Peer Review File

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Reviewer A:

1. T**he induction is concentrating more about non-cardiac diseases than cardiac diseases in the country. It is difficult to get an overview of the cardiac adult and paediatric diseases.**
   This issue is highlighted in the introduction, where I have given references of multiple publications on the prevalence of rheumatic and congenital heart disease in Nepal.
2. **the aim of the article is not mentioned in the induction.**
   To share with the world the need, difficulty and challenges of setting up of a cardiac surgical program in LMIC. This is added in the introduction section, page 2 third para. (highlighted in yellow).
3. **Describe the main reasons for the country to have a dedicated cardiac centre, which patients and how many needed treatment in the hospital, why was that important (as the writer is mentioning that the death from most common diseases is still high in the country).**
   The very reason to have such a national cardiac program is to cater to the health needs of our people. This has been well described in the article. An excerpt from the Lancet NCDI Poverty Commission report is copied in the article.

Reviewer B:

1. **I notice RHD is extremely common with a high prevalence and an even higher subclinical burden. Do you have any system in place to provide children with rheumatic fever with antibiotics?**
   This topic is not discussed in the paper because the focus was on to generating support for the surgical program. Yes, there is a provision for treatment of rheumatic fever with appropriate antibiotics. Secondary penicillin prophylaxis scheme is also in place, mostly concentrated in public institutions. The author, however, agrees fully and works with the government for expansion of rheumatic heart disease prevention program nationwide.
2. **Is the cardiac surgical center set up easily accessible to patients all over the country? How many face logistical/financial challenges to arrive to your center?**
   The currently established public cardiac centers are in Kathmandu. Yes, many patients still face challenges to arrive to Kathmandu for surgeries. Expanding the cardiac surgical services outside of Kathmandu will have to be justified by cost benefit ratio. This will happen as the need is well communicated to the policy makers and financing schemes are well designed. Currently many provincial and district hospitals do the follow ups of the postoperative patients including the management of anticoagulation when appropriate. A paragraph is added to the text. Page 4, second para, highlighted yellow.
3. **How many patients (in the category of 15-75 year olds) go through financial doom to provide the cost or remaining cost of surgery?**
   We do not have exact data on how many of our patients paying out of pocket go into poverty because of the cardiac surgery itself. However, the partial support scheme and national health insurance combined, the vast majority of the patients requiring any type of surgery can avail the treatment without a catastrophic expenditure.
4. **What are the cardiac rehabilitative services offered, if any? How are they covered**?
   Cardiac rehabilitation services start in the hospitals where the surgeries take place. This needs to continue once the patients get back to their respective primary care settings. Generally, the primary

care centers do not charge fees for their services.

5. **Do patients often present for follow up or are they lost to follow up?**
   Our patients do come back to our centers for follow up or they visit their physicians at the nearby hospitals, if they were advised to do so. There are organizations running mobile INR clinics on a periodic basis in all the parts of the country. Yes, it is still a challenge to strictly monitor the INR in patients who come from far remote hilly areas. Very rarely, they get lost to follow up. This has been addressed in the paper.
6. **How common are re-dos in your center?**
   Re-do surgeries are fairly common, mostly in patients with previous repairs of congenital heart diseases or repair of rheumatic heart valve disease. This topic is important. However, this is out of scope of the article, so want not addressed in the paper.
7. **What are your next steps in achieving continuous political support in the midst of a politically difficult climate?**
   Now that the programs are well established and financially stable, it will be relatively easy to sustain them. But we need to continue to work with the policy makers to get the right financial schemes for all cardiac conditions and minimize the out of pocket expenditure for all age groups.
8. **What are your financial needs to improve access to quality surgery? Do you need any resources/operative equipment?**
   Technology transfer; more training and specialized care for children. Constant up gradation of the equipment and supplies requires ongoing investment by the government, which again, can be challenging at times.
9. **What are your remaining challenges in addition to the above? Do you have any projected plan/solution you are planning on using?**
   Increasing the access to people from remote areas is a big challenge. Upgrade the level of care in the peripheries and extension of the free treatment schemes, and minimizing out of pocket expenditure is what we need to be doing.
10. **Have you engaged in any international partnerships which proved to be useful? If not, is it in your projected future plans?**
    Yes, we do have collaborations with some centers of neighboring countries and few US university programs. Our initial partnership with Loma Linda University was crucial to kick start our cardiac surgical program. Our long term partnership with cardiac surgical and cardiology teams from University of Colorado, Denver has been extremely useful. These collaborations are largely focused on the training of our staff locally and less frequently, on exchange programs. This has been reflected in the paper.
11. **Do you collect data on surgical outcomes?**
    Yes. Public reporting of outcomes is not mandatory but we do have internal audit. We are also a part of IQIS, a quality improvement initiative based out of Boston Children's Hospital.
    I have added a new paragraph on **the next steps** to address the reviewer B's questions 9, 10, 11. Page 5, highlighted yellow.
12. **It seems you have a strong partnership with the public that is driving your efforts even further. How did you garner a robust partnership with the public?**
    Creating trust can only be achieved by serving them honestly and being transparent.
13. **Can you provide additional details on health financing schemes in Nepal? It would help clarify the context in which the government is covering costs for patients younger than 15/older than 75 and a portion of those between 15 and 75 years of age.**
    Even today almost 50% of the national health expenditure is out of pocket at the point of delivery of

care. But a number of schemes are now in place to reduce the financial burden on families due to out of pocket payments for treatment. The national health insurance is rolled out to almost all districts but the enrollment is low, and the ceiling on reimbursement is limited to NRS 100 thousands (approx USD 900). The government reimburses hospitals up to NRS 100 thousands (approx USD 900) for the treatment of major illnesses in poor population. Some of the treatment procedures are completely covered by the government like the cardiac surgeries in children below 15 years of age, over 75 years of age and patient with rheumatic heart disease of any age. This has been highlighted in the text.