

# A Descriptive Study of Knowledge, Attitude and Practice with regard to Voluntary Blood Donation among Medical Undergraduate Students in Pondicherry, India

R.S BHARATWAJ, VIJAYA K, P.RAJARAM

Community Section

## ABSTRACT

**Introduction:** The ability to transfuse blood represents one of the great advances in modern medicine, which has made much of today's surgeries safer and possible. Voluntary blood donors are the safest and the ideal sources of good quality blood. Inspiration among and participation of the student community is essential to make the "voluntary blood donation" movement a success.

**Materials and Methods:** A pretested, close ended questionnaire was administered to 104 randomly chosen students and their responses were further compiled and analyzed. Later, an interactive 2 hours session was organized, which gave information about the voluntary blood donation and which addressed all the issues which were a part of the questionnaire. At the end of the session, the willingness of the students in donating blood was again noted.

**Results and Discussion:** All the participants had an incomplete knowledge regarding the various aspects of voluntary blood donation. The participants who had a relatively better knowledge had parents with a significantly higher educational status. Only 1 of the participant had donated blood so far. Among the participants, 85% were willing to donate blood voluntarily. Those who were unwilling to donate stated fear and inconvenience as the reasons for their unwillingness. The short interactive session significantly enhanced the willingness to donate blood, among those who were initially unwilling.

**Conclusion:** Interactive awareness sessions on voluntary blood donation should be organized early after the college entry and opportunities for blood donation should be created for the students, which can greatly enhance the movement for "voluntary non-remunerated blood donation", to ensure a good quality of blood and safe modern medical care.

**Key Words:** Blood donation, Voluntary, Awareness, Practice

## INTRODUCTION

"Safe blood starts with me, blood saves lives." was the W.H.O theme for 2000 AD. Blood has always held a mysterious fascination for all and it is considered to be the living force of our body. Today, the use of whole blood is a well-accepted and a commonly employed measure without which many modern surgical procedures cannot be carried out [1]. Human blood is an essential element of the human life and there are no substitutes for it [2]. There is a considerable shortage of blood, even in large metropolises, with the supply being less than 50% of the requirement [3]. Safe blood is a critical component in improving the health care and in preventing the spread of infectious diseases globally. Millions of lives are saved each year through blood transfusions, but yet the quality and the safety of blood transfusion is still a concern, particularly in the developing countries. The reason for this includes blood collection from unsafe donors, poor laboratory procedures and the inadequate testing of blood. Blood will be safe if there is a nationally coordinated blood transfusion service, collection of blood only from voluntary non-remunerated donors, testing of blood for transfusion transmissible infections and if there is transfusion of the right blood to the right patient through the appropriate clinical use of blood [4].

The need for blood is growing day by day as a result of the advancement in the clinical medicine. In terms of the need for blood transfusion, it is noted that in India, the death toll which is

caused by road accidents has increased due to the unavailability of blood transfusion services near the accident site [5]. Voluntary, non-remunerated blood donation has been universally shown to be the cornerstone of safe blood [6]. Truly speaking, voluntary blood donors are the bricks of the edifice which is called 'blood transfusion'.

College students, particularly from medical colleges, can be a very good source of quickly accessible, quality blood if they are motivated and are willing to be voluntary blood donors.

## OBJECTIVES

To find out the knowledge, attitude and the practice with regards to voluntary blood donations among medical undergraduate students.

## MATERIALS AND METHODS

Of the 280 students of second and third MBBS at the Sri Lakshminarayana Institute of Medical Sciences which is located in Pondicherry, India, 104 were selected by simple random sampling by using the lots method. A pre-tested, close-ended KAP questionnaire which was designed based on the study objectives, was administered to the participants and the results were consolidated and tested for any statistical significance, where ever required by the tests, for obtaining the significance of the difference in the proportions. After the collection of the information, a short

interactive awareness session was organized for the participants and their willingness to donate blood was again noted at the conclusion of the session.

## RESULTS

There were 49 male and 55 female students. The age of the participants ranged from 19 to 22 years, with a mean age of 20.4 years. All the participants had a very incomplete knowledge regarding the various aspects of voluntary blood donation. None of the participants was able to respond to the knowledge part of the questionnaire with 100% accuracy (questions like, who is a healthy donor, any age limitations for voluntary blood donation, etc). There was no significant difference between the males and females with regards to their knowledge on voluntary blood donation [Table /Fig-1]

Only 37.5 % ( 39) of the participants responded to 60% or more of the questions correctly and among these, 48.7 % ( 19) had parents with at- least a graduate qualification. Among those who responded to less than 60% questions correctly, only 15.3 % ( 10) had parents with at- least a graduate qualification. The proportion of the parents with a graduate qualification was significantly higher among those participants who had a better knowledge about voluntary blood donation [Table/Fig-2]

All the participants felt that voluntary blood donation was a noble act and they respected people who donated blood voluntarily.

