

Blood Donor Notification and Counselling: Our Experience from a Tertiary Care Hospital in South India

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Original Research Article

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Article History

Received: 03.05.2018

Accepted: 19.05.2018

Published: 30.05.2018

DOI:

10.21276/sjams.2018.6.5.31



Abstract: Supply of safe blood and blood components is a vital part of blood bank services. Transfusion Transmissible Infections (TTI) reactive donors are informed of their abnormal result and are requested to come to blood bank for counselling. Informed donors may not respond at all. The present study was undertaken to determine the response of blood donors after notification of their reactive status by telephone call. This a retrospective study conducted in the Department of Transfusion Medicine, in a tertiary care hospital, Hyderabad, South India over a period of one year. We have evaluated the response of TTI reactive donors after notification of their abnormal test results during the year 2017. A total annual blood donation of 18,624 units were collected from voluntary and replacement donors and were subjected to routine TTI screening during the study period. Among these, 416 (2.23%) donors were found to be seroreactive for TTI. 56 cases were HIV positive, 236 donors were reactive for HBsAg, 75 donors were HCV positive, 48 were VDRL positive and 1 donor was malaria positive. 252 donors (60.57 %) were in the age group of 26-35 years. 230 donors (55.28 %) were contacted telephonically and 186 donors (44.72 %) could not be contacted as either their number could not be reached or switched off. Among the contacted, 178 donors (77.39 %) responded by attending the counselling in the blood bank. Donor notification and counselling is an important tool in minimising the risk of TTIs. Blood bank staff should be alert and take necessary precautions as per the guidelines in dealing with blood in the blood bank as some of the reactive donors wantedly donate blood.

Keywords: Donor notification, Counselling, Transfusion Transmitted Infections, Seroreactive.

INTRODUCTION

Blood transfusion is a life-saving procedure and millions of lives are saved each year globally through this procedure[1]. However, although blood transfusion plays an important role in the supportive care of medical and surgical patients, unsafe transfusion practices also put millions of people at risk of transfusion-transmissible infections (TTIs)[2]. The major threat for the spread of TTIs is the unsafe blood. According to the World Health Organization (WHO), blood should not cause any harm to the recipient, like hepatitis, malaria, HIV or syphilis and also safe blood is a universal right[3]. In India, all donated blood must be fully screened for Hepatitis B virus (HBV), Hepatitis C virus (HCV) and Human immunodeficiency virus (HIV), syphilis and malaria. Blood banks, in addition to their main responsibility of safe blood supply to the recipient, also have a

responsibility toward donor safety by means of donor notification and post-donation counselling. In India, it was not permitted to disclose the viral TTI reactivity to the blood donor until December 2004[5]. The National Blood Transfusion Council (NBTC) now advocates the disclosure of TTI results to blood donors. Written consent at the time of donation from the donors has to be taken by the blood banks as to whether they wish to be informed about a reactive test result. Blood banks have to refer donors who tested HIV reactive to the designated Integrated Counselling and Testing Centres (ICTC) for disclosure, counselling and referral. All donors reactive to hepatitis B or hepatitis C need to be informed and then referred to a gastroenterologist for further workup and management [6]. However, most blood banks discard blood that is TTI reactive but do not notify donors of their TTI status due to a lack of resources and trained counsellors [7]. The present study

was carried out to know the demographic details assess the attitude of the reactive blood donors in response to post-donation notification and counselling.

MATERIALS AND METHODS

This a retrospective study was conducted in the Department of Transfusion Medicine, in a tertiary care hospital, Hyderabad, South India over a period of one year. We have evaluated the response of TTI reactive donors after notification of their abnormal test results during the year 2017. HIV, HBsAg, and HCV screening tests were done by chemiluminiscence method (Abbot Architect) and test for syphilis and malaria were done by ELISA fourth generation. If the results were found to be positive, blood unit was

discarded as per hospital standard operating procedures (SOPs) and donor was notified of his TTI reactive status by telephone maintaining the confidentiality and was asked to come to the blood bank for counselling.

RESULTS

A total annual blood donation of 18,624 units were collected from voluntary and replacement donors and were subjected to routine TTI screening during the study period. Among these, 416 (2.23%) donors were found to be seroreactive for TTI diseases. 56 cases were HIV positive, 236 donors were reactive for HBsAg, 75 donors were HCV positive, 48 were VDRL positive and 1 donor was malaria positive (Table 1).

Table-1: TTI Reactivity among the Donors

TTI Reactive	Number	Percent
HIV	56	13.46%
HbsAg	236	56.73%
HCV	75	18.02%
Syphilis	48	11.53%
Malaria	1	0.24%
Total screening reactive	416	2.23%

Age range of the TTI reactive donors varied from 22 years to 48 years. 252 donors (60.57 %) were in the age group of 26-35 years (Table 2).

Among the 416 TTI reactive donors, 132 were unmarried and 274 were married. Marital status was not known in 10 cases (Figure 1). In our study all the reactive donors were males only and no females (Figure 2).

