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Declining frequency of blood donation among elites in Maiduguri, Nigeria

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Summary

This study evaluated the causes of declining frequency of voluntary blood donations among educated elites as seen at the blood bank of University of Maiduguri Teaching Hospital, Maiduguri, Nigeria, over the last decade. The number of blood units received from educated elite donors during a 10-year period (1995-2004) at the blood bank were determined and expressed as percentages of total donations collected annually. The reasons for elite donor default were obtained through the use of questionnaires filled by defaulting donors. The proportion of educated elite donations steadily fell from 28% in 1995 to 7% in 2004. Reasons for defaulting from voluntary blood donations included fear for HIV screening in 86.7% of respondents, economic hardship/poor nourishment in 50.6% of respondents, changed address/logistic difficulties in 4.8% of respondents and ill health in 2.4% of respondents. Therefore, the steady fall in the proportion of elite donors over the years was mainly due to fear of HIV screening coupled with economic difficulties. Hence, there is the need to review our donor campaign strategy with respect to pre-donation counseling for HIV, initiate regular haematinics supplementation for donors and introduce sustainable mobile donor clinic services for distant donors. Further more, there is the need for a functional national blood transfusion service in Nigeria.

Keywords: *Elite, blood donor, blood bank, respodents, Maiduguri*

Résumé

Cette étude évaluait les causes de la fréquence de croissante des donneurs de sang volontiers parmi les élites dans la banque de sang du centre universitaire hospitalier de Maiduguri au Nigéria. Le nombre des unités de sang reçu des donneurs élites depuis 10 ans (1995-2004) était déterminé et exprimé en pourcentage des donneurs de sang annuel. La réduction des donneurs élites était obtenu par un questionnaire.La proportion des donneurs élites réduisait de 28% en 1995 à 7% en 2004. Les raisons de la réduction inclues la peur de faire le test de dépistage du VIH chez 86.7% des participants, la crise économique, la malnutrition chez 50.6% des participants, les difficultes logistiques et le changement d'emplacement chez 4.8% et cas de maladies chez 2.4%. Cette reduction dans la proportion des élites donneurs de sang était principalement du a la peur de faire le test de dépistage du VIH et de difficultes économiques. Il y a ce besoin de revoir nos stratégies de campagne aux donneurs de sang , de donner des conseils sur le VIH et l'initiation des donneurs aux hematiniques et l'introduction des services mobiles et régulier pour les donneurs distant. Il est aussi necessaire d'avoir un service national de transfusion sanguine fonctionnel au Nigéria.

Introduction

Blood transfusion therapy is an essential life saving procedure that has become an integral part of modern clinical practice all over the world. Therefore, it became necessary to promulgate a standard international code of conduct that will guide the donors as well as health workers with regards to the ethical and moral obligations upon which blood donation must be based. It is within this premise that the World Health Organization recommended that blood donation shall in all cases be absolutely voluntary and there should be no financial motivations either for the donor or the health workers, the motivation for voluntary donation must be purely altruistic towards helping the unknown recipient [1]. Despite these recommendations, voluntary blood donors are scarce in African nations, as a result of which other types of donors that are non-voluntary predominate on our donor panels. These non-voluntary donors include family replacement, directed and commercial donors [2]. A person who donates blood in replacement of that which has been given to his or her relative is referred to as family replacement donor, and in such cases the donated blood is placed in the general blood bank pool and the donor does not know the identity of the recipients [2]. But when an individual donates blood for the purpose of transfusing a defined recipient known to the donor, such donations are referred to as directed donations [3,4]. Individuals who give blood in return for payment in one form or the other are referred to as commercial blood donors [2].

Voluntary donation remains the only completely and truly ethical modality of homologous blood donation in which the motivation is purely altruistic [1]. In the developed countries of Europe and North America, the adequacy

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and safety of blood and blood products is the responsibility of properly funded and managed blood transfusion centres [1]. In Nigeria and many other African nations, voluntary donors are relatively scarce, a situation that is largely attributable to certain superstitious beliefs and general misconceptions relating to blood transfusion and donation [5]. In Nigeria, blood scarcity is further compounded by the lack of a functional national blood transfusion service, hence individual hospital blood banks are charged with the overwhelming and daunting responsibility of donor recruitment and screening as well as production and storage of blood and blood products [5]. Consequently, most Nigerian blood banks operate on inadequate blood bank reserve with precarious donor panel and persistent scarcity of blood and blood products [5]. It is within this bleak background that The Safe Blood for Africa Foundation was set up to ameliorate the prevailing situation in sub-Saharan Africa including Nigeria [6]. The Foundation has already set up a blood centre in Abuja, which will augment the efforts of our fledgling national blood transfusion service by centralizing the collection and testing of blood into an organized service that will provide all of the hospitals within the region with safe blood and blood products [6]. It is hoped that the Abuja project will form the nucleus around which similar blood centres will be developed in other geopolitical zones of the Nigeria and other African nations [6].

