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Original Research Article.

Retrospective Assessment of Blood Donor Deferral Causes: An Observational Study

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ABSTRACT

Introduction: In the current system of blood collection, the occurrence of blood donor deferral has emerged as a painful and sad experience for the blood donor. The blood donor deferral is a negative procedure for the blood centre which is screening the donor. The present system of blood deferral leaves the donor-recruiting efforts of a blood centre on a standstill, thus more efforts are diverted towards new recruitments as donors. Also, majority of the donors develop negative feelings about themselves as well as the blood donation process. Such donors are less likely to donate blood donation in future. It is noteworthy that the criteria of such deferrals and their regularisation strongly influence the quality of blood supply in the population.

Materials and Methods: A study was conducted for a period of 12 months. In this study a total of 336 donors were selected from both in house (218 donors) and out house donation sites (118 donors). The minimum haemoglobin requirement was 12.5 gm/dl which was achieved by simple finger prick method and later confirmed by Hemocue Hb 201+ method for both males (187) and females (149). The threshold blood pressure of 100-170mm/hg systolic and 80-100mm/hg diastolic were accepted.

Results: Out of the total 336 donors, 139 donors (41.4%) were kept in deferred list due to various reasons. Maximum account was seen in the category with past history of anaemia amounting around 39% of the deferred patients (54). Second most prevalent reason of being deferred was the past history of hypertension seen in 24% of the deferred patients (33). Least number of patients was observed in the menstruation category i.e. 2.5% (4).

Conclusion: The criteria for whole blood donor selection and deferral in India are primarily based upon scientific facts borrowed from developed countries and secondly on traditional Indian methods. Hypertension and anaemia were found to be the most prevalent cause of donors being deferred.

Keywords: Anaemia, Criteria, Haemoglobin.

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INTRODUCTION

In the current system of blood collection, the occurrence of blood donor deferral has emerged as a painful and sad experience for the blood donor. The blood donor deferral is a negative procedure for the blood centre which is screening the donor. The present system of blood deferral leaves the donor-recruiting efforts of a blood centre on a standstill, thus more efforts are diverted towards new recruitments as donors. Also, majority of the donors develop negative feelings about themselves as well as the blood donation process.[1] Such donors are less likely to donate blood donation in future.[2]

It is noteworthy that the criteria of such deferrals and their regularisation strongly influence the quality of blood supply in the population. As a result, every blood centre should maintain a balance between the acceptable quality and desired quantity of blood. A few studies conducted in our country in recent past have stated various reasons for deferral of the blood donors. Therefore, a varying demographic profile was observed in various parts of the country.[3,4] In the present study an effort is made to analyse the occurrence deferral incidence and a prevalent pattern of deferral among blood donors in a blood centre. Agencies like the National AIDS Control Organization (NACO) and the State Blood Transfusion Councils (SBTCs) were found to be very casual when it comes to data collection on donor deferral. It was very sad to note that their formats for data collection were quantity oriented as infectious markers in donated blood were found to be positive. The nodal authorities have never made an effort to retain the quality donors. Whereas, constant efforts are made by the agencies for the entry of new donors without any adequate screening. Considering the rules present in our country for blood deferral "The Drugs and Cosmetic Act 1940" is the primary rule issued by Directorate General of Health Services, MOH and FW, Govt. of India.

MATERIALS AND METHODS

A study was for a period of 12 months. In this study a total of 336 donors were selected from both in house (218 donors) and out house donation sites (118 donors). The minimum haemoglobin requirement was 12.5 gm/dl which was achieved by simple finger prick method and later confirmed by Hemocue Hb 201+ method for both males (187) and females (149). The threshold blood pressure of 100-170mm/hg systolic and 80-100mm/hg diastolic were accepted. The donors were broadly classified under two categories. Independent donor category comprised of donors who were in no compulsion to donate blood and voluntarily donated blood for a cause (135 donors). Related donor category were the patients who had to donate a certain amount of blood so as to procure suitable group blood for the treatment of a dependant being treated in the hospital (201 donors). All first time and repeat donors were not separated, so as to ease the analysis, also all repeat cases were analysed under independent donor category. The entire donors were now classified under 4 groups on the basis of age. Group A (18-22 Years) 32 donors, group B (23-30 years) 152 donors, group C (31-50) 98 donors and group D (51-above) 54 donors. The donors were now analysed on the grounds of (a) history of blood donation within 3 months, (b) past history of infectious diseases of hepatitis and also jaundice, (c) history of any substance abuse, (d) history of any antibiotic use in past 3 weeks prior donation, (e) history of any bleeding disorder, (f) menstruation, (g) history of blood pressure and (h) history of anaemia. A deferred list was now obtained with help of this questionnaire. All the data was arranged in a tabulated form and analysed using SPSS software.

