



Original Article:

Knowledge, Attitude and Practice on Blood Donation among Health Science Students in a University campus, South India.

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Abstract: Background: The major part of demand for blood in India has been meeting through voluntary blood donations. The healthy, active and receptive huge student population is potential blood donors to meet safe blood requirements. However, there is a paucity of studies on awareness and attitude among health science students on voluntary blood donation. **Objective:** The objective of this study was to determine the knowledge and attitude about blood donation among health science students. **Methods:** A cross-sectional study was conducted among 410 health sciences students from different streams in a University campus of South India through a structured survey questionnaire in the year 2009. **Results:** The overall knowledge on blood donation was good, but majority (62%) of students never donated blood. Knowledge level was found highest among allied health science (53.1%) and lowest among pharmacy students (20.7%). 'Feeling of medically unfit' and 'never thought of blood donation' were the major reasons for not donating blood. A significant association was observed between different streams of students and levels of knowledge and attitude about blood donation. **Conclusion:** This study elicits the importance of adopting effective measures in our campuses to motivate about voluntary blood donation among students.

Key Words: Knowledge; Attitude; Voluntary blood donation; Health Science; Students

Introduction:

Blood can save millions of life, and Young people are the hope and future of a safe blood supply in the world.(1) India needs about 6 to 7.5 million units of blood annually and every year there is gradual increase in this demand. National blood donation policy of India highlights on the need of supplying safe and quality blood to the needy through collecting blood from regular voluntary blood donors.(2) Even though Indian law forbidden collection of blood from paid donors, many times health care facilities forced to accept blood from paid donors as there are scarcity of voluntary blood donors.(3)

However, same scenario prevails in many developing countries, majority of voluntary donors are replacement donors who donate blood for their friends, relatives and other alternative is paid donors which has a significant risk of transfusion-transmitted infections. It is a well known fact that in developing countries more than 50% of blood donations are made by paid and voluntary donors.(4,5) Ignorance, fear and misconcepts about blood donations and lack of voluntary blood donation organizations are major constraints in many developing countries to facilitate voluntary blood donation. Considering the estimated shortfall of 3 to 4 million units of blood annually in India, more awareness must be created among all strata of population especially among youngsters on importance of blood donation. According to WHO, an estimated 38% of reported voluntary blood donations are contributed by people under the age of 25. WHO also insist countries to focus on young people to achieve 100 per cent voluntary unpaid blood donation.(6) Young students are healthy, active, dynamic and receptive and constitute a greater proportion of population. They have to be encouraged, inspired and motivated to donate blood voluntarily. Considering the importance and significance of student community in voluntary blood donation this study has carried out to understand knowledge, attitude and practice about blood donation among under graduate health science students in a university campus of South India.

Methodology:

This cross-sectional study was conducted among final year health science under graduate students in a university campus of south India. A well structured validated and pretested questionnaire with 80% repeatability rate was used to asses the knowledge, attitude and practice about voluntary blood donation. Questionnaire consist of three sections; practice, knowledge and attitude. Blood donation practice was assessed through eight questions addressing the nature of donation, frequency of donation, reasons for not donating blood etc. Knowledge part contains 12 questions; knowledge on blood donation

was assessed through questions covering benefits, requirements and restrictions of blood donation. The attitude for blood donation was assessed through eight questions with 'yes' and 'no' options. A scoring mechanism was used to understand overall knowledge level; a score of one has given for each correct response and zero for wrong response. Respondents with all correct response get a maximum of 28 points, higher points indicate good knowledge. Based on total score, knowledge level on voluntary blood donation was categorized into poor (≤ 13 points), average (14 -19 points) and good (≥ 20 points). All final year under graduate students were included for the survey from allied health sciences, nursing, pharmacy and dental college. The participation to survey was on voluntary basis. All participants were given a briefing about objective of the study and assured confidentiality in collection of personal data. All data were analyzed using statistical package of social sciences, SPSS 11.5 version (SPSS Inc., Chicago, IL, USA).

Results:

The response was gathered from a total of 410 respondents voluntarily participated in the survey. The study sample consisted of 153 males (37.3%) and 257 females (62.7%). The mean age of male students was 23 years (standard deviation, SD = 0.2 years) and the mean age of female students was 22.2 years (SD= 1.0 year). College wise distribution shows 31.7% participants were allied health science students, 29.5% pharmacy students, 20.5% dental students and 18.3% nursing students.

Knowledge and practice about blood donation:

The majority (62%) of students never donated blood and a mere 4.1% do not know their blood group. Among 156 donors, 59.6% have donated blood only once and 15.6% donated blood whenever there is a need. Majority (64.1%) of donors among respondents donated blood voluntarily, 31.4% had donated blood only for relatives or friends and 1.9% donated blood for money. About 14.7% donors said they had experienced some discomfort after donation. Majority of non donors felt they are medically unfit to donate blood or they never thought about donating blood. Various reasons stated by non-donors for not donating blood are shown in Table 1.

