



## A Study on knowledge, Attitude and Practice of voluntary blood donation among the undergraduates of Raja Rajeswari Group of institutions (Medical, Dental and Engineering) Bangalore Karnataka

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### ABSTRACT

**Aim:** The study aims to assess the level of knowledge, attitude and practice of voluntary blood donations among the undergraduate students of Raja Rajeswari group of the institution Bangalore.

**Objective:** To understand the various factors contributing to the knowledge, attitude and practice of voluntary blood donation among the undergraduate students of Raja Rajeswari group of the institution Bangalore.

**Methods:** A cross-sectional study was conducted among 300 undergraduate students of Raja Rajeswari Medical, Dental and ACS Engineering College Bangalore in the academic year of 2012-13. A standard set of multiple choice questions consisting 07 questions on knowledge, attitude and practice of voluntary blood donation was provided to the students with a time period of 3 minutes to answer all the questions. At the end, the results were expressed in percentage and analyzed.

**Results:** Overall knowledge of students on voluntary blood donation was average with very good attitude towards voluntary blood donation and The majority (88 %) of the students showed willingness to participate in voluntary blood donation on regular basis. 90.7 % of total study population opines that blood donation is a noble cause. About 10 % of the participants had previous experience of voluntary blood donation and 37 % of the blood donors had a bad experience during voluntary blood donation.

**Keywords:** Voluntary Blood Donation (VBD), undergraduate students, health education.

### INTRODUCTION

Blood is the fluid of life. The requirement of blood and blood products in a country depends on the population, health care structure, prevalence of conditions requiring regular transfusions (hemophilia, thalassemia etc.), availability of surgical centers using modern sophisticated techniques and awareness among clinicians regarding judicious use of blood. However, the problem of scarcity of blood and blood components is observed in most of the blood banks all over the world. <sup>(1)</sup>

The rapid urbanization of the country, increased number of Road traffic accidents (RTA), violent activities and availability of advanced medical/surgical treatment modalities have increased the demand for blood and blood products more than the routine requirement off late. One more important factor adding to this is the fact that Indian women invariably being and the majority of them having iron deficiency anemia which demands blood transfusion prior to any surgical treatment in the country and in this regular need of

blood transfusion in the day today life only source of blood is by blood donation. <sup>(2)</sup>

Recruitment of voluntary, non-remunerated blood donors poses a major challenge to transfusion services throughout the world. <sup>(3)</sup> As per World Health Organization (WHO) guidelines, 1% of the population is generally the minimum needed population to meet the country's most basic requirement of blood. <sup>(4)</sup> In India during the year 2006-2007, voluntary blood donation (VBD) was only 54.4% and it increased to 79.4% during the year 2010- 2011. <sup>(5)</sup>

Internationally, regular voluntary non-remunerated blood donor, who donate blood out of altruism are considered safe blood donors and in many countries continuous efforts are needed to achieve 100% voluntary blood donations. Even though in Indian law forbidden the collection of blood from paid blood donors, many times healthcare facilities forced to accept blood from paid donors as there is a scarcity of voluntary blood donors. <sup>(2)</sup>

It is well established that the paid donors constitute a group with high-risk behavior leading to greater chances of transfusion transmitted infections in the recipients hence awareness through education and motivation of the young people about the voluntary blood donation is important for recruitment and retention of voluntary and non-remunerated blood donors. <sup>(4)</sup>

According to WHO, an estimated 38% of reported voluntary blood donations are contributed by people under the age of 25 years. WHO also insists countries focus on young people to achieve 100% regular voluntary non-remunerated blood donation. <sup>(4)</sup>

College students, particularly from undergraduate institutions, can be very good source of quickly accessible young students who are healthy, active, dynamic, resourceful and receptive. Fortunately, they also constitute a greater proportion of the Indian population. Thus those young students have to be encouraged, inspired and motivated to donate blood voluntarily on regular basis. <sup>(6)</sup>

## METHODOLOGY

It was a cross-sectional noninvasive study with simple random sampling. The study was conducted among the first year undergraduate students of medical, dental and engineering students from Raja Rajeswari Medical College, Raja Rajeswari Dental College and ACS Engineering college respectively (Raja Rajeswari group of institutions Bangalore) in the academic year of 2012 -13

An ethical committee approval was taken before starting the study and a written permission was also taken from the Principals of dental and engineering college to engage their institution students in the study on a voluntary participation of personal interest.

A total of 300 hundred first year students (medical: 100, dental: 100 and engineering: 100) of 2012 -13 academic year participated in the study on a voluntary basis. A briefing was given to the participant about the objective of the study and informed written consent was taken with assured confidentiality in the collection of personal data.

A well-structured validated and pre tested questionnaire on knowledge, attitude and practice on voluntary blood donation were designed based on WHO blood transfusion safety measures e2008 <sup>(4)</sup>, Screening donated blood for transfusion-transmissible infections: recommendations. e2009. <sup>(7)</sup>, Blood donor selection: guidelines on assessing donor suitability for blood donation. e2012 <sup>(8)</sup> and by referring the questions of similar studies conducted in the past.

