

## AWARENESS AND ATTITUDES OF PHYSICAL THERAPISTS TOWARD CARDIOPULMONARY RESUSCITATION IN HYDERABAD, PAKISTAN: A CROSS-SECTIONAL SURVEY

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### Abstract

**Background:** Cardiopulmonary resuscitation (CPR) is a critical emergency skill that helps preserve circulation and oxygenation during cardiac arrest until advanced care is available. Physical therapists frequently work in hospital, community, and sports settings where CPR may be required, yet their knowledge and confidence levels are inconsistent.

**Objective:** To assess the awareness, knowledge, and attitudes of physiotherapists in Hyderabad, Pakistan, regarding cardiopulmonary resuscitation.

**Methods:** A cross-sectional survey was conducted from July to December 2023 among 161 physiotherapists using a validated 31-item questionnaire covering demographics, CPR knowledge, and attitudes. Convenience sampling was applied. Data were analyzed in SPSS v22 using descriptive statistics.

**Results:** Of 161 participants, 58 (36.0%) were male and 103 (64.0%) female. Most were aged 20–29 years (75.8%), and 70.8% had 0–5 years of experience. Sixty-seven (41.6%) held a current CPR certificate, while 82 (50.9%) reported having performed CPR during an emergency. Overall, approximately half of respondents (~50.5%) demonstrated adequate knowledge of CPR guidelines. Correct responses were highest for compression depth (>5 cm, 91.3%) and compression-to-ventilation ratio (30:2, 85.7%), but lower for topics such as AED use in children (60.2%). Many participants expressed reluctance to perform mouth-to-mouth ventilation without protection and reported low confidence in public or workplace emergencies.

**Conclusion:** While about half of physiotherapists displayed satisfactory knowledge of CPR, certification status and confidence were suboptimal. Regular refresher courses, mandatory certification, and hands-on training are strongly recommended to improve preparedness.

### INTRODUCTION

Cardiopulmonary resuscitation (CPR) is a life-saving intervention that maintains oxygenation and circulation during cardiac arrest until advanced care becomes available. Immediate and effective CPR significantly improves survival rates and neurological

outcomes (1,2). For this reason, all healthcare providers are expected to be competent in recognizing cardiac arrest and initiating CPR immediately. Physiotherapists often work in diverse environments, including hospitals, rehabilitation

centers, community clinics, and sports facilities, where emergencies may arise. Their role in prompt recognition of cardiac arrest and initiation of CPR can be crucial. However, international evidence suggests variability in physiotherapists' CPR knowledge, certification, and confidence (3,4). Without regular refresher training, CPR skills decline quickly, and many healthcare professionals report hesitancy in performing resuscitation in real-world settings (5). In Pakistan, research examining CPR preparedness among physiotherapists is limited. Understanding their awareness, knowledge, and attitudes is essential for identifying gaps in practice and strengthening emergency response capacity. This study was therefore conducted to evaluate the knowledge, attitudes, and perceptions of physiotherapists in Hyderabad, Pakistan, regarding cardiopulmonary resuscitation.

## LITERATURE REVIEW

Globally, CPR knowledge among healthcare providers has been widely studied over the past two decades. Early investigations in Europe emphasized that immediate bystander CPR significantly increases survival chances in cardiac arrest victims (6,7). In Denmark, national initiatives to expand CPR training in schools and workplaces led to higher rates of bystander intervention and improved survival (8). Later studies examined CPR knowledge within specific professional groups. Brenton-Rule et al. reported that New Zealand podiatrists demonstrated moderate knowledge of CPR but lacked confidence in AED use (9). Similarly, a systematic review by Plant and Taylor highlighted gaps in CPR training among schoolchildren, stressing the need for tailored education programs (10). These findings suggest that retention of CPR skills is limited without periodic refresher courses. In low- and middle-income countries, research has drawn attention to healthcare professionals' preparedness. Mpotos and Monsieurs found that medical students often lacked both knowledge and willingness to perform CPR without formal training (11). In Pakistan, Agha et al. observed that medical students had insufficient CPR knowledge and low confidence levels, despite CPR being part of their curriculum (12). However, evidence focused specifically on physiotherapists'

preparedness for CPR in Pakistan remains scarce.

## METHODOLOGY

### Study Design and Setting

This was a cross-sectional survey conducted between July and December 2023 in Hyderabad, Pakistan. The study targeted physiotherapists working in hospitals, clinics, rehabilitation centers, and academic institutions.

