Emergency medicine in India: Why are we unable to ‘walk the talk’?

Suresh S David,1 Mabel Vasnaik2 and Ramakrishnan TV3
1Accident and Emergency Medicine, Christian Medical College Hospital, Vellore, 2Emergency Medicine, St. John’s Medical College Hospital, Bangalore, and 3Emergency Medicine, Sree Ramachandra Medical College, Chennai, India

Abstract

The largest democracy on earth, the second most populous country and one of the most progressive countries in the globe, India, has advanced tremendously in most conventional fields of Medicine. However, emergency medicine (EM) is a nascent specialty and is yet to receive an identity. Today, it is mostly practised by inadequately trained clinicians in poorly equipped emergency departments (EDs), with no networking. Multiple factors such as the size of the population, variation in standards of medical education, lack of pre-hospital medical systems and non-availability of health insurance schemes are some of the salient causes for this tardy response. The Indian medical system is governed by a central, regulatory body which is responsible for the introduction and monitoring of all specialties – the Medical Council of India (MCI). This organisation has not recognized EM as a distinct specialty, despite a decade of dogged attempts. Bright young clinicians who once demonstrated a keen interest in EM have eventually migrated to other conventional branches of medicine, due to the lack of MCI recognition and the lack of specialty status. The Government of India has launched a nationwide network of transport vehicles and first aid stations along the national highways to expedite the transfer of patients from a crash site. However, this system cannot be expected to decrease morbidity and mortality, unless there is a concurrent development of EDs. The present article intends to highlight factors that continue to challenge the handful of dedicated, full time emergency physicians who have tenaciously pursued the cause for the past decade. A three-pronged synchronous development strategy is recommended: (i) recognise the specialty of EM as a distinct and independent basic specialty; (ii) initiate postgraduate training in EM, thus enabling EDs in all hospitals to be staffed by trained Emergency physicians; and (iii) ensure that EMs are staffed by trained ambulance officers. The time is ripe for a paradigm shift, since the country is aware that emergency care is the felt need of the hour and it is the right of the citizen.

Key words: emergency medicine, Medical Council of India, specialty recognition.
Those who dance are considered insane by those who cannot hear the music.  

George Carlin

Introduction

India is the second most populous country in the world, and covers an area approximately that of Western Europe. It is the largest democracy on earth and effectively is a conglomeration of many cultures moulded seamlessly and effectively into a subcontinent. 'Unity in Diversity' is an appropriate definition for India. The medical system is diverse too. In addition to a multitude of miscellany, there is variation in standards of medical education and patient care, in pre-hospital medical systems, and in the non-availability of Health Insurance schemes.

Emergency medicine (EM) is a nascent specialty in India, and is yet to receive a separate identity among the medical fraternity of the country. Although established in the USA as a specialty (1979), Canada (1980) and subsequently in Australia, Asia, and the Middle East, it is unfamiliar to the Indian medical curriculum. The last publication on EM in India was published in 1998.

The present paper has three parts including a remembrance on the birth and development of EM in India, a description of the present, with a current snapshot of EM practice across the subcontinent and a forecast for the future, highlighting factors that continue to challenge the handful of dedicated, full-time emergency physicians, who have tenaciously pursued the cause for the past decade.

Evolution of medicine in India

India is proud to be the cradle of academia; the world’s first University was established in Nalanda in 700 BC. The Indus Valley Civilization (3300 BC) had knowledge of medicine and dentistry. Sushruta (6th century BC) a surgeon who lived in ancient India and author of the book *Sushruta Samhita* described over 120 surgical instruments and 300 surgical procedures. Charaka, one of the founders of Ayurveda, a well-established medical science, practised in 300 BC.

India has experienced rapid growth in most conventional fields of medicine and achieved international standards of expertise, with well-trained personnel and state-of-the-art equipment. However, EM is still in its burgeoning stage. Today, it is mostly practised by inadequately trained clinicians in poorly equipped EDs, with no networking. The time is ripe for a paradigm shift.

Need of the hour – national perspectives

India has the dubious distinction of having the largest number of accidents per 10 000 vehicles in the world. According to the British Broadcasting Corporation in September 2005, one person dies every 6 min; 10 are injured in the same time frame. Work-related injuries, major industrial accidents, multiple casualties because of road crashes and acute infectious epidemics are a regular feature in the daily newspapers. The national budget of India for 2007–2008 features a 7% allocation for Social Services (Education, Health, Broadcasting etc.). In comparison, the Australian budget has $735 million in extra funding to the proposed health budget allocated for medical research.