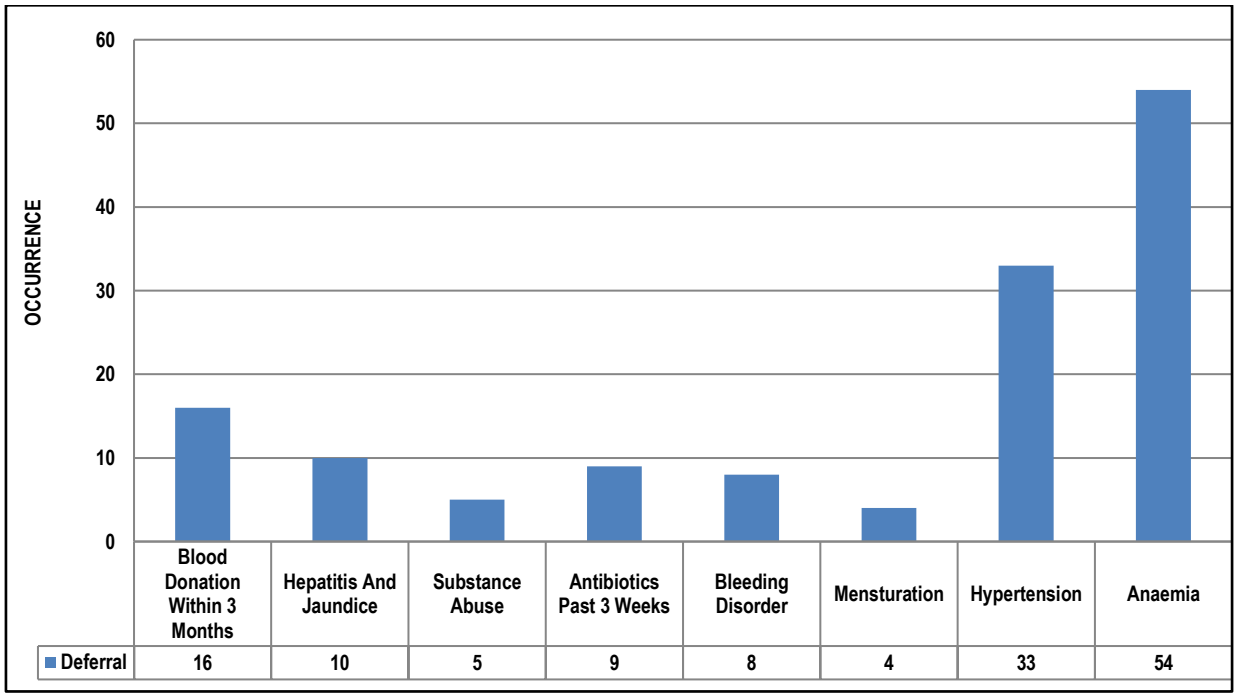
RESULTS

Out of the total 336 donors, 139 donors (41.4%) were kept in deferred list due to various reasons. (Table1) Maximum account was seen in the category with past history of anaemia amounting around 39% of the deferred patients [54]. Second most prevalent reason of being deferred was the past history of hypertension seen in 24% of the deferred patients [33]. Least number of patients was observed in the menstruation category i.e. 2.5% [4]. (Graph1) Considering the age group, group A had 9 deferred donors which were the least in any group. Group C had maximum number of deferred donors amounting about 57 out of 98. Group B had 48 and group D had 25 deferred donors respectively. Considering gender prevalence in terms of deferred donors 82 were female and 57 were male of a total 139 donors. (Graph 2)

