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VOLUNTARY BLOOD DONATION AND ESTRUCTURINGS OF BLOOD BANK IN PAKISTAN

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Abstract

Blood is vital for surgeries and treating disorders like thalassemia. In Pakistan, low voluntary blood donation rates and high transfusion-transmissible infection (TTI) risks, such as Hepatitis B, C, and HIV, challenge blood safety. Recent reforms, aided by Germany, have introduced centralized blood centers and quality standards to improve blood transfusion (BT) practices. Campaigns to boost voluntary donations target misconceptions and encourage youth involvement, as voluntary donors carry a lower TTI risk. However, government restructuring may hinder regulatory progress, making ongoing policy support crucial to sustain safe blood services and reduce healthcare burdens.

Keywords: *Blood donation, Challenges, Policies, Viral diseases, Voluntary donors*

INTRODUCTION

Blood is a critical resource for many medical procedures, especially surgical interventions and the treatment of patients with blood disorders such as thalassemia and anemia. Since humans are the sole source of blood donation, voluntary blood donors play a crucial role in maintaining the blood supply. Historically, the first documented instance of blood transfusion occurred in 1942 when blood from three young individuals was transfused to a sick pope; however, the attempt was unsuccessful as the patient did not survive. The modern blood transfusion process involves several key steps, including collection, processing, storage, and distribution. Each step is essential to ensure the safety and quality of blood products for both donors and recipients. Blood components like fresh frozen plasma (FFP), platelets (PLTs), and cryoprecipitate are processed for use in various clinical scenarios (1).

In Pakistan, over three million blood donations are collected annually; yet voluntary blood donation rates remain suboptimal. As a developing country, Pakistan faces a high prevalence of transfusion-transmissible infections (TTIs), particularly Hepatitis B, Hepatitis C, and HIV, which necessitates stringent screening and safety protocols (2).

BLOOD BANKING AND TRANSFUSION POLICY REFORMS IN PAKISTAN

One of the primary challenges for Pakistan's healthcare system is ensuring a safe blood supply, a vital component for patients in need of transfusions. After independence, Pakistan lacked a regulatory framework for blood transfusion (BT), leading to the proliferation of private blood banks with inconsistent practices and substandard safety protocols. In recent years, Pakistan has made significant strides by establishing a national policy for BT with support from Germany. This initiative includes the development of centralized blood centers in all regions of Pakistan, improving blood safety standards and linking smaller blood collection facilities to these centers for better oversight and quality control (3).

The project has also focused on fostering a culture of voluntary blood donation by increasing public awareness through various platforms, including partnerships with social media platforms such as Facebook. Notifications are sent to nearby users to inform them of blood shortages in local hospitals. Additionally, extensive efforts have been made to address misconceptions surrounding blood donation, with educational programs and campaigns to highlight the importance and safety of voluntary blood donation. Germany's

support has facilitated the development of infrastructure, including the procurement of advanced medical analyzers and equipment essential for safe blood transfusion practices.

THE ROLE AND IMPORTANCE OF VOLUNTARY BLOOD DONATION (VBD)

Voluntary blood donors are regarded as a low-risk group for TTIs because they donate altruistically and can be effectively screened for health conditions that might disqualify them from donating. However, Pakistan's rate of voluntary blood donation remains low due to factors such as limited public awareness, cultural misconceptions, previous negative experiences, fear of needles, and familial discouragement. Motivating the public and generating positive donor feedback could help increase voluntary donation rates. Collaborative initiatives by WHO and local communities have aimed to promote voluntary blood donation, particularly among youth, as their contributions can significantly reduce the risk of TTIs and improve public health outcomes (4,5).

The prevalence of Hepatitis B and C remains high in Pakistan, with poor screening practices further increasing the risk of TTIs. Encouraging voluntary blood donation from low-risk groups could decrease the transmission rates of these infections, which were previously exacerbated by inadequate screening and substandard practices (6). With over half the population consisting of young adults, there is a critical need to engage youth in voluntary blood donation efforts. Doing so will not only decrease the spread of infectious diseases but also help alleviate the economic burden associated with treating TTIs in Pakistan.

POLICY AND REGULATORY CHALLENGES

Recent structural changes in Pakistan's government, including the dissolution of the Ministry of Health at the federal level, raise concerns about the continuity of policy oversight and future adaptations. Without regulatory mechanisms to enforce and update safety guidelines, there is a risk that the advancements achieved in blood transfusion practices over the past decade could be compromised, with potential consequences for patient safety and public health (7).

CONCLUSION

In conclusion, Pakistan's blood transfusion sector has made significant progress in establishing safer and more reliable blood banking practices. However, ongoing efforts are needed to address the challenges of maintaining a safe blood supply, increasing voluntary blood donation rates, and ensuring strong regulatory support for BT practices across the country.

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