Table-2: Age-wise categorisation of TTI reactive donors

	Below 25 years	26-35 years	Above 35 years	Total
Number	78	252	86	416
Percent %	18.75%	60.57%	20.67%	100%



Fig-1: Pie-Diagram showing marital status of TTI Reactive Donors

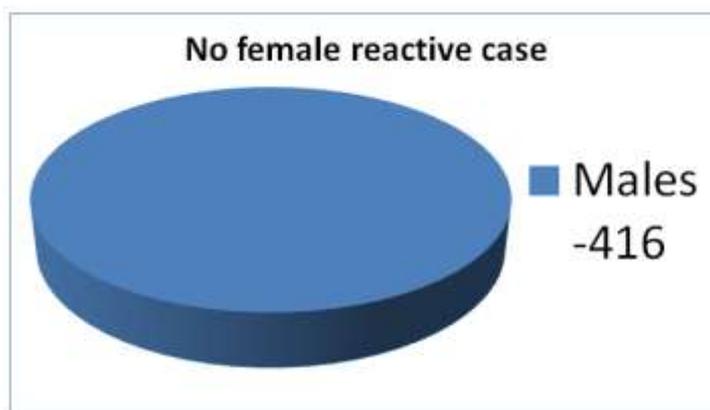


Fig-2: All the TTI reactive donors were male only.

Among the 416 TTI reactive donors, 230 donors (55.28 %) were contacted telephonically and 186 donors (44.72 %) could not be contacted as either

their number could not be reached or switched off (Table 3).

Table-3: TTI reactive donors contacted

	HIV	HBsAg	HCV	Syphilis	Malaria	Total	Percentage (%)
Total	56	236	75	48	1	416	100
Contacted donors	22	130	38	40	0	230	55.28
Non contacted donors	34	106	37	8	1	186	44.72

Among the contacted, 178 donors (77.39 %) responded by attending the counselling in the blood bank (Figure 3). All the HIV reactive donors were referred to ICTC, HBsAg and HCV positive donors to

medical gastroenterology department and Syphilis Positive donors to medical department for further follow up and management.

Response rate according to the TTI marker positivity

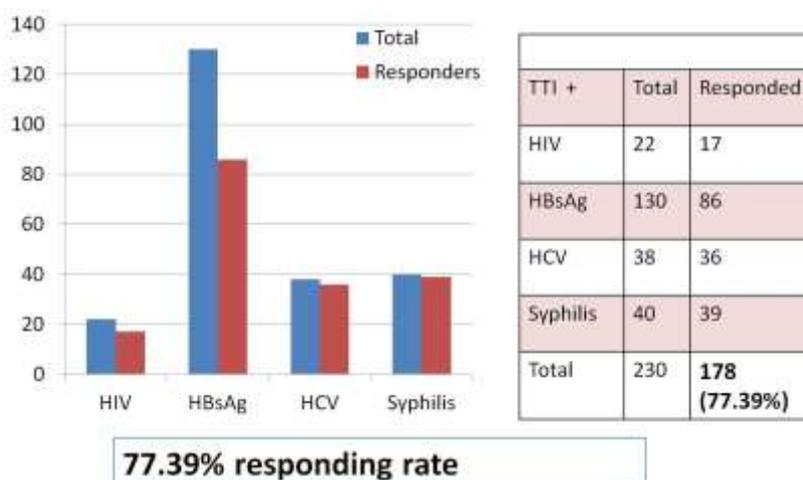


Fig-3: Response rate according to TTI marker positivity

DISCUSSION

Blood transfusion always carries a risk of TTI and many other adverse reactions although it plays a vital role in the management of many diseases[8]. In blood donor notification, asymptomatic donors are informed of abnormal test reports related to exposure to potentially infectious agents [9]. Notification of a blood donor about the abnormal test results is thus a

very crucial and sensitive aspect of post-donation counselling as it has its psychological and social impacts [9]. According to the studies in literature, each donor reacts in a different manner; some people faint, get angry, deny vehemently, start weeping, very calm apparently followed by nervous breakdown and various other emotional disturbances [9].

In our study, the rate of TTIs markers was found to be 2.23 %. Studies done by Kumari *et al.* Kotwal *et al.* and Kumar *et al.* (2.81%, 3.02%, and 4.57%, respectively) showed higher rates. Whereas other studies in India done by Agarwal *et al.* and Leena *et al.* and Patel *et al.* (0.87%, 1.35%, and 1.41% respectively) showed lower TTI rates[9-13]. The reason behind lower rate of TTIs markers in some studies was due to more than 99% of blood collection was from voluntary donors[8]. In our study, replacement donations account for more than 90%.

Donor notification of abnormal test result is an important measure to reduce the risk of TTI spread due to transfusion of blood or its product by preventing the asymptomatic reactive donors from considering blood donation again. Many blood banks neglect donor notification of abnormal test result due of lack of adequate staff. But it is a good method in removing the TTI reactive donors from donor pool. Besides, donor notification is crucial to protect the health of the donor and his/her family and helps the donor to seek early treatment[8].

