



RETROSPECTIVE EVALUATION OF PREDONATION AND POSTDONATION BLOOD DONAR DEFERRAL IN A TERTIARY CARE HOSPITAL IN RIMS, RANCHI

Pathology

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ABSTRACT

Background: It is important to identify the various causes for deferral in blood bank and increase the pool of voluntary donars without compromising on the quality of blood and safety of the recipients and donars. **Objectives:** To retrospectively carry out an analysis of donar deferral, in voluntary donars coming in RIMS, Ranchi. **Methods:** In this retrospective study conducted at blood bank of Rajendra Institute of Medical Science, Ranchi (India) including camps conducted between November 2019 to October 2020. Data were retrieved from the blood donar register which contained all the details of donars. **Result:** A total of 24,677 individuals presented for donation within the study period, 23400 were fit for donation and 1277 were deferred due to various reasons consisting of 65.5% (837/1277) temporary (predonation) and 34.5% (440/1277) permanent (postdonation) deferrals. The donar deferral rate was 5.1%. The most common reasons for temporary deferral were anemia 184/837 and alcohol abuse 175/837 and for permanent deferral was seropositivity for HCV 219/440. **Conclusion:** Deferrals can be decreased by awareness among voluntary donars about the cause and the duration of deferral so that proper measures can be taken to improve the cause and recruit them back.

KEYWORDS

Anemia, blood bank, donar deferral, seropositivity.

INTRODUCTION

An efficient blood transfusion service is vital part of tertiary care hospital without which good health care delivery is impossible. Many measures have been taken to reduce potential adverse reactions to blood donars and recipients. Stringent donar selection criteria is the most important measure.

Deferred donars are those who fails the eligibility criteria are disqualified from donating blood temporarily or permanently.[1] Permanent deferral implies that individuals are deferred on the basis of nonremovable factors such as positivity for any of the transfusion-transmitted infections (TTIs). On the other hand temporary deferral implies that individuals are deferred based on a removable, time bound factor such as low hemoglobin.

In India the criteria for blood donar selection and deferral are given by the Drugs and Cosmetic Act of 1940.[2] 5.5 – 6 million units are collected annually but the requirement of blood is 8 million units every year.[3] So to overcome this shortage, regular awareness programs and proper counselling of deferred donars are needed to increase the quality and quantity of blood in the blood banks.

This study evaluated the various causes for deferrals so that evidence based rational donar selection criteria can be recommended to decrease the number of future deferrals.

MATERIALS AND METHODS

This was a retrospective study conducted at blood bank of Rajendra Institute of Medical Science, Ranchi (India) including camps conducted between November 2019 to October 2020. Data were retrieved from the blood donar register which contained all the details of donars.

Selection criteria of blood donars and deferral laid down by the Director General Health Sciences, and the Drug and Cosmetic Act 1940 were used. Donars were made to fill the questionnaire which evaluated donars on the basis of Hb concentration of less than 12.5 g/dl, body weight <45 kg, age <18 or >60 years, recent blood donation (within the last 3 months), presence of skin tattoos, chronic illness such as hypertension. Data were categorized according to gender and causes of deferral and analyzed using Microsoft Excel.

Table 1: Demographic profile of donars

	Registered donars	Number of deferrals	Total selected donars	Percentage of deferrals
Male	22608	1175	21433	5.1
Female	2069	102	1967	4.9

RESULTS

A total of 24,677 individuals presented for donation within the study

period, 23400 were fit for donation and 1277 were deferred due to various reasons consisting of 837/24677 temporary (predonation) and 440/24677 permanent (postdonation) deferrals. Of the 1277 deferred donars, 1175 were males, and 102 were females. 18-35 years is the mean age group for maximum deferrals in both genders.[Table 1]

Among all the deferrals, 837 were temporary deferrals while 440 were permanent deferrals, indicating that a large pool of donars can become healthy donars in the future after proper counselling. Causes for temporary deferrals were low Hb concentration, recent blood donation, low body weight, presence of tattoos [Table 2]. The top reasons for temporary deferral among all donars were low haemoglobin and alcoholism.

Causes for permanent deferrals were HIV, HBV, HCV and syphilis. The predominant reason for permanent deferral among all donars is seropositivity for HCV.[Table3]

Table 2: Causes of temporary deferrals

Low haemoglobin	184
Alcohol abuse	175
Hypertension	90
Illness	55
Donation within 3 months	35
Dental extraction	7
Medication	54
Typhoid	37
Menstruation	24
Low BP	21
Low weight	64
Dengue	3
Malaria	9
Jaundice	10
Tattoo	18
Vein not visible	10
Less than 18yrs	9
Tetanus vaccine	8
Breast feeding	3
More than 60yrs	12
Rabies vaccine	9

Table 3: Causes of permanent deferral

HCV	219
HBsAg	173
HIV	34
Syphilis	14

DISCUSSION

In the study, the donors consisted of young adults with a majority of males. The most important step is donor selection for improving the safety and quality of blood and blood products for transfusion by collection from voluntary and low risk populations.[4]

This study was done to know the pattern of donor deferral, to measure the loss and to understand the health issues faced by the donor population as much attention have not been given for different deferral reasons.[5]

Intense donor selection, screening and counselling protocol is needed to safeguard the health of donors and to prevent the recipient from transfusion transmitted infections.

The study we conducted, of the total 24677 donors, 1277 were deferred. It was observed that 18-30 years with is the most common age group for donor deferral with males constituted 92.01% and females 7.9% of population observed. This is close to a study by Jethani et al where males constituted 68% and females 32% of the deferral donors.[6]

1277 were deferred due to various reasons mainly being temporarily deferred 65.5% and 34.5% being permanently deferred. The donor deferral rate noted in our study was 5.1%. Teneja, Rathod et al, Awasthi et al reported deferral rates of 17.1%, 3.55% and 10.4% respectively among blood donors from different parts of India.[7]

The attributable factors for these differences in deferral rates in other studies are donor selection criteria, epidemiology of anaemia and awareness among general populations.

CONCLUSION

Anemia and alcohol abuse constituted the major reasons for donor deferral in our donors. Deferrals can be decreased by awareness among voluntary donors about the cause and the duration of deferral so that proper measures can be taken to improve the cause and recruit them back.

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Conflicts of interest

There are no conflicts of interest

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