



## Original Research Article

## Knowledge and awareness of eye donation among undergraduate medical students

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## ABSTRACT

**Aim:** To assess the awareness, knowledge, and source of information among the undergraduate medical students in Kolar.**Materials and Methods:** This was a cross-sectional semi self-constructed questionnaire-based study. The participants were given a questionnaire, which consisted of the questions regarding awareness, Knowledge, and source of information regarding eye donation. The responses were then analyzed for each category of questions.**Results:** Out of the 225 responses from the undergraduate medical students, 32.89%(74) students were pursuing final year of medical education, 35% (81) of the students were pursuing the third year, and 31.00% (70) of the students were pursuing second year. 70.5% of the students were aware that the whole eye could not be implanted to another person.**Conclusion:** The outcomes of this study focus on the fact that the majority of the students are aware of eye donations but lack sufficient knowledge to promote eye donation awareness in the community. With proper knowledge and attitude, a medical student can be involved in eye donation campaigns and awareness programs to spread awareness and change the attitude of the community towards eye donation.© 2020 Published by Innovative Publication. This is an open access article under the CC BY-NC license (<https://creativecommons.org/licenses/by-nc/4.0/>)

## 1. Introduction

Vision is the highly developed senses in humans and is useful for learning, using tools and devices, and moving about.<sup>1</sup> Blindness is a problem worldwide, and corneal blindness accounts for about 0.9 % of blindness in India.<sup>2</sup> Blindness due to corneal diseases can be treated by a procedure called Keratoplasty, which is the removal of damaged cornea and replacement with a healthy donor cornea.<sup>3</sup> As synthetic corneas have not yet been developed, human cornea is the sole option. The act of donating eyes is an act of helping a fellow human being and is totally charitable.<sup>4</sup> Two or more (in lamellar procedures) blind persons can be treated by a pair of donor eyes. Currently, in our country, about 22,000 eyes are collected from the donors annually, which is way less than meeting the required target.<sup>5</sup> Hence collecting eyes from donors forms the area

of primary focus is a sincere effort is to be made to reduce the corneal blindness. The number of corneal transplants can be only be increased by augmenting the number of eye donations. The role of a medical student as the future primary health care provider plays a pivotal role in creating awareness amongst the masses, who are un-aware. Better awareness among the medical fraternity will certainly help in creating better awareness among the public and hopefully the number of eye donations, which in turn helps to treat the corneal blinds.<sup>6</sup> Therefore it is important to assess the awareness and knowledge among medical students who also play a key role in creating awareness about eye donation, educating the patients and patient's relatives & clearing their apprehensions, thereby increasing the motivation and actual donation.

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## 2. Materials and Methods

This cross-sectional study involved 225 undergraduate medical students of Sri Devaraj Urs Medical College willing to participate in the study.

### 2.1. Inclusion criteria

Medical students – II nd to IV th year

### 2.2. Exclusion criteria

1. Students unwilling to take part in the study
2. Students who have participated in a similar study elsewhere

### 2.3. Methodology

Medical students in the second, third & fourth year willing to take part in the study are included in the study . Institutional Ethical Committee approved the research. The sample size, 226 is calculated using open-epi software with 70.5 % prevalence of awareness and confidence level of 90% in a study done in Chandigarh.

A pre-tested semi self-constructed questionnaire will be used to assess the awareness, knowledge and source of information. This questionnaire is designed referring various publications related to eye donation.<sup>7-9</sup> A note of the use of information only for research purposes in mentioned clearly in the questionnaire. The questionnaire includes three sections. The first section poses 6 questions to assess the 'awareness' of the student regarding eye donation. The second section includes a set of 6 questions to assess the 'knowledge' of the student, and the last section has a single question about the source of information.

Ethics- Approved by local ethical clearance committee  
Statistics-

## 3. Results

Among the 225 responses from the participants, 32.89%(74) students were in the final year of medical course, 35% (81) of the students were in the third year, and 31.00% (70) of the students were pursuing the second year.

70.5% students showed awareness that the whole eye cannot be implanted into another person. Table 1.

Only 54% of the participants were aware that a child's eyes could be donated.

94% of them knew that eyes could be donated after only the death of a person, and 61.6% of the participants believed that consent of the family member(s) is required for pledging the eyes. There was a mixed response regarding the awareness of the number of eye donations in India.33.8% of the students believed India was a leading country in the number of eye donations, and 41.4% of the participants did not know the answer. Only 54.5% of the students were aware of where the nearest eye bank is located.

