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## Attitude and practices of blood donation among college students

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### Abstract

**Background:** Now-a-days lots of patients are saved because of safe blood donations. Still day by day requirements of blood donations are increasing. World Health Organization (WHO) has the target to achieve 100% voluntary unpaid donors by year 2020. College students are young potential source of safe blood donors. The aim and objective of this study was to get a current status of attitude and practices of blood donations of college students in Sambalpur district.

**Material and Methods –** Medical College and Arts College students of Sambalpur district were recruited for this study. Students interested to participate in this survey were faced interview and gave consent. Data regarding blood group, attitude and practices of blood donations collected during interview.

**Results:** Total 644 students were participated in this study which included 374 medical college students and 270 Arts college students. We found 234 (36.3%) students were donor and 410 (63.7%) were non donor. Among donors majority were medical college students. Out of total donors 96.5% were voluntary unpaid donors. Out of 410 non donors 149 (36.2%) had positive attitude to donate blood and 261 (63.8%) had negative attitude for blood donation. Most of donors were high socioeconomic status students.

**Conclusion:** During our survey we were able to make some awareness about the importance of blood donation. Effective counsellings is very much essential to increase number of donors among college students which is effective to achieve the goal of WHO.

**Keywords:** Attitude, donors, safe blood donation

### 1. Introduction

Blood donation is a holistic work of donors for saving lots of lives worldwide. Blood transfusion is essential in situations like accidents, surgeries, sickle cell disease, thalassemia and many more. Blood is a vital and essential component of life which has no alternative to replace it. It is found that every year millions of units of blood are donated; still day by day requirements are increasing<sup>[1]</sup>. There is problem since years regarding the permanent storage of blood, which is observed in safety blood services worldwide<sup>[2]</sup> It is accepted worldwide that blood donation is the only source of blood during requirements for needy people<sup>[3]</sup>. Availability of safe blood and blood products is a vital component for improving health care system. Millions of lives are saved by blood transfusions each year throughout the world, but there is problem regarding the quality and safety of blood transfusion particularly in the developing countries<sup>[4]</sup>. Every year about 108 million blood donations are collected worldwide. 75 countries report collecting less than 10 donations per 1000 population. Out of these, 40 countries are in WHO's African Region, 8 in the Americas, 7 in the Eastern Mediterranean Region, 6 in Europe, 6 in South-Eastern Asian and 8 in the Western Pacific. All are low- or middle-income countries<sup>[5]</sup>. The highest increase of voluntary unpaid blood donations is in the South-East Asia (78%) and African (51%) region. The maximum increase in absolute numbers was reported in the Western Pacific Region. 73 countries collect more than 90% of their blood supply from voluntary unpaid blood donations (38 high-income countries, 26 middle-income countries and 9 low-income countries). This includes 60 countries with 100% (or more than 99%) of their blood supply from voluntary unpaid blood donors. In 72 countries, more than 50% of the blood supply is still dependent on family/replacement and paid blood donors (8 high-income countries, 48 middle-income-countries and 16 low-income countries).

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25 countries still report collecting paid donations in 2012, around 1500 000 donations in total [5]. College students are the educated mass of the society, may be a potential source of blood donors. But there is little bit lack of attitude and interest towards blood donation among students as seen in different surveys. WHO has a target to achieve 100% voluntary unpaid donors by the year 2020. Thus we proposed this study to find out the attitude and practices of blood donations among college students. The aim of this study was to make them aware about the importance of blood donations and motivate to be voluntary unpaid donors, so that the goal of WHO will be achieved.

