

Blood donor notification and counseling: Our experience from a tertiary care hospital in India

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Abstract:

Aims: To evaluate the response rate of transfusion-transmissible infection (TTI)-reactive donors after notification of their abnormal test results for the year 2012. **Materials and Methods:** This study is an observational descriptive study performed in our department over a period of 1 year. We evaluated the response rate of TTI-reactive donors after notification of their abnormal test results over 1 year as per the existing strategy (three telephonic and two postal communications). **Results:** During the study period, among the annual donation of 15,322 units, 464 blood donors were found to be seroreactive. Of these 464 seroreactive cases, 47 were HIV positive, 284 were reactive for Hepatitis B surface antigen (HBsAg), 49 were Hepatitis C (HCV) positive and 84 were VDRL reactive. The TTI-reactive donors (464) for various markers were contacted: 229 (49.4%) telephonically and the remaining 235 (50.6%) not contacted on phone were informed by post. Of the 229 contacted donors, the response rate was 98.2% as only 225 donors reported (221 on the first, three on second and one on the third call) for one to one counseling. The remaining four non-responders were - one HIV and three HBsAg reactive. The remaining 235 (50.6%) reactive donors did not respond to any communication. **Conclusion:** Donor notification and post-donation counseling are an essential aspect of the blood bank that entails provision of information on serological status, assess the impact of test results on the donor and finally referral for medical care. As in our data only 49.4% of the blood donors could be contacted successfully, incomplete demographic details was the major limiting factor in communicating with rest. Of the 229 contacted donors, the response rate was 98.2%. A large majority (94.75%) of the notified donors in our study contacted their health care provider when given clear instructions to do so. These results are encouraging because they indicate that a major element of the notification message is acted upon when it is worded clearly. The very high response rate of the contacted donors ensured their concern for knowing their test result status.

Key words:

Counseling, donor notification, transfusion-transmitted infections

Introduction

Blood transfusion is a life-saving intervention 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] Unsafe blood remains a major threat for the global spread of TTIs. According to the World Health Organization (WHO), safe blood is a universal right, which indicates blood that will not cause any harm to the recipient, like hepatitis, malaria, HIV or syphilis.^[3] The WHO recommends that, at least, all donated blood should be fully screened for Hepatitis B virus (HBV), Hepatitis C virus (HCV) and Human immunodeficiency virus (HIV) and syphilis.^[4] Transfusion services, in addition to their prime responsibility of supplying safe blood to the patient, also have a responsibility toward donor safety by means of donor notification and post-donation counseling. In India, although blood transfusion services are totally fragmented and heterogeneous without any national coordination

or networking, the national guideline mandates screening all the blood donations for HIV, HBV, HCV, malaria and syphilis to enhance blood safety and reduce seroprevalence in donated blood. In India, disclosure of viral TTI reactivity to the blood donor was not permitted until December 2004; at that time, the National Blood Transfusion Council, Government of India, formulated a strategy for the same.^[5] Before 2004, the government policy stated that blood banks discard HIV-seropositive blood without informing donors about their status in order to maintain donor confidentiality and avoid stigmatizing those with HIV/AIDS. The National Blood Transfusion Council now advocates the disclosure of results of TTI to blood donors. Blood banks are now required to obtain written consent at the time of donation from the donors as to whether they wish to be informed about a reactive test result. They are required to refer donors who tested HIV reactive to the designated Voluntary Counseling and Testing Centers for disclosure, counseling and referral. All donors reactive to hepatitis B or hepatitis C need to be informed and then referred to a gastroenterologist for further management.^[6]

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TTI-reactive donor notification is essential for early clinical intervention to minimize their disease and the risk to the partners/close contacts. As per the present protocol, each reactive donor is informed about the abnormal test results, counseled and referred for further confirmation and management to the concerned specialty.

Reactive donors are intimated telephonically and by post for one-to-one counseling and repeat sampling and to elicit any high-risk behavior. The present policy dictates information and referral of HIV-reactive donors to the ICTC for further management and referral of HBV- and HCV-reactive donors to the gastroenterologist.

However, there is a lacuna of information regarding donor counseling and referral follow-up in India.^[6] 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 counselors.^[7] Hence, there is very little information available about the counseling success rate and referral care. Therefore, this study is carried out to assess the attitude of the reactive blood donors in response to post-donation notification and counseling.

