

Knowledge and Awareness About Cardiopulmonary Resuscitation Among Allied Health Students

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ABSTRACT

Background: Cardiopulmonary resuscitation (CPR) is a lifesaving intervention that significantly improves survival following sudden cardiac arrest when initiated promptly. As future healthcare providers, Allied Health students are expected to possess adequate knowledge and awareness of current CPR guidelines. This study aimed to assess the level of knowledge and awareness regarding CPR among Allied Health students.

Aim: To assess the knowledge and awareness regarding cardiopulmonary resuscitation (CPR) among Allied Health students

Methods: A descriptive study was conducted among 600 Allied Health students from Physiotherapy, Optometry, Medical Laboratory Technology, and Cardiovascular Technology programs under Kerala University of Health Sciences (KUHS). Data were collected using a structured questionnaire based on the American Heart Association (AHA) CPR guidelines. The questionnaire assessed knowledge of cardiac arrest recognition, chest compression techniques, ventilation, automated external defibrillator (AED) use, and other essential CPR principles.

Results: Among the 600 participants, 325 (54%) demonstrated an average level of

CPR knowledge and awareness, 117 (20%) showed good knowledge, and 158 (26%) had poor knowledge. The findings indicate that although most students possess basic theoretical knowledge, significant gaps remain in their overall understanding and preparedness to perform effective CPR.

Conclusion: The study revealed that CPR knowledge and awareness among Allied Health students were generally moderate but insufficient for optimal emergency response. Incorporating mandatory simulation-based CPR training, regular refresher courses, and competency-based assessments into Allied Health curricula is recommended to improve student's confidence and practical skills, thereby enhancing patient outcomes during cardiac emergencies.

Keywords: Cardiopulmonary Resuscitation (CPR), Basic Life Support (BLS), Allied Health Students, Circulation, Airway, Breathing (formerly ABC) Emergency Care, Sudden Cardiac Arrest, Automated External Defibrillator (AED).

INTRODUCTION

The World Health Organization (WHO) reports that cardiovascular diseases are the top cause of death worldwide, responsible for around 17 million deaths each year, with sudden cardiac arrest (SCA) playing a major

role in this concerning figure. Sudden cardiac arrest (SCA), which involves the sudden cessation of heart function, is a life-threatening emergency that demands urgent medical intervention.

Survival largely relies on rapid response measures like cardiopulmonary resuscitation (CPR). When performed quickly and correctly, CPR can help restore limited blood flow to essential organs, greatly increasing the chances of survival. Recognizing sudden cardiac arrest (SCA) early and starting CPR and defibrillation within the first five minutes can boost survival rates to between 50% and 70%. These critical interventions emphasize the need to follow established CPR guidelines.⁽¹⁾

CPR, which was developed in 1960, is a straightforward but efficient technique that practically anybody may use to preserve life in the crucial first few minutes following cardiac and respiratory arrest.⁽²⁾ It can support ventilation and compress the chest

to restore blood flow to the brain and other critical organs.⁽³⁾

For healthcare professionals working in emergency departments and other medical settings, CPR is a vital and life-saving skill. High-quality CPR greatly improves patient outcomes, even if the clinical success of CPR depends on a number of variables, including the patient's starting condition and the length of cardiac arrest.⁽⁴⁾

Having sufficient knowledge and awareness of CPR is essential to ensuring that people can perform the life-saving actions that are required in emergency situations.⁽⁵⁾

Since medical personnel frequently deal with emergency situations, it is anticipated that they should be well-versed in CPR.⁽⁶⁾

SEQUENCES OF CPR.

STEP 1 : While performing CPR it should be ensured that the scene is cleared for not only the safety of the patient but also the Medical professional or Laymen.



Fig 1-Tap and check for Response



Fig 2- Check for pulse



Fig 3-Call for Help



Fig 4-Start CPR(100-120 Compression/min)



Fig 5-Open the Airway



Fig 6-Give 2 Rescue Breath

Repet the above sequence for 5 times. An Ambu bag can be used in place of mouth to mouth respiration.

