** - CPR
- **Group** - M.Sc. Nursing 2<sup>nd</sup> year
- **Venue** - Class-room
- **Date and Time** -
- **Duration** – 1 hour
- **Method of Teaching** - lecture
- **A.V. Aids** - PPT

**Previous Knowledge of the Group-** The group has good knowledge about measurements and evaluation techniques.

### **GENERAL OBJECTIVE**

☐ After the completion of this teaching students will able to enhance their knowledge about the CPR and apply this knowledge in their practices.

## SPECIFIC OBJECTIVES

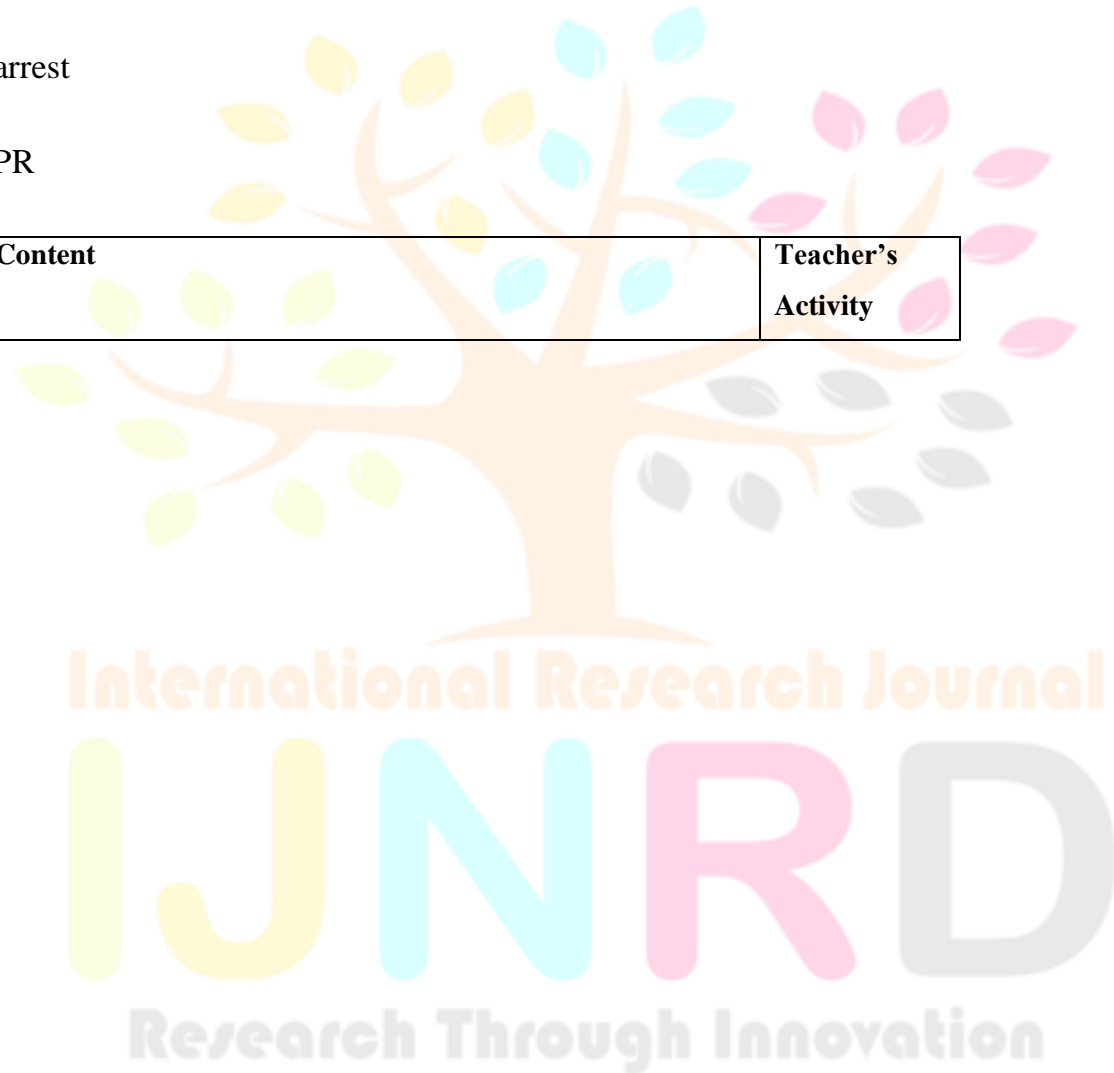
☐ At the end of this teaching the group will be able to -

