

Original Research Article

Donor notification and response rate of sero-reactive blood donors: a challenge and long way to go

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ABSTRACT

Background: Supply of safe blood starts with healthy voluntary non remunerated blood donors. Blood donor screening and testing for TTI has become stringent all over the world. A fundamental part of preventing TTI is to notify and counsel reactive donors which help in preventing secondary transmission of infectious disease.

Methods: This observational descriptive study is done to determine the number of contacted TTI reactive donors and their response rate after notification of their abnormal tests. It includes all the sero-reactive donors from July 2015 to June 2016 in the department of IHBT, GGSMCH. Blood donors who were sero-reactive for any TTI were recalled and tested again with ELISA kit of different manufacturer or lot number and by rapid card tests. Donors' sero reactive on repeat testing were informed, counseled and referred to ICTC (for HIV) or Physician (for hepatitis B and hepatitis C). Confidentiality was maintained at every level.

Results: During the study period, numbers of blood donors were 12621, out of which 343 blood donors were found to be sero-reactive. 23 donors were HIV, 230 Hepatitis C, 90 were HBsAg reactive. We could contact 182 out of 343 sero reactive donors telephonically. 161 sero-reactive did not attend blood bank phone call or their contact number was changed. Amongst the 182 contacted donors, 72 donors responded for the notification call and attended counseling.

Conclusions: Response rate among reactive donors is quite low and a big challenge. This shows poor health care knowledge and social stigma regarding TTI among donors.

Keywords: Donors, Notification, Transfusion transmitted infections, Sero-reactive

INTRODUCTION

Altruism, Kinship and sense of duty are the driving forces for blood donation. Donor cycle starts with donor recruitment and ends with donor retention and recall or with notification of sero reactive donors.¹ Notifying and counseling the TTI sero-reactive donors along with donor education is an important and efficient method of curtailing TTI.²

Post test counseling and notification of positive donors is required for the health of donor and his family, prevention of diseases, improving blood bank economy by avoiding wastage of blood and reducing exposure to health care workers.

Non-notified donors continue to donate blood leading to wastage or breach of patient safety if they get inadvertently transfused. Problems in notification include

donor anxiety as every donor reacts in a different manner.¹

In India, disclosure of viral TTI reactivity to blood donor was not permitted until December 2004, after that NBTC formed a strategy for notification.³ Blood banks obtain written consent at the time of donation from donors for informing about reactive test results. Reactive donors are intimated telephonically and by post for one to one counseling and repeat sampling.⁴

Response rate to notification is often poor. Previous studies show that donors who were notified regarding their results neither responded at all nor followed up for the counseling and some of them continue to donate blood despite being notified.⁵

This study was undertaken in the Department of IHBT of a teaching hospital in North India to determine the contact and response rate of blood donors after they were notified of their sero-reactive test results.

METHODS

This observational descriptive study is done to determine the number of contacted TTI reactive donors and their response rate after notification of their abnormal tests. It includes all the sero-reactive donors from July 2015 to June 2016 in the department of Immuno Haematology and Blood Transfusion at Guru Gobind Singh Medical College and Hospital. We evaluated the response rate of TTI-reactive donors after notification of their abnormal test results as per the existing strategy of department which includes three telephonic calls to the Sero-reactive donors. Informed Consent was obtained from all the donors for testing their blood for mandatory TTI tests i.e HIV, HBsAg, HCV, syphilis and malaria. Donors Seroreactive for any of these tests were informed as per NBTC strategy. Enzyme-linked Immunosorbent Assay (ELISA) is performed for HIV, HBV and HCV (Erba Lisa HIV gen3, Erba Lisa SEN HBsAg and SD HCV ELISA3.0) on pilot tubes samples as well as samples from the bag before labeling it as Sero reactive. Syphilis and malaria were tested by Rapid card tests (RPR becan and Pan-Malaria card J Mitra & Co.) In case of a reactive donor for any marker, the blood bank counselor informed the donor telephonically about detection of an abnormal test result with an advice to report to the blood bank for face to face counseling and repeat sampling as well as for referral to the respective department of the hospital for further management. Confidentiality was maintained at every step. As a department protocol three phone calls were made to inform the donor about any abnormal result before their non-compliance is termed as non-responder.⁵

Ethical approval

The study was approved by Department of Immuno Haematology and Blood Transfusion, Guru Gobind Singh Medical College and Hospital, Faridkot, INDIA

RESULTS

During the study period numbers of blood donors screened were 12621 from July 2015 to June 2016. 343 Blood donors were found to be sero-reactive, 23 HIV reactive, 230 hepatitis C reactive, 90 reactive for hepatitis B surface antigen (HBsAg), while none of them was positive for syphilis and malaria. TTI reactive donors for various markers were contacted telephonically. Out of the 343 reactive donors, 182 (53.06%) were contacted and remaining 161 could not be contacted (phone switch off, not responding, or not available). Amongst the 182 contacted donors, 72(39.56%) donors responded for the notification call and attended counseling (Figure 1).

