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**Title: Assessment of behaviour towards blood donation among interns of Government Medical College Raigarh, Chhattisgarh.**

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## Abstract

### INTRODUCTION:

Safe and effective blood donation is a vital component in improving health care delivery for preventing the spread of blood borne diseases worldwide. According to World Health Organization (WHO), at least 1% of the nation's population should donate blood voluntarily to meet the basic requirement for blood and blood products. Blood scarcity is frequently encountered in health care settings and is attributable to an imbalance between increasing demand for safe blood in one hand and failure to organize regular blood supply due to misconceptions, perceived harms and risks, lack of motivation among donors.

Here, medical students/Interns can serve as a readily available pool of voluntary blood donors for the attached Medical College Hospitals and help reduce some of the scarcity of blood and blood products. Moreover, they can motivate a healthy population towards voluntary blood donation and thus may substantially narrow the gap between demand and supply of blood.

This study was undertaken to assess the behaviour of blood donation among interns of Late Shri Lakhiram Agrawal Memorial Govt Medical College, Raigarh (CG). Similar studies were done in other colleges of Chhattisgarh but not in this college. Behavioural studies are a commonly used tool to investigate various aspects of human behaviour. By assessing what people know, how they feel about it, and what they actually do based on their knowledge, the investigator is better able to appreciate the outlook of the people regarding behaviour and suggest relevant remedial measures.

### AIMS AND OBJECTIVES:

1. To assess behaviour towards blood donation among interns.
2. To acknowledge and record the barriers experienced by them regarding blood donation.

### MATERIALS AND METHODS:

This will be a cross sectional, institutional based study carried out in Late Shri Lakhiram Agrawal Memorial Government Medical College Raigarh, Chhattisgarh (C.G) among medical interns of 2017 batch. A pretested, structured questionnaire will be used as a study tool. Approval of Institutional ethical committee will be taken before starting the study. The study will be conducted and concluded within a period of 1 month after approval. After data collection, Descriptive statistics will be used to analyse the result. Proportion, Percentage and Chi-square were calculated using SPSS software at the Department of Community Medicine, Late Shri Lakhiram Agrawal Memorial Medical College, Raigarh, Chhattisgarh and necessary conclusion/recommendation will be made.

**KEYWORDS:** Blood donation, Interns, Behaviour

## Introduction

According to WHO, 1% of the population should donate blood to meet the basic requirement of a country for blood<sup>1</sup>. In India, there is always a gap in the demand and supply of blood and its products. Blood is a life-saving tool in many medical and surgical conditions in all the hospitals, any day throughout the year. No substitute for blood and its products has yet been discovered, despite huge advancements in medical field in the last few decades. There is always increasing demand for blood in almost all the hospitals due to

increase in road traffic accidents, delayed pregnancy and its associated complications, various advanced surgeries and treatment of medical conditions. To increase voluntary donation of blood, awareness regarding the importance of blood donation and having a positive perception towards it is essential.

Important source of blood in any country is young and active individuals. Medical students can be a potential source for blood donation as they really understand its requirement in their day-to-day duties. They are easily approachable; their doubts can be addressed as they have better understanding.

This study was conducted to assess the knowledge and attitude of interns of Government Medical College, Raigarh and to determine the factors associated with knowledge of blood donation and blood donating behaviour.

### **Methodology**

This is a cross-sectional study conducted among interns of Government Medical College, Raigarh, Chhattisgarh. A predesigned self-administered questionnaire was used to collect the data. The questionnaire contained questions on the socio-demographic characteristics, knowledge on blood donation criteria, attitude and practice of the donors. All the MBBS students, presently undergoing internship were included in the study. Data was collected after obtaining approval from the Institutional Ethical Committee. Interns were assured of the confidentiality and anonymity of the data. Results were presented in percentage and chi square test was used to find the strength of association. p-value < 0.05 was considered significant.

