



## A STUDY TO ASSESS THE KNOWLEDGE AND AWARENESS OF BLOOD DONATION AMONG MEDICAL STUDENTS IN ACS MEDICAL COLLEGE & HOSPITAL

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### ABSTRACT

**OBJECTIVE:** To determine the awareness and knowledge of blood donation among undergraduate medical students

**MATERIALS AND METHODS:** A cross sectional study was conducted at ACS Medical College and Hospital, Chennai, from January to March 2021. The study population was 400 medical students of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> year. Pre-tested and self-structured questionnaire was sent to the study population and the responses were viewed using a separate email id.

**RESULTS:** Of the 400 medical students, 41.5% males and 58.5% females. The mean age is 20.6 years. 368 (92.0 %) are aware of voluntary blood donation. Online platforms or web portals are used by 267 (66.8 %) to assess information about Voluntary Blood Donors. Only 11 (2.7 %) have donated blood regularly.

**CONCLUSION:** We infer that the knowledge and awareness on voluntary blood donation was comparatively higher among males and final year students. The facts pertaining to voluntary blood donation, when conveyed by the online platforms were found to have greater impact on the current youth generation. Hence, this study recommends organising regular talks and interactive sessions as a must to bridge the gap in knowledge, to identify and remove misconceptions and motivate them for voluntary blood donation on a regular basis.

**KEYWORDS :** Medical students , Online platforms , Voluntary Blood Donation

### INTRODUCTION:

Human blood is a vital life saving component capable of saving millions of lives if available on time to the needy. 1% of the population is generally the minimum needed to meet a nation's most basic requirement for blood as estimated by World Health Organisation (WHO).<sup>1</sup>

The main difficulty for any blood transfusion service is the quest of recruiting voluntary blood donors (VBD). An estimated 38% of reported VBD are under the age group of 18-25 as mentioned by WHO, hence they urge countries to concentrate on young people to achieve 100% regular VBD.<sup>2,3</sup>

Young medical students serve as a readily available pool of VBD for the medical college hospitals they are associated with. Despite relatively adequate knowledge and positive attitude, medical students show less motivation to donate blood as quoted by several studies. Thus, there is a need to explore the different factors that can contribute towards VBD among medical students.

### MATERIALS AND METHODS:

#### Study Design and Setting:

Across sectional study was conducted in ACS Medical College and Hospital, Chennai, for a period of three months from January to March 2021

#### Study population:

Sample size: 400 MBBS students of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> year.

### INCLUSION CRITERIA:

Students who consented and who are more than 18 years of age and above pursuing MBBS in ACS medical college and hospital were included in the study.

### EXCLUSION CRITERIA:

- 1) Students disinclined to participate.
- 2) Students who did not give consent were excluded from the study.

### DATA COLLECTION:

The respondents were briefed about the aims of the study. A predesigned and pretested questionnaire was used for data collection. Responses were collected through Google forms and viewed using a separate mail id. The collected responses were interpreted with the (SPSS) Statistical Package of Social Sciences version 18. Ethical committee consent was obtained from institutional ethical review board of ACS medical college.

### RESULTS:

An aggregate of 400 MBBS students took part in the study. Among them, 166 were (41.5%) males and 235(58.5%) were females. The age of the participants was between 18 years and 28 years, with a mean age of 20.6 years. The responses of the study population to the questions on their knowledge regarding blood donation are tabulated in table 1.

**Table 1: Knowledge regarding blood donation**

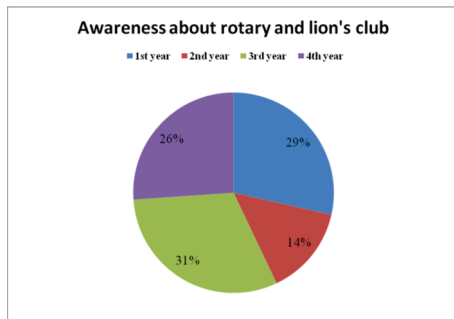
Questions	Correct response (n)	Percent age %
Do you know your own blood group?	390	97.5
Do you know about voluntary blood donation?	368	92.0
Is 18 yrs the minimum age criteria for blood donation?	375	93.8
Amount of blood drawn for each donation is _ml	184	46.0
Minimum weight of donor should be _kg	174	43.5
Time period between two successive blood donations should be	211	52.8
O + blood group is universal donor	275	68.8
AB + blood group is universal recipient	368	92.0
Is paid / professional blood donations banned in India?	182	45.5
Does regular voluntary blood donation have medical benefits?	316	79.0

Do you think one can get infected while donating blood?	134	33.5
<b>Overall Knowledge</b>		
<b>67.7%</b>		

The particulars with respect to knowledge on blood donation from online platforms / web portals and social organisation are in Table 2, figure 1.

**Table 2: Knowledge on online platform involved in blood donation**

Gender	Know about Friends2Support.org Online platform for blood donation	Frequency(n)	Percent %
Female	Yes	79	33.8
	No	155	66.2
Male	Yes	54	32.5
	No	112	67.5



**Figure 1: Blood donation campaigns conducted by Social Organizations (Indian Red Cross Society, Lions Club, Rotary Club)**

Oddly, among the 400 students, only 11 (2.7%) have donated blood regularly. Forty six(11.5 %) have donated only once while 18 students have donated twice (4.5 %) as in Table 3.

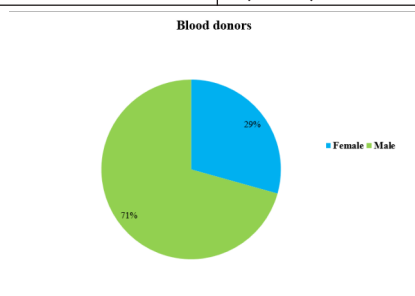
**Table 3: Practice of Voluntary Blood Donation**

	Frequency	Percent
No	325	81.3
Once	46	11.5
Regularly	11	2.8
Twice	18	4.5
Total	400	100.0

Among 400 students , 75 of them donated blood. "p -value" is 0.00, there is significant association between the batches and their knowledge on blood donation as in Table 4.

