

Original Article

## Knowledge, Attitude and Practice of Blood Donation in a Field Practice Area in Chennai – A Cross Sectional Study

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### Abstract

**Background:** Blood is an important resource, helps patients suffering from life-threatening conditions and have a life-saving role in maternal and perinatal care. Ensuring safe and sufficient blood supplies requires the development of a nationally coordinated blood transfusion service based on voluntary non-remunerated blood donations. This study was undertaken to assess the knowledge, attitude and practice of blood donation among residents in an urban field practice area of a government medical college in Chennai. **Materials and Methods:** A cross sectional study was undertaken among the randomly selected 150 residents in the field practice area, Chennai. Data was collected using a semi-structured, self-administered questionnaire, after getting informed consent. The responses were verified twice, entered and analysed using IBM SPSS version 16.0. The descriptive and inferential statistics of the responses to the questions were calculated. **Results:** Among 150 participants, 77 were males and 73 were females. Around 70% of the participants knew their own blood group status. Almost half of the participants had acquired the knowledge about blood donation through media. Only about 28% participants had donated blood previously. Among those who had donated blood, 79.8% had donated as an act of altruism. Nearly 40% said that they had no time to donate blood. **Conclusions:** From our study, we conclude that people had better knowledge about blood donation. Many people had positive attitude towards blood donation practices. Though they had good knowledge and attitude, the practice of donating blood was found to be far less.

**Keywords:** Blood, Voluntary blood donation.

### Introduction

"Every blood donor is a hero" – World blood donor day theme 2012. Blood is a body fluid tissue that flows throughout the blood vessels namely arteries, veins and capillaries. It is a mixture of cells, plasma and dissolved substances. One unit of blood contains 350 ml of blood, saving at least four lives. Blood is often separated into components such as platelets, packed cells and cryoprecipitate. The patients can be transfused with what they need. The advantage is we make use of the blood donation to maximum benefit.<sup>[1,2]</sup> Blood is used for transfusion in both planned treatments and emergency interventions. Blood plays a major

role in treating the wounded during emergencies of all kinds natural disasters, accidents, armed conflicts, etc. Blood has an important, life-saving role in maternal care.

The provision of safe and sufficient blood and blood products is a component of effective health system, which can be assured through regular voluntary non-remunerated blood donations. But, in many countries, provision of safe and sufficient blood products is still a challenge.<sup>[3]</sup> The WHO's goal is for all countries to obtain all their blood supplies from voluntary unpaid donors by 2020. In 2014, national blood supplies of 60 countries are based on 99-100% voluntary non-remunerated blood donations, but 73 countries depend mainly on family and paid donors. <sup>[4]</sup> State Blood Transfusion Council aims to ensure the availability of adequate, safe blood and blood components by achieving 100% collection of blood and blood compo-

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nents from voluntary, unpaid donors and also by improving the rational usage of the collected and available blood and blood components, to meet the needs of the general public in Tamil Nadu. Tamil Nadu State Aids Control Society (TANSACS) supports 87 blood banks which are functioning in Government Hospitals and Medical Colleges in Tamil Nadu, including 15 component separation units. To promote voluntary blood donation, state has three mobile blood collection buses and 17 blood collection transportation vans. The mobile buses are attached to government Kilpauk Medical College Hospital and Government Rajiv Gandhi General Hospital at Chennai and Govt Rajaji Hospital at Madurai. The annual total units of blood collected in Tamil Nadu through government and private blood banks are 8.63 lakhs out of which 3.50 lakhs are collected through the government. blood banks. About 99% of the total units of blood collected in all the government. blood banks in the state are mainly through voluntary blood donation.<sup>[1]</sup>

“A Voluntary non-remunerated blood donor gives blood, plasma or cellular components of his or her own free will and receives no payment, either in the form of cash or kind which could be considered a substitute for money which includes time off work other than that reasonably needed for the donation and travel. Small tokens, refreshments and reimbursements of direct travel costs are compatible with voluntary, non-remunerated donation.” Voluntary blood donation (VBD), has improved from baseline of 54.4% (at the beginning of NACP III) to 79% in 2015-2016. Red Cross and various Blood Donor Organizations involved in many activities to promote awareness about voluntary blood donation among the general public. World Blood Donor Day and National Voluntary Blood Donation Day are observed as special days at national and state level, to spread awareness about the need for blood and blood products and to thank the contribution of non-remunerated repeat voluntary blood donors.<sup>[5,6]</sup> The objective of the study is to assess the knowledge, attitude and practice regarding blood donation among residents in the urban field practice area of the medical college.