Health-care dichotomy

There is a well-demarcated dichotomy in the quality of medical care between the private and public sector health providers. The government allocation of health-care funds in the national budget is supplemented by the state and local governments. This helps to establish and maintain government hospitals and health centres all over the country, where medical care is free. The sheer size of the population estimated at 1.13 billion by July 2007 renders the government system incapable of efficient function, compounded by the fact that the medical resources exhibit a wide variation in quality among the different states of the country.

A significant proportion of therapeutic health care is provided through private enterprise by consultation clinics and private hospitals with bed numbers ranging from five (‘nursing homes’) to 500 (‘corporate hospitals’). However, there is no well-established medical insurance in place. Lately, finance corporations have ventured to introduce insurance schemes into the work place of businesses and enterprise. Hence, patients are expected to pay cash for all aspects of their health care in most private medical institutions. Government hospitals are the only medical facilities which provide free medical care for the low-income population (40% of the Indian population lives in single-room houses). There is an intermediate group of ‘not-for-profit’ charity
hospitals, often supplemented by philanthropic organizations, which strive to provide quality care, with minimal medical charges.

**Birth and development of EM in India**

Emergency medicine as a distinct, independent, academic specialty was introduced in India at the Christian Medical College (CMC) in Vellore in 1994, with a cadre of positions including a full-time professor and four staff specialists. The Australasian College for Emergency Medicine (ACEM) facilitated the training of a candidate from the above institution, who returned and re-engineered the old ‘Casualty’ into a contemporary ED. This was followed by the introduction of EM at the St. Johns Medical College (SJMC), Bangalore in 1998, and at the Sree Ramachandra Medical College (SRMC), Chennai in 2000. All these EDs have full-time consultants, with their respective primary specialties from medicine, surgery or anaesthesiology.

**General profile of EDs in India**

Most teaching hospitals experience a daily input of 60–160 patients registered through their EDs. All varieties of medical and paediatric emergencies are seen. Significant trauma comprises 10–25% of the total registrations. Facilities vary widely from 500-bedded hospitals with a ‘Casualty’ with just two beds and rudimentary resuscitative equipment, to University Hospital EDs complete with facilities equivalent to Level 1 Trauma Centres, full-time teaching staff and independent clinical status (see Figs 1–3).

Emergency departments follow different work-patterns in different hospitals. Certain university medical institutions have duty doctors from the specialties of medicine, surgery, paediatrics and orthopaedics rostered on a daily basis and physically stationed in the ED, who manage their respective patients.

There is no nationwide standard for the medical and nursing personnel working in EDs. In government medical college hospitals, casualty medical officers are either junior doctors with no specialty training or specialists who are awaiting placement in their respective areas. Most institutions in the public sector utilise the emergency room as a clerking station. The patient is received, assessed and transferred to the intensive care unit, medical or surgical ward for further care. Quite often, definitive resuscitative measures are inadequately instituted. However, in recent times, more institutions are beginning to undertake primary assessment and intervention in their respective EDs with the employment of trained personnel. Such centres are equipped with emergency medication, monitoring equipment and a central supply of medical gases. EM consultants decide management issues and hospital admission, as required.

Triage is yet to be implemented in EDs across the country, with the exception of the CMC, where it has been in place since 1995. The triage programme was successfully implemented on the return of a registered
nurse who completed the emergency nursing module in South Australia. A three-tier nurse-led triage system is being practised and its evaluation in 2006 has demonstrated 87% reliability by Kappa statistics.

Postgraduate education in EM

The first training programme in EM was a 1-year fellowship programme established at CMC in 1997 and subsequently at SJMC. The SRMC started a 2-year postgraduate diploma programme in 2000 and converted it to a 3-year degree in 2002. This bold step has sent clear signals to the country that the need of the hour has been identified.

