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Research Article

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Knowledge, attitude and practices (KAP) regarding voluntary non-remunerated blood donation (VNRBD) among the students of colleges of Jammu, India

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ABSTRACT

Background: A voluntary non-remunerated blood donor forms the firm foundation of blood transfusion services of a country. The healthy, active and receptive student population can be potential blood donor to meet the safe blood requirements. The objective of this study was to find out the prevalence of blood donors and to explore the Knowledge, Attitude and Practices (KAP) of the college students of Jammu, India regarding Voluntary Non-Remunerated Blood Donation (VNRBD).

Methods: A descriptive study was conducted over a period of one year. It involved students of six colleges. A structured donor questionnaire regarding KAP on VNRBD was distributed among the college students.

Results: 1520 college students with 880 females and 640 males were involved in the study. Out of which 210 were blood donors. Prevalence of blood donors was 13.81%. In this study 81.57 % of students were aware of Voluntary Blood Donation (VBD). 62.5% of the students had awareness regarding spread and transmission of HIV/AIDS. 49.34% students were not aware of the fact that paid / professional blood donation has been banned in India. 76.68% of the students had knowledge that blood donation has medical benefits. The commonest reason for blood donation was sense of social responsibility and for not donating blood was fear of illness. 90.13% of the students were willing to donate blood in future.

Conclusions: To increase the prevalence of voluntary blood donation, specific campaigns involving interactive awareness sessions on blood donation should be organized, targeting the youth, motivating them to become regular voluntary blood donors should be conducted. Barriers to blood donation especially by women should be studied and evaluated. Efforts must be undertaken to bring the knowledge and positive attitude towards VBD into application in future to achieve the goal of 100% VNRBD.

Keywords: Knowledge, attitude and practices (KAP), Voluntary non-remunerated blood donation (VNRBD), Paid/professional blood donation, Voluntary blood donation (VBD)

INTRODUCTION

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 Programme was initiated in India in the year 1989-1990 and subsequently became an integral part of National AIDS Control Organisation (NACO). Voluntary Non-Remunerated Blood Donation (VNRBD) is the safest of all types of blood donations. Voluntary blood donors are

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not under pressure to donate blood and they meet the standard criteria of blood donation of low risk behaviour and can easily be motivated to become regular and permanent voluntary donors. Because of the knowledge they possess regarding donor deferral, they self-exclude themselves whenever they feel that they are unfit to donate blood. They easily respond to calls for emergency requirement of blood and its components especially for rare blood groups. Beside these advantages, there are certain medical benefits of regular Voluntary Blood Donation (VBD). VBD reduces the incidence of acute myocardial infarction.² Voluntary blood donation also reduces the insulin resistance and increases the insulin sensitivity and thus improves the glucose balance in the body.³ Seropositivity of HIV, HBsAg, HCV and syphilis is more in replacement blood donors as compared to VNRBD. 4,5 WHO also advocates for 100% VNRBD, citing it as the first line defence against transmission of diseases through the transfusion route. Because of all these advantages, VNRBD forms the firm foundation of Blood Transfusion Services of the country.

As per the action plan of national blood policy, there should have been 100% VNRBD in India by December 2005 which has not been achieved. In India, 5.5 million blood units per year were collected whereas the need was 8.5-9 million units and the percentage of blood units collected from voluntary blood donors was 54.4% in the year 2006-2007.⁶ Percentage of blood units collected from VBD increased to 59.1% in 2007-08, 61.7% in 2008-09 and further to 74.1% in 2009-10 (till January 2010) but did not achieve the target of National AIDS Control Programme III (NACP-III) which was 90 percent.⁷

There are five licensed blood banks in Jammu city and seven more licensed blood banks functioning at district and emergency hospitals in Jammu region. In spite of such a large network of blood banks National Blood Policy target of 100% was not achieved.

Study aims

Increase in the level of awareness and development of positive attitude towards blood donation is the topmost priority of almost all national blood transfusion centres. Recruitment of young adults as voluntary blood donors could meet the on-going demand of blood and blood components in the country; especially this group has the potential to donate blood over decades. Keeping in view this point, this study was initiated

- 1) To find out the prevalence of blood donors;
- To explore the knowledge, attitude and practices (KAP) of the college students of Jammu regarding voluntary non-remunerated blood donation (VNRBD).

METHODS

This study was carried out after obtaining approval from hospital's ethical committee at department immunohematology and blood transfusion medicine, government medical college, Jammu over a period of one year i.e. from 1st November 2008 to 31st October 2009. It involved 1520 college students of six degree colleges. Both male and female students of age group 18-26 years were involved in the study. Self-administered structured donor questionnaire regarding KAP on VNRBD were distributed among the college students. Questionnaire was prepared by referring to recommended blood donation criteria and the national blood donation practice. It comprised of 4 major parts. Part one designed to measure socio-demographic data and part two, three and four were about the knowledge (awareness), attitude and practices regarding blood donation. These questionnaires were collected from the students after getting appropriately filled by them along with the written informed consent. No knowledge or information regarding blood donation was imparted to these students prior to filling of these questionnaire.

