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Knowledge, Attitude and Practice of MBBS Students Towards Volunteering in Emergency Situations in A Tertiary Care Centre in Rural Kanyakumari District

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Abstract

Medical students play a supportive role in emergency situations, especially during crises like pandemics and natural disasters. Their involvement is typically driven by a mix of altruism, a professional responsibility, and a desire for hands-on experience. While their contributions can ease healthcare burdens, concerns about preparedness, safety, and ethical considerations persist. Understanding the motivations and challenges medical students face when volunteering is essential for creating structured and responsible involvement during emergencies. To assess the attitude of medical students towards volunteering in emergency situations. A cross sectional study was conducted among 100 undergraduate medical students in Sree Mookambika Institute of Medical Sciences, Kanyakumari. Written informed consent was obtained from each volunteer prior to the study. Data was collected using questionnaire for a period of three months and that were entered in MS Excel 2007 and analysed using SPSS 2.0. A total of 100 students participated in the study; among them, 55% were male and 45% were female. Majority of the students (62%) have received formal training in emergency response. 93% of the students think that it their responsibility as medical students to assist in an emergency situation. Among the students 59% of them feel confident in their ability to handle emergency situations. But only 22% of them were present at the scene of an emergency situation. The study highlights a generally positive attitude among medical students toward volunteering in emergency situations, with a majority expressing willingness to participate when needed. However, the results also reveal a significant gap between the willingness and the student's actual preparedness, particularly in terms of real-world experience. This discrepancy suggests a need for greater emphasis on practical training and exposure to emergency scenarios within medical curricula. Strengthening these areas may enhance both the confidence and competence of future healthcare professionals, enabling them to contribute more effectively during real-life emergencies.

INTRODUCTION

Worldwide crises, such as epidemics or conflicts, result in significant disruption to healthcare, social services, industry, communities, and education^[1]. The community plays an essential part in these circumstances, including healthcare workers who can significantly assist during an emergency often do so, honoring their commitment despite other responsibilities or conflicting priorities^[2]. A Health Care Worker is defined as 'the one who delivers care and services to the sick and ailing either directly as doctors and nurses or indirectly as aides, helpers, laboratory technicians or even medical waste handlers'^[3]. It is uncommon for emergency healthcare workers to abandon their roles during disasters^[4]. Several factors influence their willingness to volunteer, including previous training, past experience in emergency volunteering, how valuable they perceive the experience to be, a strong sense of duty, and the assurance of financial stability^[5]. The primary role of the medical student is to learn to be a doctor, and deviations from this may have consequences both for medical students and the healthcare system around them^[6]. However, a key limiting factor is the willingness to volunteer, which is shaped by a range of motivating influences as well as potential barriers^[7]. Therefore, this study seeks to assess the willingness of medical students at Sree Mookambika Institute of Medical Sciences to volunteer during emergency situations.

Objectives: To evaluate the willingness of medical students towards volunteering in emergency situations.

MATERIALS AND METHODS

Study Design: Cross sectional study, among the medical students of Sree Mookambika Institute of Medical Sciences, Kulasekaram

Study Setting: Sree Mookambika Institute of Medical Sciences, Kulasekaram, Kanyakumari District, Tamil Nadu, South India

Study Duration: 3 months (September 2024- November 2024)

Study Participants: All the undergraduate MBBS students studying in Sree Mookambika Institute of Medical Sciences, Kulasekaram

Sampling Method: Simple random sampling

Inclusion Criteria: All undergraduate MBBS students of Sree Mookambika Institute of Medical Sciences

Exclusion Criteria: Those who are not willing to participate were excluded from the study

Sample Size Calculation: Calculated using formula [2]

$$= \frac{1.96 \times 1.96 \times 65 \times 35}{10 \times 10} = 87$$

Sample Size = 100

Data Collection Process: A semi structured, validated questionnaire was used to collect data from students. A pilot study was carried out and suitable modifications were carried out before finalizing the questionnaire. Questionnaire containing four sections carrying demographic details, knowledge, attitude and practice towards volunteering in emergency situation.

Analysis: Data was collected through Google Forms, entered in Microsoft Excel 2007 and analysed using SPSS 2.0

RESULTS AND DISCUSSIONS

Out of 100 participants 55% were males and 45% were females. Among responders 25% (from each batch) response obtained from year I and II, 28% from year III-Part I and 22% from year III part-II.

Out of 100 participants, 62% have received formal training in emergency response. Majority of the students (98%) know the basic steps of CPR. 58% of the students are not familiar with the use of Automated External Defibrillator. Only 37% of students are familiar with the treatment protocol for stroke. 45% of them are trained in basic wound care and dressing techniques. 55% are aware of legal and ethical considerations in emergency medical care. Majority of the students (71%) know how to communicate effectively with emergency services.

