

EDITOR'S NOTE

Which type of blood donor is best for Sub-Saharan Africa (SSA)?

Editor in Chief (B Adewuyi)

Introduction

In recent times there have been commentaries in the world transfusion literature concerning the apparent failure of blood services in SSA countries to provide adequate donor blood for use by their populations. The impression is being created that the SSA countries may be suffering lack in the midst of plenty. The plenty refers to the still strong family cohesion and the abundant family goodwill in the African culture, which translate to helping hands in the times of need. One such situation is the supposed willingness of family members to donate blood as family donors (FDs) for use by another family member who requires blood transfusion, or to replace blood, as family replacement donors (FRDs), which had been used on loan for a family member.

The Kumasi study

In Kumasi, Ghana, a study, by questionnaires, was conducted on a group of FDs¹ and it was concluded that "FDs are a legitimate and important source of donor blood" in SSA. From the study, the authors also concluded that FDs can easily be converted to repeat volunteer donors just for the asking. The reason why such conversion is not happening is presumed to be the compliance by blood services in SSA with the WHO recommendation that safe and adequate supply of donor blood should be based on voluntary non-remunerated blood donation, (VNRBD).² The authors seemed to suggest that the WHO recommendation is based on perhaps the wrong premise that donors other than VNRBD are less safe. They then cited some studies which show that the prevalence of TTI is not higher in FDs than in first-time volunteer donors³, implying that FDs are at least as safe as first-time volunteer donors. Other authors adduce similar reasons, plus, in their view, the misguided wholesale importation into SSA, of techniques applicable to developed countries, for the inadequacy of donor blood in SSA, in spite of heavy external donor funding, and call for a review of donor funding policy by the donor agencies.⁴

The dynamics of the FD system in SSA

While it feels good for African family culture to be applauded, we wish to point out some misconceptions about the FD system, and to suggest the true reasons for persistent donor blood shortages in SSA.

First we need to emphasise that FDs are not voluntary or altruistic. There is often an element of coercion, even when the FDs are genuine family members. In other FDs, as observed by other authors^{2,5} there are "hidden payments" in the system, due to relative poverty, and there is no intention by the FD to continue donating blood on voluntary basis. In fact our experience is that it is sometimes easier to recruit VNRBD from donation-naïve low-risk persons than for spurious FDs who have tasted monetary benefits from blood donation, to be turned into volunteers. Although there are some genuine FDs such as the ones studied in Kumasi, there are many spurious FDs and actual paid donors, (PDs) who disguise, with family connivance, as family members, and it is near impossible to distinguish one from another.

Secondly, there are studies, other than the ones cited by the Kumasi group, which show that TTI prevalence is higher in PDs and FDs, than in volunteer donors.^{6,7,8} FDs may therefore not be as safe as desirable, especially for SSA. This is because testing for TTI in donor blood in SSA is at a relatively lower technical level, far below the NAT standard in developed countries. In fact reliance is often placed on mere rapid kit testing,⁹ The question is, should we continue, by promoting the FD system, to worsen safety in favour of adequacy?

Thirdly, PDs and FDs are prepared to be dishonest not only about their family credential, but also about their lifestyle and health status, and their contact address, making donor assessment and selection unreliable, and traceability impossible. In any case a lot of transfusion is done as emergencies in SSA, the very scenario in which the FD system is not helpful. Galvanizing true family donors takes time, and once the family sees that emergency transfusion has been given, supposedly on loan, the motivation for replacement diminishes.

Lastly, we wish to state that the persistence of shortages of donor blood in SSA is not due to blind compliance with WHO recommendation on VNRBD. In fact the truth is that most countries are not able to stick to that recommendation. The true reason for blood shortages is that the economy of many SSA countries is too weak or the political will is too low to establish and sustain structures for the recruitment and retention of VNRBD. This is why those SSA countries that continue to receive external donor funding have fared better than others in the recruitment of VNRBD, and the adequacy of national blood supply. They have also been better able to phase out the FD system with the improvement in VNRD collections. Examples of such success stories include Uganda, Rwanda, Zambia, Malawi, and Namibia, and of course Zimbabwe and South Africa.

In conclusion, FD system in SSA should be regarded as a temporary second-best arrangement, that has to be tolerated until proper structures can be established for VNRBD, which remains the safest for SSA, as elsewhere. Glorification of the FD system will send wrong signals to our governments who are expected to take over the funding of blood services from external donor funders.

Recommendations

We urge the blood services in SSA to take it as their responsibility to provide safe blood for their patients rather than passing the burden to patients' families. We also urge national governments in SSA to revise their budget priorities in favour of blood safety and sufficiency. Finally, we appeal to our funding partners to be patient with us, and to please continue their assistance until we can stand on our own.

References

1. Asenso-Mensah K, Achina G, Appiah R, Owusu-Ofori S, Allain JP. Can family or replacement blood donors become regular volunteer donors. *Transfusion* 2013, Doi 10.1111trf.12216
2. WHO Expert Group Expert consensus statement on achieving self-sufficiency in safe blood and blood products based on voluntary non-remunerated blood donation (VNRBD). *Vox Sang* 2012. 103 :337-42
3. Allain JP, Sarkodie F, Asenso-Mensah K, Owusu-Ofori S, Relative safety of first-time volunteer and replacement donors in Ghana. *Transfusion* 2010; 50 :340-3
4. Ala F, Allain JP, Bates I, Boukef K, *et al* External financial aid to blood transfusion services in Sub-Saharan Africa; a need for reflection. *Plos Med* 2012; 9:e 1001:309
5. Bates I, Manyasi G, Medina LA, Reducing replacement donors in Sub-Saharan Africa challenges and affordability. *Transf Med* 2007; 17: 434-42
6. Kimani D, *et al* Blood donors in Kenya : a comparison of voluntary and family replacement donors based on population-based survey *Vox Sang* 2011; 100(2) : 212-18
7. Dapus D, Chi D, Bolorunduro S, Ifeoma O, Rufai O, Seroprevalence of Human Immunodeficiency Virus among blood donors in North-Central Nigeria *Afr. Sang* 2012; 15(1) 6-9
8. Youssef I, Messih A, Ismail MA, Saad AA, Azer MR, The degree of safety of family replacement donors versus voluntary non-remunerated donors in an Egyptian population: a comparative study. *Blood Transfusion DOI* 10.2450/2012.0115-12
9. Laperche S. Multinational assessment of blood-borne virus testing and transfusion safety on the African continent *Transfusion* 2013; 53(4): 816-26.