

Pattern of Blood Donors in Jos.

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SUMMARY

Background: Blood donors are categorized into voluntary, paid, family replacement, autologous, directed and therapeutic. Superior safety has long been identified with voluntary and autologous blood donations. The setting up of the centralized blood transfusion service centre is to source blood from prospective voluntary donors among other responsibilities. **AIM:** To determine the types of blood donors received at the blood transfusion service and make appropriate suggestion towards transfusion safety. **METHODS:** We reviewed blood donor records from April 2008 to March 2010 for the pattern of blood donors received at the north central blood transfusion service centre of the National blood Transfusion Service, Jos.

Results: A total of 7286 donors were recruited in the transfusion centre and in hospital blood banks. 78.2% were voluntary donors while 21.7% were family replacement donors all from hospital blood banks.

Conclusion: The high rate of voluntary blood donation recorded in the transfusion service is a departure from the culture of replacement donation experienced in hospital blood transfusion units. This portrays a ray of hope towards the attainment of 100% voluntary blood donation and its attendant safety. We recommend improved commitment of resources from government and donor agencies in this regard. State and local governments should establish transfusion units to collaborate with the National Blood Transfusion Service of Nigeria.

Key words: Voluntary, Replacement Donors, Transfusion Service.

Introduction

A blood donation occurs when a healthy person voluntarily has blood drawn for transfusion or preparation of medication by fractionation.¹ Blood donation is largely an act of charity but a few donors do so for penury or some forms of reward earnings in developed world.¹ In Nigeria, blood donation is stilled majorly for penury reason and family ties.² There is an increasing awareness about the relationship of diseases, particularly transfusion transmissible infections and blood donation and transfusion.³ Blood can be sourced from several groups of people including paid, family replacement, autologous and voluntary non remunerated donors. It is known that the safest units of blood come from voluntary non remunerated donors, gotten from continuous sensitization, awareness creation amongst communities and the organization of indoor and or outdoor blood donation drives.⁴ Many developed

countries of the world have since rely on voluntary blood donors to meet the transfusion requirement of their health services.^{5,6}

Blood donation to meet the transfusion needs of a family member is responsible for majority of blood donation in Nigeria. Family replacement donors accounted for 95.7% of blood donation found in a study in Kano, North Eastern Nigeria, with voluntary blood donors contributing 4.1% and autologous 0.021%.⁷ A similar report from Maiduguri showed a rise in commercial donors from 20% to 63%, autologous 1% to 9% and reduction of voluntary donors from 31% to 5% and family replacement donors declining from 49% to 23%.² A study in South Eastern Nigeria identified a height rate of commercial blood donation, with 82.2% of the donors being males as females are culturally prohibited from blood donation. It further found donors within the age bracket of 20 to 39

years accounting for 73.6% of all donations.⁸ An earlier report from Jos is not different, as only 4.5% blood donations were from females, with 81% of all the donors falling between 21 and 40 years.⁹ We undertook this retrospective study to evaluate the impact of the National Blood Transfusion Service of Nigeria, on blood sourcing and the implications on blood transfusion safety.

Methods

This retrospective study was carried out at the north central zonal centre of the National Blood Transfusion Service in Jos, North Central Nigeria. Records of all blood donors from April 2008 to March 2010 were reviewed for mode of donor recruitment and type of blood donation. Records included blood donors who donated to hospitals as family replacement and those who donated blood to the blood transfusion service. Blood donors of the transfusion service were categorized into voluntary (new voluntary donors, regular voluntary donors, lapsed donors) and autologous donors. Microsoft excel was applied for statistical analysis.

Results

Records of 7286 blood donors within the age range of 18 and 61 years were reviewed. There were 5260(72.20%) males and 2026(27.80%) females who donated blood between April 2008 and March 2010. Five thousand six hundred (78.20%) were voluntary non remunerated blood donors; of which, 3970(54.50%) were first time donors, 1635(22.40%) were call-up regular voluntary donors, 95(1.30%) were lapsed donors who donated twelve months or more after last donation. Family replacement donors constituted 1585(21.70%) of our donors whose blood were collected in hospitals and send to the blood transfusion service centre for testing. Table 1

Legend to table

Table 1 Distribution of blood donors according to type of donation.

Table 1

Type of blood donors	No	%
New voluntary donors	3970	54.50
Regular voluntary donors	1635	22.40
Lapsed voluntary donors	95	1.30
Autologous donors	1	0.01
Family replacement donors	1585	21.70
Total	7286	100.01

Discussion

This study identify compliance with the World Health Organization criteria on recruitment of only prospective donors between 18 and 65 years, as all the donors accepted at the NBTS centre were between 18 and 61 years. The lower limit is to take

account of the increased iron requirements of adolescence while the upper limit is to take care of increased in medical conditions which might make blood donation hazardous.^{10, 11} Males dominated blood donation in this study contributing 72.2%. The enrollment of female donors is higher (27.8%) in this study than reported in the North Eastern, South Eastern and North Central Nigeria.^{7, 8, 9} It is also higher than female blood donor enrollment in Ghana and Mali where 89.4% and 89.2% respectively are male donors.^{12,13} This might be due to mass awareness and sensitization talk on blood donation which could change cultural dogma that forbids females from blood donation.^{5,10}

This study revealed a high voluntary blood donor population in the centralized blood transfusion service against the dominant family replacement and paid donation observed in hospital based transfusion service. Total voluntary donors accounted for 78.2% of blood donation, a figure far above that reported in hospital blood banks in Nigeria.^{2,7,8} This large voluntary blood donor pool consists of new or first time (54.5%), regular or retained (22.4%) and lapsed (1.3%). This finding is similar to, but higher than the 63.5% voluntary blood donation reported earlier in Ghana, in both cases sensitizations were done in institutions where large pool of voluntary blood donors are expected.¹⁴ It has been reported that the rate of TTIs positive donation is lower among volunteer than replacement donors and much lower if the volunteers are regular donors.^{15,16} This suggest the need to intensify mass sensitizations in addition to one on one recruitment of voluntary blood donors as well as deliberate strategies toward donor retention. The advancement recorded in the communication industry via video and audio channels and telephone networks, offers a great opportunity for the attainment of 100% voluntary blood donation, increase retention and reduction in the rate of lapsed donors with ultimate improvement in transfusion safety.

Family replacement donation is still prominent (22.7%), in our transfusion service centre as found in other parts of the African continent.¹⁶ Family replacement blood units which came through the hospital based blood banks could include blood from paid donors. This calls for an effective collaboration between staff of hospital blood banks and the transfusion service at the conversion of all family replacement, whether recipient's relatives or paid, to voluntary non remunerated blood donors.

Conclusion

We conclude from our study that a greater proportion of our donors are from volunteers. There is the need to intensify efforts at achieving 100% voluntary blood donation to ensure transfusion safety in modern health care delivery. Resources should be committed for blood donor retention to build up the safest donor pool and eliminate family replacement donors. States and local governments should establish transfusion service units to collaborate with the National Blood Transfusion Service while health care providers should encourage conversion of family replace to voluntary blood donation and reject all forms of donor remuneration.

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