Among 100 respondents, majority of the students (93%) think that it is their responsibility as medical student to assist in an emergency situation. 91% of them were willing to volunteer in an emergency situation. Only 59% of them feel confident in their ability to handle emergency situations. Majority of the students (81%) feel that volunteering in emergency situations should be mandatory for medical students. 59% of students are confident and comfortable in working under emergency conditions. Majority of them (96%) are motivated by the possibility of saving lives when volunteering in emergency situations. 66% of the students are aware of the fact that risks involved in volunteering in emergency situations are outweighed by benefits.

Out of 100 respondents, only 22% have been present at the scene of an emergency situation. Only 22% of the students have participated in mock drills. 71% have not updated themselves of the latest emergency response protocol and guidelines. Only half (50%) of the students know the location of emergency

Table 1: Demographics

	Frequency	Percentage
GENDER		
Male	55	55%
Female	45	45%
YEAR OF STUDY		
I YEAR	25	25%
II YEAR	25	25%
III YEAR Part-I	28	28%
III YEAR Part-II	22	22%

Table 2: Knowledge

Assessment Tool	Response	Frequency	Percentage
Have you received formal training in emergency response?	Yes	62	62%
	No	38	38%
Do you know the basic steps of CPR?	Yes	98	98%
	No	2	2%
Are you familiar with the use of Automated External Defibrillator (AED)?	Yes	42	42%
	No	58	58%
Are you familiar with the treatment protocol for Stroke?	Yes	37	37%
	No	63	63%
Are you trained in basic wound care and dressing techniques?	Yes	45	45%
	No	55	55%
Are you aware of legal and ethical considerations in emergency medical care?	Yes	55	55%
	No	45	45%
Do you know how to communicate effectively with emergency services(eg.108,ambulance dispatch)	Yes	71	71%
	No	29	29%

Table 3: Attitude

Assessment Tool	Response	Frequency	Percentage
Do you think that it is your responsibility as medical student to assist in emergency situation?	Yes	93	93%
	No	7	7%
Would you be willing to volunteer in an emergency situation?	Yes	91	91%
	No	9	9%
Do you feel confident in your ability to handle emergency situations?	Yes	59	59%
	No	41	42%
Do you think volunteering in emergency should be mandatory for medical students?	Yes	81	81%
	No	19	19%
Are you comfortable working under pressure in emergency situations?	Yes	59	59%
	No	41	41%
Are you motivated by the possibility of saving lives when volunteering in emergency situations?	Yes	94	94%
	No	6	6%
Do you think that the risks involved in volunteering in emergency situations are outweighed by the benefits?	Yes	66	66%
	No	34	34%

Table 4: Practice

Assessment Tool	Response	Frequency	Percentage
Have you ever been present at the scene of an emergency situation?	Yes	22	22%
	No	78	78%
Have you ever provided first aid to a stranger in an emergency situation?	Yes	85	85%
	No	15	15%
Have you participated in simulations or mock drills that prepare you for an emergency situation?	Yes	68	68%
	No	32	32%
Do you keep yourself updated on the latest emergency response protocol and guidelines?	Yes	71	71%
	No	29	29%
Do you know the location of emergency medical equipment (AED, First Aid Kit) in your current educational or work environment?	Yes	50	50%
	No	50	50%
Have you ever witnessed an emergency situation where no one stepped in to help?	Yes	77	77%
	No	23	23%

medical equipment in their current educational or work environment. 23% have witnessed an emergency situation where no one stepped in to help.

The study was done to assess the attitude of medical students towards volunteering in emergency situations.

The current study reveals a notably high willingness among medical students to volunteer during emergency situations, with 91% expressing readiness to participate. This figure surpasses the 69% reported in study by Gouda *et al*^[5], where altruism was identified as the primary motivational factor for volunteering during healthcare emergencies. The study

done by Gharaibeh and *et.al*^[3] found that 60% of medical students were willing to volunteer in emergency scenarios. The elevated willingness observed in our study maybe attributed to several factors, including increased awareness of emergency response, curricular emphasis on disaster preparedness and recent public health events that have highlighted the critical role of healthcare professionals during crises.

This study indicates that 62% of medical students have received formal training in emergency response, reflecting a moderate level of preparedness. This figure is significantly higher than the 11.2% reported in

a study conducted among medical students in Mangalore which highlighted lack of formal first aid training in curriculum. The disparity underscores the variability in emergency preparedness training across different medical institutions in India. Despite the relatively higher training prevalence in our study, 38% of students lack formal emergency response training is concerning. This gap underscores the need for integrating comprehensive emergency preparedness.

