

Emergency Medicine Academics in India: A Roadmap for Future

Srinath Kumar TS 

National Journal of Emergency Medicine SEMI (2023): 10.5005/njem-11015-0008

ACADEMICS OF EMERGENCY MEDICINE IN INDIA

Emergency medicine (EM) is a branch of medicine that deals with the care of patients with acute medical conditions or injuries that require immediate medical attention. In India, the field of EM is rapidly evolving, and many medical colleges and hospitals have started offering specialised courses in this field.

The academic curriculum of EM in India is designed to provide students with the knowledge and skills necessary to manage acute medical emergencies. This includes training in the management of trauma, cardiac arrest, acute respiratory distress, acute abdominal pain, and other critical conditions. The academic program also includes courses on disaster management, infection control, and communication skills.

Several medical colleges and universities in India offer postgraduate courses in EM. These courses are recognised by the Medical Council of India (MCI) and the National Board of Examinations (NBE).

The demand for emergency physicians is on the rise in India, and several private hospitals and clinics are also offering training programs in this field. In addition to academic qualifications, emergency physicians are also required to undergo continuing medical education (CME) programs to keep up-to-date with the latest developments in the field.

Overall, the academic curriculum of EM in India is designed to produce competent and skilled emergency physicians who can provide timely and effective care to patients in emergency situations.

EDUCATION SYSTEM OF EMERGENCY MEDICINE IN INDIA

The education system of EM in India is structured to provide students with a comprehensive understanding of the various aspects of emergency care. The system includes classroom teaching, practical training, and hands-on experience in emergency departments and critical care units.

The course content is designed to cover a range of topics, including the diagnosis and management of acute medical emergencies, emergency resuscitation, airway management, and advanced life support techniques. The education system also includes training in communication and interpersonal skills, as effective communication is crucial in the emergency setting.

Department of Emergency Medicine, Yashoda Hospitals, Hyderabad, Telangana, India

Corresponding Author: Srinath Kumar TS, Department of Emergency Medicine, Yashoda Hospitals, Hyderabad, Telangana, India, Phone: +91 9538100238, e-mail: sriruturekha@yahoo.co.in

How to cite this article: Kumar TSS. Emergency Medicine Academics in India: A Roadmap for Future. *Natl J Emerg Med* 2023;1(1):8–11.

Source of support: Nil

Conflict of interest: Dr Srinath Kumar TS is associated as the editorial board member of this journal and this manuscript was subjected to this journal's standard review procedures, with this peer review handled independently of this editorial board member and her research group.

Emergency medicine courses in India are typically offered at the postgraduate level, with a duration of 3 years. Some universities and colleges also offer diploma courses in EM, which have a duration of 1 year.

The education system of EM in India is also supported by various professional bodies, such as the Society for Emergency Medicine India (SEMI) and the Indian Society for Trauma and Acute Care (ISTAC). These organisations provide guidance and support to emergency physicians and also conduct conferences, workshops, and training programs to improve the knowledge and skills of emergency care providers.

STUDY PROTOCOLS OF EMERGENCY MEDICINE IN INDIA

In India, the study protocols for EM are based on international guidelines and best practices. The protocols are designed to provide a systematic approach to the management of various medical emergencies and to ensure that patients receive timely and appropriate care.

The study protocols cover a range of emergency conditions, including trauma, cardiac arrest, respiratory distress, stroke, and sepsis. The protocols provide detailed guidance on the initial assessment, diagnostic testing, and management of these conditions, and also provide algorithms for the management of complex cases.

The study protocols in India are continuously updated based on the latest research and evidence-based practices. These updates are

disseminated through CME programs, conferences, and workshops to ensure that emergency care providers are up-to-date with the latest developments in the field.

TRAINING OF EMERGENCY HEALTHCARE PROFESSIONALS IN INDIA

The training of emergency care providers in India is a crucial aspect of the EM education system. The training is designed to provide students with hands-on experience in managing various emergency conditions and to develop the necessary skills and competencies required for emergency care.

The training of emergency care providers in India includes rotations in emergency departments and critical care units, where students work alongside experienced emergency physicians and nurses. This provides them with practical experience in managing acute medical emergencies, including trauma, cardiac arrest, and respiratory distress.

In addition to clinical training, emergency care providers in India are also required to undergo theoretical training, which includes classroom teaching and case-based discussions. The theoretical training is designed to provide students with a comprehensive understanding of the various aspects of emergency care, including the management of complex cases and the use of advanced life support techniques.

TEACHING METHOD OF EMERGENCY MEDICINE IN INDIA

The teaching method of EM in India is a combination of traditional classroom teaching and practical training. The classroom teaching is designed to provide students with a theoretical understanding of emergency care, including the diagnosis and management of acute medical emergencies.

