

Voluntary Blood Donation: Debunking Common Myths and Misconceptions, Addressing Barriers and Encouraging Informed Participation

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ABSTRACT

Background: Blood donation and transfusion are one of the main components of healthcare globally, yet the prevalence of voluntary, non-remunerated blood donation in Nigeria remains critically low, where only 10% to 27% of the annual blood requirement is met through voluntary non-remunerated donation.

Objective: To debunk the common myths and misconceptions about voluntary blood donation, to promote awareness, provide understanding of voluntary blood donation, identify the barriers and propose strategies to encourage informed participation.

Method: A thorough review of existing literatures was conducted examining long time believed traditions, myths and misconceptions surrounding ages, pains, infection transmission, gender limitations, religion and spiritual beliefs.

Results: The comprehensive review identified some key factors as origins and endorsements for these misinformation and false beliefs to include lack of awareness, fear, inadequate incentives, negative attitudes of staff continue to discourage potential donors, high donor deferral rates, limited accessibility to donation centers, religion and spiritual believes leading to only 10% to 27% or less of the total blood supply as voluntary, non-remunerated blood donation in Nigeria

Conclusion: Observing that these myths, misconceptions and barriers operate at individual, community and systemic levels, it require diverse interventions to debunking, addressing these barriers and encouraging informed participation in voluntary blood donation Nigeria, these interventions include donor education from a basic level in the schooling system, heightened social media awareness campaigns, mobile blood donation drives, staff training, iron supplementation programs, government subsidies on donation materials, provision of refreshments after donation, active engagement of community and religious leaders. Addressing these barriers comprehensively, is essential to building a sustainable voluntary donor pool, ensuring safe and adequate blood supply in Nigeria.

Key words; Voluntary blood donation, Myths, Misconceptions,

INTRODUCTION

Blood is a vital component of the human body that is essential for survival. It plays a crucial role in the treatment of various medical conditions e.g anemia, cancers, management of complications arising from trauma, surgical procedures and pregnancy. To this day, blood cannot be synthetically manufactured or produced in the laboratory. Therefore, its donation is an essential and indispensable component of modern healthcare. Every outcome from surviving a high risk surgery to managing postpartum hemorrhage and sickle cell disease relies entirely on human blood. Blood donation remains a core component in global healthcare with over 100 million blood units donated per annum (Myers and Collins, 2024) .Blood transfusion is a vital process that serves as a lifeline providing sustenance, saving lives and improving outcomes. Blood donation is crucial for patients

undergoing surgery, coping with trauma, managing chronic illnesses, and battling cancers. Additionally, donating blood serves as therapeutic phlebotomy for individuals with hereditary hemochromatosis, polycythemia vera and other rare conditions (Myers and Collins, 2024). Blood donation can be performed in several ways: whole blood donation; where the entire volume is collected, platelet donation; focusing on platelets and plasma donation; collecting the liquid component of blood. Unlike family replacement and paid donation systems, the voluntary, non-remunerated donation stands out as a practice rooted in altruism, emphasizing community support and shared responsibility for safeguarding public health (Gasparovic Babic *et al.*, 2024). Studies have posited that voluntary blood donors, particularly those who donate regularly, serve as the first line of defense against transfusion-transmissible infection (WHO and IFRC, 2010). The World Health Organization (WHO) states that a minimum of 1% is the donation requirement by a country's population to meet its basic needs (WHO, 2010). While this target is nearly achieved in most developed countries, it continues to pose a significant challenge in developing countries (WHO, 2010). Voluntary non-remunerated blood donation accounts for only 10% of the total collection in some countries, raising concerns about the safety of blood units collected from commercial and family replacement donors. In Nigeria, with a population of over 200 million, only 500,000 pints of blood are donated voluntarily each year, leaving a shortfall of about 73.3% of the country's annual blood need (WHO, 2023). Nigeria and some other countries of the world continue to experience this shortfall due to prevalent myths, misconceptions and barriers such as fear, lack of accessibility to donation centers, and religious beliefs that continue to prevail among communities, alongside a basic lack of awareness of how, where and why to donate, including the widespread belief that blood is bought and sold rather than freely given.

