ISSN Print: 2664-8881
ISSN Online: 2664-889X
IJMS 2024; 7(2): 01-03
www.medicinejournal.in
Received: 09-05-2025
Accepted: 12-06-2025

Pramod Kumar
OT Technician, Lady Hardinge Hospital, New Delhi, India

Payal
Assistant Professor, Government Institute of Medical Science, Greater Noida, Uttar Pradesh, India

Kajal Gupta
Assistant Professor, SCPM College of Nursing & Paramedical Science, Lucknow Road, Gonda, Uttar Pradesh, India

Gajendra Singh
OT Technician, Sanjay Gandhi Post Graduate Institute of Medical Science, Lucknow, Uttar Pradesh, India

Dheer Singh
Assistant Professor, Guru Nanak Paramedical College, Dhahan Kaleran, Punjab, India

Mandeep Kumar
Tutor, Government Institute of Medical Sciences, Greater Noida, Uttar Pradesh, India

Corresponding Author:
Mandeep Kumar
Tutor, Government Institute of Medical Sciences, Greater Noida, Uttar Pradesh, India

Knowledge and practice Of Cardiopulmonary Resuscitation (CPR) among allied healthcare sciences students and professionals in Jaipur: A descriptive study

Pramod Kumar, Payal, Kajal Gupta, Gajendra Singh, Dheer Singh and Mandeep Kumar

DOI: https://www.doi.org/10.33545/26648881.2025.v7.i2a.63

Abstract
Cardiac arrest is a global public health emergency, and cardiopulmonary resuscitation (CPR) is a critical life-saving technique. This study assesses the knowledge and practice of CPR among allied healthcare sciences students and professionals in Jaipur. A total of 285 participants, including 241 students and 44 professionals, were surveyed using a structured questionnaire. The findings reveal that while 69.5% of participants reported awareness of CPR, only 46.54% demonstrated adequate knowledge. Professionals performed better than students, but both groups showed significant knowledge gaps in critical CPR components. The study underscores the urgent need for structured CPR training and regular refreshers to improve emergency response effectiveness in healthcare settings.

Keywords: Cardiopulmonary resuscitation, CPR, allied healthcare, knowledge assessment, medical education, Jaipur

Introduction
Sudden cardiac arrest (SCA) remains one of the leading causes of mortality globally. Effective cardiopulmonary resuscitation (CPR), particularly when performed promptly, significantly increases the chances of survival. Despite its importance, several studies have highlighted insufficient CPR knowledge and skills among healthcare providers, especially in developing regions.

CPR, as per the American Heart Association (AHA) guidelines, involves a sequence of compressions, airway management, and breathing (C-A-B). With irreversible brain damage possible within 3-4 minutes of cardiac arrest due to hypoxia, the role of first responders, including allied healthcare professionals and students, becomes critical.

The current study aims to assess the level of CPR knowledge and practice among allied healthcare sciences students and professionals in Jaipur. Identifying gaps in knowledge will provide insights for designing effective educational interventions.

- Figure 1, Participant distribution by occupation participant distribution pie chart
- Figure 2, CPR Knowledge Assessment: Correct vs Incorrect Responses CPR Knowledge Bar Chart

Sociodemographic Characteristics
(Age, Sex, Position, Work History, Education)
↓
Personnel
(Allied Health Professionals)
↓
Level of Skill
(Knowledge Level, First Exposure, CPR Process Understanding)
↓
Factors Influencing CPR
(Indicators, Actions Taken, Patient Condition, Challenges)
↓
Knowledge & Practice of CPR

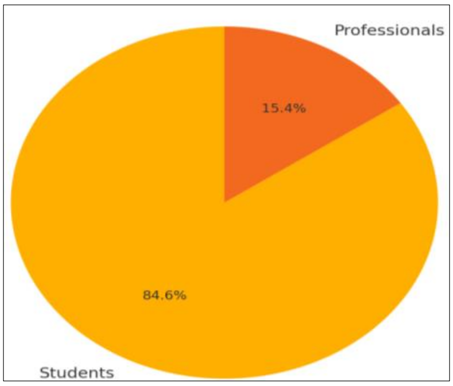

Fig 1: Participant distribution by occupation

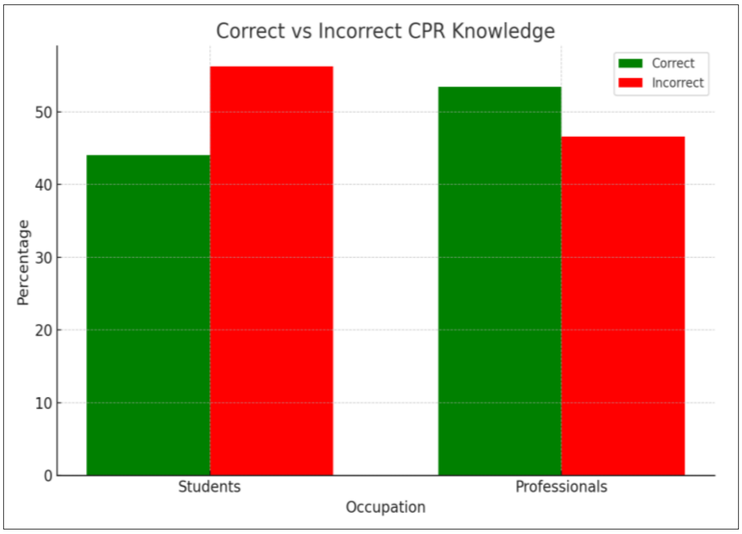

Fig 2: CPR Knowledge Assessment: Correct vs Incorrect Responses

Method Study Design

Descriptive cross-sectional study.

