ORIGINAL RESEARCH PAPER
Volume - 9 | Issue - 11 | November - 2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

RESPONSE RATE OF DONORS FOR COUNSELING & NOTIFICATION AT UNIVERSITY LEVEL BLOOD CENTER OF NORTH INDIA

Transfusion Medicine

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ABSTRACT

Background: Blood transfusion plays a vital role in the management of many diseases but with risk of TTI transmission & many adverse reactions. Blood donor screening and transfusion transmitted infections testing ensures blood safety, so become more stringent all over the world. Aims & **objective:** The main aim of this study was to assess the response rate of sero-reactive donors. **Material and Methods:** It was an observational and prospective study done in our department for a period of 13 months during which response rate of TTI reactive donors was analyzed from reactive donor registry. **Results:** In this study, total 7901 units were screened to TTI screening test. Out of which 130 units (1.6%) were found to be seroreactive. Out of 130 reactive donors, 90 (69.2%) donors were contacted and only 51 (56.6%) donors responded to call & attended counselling and referral to other department for treatment. **Conclusion:** Universal guidelines, protocols and confidentiality is maintained by every blood center for donor notification. Response rate of reactive donors helps us to frame guidelines to track non responding donors who pose major threat to the healthy donor pool.

KEYWORDS

Counselling, Donor notification, Response rate.

INTRODUCTION:

Blood transfusion saves millions of live s each year globally [1]. The main responsibility of blood center is to provide safe blood to the recipients, but in addition they also have a responsibility towards donor safety by means of donor counselling, notification and referral.

It is mandatory to screen donated blood for HIV 1 & 2, Hepatitis B, Hepatitis C, Syphilis and Malaria under Drug & Cosmetic Act 1940, rule1945 & NACO guidelines. Most of the patients with major surgeries, chronic diseases and children with genetic diseases like thalassemia major require blood transfusion as lifesaving measurement. But in case where donor is already having an infection, transmissible by blood, the transfusion will be rather harmful for recipient.

But just screening of the collected blood is not a solution. Test done in blood center are only screening tests and if found reactive, have to be repeated and for confirmation donor is referred to respective departments. So donors should be informed, notified, counselled and treated properly. In order to prevent diseases transmission, to improve economy of blood center by reducing wastage of blood and exposure of health care workers, post-test counselling, notification and referral is required.

National Blood Policy (NBP) 2002 also known as the "Action plan for blood safety", ensures an adequate and safe blood supply. The policy claims to bring about a Paradigm shift in the disclosure of the donor's sero- status [2, 3, 4] which was not permissible previously.

In India disclosure of viral TTI reactivity to blood donor was not permitted until Dec 2004. After that NBTC formed a strategy for notification [5] and now a days, we are taking consent at the time of donation from donors for informing about reactive test results. Post donation counselling should be done with 100% confidentiality.

Blood donors with reactive test results are informed thrice by telephone calls or letters and are requested to visit blood bank for counselling and repeat testing.

Response rate to notification is often poor. Previous studies showed that donors who were notified about their reactive test results neither responded at all nor followed up for counselling and some of them continued to donate blood despite being notified [6].

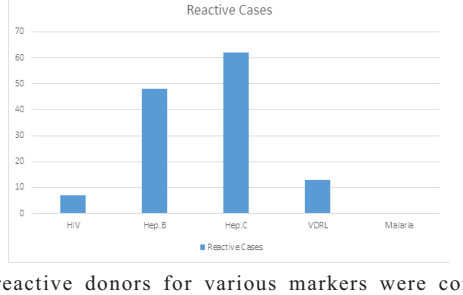
METHODS:

This is an observational prospective study done from May 2019 to May 2020 at blood center of Hospital of Medical University in North India. The study was done to evaluate the response rate of reactive donors after notification of their reactive test results as per the existing protocols 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, HBV and HCV (Hepalisa HIV Gen3, Hepalisa HBsAg and HCV GEN 3) on samples of the donors. Syphilis and malaria were tested by Rapid card test (RPR card and Pan Malaria card J mitra and Co). Confidentiality was maintained at every step. Before their noncompliance is termed as non-responder, three times they were contacted but no response from their side.

RESULTS:

During the study period, Total 7901 units were subjected to TTI screening by methods as above mentioned. Out of these 7901 units, 130(1.6%) units were found to be seroreactive. Among these 130 sero-reactive cases, 7(5.3%) cases were HIV reactive, 48(36.9%) reactive for Hepatitis B surface antigen, 62(47.6%) reactive for Hepatitis C, 13(10%) reactive for VDRL and none of them were reactive for Malaria as shown in figure 1.

