

Impact of counseling on temporarily deferred donor in a tertiary care hospital, central India: A prospective study

Abstract

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Background: Donors disqualified or rejected from donating blood are known as “deferred” donors. Blood donors are deferred for various reasons. Donors are deferred either temporarily or permanently. To make blood transfusion safe for the patients, many safety measures are undertaken, and the most important is a selection of the suitable blood donors. The rate and reasons of deferral differ from region to region and one center to the other. **Aim:** The aim of this study is to find out the impact of counseling on temporary donors deferral. **Materials and Methods:** A total of 271 donors is deferred against 10,853 blood donors recruited on the basis of clinical history and brief medical examination by medical officer during the period of 19 months from 1st of November 2009 to 31st May 2011. Those who were deferred temporarily during this period were counseled regarding the importance of blood donation and asked them to recruit after removal of the temporary causes. Follow-up of these temporarily deferred donors was done for 1-year. During this period, data collected were analyzed after 1-year of follow-up. **Result:** Incidence of donor deferral in our study was low. Most common reasons for the donor deferral in our study were alcohol consumption, followed by anemia and then, history of sexual exposure. A total of 124 temporarily deferred donors were recruited for blood donation. **Conclusion:** Voluntary blood donors are the backbone of blood bank. Deferral of the donors creates negative feelings about blood donation. Education, motivation, and treatment of these deferred donors due to anemia or other temporary deferrals are important aspects in blood banking and hence that these donors can be recruited again. Thus, effective measures need to be initiated to find out the issue of lost donors in terms of numbers and reasons. Hence, it is important to retain the stock of precious blood units lost due to these temporary deferrals.

Key words: Donors, impact of counseling, temporary deferral

INTRODUCTION

Blood Transfusion Services are the essential part of health care system without which efficient medical care is not possible.^[1] However, it requires an adequate supply of safe blood. The National AIDS Control Organization’s statistics show that the annual rate of blood donation in India is about 7.4 million units, against the requirement of 10 million units.^[2] To protect blood donors and recipients, stringent donor screening criteria are necessary.^[3] The aim of this study was to find the impact of counseling on temporary donors deferral.

MATERIALS AND METHODS

This was a prospective study carried out in the Blood bank of a tertiary care hospital, central India over a period of 19 months from 1st of November 2009 to 31st May 2011. Each donor was selected by a medical officer during this period, based on detailed medical history and brief physical examination of donors with regard to hemoglobin, blood pressure, temperature, and pulse regularity and rate using WHO criteria for donor selection.^[1] Detailed information on the donor deferral including the cause of deferral was recorded in donor form. Donors deferred were differentiated according to sex and age group. Temporarily deferred donors during that period were counseled regarding the importance of

blood donation, and they were informed that they could be recruited for blood donation after removal of the cause. Data were analyzed after 1-year follow-up.

RESULTS

A total of 10,853 blood donors recruited for blood donations during our study, in which 271 blood donors were deferred on the basis of medical history and physical examination in which 210 were voluntary, and 61 were replacement donors. There were no paid donors in our study. Among total donors in the blood bank, 97.05% were male, and 2.95% were female. Almost 78% were voluntary donors and 22% were replacement donors. Among voluntary donors, 96.24% were male, and 3.76% were female donors as shown in Table 1.

There were total 69 voluntary blood donations camps organized during the study period, male donors constituted 90.38% of donors and female were 9.62% as shown in Table 2.

The donor cards were analyzed for ascertaining the reasons for donor deferral. A total of 271 donors was deferred during the study period, the most common cause was alcoholism, which accounted 65 (23.98%) of deferred donors as shown in Table 3.

Further analysis was done to know the frequency of donor deferral involuntary and replacement donors, and it was observed that deferral was more involuntary than the replacement donors and more in male (94.44%) than female (5.56%) as shown in Table 4.

Among deferred donors, majority of donors were under the age of 28 years (35.80%), followed by those aged 28-38 years (29.52%). No donors were deferred aged above 58 years in our study as shown in Table 5.

108 temporarily deferred donors, after removal of the cause were recruited again after a follow-up 1-year in which all were voluntary donors as shown in Table 6.

In our study, 39.85% of temporarily deferred donor return for blood donation, in which 62.00% were 1st time blood donors, and 38.00% were repeat donors during 1-year of follow-up period as shown in Table 7.

DISCUSSION

Deferring or rejecting potential blood donors often leaves the donor with negative feeling about themselves as well as the blood banking system. However, there are definite advantages of eliminating donors with possible risk of disease because, despite the availability of sensitive screening tests to detect HIV infection, blood donors can be infected, but tests are negative if they have been infected for a period of 6 weeks or less.^[4]

The rate of deferral differs from region to region and sometimes in the same region and one center to another.^[5] Deferral incidence

was observed by Zou *et al.* (12.8%), Sundar *et al.* (6%), Rabeya *et al.* (5.6%), Lawson-Ayayi and Salmi (10.8%), Chaudhary *et al.* (16.4%), Bahadur *et al.* (9%), and Custer *et al.* (13.6%).^[6-12]

The lowest reported rate of rejection was by Talonu T (4%) in Papua New Guinea and higher rate (8-15%) was reported by Chaudhary *et al.*, Blumberg *et al.* and Ranveet *et al.*^[10,13-15]

However, studies by other authors have cited low (5.6-7.1%) to very high (20-35.6%) deferral incidence in their donor population, which

Table 1: Status of donors as per sex and type

Types of donors	Male (%)	Female (%)	Total donors (%)
Voluntary donors	7922 (96.24)	310 (3.76)	8232 (77.79)
Replacement donors	2347 (99.9)	03 (0.10)	2350 (22.21)
Total	10269 (97.05)	313 (2.95)	10582 (100)