Only one among the 104 participants had donated blood so far and that was for a surgery of his relative.

85% (88) of the participants were willing to donate blood and 15% (13 females and 3 males) were unwilling to donate blood. Among those who were unwilling to donate blood, the proportion of females was higher. The reason for their unwillingness to donate blood was parental disapproval for all the 16 participants. Also, among the 13 females who were unwilling to donate, 10 had fear of pain and other side effects. All the 16 had parents with less than a graduate qualification.

Among the 85% who were willing to donate blood, the reasons for not having donated blood so far were lack of family support (M-19.53%, F-19.04%), lack of opportunity (M-50%, F-54.76%), indifference ( M-21.73%, F-7.14%) and fear (M-8.6%, F-19.04%) [Table/Fig-3].

After the awareness session, only 3 students (2 females and 1 male) were unwilling to donate blood and they stated parental reasons. The overall increase in the willingness to donate blood increased from 85% to 97.1%. Between the male and female students, 33.33% of the females and 92.3% of the male students, who were initially unwilling to donate blood, became willing for voluntary blood donation. This change in the willingness between the male and female students was statistically significant ( $p<0.05$ ).

## DISCUSSION

This study among the medical graduates, who are a very potential and accessible source of voluntary non-remunerated and safe blood by the virtue of its collectability by coordinated blood transfusion services, revealed that, parental education seemed to have an overall impact on the knowledge regarding blood donation among the students.

Most of the students who were willing to donate blood, said that they had not donated blood because of the lack of an opportunity

Educational qualification of the parents	Response more than 60% accurate	Response less than 60% accurate
Graduate and above	19	10
Below graduate	20	55
	39	65

[Table/Fig-1]: Student's response and their parent's educational qualification  
 $P<0.05$ .

Percentage Correct	Males	Females
More than 60%	18	21
Less than 60%	31	34
Total	49	55

[Table/Fig-2]: Correctness of response to the questionnaire  
 $P<0.05$ .

	Males	Females
Willing to donate	46	42
Not Willing to donate	3	13
	49	55

[Table/Fig-3]: Willingness to donate blood  
 $P<0.05$ .

Reasons for not having donated so far	Males	Females
Lack of family support	9	8
Lack of opportunity	23	23
Indifference	10	3
Fear	4	8
	46	42

[Table/Fig-4]: Reasons for not having donated among those willing to donate blood

to do so. This finding has been corroborated by the findings of past studies [7].

This shows that sufficient steps to involve students and to create opportunities for them to donate blood, is something that needs to be given due consideration, if we have to improve the voluntary collection of blood from them.

In contrast to a previous study among the general population in India, where only 46% of the participants were willing to voluntarily donate blood [8] the present study found that among the medical students, the willingness to voluntarily donate blood was much higher (85%), which augurs well for the drive towards voluntary blood donation.

As compared to a previous study among college students, where there were a high number of respondents with a negative attitude towards blood donation [9], in our study, we found that not even one of the students had a negative attitude. All of them felt that blood donation was a noble act. Thus, the attitude of the students in our study was positive towards blood donation. This study also revealed that the unwillingness to donate blood was more among the female students and the major reasons were fear and a perceived inconvenience which were associated with blood donation. This was corroborated by the results of a past study [10].

There was a significantly higher transformation in the willingness to donate blood, among the male students as compared to the female students, as a result of the short awareness session. From the

reasons which were given by the students, this may be attributed to a greater reliance on parental permission and the willingness on the part of the female students before they can make their decisions. This needs to be kept in mind when awareness sessions are planned, so as to produce the maximum impact.

It is a proven fact that voluntary non-remunerated blood donation is the safest and the most ideal way for improving the quality of blood which is collected through the blood banking services across the country. The youth from medical colleges, who are a very potential group of readily available donors, have to be encouraged to participate voluntarily in the blood donation activities. In a medical college hospital, they are very much accessible to the teaching faculties as a part of their training program and this fact can be made use of, to include awareness sessions as a part of their regular training, right in the beginning of their course itself, so as to diffuse any doubts and misconceptions that the students may have regarding voluntary blood donation. Our study which found a lot of lack of information among the medical students, validates the need for such early awareness programs.