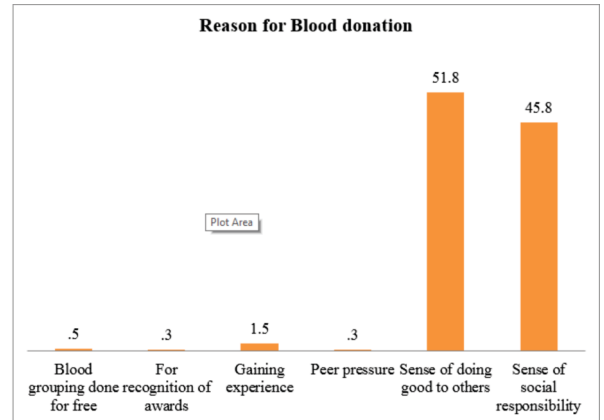
**Table 4: Batches and knowledge on Blood donation**

Batch	Blood donor's n (%)
1 <sup>st</sup> year	6(8.0%)
2nd year	12(16.0%)
3 <sup>rd</sup> year	26(34.7%)
4 <sup>th</sup> year	31(41.3%)



**Figure 2 : Gender and Blood donation**

Chi-square value -32.3,"p-value" is 0.00. There is significant association between blood donation and gender



**Figure 3: depicts the various reasons for blood donation.**

In figure 3, the most common reason was their endeavour in helping in saving someone's life. The sense of social responsibility was the next familiar reason.

**DISCUSSION:**

The study was conducted to analyse the various factors in assessing the knowledge and awareness on VBD among medical students in one of the medical colleges in Chennai.

It was found that 368 (92.0 %) of medical undergraduate students were aware about VBD which was in concordance to the KAP study of Thai students by Wiwanitkit et al. <sup>4</sup>

Unsurprisingly,390 (97.5%) students were aware of their own blood groups. Similar observations were noted in the studies conducted by Kumari et al (42.9%), Nwabueze et al (99.6%) and Agravat et al (96.0%).<sup>6,7,14</sup> We believe that this was as a result of blood group, being mandatory information in school ID cards, and driving license and through physiology experiments conducted in medical colleges.

Our study results showed that participants were found to have good overall knowledge about blood donation as 67.7%. The students had considerable knowledge in few aspects of the donor eligibility criteria, like 375 (93.8 %) students knew about age criteria for donating blood. In a study reported by Shahshahani et al, 45.0% in the general population knew about the minimum age requirement for blood donation. <sup>8</sup>

About 211(52.0%) students were familiar that blood can be donated every 3 months. The time for succeeding blood donations were associated with the blood donations made by an individual in total. <sup>9</sup> Ultimately, first time blood donors become regular blood donors.

In this study, it was found that 316 (79.0%) of the undergraduate medical students believed that regular and safe blood donation practices had medical benefits. Salonen et al stated that regular VBD practices were least associated with acute myocardial infarction in middle aged men.<sup>10</sup> Also, decreased iron stores, decreased oxidative stress and enhanced vascular function were noted in high frequency blood donors compared to low frequency donors. thus, there is a potential link between blood donation and reduced cardiovascular risk as mentioned by Zheng H et al.<sup>11</sup>

As expected by us, 46 (11.5 %) had donated blood only once. Owing to the fact that our study population is college students, most of them are bound to be first time donors. This was observed in studies of Olaiya et al & Zaller et al.<sup>12,13</sup> Personal experience also has an important role in determining the future of blood donations. In our study, 289 (72.3 %) found

donating blood as a pleasant experience. Hence, there is much anticipation for regular voluntary blood donors.

In the present generation, social clubs and new technologies (online platforms / web portals) are more influential than the traditional mass media. This is quite apparent in our study results in which 267 (66.8%) students were passionate about online platforms for information regarding VBD.<sup>18</sup> Also 368 (92.0 %) were well aware of the regular campaigns organised by the social organisations.

Majority 207 (51.8%) stated that "Altruism (doing good to others)" was the major driving force for blood donation. Social concern 183 (45.8%) being the next major motivational factor for blood donation.

Never being asked for blood donation 151 (37.8%) dominated the cause among non-VBD. Fear of needles or sight of blood 81 (20.3 %) also added up the line. This finding showed that sufficient efforts to create opportunities among medical students to donate blood is something that needs to given due consideration. The permanent excuse for not donating blood starts with temporary deferral.<sup>15,16,17</sup>

The prevalence of blood donors was noted as males 53 (70.7 %) and females 22 (29.3%). A significant association was found between blood donation practices and gender. This is in accordance to a study done by Kumari et al & Desai et al.<sup>5,6</sup> Anaemia is major factor that discourage women from blood donation.

A significant association is seen between final year students and blood donation. This is associated with the final year students having better clinical exposure and patient interaction favouring them to understand the gravity of blood scarcity and hence leading to better voluntary blood donation practices.

#### CONCLUSION:

We infer that the knowledge and awareness on voluntary blood donation was comparatively higher among males and final year students. The facts pertaining to voluntary blood donation, when conveyed by the online platforms were found to have greater impact on the current youth generation. Hence, this study recommends organising regular talks and interactive sessions are a must to bridge the gap in knowledge, to identify and remove misconceptions and motivate them for voluntary blood donation on a regular basis.

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#### Funding Sources

Nil

#### Conflicts Of Interests

There are no conflicts of interest

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