

Response to post-donation counseling is still a challenge in outdoor voluntary blood donation camps: A survey from a tertiary care regional blood center in Eastern India

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Abstract:

Background: Blood transfusion carries the risk of transmission of several infectious agents. The latest method for blood screening, nucleic acid testing is not affordable in developing countries. **Aim:** The study was aimed to find response to post-donation counseling for reactive markers among the voluntary blood donors donating in blood donation camps. **Material and Methods:** This 1 year study was conducted in 2011. Transfusion transmitted infections testing was performed by routine enzyme linked immunosorbent assay method. The initial human immunodeficiency virus (HIV) reactive donors who returned back to the blood bank were confidentially counseled and referred to the Integrated Counseling Cum Testing Center (ICTC). The hepatitis B surface antigen (HBsAg) and anti-hepatitis C virus (HCV) reactive donors were referred to the gastroenterology department for confirmation by qualitative polymerase chain reaction (PCR, Roche Diagnostics, Germany) and followed-up. **Results:** Twenty seven thousand two hundred forty six 27,246 units were collected during the survey. One hundred twenty nine 129 units were reactive for HIV 1 and 2, 99 were reactive for HCV, 206 for hepatitis B virus (HBV). Of these reactive donors, 138 could be personally communicated. Out of 47, 27 donors who returned for counseling were initially reactive for HIV 1 and 2, 8 for HBsAg and 12 for anti-HCV. Two were positive for HBV deoxyribonucleic acid and one was positive for HCV ribonucleic acid. The HIV positivity was detected in 1 of 27 donors at ICTC. **Conclusion:** The response to the post-donation counseling appears in this study to be only 34% (47/138), which is still a challenge.

Key words:

Integrated counseling and testing center, post-donation counseling, transfusion transmitted infections

Introduction

Blood transfusion is a life-saving procedure but at the same time it carries the risk of transmission of several infectious agents. In the developing countries, non-remunerated voluntary blood donors play a major role in safe blood supply as most of these countries cannot afford to utilize the latest nucleic acid testing (NAT) for blood screening. Although the NAT screening reduces the window period of viral infection, in India, the conventional enzyme linked immunosorbent assay (ELISA) remains the most common screening test for transfusion transmitted infections (TTIs). The risk of TTIs is estimated to be 1 in 677,000 units for human immunodeficiency virus (HIV), 1 in 103,000 for hepatitis C virus (HCV) and 1 in 63,000 for hepatitis B virus (HBV),^[1] so the importance of blood donor counseling could not be under-estimated.

Our national blood policy has given major attention towards blood donor motivation, recruitment and retention to achieve 100% voluntary blood donation, but the role of blood donor education could not be

ignored to bring the sense of true altruism among the voluntary blood donors. As a fundamental part of preventing TTIs the role of notification and counseling donors about their seroreactivity is of major importance in blood safety. As per objective 4.16 of the Indian action plan for blood safety, the blood donors are counseled about TTIs prior to donation and are offered the option of knowing their sero-reactive status provided they give their consent.^[2] West Bengal is a major leader in the country in terms of voluntary blood donation (82%) with an overall seroreactivity of HIV 0.2%, hepatitis B surface antigen (HBsAg) 1.2%, HCV 0.6% and rapid plasma reagin (RPR) 0.2% among the blood donor population.^[3] Till date, there is hardly any published data related to blood donor counseling and donor's response towards the blood bank's post-donation counseling advice in the state.

Aim

This survey was aimed to find awareness among voluntary donors in the state of West Bengal towards

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safe blood donation practices and their response towards post-donation counseling. This will help in formulating strategies to inform donors about their seroreactive status and take necessary medical interventions at the earliest before considering next blood donation. This will also help in spreading the importance of self-deferral.

In the long-term, this may help in creating a pool of safe repeat non-remunerated voluntary donors across the state.

Materials and Methods

One year survey was conducted by the Department of Immunohematology and Blood Transfusion, Medical College and Hospital, Kolkata from 1st January 2011 to 31st December 2011. All the blood donors who registered were requested to fill up the donor screening cum registration card formulated as per national guidelines.^[1] The blood donors were from both rural and urban areas within and around the metropolitan city of Kolkata and majority of them were literate. Only those blood donors who had given consent to be informed of their serological screening status for TTIs, during pre-donation screening were communicated by the department. Five mandatory TTI screening tests for anti-HIV 1 and 2, anti-HCV, HBsAg, RPR and malarial parasite antigen were performed on 5 ml clotted and 3 ml ethylenediaminetetraacetic acid blood collected in pilot tubes from post-donation samples.

