

## Impact of blood donor deferrals on blood availability in a tertiary care centre of Dakshina Kannada

M.H. Shariff<sup>1,\*</sup>, Sadiqunissa<sup>2</sup>, Qudusia Sultana<sup>3</sup>

<sup>1</sup>Associate Professor, Dept. of Pathology, <sup>2</sup>Associate Professor, Dept. of Obstetrics & Gynecology, <sup>3</sup>Assistant Professor, Dept. of Anatomy, Yenepoya Medical College, Yenepoya University, Mangalore

**\*Corresponding Author:**

Email: drshariffmh@gmail.com

### Abstract

**Background:** The need for the blood is much higher than its supply. A large number of voluntary blood donors are deferred due to various causes, identified through sensitive laboratory screening for the guaranteed safety of the recipients which lead to loss of precious blood required to save life. Even though blood supply is inadequate, donor selection remains an important task.

**Objective:** This study was been undertaken to evaluate the causes of deferrals among voluntary blood donors and to find a strategy for management of the same.

**Materials and Methods:** A preliminary single center-based study assessing the causes for donor deferral was conducted during the study period of January 2013 to December 2014. The deferral reasons were then classified into temporary and permanent causes and the details were enlisted.

**Observations and Results:** Of the 5321 donors, 4424 were voluntary donors and 897 were replacement donors. From this a total of 406(7.63%) donors were deferred: 293(72.1%) belonged to temporary and 113(27.8%) belonged to permanent category. 3 most common causes observed in our study for temporary deferrals were history of antibiotics intake, anemia and alcohol consumption and for permanent deferrals were hypertension, hepatitis C and hepatitis B.

**Conclusion:** In order to decrease the deferrals and increase the blood donors the blood transfusion centres should take a further step to notify and educate the donors who are temporarily deferred about the reason for doing so and positively encourage and council them to come back again after certain time to donate blood and become regular permanent donors.

**Keywords:** Voluntary blood donors, deferrals, screening, temporary, permanent.

Access this article online	
Quick Response Code:	Website: www.innovativepublication.com
	DOI: 10.5958/2394-6792.2016.00071.5

### Introduction

The need for the blood is much higher than its availability as it can only be available from the donation of blood by humans only.<sup>1</sup> Blood transfusion has its own advantages and disadvantages of saving life and at the same time transmitting infections to the recipients. For the guaranteed safety of the patients, law has made strict rules and regulations for selecting the blood from donors volunteering for blood transfusion. A number of voluntary blood donors are deferred due to sensitive laboratory screening. Even though blood supply is inadequate, donor selection remains an important task.<sup>2</sup> Many donors donate blood for altruistic purposes. Voluntary unpaid quality donors to be encouraged for blood donation as they are assumed to be healthy and safe donors without any infection and thus willing to donate the blood for humanity.<sup>3</sup>

Knowledge about incidence and causes of donor deferrals in a particular region helps in deciding the

extent and direction of the efforts to be executed to get back deferred donors. This knowledge also helps in calculating the eligible and potential blood donor pool.<sup>4</sup> Thus this study was undertaken among the blood donors of Dakshina Kannada region to evaluate the causes of deferrals, as well as the frequency of each cause in order to monitor the impact of donor selection process on donor loss and consequently to find a strategy to retrieve back the temporary lost donors by educating and motivating them to come back after their treatment and to be a continuous part of the blood donor family.

### Materials and Methods

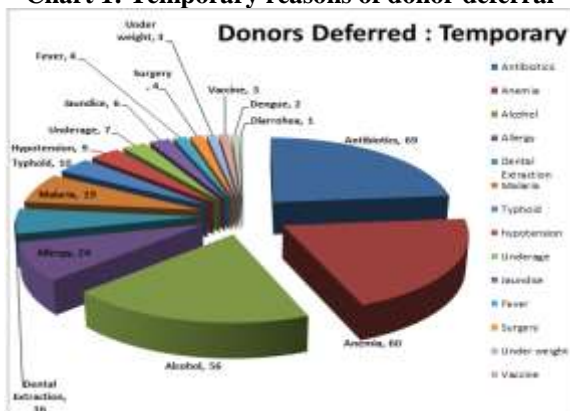
A preliminary single center-based study assessing the causes for donor deferral was conducted during the study period of January 2013 to December 2014. The data about donor deferrals had been collected from the donor deferral register of the blood bank of a tertiary care centre. The deferral reasons were then classified into temporary and permanent in males and females and with the help of statistic analysis percentage of the causes were calculated and enlisted.

### Observations and Results

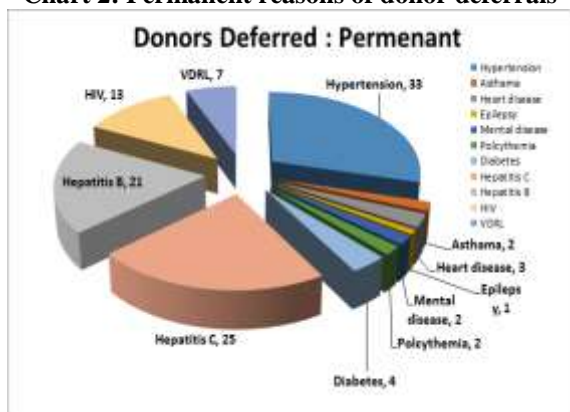
Of the 5321 donors, 4424 were voluntary donors and 897 were replacement donors. From this a total of 406(7.63%) donors were deferred: 27 were females and 379 were males, 293(72.1%) belonged to temporary

and 113(27.8%) belonged to permanent category. 3 most common causes observed in our study for temporary deferrals were history of antibiotics intake, anemia and alcohol consumption and for permanent deferrals were hypertension, hepatitis C and hepatitis B. The details of blood donors deferred in our blood bank are given below in the charts 1 and 2.

