

RAPID APPRIASAL OF FACTORS IMPACTING THE BLOOD DONATION PROCESSFROM RURAL HARYANA

**ANURAG AMBROZ SINGH^a, MANPREET KAUR^b, ABHISHEK SINGH^{1c}, MOHD. HAROON
KHAN^d, SHEWTANK GOEL^e, ARVIND MENGI^f AND AVINASH SURANA^g**

^aDepartment of General Medicine, SHKM Govt. Medical College, Mewat, Haryana, India

^bDepartment of Ophthalmology, SHKM Govt. Medical College, Mewat, Haryana, India

^cDepartment of Community Medicine, SHKM Govt. Medical College, Mewat, Haryana, India

^dDepartment of Community Medicine, SHKM Govt. Medical College, Mewat, Haryana, India

^eDepartment of Microbiology, MSDS Medical College, Fatehgarh, Uttar Pradesh, India

^fDepartment of Orthodontics, Indira Gandhi Government Dental College, Jammu & Kashmir, India

^gDeputy Assistant Director Health, 19 Inf. Div

ABSTRACT

The present study was planned with the aim of identifying barriers to blood donation from a tertiary care teaching institution. When asked what would prevent them from giving blood, 21% said it was too inconvenient, 18% were afraid of needles, 17% stated it took too much time, 12% were concerned about contracting a disease while giving blood, and 7% were concerned about finding out if they had a disease. Medical reasons reported as preventing donations included anemia, 18%; diabetes, 4%; and pregnancy, 4%. Eleven percent of the respondents answered "don't know" or refused to answer, while 7% gave no reason. Low education status (OR = 2.25, 95% CI 1.51 – 5.23) and low socioeconomic status (OR = 4.47, 95% CI 2.11 – 15.06) were found to be significantly associated with poor knowledge regarding blood donation.

KEYWORDS : Barriers, Blood donation, Donors, Motivation

Blood is universally recognized as the most precious element that sustains life. It saves innumerable lives across the world in a variety of conditions (Sharma, 2010). In spite of extensive efforts and a number of blood donation programs being organized worldwide; the availability of blood still remains short to meet the increased demand for it. The WHO advocates that 3%-5% of the population should donate blood every year; this would be the ideal rate for maintaining a country's stock of blood and blood products at acceptable level (Zago, 2010). Unfortunately, 83% of the global population who live in developing countries have access to only 40% of blood supplied, and this blood in 60% of cases is collected from paid or replacement blood donors rather than from voluntary, non-remunerated low risk donors (Mitra, 2001). While there is a need of about 8.5 million units of blood annually, India is able to collect only 4.4 million units of which only about 52% are from voluntary blood donors (NACO, 2014).

Many people in developing countries are faced with ignorance, misperceptions and fears about the blood donation process, which result in a limited number of voluntary donors (Dubey, 2012). Lack of knowledge, fear, facilities, convenience and the quality of service are

common factors in people's decisions on whether to donate blood repeatedly on a voluntary basis (Gutierrez, 2003). Indeed, understanding blood donors motivations is crucial to improve the effectiveness of donor recruitment and retention programmes (Glynn, 2002). This information would be helpful in planning for a programmes and campaigns in order to recruit more people as regular, non-remunerated, voluntary donors as they are low risk donors.

It is reported that there are still many misguided attitudes about blood donation among the people, especially people in rural areas (Wiwanitkit, 2000). Keeping these facts in mind, barriers to blood donation from a tertiary care teaching institution was studied.

MATERIALS AND METHODS

The current cross sectional study was planned and executed by the Department of General Medicine in collaboration with Department of Ophthalmology of a tertiary care teaching institution in the state of Haryana from March to November 2014 using pretested self-administered inventory. The study population consisted of the accompanying persons visiting the blood bank for blood donation. They were informed and briefed about the purpose of study and requested to participate. Those who not willing

¹Corresponding author

to participate in the study were excluded. Anonymity of the students was maintained. Informed consent was obtained. Ethical committee approved the study.

Socio-demographic information related to age, sex, education, etc. was collected. Socio-economic status was assessed, based on the modified BG Prasad classification (year 2013) scale. Knowledge on blood donation, perception regarding barriers to blood donation and blood donation by the participants in the past were also collected. For purposes of this study, people who had previously donated blood either on a voluntary basis or as a replacement donor were labeled as donor; people who had never donated blood at any time in the past were labeled as non-donors.

Data was entered in Microsoft Excel and analyzed using SPSS (Statistical Pack-age for Social Sciences) 21.0 programme. Data are expressed as proportion and percentages. Chi square test was applied to find the association of attitude with voluntary blood donations. Association of socio-demographic variables with

knowledge regarding blood donation was derived using multivariate analysis.

RESULTS

There were multiple reasons why people did not donate. When asked what would prevent them from giving blood, 21% said it was too inconvenient, 18% were afraid of needles, 17% stated it took too much time, 12% were concerned about contracting a disease while giving blood, and 7% were concerned about finding out if they had a disease.

