

## ATTITUDE TOWARDS BLOOD DONATION AMONG UNDERGRADUATE ENGINEERING STUDENTS OF SRM UNIVERSITY, KATTANKULATHUR, KANCHEEPURAM DISTRICT

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### ABSTRACT

**Objective:** Safe blood is a critical component in improving health care and in preventing the spread of infectious diseases globally. Millions of lives are saved each year through blood transfusions, yet the quality and safety of blood transfusion is still a concern particularly in the developing countries. The objective of the study was to assess the attitude toward blood donation among engineering students.

**Methods:** Quantitative research approach and descriptive research design were adopted for the study. The study was conducted among the undergraduate Engineering Students of SRM University. A total of 150 undergraduate engineering students who fulfilled inclusion criteria were selected as samples by adopting nonprobability purposive sampling technique. Three-point Likert scale developed by the investigator was used for assessing the attitude of undergraduate students regarding blood donation.

**Results:** Majority of the students (93.35%) had favorable attitude toward blood donation and 6.7% had moderately adequate attitude.

**Conclusion:** Nurses need to take up the responsibilities to create awareness among the students about blood donation.

**Keywords:** Blood donation, Attitude, Students, Health care, Blood transfusion.

### INTRODUCTION

Blood is universally recognized as the most precious element that sustains life. It saves innumerable lives across the world in a variety of conditions. The need for the blood is great on any given day; approximately 39,000 units of red blood cells are needed. More than 29 million units of blood components are transfused every year [1].

This red liquid carries oxygen and nutrients to all parts of the body and carries carbon dioxide and other waste products back to the lungs, kidneys, and liver for disposal. It fights against infection and helps heal wounds, so we can stay healthy. There is no substitute for blood. If people lose blood from surgery or injury or if their bodies cannot produce enough, there is only one place to turn "Voluntary blood donors" [2].

The theme of world blood donation day 2015 was "Thank you for saving my life." It focuses on thanking blood donors who save lives every day through their blood donations and strongly encourages more people all over the world to donate blood voluntarily and regularly with the slogan "Give freely, give often. Blood donation matters." It highlights stories from people whose lives have been saved through blood donation, as a way of motivating regular blood donors to continue giving blood and people in good health who have never given blood to begin doing so [3].

The theme of the world blood donor day 2016 was "Blood connects us all." It focuses on thanking blood donors and highlights the dimension of "sharing" and "connection" between blood donors and patients. In addition, we have adopted the slogan "Share life, give blood," to draw attention to the roles that voluntary donation systems play in encouraging people to care for one another and promote community cohesion [4].

Safe blood is a critical component in improving health care and in preventing the spread of infectious diseases globally. Millions of lives are saved each year through blood transfusions, yet the quality and safety of blood transfusion is still a concern particularly in the developing countries. About 5–10% of new HIV infections worldwide are transmitted through unsafe blood transfusions. The reason for this includes blood collection from unsafe donors, poor laboratory procedures, and inadequate testing of blood. Blood will be safe if there

is a nationally coordinated blood transfusion service, non-remunerated donors, testing of blood for transfusion-transmissible infection and by transfusion of the right blood to the right patient through the appropriate clinical use of blood (WHO, 2001) [5].

According to the World Health Organization that clubs India in the South Eastern Asian Region, the estimated blood requirement for the region is about 15 million units, the blood collection annually amounts to just over 9 million units, leaving a gap of 6 million units [6] India is able to collect only 9 million units, of which 70% is from voluntary blood donors while the remaining 30% is from family/replacement donors. India has 2 760 blood banks (new BLOOD BANKS INDIA, February 2015). The Indian Red Cross Society has 166 blood banks all over the country, where the voluntary blood donation is 90%. At the Model blood bank in National HQ of the IRCS, more than 90% of donations are by voluntary blood donors. However, we still have a long way to go as the need today is also for safe blood [7].

The community health nurse can play a pivotal role in promoting voluntary blood donation. Youth are healthy, active, dynamic, and receptive and constitute a greater proportion of population. Every year a large number of young adults are attaining the age of blood donation. Every year regular blood donors are moving out from donor base due to old age, ailment or change of residence. Blood donor motivation is, therefore, an ongoing process to change the behavioral pattern of non-donors.