The aim of this seminar is to promote awareness and provide understanding of voluntary blood donation by debunking common myths and misconceptions, barriers and fostering informed participation. To achieve this aim, it is essential to first understand the landscape of blood donation, beginning with the categories of donors that exist within the healthcare system.

Voluntary Non-Remunerated Blood Donors

A voluntary non-remunerated blood donor gives blood, plasma or cellular components of his or her own free will and receives no payment, either in the form of cash or in kind which could be considered a substitute for money. Blood donors may be given time off work other than that reasonably needed for the donation and travel. Small tokens, refreshments and reimbursements of direct travel costs are compatible with voluntary, non-remunerated donations. Voluntary blood donors are considered the safest group of donors, as they are primarily motivated by altruism and a sense of social responsibility rather than external pressure from family, community health workers or financial gain. Because they donate willingly, they are more likely to provide honest information about their health and lifestyle, reducing the risk of transfusion-transmissible infections. In addition, regular voluntary donors are often well-informed about donation criteria and may self-defer when unfit to donate, thereby minimizing the collection of unsafe blood and reducing wastage (WHO and IFRC, 2010).

Family Replacement Blood Donors

Family replacement donors are those who give blood when it is required by a member of their own family or community. In most cases, the patient's relatives are requested by hospital staff to donate blood, but in some settings it is compulsory for every patient who requires transfusion to provide a specified number of replacement donors on emergency admission to hospital or before planned surgery. Although donors are not paid by the blood transfusion service or hospital, there may be a hidden paid donation system in which money or other forms of payment are actually provided by patients' families. Additionally, replacement donors are often unable to meet the overall blood requirements of a community as they typically donate only when blood is needed for a specific patient. In many cases, the blood donated may not adequately replace what is used in terms of quantity or compatibility. As a result, hospitals that rely heavily on replacement donors are rarely able to maintain sufficient stock of blood to meet the transfusion needs of all their patients' particularly in emergency situations or for regular transfusion. This limitation also makes it difficult to ensure a stable and consistent blood supply across healthcare facilities (WHO and IFRC, 2010).

Paid Commercial Donors

Paid or commercial donors give blood in return for payment or other benefits that satisfy a basic need or can be sold, converted into cash or transferred to another person. They often give blood regularly and may even have a contract with a blood bank to supply blood for an agreed fee. Alternatively, they may sell their blood to more than one blood bank or approach patients' families and try to sell their services by posing as family/replacement donors. The highest prevalence of transfusion-transmissible infections is generally found among paid or commercial donors. Paid blood donors pose significant risks to the safety of the blood supply, as the need to earn income may compromise honesty during the donor screening process. Such individuals may be unwilling to disclose information about their health or lifestyle that could make them unsuitable for donation. In addition, they are often in poor health or undernourished and may donate more frequently than recommended, which can have adverse effects on both the donor and the recipient. Paying people to give blood undermines the principle of voluntary non-remunerated blood donation. In settings where both paid and voluntary systems coexist, individuals who might otherwise donate voluntarily may choose to receive payment, thereby weakening voluntary blood donation programs (WHO and IFRC, 2010).

Donor Eligibility Criteria:

Donor eligibility criteria are specific requirements or conditions a potential donor must meet to qualify him /her for donation. It ensures safety of donor (so they are not harmed by donating) and recipient (so the blood is free from infections or risk). The criteria for donor selection vary from country to country; however, in general, blood donation is permitted for individuals who are in good health and free from transmissible infections (WHO, 2022). Having established the categories of blood donors, it is equally important to understand the criteria that determine who qualifies to donate safely. The following are some of the eligibility criteria for blood donors:

General Health Status and Donor Assessment

Donors should be in good health on the day of donation and be able to perform their routine daily activities. Information about minor illnesses, exposure to communicable diseases, travel to disease endemic areas, pregnancy and lactation and medical and surgical interventions should be elicited so as to determine suitability for blood donation or the need for deferral. Where necessary, additional medical information may be requested from the donor's healthcare provider (WHO, 2012)

Age

Blood donors are generally required to be between 18 and 65 years of age. However, in some countries, individuals aged 16–17 years may be permitted to donate blood provided they meet the necessary physical and hematological requirements and appropriate consent is obtained. Similarly, regular donors above the age of 65 may be accepted at the discretion of a qualified medical practitioner, although some countries set the upper age limit at 60 years (WHO, 2018).

