

Original Article

Empowering Tomorrow's Healers: Assessing Knowledge and Attitude Regarding CPR Training among Final-Year Doctor of Physical Therapy Students in Karachi-Cross Sectional Study

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ABSTRACT

Background: Cardiopulmonary resuscitation (CPR) is a critical skill for healthcare professionals, including physical therapy students. Despite its importance, there is a gap in research regarding the CPR knowledge of these future professionals. This study aims to assess the level of CPR knowledge and attitudes among final-year Doctor of Physical Therapy (DPT) students.

Objective: The primary objective of this study was to evaluate the CPR knowledge, confidence in performing CPR, and attitudes towards CPR training among final-year DPT students in Karachi.

Methods: A cross-sectional study design was employed, using a non-probability convenience sampling technique. Data were collected from 101 final-year DPT students using a validated questionnaire adapted from previous studies. Statistical analysis was conducted using SPSS version 23, focusing on descriptive statistics such as frequency and percentage.

Results: While all participants were aware of CPR, only 49.5% believed their knowledge was adequate. About half of the students had previously taken a CPR training course, yet only 27.7% had done so within the past year. In situations requiring CPR, 50% of those who had faced such scenarios did not perform it, primarily due to nervousness. Approximately 69.3% knew the correct sequence of CPR, and 85% were willing to perform CPR on anyone if necessary.

Conclusion: The study reveals a significant gap in confidence and practical knowledge of CPR among final-year DPT students. Despite a high level of initial awareness, there is a need for regular, updated training to build proficiency and confidence in CPR. Integrating CPR training into the DPT curriculum and promoting regular retraining could be key strategies for improving CPR skills among future physical therapists.

Keywords: Cardiopulmonary Resuscitation, Physical Therapy Students, CPR Knowledge, Healthcare Education, Emergency Skills, Training Efficacy.

INTRODUCTION

The integration of knowledge and its practical application in the healthcare sector is of utmost importance, particularly in the realm of emergency medical care (1). This statement holds especially true for the skill of cardiopulmonary resuscitation (CPR), an indispensable lifesaving technique (2). For healthcare professionals, and more specifically for physical therapy students, the knowledge and ability to perform CPR is not just a requirement but a critical responsibility (3, 4). Cardiac arrest, as defined by the American Heart Association and the American College of Cardiology, is a severe medical emergency characterized by the sudden loss of heart function, leading to a lack of responsiveness, absence of normal breathing, and no signs of circulation (5). CPR, in such scenarios, emerges as a potential life-saver. It is a procedure that involves a synergistic combination of rescue breathing and chest compressions, vital for maintaining the flow of oxygenated blood to the brain and other essential organs (5).

The scope of CPR's significance extends beyond the conventional medical settings, intersecting with the domain of physical therapy (6). Physical therapists, especially those working in high-stakes environments such as intensive and critical care units or in specialized domains like cardiopulmonary rehabilitation, frequently encounter acute cardiac events (7). These events can occur unexpectedly, including during physical exercises, which underlines the necessity of CPR knowledge to address exercise-induced cardiac arrests.

Despite the apparent necessity of CPR proficiency in physical therapy practice, there is a discernible void in existing research, particularly concerning the CPR knowledge level among Doctor of Physical Therapy (DPT) students in their final year of study (8). While previous research endeavors have shed light on the CPR knowledge among practicing Greek physiotherapists and explored the general understanding of acute care physical therapy among student populations, they fall short of specifically examining the CPR preparedness of future physiotherapists (9). This oversight is concerning given the pivotal role physiotherapists play in handling cardiac emergencies in acute care settings and during physical rehabilitation (10).

This study, therefore, sets out to address this research gap by conducting a comprehensive assessment of the knowledge and attitudes regarding CPR among final-year DPT students in Karachi (11, 12). By concentrating on this specific group, the study aims to evaluate the foundational CPR knowledge possessed by these imminent healthcare professionals (13). The implications of this research are substantial. It not only provides a critical analysis of the current state of CPR education within physical therapy curriculums but also paves the way for potential enhancements in future training programs. Such advancements would ensure that the next generation of physiotherapists is thoroughly equipped to respond effectively to cardiac emergencies (14). In essence, this research marks a pivotal stride towards elevating the standards of healthcare delivery and patient safety, particularly in the field of cardiopulmonary care, thereby embodying a significant contribution to the broader healthcare community (15, 16).

