Acta Scientific MEDICAL SCIENCES (ISSN: 2582-0931)

Volume 10 Issue 1 January 2026

Research Article

Understanding Patients' Knowledge, Attitude, and Practices Related to Common Medical Emergencies, and Perspectives of Their Treating Doctors — A Cross-Sectional Study in the Emergency Department of a Tertiary Hospital in India

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DOI: 10.31080/ASMS.2026.10.2193

Received: November 17, 2025

Published: December 18, 2025

Abstract

Background: Early and appropriate pre-hospital care is vital to reduce morbidity and mortality from common medical emergencies. This cross-sectional study assessed patients' knowledge, attitudes, and practices (KAP) concerning first aid and pre-hospital care and explored their treating doctors' perspectives.

Methods: Structured multiple-choice questionnaires were administered to 30 patients (or their attendants) and 10 treating doctors in the Emergency Department (ED) of a tertiary hospital. Data were summarised descriptively, with KAP scoring and thematic analysis from open-ended items.

Results: The mean age of patient respondents was 41.2 years, with equal gender representation. A majority had received no formal first-aid training, and only a small proportion reported administering first aid prior to hospital arrival. Doctors highlighted late arrivals, lack of pre-hospital action, and administrative delays as key challenges.

Conclusions: Notable gaps exist in public first-aid awareness and pre-hospital preparedness. Strengthening community-level first-aid education, simplifying ED administrative procedures, and aligning insurance policies could substantially improve outcomes.

Keywords: Community Preparedness; Emergency Care; First-Aid; KAP; Pre-Hospital Response

Abbreviations

ED: Emergency Department; KAP: Knowledge, Attitude and Practices; MCQ: Multiple-Choice Question; MLC: Medico-Legal Case

Introduction

Tertiary hospital Emergency Departments (EDs) in India routinely handle acute crises including myocardial infarction, trauma, stroke, burns, and respiratory distress. The World Health

Organisation highlights that early bystander action markedly improves outcomes [1]. However, India's fragmented pre-hospital response, restricted ambulance coverage, limited community awareness, and administrative delays routinely impede timely care [2,3].

Simple interventions – such as cleaning wounds post-bite, cooling burns, or administering glucose in hypoglycaemia – have a disproportionate impact on outcome [4,5]. Insurance constraints and differing medico-legal protocols add further impediments [6]. Notably, positive attitudes but inadequate actionable knowledge prevail among students and laypersons in urban and rural areas alike [7,8]. Community studies and international experiences [9,10] confirm that structured education and mass awareness activities can substantially upgrade response readiness [11].

However, very few studies have explored both patients' knowledge, attitudes, and practices (KAP) and their treating doctors' perspectives within the Indian ED context. This study aims to fill an Indian evidence gap by simultaneously evaluating patients' KAP related to common medical emergencies and document their treating doctors' perspectives in a tertiary hospital in India. Study observations have been discussed with a view to suggest any further recommendations.

Materials and Methods

Study design

Descriptive, cross-sectional study conducted in the ED of Fortis Hospital, Noida, India.

Sample size

30 patients (or their attendants) and 10 doctors.

Inclusion criteria

- Patients who presented to the study hospital's ED with a medical emergency
- Age of respondent patients (or their attendants who responded) ≥ 18 years
- Able to consent/respond (by self or available attendant)
- In case of a patient responding to the questions: Clinically stable (or stabilised with necessary emergency treatment first)

Exclusion criteria

- Critically unstable patients without an attendant
- Repeat visits during study period
- Refusal to consent

Categories of medical emergency conditions:

- Acute chest pain (cardiac)
- Rod traffic accident / trauma (ortho / neurosurgical)
- Seizure / loss of consciousness (neurologic)
- Dog bite / other animal bite
- Acute bronchitis / breathlessness
- Brain stroke / focal neurological deficit
- Acute abdominal pain / vomiting / diarrhoea
- High-grade fever

