

**To Assess the Level of Awareness and Knowledge Regarding CPR among Resident Doctors****Kapil Dev Chahar<sup>1</sup>, Naveen Ligrees<sup>2</sup>, Lakshya Verma<sup>3</sup>, Rajesh Sharma<sup>4</sup>**<sup>1</sup>Assistant Professor, Department of Emergency Medicine, SMS Medical College, Jaipur<sup>2</sup>Senior Resident, Department of Emergency Medicine, SMS Medical College, Jaipur<sup>3</sup>Junior Resident, Department of Emergency Medicine, SMS Medical College, Jaipur<sup>4</sup>Professor & Head, Department of Emergency Medicine, SMS Medical College, Jaipur

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Conflict of interest: Nil

**Abstract:****Objective:** The objective of the study was to assess the level of Awareness and knowledge regarding CPR among Resident doctors.**Methods:** The study was conducted in the S.M.S. medical college and attached group of hospitals, Jaipur. E-questionnaire/ printed-questionnaire comprise two parts and were filled out by interviewing respondents. Data were analyzed using the Statistical Package for Social Sciences (SPSS) 25 version. Knowledge was assessed based on the scores, with those scoring 10 or more being considered to have good knowledge while those having scored less than 10 were considered to have poor knowledge.**Results:** Out of 475 participants, 40 refused to take part in the study. The total respondents were 435 with a response rate of 91.6%. The knowledge regarding cardiopulmonary resuscitation of 153 (35.18%) respondents was poor with 282 doctors (64.82%) having good knowledge. CPR awareness was good among resident doctors. The overall attitude of the doctors towards CPR was positive with 98.85% of the respondents understanding the importance of CPR.**Conclusion:** The overall knowledge of the doctors regarding CPR is average. Awareness regarding CPR is good among the students but skills in CPR need to be improved with proper training and knowledge have to be updated with the changing trends in CPR.**Keywords:** CPR, knowledge of CPR, awareness of CPR.This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

Every year Cardiac arrest leads to death in thousands of people all around the world.[1] According to research, nearly 700,000 individuals die each year in Europe alone as a result of cardiac arrest.[2] In India, significant data are unavailable, but cardiac arrest is one of the emergencies we encounter daily in our emergency practices. Also, The incidence of OHCA has risen sharply during and after the COVID-19 pandemic throughout the globe.[3][4]

Success in CPR depends on various factors including timely bringing of patients to the emergency room, early recognition of arrest, and availability of resources like trained professional manpower including Residents and staff to perform high-quality Cardiopulmonary resuscitation (CPR) suggested in the latest guidelines of the American Heart Association (AHA) as a part of the chain of survival. Inadequacy in any step of CPR due to lack of knowledge or skill is associated with poor return of spontaneous circulation and decreased survival

rate.[5] Unfortunately, many studies revealed low knowledge and performance levels among students,[6] military personnel.[7]

So, it is important to focus on expert teaching and practicing CPR and enhancing the knowledge, performance, and self-efficiency with independence and confidence in residents.[8][9]

Our study aims to assess the level of knowledge and awareness regarding CPR in undergoing Resident doctors.

**Aim and Objectives****Aim:** To assess the level of awareness and knowledge regarding CPR among Resident doctors**Primary Objective:** To describe the level of awareness and knowledge regarding CPR among Resident doctors as per AHA guidelines.

## Materials and Methods

**Study Area:** The study was conducted in the S.M.S. Medical College and attached group of hospitals, Jaipur.

**Study Design:** Hospital-based cross-sectional study.

**Study Period:** Till completion of the survey by residents.

**Sample Size:** A sample of 475 Resident doctors is calculated at 95% confidence and 1% absolute error to verify the expected minimum 1.2% of Resident doctors have adequate optimum skills to perform CPR.[10]

**Inclusion and Exclusion Criteria:** Resident doctors of different specialties who gave written informed consent were included in the study and those resident doctors who were not willing to participate were excluded from the study

**Data Collection and Analysis:** A structured questionnaire was used in two forms: online and

hard form. There were two sections in the questionnaire; the first part comprised awareness and the second part comprised knowledge-related questions and it was designed according to American Heart Association guidelines. Data was analyzed using the SPSS 25 version. The chi-square test was used to compare different variables. Knowledge was assessed based on scores.

## Results

Out of 475 participants, 40 refused to take part in the study. The total respondents were 435 with a response rate of 91.6%. The knowledge regarding cardiopulmonary resuscitation of 153 (35.18%) respondents was poor, with doctors 282 (64.82%) having good knowledge (table 1). Out of these respondents, 261 (60%) were male and 174 (40%) were females. The knowledge of respondents was good (64.82%).

A score of  $\geq 10$  out of 15 was considered as good knowledge and less than 10 was considered as poor. The overall awareness of the doctors for CPR was good.

**Table 1: Good Knowledge**

Good Knowledge	Number	Percentage
Yes	282	64.82%
No	153	35.18%
Total	435	100%

Gender wise there were 174 females and 261 were males. 67.8% of females scored more than 10 and 62.8% of males scored more than 10 in knowledge-based questionnaire. Overall awareness was good for CPR among resident doctors as shown in table 2. The importance of CPR was recognized by 98.85% of doctors and teaching and mastering CPR that should be made mandatory to all residents was emphasized by 96.78% of doctors.