College students are healthy, enthusiastic and approachable as a group. These students if "caught young" are future donors and motivators. In the scenario, it is very important to understand their attitude regarding blood donation. Voluntary blood donation will reduce the risk of blood-borne diseases getting transmitted to innocent poor patients. A healthy attitude among college students will bring change, as they are the backbone of the country. They have to be encouraged, inspired, and motivated to donate blood voluntarily.

### METHODS

Quantitative research approach and descriptive research design were adopted for the study. The variables include demographic and study variables. Demographic variables comprise age, sex, year of study,

residence area, religion, type of family, and family income, and the study variable was attitude regarding blood donation. The study was conducted among the undergraduate Engineering Students of SRM University, Kattankulathur. A total of 150 undergraduate engineering students who fulfilled inclusion criteria were selected as samples by adopting non probability purposive sampling technique. The tool consists of two sections; Section A: Demographic data which consist the item for obtaining information about the selected background factors such as age, sex, year, residence, type of family, religion, and family income. Section B: Three-point Likert scale developed by the investigator was used for assessing the attitude of undergraduate students regarding blood donation. A three-point Likert scale consisting of 20 statements with a total score of 60 was used. The three-point Likert scale was framed with a number of statements that would reflect their inner feelings toward blood donation. Reliability of the tool was established using split-half method. The r value of the tool was  $r=0.83$  which indicates positive correlation.

### Ethical considerations

The study was approved by the Dean of SRM College of Nursing, SRM University, Kattankulathur, Kancheepuram district. Permission was obtained from Director of SRM Engineering College, and the written consent was obtained from the participants. Prior permission for the conduct of the study was obtained from the HOD of concerned department. Consent was obtained from the students, and they were explained about the purpose of the study and ensured that their response will be kept confidentially. Questionnaire was distributed to students. Clarifications were given to students in between to obtain accurate data. On an average, each student took around 5-10 min to complete the tool. The collected data were coded and analyzed using descriptive and inferential statistics.

### RESULTS

Table 2 reveals that among 150 engineering students, 10 (6.7%) students had moderately favorable attitude, 140 (93.3%) students had favorable attitude, and none of them had an unfavorable attitude (Fig. 1).

Table 3 reveals that there was a significant association between the level of attitude on blood donation among engineering students and with their demographic variables of the year of study, residential area, type of family and religion. There was no association with respect to other variables.

### DISCUSSION

India with a population of over 1 billion is naturally the country which requires a lot of blood to save lives of its citizens. It has been quoted that there is a need for about 8 million units of blood every year in our country. Of this, only half, that is around 4 million units, can be obtained from voluntary blood donors. Rest all comes from replacement blood donation from relatives or paid donors.

It was evident from the present study that the majority of the students (93.35%) had favorable attitude toward blood donation and 6.7% had moderately adequate attitude. None of the subjects have an unfavorable attitude.

At this stage in the development of the transfusion service, the current study tests the very basic nature of the attitude of students to blood donation, in the hope of illuminating the way forward toward emphasizing the vital aspect of many emergency and non-emergency at large scale.

A similar study was conducted by Okpara which probed the attitude of university students to blood donation found that 80% of the respondents were prepared to donate freely. Similarly, in a study among Dhaka University students [33], 93% of the respondents objected to monetary incentives. Similarly, the attitude of the students in this study was 90% positive attitude toward blood donation [8].

Kriebardis A.G also conducted a similar study among health professionals regarding voluntary blood donation in Greece found that 97% of respondents were aware of the shortage of blood and responded correctly to most questions regarding blood donation and transfusion. The results also showed that women and young people donate the least in Greece and only 17% were volunteers [9].

It was also revealed that there was a significant association between the levels of attitude on blood donation and year of study, residential area, and type of family and religion. The result of the present study was consistent with the study done by Ownby (1999) which reported that rate of donation increased with age and education, and the results of another cross-sectional study in India by Singh (2002) concluded that donor status was significantly associated with age, sex, literacy

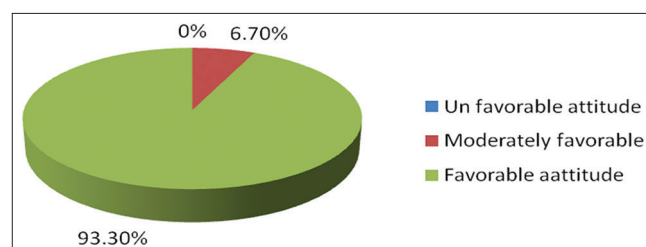


Fig. 1: Percentage distribution of level of attitude regarding blood donation among engineering students