**2. Material and Method**

This was a cross sectional study conducted in a health institution of Western Odisha, India from November 2015 to February 2016. Undergraduate students of the medical college and Arts students of general college recruited as the subjects for this study. Students were clearly understood about the purpose and output of study. Students not interested to participate in this survey were excluded from study. Students agreed to participate in this study gave their consent and signed in consent form. A Self constructed questionnaire was prepared which included the information regarding demographic data like age, sex, socioeconomic status, types of blood group, types of donor and questions regarding awareness, attitude and practices of blood donation. We collected the data by face to face interview with each participant and they filled the questionnaire simultaneously. Total 644 students were participated for this survey procedure which included 374 medical students and 270 Arts college students. Participants selected were from both male and female gender. All participants involved in this study were 18 to 22 years of age. After completion of data collection, we went for analysis of data. Data analysis was done by Statistical Package for Social Sciences (SPSS) version 16, Armonk, New York. Descriptive statistics was used to determine the frequency and percentage of qualitative variables. For production of tables and graphs Microsoft excel and word was used.

**Questionnaire**

**Section A**

Name Age Sex

College name -

Educational qualification of family head -

Profession of family head -

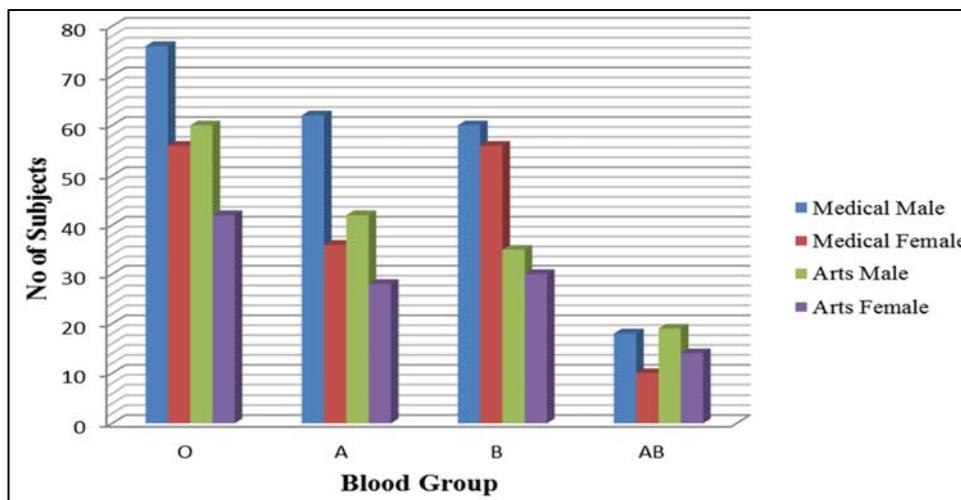
Monthly income of family -

**Section B**

1. What is your blood group? – A+, A-, B+, B-, O+, O-, AB+, AB-
2. Have you donated blood ever?– yes / no
3. Type of donor – voluntary unpaid/ paid/ family donor
4. Are you interested to donate blood in future? yes / no
5. If not donated blood, why -