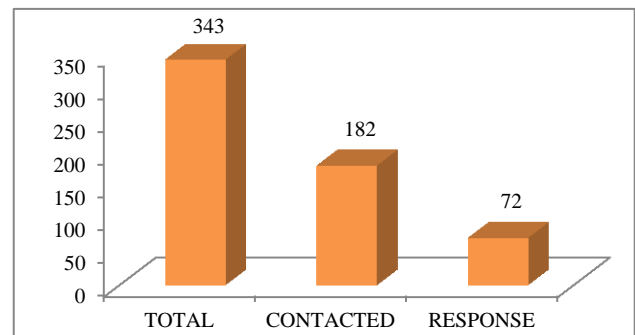


Figure 1: Contact and response rate of TTI reactive donors.

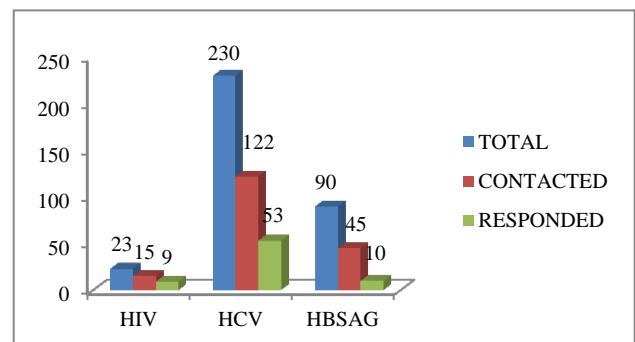


Figure 2: Contact and response rate according to TTI status.

The response rate was highest in donors reactive for HIV- 60% (9/15) followed by HCV- 43.44% (53/122) and HBsAg - 22.22% (10/45) (Figure 2).

Geographical distribution of the contacted and response rate of sero-reactive donors is given in Figure 3. Response rate was maximum in donors residing in the same city where blood was donated. 33/69 (47%) responded in Faridkot, 8/20 (40%) in Muktsar, 6/13 (46%) in Bathinda, 11/28 (39%) in Ferozepur, 8/36 (22%) in Moga and 6/16 (37%) in others.

247 donors of the sero-reactive donors were married and 96 donors were unmarried (Figure 4).

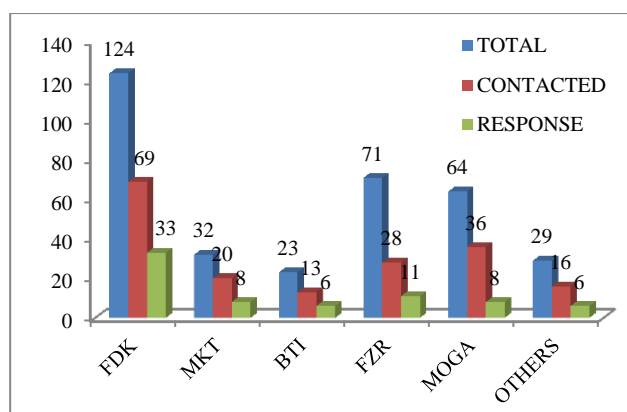


Figure 3: Contact and response rate according to geographical area.

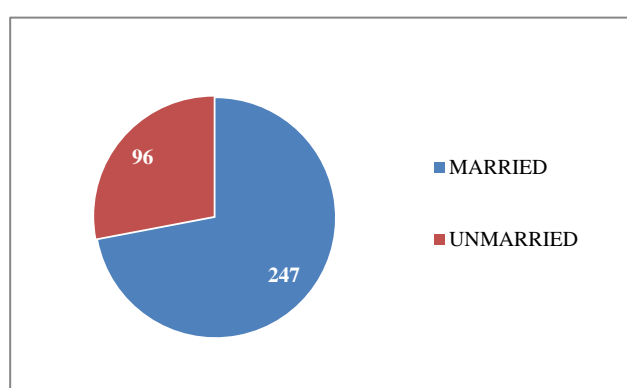


Figure 4: Marital status of TTI reactive donors.

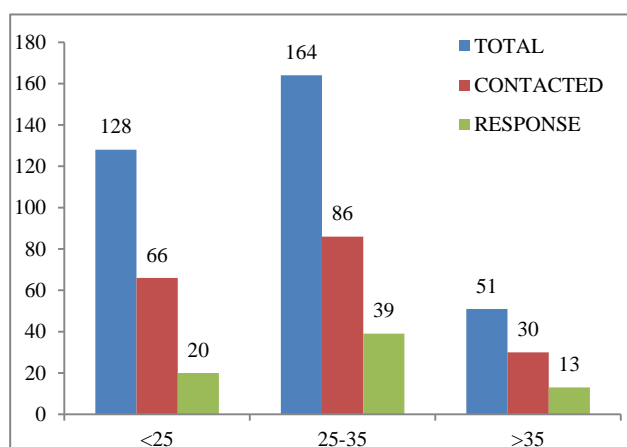


Figure 5: Contact and response rate according to age (years).

