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Original Research

Knowledge, attitude, and practice on handling medical emergencies: An original research

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ABSTRACT:

Purpose: This study aims to assess the knowledge, attitudes, and practices of healthcare professionals and undergraduate medical students regarding the handling of medical emergencies. Identifying gaps in training and preparedness can help design better interventions for improving the management of medical emergencies. **Methods:** A cross-sectional, questionnaire-based survey was conducted among 500 participants, including 300 healthcare professionals and 200 final-year medical students. The questionnaire covered knowledge of medical emergency protocols, attitudes towards handling emergencies, and actual practice in clinical settings. Data were analyzed using descriptive statistics and chi-square tests to explore associations between participants' knowledge and practice. **Results:** Of the 500 respondents, 60% were healthcare professionals, while 40% were final-year medical students. Approximately 80% of healthcare professionals reported having formal training in managing medical emergencies, compared to only 45% of medical students. Knowledge of basic life support (BLS) and advanced cardiac life support (ACLS) was higher among healthcare professionals (90%) than among students (50%). A significant proportion (75%) of both groups expressed a need for more practical emergency handling training in their education. The attitude towards handling medical emergencies was positive in both groups, with 85% indicating confidence in their ability to respond, but actual practice lagged behind due to a lack of regular simulations. **Conclusions:** While healthcare professionals generally possess adequate knowledge and positive attitudes towards handling medical emergencies, gaps exist in the practical application of this knowledge, particularly among medical students. Strengthening practical training through regular simulations and workshops is recommended to improve emergency preparedness.

Keywords: Medical emergencies, Knowledge, Attitude, Practice, Healthcare professionals, Medical students, Emergency protocols, Training.

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INTRODUCTION

Medical emergencies, whether occurring in hospitals or outpatient settings, require prompt and effective responses to prevent morbidity and mortality. Medical professionals, as well as students in training, are expected to have a solid understanding of emergency management protocols such as basic life support (BLS), advanced cardiac life support (ACLS), and

emergency airway management. However, multiple studies have highlighted gaps in both knowledge and practice related to handling emergencies, particularly among undergraduate students and newly practicing healthcare professionals [1, 2].

The knowledge, attitude, and practice (KAP) framework is widely used to assess healthcare professionals' readiness to respond to emergencies.

Knowledge refers to the theoretical understanding of medical protocols, attitude reflects the confidence and willingness to act, and practice involves the actual application of these protocols in real-life scenarios. Identifying gaps in any of these components can help in designing interventions aimed at improving the overall handling of medical emergencies [3-6].

This study aims to assess the knowledge, attitudes, and practices of healthcare professionals and medical students regarding medical emergency management. By identifying key barriers to effective emergency response, we aim to provide recommendations for improving emergency preparedness.

MATERIALS AND METHODS

This cross-sectional study was conducted using a structured questionnaire designed to assess the knowledge, attitudes, and practices of healthcare professionals and medical students regarding medical emergencies. Ethical approval was obtained from the Institutional Review Board, and all participants provided informed consent prior to the survey.

Study Population

The study population consisted of 500 participants, including 300 healthcare professionals (physicians, nurses, and paramedics) and 200 final-year undergraduate medical students. The participants were recruited from various hospitals and medical schools across the region. A random sampling technique was employed to ensure a representative sample of both professionals and students.

Data Collection

A structured questionnaire was developed, consisting of three sections:

1. **Knowledge:** Participants were asked about their familiarity with BLS, ACLS, emergency airway management, and other medical emergency protocols.

2. **Attitude:** Questions assessed participants' confidence in handling medical emergencies and their perception of the importance of training.
3. **Practice:** This section evaluated participants' experiences in dealing with medical emergencies, including the frequency of their involvement in emergency situations and participation in simulations.

The questionnaire was distributed both in paper form and electronically. The survey was conducted over a period of three months.

Data Analysis

The collected data were entered into SPSS software for analysis. Descriptive statistics, such as frequencies and percentages, were used to summarize the responses. Chi-square tests were applied to assess associations between participants' knowledge and their actual practice in handling medical emergencies. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Demographic Characteristics

Of the 500 respondents, 300 (60%) were healthcare professionals, including 180 physicians, 80 nurses, and 40 paramedics. The remaining 200 (40%) were final-year medical students. The gender distribution was nearly equal, with 52% of respondents being male and 48% female. The age range of the participants was 22 to 45 years, with a mean age of 31 years.