Data collection and tools

- **Tools:** Two structured multiple-choice question (MCQ)-based questionnaires were used to collect data from patients/attendants and their treating doctors in the hospital's ED.
- **Tool A (Questionnaire for Patients or their Attendants):** Grouped questions (general and condition-specific). These questions were MCQ-based (with 2 or 4 response items, with one response item being the correct or most appropriate one), simple, short and empathetic. Some questions (such as condition-specific questions) were asked only in pertinent categories of presentation.
- **Tool B (Questionnaire for Doctors working in the study hospital's ED):** Grouped questions (general and condition-specific – clinical and allied administrative aspects). These questions were also MCQ-based (with 2 or 4 response items, with one response item being the correct or most appropriate one), covering doctors' perceptions based on their experiences on clinical and allied administrative aspects (including medico-legal and financial/insurance perspectives, as applicable).

- The administration of these questionnaires did not interfere with clinical care or related necessary administrative processes (such as any legal reporting). In all such cases, the hospital's standard workflows took precedence and these questionnaires were administered only after patient stabilisation and once it was permissible without disrupting emergency care and allied necessary administrative steps.

Data analysis

Responses were anonymised and summarised by using Microsoft Excel. Descriptive statistics, composite KAP scores, and thematic analysis of qualitative feedback were performed.

Ethical considerations

After obtaining prior ethical clearance from the study hospital, data were collected from study subjects (patients and their treating doctors). Verbal informed consents were secured as per the study hospital's policy. No personal identifiers were recorded. Moreover, as medico-legal cases (MLCs) were handled by the study hospital's legal protocols, this study did not replace required MLC reporting or documentation. Participation of study subjects was voluntary and any refusal to participate or withdrawal did not affect medical care.

Observations

The study patients had a wide age range, reflecting the diversity of ED presentations (Table 1).

No. of study subjects (patients)	30
Mean Age (years)	41.2 (Range: 3.5 – 69)
Male : Female ratio	1:1

Table 1: Demographic characteristics of study patients.

Overall KAP findings of patients: The study patients' knowledge by type of medical emergency is shown in Table 2 and their composite KAP scores are given in Table 3. Overall, these patients' KAP findings revealed the following:

Emergency Type	Correct Responses (%)	Incorrect Responses (%)
Cardiac events	53	47
Trauma/Road traffic accident	47	53
Seizures	41	59
Burns	38	62
Animal bites	60	40
Stroke	45	55
Abdominal complaints	49	51
Fever	67	33

Table 2: Study patients' knowledge by type of medical emergency (n = 30).

Measure	Mean ± SD (%)
Knowledge	49 ± 12
Attitude	64 ± 10
Practice	38 ± 18

Table 3: Composite KAP scores of study patients (n = 30).

- Majority lacked formal first-aid training.
- Less than half initiated any pre-hospital measures (that is, provided themselves or received any first-aid before reaching the hospital).
- Central tendency and variability measures indicated wide variation in response scores, reflecting inconsistent knowledge levels.
- Some respondents attempted incorrect first-aid steps, indicating misinformation risks.

Treating doctors' perspectives: Based on the responses given by the treating doctors of these patients, the following issues were common:

- Delayed patient arrival (traffic, referral chains, self-transport).
- Ineffective or absent pre-hospital action, with lack of bystander first aid contributing to adverse outcomes.

- Documentation and insurance delays prolong triage-to-treatment intervals.
- Need for structured first-aid training in communities.

Thematic analysis of doctors' suggestions identified needs for structured community training, improved hospital workflows, and simplified administrative processes.

Discussion

The present study has shown major deficiencies in community-level first-aid capability and pre-hospital decision-making in India. Such gaps in first-aid knowledge, attitudes, and practices among patients and their attendants mirror the patterns documented in a few prior Indian and international research [5,12]. Most patients in this study lacked formal training and frequently performed incorrect or incomplete first-aid steps prior to hospital arrival. Similar deficiencies were observed among medical students and community groups [7,9,10]. This suggests an urgent need for public education and periodic refreshers in first-aid, adapted for local contexts and languages.