The study participants were assessed through questions covering nature of the blood donation, prerequisites of blood donations, tests carried in the blood bank, storage, blood components, and usage of blood and health benefits for blood donors.

A total of 21 questions given comprising of 07 questions on knowledge, 7 questions on attitude and 07 questions on practice respectively and a total of 3 minutes given to answer 21 questions on knowledge, attitude and practice respectively. The questionnaire comprised of multiple choice questions comprising of only tick marking options

with no additional written test. Students were motivated to answer the questions honestly without copying the answers from the neighbor students. A scoring system was used to understand knowledge level, attitude and practice values and results were expressed in percentage.

## RESULTS

The results of the study are as shown in table 1.1, 1.2 and 1.3 respectively. For the better understanding of the result were expressed in terms of % score. Students with 100 % score, students with 75 to 99.9 % score, students with 50 to 74.9 % score and students with 25 to 49.9% score and students with less than 25% of the score respectively.

In the present study overall knowledge on blood donation among participants was average. Only about 15 % of medical students, 8 % of dental students and 2 % engineering students could score 100% marks and none of the medical and dental students scored less than 25% whereas overall attitude towards the blood donation was very good. About 81 % of medical students, 79 % of dental students and 53 % of engineering students scored 100 % and none of the medical and dental students scored less than 25%.

The practice value of blood donation was moderate with good response of willing to donate and excellent response to promote blood donation among families and friends. In this study, 12% of medical students, 08% of dental students and 10% of engineering students had already donated the blood for the first time. About 94 % of the medical students, 91 % of dental students and 78 % of engineering students had expressed in willingness to donate the blood in future life.

**Table 1.1:** Knowledge score

Knowledge	M	D	E
100 %	15	8	2
75 – 99.9%	29	24	14
50 – 74.9%	48	59	61
25 - 49.9%	8	9	22
< 25%	0	0	1

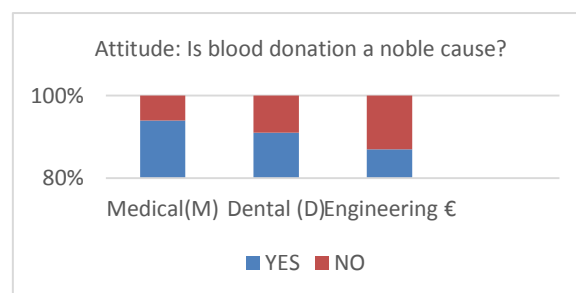
**Table 1.2:** Attitude score

Attitude	M	D	E
100 %	81	79	53
75 – 99.9%	16	19	25
50 – 74.9%	3	2	12
25 - 49.9%	0	0	7
< 25%	0	0	3

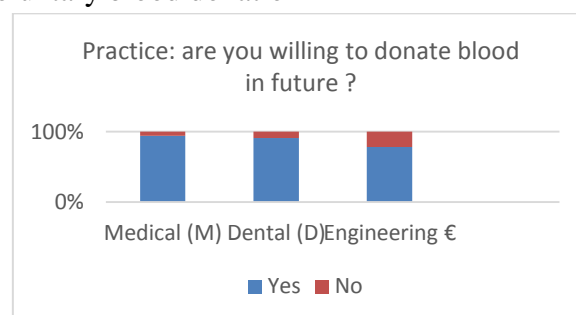
**Table 1.3:** Practice score

Practice	M	D	E
% students donated blood in the past	12	8	10
% students willing to donate blood in future	94	91	78
% students recommending blood donation to family & friends	97	93	84

Table 1.1, 1.2 and 1.3 showing Knowledge, attitude and practice score in percentage (%) among medical (M), dental (D) and engineering (E) students of Raja Rajeswari group of institution Bangalore.



**Diagram 1.1** showing attitude of students towards voluntary blood donation



**Diagram 1.2** showing practice values of students towards future blood donation

## DISCUSSION

Knowledge is the information that we gain from nature/ environment. Attitude is the behavior towards an object or place or a person with or without knowledge. Practice is the action taken towards the object or place or person with or without the knowledge and with or without the proper attitude.