Materials and Methods

Our work is an observational descriptive study performed in the Department of Transfusion Medicine at a tertiary care hospital in north India over a period of 1 year. In this study, we evaluated the response rate of TTI-reactive donors after notification of their abnormal test results for the year 2012 as per the existing strategy (three telephonic and two postal communications). The blood bank at our hospital provides blood for the patients after mandatory TTI testing. Besides testing for syphilis and malaria, enzyme-linked immunosorbent assay (ELISA) as well as nucleic acid testing (NAT) is performed for HIV, HBV and HCV on pilot tubes samples as well as samples from the bag before labeling it as seroreactive. The aim of NAT testing is to provide an added layer of blood safety for the recipients. In case of a reactive donor for any marker, either by serology and/or NAT, the blood bank counselor informs the donor either telephonically or by post about detection of an abnormal test result with an advice to report to the blood bank for one-to-one counseling and repeat sampling as well as for referral to the respective department of the hospital for further management. As a protocol, three phone calls and two letters are sent by post to inform the donor about any abnormal result before their non-compliance is termed as non-responder. As per the postal communication, confidentiality is maintained by just informing the donor about detection of an abnormal test result with an advice to report to the blood bank.

Results

During the study period, an annual donation of 15,322 units, both from voluntary and replacement donors, were subjected to the routine TTI screening by both ELISA and NAT methods. Of these, 464 blood donors were found to be seroreactive. Among these 464 seroreactive cases, 47 cases were HIV positive, 284 donors were reactive for HBsAg, 49 donors were HCV positive and 84 were VDRL positive. There were 10 cases of co-infection (HIV + VDRL – 2; HIV + HBV – 1; HIV + HCV – 4; HCV + HBV – 1; HCV + VDRL – 1; HBV + VDRL – 1). As per age-wise distribution, 117 donors

were below 25 years of age, 227 were between 26 and 35 years of age and 120 donors were above 35 years. The age-wise distribution of contacted and non-contacted donors is given in Figure 1. The gender-wise distribution was as follows: There were 457 male and seven female donors. Two hundred and seventeen of the donors were married and 247 were unmarried [Figure 2]. Geographical distribution of the contacted and non-contacted reactive donors is given in Figure 3.

The TTI-reactive donors (464) for various markers were contacted, [Figure 4] 229 (49.4%) telephonically and the remainder 235 (50.6%) who could not be contacted on phone were contacted by post maintaining confidentiality. Seroreactivity of 229 contacted donors was (HIV:HCV:HBsAg:syphilis – 28:28:117:56). Of the 229 contacted donors, the response rate was 98.2% as only 225 donors reported (221 on the first, three on the second and one on the third call) for one-to-one counseling [Figure 5]. Among the remaining four non-responders, one

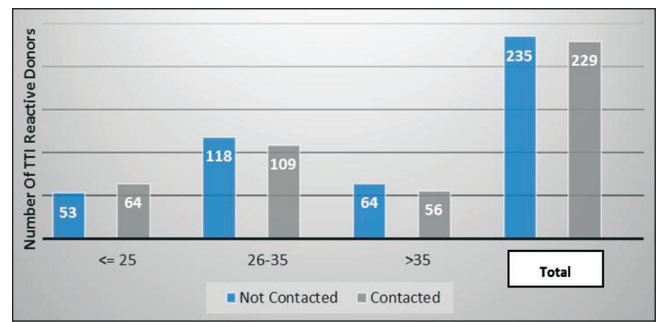


Figure 1: Age distribution of contacted & non contacted TTI reactive donors

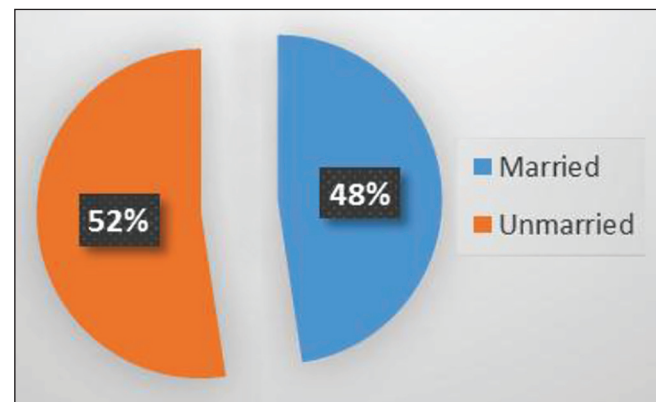


Figure 2: Pie Chart showing the marital status of the TTI reactive donors

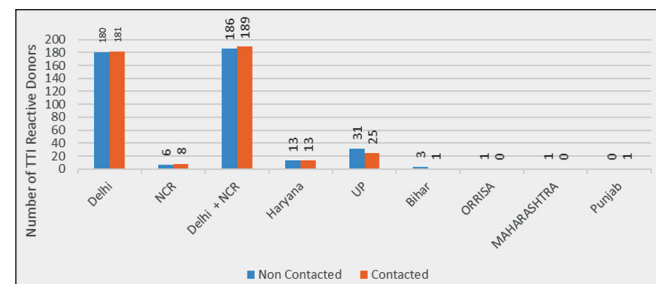


Figure 3: Geographical distribution of the contacted & non contacted TTI reactive donors

was HIV and three were HBsAg reactive [Figure 6]. No donor responded by postal communication.

