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## Assessment of knowledge and attitude of medical students for organ donation

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### Abstract

**Background:** Organ transplantation is the most preferred treatment for many of the end-stage organ diseases as it increases life expectancy. Besides long-term survival benefits, organ donation also improves quality of life in many circumstances.

**Aim of the study:** To assess knowledge and attitude of medical students for organ donation.

**Materials and methods:** The present study was conducted in the Department of Forensic Medicine of the mental institutions. A cross-sectional questionnaire-based study was conducted among undergraduate dental students of the medical institute. The study sample comprised of first-, second-, third-and fourth-year medical students. Anonymity and confidentiality of respondents were maintained and participation was voluntary.

**Results:** We observed that knowledge scores were similar among students of different genders, years of study and different religions. Knowledge scores were high as compared to other parameters. Mean scores for attitude were lower as compared to knowledge scores, however, were similar in different groups. Mean scores for practice were quite low in all the groups.

**Conclusion:** In conclusion, knowledge, attitude and practice of organ donation was significantly correlated for medical students. However, our study was limited to healthcare professionals and thus, cannot be summed up for the community.

**Keywords:** Organ donation, medical students, donor transplantation

### Introduction

Organ transplantation is the most preferred treatment for many of the end-stage organ diseases as it increases life expectancy. Besides long-term survival benefits, organ donation also improves quality of life in many circumstances (for instance, in case of cornea, skin, or bone transplantations) <sup>[1, 2]</sup>. Although the number of organ donors has increased over the past 2 decades, the need for transplantable organs continues to far outstrip the supply, with the disparity growing <sup>[3]</sup>. As such, understanding public barriers to organ donation is an area of intense study, and developing programs that traverse these challenges to promote organ donation is a critical health priority. Deceased donor renal transplantation (DDRT) helps to bridge the gap of organ shortage as several organs including heart, lungs, liver, kidney, cornea and skin can be retrieved from a single deceased donor <sup>[4]</sup>. There is an urgent need to promote DDRT in India. Social stigma, ignorance and illiteracy account for the majority of hurdles in organ donation in India. Several studies report poor knowledge of both the common man and the health care professionals (HCPs) on deceased organ donation and hence long-term improvement in organ donation rates can only be achieved by educating and motivating the people and HCPs <sup>[5, 6]</sup>. Hence, the present study was conducted to assess knowledge and attitude of medical students for organ donation.

### Materials and methods

The present study was conducted in the Department of Forensic Medicine of the mental institutions. The ethical clearance for the study was approved from the ethical committee of the hospital. A cross-sectional questionnaire-based study was conducted among undergraduate dental students of the medical institute. The study sample comprised of first-, second-, third-and fourth-year medical students. Anonymity and confidentiality of respondents were maintained and participation was voluntary. A questionnaire was developed comprising demographic details from the students, levels of knowledge, positive attitude and practice habits regarding organ donation. The responses were recorded on a dichotomous scale (Yes/No). For each "Yes" response it was scored '1' and for each "No"

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response ‘0.’ The total scores obtained were summed up. The higher scores indicated better knowledge, more positive attitude and good practice habits regarding organ donation. The statistical analysis of the data was done using SPSS version 11.0 for windows. Chi-square and Student’s t-test were used for checking the significance of the data. A p-value of 0.05 and lesser was defined to be statistical significant.

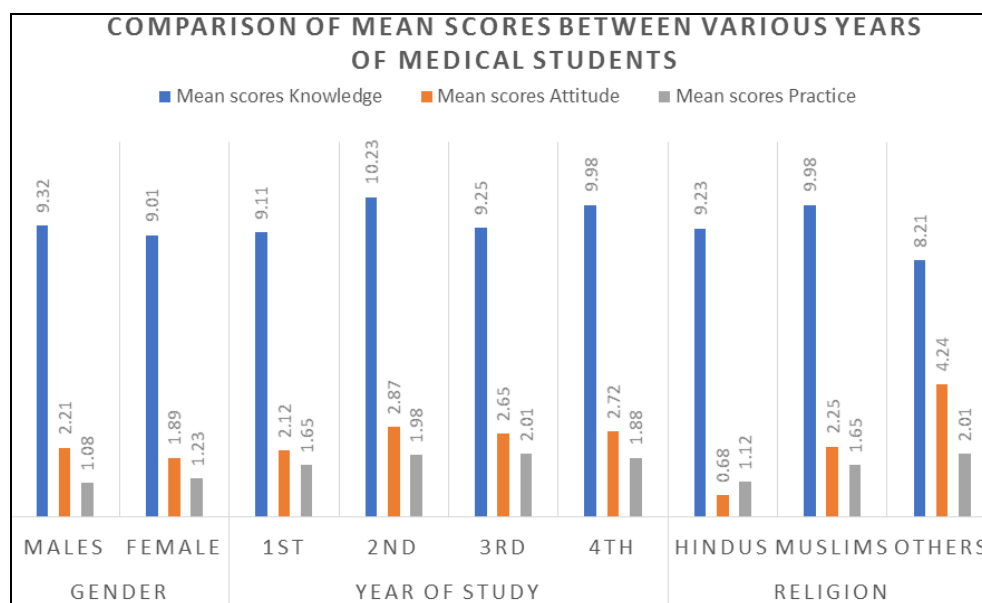
**Results**

Table 1 shows comparison of mean of knowledge, attitude,

and practice based on gender, year of study, and religion. We observed that knowledge scores were similar among students of different genders, years of study and different religions. Knowledge scores were high as compared to other parameters. Mean scores for attitude were lower as compared to knowledge scores, however, were similar in different groups. Mean scores for practice were quite low in all the groups. On comparing the results, it was observed that results were statistically non-significant.