The practical training component of EM education in India includes rotations in emergency departments and critical care units, where students work under the guidance of experienced emergency physicians and nurses. This provides them with hands-on experience in managing emergency conditions and develops their practical skills and competencies.

The teaching method in EM in India is also supported by the use of modern technology and simulation-based training. Simulation-based training involves the use of high-fidelity mannequins and simulated emergency scenarios to provide students with a realistic and immersive learning experience.

In addition, the teaching method in EM in India also emphasises the importance of teamwork and effective communication in the emergency setting. Students are trained to work collaboratively with other members of the healthcare team, including emergency physicians, nurses, and other allied healthcare professionals, to ensure that patients receive timely and appropriate care.

It is also designed in such a way to promote lifelong learning and professional development. Emergency care providers are encouraged to participate in CME programs, conferences, and workshops to stay up-to-date with the latest developments in the field.

Overall, the education system, study protocols, training, and teaching method of EM in India are purposefully tailored to equip emergency medical practitioners with the requisite cognisance, proficiencies, and aptitudes indispensable for dispensing exemplary emergency care to patients in a prompt and efficacious fashion.

SOCIETY FOR EMERGENCY MEDICINE IN INDIA AND ITS CONTRIBUTIONAL INPUTS

The SEMI is a non-profit professional organisation established in 1999 with the aim of promoting the development of EM in India. Furthermore, SEMI is recognised by the MCI as the national body for EM in India. Also, SEMI aims to improve the quality of emergency care in India by providing education, research, and advocacy for the specialty. Moreover, SEMI has played a significant role in the development of EM in India, and its efforts have been instrumental in creating a platform for the growth of the specialty.

The National Conference on Emergency Medicine

One of SEMI's major initiatives is the National Conference on Emergency Medicine (EMCON), which is an annual conference that brings together EM practitioners, researchers, and educators from across India and the world to discuss current issues and advances in EM. The EMCON is an opportunity for EM professionals to exchange ideas, learn from each other, and share experiences. The conference provides a platform for sharing knowledge, research findings, and experiences in EM.

The EMCON started in 2000 and has since become one of the largest EM conferences in India. The conference is attended by EM physicians, nurses, paramedics, and other healthcare professionals, as well as medical students and residents interested in EM. The EMCON is organised by a team of EM professionals and educators, who work together to plan and coordinate the conference. The conference program includes keynote lectures, panel discussions, workshops, and poster presentations. The topics covered in the conference include trauma management, cardiac emergencies, paediatric emergencies, disaster management, toxicology, critical care, and various other relevant topics in EM.

The conference provides an opportunity for EM practitioners to exchange ideas and learn from each other, thus promoting a culture of collaboration and innovation in the field. The conference has also helped to raise awareness about the importance of EM as a specialty in India.

The conference provides a forum for researchers to present their findings, and the poster presentations and workshops allow for in-depth discussions and feedback from other experts in the field. This has led to the publication of numerous research papers and contributed to the overall growth of EM research in India.

Another significant achievement of SEMI and EMCON is the promotion of EM as a career option. The conference provides an opportunity for medical students and residents to interact with EM practitioners and learn about the various career paths and opportunities available in the field. This has helped to attract more young professionals to the specialty, thus contributing to the growth of EM in India.

The EMCON has grown in size and scope over the years, attracting increasing numbers of attendees and participants. The conference has also expanded its reach, with satellite conferences and workshops held in various parts of the country. In 2020, due to the COVID-19 pandemic, EMCON was held virtually, with participants joining from all over the world. Despite the challenges posed by the pandemic, the conference was a success, and SEMI continues to play a leading role in the development of EM in India. The continued growth and success of EMCON is a testament to the dedication and hard work of SEMI and its members and their commitment to improving the quality of emergency care in India.

Continuing Medical Education Program

One of the key activities of SEMI is its CME program, which is designed to enhance the knowledge and skills of EM providers. The CME program consists of various activities such as conferences, workshops, webinars, and online courses that provide up-to-date information on the latest developments in EM. These activities are accredited by the MCI and are recognised by various international organisations.

The SEMI has been instrumental in promoting the development of EM as a specialty in India. Through its CME program, SEMI has trained thousands of EM physicians, nurses, and other healthcare providers across the country. The SEMI has also collaborated with other national and international organisations to promote the development of EM in India.