Apollo Hospitals, Hyderabad, a corporate hospital, collaborated with the Faculty of Emergency Medicine (FAEM, now the College of Emergency Medicine, CEM) in the UK in 2005 and has started the 3-year training programme towards the membership examination of the UK. The University of Melbourne, Australia has accepted Indian candidates in the 1-year postgraduate diploma in EM with the objective that trainees would return to their home country and supplement the specialty there. Thus, Southern India has progressed significantly in EM, by comparison with Northern India. Moreover, each EM training centre has compiled individual course curricula, dependent on local needs and resources. There is no national standardization of syllabus, clinical exposure, evaluation or certification.

Resuscitation and trauma training courses

Advanced Cardiac Life Support (ACLS) training is available in a few selected training institutes across the country and is sought mostly by medical graduates who are keen on pursuing a professional career outside the country. Various trauma training courses introduced from the USA, UK and Australia are available. These courses are by and large designed to introduce trainees to a methodology of trauma management. They are conducted for groups of 130–150 candidates with no stringent evaluation, prior to certification. The exception to the above is the Early Management of Trauma Course, based on the principles of the Early Management of Severe Trauma (EMST) course from Australia. However, the programme has been re-designed for Indian needs and resources and has existed since 1998 (see Fig. 4). It is held thrice a year, with 25 trainees undergoing a 3-day rigorous hands-on training programme in life-saving interventions, practised on human cadavers at the medical institution. The evaluation is both theoretical from the course material and practical examinations using human volunteers. A minimum mark of 85% is needed to obtain certification. The course has been evaluated by instructors in ATLS from the USA and UK and has been accepted as comparable to international standards (http://www.emtcvellore.net).

Regulatory body – Medical Council of India

The Indian medical system is governed by the Medical Council of India (MCI), a single, central, regulatory body.
which is responsible for the introduction and monitoring of all specialties. Members of the council are drawn from all spheres of medicine and meet periodically to review training in various medical institutions. The system of colleges in different specialties does not exist in India.

The MCI has not recognized EM as a distinct specialty, and is content with the notion that EM would be taught to undergraduate students by the respective specialties. There is a lack of interest in advances in EM elsewhere in the globe. It is interesting that the MCI Gazette of 1988 listed EM as a basic specialty. However, it was deleted from subsequent publications. The reinstitution of the deleted specialty has been an uphill struggle, which so far remains unsuccessful despite a decade of dogged attempts. Multiple presentations have failed to enlighten MCI regarding the need for recognition of the specialty and for postgraduate training in EM. Medical universities are reluctant to start a formal 3-year residency in EM without the consent of the MCI, because of (ill-founded) apprehension of repercussions. Those which have started the degree course are deemed as autonomous universities. Trainees are ineligible to be employed by public teaching institutions as faculty, as their programmes are not recognized by the MCI. The link between the impediments to the establishment of EM in India is schematically represented in Figure 5. Bright young clinicians who once demonstrated keen interest in EM have eventually migrated back to other conventional branches of medicine, because of the lack of MCI recognition and the uncertainty of specialty status.

**Society for Emergency Medicine in India**

The Society for Emergency Medicine (SEMI) originated as a registered body in 1998 and has recruited about 225 members so far as a loose group of physicians either working in EDs or patrons of emergency care. In 2007, SEMI became a member of the Asian Society of Emergency Medicine. Since its inception, SEMI has conducted Annual National Conferences, as a platform for interaction, sharing of resources and projecting the specialty to the country. These conferences are well attended by 250–450 delegates, actively supported by the American Academy of Emergency Medicine for India (AAEMI), as well as faculty from the Australasian College for Emergency Medicine (ACEM). SEMI cannot establish the specialty or start any training programmes on its own, and can only endorse attempts made by other medical institutions in this endeavour.

**Emergency medical systems in India**

The metropolitan cities have emergency medical systems (EMS) operated by private agencies as a business, who vie with one another. Ambulances ply between medical institutions on inter-hospital transfer errands. The drivers have no formal training as ambulance officers. The absence of pre-hospital care in most parts of the country results in the unexpected arrival of seriously ill patients to EDs. Unpublished data from
CMC have indicated that only 3.7% of patients use an ambulance, whereas the rest use private cars, cabs and three-wheeled carriages (auto-rickshaws). There is no prior warning; no warm-up time. The doors are flung open and patients are rushed in by relatives and friends.

The development and training of pre-hospital personnel and establishment of well-equipped ambulances was initiated in private medical institutions at Hyderabad, Chennai, New Delhi and Pune. The Emergency Management and Research Institute, a private enterprise, has recently been instituted. The first national workshop for pre-hospital care personnel was held during the National Conference of EM in 2005, and the turnout and response were overwhelming.