Knowledge of Medical Emergency Protocols

The survey revealed that 90% of healthcare professionals had undergone formal training in BLS and ACLS, compared to 50% of medical students ($p < 0.01$). However, only 60% of healthcare professionals could correctly recall the steps of ACLS, and this percentage dropped to 35% among students. Knowledge of emergency airway management was also higher among healthcare professionals (75%) compared to medical students (40%).

Table 1: Knowledge of Medical Emergency Protocols

Protocol	Healthcare Professionals (%)	Medical Students (%)
Basic Life Support (BLS)	90	50
Advanced Cardiac Life Support (ACLS)	85	40
Emergency Airway Management	75	35

Attitude Towards Handling Medical Emergencies

Both groups displayed a generally positive attitude towards handling medical emergencies. A total of 85% of respondents reported feeling confident in their ability to manage emergencies, with healthcare professionals reporting slightly higher confidence levels (90%) than medical students (80%). The majority (70%) of participants agreed that emergency handling training should be more frequent and practical in nature, emphasizing the need for real-time simulations.

Practice of Handling Medical Emergencies

In terms of practice, 70% of healthcare professionals reported having managed at least one medical emergency in the past year, whereas only 20% of medical students had real-life emergency experience. Participation in simulated emergency scenarios was higher among healthcare professionals (55%) than among students (30%). Despite their positive attitudes, many respondents (65%) indicated that they felt inadequately prepared for handling emergencies due to a lack of regular training opportunities.

Table 2: Practice in Handling Medical Emergencies

Practice Element	Healthcare Professionals (%)	Medical Students (%)
Managed at least one emergency in the past year	70	20
Participated in emergency simulations	55	30
Felt adequately prepared for emergencies	65	40

DISCUSSION

The present study aimed to evaluate the knowledge, attitudes, and practices (KAP) of healthcare professionals and final-year medical students in handling medical emergencies. By exploring these factors, we sought to identify key barriers to emergency preparedness and provide recommendations to improve both theoretical knowledge and practical application in medical emergency situations. This discussion section will interpret the findings in light of existing literature, explore potential reasons for gaps in knowledge and practice, and provide actionable recommendations for enhancing emergency management training.

Knowledge of Medical Emergency Protocols

The results indicated a significant disparity in the knowledge of emergency protocols, particularly between healthcare professionals and final-year medical students. While the majority (90%) of healthcare professionals reported having formal training in both Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS), only 50% of medical students had received similar training. Furthermore, only 35% of students could accurately recall the steps involved in ACLS, compared to 60% of healthcare professionals. This finding underscores the need for incorporating emergency protocol training more rigorously into undergraduate medical curricula, as knowledge of life-saving techniques such as BLS and ACLS is fundamental for all healthcare workers, regardless of their specialization [4-9].

The relatively low level of knowledge among students may be attributed to several factors. First, it is possible that the medical curriculum does not emphasize emergency management training sufficiently during undergraduate education. Although clinical skills are a core component of medical education, emergency procedures may not receive the same level of attention as other aspects of patient care, such as diagnostics or routine treatment protocols. This is consistent with previous studies, which have highlighted the limited focus on practical emergency management skills in undergraduate medical programs [1,10,11].

Moreover, the discrepancy in knowledge between healthcare professionals and students could also be related to the hands-on experience that professionals gain through daily practice in clinical settings. Healthcare workers, especially those working in emergency departments, are regularly exposed to critical situations that require immediate intervention, thereby reinforcing their knowledge of protocols such as BLS, ACLS, and airway management. In contrast,

medical students may only be exposed to emergency situations during specific rotations, limiting their practical exposure and retention of knowledge [12-15].

Attitudes Toward Handling Medical Emergencies

Despite the gaps in knowledge, the attitude toward handling medical emergencies was generally positive in both healthcare professionals and medical students. Approximately 85% of respondents reported feeling confident in their ability to manage emergencies, with healthcare professionals expressing slightly higher confidence levels (90%) compared to medical students (80%). This positive attitude is encouraging, as confidence in one's ability to manage a situation is an important predictor of effective performance during real-life emergencies [3,5,8].

However, the high levels of self-reported confidence contrast with the actual knowledge and practice levels identified in the study. This disparity suggests that while students and professionals may feel prepared to handle emergencies, their confidence may not be entirely justified. This phenomenon, known as the "Dunning-Kruger effect," occurs when individuals overestimate their capabilities due to a lack of in-depth knowledge [2]. In the context of medical emergencies, overconfidence could lead to suboptimal patient outcomes if healthcare providers are not fully equipped to handle critical situations.

