

Original Research Article

Donor notification in reactive donors and their response to communication

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ABSTRACT

Background: Blood transfusion is associated with the risk of transmitting transfusion transmissible infections (TTI) even after the thorough mandatory TTI screening of blood units. To prevent disease transmission, it is important to inform, notify and counsel the donors about their seroreactive status at the blood centre. The present study determines the response of various TTI reactive donors for post donation counselling after notification and their persistence in society as reactive donors.

Methods: It was a retrospective study conducted at tertiary care center from 1May2015 to 30April2017. Re-active donors were called to the blood bank by telephonic call and letters. Reactive donors on complying at center were retested, counselled and referred to appropriate centre for further management.

Results: There were 34,204 blood donations over period of two years, out of which 375[1.09%] were reactive donors. Of these HBV reactive comprises of 166/34204(0.48%), HCV were 40/34204(0.11%), HIV reactive donors comprises of 26/34204(0.07%), Syphilis 138/34204[0.40%] and there were five cases of co-infection, two for HIV+ HCV, two cases HIV+HBV and one case of co-infection with HBV+ Syphilis. A total of 375 TTI reactive donors were identified, out of which (227/375) 60.5% contacted by tele-phone calls and letters and remaining (148/375) 39.46% cannot be contacted. Out of 227 contacted donors only 117 donors reported for post donation counselling i.e. response rate of 51.54%.

Conclusions: Donor notification is efficient method of curtailing TTI but undermined by communication failure with donors, resulting in persistent load of blood transmissible infectious risk.

Keywords: Donor notification, Reactive donor, Transfusion transmissible infections

INTRODUCTION

The practice of thorough screening, testing, notifying and counseling of blood donors for transfusion transmitted infection (TTI) is very important and efficient method of curtailing transfusion transmitted infections, but communication of positive test results to blood donors is not a universal procedure.¹

In India, disclosure of viral TTI reactivity to the blood donor was not permitted until December 2004, then national blood transfusion council of India, formulated a strategy for same and advocated the disclosure of results of TTI to blood donors.²

According to objective 4.18 of action plan for blood safety 2007, the blood donor will be offered the option of knowing his TTI status, by the blood bank when the blood donor questionnaire and consent form is filled. In the event that the blood sample of a donor(who wishes to know his TTI status) is found to be reactive to hepatitis ‘B’ or hepatitis ‘C’ or HIV apart from destroying the blood unit in accordance with the existing procedure the donor shall be requested to visit blood bank personally by simply informing him/her that some of the immediate results are not conclusive, and need to be confirmed.³ Thus the issue of notifying and counselling was addressed wisely, but donation free from all transmissible infections, is still a far fledged dream. Blood donors with reactive screening test results are called to the blood bank by letters, telephone call and emails for counselling and repeat testing at the blood bank. Counseling, testing, and notification together form the vital link between the donor and safe blood.⁴ Present study was conducted to evaluate response of various TTI reactive donors for post donation counselling and their persistence in society as reactive donors.

METHODS

It was a retrospective study conducted at Department of Transfusion Medicine, Shri Maharaja Gulaab Singh Hospital, Government Medical College Jammu from 1 May 2015 to 30 April 2017. All the donors were selected for donation as per departmental SOPs and criteria for selection of donors as per Drug and Cosmetic Act, 1945.⁵ Phone number and complete postal address of each donor was noted at the time of donation. Consent to inform any abnormal result was obtained. All the Donations were screened for transfusion transmissible infections namely human immunodeficiency virus (HIV), hepatitis B (HBV) and hepatitis C (HCV) by third generation enzyme-linked immunosorbent assay (ELISA) (Erba Lisa), malaria by rapid test kit (SD biosensor) and Syphilis by rapid test strip (Immunopak). All the donations, which showed optical density (OD) value above the cut off value as calculated by manufacturer’s instructions were considered reactive. Reactive donors were called to the blood bank by telephonic call and letters on their postal address. At least five telephonic calls were made, and three letters posted on the given addresses by the department. Once reactive donors come to the blood bank, they were retested using fresh sample, informed about their status, counselled and referred to appropriate center for further confirmation of their reactive status and management. Hepatitis B, C and malaria reactive donors were referred to the medicine OPD, syphilis reactive to the Dermatology and venereal diseases OPD and HIV reactive to the integrated counselling and testing centre of the hospital.

RESULTS

There were 34,204 blood donations over period of two years, out of which 375 (1.09%) were reactive donors.

Of these sero-reactive pattern HBV, HCV, human immunodeficiency virus (HIV), syphilis and confection were 0.48% 0.11%, 0.07%, 0.40% and 0.014% respectively shown in (Table 1).