In our study, all the TTI reactive donors were males only. This could be due to low blood donations (less than 2%) by the females in our centre. In a study by Patel *et al.* the females account for 4.81% of total TTI reactive donors [8] and in a study by Kotwal *et al.* females account for 1.50% [9].

In our study, unmarried TTI positive donors were 132 (31.73%) which is low compared to 53.23% in kotwal *et al.*[9]. In the present study, majority of the TTI positive donors [252 (60.57%)] were in the age group of 26-35 years as compared to the studies in literature [9].

In this study 44.72% of the donors could not be contacted either due to wrong number or their mobile phones were switched off. The number of reactive donors who could not be contacted in the present study was small as compared to large numbers of the studies done by Kotwal *et al.* (49.4%) and Moyer *et al.* (65.52%) [9, 14]. In a study by Kaur *et al.*, only 10.5% of the TTI reactive donors could not be contacted. The response rate was 77.39% in our study (Table 4).

Table-4: Percentage of responded reactive blood donors in different studies

Study name	Percentage of responded reactive donors
Kaur <i>et al.</i> [15]	38.9%
Kotwal <i>et al.</i> [9]	98.2%
Agarwal <i>et al.</i> [10]	59.8%
Patel <i>et al.</i> [8]	81.56%
Present study	77.39%

Some donors may hide the history of high risk behaviour during blood donation. In our study, two HIV reactive donors have disclosed the high risk behaviour during counselling and three HIV reactive donors already knew their HIV status and have donated blood to know the result again.

CONCLUSION

Donor notification and counselling is an important tool in minimising the risk of TTIs. Donor education about the various TTI and the importance of informing the abnormal test results during blood donation is very crucial. Blood bank staff should be alert and take necessary precautions as per the guidelines in dealing with blood in the blood bank as some of the reactive donors wontedly donate blood.

ACKNOWLEDGMENT

The authors are thankful to the blood bank counsellor Mrs. Madhavi for doing help in notification and counselling of seroreactive blood donors, as well as in data collection.

REFERENCES

1. Switzerland: WHO; WHO Guidelines of Blood Transfusion Safety Appia, CH-1211 Geneva 27.

2. Diro E, Alemu S, G/Yohannes A. Blood safety & prevalence of transfusion transmissible viral infections among donors at the Red Cross Blood Bank in Gondar University Hospital. *Ethiop Med J.* 2008;46:7-13.

3. Manzoor I, Hashmi NO, Daud SE, Ajmal SA, Fatima HI, Rasheed ZA, Syed SA. Seroprevalence of transfusion transmissible infections (TTIS) in blood donors. *Biomedica.* 2009 Jul;25(10):154-8.

4. Blood Safety and Donation, 2008 June. Fact Sheet No 279.

5. National AIDS Control Organisation. National Blood Policy of India. Last accessed on 2012 Aug 27.

6. Dontula S, Mathur A, Kamaladoss T, Adimurthy S, Jagannathan L. Donor disclosure - a donor's right and blood bank's responsibility. *Transf Alter Transf Med.* 2012;12:44-50.

7. Choudhury LP, Tetali S. Ethical challenges in voluntary blood donation in Kerala, India. *J Med Ethics.* 2007;33:140-2.

8. Patel SG, Patel JN, Patel AC, Raja KA, Dobariya GH, Pandya AN. Blood Donor notification and counselling of reactive test result in Blood Bank of South Gujarat: A better approach to prevent

- reactive donors from donating blood again. *Glob J Transfus Med* 2016;1:57-60.
9. Kotwal U, Doda V, Arora S, Bhardwaj S. Blood donor notification and counselling: Our experience from a tertiary care hospital in India. *Asian Journal of Transfusion Science*. 2015;9(1):18-22.
 10. Agarwal N. Response rate of blood donors in the Uttarakhand region of India after notification of reactive test results on their blood samples. *Blood Transfus*. 2014;12Suppl 1:s51-3.
 11. Leena MS, Shafee M. Trend and prevalence of transfusion transmitted infections among blood donors in rural teaching institute, South India. *J Pathol Nepal*. 2012; 2:203-6.
 12. Kumari BA, Deepa S, Venkatesha D. Blood transfusions: Are they life saving or transfusing infections? *Online J Health Allied Sci*. 2011; 10:7.
 13. Kumar R, Gupta S, Kaur A, Jindal A, Sharma H. Sero-prevalence and changing trends of transfusion transmitted infections among blood donors in a tertiary care hospital. *Indian J Community Health*. 2015; 27:25-9.
 14. Moyer LA, Shapiro CN, Shulman G, Brugliera PD, Alter MJ. A survey of hepatitis B surface antigen-positive blood donors: Degree of understanding and action taken after notification. *Transfusion*. 1992; 32:702-6.
 15. Kaur G, Kaur P, Basu S, Kaur R, Sharma S. Donor notification and counselling – Experience and challenges. *Transfus Apher Sci*. 2013; 49:291-4.