### Results and Discussion

<b>Variables</b>	<b>n (%)</b>
<b>Gender</b>	
Male	26 (52)
Female	24 (48)
<b>Age</b>	
Upto 25 years	42 (84)
More than 25 years	8 (16)
<b>Religion</b>	
Hindu	37 (74)
Muslim	3 (06)
Christian	6 (12)
Sikh	2 (04)
Others	2 (04)
<b>Knowledge of own blood group</b>	
Yes	50 (100)
No	0 (00)

Table1: Socio-Demographic characteristics of the participants

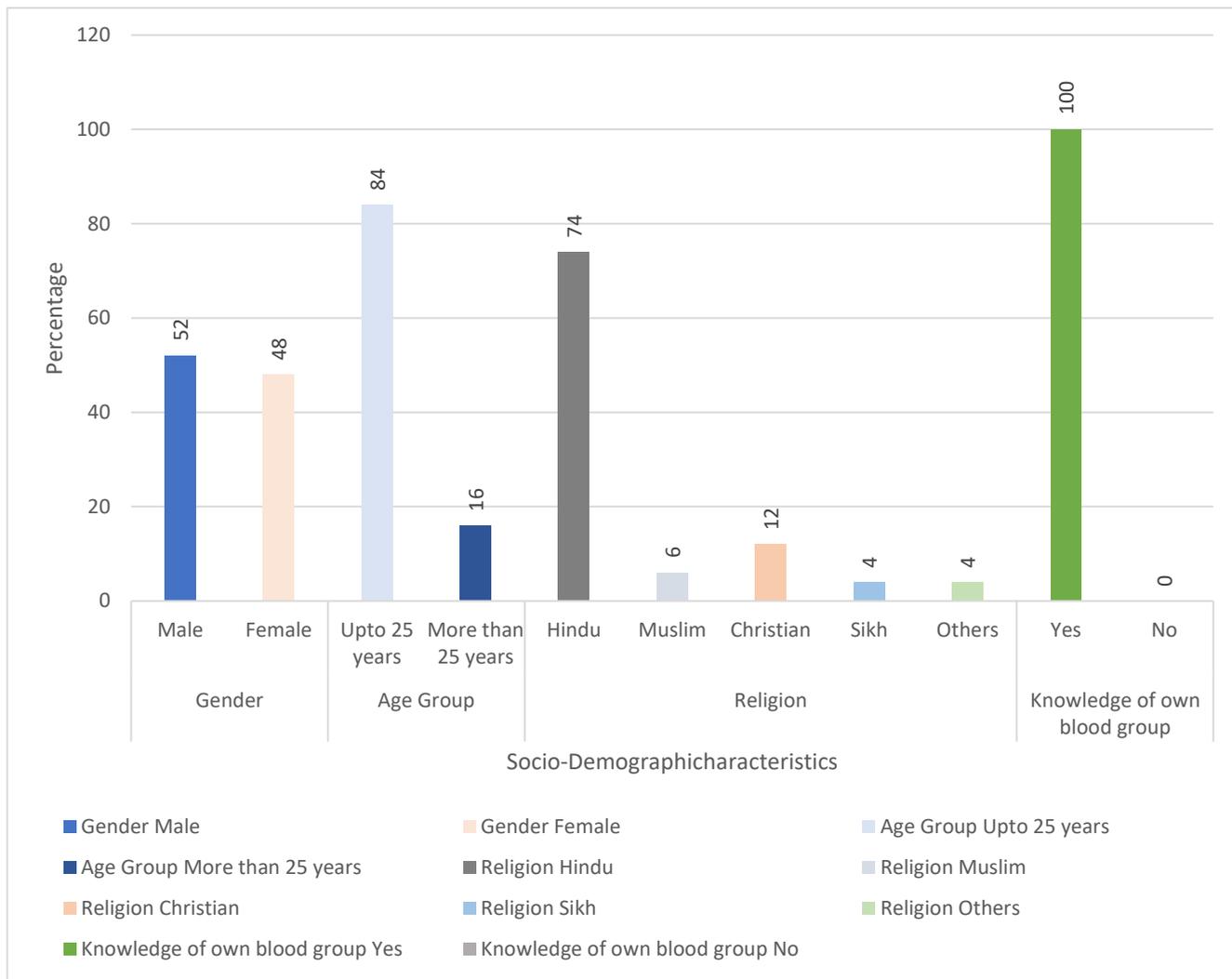


Figure 1: Socio-demographic characteristics of the participants

Among the participants, 52% were males and 48% were females. Majority of them (84%) were upto 25 yrs. age group. Majority of them (74%) were Hindus and 100% of them knew their own blood group.

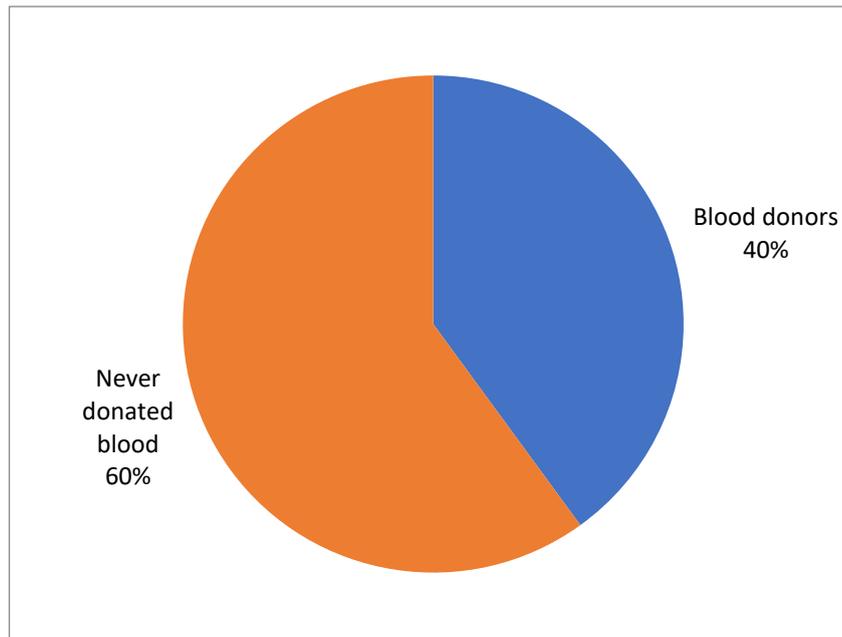


Figure 2: Percentage of blood donors

In spite of being medical professionals; knowing the importance of blood donation in saving lives, only 40% interns had ever donated blood.

In a study conducted by Chauhan et al<sup>2</sup> among medical students, 22.9% students had donated blood so far.

Kanani et al<sup>3</sup> reported 19.8% participants donated blood.

Study conducted by Kowsalya et al<sup>4</sup> showed 37.4% donors and Giri PA, Phalke DB et al<sup>5</sup> reported 47.5% donors.

Melku M, Asrie F et al<sup>6</sup> in their study among Under-graduate Health Science students in Ethiopia reported 12.5% participants had ever donated blood.

Factor	Donated blood in past		Total	Chi Sq. Value p-value
	Yes (%)	No (%)		
Male	14 (53.85)	12 (46.15)	26	4.3269  0.037514 (S)
Female	6 (25)	18 (75)	24	

Table 2: Relationship between Gender and blood donated in the past.

There was a significant association between gender and blood donation (p-value= 0.03). Males donated more as compared to female interns (53% vs 25%).

In a study by N. Joseph and Sakshi Khaitan<sup>11</sup> among undergraduate medical, dental, physiotherapy and para-medical students 31.9% males and 15.1% females had donated blood in the past.

