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Original Research Article

Impact of notification and counselling of reactive blood donors at a super-speciality hospital

Neha Syal[1], Neetu Kukar[2]*

[1]Department of Transfusion Medicine, Gian Sagar Medical College, Ramnagar, Patiala, Punjab, India
[2]Department of IHBT, Guru Gobind Singh Medical College and Hospital, Faridkot, Punjab, India

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***Correspondence:**
Dr. Neetu Kukar,
E-mail: neetukukar75@gmail.com

ABSTRACT

Background: Donor notification is emphasized as an efficient method of curtailing TTIs recently. But its limitations like low notification rate and lack of follow up of treatment of notified donors are still unaddressed. The aim of the study was to analyze the response rate of notified reactive donors, to elicit hidden risks factors and to see impact of donor notification on reactive donors.
Methods: This retrospective study was conducted in the blood bank of a 350 bedded multispecialty hospital in north India. Data was collected from reactive blood donor counselling register over a period of one year. After six months a telephonic interview was conducted of all the reactive donors who responded to notification calls and came for counselling to inquire if they went for further testing and treatment after they were notified.
Results: There were 1345 whole blood donations over a period of 14 months of which 29 (2.15%) were reactive donors. Notification rate was 48.27%. During counselling 4 donors revealed high risk history which they had denied during pre-donation counselling. After telephonic conversation with these notified donors, we analyzed that 7 (50%) donors were taking treatment while 3 donors informed that they got themselves tested from a private lab and were reported negative. Two donors informed that they had not gone for any testing anywhere while we could not trace 2 donors due to change of contact numbers.
Conclusions: Curtailing TTI's through donor notification by blood banks alone is an unattainable mission. A centralized computer data system connecting all blood banks and interlinking of government agencies and blood banks like the recently started NVHCP is need of the hour.

Keywords: Donor notification, Counselling, Ceropositive

INTRODUCTION

Blood transfusion plays an important role in the supportive care of medical and surgical patients, however unsafe transfusion practices also put millions of people at risk of Transfusion-transmissible infections (TTIs).[1] Although stringent donor screening and testing techniques are followed worldwide, but transfusing safe blood to patients is still a challenge.[2]

According to the 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] In India as per the Drugs and cosmetic act, it is mandatory to screen all the blood donations for HIV1 and 2, HBV, HCV, malaria and syphilis.[4]

Apart from implementing strict donor screening guidelines, pre and post donation counselling and notification of reactive donor is emerging as an efficient method of curtailing TTIs. NBTC 2017 guidelines for blood donor selection and donor referral have elaborated contents of pre and post donation counselling and highlighted important aspects of donor notification

process. Donor counselling is an ethical duty of blood bank toward the donors.

It includes informing the reactive donors about their serological status, the dangers of transmitting the infection to other people, providing emotional support, assistance in planning behaviour and lifestyle modifications, and then referral for health care follow-up.[5] Donors who are sero-reactive if counselled properly can be easily removed from the donor pool. Many studies have been done to prove that notification rate is low and needs improvement but still no concern is raised to know if the notified donors have received any treatment.

The aim of the study was to analyse the response rate of notified reactive donors, to elicit hidden risks factors and to see impact of donor notification on reactive donors.

METHODS

This retrospective study was conducted in the blood bank of a 350 bedded multispecialty hospital in north India. Ethical approval was taken from the institute's ethical committee.

Data was collected from reactive blood donor counselling register over a period of one year.

As per the departmental protocol, ELISA is performed on all samples. Any unit found reactive is discarded after taking another sample from the bag which is used to perform repeat ELISA. Donors are then called to collect a fresh sample on which ELISA is performed for the third time and then the donors are called again to inform their test results, counselling and referral.

Third generation ERBA kits are used for HCV and HBsAg and fourth generation ERBA kits is used for screening HIV. After six months a telephonic interview was conducted of all the reactive donors who responded to notification calls and came for counselling to inquire if they went for further testing and treatment after they were notified.

RESULTS

There were 1345 whole blood donations over a period of 14 months of which 29 (2.15%) were reactive donors. Out of these, 3 were HIV reactive (10.3%), 8 were hepatitis B reactive (27.5%), 17 were hepatitis C reactive (58.6%) and 3 were seropositive for syphilis (10.3%). Amongst this one donor was seropositive for both hepatitis B and hepatitis C and another donor was seropositive for hepatitis B and syphilis.

Out of 29 reactive donors 15 donors (48.27%) responded back to notification calls but 14 donors came for further counselling as one donor had shifted to a distant place and refused to revisit (Figure 1 and 2). Sero-reactivity rate (65.5%) as well as response to notification calls (52%) was higher in donors living in urban areas as compared to those in rural areas (40%) (Table 1-3 and Figure 3). As per the departmental protocol the donors who could not be contacted telephonically were sent written letters but none of them responded.

Low notification rate was due to change of contact numbers or incomplete address for communication.

Sero-positivity rate was higher in first time donors (86.2%) and all responding donors were first time donors. During counselling 4 donors revealed high risk history which they had denied during pre-donation counselling, and one amongst them was already aware that he was HCV seropositive but did not took treatment for it (Table 4).