The blood donors who were initially reactive to HIV (SD Biostandard Diagnostics Private Ltd., Gurgaon, Haryana), HBsAg (Span Diagnostics limited, Surat, Gujarat) and HCV (SD Biostandard Diagnostics private Ltd., Gurgaon, Haryana) by semi-automated ELISA method (Lab Systems, Thermo Fisher, USA) were notified. The donor records were verified by the counselor to call back the donors (over telephone or by personal letters) maintaining the confidentiality of all test records. In every case, the notifications over telephone or letters were provided three times at an interval of 2 weeks. The donors who did not respond even after third notification were considered non-responders.

The donors who returned back to the blood bank were again re-counseled of their health status and high-risk behavior and referred to the Integrated Counseling Cum Testing Center (ICTC), if their

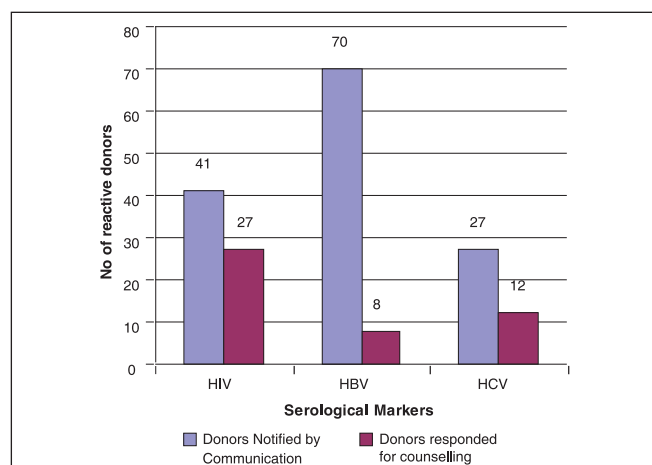


Figure 1: Showing the comparison between the notified donors and the donors who responded actively for counseling

units were initially HIV reactive. The ICTC testing protocol were followed as per operational guidelines for ICTC. A client who has a negative result in one test is declared to be HIV negative and a client is declared to be HIV positive when the same blood sample is tested 3 times using kits with different antigens/principles and result of all three tests are positive.^[4] The testing kits used were, Combaids-RS Advantage-ST (Span diagnostics Ltd.) as first line, Pareekshak (Bhat Bio-tech India) as second line and AIDSCAN (Bhat Bio-tech India) as third line for testing of HIV at ICTC. The donors who were reactive to HBsAg and anti-HCV were counseled about the same and directly referred to the Gastroenterology Department of Medical College Hospital for confirmation of their viral status by qualitative polymerase chain reaction (PCR, Roche Diagnostics, Germany) and further management.

Results

There were 27,246 voluntary blood donors who were surveyed from January 2011 till December 2011 at out-door blood donation camps held in seven districts of southern part of West Bengal. Of them, 129 units were reactive for HIV 1 and 2, 99 were reactive for HCV, 206 for HBV, making a total of 434 units (1.59%) which were initially reactive to the viral markers.

Only 138 of these voluntary donors (138/434) or 31.8% could be personally communicated over telephone or by letter from the blood bank counselor. Among these 138 initially reactive donors, 70 were reactive for HBsAg, 41 for HIV and 27 for HCV. 47 of them returned to the blood center for post-donation counseling were responders and rest 91 donors did not turn up. The data of notified donors versus responders is given in Figure 1. Remaining 296 of 434 voluntary blood donors (68.2%) could not be communicated either by telephone or by letter [Figure 2]. Their telephone numbers or addresses of communication were not properly mentioned on their donor screening cum registration cards.

The 39 of 47 voluntary blood donors who returned for post-donation counseling for their seroreactive status, were repeat blood donors. They were well aware of TTIs and high risk behavior.

Rest 8 out of 47 volunteers were donating blood for the first time. Only 2 of them were aware of TTIs. while six of them mentioned of donating blood due to peer pressure during post-donation counseling and were not aware of TTIs or high risk behavior.

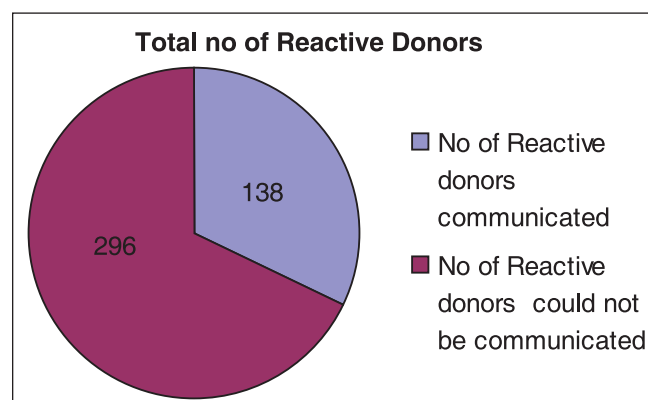


Figure 2: Showing the comparison between the number of reactive donors could be communicated with number of reactive donors who could not be communicated

Ninety one of 138 blood donors (65.9%) did not return back to the blood bank after being informed. Of these, 29 had given an initial positive response (29/91) for post-donation counseling and advice but could not attend due to their busy schedule. The rest 62 of 91 (68.1%) donors simply refused to return back either due to personal reasons or expressing their unwillingness.