Statistical analysis

The information obtained was entered into a computer data sheet (Microsoft excels) and the responses to the questions were expressed where applicable, as percent, yes or no. All the information was compiled, tabulated and analysed from the input gathered from the students involved in the study. Prevalence of both male blood donors and female blood donors was calculated with 95% Confidence Interval (CI).

RESULTS

The present study involved 1520 college students which comprised of 880 females and 640 males. All the students studied were in the age group of 18-26 years. Out of 1520 students 210 were blood donors and 1310 were non donors. From these 210 voluntary donors, 85 were female and 125 were male.

The prevalence of blood donors was 13.81% with CI (Confidence Interval): 12.09 to 15.53. Prevalence of female blood donors was 9.65% and male blood donors were 19.53%. 81.57% of students were aware of and 18.42% of students were not aware of VBD. 57.10% students were not aware of their blood group.

Responses of the study population to the questions exploring their knowledge regarding blood donation were summarised in Table 1 and the questions exploring their attitude and practices were summarised in Table 2. Reasons for blood donation by the blood donors and the reasons for not donating blood by the non-donors were also compared (Table 3 and Table 4). Sense of social responsibility was the commonest reason for donating

blood and the fear of illness was the commonest reason for not donating blood.

3.33% of the blood donors did not want to donate blood in future because of unpleasant experience of blood donation while 11.22% of the non-donors did not want to donate blood in future.

Table 1: A summary of the responses of the study population (n=1520) to a questionnaire probing their knowledge regarding blood donation.

Knowledge of their blood group? Known 652 42.90% Not known 868 57.10% Can human blood be manufactured artificially? Yes 185 12.17% No 1335 87.82% What is the age period for blood donation? Correct answer 1316 86.57% Wrong answer 204 13.42% What is the minimum haemoglobin level required for blood donation? Correct answer 955 62.80% Wrong answer 565 37.17% What should be the interval between two blood donations? Correct answer 930 61.18% Wrong answer 590 38.18%			
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What is the quantity of blood present in a healthy adult human being?			
Correct Answer 1080 71.05%			
Wrong Answer 440 28.94%			
How many times one can donate blood from 18 to 60 years of age?			
Correct answer 455 29.93%			
Wrong answer 1065 70.06%			
How much blood is taken during a single			
donation?			
Correct answer 655 43.10%			
Wrong answer 865 56.90%			
Does blood donation cause HIV/AIDS?			
Yes 570 37.50%			
No 950 62.50%			
Is paid/professional blood donations			
banned in India?			
Yes 770 50.65%			
No 750 49.34%			
Does regular voluntary blood donation			
have medical benefits?			
Yes 1120 73.68%			
No 400 26.31%			

Table 2: A summary of the responses of the study population (n=1520) to a questionnaire probing their Attitude and Practices regarding blood donation.

Have you ever	Study population (n)	Percentage (%)		
Have you ever	210	13.81%		
No	1310			
		86.18%		
Number of donations by blood donors				
8 times	1			
7 times	1			
6 times	4			
5 times	1			
4 times	5			
3 times	15			
2 times	43			
1 time	140			
How was the experience of blood donation?				
Pleasant	194	92.38%		
Unpleasant	16	7.61%		
Will you donate blood in future?				
Yes	1370	90.13%		
No	150	9.86%		

Table 3: Reasons for blood donation given by blood donors involved in present study.

Reasons for blood donation	Study population (n)
Altruism/doing good to others	60
Sense of social responsibility	121
Gaining experience	18
Social pressure	22
For helping friends/relatives	78
For blood donor credit card	7
For recognition of awards	2
For getting screened for diseases	4
For knowing blood group	10
Spiritual bliss	15

Table 4: Reasons for not donating blood given by eligible non donors.

Reasons for not donating blood	Study population (n)
Fear of needle or fear of sight of blood	175
Fear of illness or ill effects	580
Objection from elders	210
Apprehension of post donation	30
Has never been asked for blood donation	490
Transmission of HIV/AIDS	75
Fear of discovering diseases	35
Leads to weight gain/weight loss	40
Misuse of blood in hospital	80
Lack of time	90

DISCUSSION

Targeting the beliefs associated with blood donation enhances the effectiveness of recruitment campaigns and the prevalence of blood donors annually. Prevalence (13.81%) of blood donors in this study was quite low similar to the study from Sikkim (12.7%). 8-11 Prevalence of female blood donors was also very less (9.65%) compared to male blood donors (19.53%). Low VBD was an important indicator for us to modify and strengthen the recruitment and motivational strategies. Previous studies have shown that the path from attitude to intention was more strongly weighted in men than in women. Self-efficacy played a larger role in determining donation intention in females which can be a reason for high voluntary blood donation among men than in women. 12

