



Perspective

Paediatric Cardiac Surgery Service Development, My Experience in the UK and Pakistan

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Assalam o Alaikum!

My name is Asif Hasan. I am a heart surgeon, specializing in congenital heart surgery. My day-to-day work is in congenital heart surgery, particularly trans-plantation in children and adults. But I have been involved in trying to set up units and help surgeons in many countries across the world. I find that challenge of helping to get a unit up on the ground in various countries very satisfying. And I am happy that in quite a few institutions that has taken off. Although, I have also found success and failure. I would like to touch on some of the failures I have had, to try give some clues about how we can make successful programmes. I am here, in Windsor, on the 10th of December, (2019), and I wish you all a very wonderful meeting and I hope that you can come together and make provisions for trying to improve the quality of healthcare in Pakistan.

What were the challenges with setting up cardiothoracic units in Pakistan?

The challenges in setting up a unit like that are several, but three are quite significant.

Firstly, the unit should be financially viable. As you know the world is ruled by accountants. Unless you are successful in terms of having financial security, a unit will not survive. Altruism endeavours and any

amount of effort on an individual basis will not secure a successful unit in the long run, so that is number one. It follows immediately by a shared vision of people who are involved in the unit. And there are lots of people who have been involved in that but the three most important ones are the management people who look after running of the unit, the cardiologist and the surgeon. It has to be a shared unit. Shared vision from all three of them combines all those components to make a successful unit. The third important consideration is education and training, and the training has to be at the highest level. It should involve not only didactic teaching but practical mentorship and mentorship running over a long period of time.

So, these are the challenges in setting up in a unit, and I said to you earlier that my second endeavour was unsuccessful, and it's important to look at why the success did not happen. It is more informative, than just looking at what happened when you have a successful program. The reason success did not happen was that although there was financial viability, there was no shared vision of the three components I mentioned. The chief executive and the management had a vision, but the cardiologist did not share that vision, and there was no surgical infrastructure which would sustain that and that's the reason why that endeavour failed. That model of failure has been rep-

eated across the world, and I have seen that happens lots of times. Euphemistically, people will call that 'surgical safaris'. There may be a place for those, but it does not guarantee a long term buy-in with the community and the country where that has been undertaken.

Why did your cardiothoracic unit in Pakistan succeed?

I think the basis of the success of the unit was education and training. Even before the unit started, the surgeon was particularly trained for over seven years in our institution and in the United Kingdom, and it was ensured that a wide variety of surgical operations could be undertaken independently and repeatedly with good outcomes. In addition to that, the exposure was also given not to one unit but another unit in the United Kingdom. So before coming back to Pakistan and taking up a position, the surgeon had accumulated enough experience to be able to undertake relatively straightforward operations independently with good successful outcomes. In addition, ancillary staff like perfusionists, nurses and anaesthetists were also trained (although for a short period of time, not a period of years before taking up their position). And that started off that process that was immediately followed by a mentorship which has lasted for at least a decade and that has resulted in overcoming the teething troubles followed by ensuring the consistent outcomes, in addition to, providing support to ancillary staff as well with bringing on anaesthetists, perfusionists and nurses to help in keep quality improvement over the years. So essentially it has been education and training which ensured success continues over a period of time. It does not mean that there were no problems. There were a huge amount of problems at various stages of time, and one of the main problems was people who had trained and acquired sufficient proficiency leaving the institution. Because of lots of reasons, but financial reasons are uppermost in that, and that continues to plague any unit, particularly this unit.

How can you prevent this "brain drain"?

The answer is you cannot. These are things which will happen because as soon as you reach a certain standard, you become marketable not only in this

country but also abroad. So, you cannot really prevent it, but what you can do is to have a constant teaching and training programme so people who leave that position are taken over by your staff and that ensures that you have continuity and also ensures that the unit continues to prosper.

What are Pakistan's needs, and how can they be provided?

The need for Pakistan, as I said earlier, is about 15–20,000 surgical operations, but that is the tip of the iceberg because if you consider patients who are born with congenital heart disease, not all of them require surgical operations. For example, if you take 100 patients born with congenital heart disease, only 25–30 will require surgical operations and the other 70 of these patients require medical care. Essentially what you need to provide is comprehensive support in terms of cardiology, surgery, anaesthetics and intensive care to deliver services for congenital heart disease in any country and that applies to Pakistan. What other centres, other countries do is that there is a hub and spoke type of arrangement. So, you have big centres who provide surgery and some cardiological intervention, but there are centres outside who can provide cardiology and diagnostic services which then bring these patients into the larger centres.

Is there a case for National, regional, and international collaborative networks for training and service supervision?

There are at this point in time nearly 90 NGOs who are involved with congenital heart disease right across the world. The data suggests that in 50% of these cases, the NGOs come in and help in a country, but there is no sustainable effort made in terms of provisions of that facility in that country itself. Some people call it the 'surgical safari'.

There is room for this surgical safari because the patients do benefit. The calculation has been made that for one patient to leave a country and go abroad and have surgery; you can provide nearly 20 operations. So, you can make a case for it and some people say that that's a way of delivering the service, but I think for some countries like Pakistan that is not the answer. It also brings a degree of, I won't use the word

shame, but there are worries that, you know, why can we not provide this service in this country? We do provide it in large centres, but I think the need is much more, and the need is to be able to deliver at least 15–20,000 operations that won't be undertaken by charitable sources and these NGOs. We have to take the bull by the horns and maybe the government has to step up to provide some sort of infrastructure help with the charities and to support each other, because finances will be constrained in these situations. But I think that is the route to go for but at least set up the system to be able to provide this over a long period of time and nurture a system which can then, in a few decades, be able to provide more than that has been undertaken at this point in time.

Can you outline five important messages to health policymakers in Pakistan?

Firstly, the recognition that there is a problem. I think that is the number one factor in this. I think that there are a lot of other conditions which get a quite a lot of prominence and I think that children's heart surgery takes a backseat in this hierarchy of needs. I think that has to be recognized.

Secondly, I think it is important that some sort of infrastructure develops even at the rudimentary level to bring all the institutions together to a certain extent knowing what can be done to have this hub and spoke to diagnose these patients and bring it up to the centres that are important, to know what the need is. The first point was the need. Actually, we do not know what the need is, and this will bring up we know that congenital heart disease happens in 8/1000 live births. But we also know that in places where there's

social deprivation and consanguinity, the number is much higher. Certainly, in some studies undertaken in the United Kingdom — looking over the Pakistani population, the incidence is 11/1000 live births. So, I think trying to find out that what the actual need is then some degree of teaching and training try to building up human resources and that is not just surgical, but in intensive care units, nursing, cardiology, and ancillary services. We forget that the cardiac surgical program needs a lot of other facilities like blood transfusion, haematology services, renal, neurology.

Followed by finances, I think there has to be some degree of support, if not from the government, then by trying to get lots of charitable support because Pakistanis are very charitable in terms of donation, and I know of wonderful achievements which have been made by people donating money and creating institutions. There are some real beacons of excellence right across the country. SIUT is one example in Karachi.

I think lastly it is important that we recognize that these things are not going to be undertaken over months or years, but it will take decades to get there. Not to dishearten but the small step will get to the points where you want to achieve the higher things, and some of these things may take generations to get to the point where we can achieve them.