1. Introduce about the heart

2. Explain the cardiac arrest

3. Explain about the CPR

Objective	Content	Teacher's Activity
-----------	---------	--------------------



<p>1. Students are able to review the anatomy and physiology of heart.</p>	<p>CPR is part of the emergency cardiac care system designed to save lives. Many deaths can be prevented by prompt recognition of the problem and notification of the emergency medical system (EMS), shock to the heart is attempt to get the heart to beat normally and advanced cardiac life support measures.</p> <p><b>Anatomy and Physiology of Heart</b></p> <p>The Heart is a Roughly Cone-Shaped Hollow Muscular Organ. It Is About 10cm Long. It Weight About 225g In Women And 310 In Men.</p> <p><b>Position</b></p> <p>The heart lies in the thoracic cavity is the mediastinum between the lungs. The Heart is composed of three layers of tissue</p> <ol style="list-style-type: none"> <li>1. Pericardium</li> <li>2. Myocardium</li> <li>3. Endocardium</li> </ol> <p><b>1. Pericardium</b></p> <p>Pericardium is made up of two sacs. The outer sac consists of fibrous tissue and the inner is of a continuous double layer of serous membrane.</p> <p>The outer layer of the serous membrane, the parietal pericardium and the inner layer visceral pericardium.</p>	<p>L E C T U R E</p>
--	--	--

**2. Myocardium**

The myocardium is composed of specialized cardiac muscle found only in the heart. each cell has a nucleus and one or more branches. in microscopically intercalated disc, can be seen as thicker darker lines.

**4. Endocardium**

This forms the lining of the myocardium and the heart valves. It is a thin, smooth, glistening membrane which permits smooth flow of blood inside the heart.

**Interior of the Heart**

The heart is divided into right and left side by the septum. Each side is divided by an atrioventricular valve into an upper chamber, the atrium and a lower chamber, the ventricle .

The right atrioventricular valve called tricuspid valve and left atrioventricular valve called mitral valve.

**Flow of Blood through the Heart**

The two largest veins of the body superior and inferior vena cava collect the deoxygenated blood from the body to the right atrium. From the atrium to the right ventricle to the left ventricle through the tricuspid valve from the left ventricle the deoxygenated blood to the lungs through the pulmonary artery.

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	<p>In the lungs the bloods are oxygenated from the lungs the O<sub>2</sub> blood are transferred to the left atrium through the pulmonary veins. From the left atrium to left ventricle through the mitral valve from the left ventricle through the aorta.</p> <p><b>Blood Supply to the Heart</b></p> <p><b>Arterial Supply :</b> The heart is supplied with arterial blood by the right and left coronary arteries.</p> <p><b>Venous Drainage :</b> Coronary Sinus.</p> <p><b>Conducting System of the Heart</b></p> <p>The heart has an intrinsic system where by the cardiac muscle is automatically stimulated to conduct without the need for a nerve supply from the brain. the specialized cells are present.</p> <p><b>Sinoatrial Node (SA NODE)</b></p> <p>This is small mass of specialized cells is in the wall of the right atrium near the opening of the superior vena cava.</p> <p>The SA node is the pace-maker of the heart because it is normally initiates impulses more rapidly than other groups of neuromuscular cells.</p> <p><b>Atrioventricular Node (AV NODE)</b></p> <p>This AV node is situated in the wall of the atrial septum near the atrioventricular valve. The AV node is stimulated by impulses that sweep over the atrial myocardium.</p> <p><b>Atrioventricular Bundle</b></p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>E</p>
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<p>2.Students are able explain about the CPR</p>	<p>It is otherwise called as bundle of his AV bundle is originated from the AV mode. The AV bundle crosses the fibrous ring that separates atria and ventricle then, at the upper end of the ventricular septum, it divided into the branches break up into fine fibres called the purkinje fibres.</p> <p><b>Definition</b></p> <p>CPR is a procedure to supported maintain breathing and circulation for a persons who has stopped breathing (respiratory arrest) and for whose heart has arrested (cardiac arrest).</p> <p><b>- Tomruk .O.Soyral,</b></p> <p>CPR combines rescue breathing elentral chest compression, and cardio refers to the heart, and pulmonary refers to the lungs. resuscitation means “ to revive”. Proper and prompt CPR saves as a holding action by providing O<sub>2</sub> to the brain and heart with advanced cardiac life support can be provided.</p> <p><b>- National Safety Counsel</b></p> <p>Students are able to explain the history</p> <p><b>History</b></p> <p>CPR has been known in theory , if not practice, for many hundreds or even thousands of years, some claim it is described in the bible, discerning a superficial similarly to CPR in a passage from the books of kings (II 4:34) where in the Hebrew prophet Elisha warms a dead boy’s body and</p>	<p>L E C T U R E</p>
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places his mouth over his” in the 19<sup>th</sup> century doctor HIR silvester described a method (The silvester method) of artificial respiration in which the patient is laid on their back, and their arms are raised above their head to aid inhalation and then pressed against their chest to aid exhalation. The procedure is repeated several times per minutes. This type of artificial respiration is occasionally seen in film made in the early part of the 20<sup>th</sup> century.

