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# AWARENESS AND PRACTICES RELATED TO BLOOD DONATION AMONG MEDICAL STUDENTS OF RAJENDRA INSTITUTE OF MEDICAL SCIENCES, RANCHI.

**Shalini Sunderam[1], Anju Prabha Kumari[2*], Pushpa[3], Santosh Kumar Soren[4], Manish Deo[5] and Vivek Kashyap[6]**

[1]Professor, Department of PSM, RIMS, Ranchi.
[2*]JRA, Department of PSM, RIMS, Ranchi.
[3]JRA, Department of PSM, RIMS, Ranchi.
[4]JRA, Department of PSM, RIMS, Ranchi.
[5]JRA, Department of PSM, RIMS, Ranchi.
[6]Professor & H.O.D, Department of PSM, RIMS, Ranchi.

***Corresponding Author: Dr. Anju Prabha Kumari**

JRA, Department of PSM, RIMS, Ranchi.

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## ABSTRACT

**Introduction**: Blood transfusion services are facing a dual challenge of sufficient blood supply and safety of blood as well. Blood collection from voluntary, non-numerated donor is an important measure to ensure safe blood. **Objectives:** (i) To assess the knowledge and practices related to blood transfusion among the study population. (ii) To assess the factors affecting blood donation among study population. **Methodology**: This cross sectional study was carried out for a period of one month (in November 2019) among the medical students of seventh semester, of Rajendra Institute of Medical Sciences. Total 119 participants were enrolled and data collected using semi structured questionnaires. Data entered in MS Excel and Statistical analysis was done using SPSS software version 20. **Result:** The participants were of age group 20-27 years. Majority (63.9%) of the study population comprised of females. Most of the participants (91.6%) agreed HIV as an important transfusion transmitted infection. However only less than half (45.4%) participants of the total study population have donated blood. **Conclusion**: The data revealed that the blood donating population is very less. At regular intervals awareness camps should be organized to sensitize the students regarding the demand of safe blood and to motivate them to come forward for the blood donation.

**KEYWORDS:** Awareness, blood donation, medical students.

## INTRODUCTION

Blood is a fluid connective tissue. It has no substitute and it cannot be manufactured. It can only be obtained by generous donors. With the advancement of medical science and increasing number of wide array of diseases and events, blood has become an indispensable therapeutic and life saving essential. As per WHO, at least 1% population must donate to fulfill minimal requirement of medical needs. Blood transfusion services are facing a dual challenge of sufficient blood supply and safety of blood as well. Blood collection from voluntary, non-numerated donor is an important measure to ensure safe blood.[1]

In India voluntary blood donation was witnessed for the first time in 1942, when Government official and Anglo Indian community donated blood for the wounded soldier during Second World War. The HIV pandemic in 1980 led to the Government settings up of the National AIDS Control Organization (NACO) in 1992 to oversee the policies in preventing the spread of AIDS.[2] The blood safety program, under National AIDS Control Program phase III, the specific objective is to ensure reduction of transfusion associated HIV transmission to 0.5%.This is sought to be achieved by ensuring Voluntary blood donors constitute the main source(90%) of blood supply.[3] The blood donation camps organized in the various institutions, in the community constitutes the major bulk in the blood bank. Even though tertiary care hospital is often facing the challenges of insufficient blood supply due to the over loaded patient flow.

The aim of this study is to assess the knowledge and practices related to blood transfusion among the study population and to assess the factors affecting blood donation among study population.

## METHODOLOGY

This was an institution based cross sectional study which was carried out among medical students of Rajendra Institute of Medical Sciences (RIMS), Ranchi. RIMS is a tertiary care hospital located in the center of the district

Ranchi, which is also the capital of state Jharkhand. At present RIMS is conducting under graduate, post graduate, Mch and also para medical courses. For this current study medical students of seventh semester were enrolled. Students of seventh semester who were willing to participate and gave consent were included in this study. This study was conducted for period of one month (November 2019). Data was collected after the lecture class of community medicine in the lecture theatre. For data collection, pretested, semi-structured questionnaire in English language was used. The questionnaire was designed to collect information on socio-demographic characteristics (age, gender, semester, name of the blood group etc), knowledge assessment related to blood donation (eligibility for blood donation, about transfusion transmitted infections, universal blood donor, diseases/condition which need blood transfusion etc) and the factors related to blood donation practice. After the students filled and submitted the questionnaire, we had a brief discussion on voluntary blood donation. All the queries were cleared. The collected data was entered in MS Excel sheet and analysis was done using SPSS software version 20.

