

ORIGINAL RESEARCH ARTICLE

Study on Knowledge, Attitude and Practice of Blood Donation among Students of Different Colleges of Kathmandu, Nepal**Dr Mrigendra Amatya***Department of Physiology, Nepal Medical College, Kathmandu, Nepal*

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ABSTRACT

Introduction: Role of young college students in voluntary blood donation is crucial to meet the demands of safe blood. By assessment of knowledge, attitude, and practice of blood donation, donor mobilization and retention strategies can be designed and optimally modified.

Methods: A cross-sectional descriptive study was conducted on 177 students of donor-eligible age from different colleges of Kathmandu. Self-administered structured questionnaire was used to collect data.

Results: Mean age of students was 20.46 years (± 1.48), girls comprised 58.8%. Eighteen percent students had donated before; 31.5% of boys and 8.7% of girls had donated. Average knowledge was about (32.4%). Practice of blood donation had male propensity and positive correlation with knowledge (p values 0.001). Most students donated for moral satisfaction or humanitarian cause; lack of information about blood collection facilities and no request to donate were the commonest causes for not donating.

Conclusions: Programs to promote blood donation in Nepal should focus more on providing information about blood collection facilities or camps. Direct approach with request to donate would increase blood donation practice among girls.

Key words: College students, gender difference, knowledge, voluntary blood donation.

INTRODUCTION

Blood transfusion is considered an indispensable component of health care as it saves millions of lives each year worldwide, permits complex medical and surgical interventions and improves the life expectancy and life quality in patients with a variety of acute and chronic conditions. As a result of the advances in clinical sciences and population increase, the need for blood is growing day by day all over the world.

Donating blood is an act that saves millions of lives worldwide because blood is an essential element of human life and there are no substitutes to it. The World Health Organization estimates that blood donation by 1% of the population is generally the minimum needed to meet a nation's most basic requirements for blood^[1]. WHO also advocates for 100% non-remunerated voluntary blood donation (VBD), citing it as the first line defense against transmission of diseases through the transfusion route. Although many individuals are eligible to donate blood and numerous awareness campaigns promote its importance, only a small percentage of eligible individuals,

about one third, donate blood in the US and other developed countries, and even fewer do so in developing countries^[2]. In the developing countries, the hesitation among people to donate blood is accounted to misconceptions related to fears of physical harm in the process of donating blood. The perceptions toward voluntary blood donation could be influenced to a large extent by socio-demographic variables of knowledge among the general population^[3]. Major factors deterring an individual from donation are safety worries and inadequate knowledge about donor eligibility^[4].

According to WHO, 38% of reported VBD are under the age of 25 years and WHO insists the countries to focus on young people to achieve 100% non-remunerated voluntary blood donation. Therefore, understanding the various factors contributing to knowledge, attitude, and practice of VBD among college students are important. So, this study was aimed at assessing the level of knowledge, attitude, and practice of blood donation among college students of Kathmandu, Nepal.

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MATERIALS AND METHOD

This is a pilot study to assess the college students' knowledge, attitude, and practice regarding blood donation and was conducted at three different colleges of Kathmandu, Nepal. One hundred and seventy seven students of three bachelor level programs - business sciences (BBS), arts (BA), and fashion designing (BFD) – were enrolled by voluntary participation. Participants consisted of students of eligible age for blood donation (18 years and above). Nature of the study was explained to the participants and verbal consent was obtained. Confidentiality and freedom to discontinue with the study at the participant's decision were assured.

A self-administered structured questionnaire was used to collect information regarding knowledge, attitude, and practice of blood donation among the students. The questionnaire was prepared by referring to recommended blood donation criteria and the national blood donation practice^[5,6]. The questionnaire was finalized after pre-testing with a group of bachelor level students of another college. Questionnaires were distributed to the students individually and returned by the students after completing. The data was entered in Microsoft Excel and analyzed using SPSS 11.5 statistical program. Level of significance was set at p value 0.05.

RESULTS

A total of 177 students participated, comprising 73 males (41.2%) and 104 females (58.8%). Of the three selected programs, there were 98 students from BBS (55.4%), 42 from BFD (23.7%), and 37 from BA (20.9%). Mean age for all the students was 20.46 years (± 1.48), ranging from 18 to 27 years. Mean age of the males and females were comparable, being 20.62 years (± 1.43) for males and 20.36 years (± 1.51) for females.