A second techniques called the Holger Neibon techniques, described in the fist edition of the boy scout handbook is the united states in 1911, described a form artificial respiration where the person was laid on their front, with their head to the side, and a process of lifting their arms and pressing on their back was utilized, essentially the silvester method with the patient flipped over. This form is seen well into the 1950s (it is used in an episode of lassie during the Jeff Miller arc) and was often used, sometimes for comedic effort, in theoretical cartoons of the times (see Tom and Jerry’s The Cat and Mermouse”) This method would continue to be shown for historical purposes, side by side with modern CPR in the Boy Scout Handbook until it ninth edition in 1979. Students are able to list out the

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	<p>CPR can save live in such emergencies as loss of consciousness, heart attacks or heart arrests, purpose. electric shock, drawing, excessive bleeding, drug overdose, and other conditions in which there is nobreathing or no pubs.</p> <p>CPR is performed to restore and maintain and circulation to provide and blood flow to the heart, brain and other vital organs.</p> <p><b>Indication</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Hypoxia</li> <li><input type="checkbox"/> Acute Myocardial infraction</li> <li><input type="checkbox"/> Anaphylactic Shock</li> <li><input type="checkbox"/> Angina Pectoris</li> <li><input type="checkbox"/> Electric Shock</li> <li><input type="checkbox"/> Anoxia Caused By Airways Obstruction</li> <li><input type="checkbox"/> Drowning and other burns of asphyrnic resulting in an inadequate ventilation of the lungs.</li> </ul> <p><b>1. No pulse Detected</b></p> <p>If the rescuer is unable to detect a pulse or too difficulty is feeling a pulse it can be indication of the use of improper techniques by the rescues, or shock or cardiac arrest in the victim. if a sudden, fever increase occurs in pulse quality (such as pulse weakness) or pulse rate (how many heats in a minute) when other symptoms are also present.</p> <p><b>Procedure</b></p>	<p>R</p> <p>E</p>
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<p>3 Students are able to explain procedure of CPR</p>	<p>The basic procedures for CPR are the same for all people with a jaw modifications for infant and children to account of their smaller size</p> <p><b>Purpose</b></p> <p>.</p> <p><b>Performing CPR on the Adult</b></p> <p>The first step is to call the emergency medical system for help by desk phoning all: then to begin following these steps.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Airway</li> <li><input type="checkbox"/> Breathing</li> <li><input type="checkbox"/> Circulations</li> </ul> <p><b>Airway</b></p> <p><b>Open the Airway:</b> Clear any debits out of his/her mouth, throat. This can include broken teeth, vomits, broken. Clusters mucus or foreign matter that got into the mouth during injury.</p> <p><b>2. Breathing</b></p> <p>In the “BREATHING” four methods are include</p> <ol style="list-style-type: none"> <li>1) Mouth –to- Mouth Method</li> <li>2) Mouth –to –Nose Method</li> <li>3) Mouth –to- Stome Method</li> <li>4) Mouth- to= Barriers Devices</li> </ol> <p><b>Mouth-to Mouth Method</b></p> <p>The mouth-to mouth method rescue breathing is the simplest, quickest, and most effective method for an emergency situation.</p>	<p>L</p> <p>E</p> <p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>E</p>
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	<p>During rest, the normal adult breathing rate is about 12 times per minute and the volume is 0.5 to 1.0 liter per breath. Mouth-to-mouth rescue breathing provides 0.8 to 1.2 liters of exhaled air per breath. Exhaled air is about 16% O<sub>2</sub> (which is enough to sustain life) or comparison to room air, which is 21%.</p> <p>Mouth-to-mouth breathing is preferred over mouth-to-nose breathing, especially if there is nasal bleeding injury, or blockage, to perform mouth-to-mouth rescue breathing, follow these steps.</p> <ol style="list-style-type: none"> <li>1. Make sure the victim head is positioned with the neck extended the head tilted backward to open the airway.</li> <li>2. Pinch the victim nose closed to prevent air from escaping, using the same hand that is on the victim forehead to keep the neck extended.</li> <li>3. Take a deep breath</li> <li>4. Make a tight seal with your mouth against the victim mouth.</li> <li>5. Slowly blow air into the victim mouth until you see the chest rise.</li> <li>6. Remove your mouth, to allow the air to come out and turn head away as you take another breath.</li> </ol> <p><b>Repeat one or more breaths.</b></p> <p>If the first breath does not go in, re-tilt the victim's head and try a second breath.</p> <p><b>Mouth -to-Nose Method</b></p>	<p>L E C T U R E</p>
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The mouth-to-nose techniques is performed like mouth-to-mouth breathing, except that you force your exhaled breath through the victim nose while holding his or her mouth closed with onehand pushing upon the chin. The victim's mouth then must he held open so any nasal obstruction does not implied exhalation of air from the victim lungs.

