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Original Research Article

A study of knowledge and behaviour regarding blood donation among medical college students of Ajmer, Rajasthan, India

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ABSTRACT

Background: Blood is specialized body fluid in humans that delivers necessary substances such as nutrients and oxygen to the cells and transports metabolic waste products away from that same cells.
Methods: The study was conducted among undergraduate medical students of J.LN. Medical College, Ajmer, Rajasthan, India in March 2019. It was a descriptive cross-sectional study among 1st professional MBBS students.
Results: The study participants included age range of 17-20 years. 96 (78.04%) study participants were knows blood group "O" is a universal donor and 94 (76.42%) were know blood group "AB" is universal recipient. majority of study participants 48 (45.28%) not donate due to fear of procedure.
Conclusions: Role of health care personnel and medical students of a medical college for blood donation are pivotal.

Keywords: Blood, Donation, Knowledge, Behaviour

INTRODUCTION

Human blood is an essential element of the human life and there are no substitutes for it.[1] It is specialized body fluid in humans that delivers necessary substances such as nutrients and oxygen to the cells and transports metabolic waste products away from that same cells.[2]

Blood is the most donated tissue in medical practice and a veritable tool in many live-saving situations when used judiciously.[3] Human blood is only manufactured by human beings and blood donation is the only way of acquiring blood to meet emergency requirements in cases of road traffic accidents, complications of pregnancy and childbirth, various anaemic disorders and surgical emergencies.[4] About 80% of maternal deaths are due to obstetric complications of pregnancy and the most common cause of maternal deaths is the obstetric haemorrhage and it can be save by blood transfusion.[5]

Millions of lives are saved each year through blood transfusions but yet the quality and the safety of blood transfusion is still a concern particularly in the developing countries.[6] The World Health organization recommended that donated blood should be tested for HIV, Hepatitis B, Hepatitis C, Syphilis, Malaria and other infections because these diseases can be transmitted to the recipients.[7] The need for blood is growing day by day as a result of the advancement in the clinical medicine and unavailability of blood is vital for good quality health services.[8] In many developing countries majority of voluntary donors are replacement donors who donate blood for their friends, relatives and other alternative is paid donors which have a significant risk of transfusion transmitted infections.[9]

Blood can save millions of lives. Even though people do not donate blood regularly there is a constant effort to balance the supply and demand of blood.[10] It is estimated that donation by 1% of the population is sufficient to

meet a nation's most basic requirements for blood.[3] National AIDS Control Organization's (NACO) statistics show that the annual rate of blood donation in India is about 6.8 million units, against the requirement of 12.8 million units.[11] College students particularly from medical college can be a very good source of quickly accessible for blood if they are motivated and are willing to be voluntary blood donors.

Objectives

- To assess the knowledge towards blood donation among undergraduate medical students.
- To assess the behaviour towards blood donation among undergraduate medical students.

METHODS

The study was conducted among undergraduate medical students of J.LN. Medical College, Ajmer, Rajasthan, India in March 2019. It was a descriptive cross-sectional study among 1st professional MBBS students. A pretested structured questionnaire was used as a study tool. Appropriate changes were made in the schedule taking into account the experiences of the pretest. The questionnaire consisted of 2 sections. Section A was designed to collect socio-demographic information and Sections B contained question regarding knowledge and behaviour towards blood donation.

Total 150 students were in the 1st professional MBBS and 123 students were present on the day of administration of questionnaire. All 123 students expressed their consent to participate in the study so all were enrolled in the study. All participants were given a briefing about objective of the study and assured confidentiality in collection of personal data. There was health awareness session for the students and they were given proper knowledge about the importance of blood donation. Data was analyzed and results were expressed as using proportional percentage.

RESULTS

Table 1 shows that the study sample consisted of 68 males and 55 females. The study participants included age range of 17-20 years. Majority of male participants belonged to 18 years 39 (57.35%) followed by 19 years 20 (29.41%), 20 years 6 (8.82%) and 17 years 3 (4.41%) and Majority of female subjects belonged to 18 years 29 (52.72%) followed by 19 years 18 (32.72%), 20 years 5 (9.90%) and 17 years 3 (5.45%).

Table 2 shows that 96 (78.04%) study participants were knows blood group "O" is a universal donor and 94 (76.42%) were know blood group "AB" is universal recipient. 121 (98.37%) were know regarding 4 type of blood group and 107 (86.99%) were know own blood group. 98 (79.67%) were know 45 kg is minimum weight to donate blood and 104 (84.55%) were know appropriate age for donate the blood that is 18 years to 60 years. 101 (82.11%) were know after 90 days blood can be donate if donated once, only 41 (33.33%) study participants know that 350 ml. blood is collected in one donation and all 123 (100%) study participants were know that blood must be tested for HIV, Hepatitis B, Hepatitis C, Syphilis and Malaria before blood collection.

Table 1: Age and gander wise distribution of study subjects (n=123).

Age (years)	Male		Female		Total	
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
<17	03	4.41	03	5.45	06	4.87
18	39	57.35	29	52.72	68	55.28
19	20	29.41	18	32.72	38	30.89
>20	06	8.82	05	9.09	11	8.94
Total	68	100	55	100	123	100

Table 2: Knowledge regarding blood donation among study subjects (n=123).

