

## Original Article

# EVALUATION OF INTERVENTION ON VOLUNTARY BLOOD DONATION AMONG 1<sup>ST</sup> PROF MEDICAL AND DENTAL STUDENTS OF INDEX MEDICAL COLLEGE, INDORE (MP), INDIA

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Bachhotiya A, Arora VK, Mahashabde P. Evaluation of Intervention on Voluntary Blood Donation among 1st Prof Medi-Cal and Dental Students of Index Medical College, Indore (MP), India. Natl J Community Med 2014; 5(2):223-226.

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**Date of Submission:** 11-03-14**Date of Acceptance:** 02-04-14**Date of Publication:** 30-6-14

## ABSTRACT

**Objective:** Objectives of this study was to assess KAP regarding voluntary blood donation among 1<sup>st</sup>prof MBBS & BDS students of Index Medical College, Indore and also to evaluate the intervention in making the students aware about voluntary blood donation

**Methods:** Among 209 students (125 MBBS, 84 BDS) a questionnaire was administered followed by participants' visit to the hospital blood donation centre where a short interactive awareness session was organized. The willingness to donate blood was noted at the end of the session.

**Results:** All the participants had lack of knowledge regarding blood donation with no difference between male and female. The proportion of male blood donors was 36 (36.7%) while 9 (8.2%) female students had donated blood so far. At first, a total of 88 students were willing to donate blood, including those 45 who had earlier done it. Out of the 164 students who did not donate blood earlier, 24 (14.6%) had no support from family, 16 (9.75%) were afraid of needle prick, 34 (20.7%) had fear of becoming weak after blood donation and 8 (4.8%) were afraid of contracting any disease through needle prick. After the awareness session, a total of 196 students (93.77%) showed willingness to donate blood and the change was statistically significant.

**Conclusion:** The knowledge and practice of voluntary blood donation among the study participants was found much better than the results of previous studies [7] and the awareness session-cum-visit to the blood donation centre fetched very high level of willingness. This implies the importance of regular intervention which can be most easily and successfully carried out by the teaching faculties in the medical college.

**Keywords:** MBBS, Blood Donation, Awareness

## INTRODUCTION

Human blood is an essential element of the human life and there are no substitutes for it [1]. The ability to donate and transfuse blood is one of the greatest virtues given to the humans by Mother Nature. Approximately 30 million units of blood components are transfused every year throughout the world [2]. The reasons for blood transfusion are varied but the need for it is ever growing [3] owing to the advancements in the field of medicine and surgery. Today, the use of whole blood is a well-accepted and a commonly employed measure without which many modern surgical procedures cannot be carried out [4].

The blood supplies are always in shortage either due to lack of blood donors or due to collection of blood from unsafe donors clubbed with inadequate testing for transmissible infections due to which the blood cannot be transfused and has to be discarded resulting in additional financial costs. These issues are of particular concern in countries facing blood shortages

Blood is not only needed in a wide range of surgical procedures but also proves to be a Life Saver in a large number of cases. But the transfusion of unsafe blood puts lives at risk because HIV, Hepatitis B, Hepatitis C, Syphilis, Malaria and other infections can be transmitted to the recipients.

About 80% of maternal deaths are due to obstetric complications of pregnancy, and the single cause accounting for a quarter of all deaths is the obstetric hemorrhage, which can lead to death very rapidly in the absence of prompt life-saving care, one of which is blood transfusion<sup>[5]</sup>.

The National Blood Policy of any country relies heavily on voluntary blood donors as they are usually assumed to be associated with low levels of transfusion-transmitted infections<sup>[5]</sup>.

Voluntary, non-remunerated blood donation has been universally shown to be the cornerstone of safe blood<sup>[6]</sup>. College students, especially in such institutions where awareness regarding blood donation is an integral part of the curriculum, prove to be the quickest and most dependable source of quality blood provided they are motivated for voluntary blood donation.