After telephonic conversation with these notified donors, we analysed that 7 (50%) donors were taking treatment while 3 donors informed that they got themselves tested from a private lab and were reported negative and as they were asymptomatic, they did not go anywhere. Two donors informed that they had not gone for any testing anywhere while we could not trace 2 donors due to change of contact numbers (Figure 4).

Both donors who refused to do anything were HCV reactive as they consider it common in their area and as both were from rural area and were asymptomatic.

Table 1: Reactive donors according to gender and first time or repeat donor and residence.

Criteria's	Total reactive donors (%)	Responders N (%)
Gender		
Male	96.5	92.8
Female	5.2	7.1
Number of donations		
First time	86.2	100
Repeat donor	13.7	

Table 2: Age-wise distribution of reactive donors and responding donors.

Age (years)	No. of reactive donors	No. of responding donors
	N (%)	N (%)
18-25	6 (20)	4 (28.5)
26-35	10 (34.4)	7 (50)
36 and above	13 (44.8)	1 (7.1)

Table 3: Marital status of responding donors.

Marital status	No. of reactive donors (%)
Married	6
Unmarried	8

Table 4: Evaluation of risk factors among counselled reactive donors.

High risk behaviour/factor	No. of donors (%)	Percentage of donors (%)
IV use of abusive drugs	2	16.6
Multiple sexual partners	2	16.6
Injections from quacks	1	16.6
Tatoo (>5 years old from a mela)	1	8.3
Family history of transfusion transmitted infection	1	8.3
No suggestive history found	3	21.4

Table 5: Comparison impact of notification of donors.

Outcomes	Present study (%)	Sachdev et al (%)
Taking treatment	50	30.53
Not on treatment	35.7	48.4
Not traceable	14.2	20.9

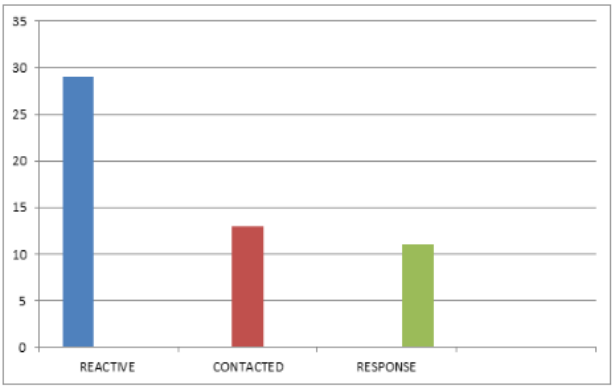

Figure 1: Contact and response rate of TTI reactive donors.

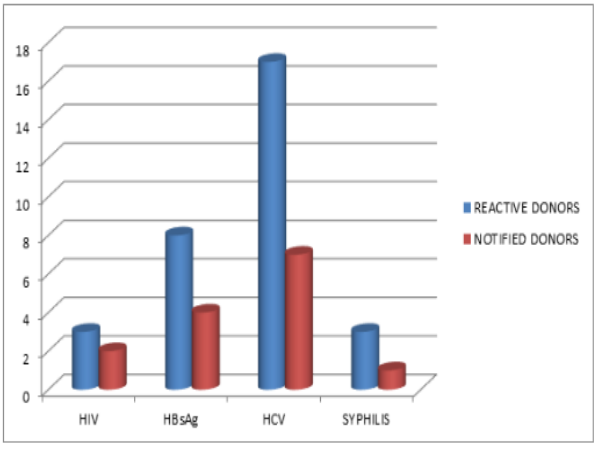

Figure 2: Incidence rates of various TTIs.

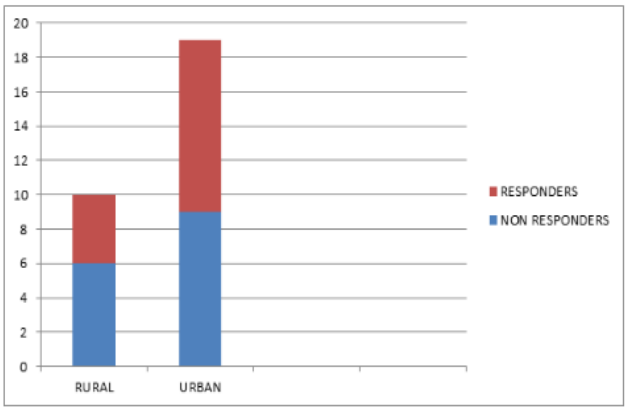

Figure 3: Response rate of donors according to residence.

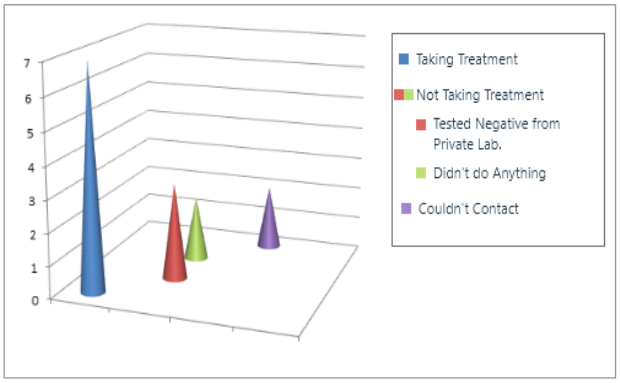

Figure 4: Impact of notifications on donors.