## Materials and Methods

This is a cross sectional study undertaken on 150 adult residents in the field practice area of a government medical college in Chennai. The residents were selected by simple random sampling and were aged between 18-45 years. Ethical approval was obtained from the Institutional Ethics Committee. After getting informed consent from the participants, data was collected using a semi-structured, self-administered questionnaire. Details about socio-demographic information such as, age, sex and education, assessment of their knowledge, attitude and practice on blood donation was obtained. The responses were verified twice, entered and analysed using IBM SPSS version 16.0. The descriptive and inferential statistics of the responses to the questions were calculated. A two tailed p value of <0.05 was considered as statistically significant.

## Results

The socio-demographic details are depicted in table 1. Almost half of the participants had acquired the knowledge through media. One fourth had obtained information from their friends or relatives. The rest of the respondents had acquired information through blood donation camps and posters. Around 61.3% participants encouraged others to donate blood. The knowledge, attitude and practice on blood donation results were depicted in table 2.

**Table 1.** Socio demographic profile of the respondents.

Socio demographic information	N (%)
<b>Gender</b>	
Male	77 (51.3)
Female	73 (48.7)
<b>Age Group</b>	
18-19 years	10 (6.7)
20-29 years	81 (54)
30-39 years	39 (26)
40-49 years	20 (13.3)
<b>Education Status</b>	
Illiterate	15 (10)
Middle and High school	53 (35)
Higher secondary/ Graduate	82 (55)

**Table 2.** Knowledge, Attitude and Practice on Blood donation.

KAP	N (%)
<b>Knowledge</b>	
Know their blood group	105 (70)
One unit of blood = 350millilitres	52 (34.7)
Number of lives saved by one unit = 4 lives	76 (50.6)
Minimum weight for donating blood = 45kilograms	45 (30)
Minimum age for donating blood = 18years	82 (54.7)
How many hours he should spare his alcohol before donation = 24 hours	130 (68.9)
A woman can donate blood 7 days before and after menstruation	24 (16)
Minimum interval between two donations = 3months	57 (38)
No harm to donor in donating blood	146 (97.3)
HIV/ Hepatitis patients should not donate blood	150 (100)
<b>Attitude</b>	
They would have donated blood, if they had an opportunity	116 (77.3)
Will allow their family members to donate blood	148 (99)
<b>Practice</b>	
Donated blood earlier	42 ( 28)
Participated in Blood camps	25 (16.7)

Among those who donated blood, 79.8% donated as an act of altruism. Around 10% had donated blood to their family members or friends, while the remaining said that money and paid time off work served as a motivation for donating blood. Among those who had never donated blood, nearly 40% said that they had no time to donate blood, 32% cited frequent illness as a reason, 11% had fear of injection and pain, 11% had no idea about blood donation and few were afraid of complications.

## Discussion

Maintaining an adequate and safe blood supply is an issue of concern to health planners, especially with increase in demand. Any healthy male or female, in a sound mind and sound body can donate blood once in 3 months regularly. During blood donation, about 350ml to 450ml is collected from the 5-6 litres of blood available in one's body. The universally accepted criteria for donor selection

are. Age has to be between 18 and 65 years, Haemoglobin-more than equal to 12.5 g/dL, Pulse-50-100/minute with no irregularities, Blood Pressure-Systolic 100-180 mm Hg and Diastolic 50-100 mm Hg, normal body temperature and body weight-more than or equal to 45 Kg.<sup>[2]</sup> WHO recommends that all blood donations should be screened mandatory for HIV, hepatitis B, hepatitis C and syphilis prior to use, according to quality system requirements.<sup>[4]</sup> Around 70% knew their own blood group status as opposed to 65% in a study done among general public in Saudi Arabia.<sup>[7]</sup> About 48.7% correctly knew to whom they can donate blood. Nearly 97.3% knew that donating blood won't cause any harm to donor which is better than 84% as mentioned in a study done in Lucknow<sup>[8]</sup> and 67% in a study done in Saudi Arabia.<sup>[7]</sup> Almost half acquire the knowledge about blood donation through media. One quarter got the information from their friends/relatives. Remaining participants got the awareness through internet/ blood donation camps and posters.