Weight

Establishing a weight limit for blood donation is essential to safeguard donors against adverse outcomes, specifically anemia and vasovagal episodes. Low body weight and low blood volume are independent predictors of vasovagal reactions. Consequently, it is a standard clinical guideline that collected whole blood should not exceed 13% of the donor's total volume. This translates to a minimum requirement of 45 kg for a 350 mL ($\pm$ 10%) collection, or 50 kg for 450 mL ($\pm$ 10%). There are no defined upper weight limits for blood donation; however, gross obesity may be a reason for deferral if veins are inaccessible, or if the donor's weight exceeds the safe loading capacity of the blood collection bed or impairs his/her mobility or the capacity of staff to provide care in the event of an adverse reaction. The estimation of blood volume is more difficult in obese individuals as fat contains proportionately less blood than muscle. Hence, blood volume may be overestimated, resulting in an increased risk of an adverse reaction. (WHO, 2012)

Vital Signs

Pulse

A normal pulse rate of 60–100 per minute and a regular rhythm are indicators of good health; many Blood transfusion sciences recommend that these are examined prior to donation. The ability to detect significant abnormalities of pulse rate or rhythm depends on the skill and experience of staff. While pulse assessment is useful, its effectiveness in a blood donation setting should be considered in the context of overall donor evaluation

Body Temperature

Prospective donor who is febrile – defined as a core oral temperature more than 37.6°C is by definition unwell and should be deferred. Fever can indicate any number of medical conditions and infections, but is usually associated with other symptoms (WHO, 2012)

Blood Pressure

A normal blood pressure (systolic 120–129 mmHg, diastolic 80–89 mmHg) is generally regarded as an indicator of good health (WHO, 2012)

Occupation and high risk exposure

Certain occupations increase the risk of exposure to blood-borne infections, including healthcare workers, police, military personnel, and those working with animals. Donors in these categories should be questioned about possible exposure, such as needle stick injuries or contact with infected blood, and may be temporarily deferred for 6–12 +months based on incubation periods of relevant infections. Additionally, individuals with high-risk sexual behaviors are generally deferred to maintain the safety of the blood supply on high-risk sexual behaviors. Surveillance data indicate that certain sexual behaviors are associated with a higher risk of acquiring and transmitting infections such as HIV, HBV, and HCV). Blood transfusion services must identify and temporarily defer individuals whose sexual practices put them at increased risk of transfusion-transmissible infections. Deferral policies should be clear, simple, and supported by public education to ensure understanding and compliance among prospective donors (WHO, 2012).

Pregnancy and Menstruation

Maintaining iron balance is a critical safety consideration for female donors, as the average pregnancy requires an additional **350–500 mg** of iron. Consequently, donors must be deferred throughout the duration of pregnancy and for a sufficient postpartum period (or following abortion or miscarriage) and during lactation to allow for the recovery of iron stores. Menstruation is not a reason for deferral. However, women with regular excessive menstrual bleeding who are found to have low hemoglobin levels should be deferred and referred for medical assessment (WHO, 2012).

Hemoglobin Levels

The pre-donation estimation of hemoglobin (Hb) remains the gold standard for donor assessment. Hb levels and red cell indices are naturally influenced by age, gender, and ethnicity. While international guidelines typically recommend minimum thresholds of 12.5 g/dl for females and 13.5 g/dl for males, these are distinct from the WHO's clinical anemia definitions (12.0 g/dl and 13.0 g/dl, respectively), meaning that a donor may not be considered anemic by WHO standards but could still be temporarily deferred to ensure donor safety and prevent donation-induced anemia. Screening ensures that prospective donors are not anemic and helps protect regular donors from iron depletion caused by repeated donations. Hb and/or hematocrit can be measured using validated, rapid, and inexpensive methods. While these tests may not detect early iron deficiency, they are the most practical tool for assessing donor suitability at each donation. Donors who fall below the minimum thresholds should be deferred, referred for further investigation and encouraged to return once their hemoglobin levels have normalized (WHO, 2012).