## OBJECTIVES

Objectives of this study was to assess KAP regarding voluntary blood donation among 1<sup>st</sup>prof MBBS & BDS students of Index Medical College, Indore and also to evaluate the intervention in making the students aware about voluntary blood donation

## MATERIAL AND METHOD

Of the total 250 students in 1<sup>st</sup> prof MBBS (150) and BDS (100) of Index Medical College and Index Dental College, a total of 209 students (125 MBBS, 84 BDS) were present on the day of administration of a pre-tested predesigned close-ended questionnaire based on the study objectives. The questionnaire was administered followed by participants' visit to the hospital blood donation centre where a short interactive awareness session was organized. The willingness to donate blood was again noted at the end of the session. The responses were consolidated and subjected to statistical analysis to assess the impact of intervention.

## RESULTS

There were a total of 98 male (75 MBBS and 23 BDS) and 111 female (50 MBBS and 61 BDS) students (**Table 1**). The age of the participants ranged from 17 to 23 years with a mean age of 18.47 years. All the participants had lack of knowledge regarding blood donation. There was no significant difference between male and female students in 'knowledge regarding blood donation' part of questionnaire.

Of all the students, 58% (122) had father with at least a graduate qualification. Such students were found to have a better knowledge regarding blood donation. The proportion of male blood donors was 36 (36.7%) while 9 (8.2%) female students had donated blood so far (**Table 2**). The percentage of donors was around 8

times in MBBS (32.8%) than BDS (4.8%) as shown in **Table 3**. 41 (32.8%) MBBS and 4 (4.8%) BDS students had donated blood earlier out of which 35 MBBS students donated blood after joining the medical college, being motivated by the professors. At first, a total of 88 students were willing to donate blood, including those 45 who had earlier done it.

**Table 1: Distribution of Male and Female Participants in First Prof MBBS and BDS**

	Male (n=98) (%)	Female (n=111) (%)
MBBS	75 (76.5)	50 (45.0)
BDS	23 (23.5)	61 (55.0)

**Table 2: Distribution of Voluntary Blood Donors According to Sex**

	Donated Blood (%)	Never Donated (%)
Male (n= 98)	36 (36.70%)	62 (63.30%)
Female (n= 111)	9 (8.20%)	102 (91.80%)

Chi Square test: 25.245; df : 1; p=0.000 (p<0.05)

**Table 3: Distribution of Voluntary Blood Donors According to Faculty**

	Donated Blood (%)	Never Donated. (%)
MBBS (n= 125)	41(32.8%)	84(67.2%)
BDS (n= 84)	4(4.8%)	80(95.2%)

Chi Square test: 23.376; df : 1; p=0.000 (p<0.05)

**Table 4 Reason for Non-Donation/Unwillingness to Donate Blood (n=146)**

Reason for Non-Donation/ Unwillingness	Freq (%)
No Support from Family	24 (14.6)
Afraid of Needle Prick	16 (9.75)
Fear of Weakness	34 (20.7)
Fear of Contracting any Disease	8 (4.8)
Why to Donate to Unknown	12 (7.3)
No Opportunity	70 (42.68)

**Table 5: Comparison between Pre and Post-session Willingness to Donate Blood**

	Pre-session	Post-session	P value*
<b>MBBS (n=125)</b>	64(51.2%)	123(98.4%)	p<0.05
<b>BDS (n=84)</b>	14(16.67%)	73(86.9%)	p<0.05
<b>Total (n=209)</b>	88(37.32.1%)	196(93.77%)	p<0.05

\*Using Chi-square test

Out of the 164 students who did not donate blood earlier, 24 (14.6%) had no support from family, 16 (9.75%) were afraid of needle prick, 34 (20.7%) had fear of becoming weak after blood donation, 8 (4.8%) were afraid of contracting any disease through needle prick, 12 (7.3%) didn't want to donate blood to any unknown person and 70 (42.68%) had either never thought of voluntary blood donation or got no opportunity to do so(**Table 4**).

The benefits of blood donation, both to the recipient and the donor, were known to 63.20% males and 77.40% females at the commencement of the session. 32.70% boys and 26.20% girls believed that it doesn't

make any difference if they alone donate blood while there are thousands of people who are in need of blood every day.

After the awareness session, a total of 196 students (93.77%) showed willingness to donate blood. The change in willingness after intervention was statistically significant in both the MBBS and the BDS students (**Table 5**). The remaining 13 (6.23%) who were still not willing to donate blood had stated 'non-approval by family' as the reason. It was interesting to note that 89% of the total students agreed to donate blood if given special consideration in internal assessment as motivation.