Reasons	Total (Number = 255)	
	Number	Percentage
Feels medically unfit	122	47.8
Due to fear or pain	16	6.3
Due to safety reasons	20	7.9
Never thought about donating blood	70	27.4
No one has ever asked to donate blood	15	5.9
Parents/friends told not to donate blood	11	4.3
Due to disease	1	0.4

Knowledge of blood donation among students was measured using 12 questions; comprises of respondents understanding on benefits of blood donation, the general requirements to become an eligible donor, medical or disease conditions restricting from blood donation. The overall knowledge on blood donation among respondents was observed as good (42.7%), average (43.9%), and poor (13.4%). In males the overall knowledge level was found good among 39.2%, average (48.4%) and poor (12.4%). In females, good knowledge level was observed among 44.7%, average (41.2%), and poor (14%). There is no statistical association between gender and different levels of knowledge (Chi square value = 1.98, P= 0.37). Among Allied health students 53.1% and 39.2% had shown good and average level of knowledge respectively. While Dental, Nursing and Pharmacy student's respondents showed good level of knowledge among 50%, 52% and 20.7% respectively. A statistically

significant association was observed between blood donation knowledge and students from different specialties (Chi square value = 47.7, P <0.001).

Attitude towards blood donation:

Attitude towards blood donation was measured through eight questions; comprises of questions on respondent's attitude towards the compensation offered for donating blood, publicizing the importance of blood donation and willingness to donate blood. Positive attitude towards blood donation was observed among 87.3% of respondents; 90.2% of male and 85.6% of female respondents shown positive attitude. There is no statistical significance between attitude and gender (Chi square value = 1.83, P= 0.18). Collage wise results shows, 80.8% of allied health, 77.4% of dental, 92% of nursing and 98.3% of pharmacy students shown positive attitude. There is significance difference in attitude between students of different specialties (Fischer's Exact test = 31.16, P<0.001). Gender wise attitude towards blood donation is illustrated in Table 2.

Questions	Male (n =153)		Female (n =257)	
	Yes (%)	No (%)	Yes (%)	No (%)
I always take permission from parents before blood donation	5.2	94.8	9.4	91.6
I will always disclose correct information about my health before donating blood	88.9	11.1	86	14
My expense for blood donation need to be compensated for blood donation	13.7	86.3	15.2	84.8
I am interested only to donate blood to known persons	16.3	83.7	14.4	85.6
If I learn about importance of blood donation I am interested to donate blood	88.9	11.1	90.3	9.7
I want to donate blood only if I am paid for donating blood	9.8	90.2	8.6	91.4
In emergency I am willing to donate blood for anyone.	95.4	4.6	91.1	8.9

Discussion:

Escalating demand for safe blood and its availability in our country can be only ensured through enhancing voluntary blood donations. Role of youngsters in voluntary blood donation is crucial to meet the demand of safe blood and more over youngsters having a better understanding on healthcare requirements of our country should come in forefront. Therefore understanding the various factors contributing to knowledge, attitude and practice of voluntary blood donation among healthcare students is important.

The present study shows majority of the participants (62%) never donated blood and majority of non-donors felt they are medically unfit to donate blood and about 25% responded they never thought about donating blood. The major reason for not donating blood reported by previous studies (7,8) was fear; however, in this study fear was a minor reason for not donating blood. The findings of this study were in agreement with those of other studies that have measured the knowledge level. Likewise, previous studies reported same trend; a study conducted among female African American college students shows 51% were non-donors (9), a similar study carried out in Thailand indicates 89% of respondents never donated blood.(6) A study conducted among youngsters in Sikkim by Shenga et al. indicates 87.3% had never donated blood.(10) In this study, the overall knowledge levels among majority of respondents were either good (42.7%) or average (43.9%). The knowledge level and gender do not shown any statistical association which is similar to the finding of other studies (7,11).

It is important to note that majority of male (90.2%) and female (85.6%) respondents participated in this study shown positive attitude towards voluntary blood donation. Hosain et al. has reported similar results, 82% of participants showed a positive attitude towards blood donation.(8) The negative attitude towards paid blood donation reported in other studies (5,7,8) was also reported in this study. In this study, large number of male and female respondents expressed their willingness to donate blood if they learn more about the importance of blood donation. The overall results of this study indicate knowledge levels and attitude has a significant association between colleges. So we have to critically assess why healthcare students from different domain in same campus shown significant difference in their knowledge level and attitude towards blood donation. This can be an indication that students from colleges which conduct regular blood donation camp and awareness programs have better knowledge and positive attitude towards blood donation.

It is interesting to observe that the knowledge level of students on blood donation reported in various studies including this study is similar to results of the study conducted among illiterate and uneducated population.(12) As healthcare students being more educated and literate about importance of saving human life it is expected that they should be more knowledgeable on blood donation compare to illiterate and uneducated strata of population. The result signifies the importance of conducting periodic awareness programs on voluntary blood donation even among healthcare students. About 90% of respondents said they will be interested in donating blood if they know the importance of blood donation, this indicates that proper awareness about blood donation or information on safe blood requirements were not percolated among healthcare students. Studies (4,12) have indicated that planned awareness and motivational programs in campuses among students on blood donation can bring lot of positive changes in voluntary blood donation.

Conclusion:

Educational Institutions across India house lakhs of potential blood donors in the form of young and healthy students which can meet the safe blood requirements of our country. Role of healthcare institutions and its student's in voluntary blood donation are pivotal. They should lead from the front to donate blood voluntarily and take all necessary steps to create more awareness program on blood donations among entire student community

Acknowledgements:

This study was conducted in a single university campus on a cross section of only final year under graduate health science students. The results of this study cannot be an indication on knowledge, attitude and practice on voluntary blood donation of entire health science students in the country.

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