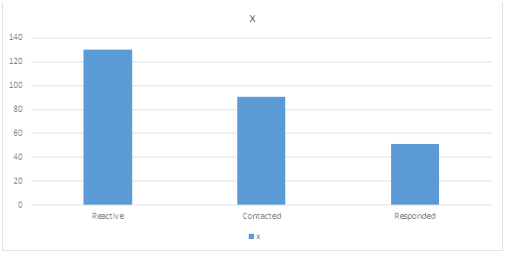
Figure 1:



TTI reactive donors for various markers were contacted telephonically. Out of these 130 reactive donors, 90 donors (69.2%) were contacted and remaining 40 donors (30.7%) could not be reached (Phone switch off or not responding to phone call). Among 90 contacted donors, 51 donors responded for notification call and attend counselling and refer to other departments for treatment as shown in

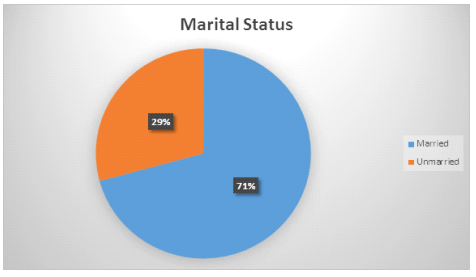
figure 1. Marital status of these reactive donors also shown in figure 3.

Figure 2.



HIV reactive responders were referred to ICTC for counselling and confirmatory testing while HBV &HCV reactive were referred to a gastroenterologist and VDRL reactive were referred to dermatologist.

Figure 3: Marital status of TTI reactive donors:



HIV reactive responders were referred to ICTC for counselling and confirmatory testing while HBV &HCV reactive were referred to a gastroenterologist and VDRL reactive were referred to dermatologist. Therefore all necessary preventive intervention can be initiated for safety of donor and his/her family members [13].

Discussion:

Blood transfusion is an important part of day to day clinical practice and it provides unique and lifesaving therapeutic benefits to the patient. However blood transfusion is also associated with the potential risk of transmitting Transfusion- transmitted Infection (TTIs) and many other adverse reactions. Proper pre-donation counselling and TTI screening along with post donation counselling and notification to TTI reactive donors are important pre-requisites in providing safe blood transfusion.

In this study, total 7901 units were collected and 130 (1.6%) donors were found to be sero-reactive. Overall TTI rate was 1.6% where as some studies showed 1.4%,0.87%,1.35% & 1.7%,1.7%[6,7,8,9,10] which is comparable with our study but some studies showed 2.5%, 3.02%, 2.7%, 3% [11,12,13,14] which is higher than our study as shown in table 2.

Table 1:

S. No	Study	Year of study	Results
1	Aggarwal et al	2012	0.87%
2	Leena et al	2012	1.35%
3	Chaurasia et al	2014	2.5%
4	Kotwal et al	2015	3.02%
5	Patel et al	2016	1.4%
6	Kumari et al	2017	2.7%
7	Chandrashekar et al	2018	1.7%
8	Singh et al	2018	1.71%
9	Garg et al	2020	3%
10	This study	2020	1.6%

Donor notification involves providing information to the donor which is prompt, accurate and confidential [15, 16].It also includes referral to suitable Medical Practitioner and donors who do not respond to our phone calls (called three times) were considered as non-responders.

In present study, only 51 donors (56.6%) responded by attending counselling in Blood bank for retesting and referral to ICTC or physician and 39 (43.3%) were non responders.

In some studies response rate of some studies was 59.8%, 62.06%, 58%, [7, 14, 17] which is comparable to our study. Some of the studies showed 32%, 38.9%, 30.56% [13, 18, 19] which is lower response rate than this study. According to them low response rate in their donors may be due to poor health knowledge and poor understanding of the screening test results. Some of the studies showed 81.56%, 70%, 98.2%, 79.7% [6, 10, 13, and 20] higher response rate than our study (as shown in table 3) which may be due to better pre-transfusion counseling and knowledge of staff. Therefore, we should inform our donors about benefit of the counselling process and help them to manage and start treatment as early as possible. Because one thing is clear that lower response rate has definite impact on transmission and prevention of infection in community.

Table 2:

S. No	STUDY	Year of study	Response rate
1.	Kaur et al	2013	38.9%
2.	Agarwal et al	2014	59.8%
3.	Kotwal et al	2015	98.2%
4.	Patel et al	2016	81.56%
5.	Kumari et al	2017	32%
6.	Tiwari et al	2018	79.7%
7.	Chandrashekar et al	2018	70%
8.	Raturi et al	2018	58%
9.	Handa et al	2019	30.56%
10.	This study	2020	56.6%

Therefore, we should inform our donors about benefit of the counselling process in pre- transfusion counselling and help them to manage and start treatment as early as possible. Because one thing is clear that lower response rate has definite impact on transmission and prevention of infection in community.

Conclusion:

Pre donation counselling is backbone of good response rate by donors. Counsellors should be well trained and so competent that they framed strategies for spreading the importance of self-deferral to donors. To improve response rate, it is required to educate the donors at the time of donation about various TTI screening tests done and importance of informing the test results.

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