Awareness on VBD was quite high (81.57%) which was similar to the KAP study of Thai students. ^{13,14} Awareness of the appropriate age for blood donation and the donor deferral criteria were very important factors. Lack of information on blood donation lowers the prevalence of voluntary blood donation. 15,16 Deferral of a donor is not only unpleasant for the donor but it also leads to wastage of precious time and money of the transfusion centre. Therefore, appropriate education of society regarding deferral factors of blood donation both temporary and permanent can lead to decrease in deferrals rate. Every individual should know their ABO and Rh D blood group so that they can donate blood whenever emergency requirement arises. Knowledge of ABO and Rh D blood groups is even more important in Jammu Region as it is prone to accidents and militancy related incidents. Youngsters like college students must know their ABO and Rh D blood group so that they can donate blood easily whenever there is demand of their particular blood group. Specially, those with the rare blood groups should get their names enrolled as voluntary blood donors in rare blood group donor's records maintained by Regional Transfusion centres. 61.18% of the students were aware of this fact that a healthy adult human being can donate blood after every 3 months. Knowledge of this fact can increase the frequency of repeat blood donations and can turn first time blood donors into regular blood donors. Awareness of AIDS was not satisfactory in Indian society and for that more intensive public awareness campaigns by government with the help of non-governmental organizations are required.¹⁷ Although all the students in our study were aware of AIDS/HIV still, 37.5 % believed that blood donation causes HIV/ AIDS to the donor. 18

More than 50 % of the students gave the correct answers for the questions pertaining to Blood Donation. Frequent blood loss through voluntary blood donations is associated with reduced risk of acute myocardial infarction in middle aged men.² High frequency blood donors had evidence of decreased iron stores, decreased oxidative stress and enhanced vascular function when compared with low frequency donors and thus, there is a potential link between blood donation and reduced

cardiovascular risk.¹⁹ Blood donation is also associated with decreased risk of type II diabetes and cardiovascular diseases.³

The time to return for next donation was associated with total number of donations made. Sex, Age and other donor Demographic factors influence the probability of subsequent donations. It also depends on the time since the index (first) donation. Social pressures and rewards were the factors that influence the decision for repeat blood donations at the early stages while self-originating factors influence the decision for blood donation in later stages. Since our study involved a younger age group (18-26 years), in which most of students (1350 students were in the age group of 18-20 years) just got eligible for blood donation, therefore, the number of blood donors who had donated only once or twice were more.

Social causes were the major motivational factors for blood donation. "Altruism, doing good to others", "Sense of social responsibility" and "For helping friends or relatives" were the major reasons for blood donation. In a study from Norway, 2.8% respondents donated blood in order to be tested for HIV.²³ Younger donors donate blood for blood donor's credit cards and items of limited value while elder people donate for medical check-ups and blood tests.²⁴ The motivations to donate are altruism, humanitarian, social pressure, replacement and rewards.²⁵ Altruism dominated the reasons for donating blood followed by social influence and ego enhancement.²⁶ Among students major determinants to become a blood donor were self-efficacy (for gaining experience), attitude, personal moral norm (personal responsibility, social obligation) and subjective norm (to help friends and relatives). 27-30 In our study, main reasons for not donating blood were Fear of needle, sight of blood, Fear of ill effects, objection from elder and never been asked for blood donation. The commonest of them were fear of ill effects and never been asked for blood donation. Most of the students who were willing to donate, but they had not donated blood because of lack of opportunity to do so. This finding showed that sufficient steps to involve students, to create opportunities for them to donate blood is something that needs to give due consideration. Among most first-time donors temporary deferral becomes the permanent excuse for not donating blood. 31-33 Fear of contracting AIDS or other TTD's was also a major reason for not donating.²⁸ In our society parents have a wrong concept that blood donation causes weakness and hence they have a discouraging attitude towards donation of blood by their children especially by girls.

Experience of blood donation is an important factor for determining the future blood donations especially in the first time Blood donors. Those blood donors who have a pleasant blood donation experience usually return back for donating blood in future and turns into regular VNRBD while those who experience it unpleasant often do not return for repeat blood donation. In our study, 92.38% had pleasant experience of blood donation while

7.61% felt it unpleasant. The percentage of non-donors who don't want to donate blood in future is more than the blood donors who don't want to donate blood in future. ^{34,35} Interactive awareness sessions on blood donation should be organized among students and opportunities for blood donation should be created, which can greatly enhance the movement for "voluntary non-remunerated blood donation", to ensure good quality of blood and safe modern medical care. ^{36,37}

All countries in SEAR are trying to phase out replacement system and move towards 100% voluntary non-remunerated regular blood donation. Lack of resources, lack of professional management, myths and misconceptions arising from cultural and social differences forms a barrier to blood donation. As young people can be prospective regular blood donors, education in the fields of blood donation, need for safe blood and healthy lifestyles for young people are needed. Students are the most important target group and can easily be targeted in schools, colleges and universities.

CONCLUSION

Being knowledgeable and having positive attitude regarding voluntary blood donation does not transform into actual practice of blood donation, but this study shows a positive correlation between knowledge and donation practice. Therefore, specific recruitment and motivational campaigns are needed targeting the younger adults. Our efforts should be towards bringing the knowledge, awareness and the positive attitude of the students into application by motivating them and creating opportunities for them to become regular voluntary non-remunerated blood donor.

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Ethical approval: The study was approved by the hospital's ethics committee at department of immunohematology and blood transfusion medicine, government medical college, Jammu

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