In our blood bank at the University of Maiduguri Teaching Hospital (UMTH) we have in recent years noted a progressive reduction in the number of our educated elite donors, a situation that jeopardizes the strength of our voluntary donor panel. In this paper we evaluated the causes of the downward trend in the frequency of elite donations as seen at the blood bank of UMTH, Maiduguri over the past 10 years.

Materials and methods

A 10-year retrospective study of the UMTH blood bank donor records was conducted for the period 1995 to 2004. For each year, the number of blood donations given by educated elite donors was determined and expressed as a percentage of the total number of blood donations. The educated elites were identified by their educational status as documented in their donation record cards at the blood bank. For the purposes of this study, the educated elite donors were taken as donors who completed post-secondary education including diploma, higher diploma or degree courses, and who may be pursuing private, military, para-military, national youth service or public civil service; undergraduate students who were pursuing courses of study in the polytechnics and universities at the time of donation were also considered as educated elite donors in this study. All of the educated elite donors studied in this report were further assessed on the social scale based their occupations as described by Logan and Lambert thus: Class I [Professionals], Class II [Intermediates], Class III [Skilled workers], Class IV [Partly skilled workers] and Class V [Unskilled workers] [7].

At the end of the year 2004, 100 randomly selected elite donors who had defaulted from donation for at least 1 year were sent structured questionnaires, which they were requested to anonymously fill and return to our blood bank. The 100 donors were selected using random number table based on simple random sampling method as described by Singha [8]. The questionnaire, attached as appendix 1, contained various possible reasons for defaulting to voluntarily donate blood. The results obtained from the questionnaire were then analysed.

Results

Out of the 100 donors who received the questionnaires (Appendix 1), only 83 responded. The respondents were aged 24-56 years and were all males. Out of the 83 respondents 28 (33.7%) were post-secondary students, 42 (50.6%) were civil servants and 13 (15.7%) were military and para-military servicemen. Based on the social scale, 30 (36.1%) and 53 (63.9%) respondents belonged to social classes I and II respectively.

The total number of donations and proportion of educated elite donations were 2025 and 28%, 2050 and 26%, 2051 and 25%, 2040 and 25%, 2120 and 24%, 2150 and 20%, 2155 and 19%, 2162 and 18%, 2181 and 13%, 2202 and 7% for the years 1995 to 2004 respectively as shown on Table 1 and graphically on figure 1. The proportion of elite donations dropped from 28% in 1995 to 7% in 2004, which translated to annual frequency of default of 2.3% per year among elite donors during the period of study.

Table 1: Proportions of elite blood donors, UMTH, 1995-2004.

Years	Total No. of donations	No. of Elite donors	Proportions of elite donors (%)
1995	2025	567	28
1996	2050	533	26
1997	2051	512	25
1998	2040	510	25
1999	2120	508	24
2000	2150	430	20
2001	2155	409	19
2002	2162	389	18
2003	2181	283	13
2004	2202	154	7

Reasons for defaulting from voluntary blood donations (Table 2) include fear of HIV screening cited by 72 (86.7%) respondents, economic hardship/poor nourishment cited by 42 (50.6%) respondents, changed address/logistic difficulties cited by 4 (4.8%) of respondents and ill health cited by 2 (2.4%) respondents

Fig. 1: Proportions of elite blood donors, UMTH, Maiduguri, 1995-2004

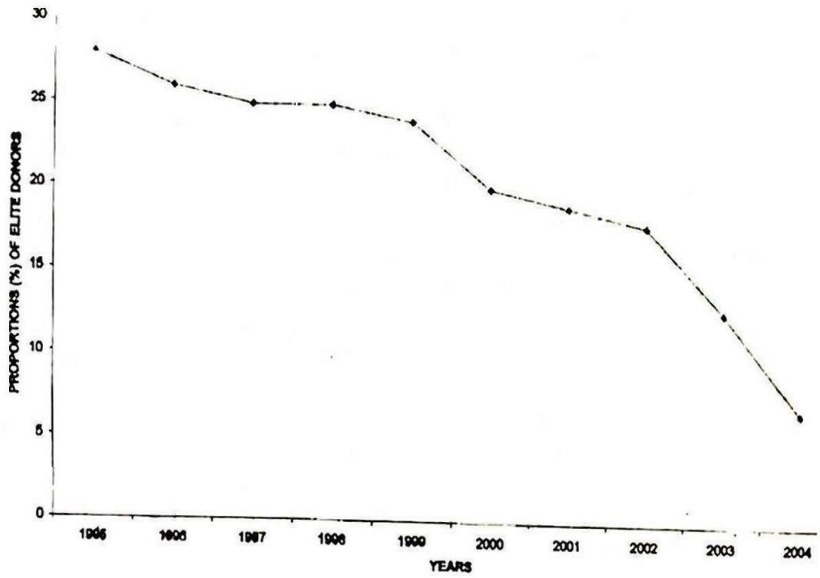

Table 2: Reasons for default in voluntary blood donation among 83 donors

Reasons for donor default	No. of respondents (%)
Fear of HIV screening	72 (86.7)
Economic hardship/ Poor nourishment	42 (50.6)
Changed address/ Logistic difficulties	4 (4.8)
Ill health	2 (2.4)

