



A STUDY TO ASSESS KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT BLOOD DONATION AMONG STUDENTS OF MEDICAL COLLEGE IN RURAL PART OF MAHARASHTRA

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ABSTRACT

Introduction: Manytimes there is deficiency of blood & its products in hospitals attached to medical colleges, as tertiary care center, patients requiring blood are more in such hospitals. Medical students from attached institutes are good voluntary blood donors. **Aim:** To determine knowledge, attitude and practices of medical students about voluntary blood donation. **Setting and Design:** It was a cross-sectional study conducted among medical students of JIIU's IMSR, Warudi, Jalna, Maharashtra from OCT to DEC 2023. **Material-Methods:** Medical college students with their consent for participation were selected. Blood donation camp with brief interactive session was conducted. A structured google questionnaire was used as study tool with separate sociodemographic information. Willingness of students in donating blood was noted as session end & blood was collected from willing candidates. The data was analysed by Microsoft excel and percentage. **Results:** 181 students participated in study, 126 (69.61%) males and 55 (30.38%) females. The mean age was 21.68 years. **Knowledge of Voluntary Blood Donation:** The mean knowledge score of participants was 77.6%. Overall, 177 (97.7%) participants were aware of their blood groups. **Attitude Related to Blood Donation:** 97.23 % study participants felt that people should donate blood and were themselves willing to donate blood. **Practice Relating to Blood Donation:** After interactive session all 181 participants donated blood. **Conclusion:** Interactive awareness sessions on voluntary blood donation should be organized regularly to increase opportunities for blood donation among medical students & improve voluntary blood donation results in uninterrupted blood supply at teaching hospitals.

KEYWORDS : Voluntary, Donations, Medical Students, Uninterrupted Blood Supply

INTRODUCTION

Requirement of blood and its products always kept increasing with each passing year, due to more road traffic accidents, more diagnosed pathological conditions requiring blood transfusion and increasing population, more so in India. On world blood donor's day, celebrated on 14 June 2024, WHO (world health organization), its partners and communities across the world will unite behind the theme: 20 years of celebrating giving: thank you blood donors! The objectives of WHO campaign are to- Thank and recognize the millions of voluntary blood donors who have contributed to the health and well-being of millions of people around the world. Showcase the achievements and challenges of national blood programs and share best practices and lessons learned. Highlight the continuous need for regular, unpaid blood donation to achieve universal access to safe blood transfusion. promote a culture of regular blood donation among young people and the general public and increase the diversity and sustainability of the blood donor pool⁽¹⁾.

According to WHO, at least 1% of the nation's population should donate blood voluntarily to meet the basic requirement for blood and blood products⁽²⁾. On an average, 14.6 million blood is needed every year in India and there is always a shortage of 1 million bloods⁽³⁾. Replacement donors or family donors are people who donate blood to their family, friends, and relatives in time of need and account for approximately 45% blood donations in India⁽⁴⁾. There is a constant need for a regular supply of blood because it can be stored only for a limited period of time before use. Regular blood donation by a sufficient number of healthy people is needed to ensure that blood will always be available whenever and wherever it is needed and blood is one of the most precious gift that anyone can give to another person – the gift of life⁽⁵⁾. World Health Assembly resolution urges all Member States to develop national blood systems based on voluntary unpaid donations & to work towards the goal of self-sufficiency⁽⁶⁾.

Medical students can be a very good source of quickly accessible, quality blood if they are motivated and are willing to be voluntary blood donors and can help tide away some scarcity of blood and blood products from attached hospitals of their medical colleges. However, different studies involving medical students have expressed concern on the low level of awareness and unsatisfactory voluntary blood donation practices among them. Some studies have also shown poor blood donation practice among the students in spite of relatively good knowledge and favorable attitude toward voluntary blood donation.

The prevalence of voluntary blood donation is reported to be even

lower among the females⁽⁷⁾. Thus, there is a need to explore the different factors that can contribute toward voluntary blood donation. Knowledge, attitude, and practice (KAP) studies are a good way to assess it. KAP studies are easy to conduct, measurable, and easily interpretable. This makes these studies a useful survey methodology⁽⁸⁾. According to the KAP theory, human health behavioral change is achieved through the acquisition of the right knowledge, generation of attitudes, and adoption of behaviors (practices) in three successive processes⁽⁹⁾. KAP studies have been frequently used to explore the domain of voluntary blood donation. The common areas explored are reasons for donating/not donating blood; sources of knowledge; motivating/demotivating factors for voluntary blood donation; the impact of peer structure on potential donors ...⁽⁷⁾

JIIU's Indian Institute of Medical Science & Research, Warudi, Dist. Jalna provides services to the predominantly rural populations of Marathwada and adjacent regions of Maharashtra. The medical students here have potential to be voluntary blood donors. However, no studies has been conducted to assess the KAPs regarding blood donation in this region. Hence, this study was conducted with the aim to assess the knowledge gaps, attitude, and blood donation practices of these students and motivate them towards becoming regular voluntary donors.