**Table 1:** Comparison of mean of knowledge, attitude, and practice based on gender, year of study, and religion

		Gender		Year of study				Religion		
		Males	Female	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Hindus	Muslims	Others
Mean scores	Knowledge	9.32	9.01	9.11	10.23	9.25	9.98	9.23	9.98	8.21
	Attitude	2.21	1.89	2.12	2.87	2.65	2.72	0.68	2.25	4.24
	Practice	1.08	1.23	1.65	1.98	2.01	1.88	1.12	1.65	2.01
p-value		0.21		0.23				0.98		



**Fig 1:** Comparison of mean scores between various years of medical students

**Discussion**

In the present study, we observed that knowledge, attitude and practice scores were comparable in students of the medical institute. As per the results, knowledge of organ donation was moderately prominent in the medical students, however, practice score was quite uncommon. The results were compared with previous studies and results were found to be consistent. Chakradhar K *et al.* assessed and compared the knowledge, attitude, and practice regarding organ donation among undergraduate dental students. A cross-sectional study was conducted among 298 undergraduate dental students of the Panineeya Institute of Dental Sciences and Hospital, Hyderabad, India. A 27-item self-administered questionnaire, which assessed the levels of knowledge (Q1-13), positive attitude (Q14-24) and practice habits (Q25-27) regarding organ donation with dichotomous scale (Yes/No). As compared to males, females reported better mean  $\pm$ SD scores in knowledge and practice; higher mean  $\pm$ SD attitude scores were reported among males. While second year dental students had higher scores for their knowledge and practice compared to other year of training, third year students showed a significant higher mean attitude score.

Hindus and Muslims scored significantly lower mean knowledge, attitude and practice habits compared to others. There was a positive correlation between mean knowledge, attitude, and practice habits. It was concluded that there are an average level of knowledge and low levels of positive attitude and practice habits among studied dental students towards organ donation and transplantation. Darlington D *et al.* conducted a cross-sectional questionnaire-based study from June 2015 to December 2017 among 480 medical students to analyse their knowledge, attitude and practice regarding organ donation. The validated questionnaire sheets were distributed during lecture hours and completed sheets were analysed. Of the 480 participants, 425 completed the questionnaire which is a response rate of 88.5%. Knowledge scores were uniformly low among all four batches of students. The first and third-year students scored better in practice and attitude domains. Females outnumbered males by scoring high in all three domains. They concluded that the poor knowledge score among all the batches of medical students is alarming. This implies the need for urgent changes in the medical curriculum to better educate future doctors of the country. Durable changes in

practice can be brought about by changing the attitude of medical students<sup>[7, 8]</sup>.

Tam WW *et al.* identified the knowledge level, attitude, and commitment toward organ donation among nursing students in a local university. A questionnaire was developed and distributed to all full-time nursing students of undergraduate and master programs in a university at Hong Kong. A total of 362 students completed the questionnaire, including 87 males and 257 females. The mean age of the students was 22.6 years. A total of 147 students (40.6%) had registered for organ donation. Students on average could correctly answer 23.7 out of 33 questions (71.8%) regarding their knowledge on organ donation and transplantation. With regard to attitude toward organ donation, students obtained a mean score of 70.2. Univariate analysis revealed that year of study, religion, and attitude were significantly associated with commitment toward organ donation. In logistic regression analysis, year of study and attitude were significantly associated with commitment toward donation after adjusting the age, gender, and study program. They concluded that attitude and year of study were strongly correlated with commitment toward organ donation; therefore, educational or promotional materials should be provided to improve the attitude of students toward organ donation. Goz F *et al.* assessed the knowledge and attitudes of medicine, nursing, dentistry and health technical students toward organ donation. Students completed a self-administered questionnaire after a lecture. The questionnaire included a test that was used to assess knowledge of and attitudes about organ donation. Of the students, 56.8% were men, 91.4% were 18-24-year old and 89.4% from east region of Turkey. Of students, 65.5% were willing, 9% were not willing, 25.5% were hesitant about organ donation and 6% of willing students reported carrying a signed card. The most common reason for unwillingness to organ donation was worries about illegal behaviours (2.4%). There was a statistical relationship between willingness of students for organ donation and gender but were not any statistical relationship between willingness of students for organ donation and age, school, region and recognizing relatives whose need organ transplantation. Majority of the students listed transplantable organs truly but 63.1% were had no idea about organ donation process. They concluded that students' had a lack of information about organ donation. The results of this study support a greater emphasis on providing information regarding transplantation in medicine, nursing, dentistry and health technical schools to improve the knowledge of future health care professionals about transplantation and organ donation issues<sup>[9, 10]</sup>.

### Conclusion

In conclusion, knowledge, attitude and practice of organ donation was significantly correlated for medical students. However, our study was limited to healthcare professionals and thus, cannot be summed up for the community.

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