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Original Research Article

A study of knowledge, attitude and practice of voluntary blood donation among interns of a municipal medical college

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ABSTRACT

Background: Inspiration among and participation of medical students is essential to make the "voluntary blood donation" movement a success. By assessment of knowledge, attitude and practice of blood donation, donor mobilization and retention strategies can be designed and optimally modified. In this study, knowledge about voluntary blood donation in medical interns was undertaken because by the end of their MBBS course they are supposed to have understood the importance of blood donation and become capable motivators for blood donation amongst potential donors in public.
Methods: A cross-sectional descriptive study was conducted on 111 interns of Topiwala National Medical College, Mumbai using universal sampling method. Self-administered structured questionnaire was used to collect data.
Results: Mean age of interns was 23.13 years with standard deviation of 0.832 of which girls comprised 48.6%. Forty seven point seven percent interns had donated blood before. The correct knowledge was prevalent in 45.0% only. Practice of blood donation amongst interns had male propensity and positive correlation with gender difference (p value 0.001). Most interns (79.3%) donated for moral satisfaction and social responsibility The commonest reason in the non-donors, for not donating was being medically unfit for donating (69.0%).
Conclusions: Almost half (55.0%) of the medical students under study didn't have adequate knowledge on blood safety and donor eligibility. Majority of them intended to donate blood in future however, a very few had ever actually donated blood. Increased awareness about blood donation among medical interns is expected to have amplified effects in the society, as an aware and motivated doctor can motivate and mobilize many others for voluntary non-remunerated blood donation and thus blood safety.

Keywords: Voluntary blood donation, Interns, Blood donor eligibility, Blood safety

INTRODUCTION

Voluntary blood donors are the source of a safe and adequate supply of blood and blood products. The safest blood donors are voluntary, non-remunerated blood donors from low-risk populations.[1] At the national level, to meet the shortage of safe blood, World health organization (WHO) recommends that 3-5% of the population to donate blood every year.[2] But, in India, there is a requirement of 8 million units of blood every year, out of which only one third is obtained from voluntary blood donors.[3]

There are three types of donors voluntary, family/replacement and paid. Voluntary donors have less prevalence of transfusion-related infections like HIV, Hepatitis B etc. when compared to the donations which come from family/ replacement donors. Often as strict selection criteria imposed as a part of safety for blood donation, many potential donors are excluded. So, there is a need for more donation camps to maintain the regular

supply of blood.[4] One of the WHO's integral strategy advocates that the blood donation has to be from low-risk populations to promote blood safety and minimize risks.[5] One of such low-risk populations are young doctors, who by their virtue of their training and medical practices are expected to be informed about the process of voluntary blood donation and its beneficial effects. Further, young doctors are healthy, enthusiastic and motivated for such type of noble work. Various studies have been conducted in general population and health professionals, but very few studies are conducted on young doctors.[6-18] So, this study was conducted to determine the knowledge and attitude about donor eligibility, safety and prevailing practices pertaining to voluntary blood donation among interns.

METHODS

A cross sectional study was conducted among interns of Topiwala National Medical College & B.Y.L. Nair Ch. Hospital, Mumbai during February-March 2015. For the study, universal sampling method was adopted. Those who were not willing to participate and those who were out of town in that period were excluded from the study. Brief description was given to the participants about the objective of this study and confidentiality in collection of personal data was assured. A well-structured validated and pre-tested questionnaire was used as a tool to assess knowledge, attitude and practice of blood donation, among interns through questions covering nature of donation, requirements for donation; eligibility criteria for blood donation, usage of blood and health benefits for blood donors. Each intern was given the questionnaire to fill after taking their consent.

Respondent's level of knowledge was assessed using a set of 15 questions. Maximum score was 15 and adequate knowledge was classified as having a score of 9 and above (60% of the maximum score). The attitude towards blood donation and their actual practice regarding voluntary blood donation was also done.