A. **Assessment of knowledge (Table 1):** The majority of students (69.5%) knew their ABO and Rh blood groups. Regarding knowledge about blood and blood donation, the students' average score of correct answers was 32.01%, i.e., about 8 correct answers for total 26 questions. Most students (n 98, i.e., 55.4%) could not state any function of blood in the body while 32 students (18.1%) gave one correct function and 9 students (5.1%) gave two correct functions. Regarding

indications of blood transfusion, 141 students (79.7%) could not answer while 23 gave one correct reason, 11 students provided 2 correct reasons, and two students gave 3 reasons. Frequently mentioned reasons were hemorrhage in traffic accidents, pregnancy, and surgery. About two thirds (n 122, i.e., 68.93%) of the students said that diseases can be transmitted by blood transfusion. Most students (n 78) could list only one disease while one student mentioned 3 transmissible diseases. HIV-AIDS and hepatitis were the most frequently mentioned diseases. Knowledge about criteria for eligible donor was about 56.12%. Knowledge about conditions when an otherwise eligible donor should not donate was 37.1%. Knowledge about long-term risks for the blood donor was 23.82%, indicating an overall misconception about risks to the donor.

B. **Students' opinion about blood donation (Table 2):** There were varied opinions regarding blood donation among the students. About one fourth of the students had no idea regarding most aspects of blood donation. More than half the students thought that blood collected during blood donation camps are sold by the blood bank to those needing blood transfusion. About one fourth of the students did not intend to donate blood, 35.6% would like to become regular donors, and the remaining were undecided.

C. **Practice of blood donation (Table 3):** Out of 177 students, 32 had donated before (18.1%) while 38 (21.5%) had taken part in organizing a blood donation camp. Twenty two students had donated only once and one student had donated three times before. Most donors (n 10) had donated at the age of 20 years. The commonest reason for donation was for moral satisfaction and social responsibility or humanity (n 23), followed by need of blood for a close person (n 7). Of the reasons for not donating, the commonest was that students had not been requested or approached to donate. Fear of weakness following blood removal, venepuncture-related fear, fear of adverse effects, and fear of contracting diseases were also reasons to refuse donation. Being unfit to

donate due to different medical reasons and not getting permission from parents were also common reasons. Some students cited more than one reason.

D. Correlations with the practice of donation (Table 4): Correlation was explored among different factors related to donation practice. Percentage of donors among boys was much more than percentage of donors among girls, being 31.5% and 8.7% respectively (very significant, p value 0.01). Donors also had

a higher score on knowledge assessment than non-donors (highly significant, p value 0.01). Expectedly, those students who participated in organizing blood donation camps were more likely to donate, the correlation being highly significant (p value 0.01). There was no significant correlation between gender and level of knowledge, average knowledge score among boys and girls being comparable (8.40 ± 4.06 and 8.44 ± 2.92 respectively)

Table 1: Knowledge assessment of students

S. No	Questions	Incorrect		Correct	
		Number	%	Number	%
General knowledge					
1	How much blood is there in the body?	165	93.22	12	6.78
2	Knowledge about ABO blood type	114	64.41	63	35.59
3	Knowledge about Rh blood type	153	86.44	24	13.56
4	Are diseases transmitted by transfusion?	55	31.07	122	68.93
5	How much blood is removed during donation?	175	98.87	2	1.13
6	How much time is taken to withdraw blood?	153	86.44	24	13.56
Average score			76.74		23.26
Knowledge about donor eligibility					
7	What is the minimum age for donor?	113	63.84	64	36.16
8	What is the maximum age for donor?	172	97.18	5	2.82
9	What is the minimum weight for donor?	142	80.23	35	19.77
10	How often can one donate?	99	55.93	78	44.07
11	Can pregnant donate?	22	12.43	155	87.57
12	Can a female during menstruation donate?	48	27.12	129	72.88
Average score			56.12		43.88
Knowledge about conditions when an eligible person may not donate					
13	Can one donate during fever?	20	11.30	157	88.70
14	Can one donate while having common cold?	150	84.75	27	15.25
15	Can a person with high BP donate?	163	92.09	14	7.91
16	Can a person donate when BP is low?	22	12.43	155	87.57
17	Can a smoker donate blood?	113	63.84	64	36.16
18	Can donation be done by a person who is taking medicines for chronic diseases?	172	97.18	5	2.82
19	Can a person with chronic alcoholism donate?	168	94.92	9	5.08
20	Can a person having allergy donate?	83	46.89	94	53.11
Average score			62.92		37.08
Knowledge about long-term risks to donor					
21	There is risk of contracting HIV by donating.	136	76.84	41	23.16
22	There is risk of contracting hepatitis by donating.	138	77.97	39	22.03
23	There is risk of contracting other infections by donating.	145	81.92	32	18.08
24	Blood donation causes bleeding disorders.	133	75.14	44	24.86
25	Blood donation causes anemia.	136	76.84	41	23.16
26	Blood donation causes mental disorders.	121	68.36	56	31.64
Average score			76.18		23.82
Overall average score			67.99		32.01