Participants

A total of 285 individuals, comprising 241 students and 44 professionals from paramedical and physiotherapy departments in Jaipur.

Inclusion Criteria

Allied healthcare students (UG/PG) in paramedical or physiotherapy courses, Allied healthcare professionals (faculty or clinical staff).

Exclusion Criteria

Nursing and pharmacy students or professionals, non-healthcare individuals.

Data Collection Tool

A self-structured questionnaire based on AHA 2015 guidelines. It included two sections: demographic details and 15 multiple-choice questions assessing theoretical and practical CPR knowledge.

Data Collection Procedure

The survey was distributed via Google Forms through email and WhatsApp groups. Participants had to affirm knowledge of CPR to proceed with the questionnaire.

Data Analysis

Responses were analyzed using Microsoft Excel. Descriptive statistics (frequencies and percentages) were used to summarize data.

Results

Out of 285 participants: 198 (69.5%) reported knowing about CPR, Only 88 (44.4%) had undergone CPR training-164 (82.8%) expressed willingness to attend CPR awareness programs

Knowledge Performance

- **Average correct response rate:** 46.54%, Students: 44.04% correct answers
- **Professionals:** 53.40% correct answers

Knowledge Gaps Identified

Pulse check duration: 34.3% correct-CPR sequence (C-A-B): 37.4% correct-Child compression-to-ventilation ratio: 22.7% correct-AED knowledge: 50.5% correct

Discussion

The study highlights substantial deficiencies in CPR knowledge among both students and professionals, with students scoring significantly lower. These findings align with global studies showing that even trained individuals may lack adequate retention of CPR principles.

Several respondents lacked knowledge on key elements such as correct compression depth, pulse check duration, and the use of AEDs. Professionals performed better, likely due to clinical exposure, yet the results emphasize the need for consistent, standardized training.

Encouragingly, a majority showed interest in CPR training programs, indicating potential receptiveness to intervention strategies. Regular mandatory training, simulations, and integration into academic curricula could help bridge the knowledge-practice gap.

Conclusion

The study concludes that knowledge and practice of CPR among allied healthcare sciences students and professionals in Jaipur are suboptimal. This gap in life-saving knowledge can compromise patient outcomes in emergencies. There is a pressing need for mandatory CPR education and regular refreshers within healthcare curricula and professional development frameworks.

References

1. Baduni N, Prakash P, Srivastava D, Sanwal MK, Singh BP. Awareness of basic life support among dental practitioners. Natl J Maxillofac Surg. 2014;5(1):19-22.
2. Taniguchi T, Omi W, Inaba H. Attitudes toward performance of bystander cardiopulmonary resuscitation in Japan. Resuscitation. 2007;75(1):82-87.
3. Alwidyan MT, Oteir AO, Almhdawi K, Kanaan SF, Williams B. CPR knowledge among allied health students in Jordan: A cross-sectional study. BMJ Open. 2019;9(11):e031725. https://doi.org/10.1136/bmjopen-2019-031725
4. Brenton-Rule A, Harvey D, Moran K, O'Brien D, Webber J. Knowledge and perceptions of CPR amongst New Zealand podiatrists: A web-based survey. J Foot Ankle Res. 2021;14(1):40. https://doi.org/10.1186/s13047-021-00481-9
5. Goodwin T, Delasobera BE, Strehlow M, Camacho J, Koskovich M, D'Souza P. Indian and United States paramedic students: Comparison of examination performance for AHA ACLS training. J Emerg Med. 2012;43(2):298-302. https://doi.org/10.1016/j.jemermed.2011.05.096
6. Adeleye BA, Aigbonoga DE, Akintayo AD, Aremu PS, Azeez OA, *et al*. CPR awareness in Nigerian university students. Afr J Emerg Med. 2021;11(1):182-187. https://doi.org/10.1016/j.afjem.2020.09.019
7. Pratap B, *et al*. Assessment of the knowledge about CPR among paramedical students. 2022. Available from: https://www.researchgate.net/publication/363924746
8. Vural M, Koşar MF, Kerimoğlu O, Kızkapan F, Kahyaoğlu S, *et al*. CPR knowledge among nursing students: A questionnaire study. Anatol J Cardiol. 2017;17(2):140-145. https://doi.org/10.14744/AnatolJCardiol.2016.7156
9. Mendhe HG, Burra L, Singh D, Narni H. Knowledge, attitude, and practice study on CPR among medical and nursing interns. Int J Community Med Public Health. 2017;4(8):3026. https://doi.org/10.18203/2394-6040.ijcmph20173366
10. Mohammed Z, Arafa A, Saleh Y, Dardir M, Taha A, *et al*. Knowledge of and attitudes towards CPR among junior doctors and medical students in Upper Egypt: Cross-sectional study. Int J Emerg Med. 2020;13(1):19. https://doi.org/10.1186/s12245-020-00277-x