Training and Delivery of Pediatric Surgical Services in Pakistan

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Pakistan produces world class doctors despite limitation of resources and lack of a mature infrastructure in the super specialties. Pediatric surgery is amongst the rapidly growing specialties owing to the exponential increase in population. Training good quality pediatric surgeons in Pakistan is possible but delivering high quality service in this field requires a very mature infrastructure. The College of Physicians and Surgeons of Pakistan (CPSP) is responsible for organizing and regulating the training in this specialty. At present, there are 12 institutions that are recognized for MCPS and FCPS training in Pakistan.[1]

Training

I have been fortunate to train and work in pediatric surgery between Ireland, UK, New Zealand and the UAE. I have, therefore, been a trainee, trainer and a service provider in 4 advanced health care systems. The advanced training degrees in Pakistan are MS and FCPS. The training structure of FCPS is not very different from that of the United Kingdom. In UK, those aspiring to train in pediatric surgery first complete 2 years of core surgical training in which they rotate through basic medical, surgical and orthopedics and trauma departments. They then compete for a national training number (NTN) to be able to enter the specialist training in pediatric surgery. This is a 6-year programme where, in the first 4 years the candidates gain knowledge to pass the FRCS (Paeds Surg) exam and competencies to manage routine and moderately complex pediatric surgical conditions.[2] In the final two years of training the candidates consolidate knowledge and advanced technical skills to be able to work independently at a consultant level and provide a safe service to their patients. They are also encouraged to apply for fellowships in their areas of intertest either in the bigger centres in UK or abroad. Throughout their training, they undergo a very structured assessment process every 6 months. The assessments are a combination of summative and formative assessment tools. A log book demonstrating that the trainee has participated in a minimum number of index pediatric surgical cases is also maintained and presented at these assessments. During their training, each candidate, ideally, has to rotate between 3 centres in their training consortium. They are also expected to complete some basic courses like Advanced Pediatric Life Support (APLS) and Care of Critical Ill Surgical Patient (CrRisp). Experience in a neonatal unit is also desirable to be able to understand the premature neonate's physiology.

The Pediatric Surgery training programme in Pakistan is also well structured. The CPSP oversees and regulates the training to ensure high standards. The Pakistani trainees undergo a rigorous 5 years training programme. (Intermediate module is 2 years and pediatric surgery training is 3 years). Similar to the UK training programme, the Pakistani pediatric surgeons in training also undergo 6 monthly assessments. In addition, they also have to pass a mid-training and end of training exam. Whilst the CPSP and Pakistani pediatric surgical trainers also encourage the trainees to move between high and low volume centres but due to a multitude of factors, few trainees are able to actually complete these inter centre rotations. Similarly, the access to courses like the APLS, CrRisp, wet and dry labs and national training days is not always possible. Despite many of the above limitations, the surgical exposure of the Pakistani trainees is far more as compared to their counterparts in the western world and this is purely volume based. This high-volume exposure provides increased confidence and sometimes better surgical technique to the Pakistani pediatric surgeons. However, owing, to such large volumes adequate senior supervision is not always possible and as a result, the outcomes many times are not comparable to the international standards.[3]

Service Provision and Delivery

The American Pediatric Surgical Association (APSA) recommends 2 pediatric surgeons per million or 1 per 100,000 patients between the age of 0-15 years.[4] Due to the large population and lack of resources, in Pakistan, there are only 0.26 pediatric surgeons per 100,000 children of above ages.[5] To add to this scarcity of pediatric surgeons is the small number of tertiary pediatric surgery centres. The above combination alone is a big reason for less-than-ideal outcomes for pediatric patients requiring specialized surgical care. Very frequently, the families cannot afford to take their child to a far-off tertiary centre due to financial reasons. As a result, they attend a tehsil or district hospital where the expertise, experience and resources do not allow for optimal care of this very unique group of patients. It is widely accepted that evidence-based care provided by adequately trained pediatric surgeons in tertiary centres results in far superior outcomes as compared to the care received in smaller centres like the ones mentioned above.[6-11]

Another major limitation in provision of good quality specialized pediatric surgical care is the existing poor infrastructure for these patients. By poor infrastructure, I mean lack of associated specialists required during the diagnosis and treatment of these patients. For example, a 500-gram premature neonate requires a trained neonatologist to ventilate him, an experienced radiologist to help with his imaging, a highly specialized anesthetist to give him general anesthesia during his surgery and highly qualified nursing staff in the intensive care units to look after them during and after surgery. The operation theatres need to be equipped to ensure these babies remain warm during surgery and have the appropriate adjuncts and surgical instruments required for surgery. Good quality service comprises of pre, intra and post operative care as a package. No matter how good a job the pediatric surgeon has done but if the intensive care is either not fully equipped or the staff are not competent to deal with these extra special group of patients (as is the case many times) then the poor outcomes cannot be prevented and are not comparable to the outcomes in the developed world.

Whilst the training standards are very high there is still room for improvement. By increasing the number of training posts and centres, a higher number of trained pediatric surgeons will be available. These can then be deputed in some of the smaller hospitals. In parallel, other necessary resources like anesthesia and ICU staff will also need to be increased for these projects to be successful.

Sponsored Exchange training programmes for our surgeons in training will refine their approach and training. This in addition to their high-volume exposure will most certainly make them better surgeons than many of their counterparts in the western centres. The concept of out reach clinics where the specialist surgeons go and operate in smaller centres will serve 2 purposes. It will not only improve the quality of care and outcomes but we can also train their resident surgeons to deal with common conditions appropriately. International visiting surgeons with joint operating sessions with Pakistani surgeons will not only improve the outcomes but also enhance the experience of local surgeons.

Without good post operative care in the neonatal intensive care, the surgical outcomes will remain poor. I have spoken to a few local pediatric surgeons and they strongly believe that results for some of the congenital malformations like esophageal atresia or congenital diaphragmatic hernia can be improved very significantly if the post operative intensive care is improved. Hence, the CPSP may need to look at collaborating with their local training boards responsible for improving the standards of training for physicians and nurses that work in the neonatal intensive care units.

We cannot take away any credit from the service being provided by the locally trained pediatric surgeons. They work their heart out with very limited resources and despite that provide a decent level of care to the population of Pakistan. However, there is a huge room for improvement in the infrastructure required by them to provide an even better quality of care to the pediatric surgical patients in Pakistan.

Conflict of Interest None

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