MATERIAL AND METHODS

This study employed a cross-sectional design to assess the knowledge and attitudes regarding cardiopulmonary resuscitation (CPR) among final-year Doctor of Physical Therapy (DPT) students in Karachi (17). The methodology was meticulously planned to ensure the robustness and reliability of the data collected.

The study utilized a non-probability convenience sampling technique. The target population comprised final-year DPT students from various physical therapy institutes and colleges within the region. To maintain a focused and relevant sample, students from the 1st, 2nd, 3rd, and 4th years were explicitly excluded from the study. This exclusion criterion was essential to ensure that the participants had reached a level of education where they would have been exposed to CPR training and its relevance in their future professional practice.

Data was gathered using a validated and updated questionnaire. This questionnaire was adapted from a previous study titled "Knowledge and attitudes towards cardiopulmonary resuscitation among university students in Riyadh, Saudi Arabia," authored by Yousef A. Al-Turki, et al. The choice of this questionnaire was based on its prior validation and relevance to the study's objectives. It comprised questions designed to assess both the theoretical knowledge and practical attitudes of students towards CPR.

The questionnaire was distributed among 101 final-year DPT students, encompassing both male and female participants. The inclusive approach towards gender ensured a comprehensive understanding of the CPR knowledge base across a diverse student population. The distribution of the questionnaire was carried out in a manner that ensured maximum participation and honest responses, free from any coercion or bias.

Upon collection, the data was meticulously analysed using SPSS version 23, a statistical software renowned for its efficacy in handling complex datasets. The analysis primarily focused on descriptive statistics, providing a clear and concise summary of the collected data. Frequency and percentage calculations were employed to present the data in an easily interpretable format. These statistical methods were chosen for their ability to accurately reflect the prevalence and distribution of CPR knowledge and attitudes among the sampled population.

RESULT

Students participated in this study belongs to three age groups, 46% was of 24 years and each 27% persons belongs to 23years and

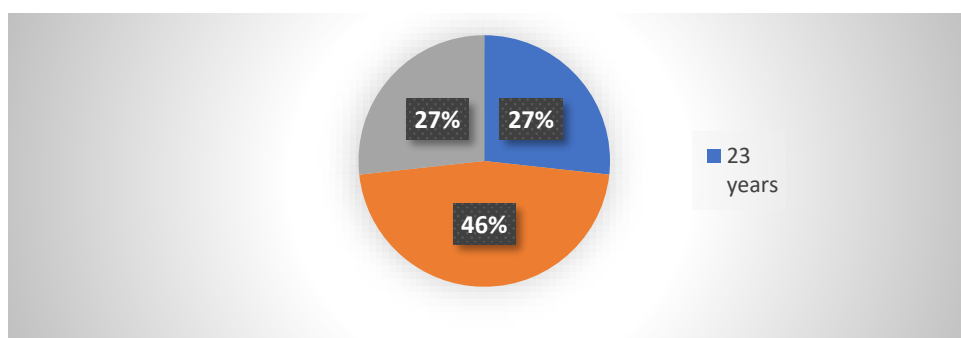


Figure 1 Participant's Age

25 years of age group (Fig. 1). Out of 101 participants 76% were females and 24% was males as shown in "Figure. 2."