Table 1: Seropositivity rate of human immunodeficiency virus (HIV), hepatitis B (HBV), hepatitis C (HCV) and syphilis.

TTI markers	No. of seropositive donors	TTI seropositive rate
HIV	26/34,204	0.07%
HBV	166/34,204	0.48%
HCV	40/34,204	0.11%
Syphilis	138/34,204	0.40%
Co-infections		
HIV+HCV	2/34,204	0.0058%
HIV+HBV	2/34,204	0.0058%
HBV+ syphilis	1/34,204	0.0029%

Sero-reactive donors are classified as donors who could be communicated and donors which could not be communicated. donors which were communicated were again divided into donors who responded/returned back as responders and donors which do not respond or return back as non-responders. Of all the TTI reactive donors 60.5% could be contacted by telephone calls and letters and remaining 29.5% couldn’t be contacted by any mode of communication. Most common reason of non-communication was mainly wrong phone numbers and address given by the donors (Figure 1).

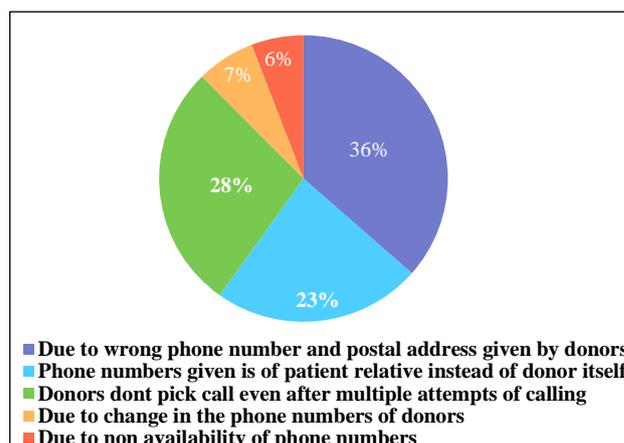


Figure 1: Reasons for non-communication with sero-reactive donors.

There were 34,204 blood donations over period of two years, out of which 375(1.09%) were reactive donors of these sero-reactive pattern hepatitis B (HBV), hepatitis C (HCV), human immunodeficiency virus (HIV), syphilis and confection were 0.48% 0.11%, 0.07%, 0.40% and 0.014% respectively shown in (Table1). Sero-reactive donors are classified as donors who could be communicated and donors which could not be

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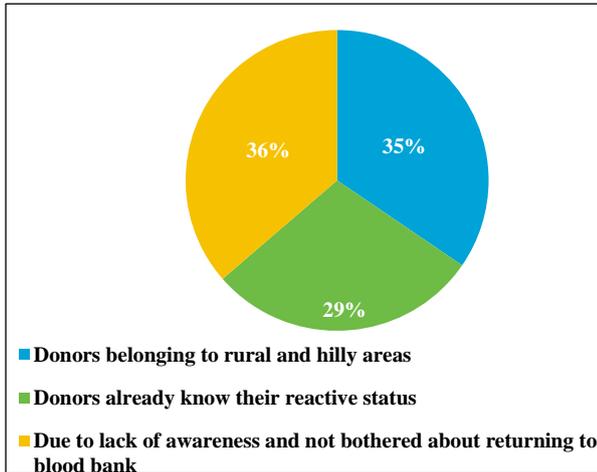


Figure 2: Reasons for non-responding/returning back of sero-reactive donors for counselling and further management.

Donors residing in far flung inaccessible areas was the main reason for not returning back for counselling and further management (Figure 2). Overall response rate of the communicated donors was 51.54%. Response rate for HIV, HBV, HCV and syphilis were 71.42%, 46.15%, 63.63%, 51.28% respectively (Figure 3).

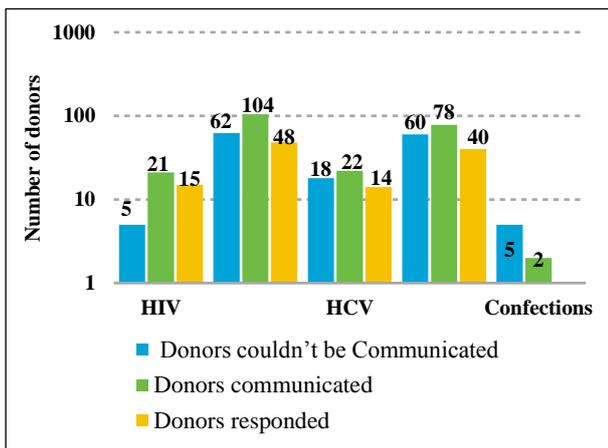


Figure 3: Response rate for HIV 71.42%, HBV 46.15%, HCV 63.63%, syphilis 51.28% and none of the donors with co-infections responded.

