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First year medical student's knowledge and practice on blood donation: a questionnaire based cross sectional study

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ABSTRACT

Aim of our study

To assess the knowledge and practice about blood donation among medical students.

Materials and methods

A questionnaire based cross sectional study was conducted among first year MBBS students studying at Malla Reddy Medical College for Women, Hyderabad. A questionnaire with 19 questions on knowledge and practice on blood donation was given to the students. The data so obtained were entered into microsoft excel and statistical analysis was done.

Results

Knowledge regarding blood donation was average 94(71.2 %) among the students. 92.4% of the students agreed that blood donation is harmless procedure, 81.8% could tell about the screening tests done before donating blood and only 9% had knowledge regarding the age limit for blood donors. All 132 of our students who participated in the study had never donated blood, the reasons given were 56% of were never been asked to donate and 33.3% had fear of needles, sight of blood.

Conclusion

This study highlights the importance of incorporating effective awareness programmes as well as creating sufficient opportunities to these students in order to achieve 100% voluntary blood donation.

Keywords: Knowledge, Practice, Blood donation, Medical students

INTRODUCTION

Blood is a connective tissue in fluid form and it is considered as fluid of life, growth and health.[1] Every year World's blood donor's day is observed on 14th June and the theme for the year 2017 is "What can you do?" with the secondary message "Give blood. Give now. Give often". The aim of this event is to create awareness on the importance on blood donation and also to thank blood donors in saving life and improving health of others by donating blood. [2] Donating blood is the only way to acquire it to meet the demands in situations like anaemia's, major surgeries, accidents, chemotherapy, obstetric and gynaecological haemorrhages. [3] But still scarcity of blood all over the world continues. [4]

If 1% of any country's people donate blood, it can fulfil the basic requirements for blood as stated by WHO (World Health Organization). [5] Transfusion transmitting infections like HIV, hepatitis, syphilis, malaria are more common from paid blood donors, so WHO recommends to collect blood only from voluntary and unpaid donors. Voluntary non remunerated blood donor is a person who gives blood, plasma or other blood components of his/her own free will and in return accepts no payment, either in the form of cash or in kind and these donors do not withhold any personal information about their life styles, drug abuse or any serious medical conditions. Personal satisfaction, sense of pride are the only few components they receive in turn after blood donation. [6] To attain 100% non-remunerated voluntary blood donation by 2020, WHO states that all countries should focus on young people. [7]

The Club 25 concept was first initiated at Zimbabwe in 1989, to target youth donors in which these young donors pledged to donate blood 25 times by the time they reach 25. Recruiting these young donors will help in reducing the prevalence of HIV/AIDS by promoting safe lifestyles and also ensuring adequate blood supply for the entire country. [8]

WHO states that an estimated 38% of voluntary blood donations are from people under the age of 25. [9] Students of medical colleges have good knowledge and clinical experience regarding blood donation.[10] These students who are young and enthusiastic if recruited can become future donors and as well as good motivators.[9] Taking this into consideration, the aim of this study was to assess the knowledge and practice on blood donation among

undergraduate medical students in Hyderabad, Telangana.

MATERIALS AND METHODS

A cross sectional study was conducted among first year MBBS students studying at Malla Reddy Medical College for Women, Suraram, Hyderabad. The total number of students enrolled in first year in this college is 150, out of which 132 participated in our study. The study was conducted in May 2017 and approval of Institutional Ethics Committee was taken before the study was undertaken. Before distributing the questionnaire, the objectives of this study was explained to the students and also oral consent was taken from them. The questionnaire had two sections: knowledge and practice. The knowledge section consisted of 18 questions, the topics covered were criteria for blood donation, transfusion transmitting infections, benefits of blood donation and practice section had two questions. Scoring was given to knowledge questions. Score of 1 was given to correct answer and 0 for wrong or no response. The maximum score obtained was 18 and minimum 0. Based on the scores students knowledge level was categorised as poor (< 6 score), average (7-14 score) and good (>14 score). The practice section had one question. Data obtained was entered in MS Excel 2007 and statistical analysis was done using percentage and proportions.