### Study Population

The sample included qualified physiotherapists registered with the Faculty of Allied Medical Sciences at Isra University and other healthcare facilities in Hyderabad. Participants who were unwilling to provide informed consent were excluded.

### Sample Size and Sampling Technique

A total of 161 physiotherapists participated, recruited through convenience sampling. The required sample size was estimated based on a 95% confidence interval and 5% margin of error using OpenEpi software (13).

### Data Collection Tool

Data were collected using a structured, self-administered questionnaire consisting of 31 items. The tool was adapted from previously validated surveys assessing CPR knowledge and attitudes (14,15). It comprised three sections: demographic data, knowledge of CPR guidelines, and attitudes toward performing CPR.

### Data Collection Procedure

Questionnaires were distributed in both electronic and paper formats. Prior to data collection, informed consent was obtained. Confidentiality and anonymity of participants were maintained throughout.

### Data Analysis

Data were entered and analyzed using IBM SPSS Statistics version 22. Descriptive statistics (frequencies, percentages, means, and standard deviations) were calculated for demographic variables and survey responses.

### Ethical Considerations

The study was approved by the Institutional Review Board (IRB) of Isra University, Hyderabad (Ref: 1901-dpt 107). All procedures followed the ethical standards of the Helsinki Declaration.

## RESULTS

### Demographic Characteristics

A total of 161 physiotherapists participated in the study. Among them, 58 (36.0%) were male and 103 (64.0%) female. The majority (75.8%) were in the age group 20–29 years, followed by 19.3% in the 30–39 years group, and 4.9% aged 40 years or above. Regarding work experience, 70.8% had 0–5 years, 19.9% had 6–10 years, and 9.3% had more than 10 years of experience. These details are summarized in Table 1.

### Certification and CPR Experience

Of the participants, 67 (41.6%) reported holding a current CPR certification, while 94 (58.4%) had never received formal certification. Additionally, 82 (50.9%) respondents had performed CPR during an emergency, whereas 79 (49.1%) had no practical experience.

### Knowledge of CPR Guidelines

Overall, 50.5% of physiotherapists demonstrated adequate knowledge of CPR. The most correctly answered items were recommended chest compression depth (>5 cm, 91.3%) and the compression-to-ventilation ratio (30:2, 85.7%). Recognition of cardiac arrest signs was correct in 68.3% of cases, while knowledge regarding AED use in children was lowest (60.2%). A detailed distribution of knowledge responses is shown in Table 2 and visually represented in Figure 1.

### Attitudes Toward CPR

Most participants expressed willingness to provide chest compressions; however, reluctance was noted regarding mouth-to-mouth ventilation without protective barriers. Confidence to perform CPR in public places or workplace emergencies was relatively low, particularly among those without formal certification.

### Summary of Findings

The findings reveal that while physiotherapists demonstrated satisfactory knowledge of fundamental CPR steps, significant gaps remained in advanced knowledge, certification status, and confidence to apply skills in real-life emergencies.

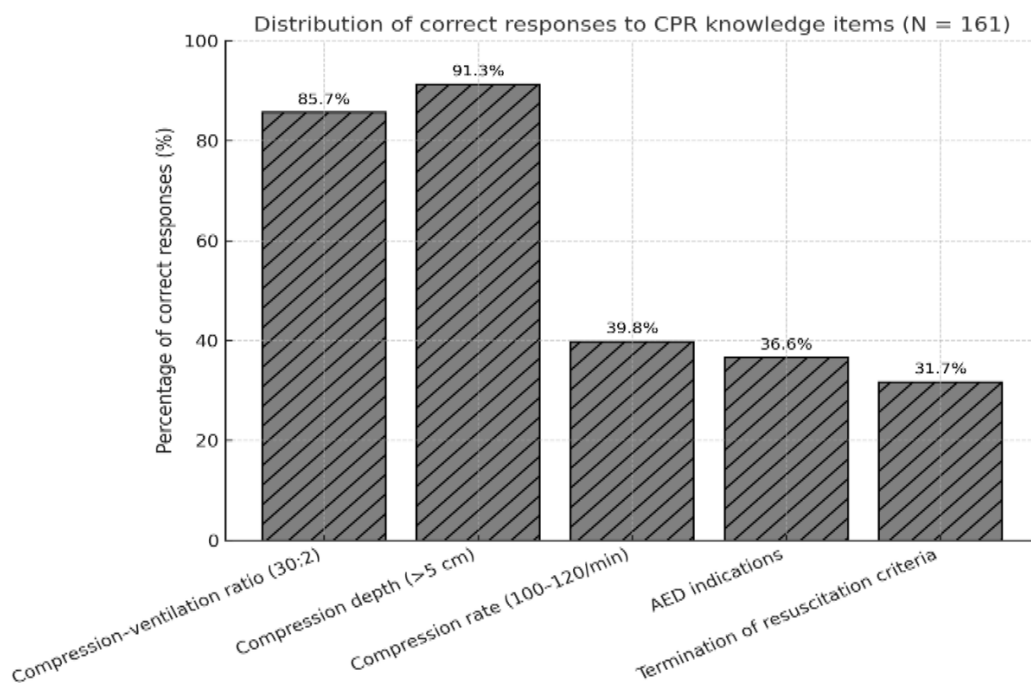
Table 1. Demographic characteristics of participants (n = 161)