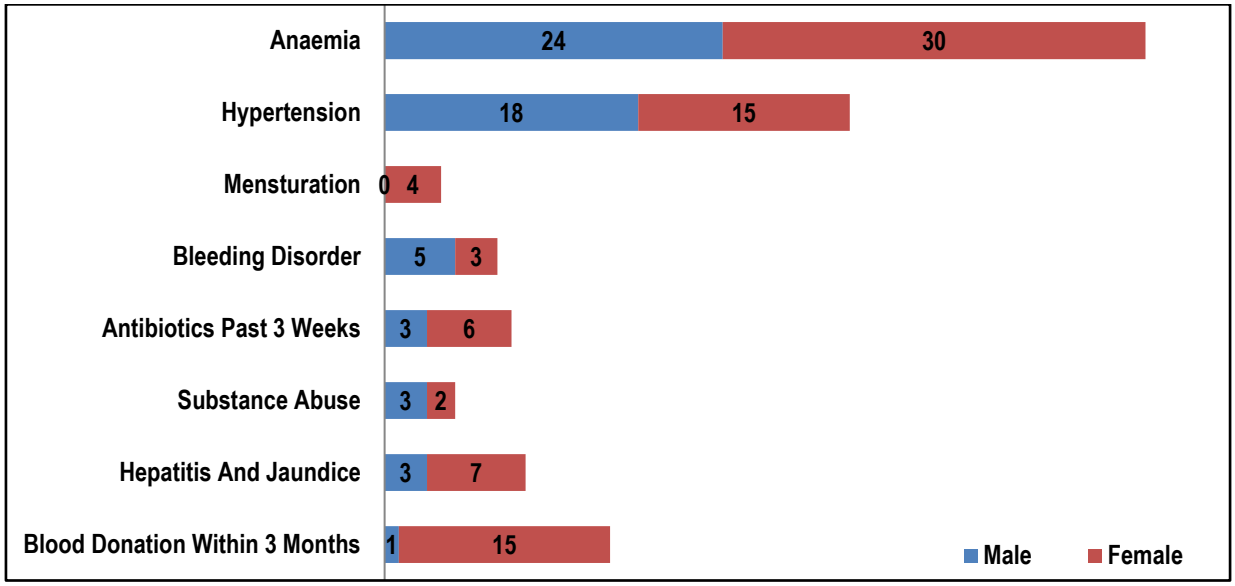
Table 1: Blood donor deferral reasons

Reason	Deferral	Male	Female
Blood Donation Within 3 Months	16	1	15
Hepatitis And Jaundice	10	3	7
Substance Abuse	5	3	2
Antibiotics Past 3 Weeks	9	3	6
Bleeding Disorder	8	5	3
Mensturation	4	0	4
Hypertension	33	18	15
Anaemia	54	24	30
Total	139	57	82

Graph 1: Blood donor deferral reasons



Graph 2: Deferral reasons as per genders



DISCUSSION

On the basis of a scientific method adopted by this study a specific deferral pattern was observed.[5] These methods adopted in the study are designed to protect both the blood donor and the recipient from any harm. This retrospective study was conducted to obtain the incidence of deferral in our whole blood donors and also to establish the deferral pattern with an aim to review our recruitment and retention strategy for future. Sound knowledge of deferral incidence and its causes in a particular region aids in deciding the magnitude and direction of blood donor recruitment methods. This knowledge also aids in computing the eligible and potential blood donor pool. The eligible donor pool may drastically vary from the potential donor pool which might be calculated on the criteria of age only; population between 18 and 65 years of age. Such fact was brought in to consideration by William Riley and colleagues. Their study showed that the conventional method of determining eligible donors, where age alone was the criteria overestimated eligible donor prevalence came up to roughly 59%.[6] As seen in most of other studies done in the past the most common reason of a donor being deferred in our whole blood donor population was low haemoglobin levels.[7-12] Around two third of these anaemic donors were females, thus the prevailing anaemia in general population among females was understood. Serious methods are required to address the issue of anaemia in potential blood donors at the regional, state, and national level. Serious efforts are required on the guidelines of National Anaemia Action Council (NAAC).[13] NAAC also revealed that health of blood donors can be improved by simply educating and motivating them to procure medical treatment for anaemia. An association can be established with programs currently running in India to uproot the problem of iron deficiency anaemia, for example Twelve by Twelve Initiative.[14] It aims at anaemia eradication during adolescence period. The second most common reason observed for deferral found in our study were abnormal blood pressure (hypertension). Except for the chances of low haemoglobin levels, studies are suggestive of different common reasons for deferral in blood donors, showing the variation in donor population and eligibility criteria used in different parts of the world, for example poor vein and underweight donors. Problem of Hypertension can significantly lead to deferral prospective blood donors as also seen in our study. A blood donor suffering from hypertension has to be dealt with care, as in these cases the sudden removal of 350 or 450 ml of blood may lead to cerebral catastrophe.[15] This can be a tragic situation for the donor as well as blood centre. Therefore, we need to find a "cut-off" after meticulous analysis in our population so that we do not lose any donor either ways. With increase in age a significant variation was observed, which leads to increasing deferral of prospective blood donors. On an overall scale hypertension was one of the most common reason for this increasing deferral in senior donors. Specialised recruitment strategies are required to be taken into account, as high deferral rate in elderly donors is observed especially when camps are planned at places with donors above 40 years of age.