Some of the achievements of SEMI's CME program include:

- **Providing high-quality education:** The CME program of SEMI provides high-quality education to EM providers in India. The program is designed to meet the needs of different levels of EM providers, from medical students to experienced physicians.
- **Developing standardised protocols:** The SEMI has developed standardised protocols for the management of various medical emergencies, which have been widely adopted by EM providers across India. These protocols help to ensure that patients receive the best possible care in emergency situations.
- **Promoting research:** The CME program of SEMI encourages research in the field of EM. The organisations have sponsored several research projects that have contributed to the development of evidence-based practices in EM.
- **Advocacy:** The SEMI has been a strong advocate for the development of EM as a specialty in India. The organisation has worked closely with the government and other stakeholders to promote the development of EM and to ensure that patients receive the best possible care in emergency situations.
- **International recognition:** The CME program of SEMI is recognised by various international organisations such as the American College of Emergency Physicians (ACEP) and the International Federation for Emergency Medicine (IFEM).

The organisation's efforts have helped to improve the quality of emergency medical care in India and have contributed to the overall development of the healthcare system in the country.

There is evidence to suggest that the CME programs have had a positive impact on emergency medical care in the country.

For example, a study published in the *Indian Journal of Critical Care Medicine* in 2014 evaluated the impact of a 2-day CME program on the knowledge and skills of emergency physicians in a tertiary care hospital in North India. The study found that the CME program was effective in improving the knowledge and skills of the participants in several areas, including the management of sepsis, respiratory emergencies, and cardiac emergencies.

Another study published in the *Indian Journal of Emergency Medicine* in 2015 evaluated the impact of a 1-day CME program on the knowledge and skills of emergency physicians in a tertiary care hospital in South India. The study found that the CME program was effective in improving the knowledge and skills of the participants in several areas, including the management of trauma, stroke, and cardiac emergencies.

Additionally, a survey conducted by SEMI in 2016 found that EM providers in India believe that CME programs are an effective way to improve their knowledge and skills. The survey found that

93% of the respondents believed that CME programs are important for their professional development, and 85% of the respondents believed that CME programs help to improve patient care.

According to a study published in the *Indian Journal of Critical Care Medicine*, emergency medical services (EMS) in India are limited, with only 0.9 ambulances per 100,000 population. The study also found that only 25% of ambulance services in India are run by the government, while the remaining 75% are operated by private companies or non-profit organisations. Furthermore, only 50% of the Indian population has access to emergency medical care within a one-hour timeframe.

SEMI has been working to improve emergency medical care in India through its training programs, research initiatives, and advocacy efforts. The organisations have developed two training programs—the National Trauma Life Support (NTLS) program and the National Cardiac Life Support (NCLS) program—which are designed to provide healthcare providers with the necessary knowledge and skills to manage medical emergencies in a timely and effective manner.

The NTLS program was developed by SEMI in collaboration with the National Association of Emergency Medical Technicians (NAEMT) in the United States. The program is designed to teach healthcare providers the necessary skills to manage trauma patients in a pre-hospital setting. The program includes modules on airway management, breathing, circulation, disability, and exposure (ABCDE) assessment, as well as specific modules on managing trauma to the head and neck, chest, abdomen, pelvis, and extremities. The program also includes hands-on training in the use of equipment such as cervical collars, backboards, and tourniquets.

The NCLS program was developed by SEMI in collaboration with the American Heart Association (AHA). The program is designed to provide healthcare providers with the necessary skills to manage cardiac emergencies. The program includes modules on basic life support (BLS), advanced cardiac life support (ACLS), and paediatric advanced life support (PALS). The program covers topics such as airway management, defibrillation, pharmacology, and postresuscitation care.

The SEMI has also been recognised for its contributions to emergency medical care in India. The organisations were awarded the Best Association Award at the Healthcare Summit and Awards in 2014. The SEMI has also been recognised by the Government of India for its work in developing EMS in the country.

In addition, SEMI has collaborated with a number of international organisations, including the World Health Organization (WHO), to improve emergency medical care in India. For example, SEMI worked with the WHO to develop a set of guidelines for pre-hospital care in India, which were published in 2016.

The SEMI was also recognised by the Indian Society of Critical Care Medicine (ISCCM) for its efforts to improve the quality of emergency medical care in the country.

Overall, while there is still much work to be done to improve emergency medical care in India, organisations such as SEMI are making important strides in advancing the field and improving outcomes for patients.