Table 2: Students' opinion about blood donation

Statement	Agree		Disagree		No idea	
	Number	%	Number	%	Number	%
Blood donation is noble act	146	82.5	5	2.8	26	14.7
Only physically strong can donate	115	65	41	23.3	21	11.9
Regular donors get money	20	11.3	89	50.3	68	38.4
Blood is sold to needed	95	53.7	40	22.6	42	23.7
You intend to donate regularly	63	35.6	44	24.9	70	39.5
Blood should be collected from voluntary donors only	74	41.8	60	33.9	43	24.3

Table 3: Reasons cited for not donating

Reasons	Frequency
Medical reasons / medically unfit for donating	29
No request for blood	47
No time for donating	14
No information as to when, where, how to donate	19
Parents do not allow	15
Fear of weakness from blood donation	40
Fear of pain	14
Fear of the needle, sight of blood, fainting	14
Fear of contracting disease	11
Fear of other adverse effects	8
Do not like the idea of donating	3
Other reasons	2

Table 4: Correlation of gender, knowledge, and practice of blood donation

Paired factors	Correlation
Gender and knowledge	0.006
Gender and donation	0.292***
Donation and knowledge	0.208**

DISCUSSION

Maintaining an adequate and safe blood supply is an issue of concern to health planners, especially with the increase in demand. Therefore, understanding the knowledge, attitude, and factors associated with practice of blood donation is crucial. This study aimed to assess knowledge, attitude, and practice of blood donation among students of different colleges of Kathmandu, Nepal. One hundred and seventy seven students of eligible age for blood donation were enrolled in the study. Eighteen percent students had donated before and the girls donated less than the boys. Knowledge assessment showed overall 32.4% correct responses to 26 questions related to blood functions, blood transfusion, blood donation, donor eligibility criteria, and donor risks. Knowledge was correlated with practice of donation but not with gender. Most students considered blood donation as a noble, humanitarian act and moral satisfaction was the commonest reason for donation.

Most of the findings of this study are similar to those of the other studies involving college students [7-10]. It has been noticed that 'being knowledgeable' and having 'positive attitude' does not transform into actual practice of blood donation, but this study shows a positive correlation between knowledge and donation practice. Noticing the male propensity of donors, it is suggestible that the outgoing nature of boys and more social freedom enjoyed by them could be a strong factor. Although not correlated, lack of direct request to donate and knowledge about blood donation facilities were cited by many non-donors; boys are again more likely to be approached or informed. A previous study regarding Nepalese donors had reported that

males comprised 93.2% of total donors and that mean age of donors was 29.1 years [11]. Thus, college students appear to contribute significantly to the total donor population of the country and more girls donate than females of the general population. Yet, it is a very low rate as compared to most European countries where there is no gender differences in donor population [12].

College students are considered very important portion of the donor-eligible population, by number as well as safety. Further, their retention as donors would form a reliable and sizeable reservoir of blood. However, it seems that this group of population in Nepal is lacking in awareness, motivation, and opportunities for voluntary blood donation, especially for the girls. The programs for promotion of blood donation in Nepal should be more focused on providing information on blood collection facilities and take a more direct approach to involve girls. Further studies are recommended to assess behavior changes as a result of such campaigns.

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