CONCLUSION

The criteria for whole blood donor selection and deferral in India are primarily based upon scientific facts borrowed from developed countries and secondly on traditional Indian methods. Hypertension and anaemia were found to be the most prevalent cause of donors being deferred. Aged donors were more deferred as compared to the young age group and also females were more deferred than males. Constant efforts should be made to motivate donors for repetitive donations.

REFERENCES

1. Brecher ME. 15th Edition. Bethedsa: AABB press; 2005. AABB Technical Manual; p. 101.
2. Custer B, Chinn A, Hirschler NV, Busch MP, Murphy EL. The consequences of temporary deferral on future whole blood donation. Transfusion. 2007;47(8):1514–23.
3. Bahadur S, Jain S, Goel RK, Pahuja S, Jain M. Analysis of blood donor deferral characteristics in Delhi, India. Southeast Asian J Trop Med Public Health. 2009;40(5):1087–91.
4. Chaudhary RK, Gupta D, Gupta RK. Analysis of donor-deferral pattern in a voluntary blood donor population. Transfusion Med. 1995; 5(3):209–12.
5. Newman B. Blood donor suitability and allogenic whole blood donation. Transfusion Med Rev. 2001;15(3):234–44.

6. William R, Matthew S, McCullough J. The Unite States' potential blood donor pool: estimating the prevalence of donor-exclusion factors on the pool of potential donors. Transfusion. 2007;47(7):1180–88.
7. Custer B, Johnson ES, Sullivan SD, Hazlet TK, Ramsey SD, Hirschler NV, Murphy EL, Busch MP. Quantifying losses to the donated blood supply due to donor deferral and miscollection. Transfusion. 2004;44(10):1417–26. [PubMed]
8. Zou S, Musavi F, Notari EP, Rios JA, Trouern-Trend J, Fang CT. Donor deferral and resulting donor loss at the American Red Cross Blood Services, 2001 through 2006. Transfusion. 2008;48(12):2484–6. [PubMed]
9. Rabeya Y, Rapiaah M, Rosline H, Ahmed SA, Zaidah WA, Roshan TM. Blood pre-donation deferrals-a teaching hospital experience. Southeast Asian J Trop Med Public Health. 2008;39(3):571–4.
10. Kwa SB, Ong YW, Gaw YN. Blood donor rejects - a study of the causes and rejection rates. Singapore Medical Journal. 1966;7(1):61–8.
11. Madan N, Qadiri J, Akhtar F. Study of Blood Donor Profile at a Tertiary Care Teaching Hospital. Journal of the Academy of Hospital Administration. 2005;17(2):31–4.
12. Halperin D, Baetens J, Newman B. The effect of short-term, temporary deferral on future blood donation. Transfusion. 1998;38(2):181–3.
13. Young S, Fink A, Geiger S, Marbella A, Mast AE, Schellhase KG. Community blood donors' knowledge of anemia and design of a literacy-appropriate educational intervention. Transfusion. 2009;49(S):1–319.
14. Gretchen S, Mascarenhas M, Colin M. Global health risks: progress and challenges. Bulletin of the World Health Organization. 2009;87:646–646.
15. Mollison PL. 3rd Edition. Massachusetts: Blackwell Scientific Publications; 1961. Blood Transfusion in Clinical Medicine.

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