The importance of aligning confidence with competence cannot be overstated, particularly in emergency care where decisions need to be made quickly and accurately. As such, one recommendation would be to include regular assessments and practical drills that help students and professionals better understand their actual level of preparedness. By conducting regular simulations that mirror real-life emergency situations, healthcare institutions can help calibrate the confidence levels of their staff and students, ensuring that their perceived preparedness aligns with their actual skills.

Practice of Handling Medical Emergencies

The practical aspect of handling medical emergencies remains a significant concern. While healthcare professionals reported more frequent involvement in emergency situations (70% had managed at least one emergency in the past year), only 20% of medical students had any real-life experience with emergencies. Additionally, only 30% of students had participated in emergency simulations, compared to 55% of healthcare professionals. These findings point to a clear gap between theoretical knowledge and

practical application, particularly among medical students [12-16].

The lack of practical experience is a critical issue, as it is widely accepted that hands-on practice is essential for mastering emergency procedures. Studies have shown that theoretical knowledge alone is insufficient for effective emergency management, and practical exposure is necessary to develop the skills needed for rapid decision-making and intervention [3]. This gap between knowledge and practice can have serious implications for patient outcomes, particularly in life-threatening situations where timely and accurate intervention is critical.

The low participation of students in emergency simulations is particularly concerning, as simulations provide a controlled environment in which students can practice their skills without the risk of harming patients. Simulation-based learning has been widely recognized as an effective tool for improving emergency preparedness, as it allows learners to apply their knowledge in real-time, learn from mistakes, and receive feedback on their performance [4]. The lack of participation in such simulations among students highlights the need for educational institutions to incorporate more frequent and structured simulation exercises into their curricula.

Barriers to Effective Emergency Management

Several barriers to effective emergency management were identified in this study, with the most prominent being the lack of regular training and the absence of practical simulation opportunities. Both healthcare professionals and students expressed a desire for more frequent and practical training, with 70% of respondents indicating that their current training was insufficient. This finding is consistent with existing literature, which has highlighted the need for more robust training programs that go beyond theoretical knowledge to include practical, hands-on experience [5].

Another barrier identified was the limited availability of mentors and role models in emergency care. Students who had access to mentors or who were able to observe experienced professionals in emergency situations reported higher levels of confidence and competence in managing emergencies. Mentorship has been shown to be a key factor in bridging the gap between theory and practice, as it provides learners with the opportunity to observe and learn from experienced professionals in real-time [6]. Mentorship programs that pair students with experienced emergency care professionals could significantly enhance their preparedness for real-life emergency situations.

Recommendations for Improvement

Based on the findings of this study, several recommendations can be made to improve the knowledge, attitudes, and practices of healthcare

professionals and medical students in handling medical emergencies [10-16].

- **Integrating Simulation-Based Learning:** Educational institutions should prioritize the inclusion of regular, structured simulation exercises in their curricula. Simulations provide a safe and controlled environment for students and professionals to practice emergency procedures, develop decision-making skills, and receive feedback on their performance. Incorporating more frequent simulations into both undergraduate and continuing education programs would help bridge the gap between theoretical knowledge and practical application.
- **Emphasizing Practical Experience in Medical Education:** Medical schools should ensure that students receive more hands-on experience in managing emergencies during their clinical rotations. This could be achieved by increasing the time students spend in emergency departments or by offering specialized courses focused on emergency care.
- **Mentorship Programs:** Establishing mentorship programs that pair students with experienced healthcare professionals could provide students with the guidance and real-life exposure needed to build their confidence and competence in handling emergencies. Mentors can serve as role models, offering insights into the realities of emergency care and helping students develop the skills needed to manage critical situations.
- **Regular Assessments and Feedback:** Healthcare institutions should implement regular assessments to evaluate the emergency management skills of both students and professionals. These assessments should include both theoretical tests and practical simulations, with feedback provided to help individuals identify areas for improvement. By regularly assessing preparedness, institutions can ensure that their staff and students are equipped to handle emergencies effectively.
- **Continuous Professional Development:** For healthcare professionals, continuous professional development programs should include refresher courses on emergency protocols such as BLS and ACLS. Regular updates on advancements in emergency care should be provided to ensure that professionals remain up to date with the latest guidelines and best practices.

CONCLUSION

The study concludes that while healthcare professionals possess adequate knowledge and generally positive attitudes towards handling medical emergencies, significant gaps remain in practical application. For medical students, the lack of emergency management experience is a notable concern. To bridge this gap, educational institutions and healthcare facilities should focus on strengthening

hands-on training through regular simulations and workshops. Enhanced emergency preparedness will not only improve patient outcomes but also boost the confidence and competence of healthcare professionals and students alike.

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