Developing paediatric emergency medicine — an opinion from a developing country tertiary care center

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Child mortality in Pakistan is a major cause of concern, the grim picture of the deteriorating child health situation can be seen from annual health report of Pakistan Medical Association (PMA) for year 2011, said that, one child dies every minute from diarrhoeal and acute respiratory infection (ARI) with annual 400,000 infants deaths and one in 10 children die before reaching the age of five.[1]

Child health in Pakistan is amongst the most important national issues that need serious attention. The major reasons behind growing diseases in children may be scanty federal and provincial budget on health services, low income per capita, reduced literacy rate near to 17%, and lack of skilled birth attendants, widespread diseases and non-existent emergency child health services in government run district and rural hospitals as well as in private hospitals.

Despite a substantial growth in the number of health institutions, facilities and services, the desired health outcomes of the country could not be achieved due to rapid growth of population and low health budget.[1] The increasing burden of diseases especially, the paediatric diseases represents an iceberg of disease spectrum in our country. The situation is worse if we look at the paediatric emergencies and emergency services around Pakistan.[2] Basic health units or rural health centers did not have any paediatric emergency settings. Tertiary care public sector or private teaching hospitals may have comparatively larger paediatric emergency rooms and are well equipped however the training structure and experience for paediatric emergency physicians are absolutely deficient making the dire need of establishing such a programme in Pakistan.[3]

Paediatric Emergency Medicine is a newly emerging field in Pakistan. It is a medical specialty with the principal mission of evaluating, managing and treating illnesses and injuries in children. Paediatric emergency care is the critical component of our health care system posing a huge impact on improving mortality from common childhood illnesses.

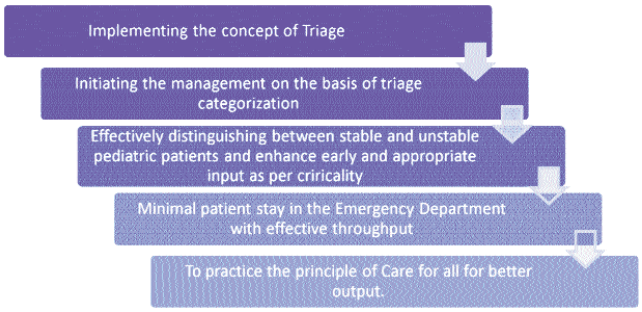

Figure-1: Patient flow chart in PEM.

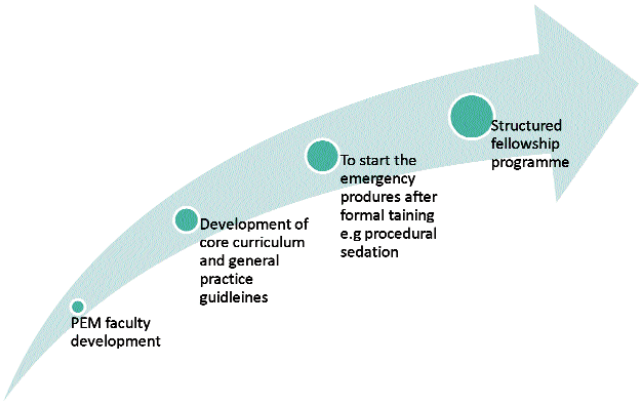

Figure-2: PEM faculty and fellowship development plan.

Pakistan, where almost half of the population comprises of children, desperately needs dedicated leadership in PEM. The country is already burdened by the sixth largest population in the world (over 190 million people) and one of the fastest growing populations, thus intensifying major challenges like; poverty, illiteracy, energy crisis, terrorism and, indeed, a massive burden of diseases need to be addressed on priority.

The resource poor settings of Pakistan in which there is limited access to basic emergency care in the major parts of the country put the children at the risk if they acquire any dreadful diseases that pose a threat to their life. To deal with such situations one needs to have appropriate

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Table-1: Quarterly Triage category.
(PEM, AKU Data 2014)

Total PEM visits	Triage Category P1	Triage Category P2	Triage Category P3	Triage Category P4	Triage Category P5	Total Patients
Q1	436	477	2,542	389	64	3,908
Q2	493	420	2,757	383	93	4,146
Q3	508	524	2,571	440	145	4,188
Q4	479	647	2,513	321	110	4,070
Total	1916	2068	10383	1533	412	16312

Triage category is based on ESI v4.0 edition 2012.[11]

Table-2: Patients seen in PEM.

Indicator	Q1	Q2	Q3	Q4	Total PEM visits
Discharge	2568	2586	2743	2583	10480
Admitted	1175	1366	1217	1167	4925
Expired	12	7	8	11	38
DOA	9	8	8	6	31
LOS in ED	7:34	6:56	6:40	6:52	7:00
Referred out	1	0	0	2	3
LAMA	155	154	171	230	710
LWBS					125*

DOA; Death on arrival
LOS: Length of stay in PEM
LAMA: Left against medical advice
LWSB: Left without been seen
*125 patients were those who were LWSB by the PEM physician
Retrieved form AKU Intranet SAHL and ADT (Admission, Discharge and Transfer data, dated: July 29, 2015.

knowledge and skills, which the physicians must learn in order to diagnose, manage and treat such emergencies. Paediatric emergency medicine is established as an evolving specialty around the world and has been practiced in developed countries like USA, Canada and UK.[4] It is still in infancy in Pakistan. It is an important part of the hospital in most of the developed countries, working in close association with the paediatric ICU, in-patient wards, paediatric surgery, paediatric oncology, cardiology and different other specialties in order to provide a laminar flow of the transfer and management of patients who present with different medical or surgical emergencies.[5] This association is not considered a cosmetic or romantic notion but an element that can improve the care of children in our country. It is mentioned in the literature that the delay in managing different paediatric emergencies has resulted in increased mortality and morbidity of the children.[6]

There is also an intense need of trained paediatric emergency physicians in dealing with disasters that we have experienced in the past few years. The children are different entity who have different physiological, anatomical and psychological characteristics making them a special population requiring special consideration. The toxicological issues are also very specific in children with our experience of seeing children presenting with a history of putting different household items in their mouth posing an immediate threat to life if not dealt by an appropriate trained person.[7] The paediatric emergency physician must be considered a center of the prong in the continuity of care from outside of the hospital to the in-hospital, in order to provide a friction free care.[8] The need of such a programme in Pakistan is because of the increasing burden of respiratory, cardiovascular and gastrointestinal diseases. There are very few centers in the country that have neonatal ICU, Paediatric ICU and other sub-specialties. Even paediatric emergency fast track clinics and paediatric triage are considered as another source to deal and managing non-acute paediatric emergencies conserving the precious time of management.[9] Similarly paediatric fractures/dislocations, procedures and laceration repair can be managed early with the introduction of the procedural sedation and preventing the resource and time and hence are able to discharge the child home

early and reduce emergency congestion.[10]

There is a dire need to develop paediatric emergency medicine in Pakistan by promoting structure training to our doctors. This sub-specialty has a pivotal role in the society and medical community and is essential for all secondary and tertiary care hospitals both government and private, in order to provide timely and perfect care for our children. It is still a long way to follow for a better childcare, research, innovation, practice and learning.

The Aga Khan University has an established PEM (Table-1 and 2), and the need for this specialty is endorsed by the experience gained in this department. This has encouraged us to propose a fellowship programme in this sub-specialty in the institution and at a national level (Figure-1 and 2).

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