Impact of Alternative Strategies to Improve the Pool of Blood Donation by Off-Hour Donation: A Pilot Study and its Future Prospects

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Abstract

Background: The escalating need for blood component due to increasing accident and surgeries are always challenging for blood bank and hospitals. In this fast and busy world, collecting blood from a healthy and voluntary donor is quite challenging due to time constraint. Many blood donors who wish to donate blood, but they were unable to attend the Blood Bank because of simultaneous operational timings of the Blood Bank and office hours of donors. We dealt this concern by extending the donation hours and also started collecting blood on weekends following LAARC (Listen, Acknowledge, Assess, Respond, Confirm) methodology as a pilot project for improving blood donor convenience and satisfaction at the Blood Bank.

Methodology: It was a prospective observational pilot study conducted at the government tertiary care institute in the Department of Transfusion Medicine from December 2018 to June 2019. All blood donations were made as per the guidelines laid by the Drug and Cosmetic Act. Donation timings were divided as office hour donations (8 am to 5 pm on weekdays) and off-hours donations (5 pm to 8 pm, weekends and holidays).

Results: In this pilot project, over seven months out of total 1591 donations, 664 donations (41.73%) were done during off-hour. Donor experiences were more pleasing, and they felt extra cared due to convenient donation timings.

Conclusion: Increasing the donation base needs more donor friendly timings for the pleasant donation experience without hampering their work. More extensive studies should be conducted to include such strategies for increasing Voluntary Blood Donation.

Keywords: Blood Donation; LAARC (Listen, Acknowledge, Assess, Respond, Confirm)

Introduction

Day to day requirement of blood is escalating due to the increase in Road Traffic Accidents and advancement of major surgeries which need blood as a core requirement. Blood donation and transfusion is a vital part of medicine in the treatment of hundreds of thousands of patients annually and maintaining an adequate blood supply is an ongoing challenge as blood and derived blood products have limited shelf life [1].

To improve these many strategies are followed, including outdoor blood donation camps, Donor and patient’s attendant motivation at blood donation centers. Still, sometimes these strategies are not sufficient to cater to the need of blood which keeps motivating Transfusion specialist to develop newer and better strategies in this regard. This becomes more challenging in a newly set Blood Bank where donors and patients attendants are not certain and are unsure about the availability of blood component for their patient when the need arises. In our newly started tertiary care center Blood Bank, we addressed the donor feedbacks and responded to their concern by opening the blood bank donation area in off-hours to and thereby extended donations to beyond normal office working hours. We
implemented the LAARC method as a pilot project for donor satisfaction and started evening donation, weekend donation and holiday donation, including both in-house as well as outdoor blood donation camps. We analyzed our strategies of improving blood donation pool by off-hour donation by checking its utility, effectiveness and the cost-effectiveness of these strategies.

**Methodology**

This was a pilot prospective observational study on increasing the blood donor pool and was conducted at the department of transfusion medicine and blood bank in a newly established government tertiary care center in central India. The study was conducted for a period of seven months that is from mid-December to mid-July. All the donations (in house and camp) were conducted by the department of transfusion medicine and blood bank (DTMBB). The data was collected for all blood donors and included donor demographics of age, sex, working status and post-donation experience about the timing of blood donation in blood banks. Time of donation was categorized as a routine donation, and off-routine donation. Routine donation was defined as 8 am to 5 pm and off-routine donation timings were defined as donations in evening hours (5 pm - 8 pm, weekends and holidays). All the donations were done as per guidelines laid by Drugs and cosmetics act and October 2017 NBTC guidelines. The donor consent was taken as per ethical guidelines of Drugs and cosmetics act 1940. All donors were further interviewed for convenient timing of blood donation. Data was collected and organized using Microsoft excel application. Data was further analysed by Microsoft excel version 2010. The duties of existing staff including technical staff and doctors were rearranged in shifts to cater to this extended timing and no extra manpower was employed for this purpose.

