

**BLOOD TRANSFUSION AND BLOOD PRODUCTS PRACTICE  
IN PAKISTAN: a call for reform**

Dr. Haji Muhammad Shaikh  
Liaquat University of Medical & Health Sciences Jamshoro

**EDITORIAL**

Blood transfusion services (BTS) represent a vital component of modern healthcare, indispensable for the management of trauma, surgeries, obstetric emergencies and hematological conditions. Another theme was that although written policies and guidance were available, there were few measures in place to enable the provision of safe blood products using these guidelines. This might be because various factors may influence blood safety by influencing donors to donate or not donations. In Pakistan however practices surrounding blood transfusion and use of this life-saving medicine fragmentary, under-regulated and often unsafe. The fact remains that while there have been significant advances in medicine, the national blood transfusion system still does not run by certain standard or quality assurance mechanisms which has deprived public trust on this infrastructure. This editorial will focus on the major challenges in blood transfusion practices of Pakistan and its rapid reforms.

**The current scenario of blood transfusion services:**

Blood transfusion system in Pakistan is mainly hospital-based and decentralized approached by both public and private sector. Regrettably, numerous blood banks still function devoid of being guided by internationally approved safety standards. An estimated >3 million units of blood are transfused each year in Pakistan, a substantial proportion from either family replacement donors or occasionally professional donors leading to growing concerns over transfusion transmitted infections (TTIs) like HIV, HBV and HCV [1]. Voluntary blood donation is the backbone of blood transfusion, but in Pakistan, fewer than 20% of total donor pools are voluntary non-remunerated donors. In an emergency, family members or friends with questionable eligibility are many times used as donors, forced into a high-pressure situation that

offers last-minute donations without full donor evaluations and safety [2].

**Quality and Safety Concerns:**

The absence of organized testing is one of the emerging issues in transfusion system in Pakistan. It is the reality that number of blood banks does not follow even WHO guidelines for testing blood for TTIs. Such inadequacy has in turn led to the transmission of potentially deadly infections among a population that was already precarious. Reflecting high prevalence of hepatitis C, transfusion transmitted infections (TTIs) particularly among patients requiring repeated transfusions like thalassemia patients is alarmingly high in Pakistan [3]. Another significant problem is misuse and overuse of whole blood. In contrast to developed countries where blood components: red cells, platelets and plasma are predominantly used, in Pakistan; reliance is still on whole blood transfusion. This not only increases the likelihood of side effects, but it also restricts how effectively donated blood can be used [4].

**Regulatory Challenges:**

While the creation of both the Safe Blood Transfusion Program (SBTP) and the National Blood Policy has set up a way forward to improve transfusion services; their implementations have shown slow progress and been patchy. Post 18th Amendment, blood transfusion was declared provincial subject resulting in differences in regulation and practices across the provinces. As an example, Punjab and Sindh have made progress in scaling-up centralized blood centers; however, other provinces are lacking behind [5]. Moreover, there is limited oversight of private blood banks. Many operate without proper licensing or regular audits and their staff often lack formal training. The absence of a unified

national registry of blood banks and donors further complicates quality control.

### **Ethical and Social Dimensions:**

In Pakistan, the deficiencies in blood transfusion are not only about technical and regulatory issues/false starts but they are deeply rooted as any given clinical procedure demands asking ethical and social questions. The dependence on family replacement donations places an unfair emotional burden on patients, and the families thereof. Additionally, the use of professional donors often poor individuals are often coerced, ethically speaking. Voluntary donation of blood is put off by lack of awareness and misinformation accompanied by religious misconceptions as well. A lot of people are under the impression that giving blood makes one weak, or is against culture. Public education campaigns in general have been on-and-off efforts, and they have also not adequately dispelled those myths [6].

### **The Way Forward:**

What will it take to change the blood transfusion landscape in Pakistan?

Launch a national voluntary donation campaign, with the involvement of media, schools and universities and religious leaders of all faiths to generate reach and appeal for repeat donations. Public acceptance of blood donation might be changed through alternate pathways, and offering monetary incentives is not always required.

**Build Controls and Governance:** A central national regulator that works in tandem with state bodies will standardize regulations, enabling nationally compliant practices.

**Infrastructure and Training:** They should have state of the art screening system in blood banks with trained manpower, there ought to be obligatory reviews and accreditation procedure.

**Transition to Component Therapy:** Increasing the use of blood components compared with the use of whole blood for a given patient can enhance the potential utility of each donation and improve patient outcomes.

A national donor and transfusion adverse event database will enhance traceability, surveillance, and research of transfusion practices.

**Mobilize donors, educate the public:** NGOs, community leaders and civil society organizations can help mobilize health-related

donations, provide education to the public and call [the system] to account.

Pakistan's blood transfusion system is at a crossroads. While some progress has been made, significant gaps remain in terms of safety, regulation, and public awareness. Blood is not just a medical commodity it is a life-saving gift. Ensuring its safe, ethical, and efficient use is a moral and public health imperative. With coordinated efforts from the government, healthcare professionals, civil society, and the public, Pakistan can reform its blood transfusion services to meet global standards and ensure the safety and dignity of every patient.

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### **Corresponding Author:**

Dr. Haji Muhammad Shaikh, LUMHS Jamshoro