Statistical analysis

Descriptive statistics were used to assess the level of knowledge, attitude and practice about blood donations. Chi-square test was applied to examine the association between knowledge level and independent variables like sex and blood donation status. A p-value of <0.05 was taken as statistically significant.

RESULTS

Out of 124 interns approached for interview, 13 interns (10.48%) were not willing to participate or were out of town. Mean age of the respondents was 23.13 years. The ratio of male and females in the study was 1.05:1.

Respondent's knowledge about blood safety and donor eligibility are shown in Table1. In the present study, 85.6% of the interns had correct knowledge of minimum age, 55.9% had correct knowledge of minimum body weight and 42.4% knew about the correct haemoglobin level for blood donation.

Table 1: Knowledge assessment of interns about donor eligibility (N=111).

Sr.No	Questions	Correct	
		Number	%
1	Minimum age for donation	95	85.6
2.	Maximum age for donation	14	12.6
3.	Minimum body weight for donation	62	55.9
4.	Minimum Hgb level for donation	47	42.4
5.	Can a person with high/low BP donate blood?	70	63.1
6.	Can a person with chronic disease donate blood?	77	69.4
7.	Can a female during menstruation donate blood?	55	49.5
8.	Can a pregnant female donate blood?	83	74.8
9.	Can a smoker donate blood?	33	29.7
10.	Can a person who is chronic alcoholic donate blood?	67	60.4
11.	Amount of blood a person can donate in a single time?	54	48.7
12.	Can any infectious disease be transmitted during blood donation?	37	33.3
13.	What should be the minimum interval between two successive donations by a person?	92	82.9
14.	Are voluntary blood donors paid?	99	89.2
15.	Where can we donate blood voluntarily in India?	44	39.6

Table 2 shows the association between gender and adequate knowledge. On the basis of scoring scale, the proportion of interns having adequate knowledge was 45.0%. Females (59.3%) had significantly higher adequate knowledge when compared to males (31.6%) in our study (p value= 0.003).

Table2: The association between gender and adequate knowledge.

Gender	Adequate Knowledge (%)	
	Yes (%)	No (%)
Female (%)	32 (59.3)	22 (40.7)
Male (%)	18 (31.6)	39 (68.4)
Total (%)	50 (45.0)	61 (55.0)
Chi square=8.583, df=1, p value=0.003		

Table 3 shows the attitude of interns about voluntary blood donation. About 36.9% of the respondents think that blood donation helps in blood purification and about 93.7% think that it is a noble act and 92.7% of them are willing to donate blood in future.

Table 3: Attitude of respondents about voluntary blood donation (N=111).

Attitude	Number	%
1.Do you think blood donation helps in blood purification		
Yes	41	36.9
No	55	49.5
No idea	15	13.6
2.Do you think one can contract disease while donating blood		
Yes	40	36.0
No	55	49.5
No idea	16	14.5
3.Blood donation is a noble act and life saving for others		
Yes	104	93.7
No	4	3.6
No idea	3	2.7
4.Are you willing to donate Blood in future		
Yes	103	92.7
No	08	7.3

Table 4 shows the practice of blood donation among interns. Out of 111 interns, only 53(47.7%) had donated blood before. About 88.7% interns had positive feelings after blood donation.

Table 5 shows association between gender and practice of blood donation. Among male interns, 44 (77.2%) had donated blood before while among female interns only 9(16.7%) had donated. Practice of blood donation had a significant male propensity than in females (p=0.001).

The commonest reason for blood donation among them was moral satisfaction and social responsibility or humanity (79.3%) followed by need of blood for a closed person (20.7%). The commonest reason for not donating blood was being medically unfit for blood donation (69.0%), fear of weakness (10.3%), No request for blood (10.3%), and not getting permission from parents(6.90%) and fear of pain (3.5%).

Table 4: Practice of blood donation.

