

Original Research Article

Knowledge and attitude towards voluntary blood donation among students from Mumbai University

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ABSTRACT

Background: Blood is scarce; its demand far outweighs the supply. In addition to limited supply, the issue of safety especially with regard to the risk of transfusion transmissible infection is also an issue of utmost concern especially in the developing countries. Blood transfusion services in India have gained special significance in recent years and forms a vital part of national health care system. Voluntary Non-Remunerated Blood Donation (VNRBD) is the safest of all types of blood donations. One of the potential sources that can be tapped for blood donation is the young and physically fit students from educational institutions across India.

Methods: A cross-sectional study was carried out among students from Mumbai University, India during May–June 2017. Two hundred and fifty students were approached to participate in the study of which 201 agreed to participate (males: 104; females: 97). Pretested questionnaire was distributed and collected data was analyzed using IBM SPSS version 23.

Results: High number of participants agreed about encouraging general public about voluntary blood donation (96%; 193/201), lack of awareness about VBD in general public (82%; 164/201). But not a single participant was able to respond to the knowledge part of the questionnaire with 100% accuracy. Almost all the participants had correct knowledge about blood groups (98%; 196/201) and blood matching need (195/201; 97%).

Conclusions: Participants showed good attitude but demonstrated poor knowledge about voluntary blood donation. Details about blood donation should be incorporated in the undergraduate curriculum and periodic awareness programs should be organized for students.

Keywords: Voluntary blood donation, University students, Knowledge, Attitude, Mumbai, India

INTRODUCTION

Blood is scarce; its demand far outweighs the supply. There is shortage of active blood donors to meet the increased demands of blood.¹ In addition to limited

supply, the issue of safety especially with regard to the risk of transfusion transmissible infection is also of utmost concern especially in the developing countries. Donor blood procurement from voluntary non remunerated donor has been adjudged the safest source of

blood. Hence the World Health Organization (WHO) has adopted a policy aimed at 100% voluntary non-remunerated donor blood procurement by the year 2020.²

Blood transfusion services in India have gained special significance in recent years and forms a vital part of national health care system as it saves millions of lives each year, permits complex medical and surgical interventions, improves life expectancy and quality of life in variety of acute and chronic conditions. Because of increasing incidence of HIV/AIDS, blood safety program was initiated in India in the year 1989-1990 and subsequently became an integral part of National AIDS Control Organisation (NACO).³ Voluntary Non-Remunerated Blood Donation (VNRBD) is the safest of all types of blood donations.⁴ Voluntary blood donors are not under pressure to donate blood and they meet the standard criteria of blood donation of low risk behavior and can easily be motivated to become regular and permanent voluntary donors. The factors impacting voluntary blood donation decision are varied and complex. The prediction of blood donation behavior can be determined by intention to donate, which in turn is affected by knowledge, positive or negative attitude, and factors like social pressure and perceived ease or difficulty in performing the blood donation.^{5,6}

One of the potential sources that can be tapped for blood donation is the young and physically fit students from educational institutions across India. They can meet the blood demands of our country and provide safe and quality blood and blood components collected from healthy voluntary donors. In order to be able to tap this valuable source of safe blood, it is pertinent to have information regarding their attitude towards blood donation and whether they have adequate knowledge to make the decision to donate blood and what factors are associated with their knowledge as well as donation behavior. The objective of this study was therefore to determine the knowledge and attitude about voluntary blood donation among students from Mumbai University.

METHODS

Study design and respondents

This descriptive study was performed in May – June 2017, among students from Mumbai University, India. The study protocol was approved by V. V. research Independent Ethics Committee, Mumbai, India. Two hundred fifty students were contacted by study team members in their classrooms and were given a brief introduction about the research project. Those who desired to participate were explained the purpose and objectives of the study. On the basis of the eligibility criterion (those who gave a written informed consent and are registered students of Mumbai University) 201 students were selected for the present study.

Study instrument

The survey questionnaire was prepared in English after reviewing the literature for similar studies. The questionnaire was framed to gather information on demographics and knowledge and attitude towards voluntary blood donation.

A pilot study was done with a sample of 30 students, to know the average time required for face to face interview for completing the questionnaire and to ensure that it is appropriate and understandable to students. Pilot population was not part of the final study.

Collection of data

Students were interviewed face to face in the student office with prior appointment by a study team member. The purpose of the research was explained to the respondents, anonymity and confidentiality were guaranteed and maintained. The researchers complied with the international ethical guidelines for research. The data was recorded into the predesigned case report form (CRF) by interviewers.

Data entry and analysis

Collected data from individual CRF was entered into Microsoft excel and was verified by the authors other than interviewers. Data were analyzed by using descriptive statistical methods and a bivariate analysis was conducted with all relevant independent variables. P value ≤ 0.05 was considered as significant. IBM SPSS version 23 was used for statistical analysis.

RESULTS

Table 1 represents the participant details regarding gender, education, and awareness about voluntary blood donation. It also shows the bivariate analysis to determine if any, the association between the awareness of voluntary blood donation (VBD) and the gender of the respondents. There were total 201 respondents comprising of 104 (52%) males and 97 (48%) females. The first column of the table shows the input variables to measure the awareness about VBD. Second column gives all the expected correct answers, and next columns represent the gender wise responses to the questions. Rest of the columns show bivariate analysis i.e. chi square and p value.