**Table 2: Statement**

Statement No	Statement	Yes	No	Don't Know
1	Importance of CPR	430(98.85)	4(0.92)	1(0.23)
2	Correct CPR Procedure	424(97.47)	7(1.61)	4(0.92)
3	Importance of CPR	420(96.55)	7(1.61)	8(1.84)
4	Participate in CPR	395(90.80)	11(2.53)	30(6.67))
5	CPR Procedure	13(2.99)	413(94.94)	9(2.07)
6	More Harmful	14(3.22)	390(89.66)	31(7.12)
7	Waste of Manpower	9(2.07)	414(95.17)	12(2.76)
8	Teaching and mastering CPR	421(96.78)	10(2.3)	4(0.92)

## Discussion

The first step and last hope for the survival of a pulseless and breathless person is CPR. High-quality and timely CPR can be life-saving. Training for all healthcare professionals has been recommended since the inception of formal CPR guidelines. The fundamentals of early recognition and activation, early: as defibrillation, CPR, and access to emergency medical care had been life-saving. High-quality CPR is the cornerstone that can optimize outcomes beyond the return of spontaneous circulation. When results were stratified for variables we found that specialty,

designation, and previous training played a significant role in the knowledge of participants. We found that resident doctors from the clinical stream were more likely to be aware of the proper steps of CPR as compared to the nonclinical stream. Studies done earlier showed better scores for trained doctors than untrained doctors. [11,12,13,14] A vital part of the chain of survival is high-quality chest compression which is challenging to deliver. In the present study knowledge of doctors is satisfactory enough to give proper CPR. Overall attitude and awareness were good in resident doctors.

**Conclusion:**

The overall knowledge of the doctors regarding CPR is average. Awareness regarding CPR is good among the students but skills in CPR need to be improved with proper training and knowledge have to be updated with the changing trends in CPR.

**References**

1. Hayashi M, Shimizu W, Albert CM. The spectrum of epidemiology underlying sudden cardiac death. *Circ Res.* 2015; 116(12):1887–1906.
2. Chugh SS. Sudden cardiac death in 2017: spotlight on prediction and prevention. *Int J Cardiol.* 2017; 237:2–5.
3. Rollman J.E., et al. Emergency medical services responses to out-of-hospital cardiac arrest and suspected ST-segment-elevation myocardial infarction during the COVID-19 pandemic in Los Angeles County. *J Am Heart Assoc.* 2021; 10(12):e019635.
4. Mathew S., et al. Effects of the COVID-19 pandemic on out-of-hospital cardiac arrest care in Detroit. *Am J Emerg Med.* 2021; 46:90–96.
5. K. Okonta, B. Okoh, Theoretical knowledge of cardiopulmonary resuscitation among clinical medical students in the University of Port Harcourt, Nigeria, *Afr. J. Med. Health Sci.* 2015;14 (1): 42–46.
6. Azarpoor 324rewew3wqZ, Masoompour A, Jambarsang S. The effect of cardiopulmonary resuscitation training on basic life support knowledge and performance among primary school students. *J Nurs Educ.* 2015; 4:3.
7. Chegeni Z, Aliyari S. The effect of basic cardiopulmonary resuscitation training, by the presentation method, on the performance of soldiers in military units. *Mil Caring Sci.* 2018; 4(4):227–235.
8. Salehi S, Zonoori S, Tabarsi B, Ghanbarian H, Nasiri M. The effect of cardiopulmonary resuscitation education through compound method on knowledge and performance of entourage of patients with cardiovascular diseases. *J Nurs Educ.* 2016;5(3):10–16. doi:
9. Rambod M, Sharif F, Khademian Z. The impact of the preceptorship program on self-efficacy and learning outcomes in nursing students. *Iran J Nurs Midwifery Res.* 2018; 23(6):444.
10. Meena kumari et al. Clinical awareness of do's and don'ts of cardiopulmonary resuscitation among university medical students. *Journal of Clinical and Diagnostic Research.* 2014 Jul, Vol-8(7): MC08-MC11.
11. Majid A, Jamali M, Ashrafi M, et al. knowledge and attitude towards cardiopulmonary resuscitation among doctors of a tertiary care hospital in Karachi. *Cureus March 06,* 2019; 11(3): e4182.
12. M. Nambiar, N.M. Nedungalaparambil, O.P. Aslesh, Is current training in basic and advanced cardiac life support (BLS & ACLS) effective? A study of BLS & ACLS knowledge amongst healthcare professionals of North-Kerala, *World J Emerg Med.* 2016;7: 263–269.
13. S. Roshana, K. Batajoo, R. Piryani, M. Sharma, Basic life support: knowledge and attitude of medical/paramedical professionals, *World J Emerg Med.* 2012;3: 141–145,
14. B. Osinaike, D. Aderinto, E. Oyebamiji, M. Dairo, K. Diya, Evaluation of knowledge of doctors in a Nigerian tertiary hospital of CPR, *Niger. Med. Pract.* 2007; 52: 16–18.