Practice	Number	%
1.Have you ever donated blood		
Yes	53	47.7
No	58	52.3
2.If yes, how many times		
Once	26	49.1
Twice	17	32.1
Thrice or more	10	18.8
3.Feeling after blood donation		
Positive	47	88.7
Negative	2	3.7
Indifferent	4	7.6

Table 5: The association between gender and practice of blood donation.

Sex	Blood Donated	
	Yes (%)	No (%)
Female (%)	09 (16.7)	45 (83.3)
Male (%)	44 (77.2)	13 (22.8)
Total (%)	53 (47.8)	58 (52.2)
Chi square= 40.17, df=1, p=0.001		

DISCUSSION

Motivation among young doctors like interns and undergraduate students will add up to the pool of safe blood from low risk populations. In our study 45.0% of the interns had adequate knowledge about donor eligibility and safety aspects of voluntary blood donation. A study in a tertiary institution in Nigeria by Salaudeen AG et al[16] reported that 64.8% had good knowledge about blood donation. In a studies conducted by Ahmad Nadeem Aslani et al, Ponnari et al, Desai et al and Manikandan et al in different parts of the country have reported 35%, 26%, 37.3% and 35.65% respectively having adequate knowledge among the young health professionals.[7,9,13,15] This difference in knowledge is varied because the level of educational attainment of the different types of health professionals the above studies have included.

In our study, 85.6% of the interns knew the correct age limit for donating blood. A study conducted by Chopra D et al[8] was in concordance with our study results. Another study conducted by Manikandan et al among medical professionals of Tamil Nadu reported lower proportion of having correct knowledge about the age limit. Studies by Shahshahani et al and Uma et al conducted among the general population who are voluntary donors have also reported similar results as reported by our study.[11,13,18] Further the study by Chopra D et al and Ahmad Nadeem Aslani et al also emphasized that 49.8% and 45% of the

medical professionals had correct knowledge about the interval between two blood donations respectively.[7,8] But our study reported higher proportion of interns having the correct knowledge about the interval.

In our study, about 93.7% of the interns thought that blood donation is a noble act and lifesaving to others. Higher proportion of students reported to have positive attitude in a study conducted by Ponnari et al in south India.[15] But, lower proportion of the study sample reported positive attitude in the studies conducted by Chopra D et al, Manikandan et al and Desai K et al.[8,9,13] This difference is because of the fact that our study only has focused on the subset of young doctors i.e. interns. Around 36% of interns in the current study thought that one can contract diseases like HIV/Hepatitis while donating blood. Devi HS et al reported almost similar findings (29.3%).[10] So this misconception needs to be rectified in future curriculum.

In our study, 47.7% of the interns had donated blood in the past and 51% of them had donated more than twice. A study conducted by Desai et al in Gujarat reported a higher proportion of medical professionals not donating blood in the past (78.7%).[9] Some studies conducted by Salaudeen AG et al (15.3%) and Uma et al (22.1%) reported lower proportions of the people who had donated blood in the past.[16,18]

The practice of blood donation was significantly higher among males when compared to females in our study. Similar results were reported by Chopra et al who conducted study in medical students of a medical college in Uttar Pradesh.[8] This significant difference might be due to the fact in Indian scenario including even the medical professionals; females are more anaemic than males. Since this is one of the selection criteria for blood donation. But, our study also reported that the females had significantly higher knowledge when compared to males.

Major limitation of the present study is that only one group of young medical professionals has been considered. Varied groups have to be included then more precise results would have been obtained.

CONCLUSION

Present study concludes that the correct knowledge of the interns regarding voluntary blood donation is below the desirable level. So, Information, Education & communication activities in the form of periodic awareness program and involvement of interns in blood donation camp should be considered. Through these activities, interns will be fostered to take front line responsibilities in spreading awareness & motivating people to donate blood by sensitizing them about the benefits of donating blood to the recipients as well as donors. Another inference is that the females have adequate knowledge but fewer chances that they are donating blood. This has to be tackled by creating nutrition awareness to become healthier and donate blood.

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