Aims and Objectives

1. To determine the KAPs regarding voluntary blood donation among medical undergraduate students
2. To assess the increase in the willingness to donate blood after an interactive awareness session.

MATERIALS AND METHODS

The study was conducted among under-graduate medical students of JIIU's Indian Institute of Medical Science & Research, Warudi, Dist. Jalna Maharashtra in months of October to December 2023. It was a cross-sectional, observational study. Structured google form questionnaire was used as a study tool. The questionnaire consisted of 26 entries about KAPs of undergraduate medical students regarding blood safety and donation. Demographic information such as name, age, sex, study year and other relevant information was taken separately.

Sample Size

All the students present on interactive awareness session cum blood donation camp and who have expressed their consent were taken for the study.

Study Methodology

The nature and purpose of the study was explained to all students and assured confidentiality in the collection of personal data. Students who were present on day of interactive awareness session cum blood donation camp and expressed their consent were taken up for study. For data collection, a pretested, close-ended, structured, self-administrated google form questionnaire was asked to be filled by each student. Google form questionnaire assessed knowledge, attitude and practice of blood donation among students through questions covering general knowledge about blood donation, criteria for being a blood donor, infections related to blood donation, history of blood donation and its present willingness, reasons for not donating blood etc. Basic information such as sociodemographic data was taken separately and information regarding KAPs of blood donation was elicited using given google form questionnaire.

Data Analysis

The data collected in structured google form questionnaire were entered in and analysed using the Microsoft corporation, USA. (July 2023). Microsoft excel. Retrieved from <http://office.microsoft.com/> excel data base sheet and by using percentage.

Consent and Ethical Issues

Study was undertaken after approval of institutional ethics review committee.

RESULTS

The present study involved 181 students which comprised of 55 (30.38%) females and 126 (69.61%) males. Students participating in study were from age range 18 to 28 years with mean age of 21.68 years.

Knowledge

In present study, overall knowledge (figure 1) about blood donation among study participants was 77.60 %. This was assessed by questions pertaining to general knowledge about blood donation, criteria for donor selection, and knowledge about infections transmitted by contaminated blood transfusion.

Knowledge of their own blood group: The distribution of the blood groups as reported by the students is summarized in figure. 1

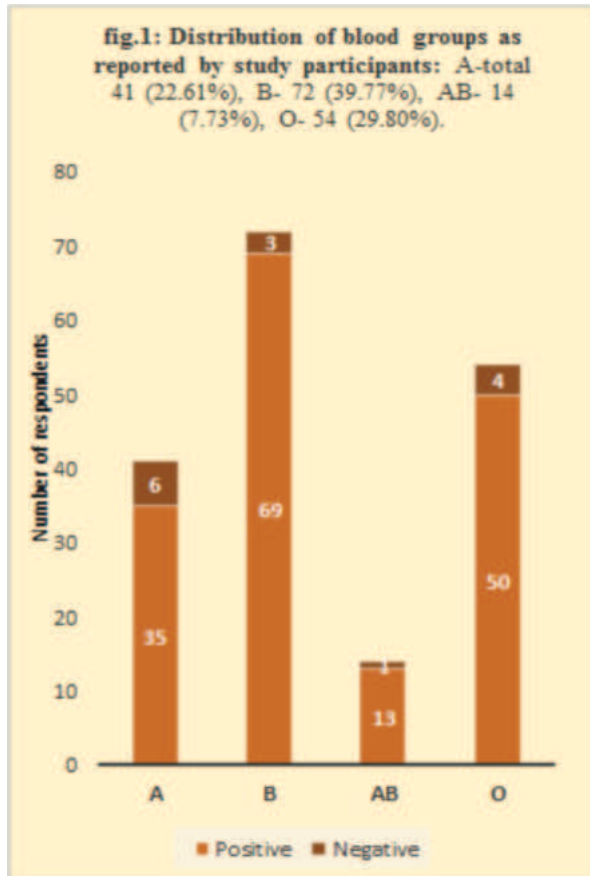


Figure – 1

Out of 181,177 (97.79%) participants were aware of their own blood group. Only 4 (2.20%) students were unaware of their blood groups. Blood groups reported in descending order from common to rare in present study are as follows - B (39.77), O (29.80 %), A (22.61%) and AB (7.73%). About 92.81% reported Rhesus antigen positive and 7.18% were Rh negative.