## RESULT

Out of total 150 medical students only 119 students participated and filled the questionnaire (response rate-79.3%). Majority of the participants were female 76(63.9%). Study participants were of age group 20-27 years, mean (SD) 22.36(1.117). Details of the demographic information is presented in Table 1.Most of the participants 115(96.6%) agreed that they are aware of voluntary blood donation & transfusion transmitted infections and 93.3% of the total participants responded that they have knowledge of criteria for blood donation. Details of the knowledge assessment are depicted in Table 2. Majority of the participants 116(97.5%) agreed that blood donation is a good and 87(73.1%) responded that best source for safe blood is voluntary blood donor. However only 54(45.4%) participants had donated blood and only 14(25.9%) had donated three to ten times. Out of total 54(45.4%) participants who had donated blood, 46(85.1%) participants accepted that they voluntarily donated blood. The study participants who had never donated blood were 65(54.6%) and 42(77.7%) of them agreed that the reason for not donating blood is because of not meeting the criteria for blood donation. Other reason for not donating blood is found to be fear of needle and sight of blood (11.1%), objection by the family members (7.40%) and the myth that blood donation may cause weight loss (3.70%).

**Table 1: Demographic characteristics of the participants.**

| Characteristics | | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 43 | 36.1 |
| | Female | 76 | 63.9 |
| Age | 20 | 1 | .8 |
| | 21 | 22 | 18.5 |
| | 22 | 53 | 44.5 |
| | 23 | 29 | 24.4 |
| | 24 | 7 | 5.9 |
| | 25 | 6 | 5 |
| | 27 | 1 | .8 |
| Blood group | A+ | 26 | 21.8 |
| | AB+ | 15 | 12.6 |
| | B- | 3 | 2.5 |
| | B+ | 37 | 31.1 |
| | O+ | 36 | 30.3 |
| | No response* | 2 | 1.7 |

* Participants did not informed about their blood group

**Table 2: The knowledge of participants related to blood donation.**

| Characteristics | | Yes n(%) | No n(%) |
|---|---|---|---|
| Blood donation criteria | Minimum age for blood donation | 89(74.8) | 30(25.2) |
| | Minimum weight of for blood donation | 98(82.3) | 21(17.64) |
| | Minimum gap (in months) between two donation | 99(83.2) | 20(16.8) |
| Transfusion transmitted infection | HIV | 109(91.6) | 10(8.4) |
| | Hepatitis B | 89(74.8) | 30(25.2) |
| | Hepatitis C | 59(49.6) | 60(50.4) |
| | Malaria | 16(13.4) | 103(86.6) |
| | Syphilis | 13(10.9) | 106(89.1) |
| Blood donation collection | Whole blood | 119(100) | 00(00) |

| | | | |
|---|---|---|---|
| procedure | Apheresis | 32(26.8) | 87(73.1) |
| One unit of whole blood can be used in fractions as | Packed RBC** concentrate | 119(100) | 00(00) |
| | Platelet concentrate | 98(82.3) | 21(17.6) |
| | FFP*** | 80(67.2) | 39(32.7) |
| | Cryoprecipitate | 20(16.8) | 99(83.1) |
| Others | Universal donor | 90(75.6) | 29(24.3) |
| | Thalasemia | 117(98.3) | 2(1.7) |

**Red Blood Cell *** Fresh Frozen Plasma

## DISCUSSION

Our study results revealed that majority 76(63.9%) of the participants are female as number of female medical students is more in the study batch. Blood donation criteria are well known by most 111(93.3%) of the participants and 116(97.5%) participants agreed that blood donation is good. Being medical students it is quite obvious that they are getting enough information through text books and lectures and is updated during clinical visits. However the study revealed that less than half 54(45.4%) participants are actually donating blood. This also suggests that having good knowledge and attitude not necessarily means good practice. A study done at Mumbai in 2017 among Interns also highlighted that donating population was just 47% and commonest reason for not donating was being medically unfit for donation.[4] The reason given for not donating blood by majority of the participants 42(77.7%) was because of not meeting criteria for blood donation. The brief discussion made after data collection suggested that majority of the female being under weight or anaemic, preventing them from blood donation. A similar finding was highlighted in studies where donors were found unfit for donation because of anaemia.[5,6] Female medical students form a vulnerable population due to their hectic schedule, long working hours, erratic meal times, eating habits like inclination towards junk food while staying in the hostel. A study done on medical students revealed that 28.6% were suffering from anaemia and 17% were underweight.[7]

The limitation of our study was it was done among under graduate medical students of seventh semester only. So the results obtained cannot be generalized. However further study is recommended to be done in large scale involving dental, nursing and paramedical students.

## CONCLUSION

From this study it is evident that percentage of voluntary blood donors needs to be improved. Awareness camps should be organized to sensitize the students regarding the demand of safe blood and to motivate them to come forward for the blood donation. Nutritional awareness programs to be equally emphasized for the medical fitness of the students.

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