Out of the 47 donors who returned for counseling, 27 were initially reactive for HIV 1 and 2, 8 for HBsAg and 12 for anti-HCV.

At ICTC, history of high-risk behavior was obtained from 3 of 27 initially seroreactive HIV donors. HIV seropositivity was confirmed in one of them at ICTC who happened to be an intravenous drug abuser. The donors who were initially reactive to HBsAg (8) and anti-HCV (12) were referred directly to the Department of Gastroenterology for further evaluation and management. Of these, two were positive for HBV deoxyribonucleic acid (qualitative PCR, Roche Diagnostics, Germany) and one donor was found to be positive for HCV ribonucleic acid (Qualitative PCR, Roche Diagnostics, Germany).

Discussion

Overall seroreactivity observed in our study was 1.59% (434 out of 27,246), which is comparable with other studies from India and other developing nations.^[5,6] The demand for blood and blood product has been increasing day by day as with the advancement of health care super specialities and organ transplant biology. However, availability of reasonably safe blood still remains a debatable issue especially in developing countries as they cannot afford to perform universal NAT screening for blood borne viruses.

The rate of response among initial seroreactive donor on notifications in our study was only 34%, which is quite low as compared to other study from North India.^[7] This study showed a positive response to post-donation counseling of 59.8% with highest responders (68.4%) from the volunteers who were initially reactive to HBV. The possible explanation of our result could be a lack of proper donor education and pre-donation counseling facilities in crowded voluntary outdoor blood donation camps. The importance of donor education and pre-donation counseling cannot be ignored in the state of West Bengal, where occult HBV infection is a phenomenal entity in eastern part of our country.^[8] The importance of pre-donation counseling has also been substantiated in another study. The study showed a very low seroprevalence of HIV, HBV, HCV and syphilis which could be attributed to proper donor counseling and donor selection.^[9]

It was observed that 39 of 47 reactive donors who responded to post-donation counseling were repeat blood donors and also aware of TTIs and high risk behavior. More interestingly, the donors who were reactive for HIV responded in maximum number for post-donation counseling (27/47). This may be because of increasing awareness of HIV in our society in recent years. At ICTC counseling of these 27 initially HIV seroreactive donors, three of them revealed history of high risk behavior which they have not disclosed on pre-donation counseling, and one was an intravenous drug abuser. On further exploration, it was revealed that these donors were aware of the fact that their blood will be tested for HIV and will be “safe” if their test results are negative.

A study by Sharma *et al.*^[10] found that very few of the donors had information about the “window period.” The donors with “high risk behavior” continued to donate blood thinking it would be tested for infections and 23% of donors thought it was reasonable to donate blood for the purpose of being tested for HIV virus.

A similar low response rate (20%) in post-donation counseling has also been observed in another study.^[11] The authors in this study considered that disclosure of the TTI status by telephone or mail is a very challenging task as it resulted in serious consequences for some donors. The authors therefore, strongly recommend the use of rapid tests before blood collection, instead of current practice, which takes 3 h to obtain the test results and disclosure of the results directly to the donor by the counselor, to avoid the dropouts and to ensure confidentiality. However, the application of this practice in an outdoor blood donation camp is debatable and rather impractical.

Pre-donation screening of donors' health should be an integral part of blood safety. Counselors should be well trained and competent. Written material should be clear, understandable and most importantly, privacy and confidentiality should be maintained. One study revealed that 31% of HIV positive donors felt lack of privacy during health interview, while 20% stated that they would have provided different answers if they had been in more private situation.^[12]

Conclusion

The response to the post-donation counseling among initially seroreactive blood donors was only 34% (47/138). A majority of our voluntary blood donors (296/434) are still having a very reluctant approach to provide relevant information related to their socio-demographic profile while registering themselves in out-door camps. There is need to create more awareness among the voluntary donors, to achieve the goal of “Safe Blood Starts with Me!” by the World Health Organization,^[13] in our state. Proper pre-donation counseling is still a challenge to get an effective post-donation response at least in the outdoor blood donation camps.

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