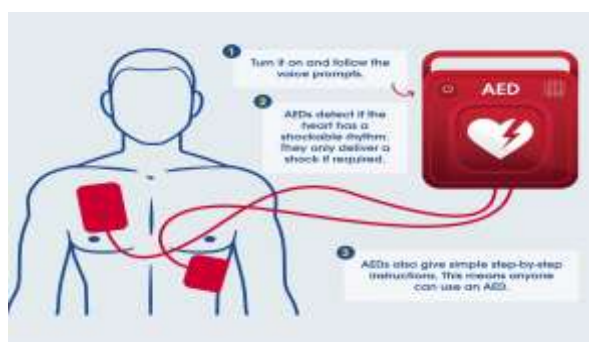
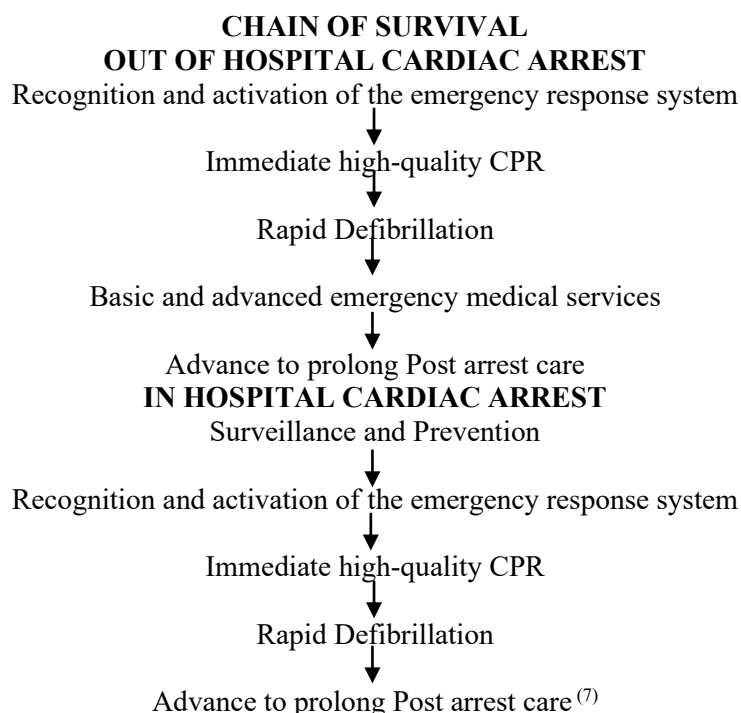


Fig 7-How to use AED

EMERGENCY SEQUENCE FOR LIFE SUPPORT

BASIC LIFE SUPPORT	ADVANCE LIFE SUPPORT	PROLONG LIFE SUPPORT
C – Compression	D – Drug (life saving drugs)	G – Gauging(investigation)
A – Airway	E – Electrocardiography	H – Human mentation
B – Breathing	F – Fibrillation Management	I – Intensive care



Studies indicate that performing CPR immediately after a collapse caused by ventricular fibrillation can double or even triple survival rates following sudden cardiac arrest (SCA).

In contrast, each minute of delay in initiating CPR reduces the chances of survival by approximately 7% to 10%.

CPR serves as a crucial method for providing basic life support (BLS) until advanced life support (ALS) measures can be administered or normal circulation and breathing are restored. As healthcare professionals who may work in intensive and critical care settings, physiotherapists should be capable of managing cardiac emergencies. Therefore, evaluating their knowledge of CPR is essential to guide curriculum updates and continuing education programs that enhance their ability to deliver effective patient care.⁽⁸⁾

The International Consensus on Cardiopulmonary Resuscitation and ICU Cardiovascular Care Science with Treatment Recommendations on Basic Life Support 2020 says that there are two ways to do CPR: a 30:2 ratio of compressions to breaths or a continuous chest compression technique that provides positive pressure ventilation without stopping until a supraglottic device or tracheal tube has been put in place.⁽⁹⁾

AIM

To assess the level of knowledge and awareness regarding cardiopulmonary resuscitation (CPR) among Allied Health students.

METHODOLOGY

STUDY SETTING

Allied health sciences colleges under KUHS

SAMPLE SIZE

600

INCLUSION CRITERIA

Undergraduate health professional students (Age 18 to 30)

EXCLUSION CRITERIA

- All post graduate students
- Certified CPR practitioner

- Psychologically ill
- Those who are not willing to participate

PROCEDURE

After Getting the ethical approval subjects were selected based on the inclusion and exclusion criteria. Consent was taken from the respondents for participation in the study.

Questionnaire consisting of 25 questions was provided to the participants through google form. Knowledge and awareness were assessed using questionnaire based on AHA guidelines.

SCORING INSTRUCTIONS

INTERPRETATION OF SCORES:

Table:1 interpretation of knowledge and awareness score among respondents in CPR

0-12	POOR
13-18	AVERAGE
Greater than 18	GOOD

DATA ANALYSIS AND RESULT

Data for this study were collected through an online structured questionnaire designed according to the American Heart Association (AHA) CPR guidelines.

The questionnaire was distributed using digital platforms such as WhatsApp to reach the participants conveniently.