Table 2: Analysis of voluntary blood donation camps

Number of camp organized	Number of blood units collected		Total donors (%)
	Male (%)	Female (%)	
69	2041 (90.38)	217 (9.62)	2258 (100)

Table 3: Analysis for donors deferral

Reasons for deferral	Numer of deferred donors (%)
Alcoholic	65 (23.98)
Anemia	47 (17.35)
Abnormal blood pressure	28 (10.25)
History of sexual exposure	35 (12.92)
Underweight	14 (5.16)
History of TT injection	13 (4.80)
Past history of blood donation	11 (4.05)
Underage	05 (1.85)
History of AIDS	03 (1.10)
Others	50 (18.45)
Total	271 (100)

TT = Tetanus toxoid

Table 4: Status among deferred donors

Donors	Male (%)	Female (%)	Total (%)
Voluntary	198	12	210 (77.40)
Replacement	58	03	61 (22.60)
Total	256 (94.44)	15 (5.56)	271 (100)

Table 5: Age status among deferred donors

Age groups (in years)	Number of donors (%)
<18	05 (1.84)
18-28	97 (35.80)
28-38	80 (29.52)
38-48	47 (17.34)
48-58	42 (15.50)
58-62	0
Total	271 (100)

Table 6: Status of recruited donors after a follow-up of 1-year

Number of recruited donors	Reasons for temporarily deferral
52	Alcohol
37	Anemia
10	Underweight
9	Past history of blood transfusion
Total donors	108/271=39.85%

Table 7: Status of recruited donors

Frequency of blood donors	No of donors (%)
First time blood donor	67 (62.00)
Repeat blood donors	41 (38.00)
Total donors	108 (100)

probably reflects the regional diversity and marked variation in whole blood donor eligibility criteria internationally.^[8,16-20]

With compared to other studies, the overall deferral rate in our study was the lowest, about 2.50%. One of the reasons could be that the predonation interview as well as medical examination was not conducted as strict manner when compared to other places. It will be suggested to the blood bank in the audit report that interview and examination, these to be conducted in more precise manner in. However, if the deferral rate continues to remain low, it means the reason for deferral is not so prevalent in this area as compared to other areas.

In a Saudi Arabian study,^[21] 26.8% were deferred for consumption of drugs, 15.5% for low hemoglobin, but only 5.7% for hypertension. However, a number of other studies showed anemia as the major cause (Arslan 20.7% and Halperin *et al.* 46%). In a study in Trinidad and Tobago, a history of high-risk sexual activity was the most common cause of deferral.^[22-24]

In India, Bahadur *et al.*^[11] in their study with predominantly replacement donors (99.4%) found low Hb as the most common cause of deferral (32.9%). However, second and third most common reasons in their study were low weight (26.6%) and history of jaundice/hepatitis (8.1%). Similarly, in another Indian study by Chaudhary *et al.*^[10] low weight (32.3%) and low Hb (18.6%) were respectively the two most common reasons for the deferral.

Kwa *et al.* (poor vein and underweight donors), Charles *et al.* (low Hb and Hypertension), Zou *et al.* (travel to the malaria area and miscellaneous blood exposure), and Rabeya *et al.* (high-blood pressure and medical illness) have cited various other common reasons for deferral in respective study population.^[6,8,16,18]

In our study, 2.5% blood donors were deferred on the basis of history as well as clinical examination. Among deferred blood donors, the most common cause of deferral was alcohol consumption (23.98%) followed by anemia (17.35%). In female donors, the most common cause of deferral was anemia. Among deferred donors, 256 (94.44%) were voluntary while 15 (5.56%) were replacement donors. Domen *et al.*^[24] indicate that shared donor deferral registries may be valuable

at the local or regional level to prevent deferred blood donors from donating at other blood collection facilities.

Donor self-deferral is valid for reducing the risk of HIV transmission through blood transfusions, and its implementation should be encouraged, when recruiting blood donors.^[25]

A study by Custer *et al.*^[12] (2004) which shows that the donor deferral has a negative effect on the donor, especially more pronounce with 1st time donors.

A study done by Zou *et al.*^[26] at American Red Cross reported that 22.08% of temporarily deferred donors returned for blood donation over a span of 3 years. Reich *et al.*^[27] from California observed total of 20.5% 1st time donors returned for donations. Custer *et al.*^[28] from California also reported more repeat donors returned for blood donation. According to them depending on the deferral category, 14-31% of 1st time and 58-90% of repeat donors returned. The effects of deferral were more pronounced than expected, affecting both 1st time and repeat donors. Blumberg *et al.*^[14] (1982) reported that 13% of deferred had granted full permission to donate after completion of the deferral period.

As with the above mentioned studies, it was found that the most common cause for temporarily deferral was anemia.

Comparing with other studies, return of temporarily deferred blood donors for blood donation was more (39.85%) in our study. In our study, more number of 1st time donors reported for blood donation compared to repeat donors. It might be due to counseling of temporarily deferred donor regarding importance of blood donation.

CONCLUSION

Incidence of donor deferral in our study was low. Most donors were deferred due to temporary causes. The most common reasons for deferral in our study were alcohol consumption, followed by anemia and then, history of sexual exposure.

Voluntary blood donors are the backbone of blood bank. Deferral of the donors creates negative feelings about blood donation. Education, motivation, and treatment of these deferred donors due to anemia or other temporary deferrals are important aspects in blood banking, so that these donors can be recruited again as seen in our study. Thus, effective measures need to be initiated to find out the issue of lost donors in terms of numbers and reasons. It is important to retain the stock of precious blood units lost due to these temporary deferrals.

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