Majority(40.3%) of the students' source of information was from doctors and the internet(34%).Figure 1

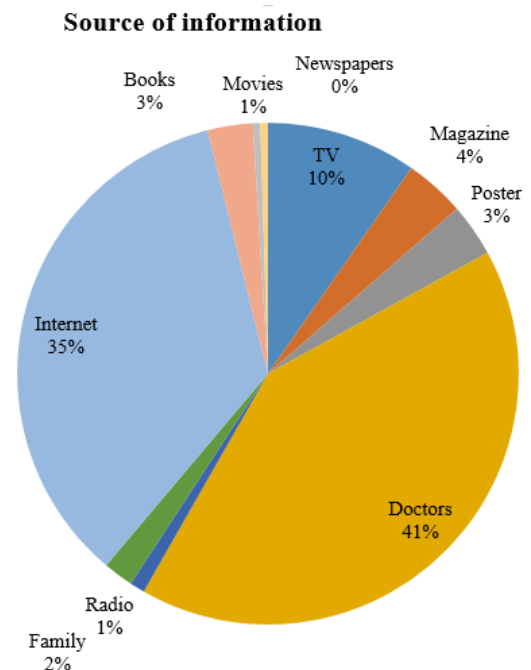


Fig. 1: Source of information

## 4. Discussion

Our study assesses the awareness and knowledge of eye donation amongst the undergraduate medical students in Kolar. The intent of this survey was to evaluate the understanding of a medical student about fundamental aspects of eye donation. Medical students; the future doctors, also play a pivotal role in spreading awareness amongst the patients encountered, the family members, friends, etc. The outcome shows that the students had a good awareness of eye donation, although 66.2% of the undergraduate medical students were unaware that India is not the leading country in the number of eye donations.

The questions in the 2<sup>nd</sup> section assessed the knowledge of eye donation. 90% of the participants were aware that eyes could not be removed any time after death but within 6 hours. 56.4% of the students did not know that eye donation can cure only corneal blindness. 21.4% of the students were unaware about transportation after enucleation. This knowledge is important in counseling /answering any person regarding eye donation. The medical could be actively involved as volunteers in eye donation campaigns, wherein after proper training in counseling techniques, they can act as counselors for eye donors.<sup>10</sup>

For majority of the participants the source of information was from the doctors (40.3%) and from the internet (34%).

**Table 1:**

Question	Yes	No	Don't know
1. The whole eye of a donor can be implanted to a blind person	54(24.1%)	158(70.5%)	12(5.4%)
2. Child's eye can be used as a donor eye	121(54%)	71(31.7%)	32(14.3%)
3. Eyes are removed only after death	(94%)	(5%)	(1%)
4. Consent of the family is required for pledging	138 (61.6%)	79 (35.3%)	7 (3.1%)
5. India is the leading country in the number of eye donations	75(33.8%)	55(24.8%)	92(41.4%)
6. Do you know where the nearest eye bank is?	122(54.5%)	73(32.6%)	32.6(12.9%)

**Table 2:** Shows the knowledge of medical students on eye donation.

Question	Yes	No	Don't know
1. Eyes can be removed any time after death	9(4.1%)	200(90.1%)	13(5.9%)
2. Enucleated eye can cure only corneal blindness	96(43.6%)	48(21.8%)	76(34.5%)
3. Enucleated eye can be stored for 2-3 days on moist chamber at 4 °C	96(43.2%)	30(13.5%)	96(43.2%)
4. Transportation should be done within 2-3 days of removal	120(54.5%)	53(24.1%)	57(21.4%)
5. HLA matching plays a significant role in corneal transplantation	90(40.7%)	105(47.5%)	26(11.8%)
6. Synthetic substitution is available	97(44.1%)	57(25.9%)	66(30%)

The level of knowledge of students is an important determinant in promoting eye donations as they are the to-be healthcare workers. A medical graduate is the back bone of the health care system of a country as he can play a proactive role in health education and promote activities like eye donation along with other national programs. In developing countries like India, the ultimate decision to donate eyes of their kith & kin is with the family members or the head of the family. There is a fair possibility that many potential donors may be missed out for the lack of knowledge if doctors fail to convince & counsel the next of the diseased about the importance of eye donation. A good knowledge about eye donation is essential for a doctor to answer the doubts raised by the relatives or family members of the donors with confidence & conviction.

## 5. Conclusion

The outcomes of our study showed that the majority of the medical students are aware of eye donation but lack sufficient knowledge to promote eye donation awareness in the community. A medical student can be actively involved in eye donation campaigns and awareness programs and interact regularly with the community. With sound knowledge and attitude, he can bring in a change in the mindset of the community by better understanding the facts about eye donation and help to increase the number of donors, thereby contributing to the eradication of corneal blindness

## 6. Source of Funding

None.

## 7. Conflict of Interest

None.

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