#### **Mouth-to-Stome Method**

Laryngectoers do not have a connection between the upper airway and the lungs. They breath through a small permanent opening called a stome.

In mouth-to-stome rescue breathing, the victim's mouth and nose must be closed, during the delivery of breaths because the air can flow upward into the upper airway through the larynx a well as downward into the lungs. You can close the victim's mouth and nose with one hand.

Determine

breathing by looking at, listening to, and feeling at the stome, keep the victims heads nock level.

#### **Mouth-to-Barrier Device**

There are two types of mouth-to-barriers devices

- 1) Face masks
- 2) Face-shields

#### **Facemasks**

Face masks cover the victim mouth and nose. Most have a one-way valve so exhaled air form the victims does not enter the rescuers mouth. "According to the American Heart Association, face

masks are more effective than face shields.

### **Face Shields**

These clear plastic devices have a mouth piece through which the rescuer breaths. Some models have a short airway that is inserted into the victim's mouth over the tongue. They are smaller and less explosive than face masks, but air can leak around the shield. Use of a barrier device requires the victim's neck to be hyper extended and the chin lifted. After the mask is in place, the rescuer breaths through the device. The technique is performed like mouth-to-mouth breathing

### **CIRCULATION**

#### **Age Breathing Chest compression Dept**

1. Below 1 age-2 times mouth-to-mouth  
nose breathing 30 times (2 or 3 finger)

½ -1" (1.5-2.5cm)

2. 1-8 years-2 times mouth-to mouth

Breathing 30 times (1 hand)

1-1½" (2.5-4cm)

3. After 8 years - 2 times 30 times

(2 hand) 1½-2" (4.0-5.0cm)

### **Circulation**

If there is no heart beat, the rescuer performs chest compression. The rescuer kneels next to the unconscious person, placing the heel of one hand to the spot on the lower chest where the two halves of the ribcage come together.