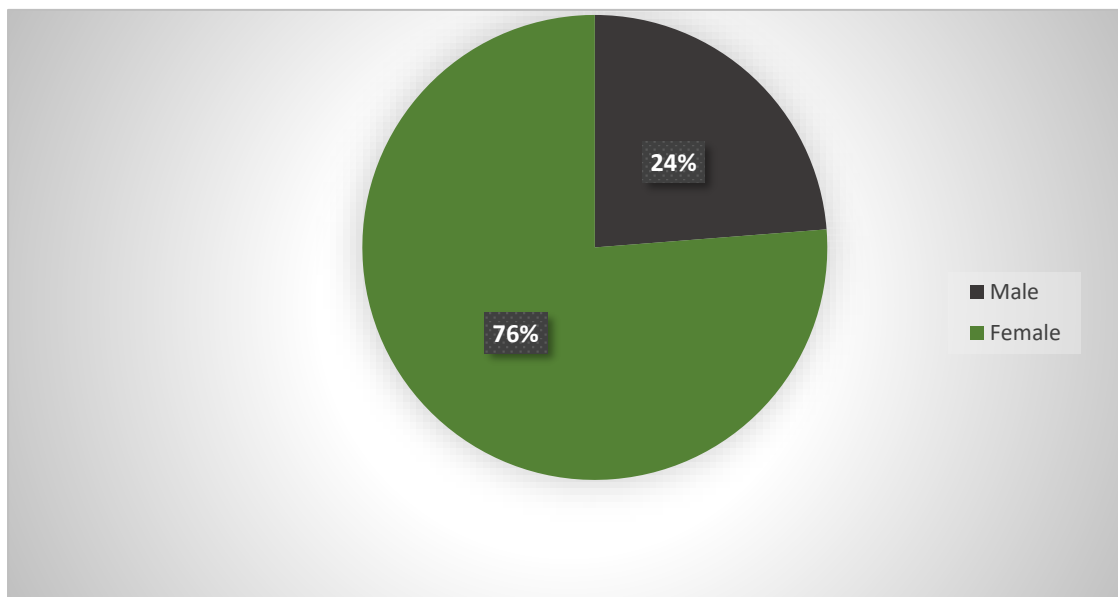


Figure 2 Gender of Participant

As expected, all 100% participants have prior knowledge of CPR, then as we asked about sources, the commonest source from they get knowledge was university about 66.3%. Despite 100% of students having prior information about CPR, only 49.5% feels their knowledge is enough, 50.5% thinks that there still a need for improvement for about 77.2% know the

emergency medical services number.

With further 50% of students who gave data have attended CPR training program in past. Regarding participants who have taken the course, the most common reason was ‘work or graduation requirement; 56.9%. Personal benefit was the second most common (25.5%).

In individuals taken courses in past 54.9% have taken less than one year ago. Out of 101 students only 65.3% knows correct duration of CPR i.e., one day.

we asked them a question about what they will do when they encounter a situation that required CPR, 62.4% of sample was in favor of calling an ambulance and students who know the correct sequence of CPR was only 69.3%.

The highest percentage of student i.e., 96% shows positive attitudes towards learning CPR that is interestingly good as shown in “Fig. 3”.

Students who want to learn CPR.