<b>Variables</b>	<b>Correct n (%)</b>	<b>Incorrect n (%)</b>
Time interval between two blood donation (3 months)	45 (90)	5 (10)
Minimum age requirement for blood donation (18 years)	45 (90)	5 (10)
Maximum age limit for blood donation (65 years)	17 (34)	33 (66)
Minimum weight requirement for blood donation (50 kg)	26 (52)	24 (48)
Volume of blood taken in every blood donation (450ml)	44 (88)	6 (12)
Can a person with infectious diseases donate blood (yes)	2 (04)	48 (96)

Table 3: Participant's general knowledge of eligibility criteria for blood donation

There still remains a gap in the knowledge of interns regarding eligibility criteria for blood donation. 96% responses were incorrect in saying that persons with infection can donate blood. 66% participants did not know the maximum age limit for donating blood. 5% did not know the minimum age requirement for blood donation. 48% did not know the minimum weight required for blood donation. 12% participants did not know the volume of blood taken in every blood donation. Overall, 59.6% had correct knowledge about the criteria for blood donation.

In a study by Uguwu NI, Uguwu CN et al<sup>12</sup> among medical students at a Nigerian University, 60.1% of the participants knew the volume of blood taken in every donation. 86.7% knew the minimum age requirement for blood donation, while 60.8% knew the minimum weight required for blood donation.

Chauhan et al<sup>2</sup> found that the overall correct knowledge about blood donation was 74.4%.

Similar report was also given by Kumari & Raina<sup>6</sup>, 81.5%.

Variable		Donated Blood		Chi-sq.	p-value
		Yes (20)	No (30)		
Time interval between two blood donation (3 months)	Right answer	18	27	0	1 (NS)
	Wrong answer	2	3		
Minimum age requirement for blood donation (18 years)	Right answer	18	27	0	1 (NS)
	Wrong answer	2	3		
Maximum age limit for blood donation (65 years)	Right answer	3	14	5.3624	0.02 (S)
	Wrong answer	17	16		
Minimum weight requirement for blood donation (50 kg)	Right answer	9	16	0.3333	0.56 (NS)
	Wrong answer	11	14		
Volume of blood taken in every blood donation (450ml)	Right answer	14	28	4.8611	0.02 (S)
	Wrong answer	6	2		
Can a person with infection diseases donate blood (yes)	Right answer	1	1	0.0868	0.76 (NS)
	Wrong answer	19	29		

Table 4: Relationship between Participant's general knowledge of eligibility criteria for blood donation and history of blood donation

The above table shows, statistically significant association between maximum age limit for blood donation and history of blood donation (p-value=0.02). Similarly, statistically significant association observed between volume of blood taken in each donation and history of blood donation (p-value=0.02).

Attitudinal statements	Responses	N (%)	Attitude regarding blood donation	
			Positive attitude n (%)	Negative attitude n (%)
Do you think blood donation is a life-saving process	Yes	46 (92)	46 (92)	4 (08)
	No	4 (08)		
Do you know your blood group	Yes	50 (100)	50 (100)	0 (00)
	No	0 (00)		
Is donating blood a threat to health	Yes	3 (06)	43 (86)	7 (14)
	No	43 (86)		
	May be	4 (08)		
Is it necessary to rest a long time after blood donation	Yes	9 (18)	41 (82)	9 (18)
	No	41 (82)		
	May be	0 (00)		
Is lot of nutrition necessary after blood donation	Yes	19 (38)	31 (62)	19 (38)
	No	31 (62)		
Would you go to donate blood when patient is serious or blood bank is short of blood	Yes	44 (88)	44 (88)	6 (12)
	No	6 (12)		
Do you encourage people around you to donate blood	Yes	50 (100)	50 (100)	0 (00)
	No	0 (00)		
Do you think Blood donation is a duty of citizens	Yes	48 (96)	48 (96)	2 (04)
	No	2 (04)		
	Yes	48 (96)	48 (96)	2 (04)