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	<p>The rescuer place one hand on top of the other on the persons chest and interlocking the fingers. The arms are straightened, the rescues shoulders are positioned directly above</p> <p>the hands on the unconscious person's chest. The hands are pressed down, using only the palms, so that the person's breast bone sinks in about 1.5 -2inches. The rescuer releases pressure without removing the hands, they repeat about 15 times per 10-15 second intervals.</p> <p>The rescuer tills the unconscious person's head and return to rescue breathing for one or two quick breaths. Then breathing and chest compressions are alternated for one minute before checking for a public if the rescues find signs of a heartbeat and breathing CPR is stopped.</p> <p><b>Performing CPR on an Infant or Child Under the Age of Eight</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The rescuer administers CPR for one minute. Then calls foolery</li> <li><input type="checkbox"/> The rescuer males a seal around the child's mouth or infant's nose and mouth to give gentle breaths. The rescuer delivers 20 rescues breaths per minute, taking 1.5.2 seconds for each breath.</li> </ul>	<p>R</p> <p>E</p> <p>L</p> <p>E</p>
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	<p><input type="checkbox"/> Chest compression is given with only one hand for a child and with two or these finer for an infant. The breast bone is depressed only 1-1.5 in (2.5-3.8cm) for a child 0.5-1 in (1.3-2.5cm) for an infant, and the rescuer gives at least 100 chest compression per minutes.</p> <p>a. Position of the hands during application of cardiac compression</p> <p>b. When pressure is applied, the lower position of the sternum is displaced posterior with the palm of the hand.</p> <p>c. To apply maximum downward pressure, rescues leans forward so that both arms are at right angle to the patient's sternum and the elbows are locked.</p> <p><b>Precautions</b></p> <p>These are certain important precautions. These include</p> <p><input type="checkbox"/> Do not leave the victim alone</p> <p><input type="checkbox"/> Do not give the chest compressions of the victim has a pulse chest compression when there is normal circulation could cause the heart to stop beating.</p> <p><input type="checkbox"/> Do not give the victim anything to eat or drink</p> <p><input type="checkbox"/> Avoid moving the victim head or neck if spinal injury is a possibility. The person should be left as found if breathing freely. To check for breathing when spinal injury is suspected, the rescues should only listen for breath by the victim mouth and watch the chest for movement.</p>	<p>C</p> <p>T</p> <p>U</p> <p>R</p> <p>E</p>
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<p>4 Students are able to explain Precautions of CPR</p>	<p><input type="checkbox"/> Do not sleep the victim face, or throw water on the face, to try and revive the person.</p> <p><input type="checkbox"/> Do not place a pillow victims head.</p> <p><b>Prevention</b></p> <p><input type="checkbox"/> People with known conditions or disease, such as diabetes or epilepsy, should wear a medical alert tag or bracelet</p> <p><input type="checkbox"/> People with diabetes should avoid situation that will lower their blood sugar level.</p> <p><input type="checkbox"/> People who feel weak, become dizzy or light headed, or have over fainted, should avoid standing in one place to long without moving.</p> <p><input type="checkbox"/> People who feel faint, can lie down or sit with their head lowered between their knees.</p> <p><input type="checkbox"/> Risk factor that contributes to heart disease should be reduced or eliminated. People can reduce risks if they stop smoking lower blood pressure and cholesterol, lose weight, and reduce stress</p>	<p>L E C T U R E</p>
<p>5 Students are able to explain Preventions of CPR</p>	<p><input type="checkbox"/> Illegal recreational drugs should be avoided</p> <p><input type="checkbox"/> Seeing a doctor regularly and being aware of any disease conditions or risk factor can help prevent or complicate illness, as can seeking and following the doctor's advice about diet exercise.</p> <p><input type="checkbox"/> Using seat belt and driving carefully can help avoid accidental injury.</p>	

□ People with poor eyesight or those who have difficulty walking because of disability, injury or recovery from illness, can use other assistance device to help them avoid falls and injury.

### **Summary**

So far we have gone through about the steps in cardiopulmonary cerebral resuscitation.

### **Conclusion**

CPR is most needed when someone goes in to cardiac arrest without notice. So as a human we must be known about the CPR.

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**TABLE-2 Master Data Sheet Of Score Of Knowledge For Pre-Test**

S a m p l e	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Q u e s t i o n																																																		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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31	1	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	1	0	1	0	1	0	0	1	1	1	0	0	1	0	0	0	0	0	1	0	0	
32	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	1	
33	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	1	0	0	0	1		
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**TABLE-3 Master Data Sheet Of Score Of Knowledge For Pre-Test**

S a m p l e	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
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**TABLE-4 Master Data Sheet Of Score Of Checklist For Pre-Test**

Sample		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
practice score of pre-test																																		
1		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	
3		*	*	*	*		*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*		*		*	*	*	*	*
4		*	*		*			*	*	*			*			*	*	*	*	*	*		*	*			*	*	*	*	*	*	*	
5		*	*	*		*	*	*	*			*				*	*	*	*	*	*				*		*	*	*	*	*	*	*	
6			*	*		*			*			*				*		*	*								*		*		*			
7		*			*	*										*	*									*	*	*						
8				*		*																												
9				*																														
10																																		
Total		6	6	7	5	6	4	5	6	4	3	5	4	2	3	5	6	7	6	5	4	3	4	3	2	4	5	6	7	4	5	4	5	

**TABLE-5- Master data sheet of score of checklist for post-test**

Sample		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
practice score of post-test																																					
1		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
4		*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			*	*		*	*	*	*	*	*	*	*	*	*	*	*
5		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
6		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*		*	*		*		*	*	*	*	*		*

7		*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*		*	*	*		*	*	*	*	*	*	*	*	*	*
8		*	*	*		*		*	*	*	*	*	*	*	*	*	*	*	*		*			*	*		*	*	*	*	*		*	*	*
9				*	*	*			*	*											*	*				*	*	*	*			*	*		
10																																			
Total		8	8	8	8	9	7	8	9	9	8	7	8	8	8	8	8	8	8	8	8	8	7	8	9	8	8	9	7	8	8	8	8	7	8