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#### Questionnaire

Total questions: 21

Time : 03 minutes

#### KNOWLEDGE

1. What is the suitable age for blood donation ?  
a. < 18 yrs                      b. > 18 yrs
2. What is the minimum weight for blood donation?  
a. < 60 kg                      b. > 60 kg
3. How many times in a year can a healthy male donate the blood?  
a. < 3 times                      b. > 3 times
4. What is the blood volume donated in regular blood donation?  
a. < 350ml                      b. > 350ml
5. The donated blood be stored at the optimal temperature for a period of?  
a. < 25 days                      b. > 25 days
6. How many lives are saved from each unit of donated blood?  
a. One life                      b. Three life
7. Is donated blood screened for blood borne infections like AIDS, Hepatitis & malaria?  
a. Yes                      b. No

#### ATTITUDE

1. blood donation makes you weak and sick  
a. Yes                      b. No
2. Blood donation can lead to anemia  
a. Yes                      b. No
3. Blood donation can lead to lower immunity  
a. Yes                      b. No
4. Blood should be donated only to family members, relatives and friends  
a. Yes                      b. No
5. Women should not donate the blood  
a. Yes                      b. No
6. Blood donation is a noble cause  
a. Yes                      b. No
7. Blood donation leads to cancer  
a. Yes                      b. No

#### PRACTICE

1. Have you ever donated blood in your life?  
a. Yes                      b. No
2. If donated blood in the past, how was your experience?  
a. Good                      b. Bad
3. Were you happy with the safety measures taken by a medical attendant during the blood donation?  
a. Yes                      b. No
4. Were you treated well by medical attendants post blood donation?  
a. Yes                      b. No
5. If an opportunity given would you be interested in donating blood?  
a. Yes                      b. No
6. Would you like to donate blood regularly in your future life?  
a. Yes                      b. No
7. Would you like to recommend your family and friends for blood donation?  
a. Yes                      b. No

The right knowledge helps one to understand about an object or a place or a person. It can be obtained by learning from the environment or

nature around by means of literature sources, internet based studies in the current trend. It can even be obtained by the guidance of seniors, elderly, expertise men in each field through their opinions, lectures, experimental results.

Attitude is the behavior towards an object or a place or a person. It can exist with or without knowledge but the significance of knowledge is that it helps in thinking, analyzing, discriminating an object or a place or a person so that one can have the right attitude towards any object in the universe. Even in the absence of knowledge, one can present their attitude but the chances are that it might not be the desirable/ right attitude.

Practice is the action taken towards an object or a place or a person with or without the knowledge and with or without the proper attitude. A right amount of knowledge with proper attitude brings the right action or practice in use. Ultimately it is the practice which changes the world. Knowledge, attitude and practice are complementary to each other. Hence before coming to any conclusion in a study, it is very important to assess the knowledge, attitude and practice levels of the individual with respect to the subject of the study/ discussion.

In the present study we have tried to assess the knowledge, attitude and practice values of the firstyear undergraduate students of Raja Rajeswari group of medical, dental and engineering students on the subject of voluntary blood donation. It is because of the fact that today's youngsters are going to be the future leaders who are going to have a significant impact on the society in terms of educating, treating and bringing the right attitude towards the concept of health and disease and adopting the same to the practice level. Therefore we consider the assessment and practice of voluntary blood donation among the undergraduate students of professional course (Medical, Dental and Engineering Institutions)

The present study reveals the lack of sufficient knowledge among health care professionals about voluntary blood donation but it is interesting to know that around 95 % of the total study population showed a positive attitude towards

voluntary blood donation. about 94% medical students, 91% of dental students and 87% of engineering students of the study population think that blood donation is a noble cause but when it comes to practice only 12 % of medical students, 08% of the dental students and 10 % of the engineering students population have donated the blood first time and there was no members of the study having donated the blood second time. It was also interesting to note that about 37% of blood previous blood donor medical, dental and engineering students were not happy with their first donation and experienced the discomfort. On enquiry it revealed that the discomfort of the act is mostly because of ill treatment of participant by the medical attendants in terms of not explaining the details, body language, lack of communication skill and bad post donation treatment to the participant.

This clearly indicates that medical attendants in the blood bank need to be trained in communicating the information to the participants, counseling, hospitality, assuring participants of medical hygiene, safety measures and rewarding the participants with juice, snacks and appreciation certificate / small token of gift. This becomes very important in giving a good experience to the participants, (especially in case of a participant who is donating the blood for the first time) so that they are motivated to donate the blood again in the future.

Though medical science and technology have advanced enough to treat complex disorders, yet it has failed in generating the artificial blood which can completely replace the natural blood, no wonder the blood is called the FLUID OF LIFE!

In this present scenario of more demand for the blood and blood products the only source of blood is through voluntary blood donation. Hence it is our responsibility to educate the society about the importance of blood donation and at the same time it is also our duty to provide the blood donors the dignity, comfortable environment and joy of donating blood.

## LIMITATION OF THE STUDY

We could not compare the male-female ratio of the results and feedbacks as the volunteers were selected by the simple random sampling method. The subject selected were from the group of professional institutions, hence it definitely represents the voice of professional, undergraduate students in Bangalore. On the other hand it may not be appropriate to project the results which we obtained to the cohort of all the professional undergraduate students community.

## CONCLUSION

The study concludes that the overall knowledge of the participants on voluntary blood donation was average with very good attitude towards voluntary blood donation and positive practice values; but when compared to medical and dental students, the engineering students were lacking in overall knowledge, attitude and practice values on voluntary blood donation.

## ACKNOWLEDGMENT

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