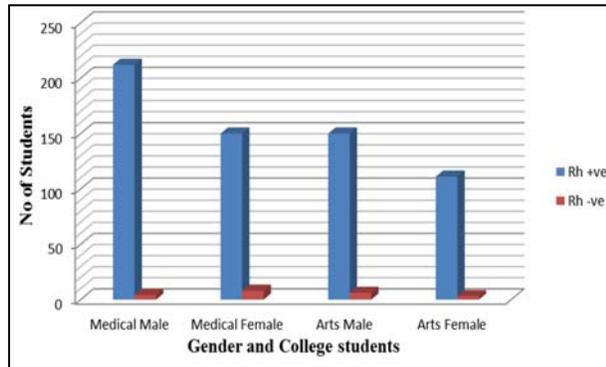
**3. Results**

Figure 1 and 2 shows the total number of 644 participants involved in this study. Data expressed in bar diagram form. All participants were between 18 to 21 years age. Figure 1 shows distribution of participants according to ABO blood group, gender and medical and general college students. Figure 2 shows distribution of participants according to Rh blood group, gender and medical and general college students. Table 1 shows that out of the participants involved in this study, 234 (36.3%) participants were donors and rest 410 (63.7%) participants never donated blood. Out of 36.3% donors, 17% were male medical students, 6.2% were female medical students, and 9.4% were male Arts college students and 3.7% female Arts college students. Table 2 shows the pattern of distribution of 234 (100%) donors according to different types of donors. Out of 234 donors, 96.5% (226) were voluntary unpaid donors, 3.5% (8) were family donors and there were no paid donors. Table 3 depicts the non donors and their attitude towards blood donation in future. Out of 410 (100%) non donors, 149 (36.2%) have positive attitude to donate blood in future and rest 261 (63.8%) have negative attitude to donate blood. Table 4 depicts attitude and practices of blood donation of subjects according to different socioeconomic status. Out of 149 subjects having positive attitude towards blood donation 70, 52 and 27 subjects were from high, medium and low socioeconomic status families. Out of 261 subjects having negative attitude towards blood donation 34, 75 and 152 subjects were from high, medium and low socioeconomic status families. Out of 234 donors 129, 65 and 40 subjects were from high, medium and low socioeconomic status families.



This figure shows distribution of subjects according to ABO blood group, gender and medical as well as arts college students

**Fig 1:** Distribution of Subjects



This figure shows distribution of subjects according to Rh blood group, gender and medical as well as arts college students

**Fig 2:** Distribution of subjects

#### 4. Discussion

Every day lots of patients need blood transfusion to survive and this is possible only because of the positive attitude of blood donors for donation of blood. Day by day requirements of donation are increasing because of increasing incidence of diseases, surgical procedures and road traffic accidents. World Health Organization has a target that by year 2020 all donors should be voluntary unpaid donors for safety blood donation. To achieve this goal each and everyone should aware about the importance of blood donations and have the positive attitude for blood donations. College students are involved in blood donation programs organized by different organizations. They are a potent source for blood donation as they are young educated mass of the society. Therefore we did this survey to get an idea about the awareness, attitude and practices of blood donations of college students.

In this survey total 644 students were participated among them 374 were medical students and 270 were Arts college students. When we analyzed we found that no of subjects in O, A, B and AB group were 234, 168, 181 and 61 respectively. Also we found that 623 subjects were Rh+ve and 21 were Rh-ve.

In this study we found that only 36.3% participants were donors and rest 63.7% were non donors (Table 1). In comparison between medical college students and Arts college students we found that medical students were involved in donation program more in comparison to Arts students. Again the number of male donors was more than female donors. But when we analyzed the donors only we found that 96.5% were voluntary unpaid donors and 3.5% were family donors and paid donors were nil (Table 2). This data suggested that young educated college students were concerned the importance of safety blood donation. Now days it is thought that only voluntary unpaid donations are safe. The young college students, who are very potential group of readily available donors, should be encouraged to participate voluntarily in the blood donation activities. Medical colleges students are very much accessible to the teaching hospitals as a part of their training program and they should included in awareness sessions as a part of their regular training, right in the beginning of their course itself, so as to diffuse any doubts and misconceptions that the students may have regarding voluntary blood donation [6]. Simultaneously Arts college students should be counseled more to increase their awareness regarding the importance of blood donation. In our study we came to know that a lot

of awareness is essential to increase the number of voluntary unpaid donors. We also made them aware regarding different aspects of blood donation and made them confident for future donation. Here also we noticed that female donors were less in comparison to male donors. Female donors were counseled in a positive way to be a part of safe blood donation, so that it will be easier for achievement of WHO goal by 2020.