DISCUSSION

TTI-reactive donor notification is essential for early clinical intervention to minimize disease in the donor and the risk to the partners/close contacts.[6] In accordance with NBTC 2017 guidelines, donors who tested HIV reactive should be referred to the designated Voluntary counselling and testing center (VCTC) or Integrated counselling and testing centres (ICTC) for disclosure, counselling, and referral for treatment. HBV or HCV reactive donors are to be counselled and then referred to a gastroenterologist for further management while donors reactive for syphilis should be referred to the Sexually transmitted diseases (STD) clinic.

However, there is a lacuna of information regarding donor counselling and referral follow up in India.[7] 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.[8] Also the reactive donors who are notified of their results either do not respond at all or do not follow-up. Some reactive donors continue to donate blood despite being notified about the infectious disease test results.[9]

In our study donor notification rate is 41.3%. Similar notification rates were observed by Kumari et al (35.3%),

Kaur et al (42%) and Handa et al (53.06%) in their studies.[5,10,11] Reason for low response rate in our study was similar to above studies i.e.; wrong phone numbers and incomplete address given in personal details.

In present study seropositivity is higher in first time donors while Kumari in her study found a higher sero-positivity rate in repeat donors. Higher seropositivity in first time donors may be due to test seeking behaviour of blood donors. Twenty-three percent of donors in Sharma et al study donated blood for the purpose of being tested for HIV.[12] Elizabeth et al in his study observed that 11.8% of the donors reported a health care professional suggested donation as a way to be tested for infection.[13] This also explains the higher notification rate in first time donors observed in my study. A high prevalence of blood donor test-seeking behavior (14.4) was observed by Miriane et al in their study done on health science undergraduate students.[14] Higher notification rate in first time donors was also observed by Kumari et al in her study.[5] Test seeking behaviour also explains higher response rate in unmarried donors in my study as it is a hassle-free way to get tested for TTI's. Truong et al in his study revealed that 2.7% of blood donors acknowledged getting tested for HIV as the primary reason for donating and amongst them dissatisfaction with prior alternative testing experience was reported by 2.5% of donors.[15] The most common reasons for dissatisfaction were too long of a wait to get tested and for results, counselling was too long, lack of privacy, and low confidence in the equipment and accuracy of the test. In the present study 28.5% of notified donors reported high risk behaviour which is similar to finding by Sachdev et al (20.35%) while Sonam et al in her study reported that 53.7% of responders accepted high risk behaviour.[16] We observed that 7.1% of donors were already aware of the disease status which was comparable to Sachdev et al (5.3%) in their study. No significant history could be elicited in 21.4% donors in our study and 14.9% donors in study by Sachdev et al.

These findings further stress the importance of pre-donation counselling for donors and option of confidential unit exclusion. But as blood banks are shifting to voluntary donation module and majority donations are done in blood donation camps, it is difficult to ensure privacy to donor which is of utmost importance to ensure that the above motive is achieved. Sachdev et al in their study also stressed the need to strengthen the pre-donation counselling at outdoor blood donation and at the same time raise awareness amongst blood donors about the importance of post-donation counselling and follow up.

In the present study 50% of donors reportedly had started treatment for their disease which is more than in study done by Sachdev et al in which only 30.53% of donors were on treatment (Table 5). This higher rate of response may be due to increased awareness amongst donors or because they were test seekers. In our study 21.4% of donors did not took any treatment because they did a repeat test from a private lab and were reported negative. During counselling of reactive donors, it is stressed that the tests done in blood bank are screening tests and confirmatory tests need to be done. Most blood banks are performing at least ELISA or CHEMI for screening of blood, while most private labs are still striving on rapid tests for testing patients for viral markers. This put affords made by blood banks in vain as most of the donors still trust the rapid test results given by local labs in rural India and hence do not go any further. There is also a lack on behalf of government in taking over the responsibility of tracing positive cases. It is mandatory for blood bank to refer and then report to government departments but despite infrastructure reaching rural area no attempt is made by health authorities to trace the missing links. It is time that government should initiate contact tracing for TTI's to prevent them from spreading further.

A close interlinking of blood banks and health department is need of the hour as rural donors can easily be motivated by their local health workers to understand the importance of notification and can be a powerful asset in driving awareness for these diseases. Also, a centralized computer data system for blood banks should be encouraged where data from all blood banks is visible so that a donor who has been identified as reactive by one blood bank is not able to donate blood at some other place.

At present, government is trying hard to ensure availability of trained counsellors in all blood banks to ensure that pre and post donation counselling is done properly. However, to achieve the desired target, loopholes in the system need to be addressed and dealt properly.

CONCLUSION

Curtailing TTI's through donor notification by blood banks alone is an unattainable mission. A centralized computer data system connecting all blood banks and interlinking of government agencies and blood banks like the recently started NVHCP is need of the hour.

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