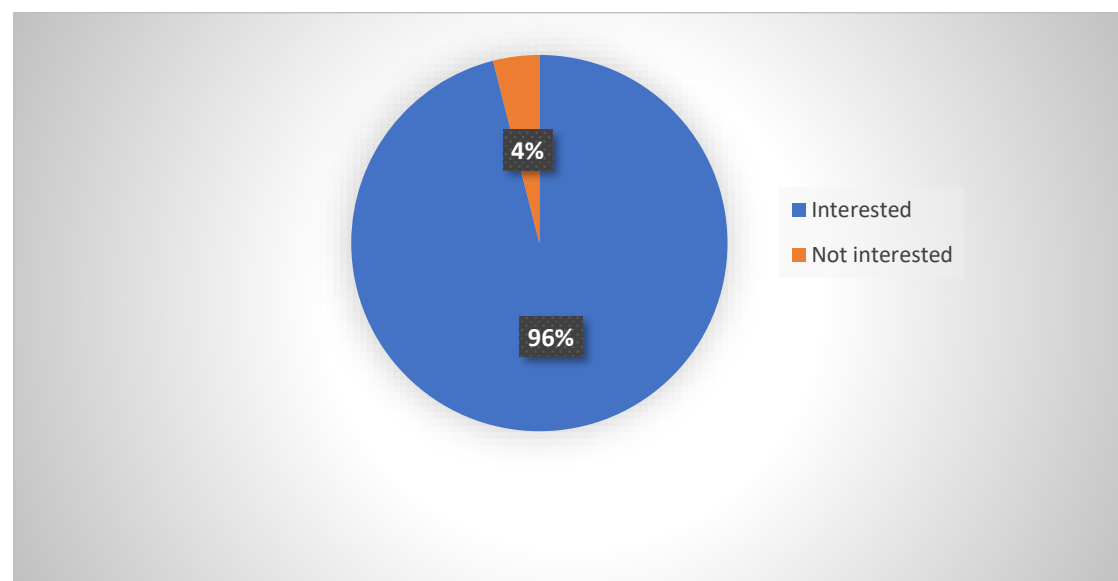


Figure 3 Fig. 3: Students Interest towards learning CPR

“Table: I” shows student’s perspective towards success rate of performing CPR, however the correct value is 25%. While 85.5% participants said that they will be willing to perform CPR to anyone.

Table 1 Students' knowledge regarding the expected survival rate when CPR is performed correctly

Options	Frequency	Percent
1%	1	1.0
25%	9	8.9
75%	59	58.4
90%	32	31.7
Total	101	100.0

Most important 96% students want to learn CPR more, out of interviewed students, 82.2% said it CPR training course should a graduation requirement, furthermore 9.9% feel that it should be mandatory for some majors and 4% think that it should be optional, further 4% supports implementation of training course.

DISCUSSION

The findings of this study, which investigated the knowledge and attitudes towards cardiopulmonary resuscitation (CPR) among final-year Doctor of Physical Therapy (DPT) students, provide crucial insights into the preparedness of future healthcare professionals in this vital area (18). While CPR is recognized as an essential life-saving skill, particularly for allied health clinical faculty and students who may frequently encounter situations requiring its use, the results of this study reveal a concerning disparity in confidence and knowledge among the participants.

Remarkably, all participants had prior awareness of CPR, a reflection of their advanced stage in the physical therapy program (19). However, only 49.5% felt their knowledge was adequate. This finding echoes similar research among medical students in Nigeria, where a majority did not achieve a 50% score in CPR knowledge, and a study in Pakistan showing that 66.6% of medical students were aware of basic life support (BLS) (20, 21). Comparable studies in other healthcare disciplines, such as nursing and dentistry, also report gaps in up-to-date CPR knowledge.

An interesting aspect of this study is the correlation between knowledge and confidence. Among the students who had encountered situations requiring CPR, half did not perform the resuscitation, primarily due to nervousness. This aligns with findings from a study in the United States, where 9.1% of individuals refrained from performing CPR due to concerns about incorrect execution (22). The study also found that about half of the students had previously undertaken a CPR training course, but only 27.7% had participated in such training within the last year. These findings are consistent with a survey on CPR certification among high school athletic coaches, where 40 to 60% had valid CPR certification. However, the percentage was significantly lower, about 12%, among students at King Saud's University, Saudi Arabia (23).

A crucial aspect of CPR training highlighted by this study is the need for regular retraining. It is noteworthy that most participants would prioritize calling emergency services in a CPR-requisite situation, and a good percentage were aware of the emergency services number. Approximately 69.3% knew the correct sequence of CPR, and 85% were willing to perform CPR on anyone if necessary, contrasting with a study in Saudi Arabia where a quarter of students were hesitant to perform CPR on the opposite gender. University education emerged as the most common source of CPR knowledge among participants, leading to a majority opinion favoring the inclusion of CPR training as a graduation requirement. To improve public awareness, most participants recommended free training courses. However, the study has limitations, including a small sample size and the timing of the research during the peak of the COVID-19 pandemic in mid-2020.

CONCLUSION

This study underscores that while around half of the participants possess adequate knowledge of CPR, there is a significant need for enhanced training and confidence-building. The overall positive attitude of students towards learning CPR is encouraging and suggests that integrating CPR training into the graduation curriculum could be beneficial. Future research should further assess CPR knowledge in the field of physical therapy and explore the impact of free training courses and mandatory graduation requirements on CPR proficiency. This approach is essential to ensure that future healthcare professionals are equipped with the necessary skills and confidence to perform this life-saving procedure effectively.

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