



KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING VOLUNTARY BLOOD DONATION AMONGST UNDERGRADUATE MEDICAL STUDENTS AT A TEACHING HOSPITAL IN NORTH INDIA.

Gynaecology

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ABSTRACT

Summary : Voluntary blood donations are imperative for safe and adequate supply of blood

Objective- Assess the knowledge, attitude and practices (KAP) regarding voluntary blood donation amongst undergraduate medical students in a teaching hospital in North India and evaluate the factors hindering voluntary blood donations

Materials & Methods: This is a cross sectional questionnaire based KAP study with a sample size of 302.

Results: There was high level of knowledge (86.75%) and favorable attitudes (91.39%) of the respondents towards voluntary blood donation, the practices involving the same were found to be inadequate (38.41%). The fear of weakness, injection followed by lack of opportunity were discovered to be the main factors hindering blood donation. It is through the education and motivation of the younger population that 100% voluntary non-remunerated blood donation can be achieved.

KEYWORDS

voluntary blood donation, medical students, hindering factors

INTRODUCTION

Safe blood transfusion services are a critical component of a Nation's health care system and unfortunately there are no substitutes for human blood. In India it is estimated that 25% of all maternal deaths are attributed to haemorrhage.¹ The incidence of post-partum haemorrhage varies from 9.2% to 21% in India.² Lack of immediate availability of blood is found to be the cause of 70% of PPH related deaths in our country.²

As per World Health Organization (WHO), there seems to be a shortfall of 3 to 4 million units of blood annually in India³. This gap in the demand and supply of blood and its component can only be filled by creating awareness amongst the masses for voluntary donation of blood.

Voluntary blood donations in developing countries like India are constrained by misconceptions, fears, ignorance and widespread myths regarding blood donation.

The 2008 Blood Safety Survey revealed that more than half the blood donations in India come from the population less than 25 years of age⁴. WHO encourages countries to focus on young people to achieve 100 per cent voluntary unpaid blood donation⁵. The undergraduate medical students can become pivotal in not only increasing the number of voluntary donations of blood but also become effective portals for spreading awareness amongst the general population. It is imperative to understand the current scenario in terms of the level of awareness, the willingness and practices of the students in order to propose a productive way to improve the existing condition. The young medical students should be the prime targets for educating and inspiring to donate blood.

Hence this study aims to evaluate the knowledge, attitude and practices regarding voluntary blood donations amongst undergraduate students in a tertiary care center in North India, with a special focus on the factors responsible for discouraging voluntary blood donation.

Objectives

1. To assess the knowledge, attitude and practices regarding voluntary blood donation amongst undergraduate medical students in a tertiary care center in North India.
2. This study also aims to evaluate the factors responsible for hindering voluntary blood donations amongst the students.

METHODS AND MATERIALS

This study was carried out in a tertiary care center in Barabanki, over a

period of 1 month (May 2020). Ethical clearance was obtained from the Institute's ethics committee (MIMS/EX2020/100).

The following formula was used to calculate the required sample size (Sample Size Determination In Health Studies- A Practical Manual WHO Geneva 1991)

$$n = (z)^2 p (1 - p) / d^2$$

n = sample size

z = level of confidence according to the standard normal distribution (for a level of confidence of 95%, z = 1.96)

p = estimated proportion of the population that presents the characteristic

d = tolerated margin of error

Based on the conservative assumption that the prevalence of knowledge of the students was 60%, with a confidence interval of 95% and 6% margin of error, the minimum sample size required was 256.

All students pursuing MBBS were enrolled but only those students who gave their written informed consent were recruited in the study and those who were not willing to participate in the study were excluded.

It is a descriptive, cross-sectional study which involved the use of a pre-tested questionnaire.