A total of 600 Allied Health Science students participated in the survey. The responses were analyzed to determine the respondent's level of knowledge and awareness regarding Cardiopulmonary Resuscitation (CPR). Based on the scoring criteria, the results were categorized into three groups: poor (0–12 points), average (13–18 points), and good (above 18 points). The analysis revealed that:

117 students (20%) demonstrated a **good** level of knowledge and awareness of CPR.

325 students (54%) had an **average** level of knowledge and awareness of CPR.

158 students (26%) showed a **poor** understanding and awareness of CPR.

These findings indicate that although more than half of the respondents possess a moderate understanding of CPR, a

considerable portion still lack adequate knowledge and practical preparedness to perform it effectively. This suggests the need for improved training interventions and periodic workshops to enhance CPR competency among Allied Health students.

Table :2 number of students showing knowledge and awareness in CPR

POOR	158 Students
AVERAGE	325 Students
GOOD	117 Students

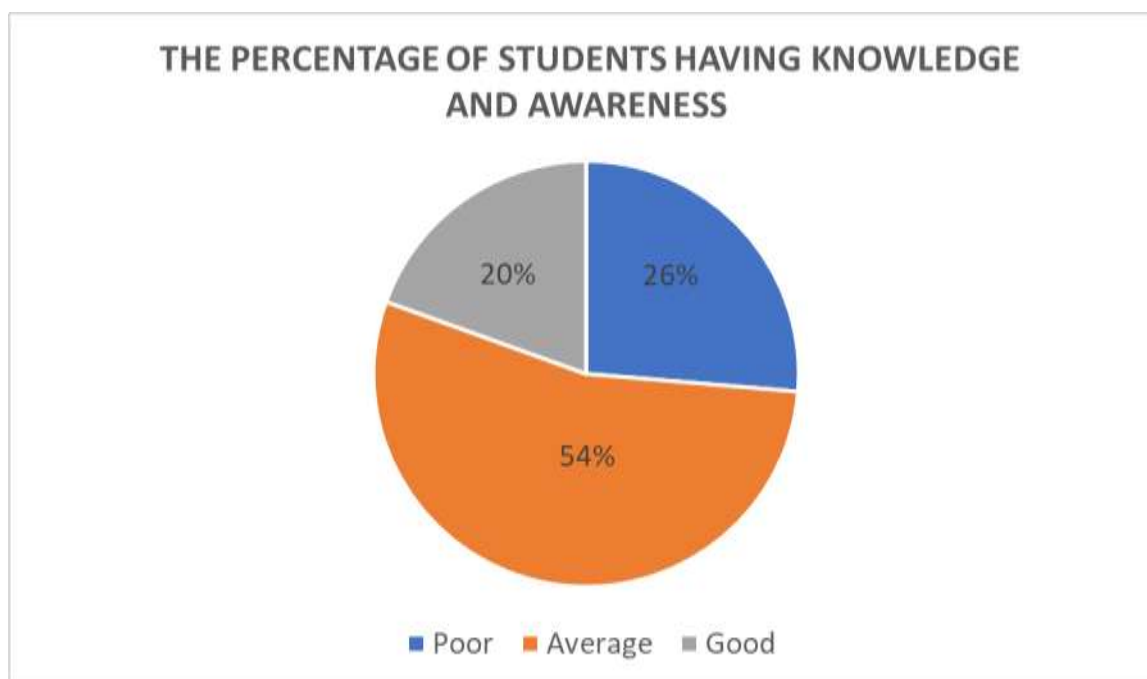


Chart :1 represents the Percentage students having Knowledge and Awareness

DISCUSSION

The present study found that most Allied Health students had an average level of knowledge and awareness regarding cardiopulmonary resuscitation (CPR), while only a small proportion demonstrated good knowledge and over one-quarter had poor knowledge. These findings suggest that although students are familiar with the basic concepts of CPR, significant gaps remain in their understanding of current guidelines and emergency response practices.

The results are consistent with previous studies, which reported inadequate CPR knowledge among healthcare students due to limited formal training and insufficient practical exposure. The lack of structured, simulation-based learning and regular refresher courses may contribute to these deficiencies. Strengthening CPR education through mandatory training, hands-on workshops, and periodic competency assessments could improve students'

confidence and preparedness to manage cardiac emergencies effectively.

CONCLUSION

The study concluded that Allied Health students possess only a moderate level of knowledge and awareness regarding cardiopulmonary resuscitation (CPR), with a considerable proportion demonstrating inadequate knowledge. These findings highlight the need to integrate structured, simulation-based CPR training, regular refresher programs, and competency assessments into the Allied Health curriculum to enhance students' confidence, practical skills, and preparedness to manage cardiac emergencies effectively.

Declaration by Authors

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