Doctors interviewed in this study have highlighted recurring barriers: administrative bottlenecks, insurance verification delays, and legal apprehension. Literature shows rapid insurance settlement, cashless protocols, and clear administrative guidance are instrumental in improving ED throughput and patient outcomes [8,13]. Technology-supported platforms and mobile apps now facilitate insurance management and first-aid training, yet adoption remains heterogeneous [14].

A striking gap persists between knowledge and action – the "awareness-action paradox" [10,15]. Digital first-aid platforms and simulation-based training can offer scalable solutions. The Indian Red Cross First Aid App and related digital resources provide instant access to actionable protocols and emergency contacts [14]. However, hands-on capacity and psychosocial readiness must be fostered through regular drills, scenario practice, and community events [16].

Gender roles and psychological factors influence emergency response. Studies in India and internationally report comparable willingness among men and women, but actual intervention rates may be lower for women due to lack of confidence, fear of social scrutiny, or cultural norms [17,18]. School and workplace promotion of empowerment-focused skill workshops is known to bridge this divide [19]. Fear of causing harm, contracting disease, or encountering legal consequences further inhibits action [20,21]. Psychological readiness is as crucial as technical ability – interventions should target confidence and anxiety as much as procedural skills.

The Good Samaritan Act, 2019, provides vital legal support in India, indemnifying lay responders and hospitals against liability when medical assistance is rendered in good faith during emergencies [22]. Despite improvements, awareness is inconsistent and many remain uncertain about their rights and protections – a challenge for mass communication and community mobilisation. Studies recommend visible, positive reinforcement (community leader endorsements, police/hospital recognition) and repeated legal education as solutions [22].

Global best practices demonstrate the value of mandatory first-aid modules in schools, workplaces, and for driving eligibility [23]. Community health workers, Accredited Social Health Activists (ASHAs) and Anganwadi workers can play a bridging role in India, especially in disseminating first-aid awareness and basic skills outside urban centres [24]. India can accelerate integration through partnerships between government, health non-governmental organisations, insurance providers, and technology platforms.

The present study's implications are manifold:

- First-aid education must be integrated into schools, workplaces, and public campaigns.
- Digital tools can facilitate continuous learning but should be complemented by hands-on practice.
- Streamlined insurance and administrative processes will improve ED efficiency.
- Legal protections for Good Samaritans and clear support mechanisms are essential.
- Gender and psychological barriers deserve targeted interventions, especially for empowerment.

While limited by modest sample size and single-centre design, the study's findings point towards urgent policy, educational, and

systems reforms. Future research should explore multicentric designs, longitudinal tracking, and intervention effectiveness across India's diverse regions.

Conclusion

Community-level gaps in first-aid knowledge and pre-hospital response practice persist, recognised by both patients and clinicians in India. Improving public education, digital engagement, streamlined processes, and legal/social support are expected to foster resilient emergency response and better health outcomes.

Recommendations

- Implement community-wide and digital first-aid training campaigns targeting schools, colleges, workplaces, and public spaces.
- Integrate first-aid checklists and basic life support checks at ED triage. Add 'pre-hospital actions' fields to ED triage forms.
- Streamline insurance verification to reduce ED delays. Simplify insurance settlement and administrative protocols for emergency admissions.
- Promote regular legal awareness on Good Samaritan protections to reduce fear, encourage bystander assistance, and minimise mobilisation barriers.
- Continuous evaluation through multicentre studies and real-world drills. Larger, multi-centre studies to be conducted for validating findings and generating deeper insights.

Conflict of Interest

None. There is no direct or indirect real or perceived financial interests or conflicts; and this work of the authors is without any prejudice to their professional associations with their organisations (university / hospital / healthcare organisation).

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