Do you encourage your family/friends to donate blood and share knowledge about blood donation	No	2 (04)		
Do you agree with the encouragement of blood donation	Yes	50 (100)	50 (100)	0 (00)
	No	0 (00)		
Is it necessary to spread knowledge of blood donation in health workers	Yes	49 (98)	49 (98)	1 (02)
	No	1 (02)		
Would you like to receive training of blood donation	Yes	43 (86)	43 (86)	7 (14)
	No	7 (14)		
Do you think the medical staff active participation in blood donation will play a leading role for patients and their family	Yes	35 (70)	35 (70)	15 (30)
	No	3 (06)		
	May be	12 (24)		
Would you like to take responsibility to spread knowledge of blood donation to patients and their family	Yes	44 (88)	44 (88)	6 (12)
	No	1 (02)		
	May be	5 (10)		

Table 5: Attitude of participants towards blood donation

An average of all positive attitudes was observed to be 88.85%.

It was similar to the study conducted by Mishra et al<sup>7</sup> which showed 81.4% and that of Chauhan et al<sup>2</sup> found to be 91%.

Melku et al<sup>6</sup> reported average of all positive attitudes to be 73.67%.

92% know that blood donation is a life-saving process. 86% said that it is not a threat to health. 100% agreed with the encouragement of blood donation. 98% agreed to the necessity of the blood donation in health workers.

86% wanted to receive a training of blood donation and 88% said they would like to take responsibility to spread knowledge of blood donation to patients and their families.

Variables		n (%)
Reason for blood donation	Good for health	4 (20)
	To get free physical examination	1 (05)
	To get souvenir	1 (05)
	For the benefit of patient/society	18 (90)
For whom was blood donated	Family	5 (25)
	Friends	6 (30)
	Unknown person	14 (70)
At what place was blood donated	Camp	4 (20)
	Hospital/Blood bank	19 (95)

Table 6: Participant’s practice of blood donation (n= 20)

90% of the donors believed that blood donation will benefit the patient and society. 95% have donated blood in either blood bank or at the hospital.

70% had donated to unknown persons similar to the finding of 74% in a study conducted by Babita Raghuwanshi et al<sup>8</sup>.

H.S. Hossain et al<sup>9</sup> reported 83% donated blood as a moral responsibility.

1% reported reason for blood donation was to get a health check-up in this study whereas 25% reported the health check-up in a study conducted by Babita Raghuwanshi et al<sup>8</sup>.

Common reasons for not donating blood	n (%)
No one asked	2 (06.67)
Family do not allow	1 (03.33)
Rare blood group	3 (10)
Severe illness	1 (03.33)
No specific reason	6 (20)
Lack of time	1 (03.33)
Fear of needle prick	1 (03.33)
Not fit for donation	17 (56.67)
Worry about sanitation and getting infectious diseases	2(6.67)

56.67% felt they are not fit for donation, whereas Mishra SK et al<sup>7</sup> reported 26.8% as not fit for donation. AK Nathabhai Kanani et al<sup>3</sup> reported 38.3% unfit in their study from Jamnagar.

Fear of needle prick was reported in only 1% of non-donors contrary to 27.4% reported by Mishra SK et al<sup>7</sup> in their study conducted in North India.

2% reported that they were never approached by anyone for donating blood; whereas Alam and Masalmeh<sup>10</sup> reported 42.6% not being approached by anyone for blood donation.

20% of the non-donors also had no specific reasons for not donating blood.

## Conclusion

The percentage of interns donating blood was not satisfactory despite almost all interns having adequate knowledge and a positive attitude towards blood donation.

A significant association was found between blood donation & gender, with more males donating blood. Majority of them donated to benefit society. We can increase voluntary blood donation by increasing awareness and motivating medical students. As a result, the availability of blood will increase and hospitals will be able to tide over shortages.

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