When we analyzed those non donors only, we found that 36.2% of non donors have positive attitude to donate blood where as 63.8% non donors have negative attitude for donation (Table 3). The percentage of positive attitude towards blood donation is less because Arts college students were only 8.2% having +ve attitude. Participants having positive attitude said that no one asked them to donate or they did not get opportunity for this purpose and most of the general college students have fear of blood donation. This study also revealed that the unwillingness to donate blood was more among the female students and the major reasons were fear and perceived inconvenience which were associated with blood donation. This was also supported by the results of a past study [7]. Female non donors should need more awareness than male. As compared to a previous study among college students, where there were a high number of respondents with a negative attitude towards blood donation [8]. Some studies viewed that negative attitude towards blood donations makes the person weak, reduce immunity and leads to anemia [9]. The non-donors with positive attitude should be motivated and awareness about voluntary blood donation should be provided to promote blood donation on voluntary basis, while non-donors with the negative attitude are needed to be educated about the importance and health benefits upon blood donation. Their doubts regarding blood donation should be clarified and they should be motivated to donate blood on regular basis. Provision of adequate privacy, awareness, communication materials and advertisements to address the fear factor may strengthen the recruitment and retention of voluntary blood donors to donate blood on regular basis to achieve 100% of blood donation only on voluntary basis [10]. In this study we also analyzed the socioeconomic status of students and its relation to attitude and practices of blood donation (Table 4). We found that 149 students have +ve attitude towards in future and majority of them were in high socioeconomic status (HSES) students. Out of 261 students having -ve attitude towards blood donation, majority were in low socioeconomic status (LSES) students. Out of 234 donors more than 50% donors were HSES students. Thus socioeconomic status of students affects the attitude and practices of blood donation.

**Table 1:** Donors and Non donors

Variables	Donors (%)	Non donors (%)	Total (%)
Medical Male	110 (17)	106 (16.4)	216 (33.4)
Medical Female	40 (6.2)	118 (18.4)	158 (24.6)
Arts Male	60 (9.4)	96 (15)	156 (24.4)
Arts Female	24 (3.7)	90 (14)	114 (17.7)
Total	234 (36.3)	410 (63.7)	644 (100)

This table shows the donors and non donors both in number and percentage. Percentage data shown in bracket

**Table 2:** Distribution of donors

Variables	VUD (%)	FD (%)	PD	Total (%)
Medical Male	108 (46.1)	2 (0.9)	0	110 (47)
Medical Female	37 (15.8)	3 (1.2)	0	40 (17)
Arts Male	58 (24.8)	2 (0.9)	0	60 (25.7)
Arts Female	23 (9.8)	1 (0.5)	0	24 (10.3)
Total	226 (96.5)	8 (3.5)	0	234 (100)

This table shows distribution of subjects in different types of donors in number and percentage. VUD – Voluntary unpaid donor, FD- Family donor, PD- Paid donor. Percentage shown in brackets.

**Table 3:** Attitude of Non donors

Variables	Positive attitude (%)	Negative attitude (%)	Total (%)
Medical Male	85 (20.7)	21 (5.1)	106 (25.8)
Medical Female	30 (7.3)	88 (21.4)	118 (28.7)
Arts Male	23 (5.6)	73 (17.8)	96 (23.6)
Arts Female	11 (2.6)	79 (19.3)	90 (21.9)
Total	149 (36.2)	261 (63.8)	410 (100)

This table shows positive and negative attitude of non donors for blood donation in future. Percentage data shown in bracket

**Table 4:** Attitude and Practices of Blood Donation in different Socioeconomic Status

SES	Attitude of Non donors		Donors (%)
	+ve Attitude (%)	-ve Attitude (%)	
LSES	27 (18.1)	152 (58.2)	40 (17.1)
MSES	52 (34.9)	75 (28.7)	65 (65)
HSES	70 (47)	34 (13.1)	129 (55.1)
Total	149 (100)	261 (100)	234 (100)

LSES=Low socioeconomic status, MSES= Middle socioeconomic status, HSES= High socioeconomic status.

**5. Conclusion**

From this study we came to conclusion that college students have lots of knowledge of importance of blood donation but attitude matters. Further we found that many students are interested to donate blood, but they have to promote and aware regarding voluntary unpaid donation. Those are non donors they must be educated and counseled to generate their attitude towards safe blood donation.

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**Conflicts of interest:** No conflicts of interest

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