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Original Research Article

Donor Deferral Criteria-One Year Study at a Tertiary Care Hospital, GMERS Morbi

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Abstract:

Background: The Blood bank Services play a crucial role in the healthcare system, annually saving numerous lives worldwide. All blood banks encounter the issue of a scarcity of blood donors. Significant number of donors is disqualified from donating blood, either temporarily or permanently, due to various reasons that vary among different blood banks.

Materials and Methods: The study was carried out on 1900 donors who came for donation of blood.

Results: Total 104 donors were deferred out of 1900 registered donors due to different reasons; anaemia was the most common reason of deferral followed by low weight.

Conclusion: In the current study, the donor deferral rate was 5.47%. Understanding the reasons behind donor deferrals is crucial for blood donation centers to maintain a healthy and sustainable donor pool.

Keywords: Blood Donor Screening; Strategies; Donor Deferral.

Introduction

In a country, blood transfusion services might be organized in a centralized, regionalized, hospital-based, or composite manner.

Accurate assessment of the amount of donors needed is crucial for the establishment and improvement of blood transfusion programs. Donor requirement is essential for the development of blood transfusion services.

1. Maintaining an Adequate Supply: Blood transfusion services need a consistent and diverse pool of donors to ensure an adequate supply of blood products. Different blood types are needed for various medical procedures, so a broad donor base is essential.

2. Emergency Response: During emergencies such as accidents, natural disasters, or surgeries, there's often an urgent need for blood. Having a robust donor recruitment system ensures that blood banks can respond quickly to these critical situations.

3. Meeting On-going Medical Needs: Blood transfusions are a vital part of many medical treatments, including surgeries, cancer treatments, childbirth complications, and more. Regular donor recruitment ensures that there's enough blood for these ongoing needs.

4. Specific Blood Types: Some blood types are rarer than others. [1,2]

Donors should be in good health to avoid any negative consequences for themselves or the recipients of their blood and blood products. Typically, voluntary blood donors or patients' friends/relatives provide the safest blood. To ensure safe blood, donor selection is a critical phase in the process, which includes the following aspects:

1. Registration, donor consent.
2. Medical History.
3. Physical examinations and lab tests.

The selection of donors is based on the national guidelines for donor selection criteria, which consider all the aforementioned factors. [3,4]

A multitude of donors are unable to contribute blood due to a variety of reasons, which can be either temporary or permanent. As a result, there is a scarcity of blood and blood products in the blood banks. Hence, it is crucial to comprehend the factors behind the postponement of blood donors, as temporary donors can undergo treatment for the underlying causes, such as administering iron tablets for low hemoglobin levels or using medication to address hypertension or fever. Consequently, these donors can contribute blood in

the future once the reason for their temporary deferral has been resolved.

The purpose of our study was to investigate the factors that lead to the temporary postponement of blood donors to our blood bank. This research aims to ensure the provision of safe blood and its derivatives to patients. [5,6]

Materials and Methods

The study was carried out retrospectively at our blood bank of a tertiary care hospital from January 2023 to December 2023. Upon arrival at the blood bank, all donors underwent a comprehensive assessment based on their age, weight, and general health. Their medical and family histories were documented, along with measurements of blood pressure, pulse rate, and temperature. Female donors also provided thorough information regarding their menstrual and gynecological history. All donors completed a donor questionnaire, followed by a physical examination. Afterward, hemoglobin estimation was conducted using the 5 part differential cell counter method. Hemoglobin, body weight, age , blood pressure and the immediate skin location was inspected for any abnormalities. An analysis was conducted on the data of deferred donors, taking into account their gender and the reasons for their deferral, whether temporary or permanent.

Results

A total of 1900 donors came to the blood bank to donate blood out of which 1834 were males and the rest 66 were females. Of the total 1900 registered donors, 104 donors were deferred due to various causes. 82 were males and 22 were females amongst the 104 deferred donors. No donors who met the requirements for permanent deferral were identified during this time period.

The "Others" category includes individuals who are currently fasting, have donated blood within the past three months, have thalassemia minor with low hemoglobin levels, cannot find a specific blood group for a patient, or have a fever.

Table 1:

Gender	Number of registered Donors	Number of deferred donors
Male	1834	82
Female	66	22
Total	1900	104

Table 2:

S. No.	Cause of deferral	Number of cases deferred
1	Low haemoglobin	42
2	Medicines	10
3	Fever	03
4	Hypertension	12
5	Surgery	03
6	Low weight	14
7	Vaccination	02
8	Diabetes	05
9	Alcohol	02
10	Tattooing	05
11	Jaundice	01
12	Malaria	02
13	Open wound	03

Discussion

The study of blood donor was done with the purpose of providing safe blood to the patients admitted here. It was found out that 104 donors were deferred out of 1796 registered donors for different reasons. Anaemia was the most common cause for temporary deferral followed by low body weight. During the screening process for blood donation, potential donors are checked for their hemoglobin levels. If the hemoglobin is below a certain level, the donor may be temporarily deferred from donating blood until their levels return to normal. This is because donating blood could further lower their hemoglobin levels, which might not be safe for the donor's health. [7] Low weight can also lead to deferral from blood donation. Weight requirements are in place to ensure the safety of the donor, as donating blood can lead to a temporary decrease in blood volume. Also the Poor control of the diabetes, which may not be safe for the donor or the recipient. [8] The overall deferral rate in our study was 5.79% which was lower than other studies done in India by Agnihotri [7,8] (11.6%, low haemoglobin), Rehman et al, [9] (12.4%, low haemoglobin).

Conclusion

Understanding the reasons behind donor deferrals is crucial for blood donation centers to maintain a healthy and sustainable donor pool. By addressing common reasons for deferral, centers can improve donor recruitment efforts and ensure an adequate supply of safe blood products.

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