RESULT

Table 1 shows knowledge of students regarding blood donation. Only 9% of students had knowledge about the age requirement for blood donors and 28.7% could tell about the body weight requirement for persons donating blood. Majority (81.8%) knew about the screening tests done before donating blood and also 80.3% could tell about the laboratory tests done on blood after donation. Only 37.8% had knowledge on World's Blood Donors day celebrations. Less than half (40.6%) could tell the minimum time gap given between blood donations and only 16.6% had knowledge regarding amount of blood that can be donated at a single time. More than half (57.5%) of the students could tell from where blood is drawn and 51.5% had knowledge about duration of blood preservation. 78% of students agreed that a person cannot donate blood immediately after taking alcohol and 72.7% knew

about universal blood donors. 47.7% of students had knowledge about autologous blood transfusion and 31% agreed that there are no complications following blood donation. 66.6% could tell about infections transmitted through unscreened blood and 40.9% of students had knowledge of anticoagulant used in blood bank. Majority (92.4%) agreed that blood donation is harmless process. Blood stored in blood banks is safe was agreed among 72.7% of students and 71.2% suggested that procedure of blood donation is painless.

Table 2 shows categorisation of students based on their knowledge scores. Majority (71.2%) of students had average knowledge score followed by good (20.4%) and poor (8.3%) scores. Table 3 shows practice of blood donation among students. All 132 (100%) of our students had never donated blood. Graph 1 shows the reasons for not donating blood among students. 56% gave the reason as never been asked to donate, 33.3% had fear of needles, sight of blood, 6.8% had objection from elders, 3.7% had fear of illness following blood donation.

Table 1: Knowledge on blood donation among students

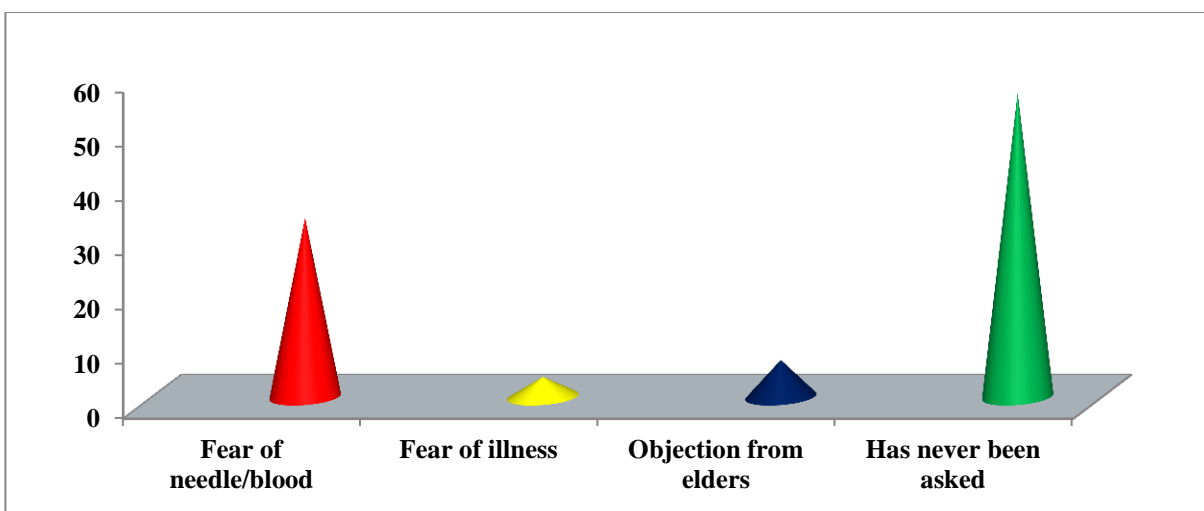
S.No.	Question	Having knowledge (132)	
		N	%
1.	What is the age limit for donors to donate blood?	12	9
2.	What is the minimum body weight for a person to donate blood?	38	28.7
3.	What is the minimum time interval between two successful blood donations for a person?	53	40.1
4.	What is the quantity of blood donated at a time?	22	16.6
5.	What are the screening tests done before for donation of blood?	108	81.8
6.	As per WHO, what core tests are done on blood?	106	80.3
7.	World Blood donor's day is observed on?	50	37.8
8.	From where blood is collected?	76	57.5
9.	How long blood can be preserved?	68	51.5
10.	Can a person donate blood immediately after consuming alcohol?	103	78
11.	Which blood group is universal donor?	96	72.7
12.	What are the infectious diseases transmitted due to unscreened blood?	88	66.6
13.	Any complications of blood donation?	41	31
14.	Can a person donate blood before hand to use on his own surgery?	63	47.7
15.	Which anticoagulant is used to preserve blood in blood bank?	54	40.9
16.	Is blood donation harmful to donor?	122	92.4
17.	Is blood stored in blood bank safe?	96	72.7
18.	Is blood donation a painful procedure?	94	71.2