The government of India has established a well-planned four-lane highway connecting the four corners of India. First aid stations have been built with an ambulance and basic facilities to expedite transfer of patients from the crash site to the nearest government hospital, or to the medical centre of the victim’s preference. The system has been operational since the beginning of 2006 and is a positive step to expediting emergency care. Two points require emphasis:
1. About 5–15% of all EM patients present with road-related trauma. The rest are occupation-related injuries, and medical emergencies.
2. Transport of patients occurs to poorly organized and inefficiently functioning EDs.

Thus, the institution of a nationwide network of transport vehicles cannot be expected to decrease the overall morbidity and mortality of emergency patients, unless there is concurrent development of the standard of EDs.

Role of EM in Indian undergraduate education

The EDs of India provide an ideal environment for the practice of bedside teaching, because its high patient volume, increased acuity of illness, and variety of pathology provide plentiful patient-centred teaching opportunities. This is a chance for ‘front-line’ management to learn to distinguish sick patients from well patients, and to develop skills in the ‘symptom pursuit’ approach to undifferentiated patients. Students learn to manage multiple patients simultaneously and to focus their concentration despite a noisy, chaotic and unpredictable environment. Toxicology and environmental emergencies are unique to EM with ample opportunity for correlation with basic science principles learnt in biochemistry, pharmacology and pathophysiology. The inclusion of EM as part of the undergraduate curriculum has occurred over the past 3–7 years in five medical colleges, out of a total 154 medical institutions in India. Medical students spend varying periods of time, up to 2 weeks, with their learning objectives achieved through lectures, bed-side case discussions and supervision for basic clinical procedures. The feedback has demonstrated significant subjective and objective improvement in knowledge and skills.

However, Indian medical educators and policymakers are unsure about the role of EM in the undergraduate curriculum. Some feel that it is ‘an invasion of one’s turf’; others feel that EM is already being taught by teachers from respective primary specialties. Within this fray is a small group of individuals, who are struggling to substantiate that EM is the culmination of emergency practice from all departments being harmonized as one. There is no intent to invade anyone’s turf, but to facilitate early, appropriate and optimal emergency care. This group of EM pioneers have continued to train medical students in their own departments, who hopefully will one day be motivated to pursue a career in EM in medical institutions across the country, and produce a measurable difference in emergency care.

Optimistic perspectives

Although the picture painted thus far may appear gloomy, it needs to be emphasized that India is one of the most progressive countries on the globe. Newspapers often reprimand medical institutions which have provided suboptimal care, in times of need. The country is aware that emergency care is the right of the citizen. Further, concerted efforts are being made by state governments towards the cause. Of particular interest are Gujarat and Maharashtra, which have incorporated EMS in the state agenda and have demonstrated massive strides in development. The MCI has undergone a major revamping in its Executive Committee and it is hoped that the proposals for the recognition of EM thus far submitted would be reviewed afresh.

Recommendations for the development of EM in India

The strategy recommended for EM in India is to adopt a three-pronged approach to recognize the specialty of EM as a distinct and independent basic specialty; to
initiate postgraduate training in EM, thus enabling EDs in all hospitals to be staffed by trained emergency physicians; and to ensure that EMS are staffed by trained ambulance officers. The above three issues need to be developed synchronously. It is desirable to formulate a single telephone number and bring all EMS under one umbrella. This would allow better care for unstable patients who would arrive at a pre-warned ED. Introduction of low-premium insurance policy schemes would facilitate all citizens to access quality emergency care. Establishing emergency nursing modules in nursing education would enhance focused EM training and the introduction of triage.

The future

To peer into the future is indeed an exciting proposition. There are clear signs that India is on the brink of a new era for EM. Recognition by the MCI as an imminent event would demonstrate a ‘snowball’ effect, with medical institutions competing with one another to start training programmes in EM. Soon academic departments would spring up around the country, and young medical graduates would be keen to pursue careers in EM.

It is our fond hope that EM as well as EMS receive the recognition that they so richly deserve. Although the length of the tunnel is unknown, a faint glow of enlightenment at the far end is visible. We look forward to the day when the sun would rise to herald the dawn of EM in India.

Competing interests

None declared.

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