The HIV-reactive responders were referred to the ICTC for counseling and confirmatory testing while the HBV and HCV reactives were referred to a gastroenterologist for further management [Table 1].

One hundred and eighty-two (80%) among the 225 donors gave a positive history of high-risk behavior that was not expressed earlier by them during pre-donation counseling and are now on regular treatment for their infection.

The remaining 235 (50.6%) reactive donors were non-responders, which is a fairly large number. Seroreactivity among these 235 reactive donors was (HIV:HCV:HBsAg:syphilis — 18:19:174:24).

Discussion

The notification of blood donors probably represents the single largest setting in which asymptomatic people are informed of abnormal test results related to exposure to clinically significant infectious agents.

Notification of a blood donor about the abnormal test results is thus a very sensitive and crucial aspect of post-donation counseling as it has its psychological and social impacts. 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.

Donor notification and post-donation counseling are an essential aspect of the blood bank these days for reactive donors.^[8] These entail provision of information on serological status, assess the impact of test results on the donor and finally referral for medical care.

Two important goals of the notification process are to ensure that donors receive their test results and that donors whose test results make them ineligible for future donation understand their deferral status. Our data indicate that the notification process does not always achieve these goals as in our data only 49.4% of the blood donors could be contacted successfully. Incomplete demographic details provided by donors was the major limiting factor in communicating with the 235 (50.6%) reactive donors who could not be communicated through any means, which is a fairly large number. Seroreactivity among these 235 reactive donors was HIV:HCV:HBsAg:syphilis — 18:19:174:24).

Similar results were found from the study performed by Moyer 1992,^[9] in which approximately 500,000 donors were tested by the American Red Cross Blood Services, Atlanta Region, between January 1987 and July 1989. One hundred and forty-five donors were permanently deferred for HBsAg-positive test results. Of these, only 54 (37%) could be contacted and interviewed. A disconnected telephone was the most frequent reason for inability to contact the remaining 91 (65.52%) donors.

In a study conducted in Rockville, MD, USA, an anonymous survey was conducted of blood donors with an abnormal infectious disease screening result. The survey had a 42% response rate, 10% of the donors did not recall being notified of their results and only 27% contacted the blood bank for further information.^[10]

In a similar study conducted by Kaur *et al.*,^[11] 89.5% donors could be contacted and about 10.5% of the donors could not be contacted. Either their addresses were not valid or their cellular phones were switched off or unavailable when contacted during the daytime.

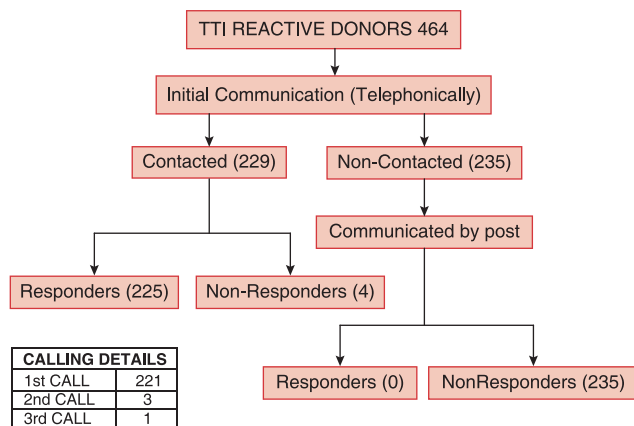


Figure 4: Flow chart of the study results

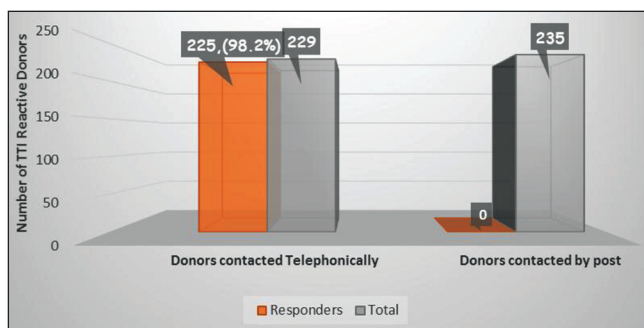


Figure 5: Response rate of TTI reactive donors “telephonically” and by “post”