Medical reasons reported as preventing donations included anemia, 18%; diabetes, 4%; and pregnancy, 4%. Eleven percent of the respondents answered "don't know" or refused to answer, while 7% gave no reason. (Table 1)

Participants believed that increasing awareness of the importance of blood donation was the most important strategy to increase the number of blood donors. Respondents were asked: "What do you think are the most important things that could be done to significantly increase

Table 1 : Perceived Reasons Preventing Blood Donations

Reason	Percentage
Too inconvenient	21
Afraid of needles	18
Takes too much time	17
Might contract disease	12
Might find out have disease	7
Medical condition	
Anemia	18
Pregnant	4
Diabetes	4
Don't know	11
No reason	7

Table 2 : Probable Methods to Increase Blood Donation

Probable methods	Percentage
Increase awareness of need	47
More convenient locations	22
Don't know/refused	17
Encouragement by pastor	17
Assurance that it is safe	12
Miscellaneous	12
A personal patient story	6
Incentives	5
More blood drives	5

Table 3: Association of Socio-Demographic Variables With Knowledge Regarding Blood Donation - Multivariate Analysis

Variable	Odds ratio (95 % CI)	P value
Education status*		
Low	2.25 (1.51 - 5.23)	0.03
High	Ref	
Socioeconomic status**		
Low	4.47 (2.11 - 15.06)	0.02
High	Ref	
* Low education - illiterate and primary school, High education- middle school to post-graduation		
**Low socioeconomic status - class IV and V, High socioeco nomic status- class I to Class III		

blood donations in the Black community?" Forty-seven percent thought an increase in awareness of need was important, 22% thought more convenient locations to give blood would be important, 17% thought that it was important to have their pastor or priest support blood drives at their church, while an additional 5% thought more blood drives would be helpful. (Table 2)

Low education status (OR = 2.25, 95% CI 1.51 – 5.23) and low socioeconomic status (OR = 4.47, 95% CI 2.11 – 15.06) were found to be significantly associated with poor knowledge regarding blood donation. (Table 3)

DISCUSSION

It is essential to understand the various factors that could change the perception and awareness about blood donation among the rural population. Such studies may be useful for the successful implementation of Voluntary Blood Donation program and to introduce strategies for maintaining an adequate and safe blood supply. Based on the results of our survey, improving rates of blood donation requires increasing awareness about the importance of such donations. Increased awareness may be achieved by emphasizing the potential benefit of blood and cord blood donations to the treatment and potential cure for sickle cell disease. Additional efforts might also include increasing education about the blood donation process and decreasing the inconvenience of blood collection locations.

Overall, barriers to blood donation do not appear to be different than barriers in the Caucasian population (Gillespie, 2002; Oswalt, 1977). Our results confirm previous findings that the most common barriers to blood donation are the inconvenience of the blood donation

process and the fear of needles (AABB, 2014). To attract and maintain an adequate blood donor base among all potential blood donors, blood-collecting facilities must find ways to speed the donation process and find times and locations that are more convenient to donors.

Recent efforts have been made by blood collection agencies to shorten the health history and make repeat donation a faster process (Glynn, 2002). Similar to previous results, most of our study participants did not believe any recognition was necessary (Oswalt, 1993). Some authors suggested that a thank you or feedback on how their donation aided another individual would be helpful. This finding suggests that altruism may act as a sufficient motivator for blood and cord blood donations.

The findings of this study suggest that strategies to increase blood donations might include increasing convenient locations, decreasing the time needed to donate blood, and increasing the support by local leadership. However, additional studies would be necessary to determine the efficacy of these strategies in increasing blood donor participation.

REFERENCES

- American Association of Blood Banks website: <http://www.aabb.org>. Accessed 15 June 2014.
- Dubey A., Sonker A., Chaurasia R. and Chaudhary R., 2012. Knowledge, attitude & beliefs of people in North India regarding blood donation. *Blood Transfus*, **20**:1-7.
- Gillespie T. W. and Hillyer C. D., 2002. Blood donors and factors impacting the blood donation process. *Trans Med Rev.*, **16**:115–130.

- Glynn S.A., Kleinman S.H. and Schreiber G. B. et al., 2002. Retrovirus Epidemiology Donor Study. Motivations to donate blood: demographic comparisons. *Transfusion*, **42**:216–225.
- Glynn S. A., Kleinman S. H., Schreiber G. B., Zuck T., Combs S. M. and Bethel J. et al., 2002. Motivations to donate blood: demo-graphic comparisons. *Transfusion*, **42**: 216-25.
- Gutiérrez M. G., De Tejada E. S. and Cruz J. R., 2003. A study of soci-ocultural factors related to voluntary blood donation in the Americas. *Rev. Panam Salud Publica*, **13**:85-90.
- Mitra K., Mandal P. K., Nandy S., Roy R., Joardar G. K. and Mishra R. A, 2001. study on awareness and perceptions re-garding blood safety and blood donation among Health care providers in a Teaching Hospital of Calcutta. *Ind. J. of Comm. Med.*, **26**:21-6.
- National AIDS Control Organization: Services for Prevention/ Access to Safe blood. Available at:http://naco.gov.in/NACO/National_AIDS_Control_Program/Services_for_Prevention/Access_to_Safe_blood/ Accessed April 8th 2014.
- Oswalt R. and Gordon J. Blood donor motivation: a survey of minority college students. *Psychol Rep* 1993; **72**:785–786.
- Oswalt R. M., 1977. A review of blood donor motivation and recruitment. *Transfusion*, **17**:123–135.
- Sharma R., Madan N., Venkatesh S., Ichhpujani R. L. and Lal S. Factors Influencing Blood Donations and the Rational Use of Blood. *J. Commun. Dis.* 2010; **42**:185-90.
- Wiwanitkit V., 2000. A study on attitude towards blood dona-tion among people in a rural district, Thailand. *South-east Asian J Trop Med Public Health*, **31**:609-11.
- Zago A., Silveira M. F. and Dumith C.S., 2010. Blood donation prev-alence and associated factors in Pelotas, Southern Brazil. *Rev. Saudi Publica*, **44**:112-20.