High number of participants agreed about encouraging general public about voluntary blood donation (96%; 193/201), lack of awareness about VBD in general public (82%; 164/201). Not a single participant was able to respond to the knowledge part of the questionnaire with 100% accuracy. Regarding the knowledge about VBD except for knowledge about blood groups (98%; 196/201) and blood matching need (195/201; 97%), participant's knowledge about VBD was poor. Very less participants

were aware about who can donate blood (55%; 111/201), appropriate age for blood donation (69%; 138/201), minimum hemoglobin level (39%; 78/201), frequency of blood donation (35%; 70/201), minimum weight of the donor for VBD (54%; 114/201) and amount of blood one can donate at a time (48%; 96/201). Good attitude towards blood donation was observed by high number of participant mentioning that VBD is a noble work (95%;

191/201), can save someone's life (99%; 199/201). Substantially higher number of male (65%; 68/104) than female participants (51%; 49/97) opined that there are lot of misconceptions about VBD (χ^2 value=4.56, $p=0.03$). Regarding the question on knowledge substantially more number of female (49%; 48/97) than male (29%; 30/104) participants were aware about minimum hemoglobin level for VBD (χ^2 value=9.002, $p=0.003$).

Table 1: Voluntary blood donation awareness.

Variable	Correct answer	Male (%)	Female (%)	χ^2 value	P value
Gender		104 (52)	97 (48)	NA	NA
Education					
BS		90 (87)	93 (96)		
MS		9 (8)	4 (4)	6.73	0.034
PhD		5 (4)	0 (0)		
Do you think that voluntary blood donation should be encouraged in general public?	yes	100 (96)	93 (96)	0.01	0.92
Do you think that there is lack of awareness about VBD in general public?	yes	82 (79)	82 (85)	1.08	0.3
Do you think there are lots of misconceptions about VBD?	yes	68 (65)	49 (51)	4.56	0.03
Do you think that voluntary blood donating person should be paid some nominal amount?	no	59 (57)	45 (46)	2.15	0.14
Are there different types/groups in blood?	yes	100 (96)	96 (99)	1.640	0.2
Do you think blood matching is required before transfusion to someone?	yes	101 (97)	94 (97)	0.008	0.931
Can anyone donate blood?	no	56 (54)	55 (57)	0.16	0.68
What is the appropriate age group for blood donation?	18 to 60 years	75 (72)	63 (65)	1.19	0.27
What is the minimum hemoglobin level for VBD?	12.5	30 (29)	48 (49)	9.002	0.003
What is the minimum weight of the donor for VBD?	50 kg	65 (63)	51 (53)	2.02	0.15
In a year how many times one can donate the blood?	4	38 (37)	32 (33)	0.28	0.59
At a time how much milliliter blood you can donate?	350 ml	56 (54)	40 (41)	3.19	0.074
Do you think that VBD is a noble work?	yes	100 (96)	91 (94)	0.58	0.45
Do you think that VBD can save someone's life?	yes	103 (99)	96 (99)	0.002	0.96
Should somebody be screened for any underlying health conditions before VBD?	yes	80 (77)	79 (81)	0.62	0.43

DISCUSSION

Even after combined efforts from the Government and International Agencies such as Red Cross Society and World Health Organization, the supply of safe blood is still in short of global demand.⁷ 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 that high number of participants agreed that general public should be encouraged regarding the voluntary blood donation (96%; 193/201). The findings of this study were in agreement with a cross sectional study done among students from Bhubaneswar, India which showed a large majority (85.5%) of students said that they would encourage others to donate blood.⁸ Ministry of health and family welfare, India 2017 guidelines for national blood transfusion services advises that donor motivation should be done by volunteers from the community using various communication methods to draw prospective donors to come to a blood bank or to a blood donation camp.³ Eighty two percent (164/201) of the study participants agreed that there is a lack of awareness regarding VBD in the general public. Similar

findings have been reported in studies conducted among students in Nigeria, India, Nepal, Ethiopia and Tanzania where in those studies it was also found that many students did not donate blood because of lack of enough knowledge.⁹⁻¹³ Ninety eight percent and ninety seven participants had correct knowledge about blood groups and blood matching need before blood donation respectively. Similar results have been observed in a study from Nigeria.¹⁴ Less participants were aware about who can donate blood (55%; 111/201), appropriate age for blood donation (69%; 138/201), minimum hemoglobin level (39%; 78/201), frequency of blood donation (35%; 70/201), minimum weight of the donor for VBD (54%; 114/201) and amount of blood one can donate at a time (48%; 96/201). Our results are in contradiction to similar studies done among undergraduate students from Patiala and Puducherry, India which showed better knowledge compared to our study participants. This difference could have originated because those studies were done specifically in medical students as compared to non-medical students in present study.^{15,16} Good attitude towards blood donation was observed by high number of participant mentioning that VBD is a noble work (95%; 191/201), can save someone's life (99%; 199/201). Our results are in line with a study done in Dehradun, India.¹⁷ Out of 15 questions about VBD there were no significant differences between male and female respondents. Substantially higher number of male (65%; 68/104) than female participants (51%; 49/97) opined that there are lot of misconceptions about VBD (χ^2 value=4.56, $p=0.03$). Regarding the question on knowledge substantially more number of female (49%; 48/97) than male (29%; 30/104) participants were aware about minimum hemoglobin level for VBD (χ^2 value=9.002, $p=0.003$).

CONCLUSION

This study suggests that although students have positive attitude towards VBD, there is pressing need to improve the knowledge about it. 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. Details about blood donation should be incorporated in the undergraduate curriculum and periodic awareness programs should be organized for students. These steps can motivate them to become regular voluntary non-remunerated blood donors.

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