Once a potential donor has been assessed and confirmed to meet the eligibility criteria, the actual donation process can then proceed through a series of structured steps.

Donor Registration, Screening, Counseling and Consent

The donor provides basic information such as name, age, contact details, and relevant medical history. This is followed by screening to assess the donor's eligibility, which includes evaluating health status and ensuring that the donor meets the required criteria for safe blood donation. The donor receives counseling before, during and after donation to ensure a clear understanding of the process. Informed consent is obtained, indicating the donor's willingness to participate without undue pressure or coercion. The donor should have full knowledge of the procedure before proceeding with blood donation.

Pre-donation counseling

Pre-donation counseling is part of the process of blood donor selection in which each individual's suitability to donate blood is carefully assessed against a set of donor selection criteria at time of each donation. It also provides donors with the opportunity to ask questions and understand the reasons for donor deferral.

Counseling during donation

Counseling during blood donation provides an opportunity to explain the venipuncture procedure, show appreciation to donors for their valuable contribution and enhance donor satisfaction with the donation experience and the BTS. Counseling during donation also has an impact on donor motivation and return for future donation.

Post-donation Counseling

Post donation Counseling enables the BTS to collect demographic and risk exposure information about TTI .TTI positive donors as part of its hem vigilance program. This information will be valuable in making future decisions about donor selection criteria and assessing the usefulness of questions in the donor questionnaire.

Donation

This step involves the collection of blood from the donor .Blood is collected using sterile, single-use equipment by a trained health professional, usually from a vein in the arm, in a safe and controlled environment. Donated blood is further processed into various blood products.

Importance of Voluntary blood donation.

Blood transfusion saves lives and improves health; however, many patients who require transfusion do not have timely access to safe blood. According to the World Health Organization, the safest blood donors are voluntary, non-remunerated donors from low-risk populations. Therefore, voluntary blood donation plays a crucial role in ensuring a steady and reliable supply of safe blood. It supports patients undergoing surgical procedures, managing Chronic illnesses, and recovering from traumatic injuries. Overall, it forms an integral part of the healthcare system worldwide by maintaining both the availability and safety of blood for medical use (Gasparovic Babic *et al.*, 2024).

It promotes community health

The World Health Organization asserts that voluntary blood donation is not only a means of maintaining health, it is an act of commitment concerning community health and social bonding (Gasparovic Babic *et al.* , 2024).

It supports emergency medical care and ongoing treatments

Voluntary blood donation supports medical treatment by providing blood for patients requiring immediate and continuous care. It aids in the management of casualties in emergencies such as natural disasters and multiple

casualty incidents, as well as patients who require constant medical attention. This includes individuals with rare blood types or chronic illnesses that necessitate regular transfusions. A steady blood supply also enables healthcare systems to respond promptly to treatment needs, highlighting the importance of continuous donor participation (Gasparovic Babic *et al.*, 2024).

Health benefits to the donor

Blood donation offers several health benefits to donors, including a potential reduction in excess iron levels which may lower the risk of heart disease and high blood pressure. Most adults carry about 3 to 4 grams of iron, and maintaining healthy levels is crucial for proper oxygen supply to organs and tissues. Donors also receive a free health checkup before donating, where vital signs such as heart rate, blood pressure, and respiratory rate are assessed. Screening for contagious diseases is also conducted, giving donors useful insight into their health status. Beyond physical benefits, regular donors often experience improved mental well-being, including reduced stress, fewer negative emotions, and a greater sense of belonging (Madormo, 2026)

Common myths and misconceptions about voluntary blood donation

Myths and misconceptions remain significant barriers to voluntary blood donation. Beliefs and false information, such as the idea that blood donation spreads infections or that certain individuals cannot donate, continue to discourage many people from donating blood. These misconceptions often contribute to the paucity of voluntary blood donation in many regions and countries (Tiwari *et al.*, 2025).