None of the donors with co-infections responded to any mode of communication to the blood bank. Among all ttis response rate for HIV was highest 71.42%.

DISCUSSION

Safe blood transfusion requires proper pre donation counselling and TTI screening along with post donation counselling and notification to the TTI reactive donors. Society and donor both benefits from the notification as the results can be confirmed and donor can take proper treatment. Failure to achieve 100% TTI free blood donation is attributed to breach in notification and pre donation education and thus leads to reluctance to respond to the reactivity status and leading to low respond status.

In present study, the combined sero-reactivity rate of all five mandatory TTIs markers is 1.09% which is comparable to Agarwal N et al, Patel SG et al and Leena MS et al and Mohd S et al, i.e. 0.87%,1.41% and 1.35% respectively.⁶⁻⁸ While studies done by Kumari AB et al, Kotwal U et al and Kumar R et al, showed little higher rates i.e. 2.81%, 3.02%, and 4.57% respectively.⁹⁻¹¹ Lower rate of TTI markers may be because of >99% of blood collection was from voluntary donors and deferral rate was 10.37%.⁵ In present study failure to communication was observed in 39.4% cases, which is comparable to Kotwal U et al, i.e. 49.4%, but was 10.5% by Kaur G et al, reasons being either the address of the donors are not valid or their cellular phones were switched off or unavailable when contacted during the day time, wrong phone numbers and address given by the donors.^{10,12} Reasons for failure of communication with donors in present study were due to wrong phone numbers and postal addresses given by donors, phone numbers and addresses given by donors is of patients relatives instead of donor itself and donors don't pick calls even after multiple attempts of calling. Authors assume this high percentage of false information may be due to unawareness towards TTI's and not understanding the importance of giving their correct phone numbers and addresses. There is also possibility of known reactive status and act of purposely giving wrong phone numbers and address in attempt to conceal their identity. Authors recommend emphasis on strict pre donation counselling and privacy be maintained to gain the donor confidence. Government provided I-cards be procured from donors for documentation or the use of biometrics for donor identification is also recommended.

Response rate of 51.54% in present study after notification for post donation counselling and further management was comparable to Kaur G et al. and Kleinmann S et al, at 42% and 59.8% respectively.^{12,13} However, the other studies have reported higher responding rate of 88% and 98.2%.^{10,14} Comparative Response rate of different studies shown in (Table 2).

In present study the main reasons for non-responding/returning of donors when called include donors belonging to far flung hilly areas which are inaccessible during winter months, donors already know their reactive status and not bothered about results, due to

lack of awareness of returning to the blood bank for TTI confirmation. According to Kotwal U et al, the higher response rate was due to donor's better concern for knowing their test result status, and according to Kaur G et al, the low response rate in their donors may be attributed to poor health-care knowledge and poor understanding of the screening results.^{10,12}

Table 2: Comparative response rate among reactive blood donors in different studies.

Study	Responded donors in percentage
Agarwal et al ⁴	59.80
Kotwal et al ⁸	98.20
Kour et al ¹⁰	38.90
Kleinman et al ¹¹	42.00
Tynell et al ¹²	88.00
Patel et al ⁵	81.56
My study	51.54

In present study response rate according to the TTI marker positivity was 71.42%,46.15%,63.63%,51.28% for HIV, HBV, HCV and syphilis respectively and in Kaur et al. study response rate was 50%,49%,45.5% and 17% for HIV, HBV, HCV and syphilis respectively.¹² In Kumari AB et al, study response rate was 41.7%,34.2%,36% for HIV, HBV, HCV respectively.⁹ Response rate was higher for HIV and HCV reactive donors, higher response rate for HIV was also noticed in other studies.^{9,12} Higher response rates for HIV reactive donors might be due to the higher awareness and fear of HIV/AIDS among the general population.¹² Present study had medium response rates which attributes to the far flung inaccessible rural area to which most of the donors belong, are mostly replacement donors and attendants of the patients referred from district hospitals in emergency. So, they avoid coming back for further management. Their lack of understanding and awareness regarding TTI make compliance difficult due to which they tend to ignore calls or consider it unimportant. It is also suggested that sero reactivity donors can also be referred to the nearest blood centre, for which all the blood centres should be integrated and confidentiality must be maintained. Information, education and awareness need to be created among the donors during pre-donation counselling, so that they understand the importance of being called for TTI reactive status.

CONCLUSION

Donor notification is efficient method of curtailing TTI but undermined by communication failure with donors or worse by donors themselves by providing false data and ignoring communication to avoid social stigma and continue to donate blood resulting in persistent load of blood transmissible infectious risk. Authors recommend emphasis on pre donation education, more voluntary

donations and maintenance of privacy during donor screening.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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