ORIGINAL ARTICLE

Assessment of Knowledge Regarding the Identification of Common Medical Emergencies and Prehospital Care Among Postgraduate Students at a Selected College in Bengaluru

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Abstract

Background: Common medical emergencies, such as chest pain, stroke, cardiac arrest, seizures, severe bleeding, choking, and burns, are often life-threatening and frequently occur in both public and clinical settings.

Aim: The present study aimed to assess the knowledge of postgraduate students at a selected college in Bengaluru regarding the identification of common medical emergencies and related prehospital care.

Methods: The study adopted a quantitative approach with a descriptive design. A total of 140 postgraduate students were selected using a convenient sampling technique. Data were collected using a structured questionnaire focused on the identification of common medical emergencies and prehospital care. The collected data were analyzed using descriptive and inferential statistics.

Results: The results of the study revealed that only 1% of postgraduate students demonstrated good knowledge related to medical emergencies, while 50% had either moderate or poor knowledge. No significant association was found between knowledge levels and the selected demographic variables at $P<0.005$

Conclusion: Medical emergencies can occur at any time. If laypersons are adequately oriented to common medical emergencies and prehospital care, morbidity and mortality rates can be significantly reduced.

Keywords: Medical emergencies, Prehospital care, Knowledge, Postgraduate students

Introduction

Medical emergencies are sudden, unexpected health crises that require immediate medical attention to prevent serious harm or death. In India, an estimated 5–6 lakh people die annually from cardiac arrest. According to NITI Aayog, road traffic accidents and other emergencies are among the leading causes of death, with non-communicable diseases accounting for 62% of fatalities. Notably, 50% of these deaths could be prevented through timely emergency recognition and effective prehospital care.[1]

An emergency encompasses an unforeseen combination of circumstances requiring immediate action. Effective emergency management, along with prehospital care, is essential to reduce mortality, morbidity and disability.[2] Common life-threatening medical emergencies include

chest pain, stroke, cardiac arrest, seizures, severe bleeding, choking, and burns. These conditions are among the most frequently encountered.

Currently, non-communicable diseases account for approximately 62% of all deaths in the country, with a significant proportion of these deaths presenting as emergency situations. The report suggests that nearly 50% of these fatalities could have been prevented through timely identification of emergencies and effective prehospital care.[1] Being prepared to handle medical emergencies at any time and appropriately responding to the situation is crucial. Early recognition and prompt action can significantly impact a victim's chances of survival. By understanding the common signs and symptoms of medical emergencies, the general public can be better equipped to respond effectively in critical situations.[3]

Objectives

1. To assess the knowledge of postgraduate students regarding the identification of common medical emergencies and their prehospital care.

2. To determine the association between knowledge scores on the identification of common medical emergencies and prehospital care with selected demographic variables.

Materials & Methods

Study Design

The study adopted a quantitative research approach with a descriptive research design to assess knowledge regarding the identification of common medical emergencies and their prehospital care. It was conducted at R V Institute of Management, Bengaluru, chosen based on geographical proximity, feasibility, and availability of eligible participants. The study population comprised postgraduate students from a selected college in Bengaluru. A convenient sampling technique was used to select participants, with an estimated sample size of 140. The inclusion criteria were postgraduate students who were present during the data collection period and willing to participate.

Data Collection

Data were collected using a structured questionnaire, comprising 20 items focused on common medical emergencies such as stroke, cardiac arrest, choking, haemorrhage, diabetes, and cardiopulmonary resuscitation. A google form was prepared to include both the questionnaire and a consent form for participation.

The tool was distributed to postgraduate management students via a digital link.

The questionnaire was divided into two sections:

Section A: Demographic variables

Section B: Questions related to the identification of common medical emergencies and their prehospital care

Data Analysis

The collected data were analysed using descriptive and inferential statistics.

Descriptive statistics - Frequency, mean, median, mode and standard deviation.

Inferential statistics - Chi-square test

Results

Demographic characteristics

Table 1: Frequency and distribution of postgraduate students (N=140)

S. No.	Demographic Variables	Samples	
		n	%
1	**Age (Years)**		
	20 to 25	122	87
	25 to 30	18	13
2	**Gender**		
	Male	91	65
	Female	39	35
	others	0	0
3	**Previous knowledge on BCLS**		
	Yes	59	42
	No	81	58
4	**Source of knowledge on BCLS**		
	Attended course on BCLS	7	1
	Media	33	25
	Friends/Relatives	32	24
	Not applicable	68	50

BCLS - Basic Cardiopulmonary Life Support

The majority of participants (87%) belonged to the 20-25 years age group. About 58% reported having no prior knowledge related to Basic Cardiopulmonary Life Support (BCLS). Notably, 50% of the respondents perceived that having knowledge of BCLS was not applicable for their field or professional category (Table 1).