Discussion

All of our respondents in this report were males because female donors are relatively rare in our environment, a situation that arose as a result of a general misconception in the society that women are not eligible to donate blood [9]. Therefore, there is the need for an enlightenment campaign to dispel this misconception [9]. This study revealed that the proportion of blood donations made by the elite donors showed a steady fall from 28% to 7% during the period 1995-2004.This unhealthy trend cannot be due to superstitions, ignorance or lack of insight in to the need for blood donation in view of the high educational status of the elite donors. However, our respondents have forwarded a number of reasons. Apart from ill health cited by 2.4% of respondents, all other reasons can be partly or completely resolved by the blood bank. The fear of HIV screening, which was the dominant reason for defaulting from blood donation, was cited by up to 86.7% of defaulting elite donors. This fear was interpreted to emanate from increasing level of awareness of transfusion-associated infections and the fear of being tested for the markers of these infections in general and HIV in particular. In Nigeria, there is still a strong stigma associated with the diagnosis of HIV infection [10]. It is therefore understandable that educated elite blood donors may have deep seated fear of being tested for HIV antibodies and the psychological trauma and social stigma that may follow any positive results. There is therefore the need to modify the quality of donor counselling and campaign directed at donors. Such a campaign should be strategically administered in a way that it will effectively motivate the elite donors without scaring them away. Further more, every effort must be made to regain the confidence of the elite donors by ensuring absolute confidentiality with respect to screening test results. Another important reason that militates against blood donation was economic hardship associated with poor nutrition, which was cited by up to 50.6% of the defaulting elite donors. This is consistent with the deteriorating economic situation of the nation and the hardship brought about by economic structural adjustment programme embarked by the government since the mid 1980s [11]. High levels of inflation, unemployment and currency devaluation have since then characterised the national economy with resultant inability to afford basic requirements such as balanced diet [11]. Although individual blood banks cannot turn around the national economy, the nutritional status of blood donors can be improved by free supply of haematinics and nutritious beverages to donors at the end of every donation; in this way we may be able to regain many defaulting donors. Changes in address associated with logistic difficulties in reaching the blood bank was cited by 4.8% of respondent

donors as a reason for defaulting from blood donation. This problem can be easily resolved by using mobile blood donation vehicle that can be used to collect donations from distant designated mobile donor clinics. Unfortunately, mobile donor clinic services are virtually absent in Nigeria as a result of the lack of a functional national transfusion service in the country [12].

It is essential that every Nigerian blood bank makes effort to regain any lost educated elite donors, otherwise a donor vacuum will be created that will readily be filled by commercial donors. This is important because the elite donors make up the vast majority of our voluntary donors who are more likely to be free of transfusion transmissible infections and are also more likely to respond to appeal for blood in emergencies than commercial donors [2,13,14]. The level of education among the elite donors makes them aware of high risk behaviours that should be avoided and would continue to avoid such behaviours in order to remain free from HIV infection [2,13,14]. Therefore, every effort must be made to retain the elite donors so as to strengthen our voluntary donor base thereby discouraging commercial donors who are largely uneducated and derived from low social class and are often involved in high risk social activities for acquiring HIV infection such as patronage of prostitutes and drug abuse [2]. However, intensive efforts should be made by individual blood banks to educate non-elite commercial donors with respect to high-risk behaviours for HIV infection and eventually encourage them to become voluntary and safer donors. This can be achieved through public announcements in local languages in the markets and other public places and radio jingles coupled with regular counselling and nutritional and haematenic supplementations during donor sessions. The overall effect of encouraging voluntary donations and discouraging commercial donations will translate into greater safety of our blood and blood products with respect to transfusion associated infections in general and HIV in particular [12].

Conclusion

There was a steady fall in the proportion of elite donors over the years, which was mainly as a result of fear of HIV screening coupled with economic difficulties. There is therefore the need to review our donor campaign strategy with respect to pre-donation counselling for HIV, initiate regular haematinics supplementation for donors and introduce sustainable mobile donor clinic services for distant donors. The need for a functional national blood transfusion service for Nigeria cannot be over-emphasized.

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Appendix 1: Structured Questionnaire

Dear Donor.

Kindly fill in the following questionnaire and return to the blood bank, University of Maiduguri Teaching Hospital. The data will be used to determine the causes of donor default with a view to remedying it. Your cooperation is highly appreciated. This is completely confidential, do not write your name or address please. Thank you for agreeing to participate in this study.

AGE……..

SEX……

OCCUPATION OR SCHOOL, IF STUDENT……..

REASON (S) FOR DEFAULTING TO DONATE (you may tick **one or more** reasons as listed below):

- ILL HEALTH
- ECONOMIC DIFFICULTIES/ POOR NOURISHMENT
- FEAR OF HIV SCREENING
- CHANGED ADDRESS/LOGISTIC DIFFICULTIES
- PASSED AGE LIMIT (65 YEARS) FOR DONATION
- ANY OTHER REASON (S): specify……..