Questionnaire validation

The questionnaire was designed in English language and was divided into 3 sections. The questionnaire assessed the knowledge, attitude, perception and practices of the students regarding voluntary blood donation including the factors that cause hindrance in the process of blood donation. The part of the questionnaire testing the attitude of the students had 4 questions while there were 4 questions for assessing the practice of the volunteers. There was one question with multiple options for evaluating their source of knowledge. Their knowledge about blood donation was assessed using 14 questions which cut across the various aspects of voluntary blood donation in India. A scoring mechanism was used to understand overall knowledge level; a score of one was given for each correct response and zero for wrong response. Correctly answered questions were marked and scored on a 14-point scale. This was further graded into good and poor knowledge. Poor knowledge was for correct responses between 1 – 7 and a score of 8-14 was labeled as having good knowledge.

Pre-test of the questionnaires was carried out on 15 students and the necessary corrections made. All information obtained from this study has been kept confidential and will not be linked to the participants in anyway.

Data analysis- Data was analyzed using Statistical Package for Social Sciences version 21.0. Chi square test was used to compare the data. The confidence level of the study was kept at 95% and a 'p' value less than 0.05 was considered as statistically significant.

RESULTS

The questionnaire was distributed to 458 undergraduate MBBS students and 302 of them responded to it (66% response rate). The mean age of participants was 22.4 years ranging between 18 years to 25 years. Female participants were 160 (52.98%) while males were 142 (47.01%).

The knowledge of the respondents regarding voluntary blood donation is summarized in table 1.

On the basis of the scoring system used, 262 (86.75%) had good knowledge with a score of 8 or more whereas 40 (13.24%) had poor knowledge with a score of 7 or less.

Table 1 : Knowledge of the respondents regarding voluntary blood donation

Variable	Yes; N (%)	No ; N (%)
Do you know your blood group?	299(99%)	3(1%)
Do you know about voluntary blood donation and blood donation criteria?	257(85.10%)	45(14.90%)
Do you know about transmission transmitted infections?	259(85.76%)	43(14.23%)
Questions	Correct response; N (%)	Incorrect response; N (%)
Is blood transfusion a painful procedure?	251 (83.11%)	51 (16.88%)
Is blood donation harmful to donor?	283 (93.71%)	19 (6.29%)
How frequently can a person donate blood? (months)	131 (43.37%)	171 (56.62%)
Volume of blood collected during each donation.	239 (79.13%)	63 (20.86%)
Minimum age for blood donation.	271 (89.73%)	31 (10.26%)
Maximum age for blood donation.	131 (43.37%)	171 (56.62%)
Minimum HB for blood donation.	150 (49.66%)	152 (50.33%)
Minimum weight for blood donation.	45 (14.90%)	257 (85.10%)
Universal donor	204 (67.54%)	98 (32.45%)
Universal recipient	188 (62.25%)	114 (37.74%)
World's blood donation day	248 (82.12%)	54 (17.88%)
Source of information regarding blood donation in decreasing frequency (multiple responses included)		
1. College	254	
2. Internet	160	
3. Parents	94	
4. Blood donation camps	90	
5. Television	65	
6. Newspapers	58	

The attitude and practices of participants towards voluntary blood donation is shown in table 2.

Table 2 : The attitude and practices of participants towards voluntary blood donation

Questions reflecting attitudes of respondents	Yes; N (%)	No ; N (%)
Would you like to donate blood?	276 (91.39%)	26 (8.61%)
Would you like to donate blood for family?	290 (96.02%)	12 (3.97%)
Would you like to donate blood for strangers?	275 (91.05%)	27 (8.94%)
Do you think people should donate blood?	302 (100%)	0
Questions reflecting practices of respondents	Yes; N (%)	No ; N (%)

Have you ever donated blood ?	116 (38.41%)	186 (61.58%)
If donated – once	52	
Twice	27	
thrice	37	
Factors hindering blood donation in decreasing frequency (multiple responses included)		
1. Fear of weakness	118	
2. Fear of injection	108	
3. Lack of opportunity	91	
4. Fear of dizziness	67	
5. Lack of time	50	
6. Fear of losing weight	41	
7. Rejected as a donor	28	

Table 3 enumerates the correlation of level of knowledge of the respondents with their attitude and practices regarding blood donation.