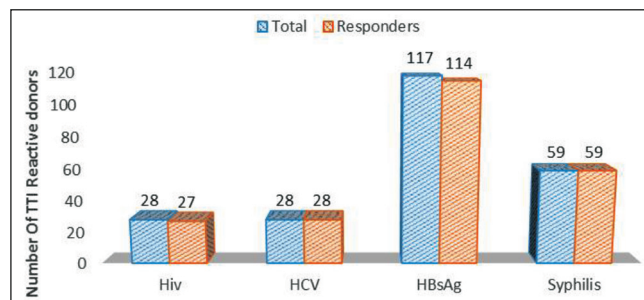


Figure 6: Response rate according to the TTI marker positivity

Table 1: Summary of the referral of the contacted TTI-reactive donors to the concerned specialty for management

TTI reactive donors	HIV	HCV	HBsAg	Syphilis
Total contacted	28	28	117	56
Responders	27	28	114	56
Attended the concerned specialty clinic	27	25	113	52

Of the 229 contacted donors, the response rate was 98.2% as only 225 donors reported (221 on the first, three on the second and one on the third call) for one-to-one counseling. A large majority of the notified donors (94.75%) in our study contacted their health care provider when given clear instructions to do so. These results are encouraging because they indicate that a major element of the notification message is acted upon when it is worded clearly. Seroreactivity of the 229 contacted donors was HIV:HCV:HBsAg:syphilis — 28:28:117:56. Among the remaining four non-responders, one was HIV- and three were HBsAg-reactive. The very high response rate of the contacted donors ensured their concern for knowing their test result status.

Kleinman *et al.*^[10] performed a survey that had a response rate of 42%. The study conducted by Kaur *et al.*^[11] showed that only 38.9% of the donors responded and were counseled during the study period. According to them, the low response rate in their donors may be attributed to poor health care knowledge and poor understanding of the screening results.

A study from Sweden by Tynell *et al.*^[12] reported a response rate of 88% in the contacted donors. In his study, prospective donors were provided with basic information and a relevant history was obtained to rule out any medical problems. Their blood samples were screened for infectious disease markers testing before they actually donated blood.

A similar study by Agarwal^[13] reported that of 416 reactive donors, 249 (59.8%) responded positively to the notification calls and attended counseling.

The HIV-reactive responders were referred to the ICTC for counseling and confirmatory testing whereas the HBV- and HCV-reactives were referred to a gastroenterologist and RPR-reactive donors referred to an STD clinic for further management.

One hundred and eighty-two donors (80%) among the 225 donors divulged a positive history of high-risk behavior that was not expressed earlier by them during pre-donation counseling. These donors as well as the implicated family members are now on regular treatment for their infection.

Donor notification and post-donation counseling has benefits to the blood center, the community and the blood donor as well. The benefits of the counseling process extend to the larger community. One obvious consequence is the eventual decrease in the incidence of TTI. Donors are strictly advised not to donate blood in the future. TTIs can exist as asymptomatic diseases in their hosts and the acquisition of the infections in the healthy blood donor population can be a serious threat to the safety of the collected blood donations; therefore, donors must be screened for high-risk behavior. The prevalence of TTIs among blood donors allows for assessment of the epidemiology of these infections in the community. The donor benefits immensely from the disclosure and counseling process. Early diagnosis helps them to manage and start treatment, if necessary. Preventive interventions for self and family can be initiated.

Conclusion

It is clear that the basic principles of donor notification should involve providing information to the donor promptly, accurately,

confidentially and in a manner that alleviates anxiety and promotes understanding.^[14,15] Notification messages should address common themes: These include providing the donor with the test result, informing the donor of his or her eligibility or deferral status regarding future blood donation, stating the medical significance of the test result, recommending whether the donor should see a physician and, in the case of confirmed positive donors, indicating the possible modes of acquisition and secondary transmission of the agent. Our study results clearly correlate with the above statement because the overall response rate among the contacted reactive blood donors was 98.2%. Such a successful response rate suggests the efficiency of the process and highlights the principle that a major element of the notification message is acted upon when it is worded clearly. Our study shows that the major limiting factor for donor notification and donor counseling among all the TTI-reactive donors was the inadequate donor demographic details because of which 50.6% donors could not be contacted by any known means. This being a fairly large number is a serious potential threat to the community, safety of the collected blood and the close contacts of the implicated donor. Donor demographic details form an important document for ensuring traceability of donors and acquisition of these should be made stringent for enhancement of donor notification. A photoidentity, the donor/UID, to know the correct address of the donor will go a long way in assuring a response rate of 100%.

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