**Chart 1: Temporary reasons of donor deferral**



**Chart 2: Permanent reasons of donor deferrals**



## Discussion

The rate and reasons of deferral differs from region to region and one center to the other. To protect blood donors and recipients, stringent donor screening criteria are followed by blood transfusion services.<sup>5,6</sup>

Blood donor deferral is an agonizing experience for both the donor and the blood collecting centre leaving with them with unenthusiastic feeling about themselves as well as the blood donation process.<sup>7</sup> These donors may be so depressed that they may not volunteer to donate blood again.<sup>8</sup> Thus, every blood centre has to balance the fulcrum between the acceptable quality and the desired quantity of blood.<sup>9</sup>

However, studies have consistently demonstrated that the donor's age, total blood volume, and first-time donation status independently contribute to the risk of syncopal reactions after whole blood donation. Even such minor reactions leading to temporary deferrals discourage individuals from donating blood again.

Efforts to improve the donation experience are crucial not only to ensure the health and well-being of blood donors but also to sustain an adequate blood supply.

In this study the deferred donors were about 8%, similar to the results seen in the studies conducted by Sundar et. al(6%) and Krishna et. al(7.3%).<sup>6,10</sup> The lowest reported rate of rejection was by Talonu T (4%) in Papua New Guinea<sup>11</sup> and higher rate (8-15%) was reported by Chaudhry,<sup>12</sup> Lim,<sup>13</sup> Blumberg.<sup>14</sup> In our study, out of 406 rejected donors, 72% and 28% were temporary and permanent deferred donors respectively, which is similar to the results observed in studies conducted by Kulkarni et al (68% and 32%)<sup>15</sup> and Custer et.al (68.5% and 32.5%) for permanent and temporary deferred donors respectively.<sup>8</sup> This shows that temporary causes are more in number than the permanent. This type of analysis of donor deferral pattern indicates the impact of knowledge of deferral criteria among blood donors. The deferral rate can be reduced by providing thorough information of selection criteria for blood donation to all the volunteers and thus we can get back these donors as regular permanent donors.

## Conclusion

In our study 72% of the deferred donors are due to temporary causes like history of antibiotics intake, anemia and alcohol consumption which can be definitely treated. In order to decrease the deferrals and increase the blood donors the blood transfusion centres should take a further step to notify and educate the donors who are temporarily deferred about the reason for doing so and positively encourage and council them to come back again after certain assigned time to donate blood.

## References

- Gibbs WN, Britten AF. Guidelines for the organization of a blood Transfusion Service. WHO.1992;1-11.
- Shah R, Tulsiani S, Harimoorthy V, Mathur A, Choudhury N. Analysis of efforts to maintain safe donor in main donor pool after completion of temporary deferral period. *Asian Journal of Transfusion Science*. 2013;7(1):63-67.
- Choudhury LP, Tetali S. Ethical challenges in voluntary blood donation in Kerala, India. *Journal of Medical Ethics*. 2007;33(3):140-142.
- Naveen Agnihotri. Whole blood donor deferral analysis at a centre in Western India. *Asian J Transfus Sci*. 2010;4(2):116-122.
- Galea G, Gillon J, Urbaniak SJ, Ribbons CA. Study on medical donor deferrals at sessions. *Transfus Med*.1996;6:37-43. [PubMed]
- P. Sundar, S. K. Sangeetha, D. M. Seema, P. Marimuthu, N. Shivanna .*Asian J Transfus Sci*. 2010 July;4(2):112-115.
- Brecher ME. AABB Technical Manual. Bethesda: AABB press.2005; p. 101.
- 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. [PubMed]

9. Masser BM, Wahite km, Hyde MK, Terry DJ. The psychology of blood donations: Current research and future directions. *Transfusion Med Revel* 2008;22: 215-33.
10. Krishna M C, Sharada.M S, Harish S., Raman M Hulinaykar. *International Journal of Healthcare Sciences*. 2014;2(2):258-262.
11. Talonu T. Causes of volunteer blood donor rejection in Papua New Guinea. *P N G Med J*. 1983;26:195-7. [PubMed]
12. Chourday RK, Gupta D, Gupta RK. Analysis of donor-deferral pattern in a voluntary blood donor population. *Transfusion Med*. 1995;5:209-12. [PubMed]
13. Lim JC, Tien SL, Ong YW. Main causes of pre-donation deferral of prospective blood donors in the Singapore blood transfusion service. *Ann Acad Med Singapore*. 1993;22:326-31. [PubMed]
14. Blumberg N, Shah I, Hoagland J, Shirer L, Katz AJ. Evaluation of individuals deferred from blood donation for medical reasons. *Vox Sang*. 1982;42:1-7. [PubMed]
15. N. Kulkarni. Analysis of donor deferral in blood donors. *Journal of Evolution of Medical and Dental Sciences* 2012;1(6):1081-1087.