Overall knowledge about blood donation is summarized in figure.2

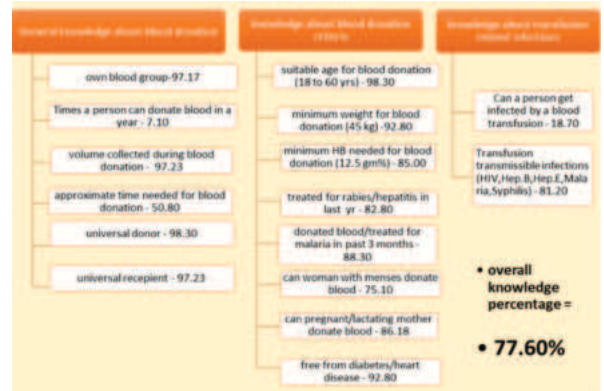


Figure-2 Knowledge Regarding Blood Donation (%)

Attitude:

Almost 97.23% of study participants felt that people should donate blood and same percentage of participants were themselves willing to donate blood in future. 55.80 % respondents thought they would get infected while donating blood. 22.09% were willing to be replacement donors only while 77.90 % students were willing to be voluntary blood donors. Percentage of students showing positive attitude to donate blood to strangers in need of blood is 93.92 %. The results are summarized in Table 1.

Table – 1

Table 1: Attitude of study participants towards blood donation			
Attitude	Yes (%)	No (%)	Unsure (%)
Do you think that people should donate blood	97.23	2.76	0
Would you like to donate blood in future	97.79	2.21	0
Can a blood donor contract an infection while donating blood	55.80	44.19	0
Would you like to be replacement donors only (donating blood to family and Friends)	22.09	77.90	0
Would you like to donate blood to strangers in need of blood	93.92	6.07	0

Practice:

The current nondonors (n = 181) gave the reasons for not donating blood as per Table 2. Willingness to donate blood after interactive awareness session using a PowerPoint presentation- Out of total students 97% of the students were aware of blood donation and after interactive awareness session 100% of the student were became ready to donate the blood.

Table-2

Table 2: various reasons cited by students for not donating blood (n=181)	
Reason for not donating blood among current nondonors	N
I was not approached to donate blood	153
I am unfit to donate blood	54
Fear of needles	35
I may need to donate for friends/relatives in future	159
Fear of knowing disease status on screening for infections	38

DISCUSSION

According to WHO, the need for blood is universal, access to blood is not. Blood shortages are acute in low- and middle-income countries. As per government of India protocol, a blood bank has to keep 25% of blood collected by it as a buffer stock which is to be used in cases of emergencies⁽⁴⁾. Though, Incidents occur when a blood bank runs dry particularly for one or more blood groups or its components.

In such situations and in case of mass casualties and other emergencies and to maintain appropriate buffer stock, medical students from attached medical colleges can serve as good potential blood donors. Blood can be procured from properly sensitized medical students in group or it can be individualized, as per the requirement of keeping unremitting supply of blood and its components to a blood bank. For sensitizing health care personnel, particularly medical students for blood donation and introducing positive actions by them, one first need to get information about their beliefs and attitudes; for these KAP are being conducted in India and worldwide.

According to study conducted by Chavan et al. knowledge about blood safety and donation among medical students of north Indian medical college is 74.4 % with 91 % participants felt that people should donate blood and are themselves willing to donate blood⁽⁷⁾. Kumari et al. reported that actual practice associated with knowledge of donating blood is more productive rather than knowledge and positive attitude for donating blood⁽¹⁰⁾. About 26.6 % medical students knew correct volume of blood collected in each donation as per the study conducted by Agravat et. al⁽¹¹⁾.

These studies reflect varying levels of knowledge and attitudes regarding blood donation.

This study was carried out to assess knowledge, attitude and practices of undergraduate medical students relating to blood donation at JIIU's Indian Institute of Medical Science and Research, Maharashtra. Previously, such type of study was not conducted in this area.

In this study out of 181 students males were 126 and females were 55 participants, indicating low count of females (approx. 7:3 ratio.) which is in contrast to gender-based study conducted by Singh et.al which showed nearly 54 % female and 46% males participants in sub-Himalayan state⁽¹²⁾.

The more participants in the present study had good knowledge about own blood group, universal donor and universal recipient blood group but less participants had knowledge of time needed for blood donation and of frequency a person can donate blood in given time.

Though, 22.09 % respondents were willing to be replacement donors only, 93.92 % were ready to donate blood to strangers in case of dire emergencies. Major reasons for not donating blood were that they were not approached to donate blood and feeling that they may need to donate for friends/relatives in future. This emphasizes need of educating students about frequency a person can donate blood in a year.

CONCLUSIONS

Organizing annual awareness sessions for medical students can encourage blood donation and help alleviate blood supply shortages. Targeted education, particularly for female students, can increase participation. Addressing concerns about future blood needs for relatives and friends can be mitigated by educating students on the frequency of permissible blood donations per year.

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Conflicts of Interest- There are no conflicts of interest.

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