Table 2: Knowledge wise distribution of students regarding blood donation

Category	N (%)
Poor	11(8.3)
Average	94 (71.2)
Good	27 (20.4)

Table 3: Blood donation practice among students

Have you ever donated blood?	No (132)
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Graph 1: Reasons for not donating blood among students

DISCUSSION

Students from medical colleges can be excellent voluntary blood donors as well as motivators because they all know the importance of saving human life. For this reason, this study was conducted to know the present level of knowledge and practice among these undergraduates and whether there is need for conducting CMEs/workshops/educational interventions to further enhance their awareness on blood donation.

In our study we found that only 9% of students had knowledge regarding age limit for donors, which was very low in comparing to similar study done by Devi et al. [11] and Mirza et al. [12] where the response was 56.8% and 37.3% respectively. Only 28.7% could tell about the minimum weight requirement for blood donors, which was also less in comparison to a study done by Alisha et al. [13] where the result was 76.7%. 80.3% of our students had knowledge on laboratory tests done on blood after donation, which is higher in comparing to a study done by Desai et al. [14] and Patil et al. [15] where the response was 40.5% and 58% respectively. Regarding quantity of blood donated at a time, 16.6% of students gave correct response which is similar to study done by Desai et al. [14] 66.6% of our students could tell about transfusion transmitted infections and 40.1% of them had knowledge on time gap between blood donation which was lower when compared to a study done Amit et al.[16] where the response was 96% and 80% respectively. All 132 of our students had never donated blood. In comparison to similar

studies done by Sunetra et al. [17] and Manikandan et al. [5] the practice on blood donation among students was 92% and 89.2% respectively. As our study was among first year students, majority of them just had got eligible to donate blood.

Gilles et al.[18] conducted a study in United Kingdom, which says that there are mainly four reasons that hinders people from donating blood, which are 'fear of needles', 'fear of fainting', 'fear of infection' and 'fear of being sick'. The main reason given by the students for not donating blood is that they have never been asked to donate blood citing lack of opportunities and they also have fear for needles or blood. In order to achieve 100% voluntary blood donation among the younger generation, all their doubts/queries or fear regarding blood donation will have to be cleared. A visit to a nearby blood bank can be arranged to show them how actually blood donation process takes place, how and where the blood is stored will be helpful. Voluntary blood donors can be asked to give a talk on their experience on blood donation, so that these students can clear their doubts and reduce their fear and anxiety. Giving non monetary incentives like certificate of appreciation, badges and organising transport for donors can also be done to attract these potential donors. [19]

CONCLUSION

Students from medical college can be a great donors as well as motivators for donating blood. In our study we found that majority of students had

average knowledge on blood donation, but lack of appropriate opportunities and certain misconceptions on blood donation was the main hindering factor for them to not to donate blood. To ward off these, appropriate interactive and educational programmes must be held in the medical colleges right from the

first year of their course and right opportunities must be created so that they can voluntarily donate blood.

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