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Pediatric Emergency Medicine - An Evolving Sub-Speciality in Pakistan

Emad Uddin Siddiqui and Junaid A. Razzak

Before 1945, there was little evidence for existence of pediatric emergency medicine as practiced today.¹ During the French revolution, witnessing the speed with which the carriages of the French Flying Artillery manoeuvred across the battlefields, French military surgeon Dominique Jean Larrey applied the idea of Flying Ambulances for rapid transport of wounded soldiers to a central place where medical care was more accessible and effective.

Emergency medicine is a medical speciality - a field of practice, based on the knowledge and skills required for the diagnosis, management and prevention of acute and urgent aspects of illness and injury affecting patients of all age groups with a full spectrum of undifferentiated physical and behavioural disorders. It further encompasses an understanding of the development of pre-hospital and in-hospital emergency medical systems and the skills necessary for this development." (International Federation for Emergency Medicine 1991).²

Emergency Medicine (EM) as a medical speciality is relatively young. Prior to the 1960's and 70's, hospital "emergency rooms" were generally run by physicians on staff at the hospital on a rotating basis.² Pediatric Emergency Medicine (PEM) is an even newer concept than Emergency Medicine and ties the specialities of pediatric and emergency medicine. This is based on the fact that the disease patterns, their manifestation, management and complications as well as the physiology, anatomy, etc. differs between children and adults. While training in both the emergency medicine and pediatrics covers some aspect of pediatric emergency medicine, they do not do a comprehensive enough job. Thus, in some developed countries, pediatric emergency medicine has evolved as a sub-speciality of EM and pediatrics.

Since its formal recognition as medical sub-speciality, PEM has made substantial advancement with respect to its scope and sophistication in both the clinical and in research.

Pediatric emergency medicine spans care provided in the pre-hospital and in-hospital arena and includes all types of medical and surgical emergencies of children. Over the last 20 years, significant advances and improvements have occurred in the delivery of emergency care to children, including emergency medicine residency training in pediatric emergencies, pediatric trauma care, pain management for children, pediatric drug dosages, pediatric equipment/supplies in emergency departments and on ambulances, and a national poison control system. With these great strides, the practice of pediatric emergency medicine continues to evolve.³

The care provided is dependent upon physicians and nurses qualified and trained to provide care, but also on the facility setup, availability of resources and back-up of appropriate specialists at the hospital.

Pediatricians and emergency physicians had long-recognized the special needs of children who require emergency care. In most general Emergency Departments (EDs), 20-30% of visits involve patients under 16 years of age. Most children's hospitals have EDs that see only children.⁴ Visit acuity analysis indicates that urgent and life-threatening conditions are less severe and common in pediatric than adult populations,⁵ these can be managed accurately and immediately with less chance of adverse consequences. This needs the trained, experience and skilled pediatric emergency physicians.

Since there is extreme paucity of pediatric EM specialists, most pediatric emergency care will continue to be provided by general emergency physicians.⁶ Reflecting this reality, there have been recent improvements in pediatric EM training for all EM residents. Sub-specialists in pediatric EM have a unique role in advocacy, education and research for the pediatric population.⁷

Advancing injury and disease prevention remains the greatest challenge in improving the care of children.⁸ Maintenance of pediatric resuscitation skills is a new dilemma caused by the national decrease in pediatric

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morbidity and mortality. Future controversial issues to address include the national debate of disease pattern, type of physicians who take care of pediatric emergency patients and whether there is a need for pediatric facility standards.^{9,10}

United States and Europe has formulated and designed a rationale, well-developed and advanced training program in pediatric emergency medicine for residency and post-fellow trainings.

Still more have to be done on several aspects of pediatric emergency medicine, such as out of hospital emergency medicine services, trauma care, emergency care team development and quality of data recordings etc.

Adequately designed and structured residency training programs is the standard model for the PEM speciality. At the same time, the post-fellowship training programs of one to two years are similarly effective. Thus, providing the PEM fellow an additional skills and knowledge with hand on experience in an entirely vacant field with plenty of opportunity for research and growth.

In developing countries like Pakistan, because of limited resources, lack of commitments, social and political issues, we are still far behind the initial target. There are numbers of emergency section in both public and private sector hospitals. The public sector pediatric tertiary hospitals have their separate status as pediatric ER, with their pediatric residents (year two or three) who runs the ER 24 hours a day on rotation basis, usually without the trained/qualified faculty coverage, who can trained and teach them in the ER. The situation is even worse in general private hospitals having a single room, where both the pediatric and adult patients are managed most of the time by the same physicians. These physicians with little experience or not at all in pediatric care, treat children, who require specialized care.

Training in pediatric emergency medicine should be formulated, structured, programmed and implemented with a rationale motivation. Undergraduate, graduate and post-fellow training program should be designed and developed according to our scenario. The western

training program can also be followed. The problem of initial skilled physicians is standing in front of us. This can be overruled by awarding the scholarships to the devoted and motivated physicians, who are interested to attain the desired training. They are more helpfull in creating the system and becoming role model for others. What required is the commitment from the desiring and deserving candidates and support from system, department, university, ministry and the government. Nowhere in Pakistan, the emergency medicine training is functional. We have to trace down the path.

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