About 34.7% participants were aware that one unit contains 350ml of blood, whereas only 14.2% of health professional students were aware as shown in study done in Chennai and 14.8% of health professional students as said in the study done in Karamsad.<sup>[9,10]</sup> From previous studies, only 22% of health professional students knew that 4 lives can be saved by one unit of blood, but in our study, about 50.6 % of participants had correct knowledge.<sup>[9,10]</sup> A study done among general public in Peshawar showed that 20% knew the minimum weight required for donating blood.<sup>[11]</sup> In our study, 30% knew the minimum weight required for donating blood. A study among voluntary blood donors in Chennai showed that 79% knew about minimum age to donate blood. Also, a study among health professional students in Chennai showed that 76% were aware of minimum age to donate blood.<sup>[10-12]</sup> But, in our study only 54.7% had correct knowledge. About 44% of participants in Saudi Arabia, 36% of participants in Peshawar and 15% of participants in Puducherry had correct knowledge about the minimum interval required between two donations.<sup>[7,11-13]</sup> In a study among voluntary blood donors in Chennai, almost 51% knew the frequency of blood donation.<sup>[12]</sup> Our study showed 38% participants had correct knowledge regarding the minimum interval required between two blood donations.

Knowledge about blood group status in our study population is lower than those in other studies, yet details about blood donation like amount of blood collected, number of lives saved by a unit of blood, no harm in donating blood, is higher in our study population than health professionals in few other studies. The improved knowledge about blood donation maybe attributed to better dissemination of information through electronic media in the recent times. With regards to the knowledge about pre requisite for blood donors, our study population showed more knowledge about weight criteria but not age criteria as compared to other studies. A study among general public indicated that only 43% had positive attitude.<sup>[14]</sup> In our study, about 77.3% said that they would have donated blood had they been given an opportunity. In our study, almost 99%

had a positive attitude in allowing their family members to donate, which is higher than 96% in a study among general public in Saudi Arabia.<sup>[7]</sup> In a study among general public in Puducherry showed that about 18% participants only donated their blood earlier<sup>[13]</sup> whereas our study showed better result as 28% of the participants have donated blood previously. Among those donated blood, 79.8% donated their blood as an act of altruism, 10% donated as because the recipients were their family members/friends, remaining said that money and paid time off work serves as a motivation for donating blood. A study among voluntary blood donors in Chennai, showed that 47.2% participants donated blood to their friends and relatives.<sup>[12]</sup> A study among general public in Saudi Arabia indicated that almost 81% said day off helps them in donating blood.<sup>[7]</sup> Almost 50% participants in a study done in Puducherry and Uttarkhand said that media was the main motivational factors to donate blood.<sup>[13,14]</sup>

In our study, among those who had not donated blood, nearly 40% said that they had no time to donate blood, 32% cited frequent illness as a reason, 11% had fear of injection/pain, another 11% said that they don't know about the basic information about blood donation, some were afraid of complications. Previous studies also shows that many were not aware of the information about the blood donation, Some had fear of getting illness, fear of needles and pain, nearly 50% said that they were not asked to donate blood or they had no opportunity to donate blood.

## Conclusion

Blood plays a vital role in saving lives of the people. From our study, we conclude that people had better knowledge about blood donation. Many people had positive attitude towards blood donation practices. Though they had good knowledge and attitude, those who were donating blood found to be far less. Voluntary blood donation practice was found to be higher in our study area as compared to other studies in which replacement donation, money, paid time off work play important reason for donation. There is need to improve

wing the information, education and counseling activities among the people to improve their knowledge about blood donation. Providing more opportunities for the people to participate in blood donation. Spreading information about the time, place of blood donation camps to motivate the people to donate blood in blood donation camps, so that voluntary non-remunerated donation will be improved.

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