Blood donation takes too long and is very painful

Many people avoid donating blood because they believe it is stressful, time-consuming, and painful. However, the entire donation process takes about one hour, while the actual blood collection only lasts about 8–10 minutes (American Red Cross, 2022; Surjen, 2025). Blood donation is also not as painful as many people think, as donors usually feel only a slight pinch when the needle is inserted into the skin (Surjen, 2025)

Blood donation can transmit infections to donors

Studies across different regions show that fears of acquiring infections such as HIV and other diseases during the donation process remain a common misconception among both potential and actual donors (Olaiya *et al.*, 2004)

However, blood donation is a safe procedure which involves the use of sterile, single-use needles for every donor, which eliminates the risk of transmitting infections (Traumacare International Foundation, 2026).

Women cannot donate blood

It is a common misconception that women are the weaker sex and do not possess adequate blood volume to donate. This belief has had measurable consequences. In Nigeria, female donors accounted for only 1–4% of the donor population between 1997 and 2002, with women typically only coming forward to donate when a male donor was unavailable and a close relative's life was at stake (Olaiya *et al.*, 2004). However, global data shows that women account for 33% of blood donation worldwide (WHO, 2025), with some European countries reporting even higher rates; 46% in Spain, 50% in France and the Netherlands, and the majority of donors in the United Kingdom at 53% and Finland at 55%. Notably, in 15 out of 113 reporting countries, female donors still account for less than 10% of donations, suggesting that cultural myths continue to suppress female participation in certain regions (Bani and Giussani, 2010). Therefore, the basis for deferral or refusal should not be sex, but rather whether an individual meets the standard eligibility criteria for donation like hemoglobin levels, weight etc.

Donors with tattoos and piercing cannot donate blood

This is a misconception. Having a tattoo or piercing does not permanently disqualify an individual from donating blood. The American Red Cross confirms that in most states, a tattoo is acceptable if applied by a state-regulated

entity using sterile needles and non-reused ink, with only a 3-month wait required for unregulated states (American Red Cross, 2023). In Nigeria specifically, any person who recently had a tattoo or body piercing cannot donate for 6 months from the date of the procedure (Ahanwa & Ewuzie, 2025). These temporary deferral periods exist to ensure the donor's blood is free from any potential infections associated with the tattooing or piercing process, after which they are fully eligible to donate.

Blood donation can finish your blood

The body replaces the blood plasma within 24 hours. Red blood cells are reproduced by the bone marrow into the circulatory system within about three to four weeks, while the lost iron is replaced over approximately six to eight weeks (World Health Organization, 2014).

Donors are young people

Blood donors are generally expected to be between the ages of 18 and 65, which shows that donation is not limited to young people alone. In certain countries, teenagers aged 16 to 17 may also be eligible to donate, provided they meet the required physical and blood-related criteria and have the appropriate consent. Additionally, some countries allow regular donors above 65 to continue donating, subject to approval by a qualified physician, though the upper age limit varies by country, with some setting it at 60 (WHO, 2018).

Rare blood type, so my blood is not needed

Every blood type is essential to maintaining an adequate blood supply. O negative blood, found in only 7% of the population, is the universal blood type most commonly used in emergency transfusions when a patient's blood type is unknown. Due to its high demand, it is often the first to run out during shortages. Every donation contributes to saving lives, as no single blood type is more dispensable than another (American Red Cross, 2025).

Age Weakens Your Blood

Some adults felt that donating blood at an older age was inappropriate, with a few believing that older blood is too weak to be useful for transfusion (Nyambiya *et al.*, 2020). However there are no studies to prove that the lifespan of blood cells declines with age.

Donors are paid

A common misconception among many potential donors is that blood donation is a commercial transaction in which donors receive financial compensation. However, this is not the case. Section 53 of the Nigeria Health Act (NHA, 2014) explicitly prohibits blood donors from receiving any financial or material reward for their donation, with the exception of reasonable reimbursement of costs incurred. The buying and selling of blood or blood products is equally forbidden outside of approved health establishments. Any individual found in contravention of this provision is guilty of an offense and upon conviction faces a fine of ₦100,000, imprisonment of up to one year, or both (Oni *et al.*, 2026).