**Result**

This prospective observational study was conducted at DTMBB of a Govt. tertiary care center of central India over 7 months as a pilot project to evaluate the effectiveness of donation on off-hours timings. Total donation during the study period was 1591 out of which major age group was between 25 to 60 with 743 donors (46.70%). Major age group during routine hours was between 25 to 60 with 369 donors (23.19%). Major age group during off-hours was between 25 to 60 with 374 (23.50%) donors. Out of total donations 1526 (95.91%) were Males and 65 (4.08%) were female with a ratio of 23.47. During routine hours 887 donors (55.75%) were Male and 40 (4.08%) were female with a ratio of 22.17. During off-hours number of 639 (40.16%) were Male and 25 (1.57%) were female with a ratio of 25.56.

Overall total working population observed in the study was 1081 (67.94%) and total working population observed during routine hours was 624 (39.22%) and total working population observed during off-hours was 457 (28.72%). This was further analysed as total working male population observed during routine hours was 607 (56.15%) and total working female population observed during routine hours was 17 (1.57%). During off-hours total working male population observed was 452 (41.81%) and total working female population observed was 05 (0.46%). No. of donation was also observed month wise as shown in figure 1, showing a rising trend of off-hour donation in respect to routine hour donation.

**Figure 1**

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Discussion and Conclusion

Hospital services are expanding very rapidly, and therefore the need to strengthen the core services within the hospital which include the transfusion services becomes a necessity. This study was conducted at a newly established government tertiary care center having all super-specialty and handling major surgeries and trauma and obstetric emergencies. Blood bank in this set up has many challenges which need to be addressed. This government hospital set up caters mostly the underprivileged and poor from periphery and remote areas of central India. The department receives increasing requests for blood and blood components, which can only be catered by expanding the donor base in this hospital attached blood bank. Further being in the inception phase, the numbers of voluntary blood donation camps are very less and very few voluntary organizations and voluntary blood donors are aware of its functionality. Therefore to fulfill demands of safe blood to needy patient’s alternate strategies were developed to improve the donor pool.

Blood bank strategies to improve donor pool include mainly two strategies, both short term and long term to overcome the shortage of blood supply. For long term supply of safe blood educating young children in school and colleges regarding the need of blood and importance of blood donation which further may be supported by conducting educational seminars, lectures, street plays and dramas. Secondly, linking Voluntary blood donor organizations in the local region to conduct voluntary blood donation camps at their premises or in house to improve the pool of blood in blood bank. The voluntary blood donor base can be improved by alleviating donor of their doubts and fears of donating blood in the presence of their near and dears ones, family and friends. This has both short term and long term impact on blood donation. Similar categories of intervention have been documented: (a) relatively sustained multifaceted, community-based interventions and (b) one-off information and educational video interventions, presented face-to-face, or delivered via post or e-mail [2]. Another study has concluded that It may also be useful for blood services to work with other governmental agencies, given the broader benefits of blood donation such as facilitating social inclusion [3].

Role of media and other government agencies are very vital in increasing awareness of people about the need of blood in an emergency as well as by updating urgent blood requirement information in public platforms in different ways. We utilized this platform (FM Radio) to make donors aware of urgent rare blood group requirements for our needy patients as well as about off-hours donations. Additionally, blood banks can have their management mechanism to improve blood donation by adjusting and rearranging duties of doctors and staff to extract maximum work output for the betterment of needy patients in the hospital. In our study, we could improve donation base by 41.73% in off hour’s donations as compared to routine hour’s donation without adding any additional cost in terms of salary or increase in manpower. We utilized the existing manpower of blood bank to manage the extended hour’s donation and rearranged the duties in shifts to cover these extended hours of donations, therefore saving on salary which would have increased with employment of extra manpower. We did not offer any incentives for the donors including those donors who donated during off hour’s. Other studies have indicated that offering money or cash-equivalent incentives may have a negative effect on blood safety and blood donor contribution and make donors consider blood banks as a non-altruistic service [4].

During the study period, we found additional 664 units of blood were collected amounting to 41.73% of total blood donation. Another study by Richard Grieve, et al. has concluded that Extending opening hours for blood donation to weekday evenings or weekends for all static donor centers are cost-effective ways of increasing the supply of high-demand blood types [5,6]. Donors were also interviewed during donation Counselling regarding the suitability of timing of donation for which they were all convinced for off-routine hour donation, and it was more pleasing for working group donors, and they felt cared as the timings were convenient for them.

Bibliography


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