



LETTER TO THE EDITOR

Strengthening blood donation practices in low- and middle-income nations

Düşük ve orta gelirli ülkelerde kan bağıışı uygulamalarının güçlendirilmesi

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To the Editor,

On a global scale, there is a pressing and continuous need for a diverse range of blood and its products to effectively respond to health challenges¹. Blood donation is a crucial initiative that can save human lives and improve health standards, but the ground reality is that most of the patients who are in need of transfusion fail to access safe blood timely¹. Donated blood is essential for a wide range of medical services, like surgeries, trauma care, management of medical conditions, etc.². The available estimates suggest that even though 84% of the global population resides in low- and middle-income nations, only 60% of the overall blood donations are collected in these nations². These are alarming estimates considering the fact that these nations have many other competing health priorities and weak healthcare delivery systems in place^{1,3}.

As per the global mandate, the provision of safe and adequate blood has been acknowledged as an integral part of every nation's healthcare policy². Nevertheless, as evident by the global scenario, we are falling short in the majority of healthcare facilities across low- and middle-income nations². Owing to the shortage of blood supplies, there is a significant delay in surgeries and other medical procedures (viz. treatment of hematological disorders), which significantly influences the overall effectiveness of the health sector^{2,4}. Further, there is a compromised response during emergencies arising because of accidents, disasters, or other medical complications.

Owing to the shortage of blood supplies, there is a significant impact on maternal health, management of organ transplantation, and rising trends of mortality rates. In the extended run, it accounts for jeopardizing the long-term treatment plan and deterioration in the overall quality of healthcare delivery^{2,4}.

Considering the present scenario, there is an immense need to plan and implement specific measures that can improve blood donation practices^{2,7-11}. The first strategy is to organize massive awareness campaigns using different media, including social media and print, and these campaigns must give emphasis that blood donation can lives and improve community health^{5,6}. The awareness activities should be supplemented with outreach programs in community settings in collaboration with local leaders or famous personalities⁷. In addition, we can advocate for the establishment of mobile blood donation units that are well-equipped with the necessary equipment to reach difficult areas^{8,9}. Public health authorities can organize blood donation drives after approaching different educational institutions and inculcate a sense of giving back to society¹. On a similar note, blood donation drives can also be organized in different offices / companies by promoting a sense of social responsibility².

In order to reduce the burden on public health authorities, non-governmental agencies can be roped in to mobilize resources, organize events, and actively engage with the members of the community¹⁰. With

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the intention to keep up the pace with the recent times, wherein, technology has entered into every aspect of human lives, we can develop user-friendly

online platforms to streamline the activities of donor registration, scheduling of appointments, and timely dissemination of information^{8,11}.

Table 1. Identified challenges and potential solutions

Identified challenges	Potential solutions
Limited infrastructure	<ul style="list-style-type: none"> • Establish and upgrade existing blood banks and donation centers, particularly in low-resource settings • Collaborate with funding agencies or non-governmental agencies to secure funding for infrastructure development • Employ mobile blood donation units to reach remote areas
Limited government funding	<ul style="list-style-type: none"> • Evidence pertaining to scarcity of blood donation can be generated and shared with policymakers with an emphasis to promote blood donation programs • Develop partnership with international agencies for funding • Adopt cost-effective strategies to optimize the utilization of available funds/resources
Financial barriers	<ul style="list-style-type: none"> • In resource constraint settings, incentives can be offered to healthcare professionals who work in the field of blood donation • Partner with philanthropic organizations to organize blood donation drives • Donors can be given free health check-ups as a token of respect and it will also address their health concerns
Cultural beliefs and misconceptions	<ul style="list-style-type: none"> • Awareness campaigns must sensitize community on existing myths and misconceptions • Rope in community leaders to promote cultural acceptance of blood donation
Lack of education	<ul style="list-style-type: none"> • Create awareness about the benefits and processes of blood donation • At school level, integrate blood donation education into curriculum to create awareness • Utilize the potential of social media to create awareness and disseminate information
Logistic constraints	<ul style="list-style-type: none"> • Employ technology for real-time tracking of blood supplies and demand • Develop online platforms to make the process of registration and appointment user-friendly • Develop efficient transportation systems to ensure timely distribution of blood and its products
Inadequate facilities	<ul style="list-style-type: none"> • Organize sensitization programs to make people aware of well-equipped blood banks • Establish public-private partnerships to build and maintain blood donation facilities • Provide incentives to staff who are working in rural and remote areas
High prevalence of transmissible diseases	<ul style="list-style-type: none"> • Strictly adhere to screening and testing processes to ensure donor safety • Conduct awareness campaigns to educate the general population on safety measures that are being followed at blood banks • Implement prevention and control measures to minimize the incidence of diseases that are bloodborne
Limited access to technology	<ul style="list-style-type: none"> • Organize training program for staff to efficiently and effectively use technology • Invest in technology infrastructure for blood typing, screening, and processing • Liaise with technical agencies for innovative solutions tailored to low-resource settings
Insufficient training	<ul style="list-style-type: none"> • Conduct training programs for health professionals involved in blood donation • Organize periodic refresher training sessions to update knowledge and skills
Lack of research and development	<ul style="list-style-type: none"> • Allocate funds for research and development in blood donation technology • Establish grants and incentives to encourage innovation • Partner with external agencies or institutions and jointly conduct research and development activities

Even though blood donation has been considered a voluntary process, we can provide some kind of recognition (viz. certificate of appreciation) to motivate blood donors to be a part of the drive even in the future¹². Amid all these activities, we should not undermine the significance of capacity-building programs and must organize training programs for professionals involved in the process of blood collection, processing, and distribution². All the above-mentioned initiatives cannot be materialized or deliver sustained results unless there is constant support from the government and policymakers (viz. budget allocation, infrastructure development, etc.) in all the planned activities¹⁻³.

The organization of blood donation drives in low- and middle-income nations might encounter a wide range of challenges pertaining to the availability of limited infrastructure for efficient blood collection, storage, and distribution^{2,13-15}. At the same time, there are many places in remote areas, which even lack facilities for blood donation and thus neither they can donate nor they can timely receive blood in emergencies¹³. In continuation, there can be a lack of logistics support or transport constraints, which are bound to impact the efficiency of the overall healthcare system¹⁴. Further, limited government funding due to competing health priorities or the presence of financial constraints among people which prevent them from being a part of blood donation activities could also prove to be a major challenge^{2,13,14}.

Moreover, a lack of awareness among the masses or the presence of deep-rooted cultural myths and misconceptions about blood donation can account for hesitancy and resistance among some defined population groups^{15,16}. In addition, high rates of transmissible diseases in some of the low- and middle-income nations can force authorities to enforce strict donor eligibility criteria that will further minimize the overall pool of potential donors². Inadequate training for health professionals and volunteers who participate in blood donation can jeopardize the quality and safety of donated blood^{2,13}. Finally, low investment in the domain of research and development activities that are aimed toward augmenting blood donation processes can significantly impact the advancement of efficient blood donation systems^{13,17}. There is an immense need to identify all these challenges and then plan and implement a multi-pronged approach, wherein different stakeholders are involved and everyone

works cumulatively in the direction of improving blood donation practices^{2,11,12,15,17}.

In conclusion, blood donation has universal importance as it can save the lives of people who are in need. This calls for the indispensable need to identify the existing challenges and address them through a multifaceted approach, which essentially includes the involvement of external agencies and active community engagement for sustainable improvements.

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