Correct knowledge regarding blood donation	Number	Percentage (%)
Which blood group is universal donor?	96	78.04
Which blood group is universal recipient?	94	76.42
Types of blood groups are?	121	98.37
Do you know your blood group?	107	86.99
What is the minimum weight to donate blood of donor?	98	79.67
What is the appropriate age to donate blood of donor?	104	84.55
How much ml. blood is collected in one donation?	4 1	33.33
Can blood collect without being tested for certain diseases?	123	100
At what duration blood can be donate if donated once?	101	82.11

Table 3: Distribution of study subjects among ever donated blood and behaviour towards blood donation. (n=123)

Blood donation behaviour	Response	Number	Percentage (%)
Ever donated blood (n=123)	Yes	17	13.82
	No	106	86.17
	Total	123	100
Ever donated gender wise (n=17)	Male	14	82.35
	Female	03	17.64
	Total	17	100
Ever donated if asked (n= 17)	Voluntary	17	100
	Non-voluntary	0	0.0%
Blood donated to whom (n= 17)	Friends	05	29.41
	Relatives	11	64.70
	Unknown persons	01	5.88
	Total	17	100
Willingness to donate blood (n=123)	Yes	119	96.74
	No	04	3.25
	Total	123	100
Blood donation is beneficial to society (n=123)	Yes	120	97.56
	No	03	2.43
	Total	123	100

Table 4: Distribution of study subjects who never have donated blood for reasons of unwillingness to donate (n=106).

Reasons for not donating blood among non-donor students	Number	Percentage (%)
No support from family	10	9.43
Fear of procedure	48	45.28
Fear of weakness	05	4.71
Fear of contracting any disease	08	7.54
Why to donate to unknown	03	2.83
No one asked them	32	30.18
Total	106	100

Table 5: Source of information regarding blood donation among study subjects (n=123).

Source of information regarding blood donation	Number	Percentage (%)
School & college	64	52.03
Blood donation camps	09	7.31
Internet	41	33.33
Television	52	42.27
Family / Friends	28	22.76
News paper	37	30.08

Table 3 shows that out of 123 study participants only 17 (13.82%) were ever donated blood. Out of 17 who ever donated blood 14 (82.35) were male and 3 (17.64%) were female. Out of 17 all 100% donated blood voluntary. Majority of blood recipient were relatives 11 (64.70%) followed by friends 5 (29.41%). Out of 123 study participants 119 (96.74%) were willing to donate blood and only 4 (3.25%) were not willing to donate blood. Out of 123 study participants 120 (97.56%) were believe that blood donation is beneficial to society.

Table 4 shows that majority of study participants 48 (45.28%) not donate due to fear of procedure followed by 32 (30.18%) not asked them for blood donation, among 10 (9.43%) study subjects were not supported by family for blood donation and only 3 (2.83%) were think that there is no need to donate blood to unknown person.

Table 5 shows that main source of information regarding blood donation was educational institute 64 (52.03%) followed by television 52 (42.27%), internet 41 (33.33%), newspaper 37 (30.08%), family and friends 28 (22.76%) and blood donation camps 9 (7.31%).

DISCUSSION

All the study participants did not have a complete knowledge regarding the various aspects of voluntary blood donation. Study participants had a good knowledge of blood donation whereas poor blood donation behaviour was observed in the present study. Correct knowledge and positive behaviour for the blood donation in community is essential. In this study 123 students of 1st professional MBBS participated. The study participants included age range of 17-20 years.

79.67% participants had knowledge regarding the minimum necessary body weight for blood donation ie 45 kg. Similar study done by Desai et al found 80% study participants know minimum necessary body weight for blood donation whereas study done by Alfouzan found only 40.10%.[12,13] Majority 84.55% of study participants were aware of the appropriate age for blood donation ie 18 years to 60 years. Similar findings observed studies conducted by Desai et al 78.20% and Chauhan et al 95% of the students had correct knowledge regarding appropriate age for blood donation.[12,14] 13% of study participants did not know own blood group. This was similar to study conducted by Solanki et al in the Udaipur city Rajasthan.[15]

Majority 86.17% of study participants had not been donated blood. A similar study carried out in Sikkim[5] indicates 87.3% never were donated blood whereas study done by Meinia et al reported 56.70% study participants never donated blood.[16] Majority of 96.74% participants were willing to donate blood as comparing the study done by Bachhotiya et al in medical students where 93.77% study participants were willing to donate blood.[17] Most of the students 97.56% felt that blood donation is beneficial to society similar finding found in study done by Solanki et al.[15]

45.28% study participants were respond that most common reasons for not donating blood among the non-donors were the fear of procedure of blood donation and 30.18% were no one asked them to donate. These findings are similar to studies done by Solanki et al and Manikanandan et al.[15,18] The main source of information regarding blood donation among the participants was educational institute followed closely behind by television. The least informative source was blood donation camps. Chauhan et al has reported similar results like most informative regarding blood donation was educational institute followed by television.[14]

CONCLUSION

Role of health care personnel and medical students of a medical college for blood donation are pivotal. In this study knowledge regarding blood donation among study subjects were good whereas initiation of blood donation is very low so blood donation by the medical students should be regular basis for creating awareness on blood donation and set an example for others. There should be celebration on 14 June world blood donor day and 17 April world haemophilia day at grass route level for increase the awareness among general masses in the society and it would be increase the volunteer blood donors.

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