



<https://doi.org/10.47811/bhj.195>

Future of cardiovascular surgical services in Bhutan

Al-Ebrahim KE¹

¹King Abdulaziz University, Jeddah, Saudi Arabia

Dear Editor,

I read with great interest the article published by Chophel et al, titled Cardiovascular Surgical Services in Bhutan: Current Progress, Challenges and Future Plans¹. The authors have aptly underscored the rapid rise in Cardiovascular disease (CVD) burden in Bhutan and the systemic challenges in establishing a sustainable cardiac surgical program. Modern interventions now transcend coronary stenting to encompass complex structural procedures such as Transcatheter Aortic Valve Replacement (TAVR), mitral clip, and percutaneous closure of congenital defects—areas once reserved exclusively for cardiac surgeons.

This paradigm shift has led to a relative decline in the volume of surgical cases, thereby increasing the per-case cost and complicating efforts to maintain surgical expertise and outcomes. Consequently, cardiac surgery now carries heightened morbidity and mortality risks, particularly in low-volume and resource-constrained settings, a scenario highly relevant to smaller or emerging cardiac units like Bhutan's².

Moreover, establishing and sustaining a full-fledged cardiac surgical service involves extensive infrastructural investment, critical care support, and a multidisciplinary team, which may not be feasible in the short term given Bhutan's current health system constraints. Investing in interventional cardiology, therefore, presents a more practical and scalable alternative in the immediate future. A robust interventional program, complemented by strategic referrals for highly complex surgical cases, can deliver substantial health gains while optimizing resource utilization^{3,4}. Recent global reviews and regional data support this approach, demonstrating improved outcomes and reduced financial burden when early investment is made in catheter-based interventions⁵.

REFERENCES

1. Chophel T, Gurung M, Gyaltsen P. Cardiovascular Surgical Services in Bhutan: Current Progress, Challenges and Future Plans. *Bhutan Health Journal*. 2025;11(1):5. [\[Full Text\]](#) [\[DOI\]](#)
2. Al-Ebrahim KE. Challenges of small cardiac units. *J Thorac Cardiovasc Surg*. 2008;136(5):1394. [\[PubMed\]](#) [\[Full Text\]](#) [\[DOI\]](#)
3. Vervoort D, Swain JD, Pezzella AT, Kpodonu J. Cardiac surgery in Low-and Middle-Income Countries: A state-of-the-Art Review. *Ann Thorac Surg*. 2021;111(4):1394-400. [\[PubMed\]](#) [\[Full Text\]](#) [\[DOI\]](#)
4. Dindi K, Cain MT, Odera A, Joyce DL, Joyce LD, Leta A, et al. Building cardiac surgical programs in lower-middle income countries. *JTCVS Open*. 2023; 13:252-9. [\[PubMed\]](#) [\[Full Text\]](#) [\[DOI\]](#)
5. Al-Ebrahim EK, Madani TA, Al-Ebrahim KE. Future of cardiac surgery, introducing the interventional surgeon. *J Card Surg*. 2022;37(1):88–92. [\[PubMed\]](#) [\[Full Text\]](#) [\[DOI\]](#)

CONFLICT OF INTEREST

None

Corresponding author:

Khaled Ebrahim Al-Ebrahim
dr.k.ebrahim@gmail.com