Knowledge levels of postgraduate students

Table 2: Distribution of knowledge scores among postgraduate students regarding identification of common medical emergencies and their prehospital care (N=140)

Range	Frequency	Percentage	Interpretation
15-20	2	1	Good
8-14	70	50	Moderate
0-7	68	49	Poor

Table 2 depicts that 50% of the participants demonstrated a moderate level of knowledge related to common medical emergencies and their prehospital care.

Table 3: Distribution of knowledge scores among postgraduate students regarding identification of common medical emergencies and their prehospital care in terms of mean, median, mode, and standard deviation (N=140)

Range	Mean	Median	Mode	SD
0-20	7.33	8	8	2.33

Table 4: Association of knowledge scores among postgraduate students and the selected demographic variables (N=140)

S. No	Demographic Variables	f	Below Median	Above Median	Chi Square Value $P<0.05$
1	**Age (Years)**				
	20 to 25	122	80	42	0.0083
	25 to 30	18	12	6	
2	**Gender**				
	Male	91	58	33	1.1938
	Female	39	29	10	
3	**Previous knowledge on BCLS**				
	Yes	59	40	19	0.1860
	No	81	63	18	
4	**Source of knowledge on BCLS**				
	Attended course on BCLS	7	4	3	
	Media	33	19	14	0.0297
	Friends/ Relatives	32	19	13	
	Not applicable	68	40	28	

No significant association was found between knowledge scores and the selected demographic variables (Table 4).

Discussion

This study aimed to assess the knowledge of postgraduate students at a selected college in Bengaluru regarding the identification of common medical emergencies and related prehospital care.

A cross-sectional survey was conducted among dental students to assess their knowledge and ability to manage medical emergencies. Participants achieved an average knowledge score of 68% and an ability score of 61.4%. Further analysis showed that participants who received BLS training had significantly higher knowledge and ability scores compared to those without training ($P<0.001$). The study highlights a clear gap in emergency preparedness, demonstrating that trained graduates performed better when faced with medical emergencies.[4]

Bystanders, often family members or friends, play a crucial role in advocating for emergency care during a crisis. Their ability to recognize medical emergencies is vital. Therefore, awareness and training programs should be customized to their level of understanding to empower them to respond appropriately and make informed decisions. A study involving 318 bystanders aimed to evaluate their level of first-aid knowledge in emergency situations and to identify the factors influencing this knowledge through a structured questionnaire. On average, participants correctly answered 7.16+/-3.14 questions. Bystanders who had completed university education, worked in health care, had previously taken a first-aid course, held a first-aid certificate, or possessed a driver's license demonstrated significantly higher levels of first-aid knowledge.[5]

A study was conducted among undergraduate students, postgraduate students, and dental professionals to assess their knowledge and skills related to BLS. A random sampling technique was used to select 440 participants for Group I and 410 participants for Group II. Group I participants who had not received prior BLS training, were evaluated using a questionnaire. Group II participants, who had undergone BLS training in the previous year were administered the same tool for comparison. The scores obtained were analyzed to determine the association between variables and mean knowledge scores. An independent 't' test was employed. The results revealed that the mean score for Group I was 5.7,

in contrast to 27.4 for Group II, indicating significantly lower knowledge among the untrained group. Among them, dental students performed marginally better.[6]

These findings underscore the urgent need to train laypersons, who are often the bystanders in emergency situations. By understanding the appropriate steps to take, individuals can be empowered to respond quickly and confidently in critical situations. Given that bystander actions can significantly impact emergency outcomes, there is an essential need for raising awareness among the general public.[3]

The current study highlights the knowledge levels of laypersons regarding common medical emergencies and their prehospital care. The findings align with previously reviewed literature, emphasizing the need to educate community on recognizing and responding to emergencies in order to reduce mortality and morbidity rates. Future research could replicate this study among other sectors of population such as traffic police, bus drivers, and conductors. An interventional study could be undertaken to measure the effectiveness of structured teaching programs. Based on such studies, standardized protocols for managing medical emergencies can be developed and made accessible to the public through various means of dissemination.

Conclusion

Medical emergencies can occur at any time, often without warning. Being prepared to recognize and respond to the situation is essential. Knowledge appropriate to medical emergencies, skills to handle the situation, like cardiopulmonary resuscitation, tourniquet tying, transferring patient, usage of automated external defibrillator, and effective communication, are the critical elements to which the general public must be oriented. With these measures, a layperson can make

a huge difference and protect the victims who might otherwise remain unattended in public places or on the roadside.

Conflict of Interest

Nil

Funding Source

Nil

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