## CONCLUSION

The knowledge on blood donation practices was lacking among the study participants. The fact that only 1 out of the 104 students had donated blood previously, indicates that the medical students, who are a very potential source for voluntary blood donations, have been poorly tapped. The educational background of their parents seems to have an impact on the students' knowledge regarding blood donation and their willingness to donate blood. A lack of parental support and parental disapproval have been revealed as the major reasons for the unwillingness to donate blood among the participants. Even a single awareness session greatly improved the students' readiness for voluntary blood donation.

We conclude this study with the recommendation that all the college students should be given an interactive awareness session on voluntary blood donation as early as possible, following their college entry and that the right opportunities should be created for them to voluntarily donate blood. Also, this issue should be addressed in the parents' meetings and their concerns should

be clarified, so as to ensure their support and encouragement for this noble service of voluntary blood donation. Avenues for creating parent-student combined interactive sessions to enhance joint participation and change in attitudes in a positive direction for promoting and supporting voluntary non-remunerated blood donation, need to be periodically organized and sustained.

## LIMITATIONS OF THE STUDY

The subjects were from only one medical college and hence, it may not be appropriate to project the results which we obtained, to the cohort of all the medical students.

## ACKNOWLEDGEMENT

We would like to express our appreciation to Mr Balamurugan M, Second MBBS student for his active involvement in data collection process.

## REFERENCES

- [1] Zmijewski Chester M., Haesler Walter E. Blood Banking Science. New York: Appleton Century Croft; 1982.
- [2] An action plan for blood safety. National AIDS control organization: Ministry of Health and Family Welfare, Government of India. 2003. Jul; 7.
- [3] Management of blood transfusion services, WHO 1990.
- [4] The World Health Organization 1211 Geneva 27, Blood safety and clinical technology progress 2000-2001.
- [5] Gupta A. The status of blood banking in India. Health Millions. 2000 Mar-Apr;26(2):35-8.
- [6] Blood Centres in South - East Asia. Available from:[http://www.dialog.lk/corporate/media\\_mediaApril2003\\_2.html](http://www.dialog.lk/corporate/media_mediaApril2003_2.html).
- [7] Gilani I, Kayani ZA, Atique M. The knowledge, attitude and practices (KAP) regarding blood donation which are prevalent in medical and paramedical personnel. *J Coll Physicians Surg Pak.* 2007 Aug;17(8): 473-76.
- [8] Shenga N, Pal R, Sengupta S. Behavior disparities towards blood donation in Sikkim, India. *Asian J Transfusion Sci.* 2008 July; 2(2): 56-60.
- [9] Hosain GM, Anisuzzaman M, Begum A. The knowledge and attitude towards voluntary blood donation among Dhaka University students in Bangladesh. *East Afr Med J.* 1997;74:549-53.
- [10] Juárez-Ocaña S, Pizaña-Venegas JL, Farfán-Canto JM, Espinosa-Acevedo FJ, Fajardo-Gutiérrez A. Factors that influenced the non donation of blood in the relatives of patients at a pediatric hospital. *Gac Med Mex.* 2001;137:315-22.

## AUTHOR(S):

1. Dr. R.S. Bharatwaj
2. Dr. Vijaya K.
3. Dr. P. Rajaram

## PARTICULARS OF CONTRIBUTORS:

1. M.D Community Medicine, Sri Lakshminarayana Institute Of Medical Sciences.
2. M.D, Obstetrics & Gynaecology, Sri Lakshminarayana Institute Of Medical Sciences.
3. DPH, Sri Lakshminarayana Institute Of Medical Science Dept of Community Medicine, Sri Lakshminarayana Institute Of Medical Sciences, Pondicherry, India.

## NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. R.S Bharatwaj,  
Asst Prof. Dept of Community Medicine,  
Sri Lakshminarayana Institute of Medical Sciences,  
Pondicherry, India - 605502.  
Phone-09629834189  
E-mail: resure2@yahoo.com

## FINANCIAL OR OTHER COMPETING INTERESTS:

None.

Date of Submission: **Nov 25, 2011**  
 Date of Peer Review: **Nov 26, 2011**  
 Date of Acceptance: **Nov 29, 2011**  
 Date of Publishing: **May 31, 2012**