Variable	Category	Frequency (n)	Percentage (%)
<b>Gender</b>	Male	58	36.0
	Female	103	64.0
<b>Age group (years)</b>	20–29	122	75.8
	30–39	31	19.3
	≥40	8	4.9
<b>Work experience</b>	0–5 years	114	70.8
	6–10 years	32	19.9
	>10 years	15	9.3

Table 2. Knowledge of CPR guidelines among physiotherapists (n = 161)

Knowledge Item	Correct n (%)	Incorrect n (%)
Recommended chest compression depth	147 (91.3)	14 (8.7)
Compression-to-ventilation ratio (30:2)	138 (85.7)	23 (14.3)
Recognition of cardiac arrest signs	110 (68.3)	51 (31.7)
AED use in children	97 (60.2)	64 (39.8)

Figure 1. Distribution of correct responses to CPR knowledge items (n = 161)



**DISCUSSION**

The present study assessed the awareness, knowledge, and attitudes of physiotherapists toward cardiopulmonary resuscitation (CPR) in Hyderabad, Pakistan. Findings showed that only about half of the participants demonstrated adequate knowledge, and fewer than half held a valid CPR certification. These results reflect a concerning gap in preparedness among physiotherapists, who may

encounter emergencies in hospitals, community, or sports environments.

**Comparison with Previous Literature**

Our findings are consistent with international evidence showing variability in healthcare professionals' CPR competence. In New Zealand, Brenton-Rule et al. reported similar moderate knowledge among podiatrists, with significant gaps in AED use (16). European studies further confirm

that CPR skills deteriorate quickly without refresher training, highlighting the importance of regular updates (17,18).

In our study, the highest correct responses were related to chest compression depth and compression-to-ventilation ratio. This aligns with previous reports where fundamental CPR steps were retained more effectively than advanced aspects such as AED use in children (19). Confidence and willingness to provide mouth-to-mouth ventilation remained low, similar to findings from Asia and Europe where healthcare providers expressed hesitancy due to infection risk and lack of protective barriers (20).

#### Implications for Pakistan

Within Pakistan, limited research exists regarding physiotherapists' preparedness. Agha et al. found that medical students had insufficient CPR knowledge and confidence despite curricular exposure (21). Our findings indicate that physiotherapists face similar challenges, suggesting that existing training is inadequate to ensure real-world competency.

#### Strengths and Limitations

A strength of this study is the inclusion of a relatively large sample of physiotherapists from diverse settings. However, limitations include the use of convenience sampling, reliance on self-reported data, and restriction to a single city, which may limit generalizability.

#### Recommendations

Mandatory CPR certification, routine refresher courses, and incorporation of hands-on training within physiotherapy curricula are strongly recommended. Institutional policies should ensure that healthcare workers remain updated with the latest resuscitation guidelines. Further large-scale, multicenter studies are needed to validate these findings across Pakistan.

#### CONCLUSION

This study revealed that while physiotherapists in Hyderabad possessed satisfactory awareness of basic CPR steps such as compression depth and compression-to-ventilation ratio, major gaps persisted

in certification status, knowledge of AED use, and confidence to act in emergencies.

The findings highlight the urgent need for mandatory CPR certification, regular refresher courses, and hands-on training in physiotherapy education and professional practice. Improving preparedness among physiotherapists will strengthen emergency response capacity and potentially improve patient survival outcomes in Pakistan.

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