The present study reveals that a significant majority (94%) of medical students are motivated to volunteer in emergency situations by the prospect of saving lives. The study conducted by Pishy Gouda *et al.*^[5], found that altruism was the strongest motivational factor for medical students willing to volunteer during healthcare emergencies, with (69%) expressing readiness to participate in natural disasters and (59.1%) in infectious epidemic. Similarly, research by Gharaibeh *et al.*^[3] reported that (60%) of medical students were willing to volunteer in emergency scenarios, highlighting altruism as key motivator. Research by Alslamah *et al.*^[11] identified more than (70%) of undergraduate medical students were willing to volunteer during a pandemic, with motivations including the desire to contribute to the healthcare system and save lives. These findings collectively suggest that the motivation to save lives is a predominant factor influencing medical students' willingness to volunteer during emergencies. This altruistic inclination is not only commendable but also essential for bolstering healthcare system during crises.

In this study, (59%) of medical students felt confident in their ability to handle emergency situations. This indicates moderate level of preparedness and self-assurance among future healthcare professionals. A study conducted by Patel *et al.*^[8] at MGM Medical College, Indore, found that prior to CPR training, student had low confidence scores of 1.81 (knowledge) and 1.67 (chest compressions) on a 5-point scale. After training these scores increased significantly to 3.16 and 3.03 respectively, indicating improved self confidence through hands-on education.

Similarly, Manuel *et al.*^[9] conducted a study on MBBS students and reported a significant increase in confidence of (70%) following Basic Cardiac Life Support (BCLS) training. The study concluded that early exposure to practical-life saving techniques can effectively boost students' preparedness for real-life emergencies.

The study shows that (98%) of the students know the basic steps of CPR compared to the study done by Nair *et al.*^[10] who evaluated CPR knowledge and skills and reported that while (76.8%) were aware of CPR, only (42%) felt confident performing it,

underlining the disparity between theoretical knowledge and hands-on ability.

In the present study, (55%) of medical students reported being aware of the legal and ethical considerations pertinent to emergency medical care. This indicates a moderate level of awareness, suggesting that while a majority have some understanding, there remains a significant proportion who may benefit from enhanced education in this area. Comparatively, a study conducted by Chatterjee and Sarkar^[12] at Medical college in West Bengal assessed the knowledge and attitudes towards medical ethics among undergraduate medical students. They found that only (50.09%) of students achieved a good score (61-70 out of 90) on ethics-related assessments, indicating a similar level of awareness to our findings. Additionally, a study by Parashar *et al.*^[13] at Indira Gandhi Medical College, Shimla, assessed the awareness regarding medical ethics among resident doctors. They found that a significant number of participants acquired knowledge about resident doctors. They found that a significant number of participants acquired knowledge about medical ethics through workplace experience (42.6%) underscoring the importance of practical exposure in enhancing ethical understanding.

Limitation of study were it included only a single geographical area. The data was mainly self-reported, hence recall bias cannot be ruled out. The study would have included other medical colleges and universities. The participants were allowed to fill the questionnaire independently but influence of friends and family cannot be ruled out.

In light of the findings from this study, several steps can be taken to enhance medical students' readiness and positive attitude toward volunteering in emergency situations. Firstly, incorporating structured emergency response training-such as CPR, triage, and basic first aid-into the undergraduate medical curriculum is strongly recommended. Awareness campaigns and workshops should also be conducted regularly to highlight the importance of volunteering in emergencies and to motivate student involvement. Furthermore, establishing organized and supervised volunteer programs in collaboration with healthcare institutions can provide students with valuable hands-on experience. Future research should aim to include a broader and more diverse sample across multiple regions and institutions to improve generalizability. In addition, using a mixed-methods approach, including qualitative data, could offer deeper insights into students' motivations and perceived barriers. Finally, regular practical evaluations and simulations may help reinforce emergency preparedness and assess student competency more effectively.

Attitude of medical students towards

volunteering in emergency situations, this study reveals that while medical students generally possess a positive outlook and a strong willingness to volunteer during emergency situations, many lack the hands-on experience necessary to respond effectively in real-world crises. This contrast underscores the importance of integrating practical emergency response training into medical education. Encouraging student participation in simulated and supervised emergency scenarios can bridge this gap, helping to build both skill and confidence. Volunteering in such setting not only benefits communities in times of need but also offers valuable learning opportunities for students-enhancing their clinical decision-making, teamwork, adaptability and resilience under pressure. Promoting structured volunteer opportunities can therefore play a vital role in preparing future healthcare providers for the realities of medical emergencies.

Limitations of Study: This study primarily relied on self-reported data gathered through structured questionnaires, which may introduce overestimation of knowledge or confidence levels. While the sample size was small, it may not be fully representative of all medical students across different institutions or regions. Cross-Sectional Nature: As a cross-sectional study, the findings represent a single point in time and do not allow for the assessment of changes in knowledge, attitude, or practice over time.

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