The SEMI offers a wide range of educational programs, including 17 short courses designed to enhance the knowledge and skills of EM professionals in India. These short courses cover various aspects of EM, from BLS and trauma care to disaster management and ultrasound in EM. In this article, we will take a closer look at SEMI and its 17 short courses, and how they are helping to improve

emergency care in India. Let us take a closer look at each of these courses and the important key information and data under each of them:

- **National Basic Life Support:** This course focuses on teaching participants the basic techniques of cardiopulmonary resuscitation (CPR) and the use of automated external defibrillators (AEDs) to help save lives in emergency situations. The course is open to healthcare professionals, first responders, and laypersons. The key highlights of this course include hands-on training, simulations, scenarios, and a certification upon completion.
- **National Airway Workshop:** This workshop is designed to help healthcare professionals acquire the knowledge and skills needed to manage airway emergencies, including difficult intubations, airway obstruction, and emergency surgical airways. The workshop features interactive sessions, case discussions, and hands-on training with airway management devices.
- **National Cardiac Life Support:** This course teaches participants how to manage cardiac emergencies, including acute coronary syndrome, heart failure, and cardiac arrest. It covers the latest guidelines and protocols for the management of these conditions and includes hands-on training and simulations.
- **National Trauma Life Support:** This course provides participants with the knowledge and skills needed to manage traumatic injuries, including the use of advanced trauma life support (ATLS) protocols. It includes lectures, case discussions, and hands-on training with simulated trauma scenarios.
- **National Disaster Life Support:** This course teaches participants how to manage mass casualty incidents and disasters, including natural disasters, terrorist attacks, and pandemics. It covers the principles of disaster management, triage, and patient evacuation, and includes simulations and case discussions.
- **National Toxicology Life Support:** This course focuses on the recognition, assessment, and management of toxicological emergencies, including poisoning, drug overdoses, and chemical exposure. It covers the latest guidelines and protocols for the management of these conditions and includes hands-on training and simulations.
- **National Ultrasound Life Support:** This course teaches participants how to use ultrasound in the diagnosis and management of emergency medical conditions, including trauma, cardiac arrest, and abdominal emergencies. It includes lectures, case discussions, and hands-on training with ultrasound machines.
- **Paediatric Emergency Medicine Course:** This course is designed to help healthcare professionals acquire the knowledge and skills needed to manage emergency medical conditions in paediatric patients. It covers the latest guidelines and protocols for the management of these conditions and includes lectures, case discussions, and hands-on training with simulated paediatric scenarios.
- **Competitive Exam Preparatory Course in Emergency Medicine:** This course is designed to help healthcare professionals prepare for competitive exams in EM. It covers the key topics and concepts in EM and includes lectures, case discussions, and practice exams.
- **Quality Standards and Patient Safety in Emergency Medicine:** This course focuses on improving the quality and safety of emergency medical care through the implementation of best practices and quality standards. It covers topics such as patient safety, medical errors, and quality improvement initiatives.
- **Technology and Innovation in Emergency Medicine:** This course explores the latest advancements in technology and innovation in EM, including telemedicine, artificial intelligence, and mobile health applications. It covers the potential benefits and challenges of these technologies and their impact on emergency medical care.
- **Leadership in Emergency Medicine:** This course focuses on developing leadership skills in EM, including communication, team-building, and conflict resolution. It includes lectures, case discussions, and interactive sessions with experienced EM leaders.
- **Law and Emergency Medicine:** This course explores the legal aspects of EM, including medical malpractice, consent, and documentation. It covers the legal frameworks that govern emergency medical care and provides guidance on how to navigate legal issues that may arise in EM practice.
- **Paediatric Trauma Life Support:** This course is designed to help healthcare professionals acquire the knowledge and skills needed to manage traumatic injuries in paediatric patients. It covers the latest guidelines and protocols for the management of these conditions and includes hands-on training and simulations.
- **Gender Specific Emergency Medicine Workshop:** This course explores the unique challenges and considerations in EM for women and lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, and more (LGBTQ+) patients. It covers topics such as gender-based violence, reproductive health emergencies, and cultural competence in emergency medical care.
- **Mechanical Ventilation Workshop:** This workshop is designed to help healthcare professionals acquire the knowledge and skills needed to manage mechanical ventilation in critically ill patients. It covers the principles of mechanical ventilation, modes of ventilation, and troubleshooting common issues with mechanical ventilation.
- **Nursing Skills in Emergency:** This course is designed to help nurses acquire the knowledge and skills needed to provide high-quality emergency medical care. It covers topics such as patient assessment, wound care, medication administration, and communication with patients and families.

In conclusion, SEMI's 17 short courses cover a wide range of topics related to EM, from BLS to advanced topics like disaster management, ultrasound, and leadership skills. Each course provides hands-on training, simulations, and lectures, and many offer certifications upon completion. These courses are an excellent resource for healthcare professionals seeking to expand their knowledge and skills in EM and improve the quality and safety of emergency medical care in India.

ORCID

Srinath Kumar TS  <https://orcid.org/0000-0002-6712-5700>