Barriers to Voluntary Blood Donation

Fear

Several barriers hinder willingness to donate blood, with fear being a predominant factor. Studies have defined how fear impacts blood donation at different levels, including fear of serious health consequences following blood draw, unpleasant donation experiences, anxiety, and adverse effects. Some donors feared that their blood might be sold or given to individuals other than their family members, while fears of painful needles and superstitions surrounding the use of donated blood further contributed to unwillingness to donate (Gondwe *et al.*, 2025). Physical harm and fear of HIV transmission have also been widely reported as significant deterrents to voluntary blood donation across several populations (Olaiya *et al.*, 2004). Addressing fear-based barriers

requires targeted educational interventions. Providing accurate information and using persuasive communication strategies to influence attitudes and beliefs can effectively reduce misconceptions surrounding blood donation. Familiarizing potential donors with the donation process can demystify the experience and alleviate associated fears, particularly among first-time donors. When individuals are well informed about what to expect, they are likely to feel more confident and prepared, increasing the likelihood of transitioning from non-donor to active donor status (Hristova *et al.*, 2025).

Lack of Awareness

Another significant barrier is the lack of knowledge and awareness surrounding blood donation. Many community members reported the absence of blood donation campaigns, posters, and information, education and communication (IEC) materials as contributing factors to low donation rates (Gondwe *et al.*, 2025). However, studies suggest that improving education about blood donation, including outreach programs and information on donation venues, would likely increase participation.

Spiritual Beliefs

Religious beliefs also serve as a significant barrier to blood donation. Some individuals hold the belief that donating blood is sinful and that donors risk eternal condemnation. This is particularly evident among Jehovah's Witnesses, who regard blood transfusions and donations as equivalent to consuming blood, an act they believe is prohibited by the Bible. As a result, participation in blood donation is seen as grounds for excommunication and the loss of eternal life, leading many members to refuse both donating and receiving blood transfusions despite it being a standard life-saving procedure. To address this barrier, community-based non-governmental organizations (NGOs) have been identified as valuable channels for engaging potential donors through education, recruitment and retention initiatives, creating a more inclusive and informed donor community (Ashipala and Joel, 2023).

High Donor Deferral Rates

High deferral rates remain a significant barrier to maintaining adequate blood supply, particularly in low-income countries like Nigeria where anemia, malaria endemicity, and inadequate nutrition contribute to frequent donor exclusion. Female donors are disproportionately affected, recording significantly higher temporary deferral rates due to sex-specific factors such as menstruation, pregnancy, and lactation. Additional contributors to deferral include high blood pressure and Hepatitis B seropositivity (Oyedeji *et al.*, 2025). To address this, investment in donor welfare initiatives such as counseling, nutritional support, and iron supplementation have been shown to reduce deferral rates and encourage repeat donation. The adoption of digital health record systems and collaborative efforts among government agencies, NGOs and private organizations would further enhance donor safety, retention and long term sustainability of the blood supply (Ikeani *et al.*, 2025).

Lack of Accessibility to donation centers

Lack of access to blood transfusions contributes to thousands of preventable deaths each year, with this burden falling disproportionately on populations in underfunded settings, where poverty and limited infrastructure restrict access to blood donation, storage, and transport. A significant obstacle to blood donation is the difficulty many individuals face in accessing donation centers and blood drives. Several participants noted that people's busy schedules prevent them from attending donation sessions, while others highlighted that a large portion of the general public are discouraged by the cost of transportation (Murtagh and Katulamu, 2021). This problem is particularly pronounced in rural areas of Nigeria, where rural participation in blood donation is significantly lower than in urban areas. While rural communities do have hospital facilities, these are predominantly set up as treatment centers rather than collection points, as proper blood donation requires specialized equipment such as screening tools, refrigeration, and trained personnel infrastructure that many rural hospitals lack the funding to maintain. To address this, mobile blood collection units have been introduced across many countries including Africa, equipped with the necessary tools to collect, screen, and store blood in remote areas, effectively breaking down geographical barriers and increasing blood donation in underserved communities (Obeagu and Alsadi, 2025).