Age wise distribution of contacted and response rate of sero-reactive donors is given in Figure 5. 66 donors out of 128 (51%) could be contacted in age group less than 25 and only 20/66 (30%) responded to notification. In age group of 25-35 years, 86/164 (52%) could be contacted and only 39/86 (45%) responded to notification call. 30/51 (58%) were contacted and 13/30 (43%) responded to notification in age group >35 years.

DISCUSSION

During the study period, the rate of all five TTIs marker was 2.7% (343/12621). Other studies in India by Kumara et al and Kotwal et al (2.81% and 3.02%) also found higher TTI rates.^{6,7}

Donor notification which was once nonexistent, has become one of most important topic in India as print and electronic media are constantly highlighting the demerits of not notifying donors.¹ Notifying response donors is a very sensitive aspect as it has various psychological and social impacts.⁸ Response of reactive donors to seek confirmation and treatment is a direct reflection of their knowledge and attitudes towards TTIs. Every donor reacts in a different manner, some get angry, some face a period of denial and others have complete nervous breakdown.¹

The important goals of the notification process are to make sure that donors are informed about their test results and that donors whose test results make them ineligible for future donation understand their deferral status. Our study indicate that the notification process does not always achieve these goals as in our study only 182 (53.06%) were contacted and remaining 161 (46.93%) could not be contacted (phone switch off, not responding, or not available) Incomplete demographic details given by donors was the major limiting factor in communicating. Sero-reactivity among these 161 reactive donors which could not be contacted was HIV:HCV:HBsAg- 8:108:45. This high rate of donors which were not contacted poses a high risk on society as they keep on donating blood.

Similar results were found from the study performed by Moyer 1992, in which approximately 500,000 donors were tested by the American Red Cross Blood Services, Atlanta Region, between January 1987 and July 1989.⁹ Of these, only 54 (37%) could be contacted and counseled. A disconnected telephone was the most frequent reason for inability to contact the remaining 91 (65.52%) donors. In a similar study conducted by Kaur et al in North India in 2013, 89.5% donors could be contacted and about 10.5% of the donors could not be contacted.¹⁰ Either their addresses were not valid or their cellular phones were switched off or unavailable when contacted during the daytime.

Amongst the 182 contacted donors, 72 (39.56%) donors responded for the notification call, few responded after 1st call and few after 2nd or 3rd call. The response rate was highest in donors reactive for HIV- 60% (9/15) followed by HCV-43.44% (53/122) and HBsAg- 22.22% (10/45). The response rate was quite low which could be due to illiteracy and poor knowledge about screening tests.

Kleinman et al performed a study in 2004 that had a response rate of 42%.¹¹ The study conducted by Kaur et al in North India in 2013 showed that only 38.9% of the

donors responded and were counseled during the study period.¹⁰ According to them, the low response rate in their donors may be due to poor health care knowledge and poor understanding of the screening results.

A similar study by Agarwal reported that of 416 reactive donors, 249 (59.8%) responded positively to the notification calls and attended counseling.¹²

The HIV-reactive responders were referred to the ICTC for counseling and confirmatory testing whereas the HBV and HCV reactive were referred to a gastroenterologist/physician.

Notification to donors and post-donation counseling has proven to be beneficial to the blood donors, blood center and community at large, as it reduces the risk of spreading of diseases. All donors must be screened for high risks behaviors, as TTIs can exist as asymptomatic diseases in the 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. In 2017, NBTC came up with guidelines for blood donor selection and blood donor deferral which recommends predonation information and predonation counseling. Disclosure and counseling process immensely benefits the donor, as early diagnosis helps them to manage and start treatment, if required. All necessary preventive interventions can be initiated for safety of the donor and his/her family members.¹⁰

CONCLUSION

Response rate among reactive donors is quite low and a big challenge. This shows poor health care knowledge and social stigma regarding TTI among donors. There is need to create more awareness among the donors to achieve the Goal of “Safe Blood starts with me”. Strategies need to be framed for spreading the importance of self deferral. Counselors should be well trained and competent. Registration should be clear and understandable so that donors can be contacted easily. Donor demographic details should be done along with a valid government identification proof so it becomes easy to contact the donors. Predonation counseling is a very important aspect as donor education and motivation about the importance of TTI status if known and any high risk behavior can help them from self excluding from donation and to clarify myths and misconceptions.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee of Department of Immuno Haematology and Blood Transfusion, Guru Gobind Singh Medical College and Hospital

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