Table 3 : The correlation of level of knowledge of the respondents with their attitude and practices regarding blood donation.

Questions	Knowledge level of participant	Answer 'Yes' to the respective question	The chi-square statistic (χ^2)	p value*
Would you like to donate blood?	Poor	32	7.603	.006
	Good	244		
Would you like to donate blood for family?	Poor	38	0.127	.721
	Good	252		
Would you like to donate blood for strangers?	Poor	34	2.080	.149
	Good	241		
Have you ever donated blood?	Poor	15	0.016	.899
	Good	101		
*Significant p value < 0.05; Confidence interval- 95%				

DISCUSSION

This study conducted in a teaching hospital in North India assessed the knowledge, attitude and practices (KAP) regarding voluntary blood donation amongst undergraduate medical students. It was found that majority of respondent (86.75%) had a good level of knowledge, similar to a study done in Himachal Pradesh by Chauhan et al⁶ in 2018, who reported good knowledge amongst most of the students (74.4%). Alsalmi et al⁷ conducted a study on KAP of blood donation among health professions students in Saudi Arabia and found that 60.2% had sufficient knowledge regarding the subject.

The most common source of knowledge was cited to be the educational institute by our respondents. This is comparable to the study by Chauhan et al⁶ where educational institutes were found to be the most common source of information. However in their survey only one fifth of the students said that they derived their knowledge from the internet, unlike our findings where internet was the 2nd most common source of information. Mass and social media can thus be utilized as a channel for spreading awareness and creating opportunities for blood donation.

The attitude towards voluntary blood donation was found to be universally favorable in our survey, irrespective of donations pertaining to family or strangers. A KAP study conducted in 2015 by Chopra et al involving the undergraduate students in a tertiary care center in Barabanki, established that 75 % of all students were willing to donate the blood⁸.

However, only one third of our participants had ever donated blood. Chauhan et al⁶ also reported a poor practice of blood donation with only 22.9% of the students saying yes to having ever donated blood. Contrary to the results published by Ponmari et al in 2003 where around half of the student participants in a tertiary care teaching hospital, Chennai had donated blood at least once in their lifetime⁹.

The fear of weakness, injection followed closely by lack of opportunity were discovered to be the main factors hindering blood donation. In a study done in Jammu in 2015 by Kumari and Raina, the main reasons reported for not donating blood were fear of needles, the very sight of blood, concerns regarding adverse effects, disapproval of the family, and lack of opportunity¹⁰. Regular visits to blood banks in the medical curriculum can help in alleviating the fears associated with blood donation.

This study also explored the statistically significant correlation between level of knowledge and the overall willingness to donate blood, reflecting that proper information regarding blood donation specially aimed at busting all the myths associated with it can go a long way in ensuring voluntary blood donation. No significant correlation was found between the knowledge level and practices of donating blood. This further stresses upon the need to deal with the barriers found in the study, which can result in translation of the good knowledge and favorable attitudes of the participants into fruitful practices of donating blood.

CONCLUSION

A global framework developed jointly by the WHO and the International Federation of Red Cross and Red Crescent Societies aims at 100% voluntary non-remunerated blood donation in every country of the world¹¹.

Despite there being high level of knowledge and favorable attitudes of the undergraduate medical students towards voluntary blood donation, the practices involving the same were found to be grossly inadequate. Initiatives should be taken to create universal and complete awareness regarding voluntary blood donation criteria, need and safety measures in India. Equally important is the need to offer opportunities to donate blood through organization of blood donation camps at locations accessible to the eligible individuals.

It is only through the education, encouragement and motivation of the younger population especially those associated with health care, that 100% voluntary non-remunerated blood donation can be achieved.

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