## DISCUSSION

Medical students have always been a potential and easily accessible source of safe, non-remunerated, voluntary and fresh blood. This is because of all time availability of students in the medical hostels and quick mutual co-ordination in case of requirement of blood of almost all groups. The main reason for non-donation of blood by students was found to be the lack of opportunity to donate blood. It implies that even after their willingness to donate blood, this abundant resource is not being utilized well. Though parental education has an impact over the willingness but it is on the part of the medical college authorities to utilize the available resource.

Comparing the present study with a previous one carried out in general population, where only 46% of the subjects had showed willingness to donate blood [5] this study shows the willingness much higher (93.77%) in the students, as also seen in another study in medical undergraduates [7]. A study carried out among medical students of south India [8] and one conducted among youngsters in Sikkim [5] showed 87.23% and 87.3% had never donated blood. This opens the door for a drive towards voluntary non-remunerated blood donation.

All the students had a positive attitude towards blood donation and all considered it to be a generous and noble act. The higher proportion of unwillingness was found in female students who either had lack of approval from family or fear and experienced inconvenience associated with blood donation as corroborated with results of a previous study [8].

The questionnaire was followed by an interactive awareness session which was based on the facts being asked in the questionnaire and also other relevant information on blood donation. This was combined with a visit to the Index Blood Donation Centre so as to explain the students the requirement, supplies and functioning of the centre. The basic aim of this visit was to remove the myths and apprehension among the students about blood donation. The increase in the willingness to donate blood can be attributed to the impact of interactive intervention as it did not take much time to fetch a positive attitude among the stu-

dents who are truly regarded as the largest reservoir of quality blood in a medical college. The 13 (6.23%) students who did not agree to donate blood even at the end of the session had both the parents below graduate qualification. This evokes the need for spreading awareness even in the less-educated section of the society regarding the benefits of blood donation.

The youth in the medical colleges should be encouraged and guided to participate in non-remunerated voluntary blood donation activities. This can be very well done by the teaching faculties as they have a direct and vast access as well as influence over the medical students. Even in our study, 35 MBBS students had donated blood for the first time after joining the medical college on being motivated by their professors. The change in willingness among MBBS students from 51.2% to 98.4% and those in BDS students from 16.67% to 86.9% is not only statistically significant but also implies the need for intervention on a periodic basis. This study aimed at 1<sup>st</sup>prof students so as to inculcate the habit of blood donation since the very beginning of their medical life. Also it validates the need for awareness sessions and short messages during the lectures so as to increase the knowledge and build up a strongly positive attitude towards voluntary blood donation. 36.80% boys and 22.60% girls not knowing the fact that the donor also gets benefited by blood donation in the form of increased erythropoiesis, improvement in cardiac activity and an immense self-satisfaction is a matter of concern. Almost one-fourth of students believing that it doesn't make any difference in the huge requirement of blood if only they themselves donated blood should be taken into account while planning orientation activities so as to persuade every individual to contribute a drop in the sea. They should be made to believe that even if the whole world may not get benefitted by their step but this noble act would definitely help somebody stay healthy in the world. The willingness to donate blood on being promised special consideration in internal assessment as stated by 89% of students is a matter that should be looked into.

## CONCLUSION

The knowledge and practice of voluntary blood donation among the study participants was found much better than the results of previous studies [7] and the awareness session-cum-visit to the blood donation centre fetched very high level of willingness. This implies the importance of regular intervention which can be most easily and successfully carried out by the teaching faculties in the medical college.

So we, hereby, conclude with the recommendation that the students in a medical college should be exposed to assessment and awareness sessions as soon as they enter the institution so as to promote non-remunerated voluntary blood donation. This matter should also be addressed in the parents' meeting so as to alleviate their anxiety and overprotection in order

to ensure family support for this noble act. Such sessions for the students, parents and also for the faculties should be held periodically for sustained motivation. Though the aim is to emphasize non-remunerated voluntary blood donation, yet motivation in the form of good marks does not seem to be unethical or illogical.

#### ACKNOWLEDGEMENTS

The authors extend a heartfelt gratitude to all the participants for their responses; to the professors who spared their valuable time for the conduct of the study and the hospital blood donation centre staff for their immense co-operation.

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