Negative Attitudes of Medical Staffs

Poor staff attitudes represent a significant barrier to voluntary blood donation. Studies have reported that unprofessional conduct, long waiting times, and lack of punctuality create negative donation experiences that discourage both first-time and repeat donors (Chipeta *et al.*, 2025). To address this, improving operational efficiency through extended collection hours, mobile blood drives, shorter waiting periods, and supportive staff interactions can significantly enhance the donor experience and directly target inconvenience as a key deterrent. Additionally, psychophysiological strategies such as pre-hydration, applied muscle tension and fear screening can reduce adverse reactions and ensure a safer, more comfortable experience particularly for first-time donors (Alanzi *et al.*, 2026).

Inadequate Incentives

The absence of meaningful incentives remains a significant barrier to voluntary blood donation, with evidence suggesting that in many settings donors receive no form of recognition or benefit for their contribution (Gondwe *et al.*, 2025). Where incentive programs exist, poor administration of milestone awards further undermines their effectiveness (Chipeta *et al.*, 2025). Recognition programs such as certificates, badges of honor, and token incentives have demonstrated measurable impact on donor retention and loyalty, fostering a sense of belonging, pride, and social recognition among repeat donors (Ikeani *et al.*, 2025). Furthermore, health test bundles incorporating multiple biomarkers as incentives have been shown to raise return rates, reflecting a meaningful and credible benefit to donors. Behavioral strategies grounded in the Theory of Planned Behavior, including impact messaging, feedback, and fairness and reciprocity frameworks, have also been shown to improve re-donation rates and strengthen the relationship between donors and recipients (Alanzi *et al.*, 2026).

CONCLUSION

Voluntary blood donation in Nigeria is hindered by a complex interplay of myths, psychological, cultural, and systemic barriers. Addressing these challenges requires coordinated efforts across education, community engagement, and policy reform. Sustained commitment from all stakeholders, Nigeria can achieve a safe, adequate and voluntary blood supply that meets its healthcare needs with the implementation of the following policies; Donor counseling should be systematically incorporated into all stages of the blood donation process. Pre-donation, during, and post-donation counseling not only ensures informed consent but also helps retain donors, including those who are temporarily deferred (WHO, 2014); Stringent and structured donor recruitment strategies should be implemented, including the establishment of blood donation clubs in secondary schools and universities. Introducing voluntary blood donation education from basic school level through to adulthood would foster a culture of donation from an early age, building a sustainable long-term donor pool (Chipeta *et al.*, 2025); Awareness campaigns should be intensified through social media platforms and digital channels, leveraging the online behaviors of young adults who represent the most critical target demographic for new donor recruitment (Hristova *et al.*, 2025). Government subsidies on blood donation materials, including screening reagents, collection bags, and refrigeration equipment, are essential to address the systemic funding gaps that undermine the National Blood Transfusion Service. This would ensure a consistent and uninterrupted supply of safe blood across all geopolitical zones; Mobile blood collection units should be deployed to reach rural and remote populations where blood banks are scarce. These units, equipped with the necessary tools for blood collection, screening, and storage, have proven successful in improving blood availability in underserved areas by breaking down geographical barriers and bringing donation services directly to communities (Obeagu & Alsadi, 2025); Iron supplementation and nutritional support programs should be made available to potential donors, particularly women, to reduce hemoglobin-related deferrals and encourage repeat donation (Ikeani *et al.*, 2025) Refreshments should be provided to all donors following donation. This practice is not only compatible with WHO voluntary non-remunerated donation principles but also supports donor recovery and enhances the overall donation experience, encouraging repeat visits (WHO and IFRC, 2010); Healthcare staff working at donation centers should undergo regular training in professionalism, donor relations and patient centered care. Evidence suggests that staff competence and interpersonal conduct significantly influence donor satisfaction and return rates (Hristova *et al.*, 2025); Community and religious leaders should be actively engaged as advocates for

voluntary blood donation, particularly to address spiritual and cultural barriers that continue to discourage participation in many Nigerian communities (Ashipala and Joel, 2023).

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