Table 1: Frequency and percentage distribution of engineering students n=150

Demographic variables	Engineering students
	Number (%)
Age (years)	
18	50 (33.3)
19	39 (26.0)
20	36 (24.0)
>20	25 (16.7)
Sex	
Male	64 (42.7)
Female	86 (57.3)
Year of study	
I year	50 (33.3)
II year	58 (38.7)
III year	42 (28.0)
Residential area	
Rural	30 (20)
Urban	120 (80)
Type of family	
Nuclear	110 (73.3)
Joint	36 (24)
Extended	4 (2.7)
Religion	
Hindus	113 (75.3)
Christians	18 (12)
Muslims	10 (6.7)
Others	9 (6)
Income	
Rs. 10000-20000	29 (19.3)
Above Rs. 20000	121 (80.7)

Table 2: Assessment of the level of attitude regarding blood donation among engineering students n=150

Level of attitude	Number (%)
Un favorable attitude	0 (0)
Moderately favorable attitude	10 (6.7)
Favorable attitude	140 (93.3)

**Table 3: Association between the levels of attitude regarding blood donation among engineering students with their demographic variables n=150**

Demographic variables	Level of attitude, n (%)			Chi-square test
	Un favorable	Moderately favorable	Favorable	
Age (years)				
18	0 (0)	4 (40)	46 (32.9)	$\chi^2=2.80$ p=0.42 NS
19	0 (0)	4 (40)	35 (25)	
20	0 (0)	2 (20)	34 (24.3)	
>20	0 (0)	0 (0)	25 (17.8)	
Sex				
Male	0 (0)	7 (70)	57 (40.7)	$\chi^2=3.27$ p=0.07 NS
Female	0 (0)	3 (30)	83 (59.3)	
Year of study				
I year	0 (0)	7 (70)	43 (30.7)	$\chi^2=6.52$ p=0.038 Significant
II year	0 (0)	2 (20)	56 (40)	
III year	0 (0)	1 (10)	41 (29.3)	
Residential area				
Rural	0 (0)	6 (5)	50 (25)	$\chi^2=6.02$ p=0.015 Significant
Urban	0 (0)	5 (50)	115 (82.2)	
Type of family				
Nuclear	0 (0)	3 (30)	107 (76.4)	$\chi^2=2.47$ p=0.002 Significant
Joint	0 (0)	7 (70)	29 (20.7)	
Extended	0 (0)	0 (0)	4 (2.9)	
Religion				
Hindus	0 (0)	3 (30)	110 (78.6)	$\chi^2=24.31$ p=0.000 Significant
Christians	0 (0)	6 (60)	12 (8.6)	
Muslims	0 (0)	1 (10)	9 (6.4)	
Others	0 (0)	0 (0)	9 (6.4)	
Monthly income				
Rs 10000-20000	0 (0)	4 (40)	25 (17.9)	$\chi^2=3.03$ p=0.21 NS
>Rs 20000	0 (0)	6 (60)	115 (82.1)	

status, occupation, and knowledge about other aspects of blood donation [10].

One can almost say that blood is that magic potion which gives life to another person. Although we have made tremendous discoveries and inventions in science, we are not yet able to make the magic potion called blood. Human blood has no substitute. The requirement of safe blood is increasing, and regular voluntary blood donations are vital for blood transfusion services.

#### CONCLUSION

The study concluded that majority of the undergraduate engineering students had (93.3%) good attitude toward blood donation. There was a significant association between the levels of attitude on blood donation among engineering students with their demographic variables such as year of the study, residential area, and type of family and religion. Hence, the investigator felt that specific campaigns are needed to convert favorable attitude toward blood donation into regular voluntary blood donation. Nurses need to take up the responsibilities to create awareness among the students about blood donation. The school health nurse can utilize educational material for teaching higher secondary school children and inspire students to donate blood on attaining the

age of 18. The nursing curriculum should provide an opportunity to conduct blood donation education program in various settings.

Community health nurse should play a vital role in sensitization of the population using motivational advocacy messages, introducing culturally relevant social incentives to voluntary donors, launching promotional programs with an emphasis on the elimination of certain indigenous misconceptions regarding blood donation.

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#### CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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