Viewpoint

# Challenges of Liver Transplant Program in Nepal: An Institutional Experience

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Liver transplantation (LT) is an essential life-saving procedure for patients with end-stage liver disease and selected malignant liver diseases.[1] In Nepal, this highly specialized service represents both a technical achievement and a symbol of progress in surgical care.[2–4] However, the journey toward a sustainable LT program is complex. Based on our institutional experience, this article highlights the major challenges we faced and the developments we achieved. Some challenges include regulatory, institutional, patient, and workforce-related issues.

The regulatory polices for organ transplantation in Nepal are currently evolving. The Transplant Coordination Committee provides vital oversight. In general, frequent policy changes and administrative hurdles can create uncertainty and slow the growth of the transplant programs across the country. While these rules are designed to ensure ethical practice, greater stability and stakeholder consultation would help institutions to confidently plan and expand their operations.

Similarly, the Nepal Medical Council (NMC) plays a vital role in maintaining standards. At present, most of the transplantation centers take help from foreign experts from high-volume centers, for the sake of patients and donor safety, as well as for skill transfer. This is the way LT was disseminated across the globe.[5] However, the licensing process for foreign experts assisting Nepali programs is complex and time-consuming. Simplifying the temporary registration of visiting mentors, who often volunteer their expertise to train local teams, could facilitate capacity building without compromising safety.

The deceased donor program in Nepal is underdeveloped. Concerns regarding transparency, unclear allocation mechanisms, and the absence of a publicly available waiting list limit the progress of the deceased donor program in various centers that are capable of doing living donor transplants. A centralized, independent body is desired, which can regulate the deceased donor program, maintain a publicly accessible national transplant registry, and implement a transparent organ allocation system. This will strengthen public trust and policy formulation.

Establishing a LT program requires substantial financial and logistical investments. Infrastructure, surgical instruments, perfusion devices, and critical care facilities are major expenses. Sustaining the program incurs recurring expenses related to immunosuppressive therapy, infection control, and long-term follow-up.

Human resources are a key institutional challenge. LT requires multidisciplinary harmony; surgeons, anesthesiologists, critical care specialists, cardiologists, pulmonologists, and trained OR and ICU nurses must work as one unit. Developing and retaining such teams in low-resource settings is a formidable task. With limited local training opportunities,

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institutions rely on a small core of dedicated professionals, increasing their workload and the risk of burnout. Structured national fellowship and nursing training programs in the HPB and transplant disciplines are urgently needed.

Expectations from patients and their families also create additional pressure. Many anticipate facilities and outcomes similar to those of international centers but at a fraction of the cost of the latter. Managing these expectations while ensuring quality care in a resource-limited setting is challenging.

At the patient level, late referral is a major concern. Many patients arrive at transplant centers with advanced disease, severe infection, or multi-organ failure, rendering transplantation unsafe for them. Enhanced collaboration among referring physicians, hepatologists, and transplant teams can promote timely referral.

Financial barriers remain the most significant challenges. The high cost of surgery and postoperative care is beyond the reach of most families in developing countries. Unlike kidney transplantation, which benefits from government subsidies, LT lacks similar financial support and insurance. Without social or governmental funding, many eligible patients abandon the process.

Donor availability is a limiting factor. Cultural reservations, fear, and limited awareness of living donations discourage many potential donors. Focused educational campaigns, counseling, and community engagement can help dispel myths and promote voluntary donation. Escalating the deceased donor program would also help in reducing organ shortage.

Additionally, peer and institutional rivalry, although not unique to Nepal, sometimes hampers collaboration and knowledge sharing. Fostering a culture of mutual respect, joint training, and shared learning across institutions is key to building a resilient national transplantation network.

Despite these challenges, Nepal has made impressive progress in the recent past. Multiple institutions are now successfully performing liver transplants, with at least five officially licensed centers. Patients who previously traveled abroad increasingly choose treatment within Nepal, citing familiarity, affordability, and trust as reasons.

Public perception is changing; liver transplantation is now viewed as a viable and standard treatment for advanced liver diseases. Each successful case not only saves lives but also builds collective confidence among healthcare professionals and the public.

## Conclusion

Nepal's liver transplant journey reflects determination, teamwork, and hope in the face of constraints. While infrastructure and expertise are growing, regulatory stability, financial support, and a collaborative spirit remain essential for sustained success.

With continued commitment from healthcare providers, policymakers, and the public, liver transplantation in Nepal can evolve from an emerging service into an equitable, sustainable, and life-saving program.

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