

# Study to Assess the Awareness and Perception of Eye Donation among Medical Students

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## Research Article

**Abstract:** Corneal transplantation remains a major treatment option for restoring sight among those suffering from corneal blindness. The number of corneal transplants done is far less than the actual requirement in India. This is largely due to the inadequate numbers of corneas collected. Medical students can be involved in the motivation of patients and relatives to pledge their eyes and to do grief counseling for donating eyes. The aim of the study was to assess the perception and willingness of 400 first-year medical students towards eye donation in Maharashtra. They were administered a pretested semi-structured questionnaire on eye donation. Data were analyzed using Epi-Info software package 6.04 version. The majority (99.6%) of students knew that eyes can be donated after death but only 40% knew that the ideal time of donation was within six hours of death. Most participants (83.5%) were willing to donate eyes, 89.5% students were aware that there is shortage of donated eyes in India. Nobility in the act of eye donation was the main motivational force for eye donation according to 86.2% of students. Perceived reasons for not pledging eyes by the people were: lack of awareness (31.8%), objection by family members (27.7%), unsuitability to donate because of health problem (16.6%) and the unacceptable idea to separate the eye from the body (15.1%). Mass media such as television, newspapers, magazines and posters were important sources of information on eye donation. Perceived reasons for not donating eyes need to be considered while creating awareness about eye donation in the community.

**Keywords:** Blindness, corneal transplantation, eye donation.

## Introduction

Corneal diseases constitute a significant cause of visual impairment and blindness in the developing world. The major causes of corneal blindness include trachoma, corneal ulceration following xerophthalmia due to vitamin A deficiency, ophthalmia neonatorum, and use of harmful traditional medicines, onchocerciasis, leprosy and ocular trauma.[1],[2],[3] The Andhra Pradesh Eye disease study (APEDS)[4] reported the prevalence of corneal blindness at 0.13% (95% CI: 0.06-0.24), constituting 9% of all blindness. APEDS also suggested a significant burden of corneal blindness in the rural population of Andhra Pradesh, of which 95% was avoidable. Although strategies to prevent corneal blindness are likely to be more cost-effective,

visual rehabilitation by corneal transplantation remains a major treatment option for restoring sight in those who already have corneal blindness.[4] Approximately 18.7 million people are blind in India[5] and 1,90,000 are blind from bilateral corneal disease. Every year another 20,000 join the list. This problem is compounded by a low level of annual procurement of donor eyes which is 18,000 annually as per a report of the National Programme for Control of Blindness and Eye Awareness.[6] The late Dr. Muthiah started the very first eye bank in India and he performed the first corneal transplant successfully in 1948.[7] Even after more than 50 years, patients waiting for corneal transplants constitute a considerable backlog which is growing. The need, therefore, is to educate the masses about eye donation in an effort to increase the procurement of corneas.[8] Well-informed medical students could be expected to influence eye donation rates.[8] Education of physicians early in their courses may lead to better procurement rates for donor organs.[9] This study was designed to assess the perception of first-year medical students towards eye donation and their willingness to pledge eyes.

## Materials and Methods

This was a cross-sectional study, undertaken in August 2012, among 400 first year medical students in Maharashtra. A pretested, semi-structured questionnaire (appendix) was self-administered for collecting the necessary information after getting informed consent. The questionnaire contained questions on demographic details, their awareness on eye donation, reasons for donating and not donating eyes by people as perceived by them, their intention to donate eyes and sources of information. The data were entered and analyzed using Epi-info software package version 6.04. Data were expressed in proportion

## Results

All 400 students participated in the study. The age

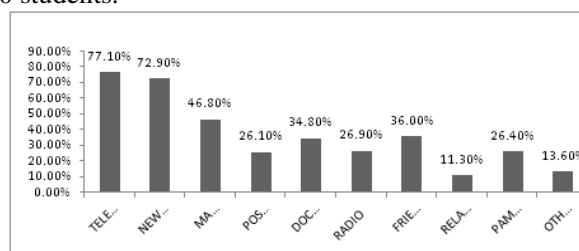
distribution of the students was: 18 years (88, 22%), 19 years (208, 52%), 20 years (78, 19.5%) and 21 years (26, 6.5%). There were 220 males (55%) and 180 females (45%). It was observed that 398 (99.5%) out of 400 students knew that eyes can be donated after death and ideally within six hours of death was known to 160 (40%) of 400 students. The contact place for donation was known to only 118 (29.5%) of 400 students. The majority of the participants, 334 (83.5%) of 400 students were willing to donate eyes.

objection by family members or disliking to separate the eye from the body as the single most important reason for not donating the eyes.

Reason for not donating eyes	Number	Percentage
Lack of awareness	21	31.8
Objection by family members	18	27.2
Unsuitability to donate because of health problems	11	16.6
Dislike of separating eyes from body	10	15.1
Feels body ill treated by eye donation	8	12.1
Religious restriction	8	12.1
Signing eye donation card is like signing a death card	5	7.5

Nearly half of the respondents, 89 out of 180 (49.4%) opined that donors' consent should be mandatory and it should be expressed before death, whereas according to 27 out of 180 (15%), consent should be mandatory but may be given by another adult family member. According to 56 out of 180 (31.1%), consent is not necessary but can donate if the donor alone wishes and among 8 out of 180 (4.4%), consent is not necessary but can donate if the family members of the donors wish to do so. Table shows that television was the most common source of information on eye donation in 308 (77%), followed by newspaper 291 (72.7%) and magazines 187 (46.8%) of 400 students.

Observations	Male	% (n=220)	Females	% (n=180)
Eyes can be donated after death	219	99.5	179	99.4
Donated eyes can be used for corneal grafting	184	83.63	150	83.3
Ideal time for donating eyes is within 6 hours after death	89	40.4	71	39.4
Knows a person who has donated eyes	2	0.9	1	0.5
Knows someone who has received donated eyes	-	0	1	0.5
Knows contact place for eye donation.	73	33	45	25
Knows there is a eye shortage in India.	200	90.9	158	87.7
Willing to donate eyes	180	81.81	154	85.5
Already pledged to donate eyes.	68	30.9	37	20.5
Knows contraindication of eye donation	1	0.4	1	0.5



The distribution of perceived reasons to the students for eye donation by the donors is shown in table. Nobility in the act of eye donation was the main motivational force according to 288 (86.2%) of the 334 students

### Discussion

In the present study 99.4% were aware that eyes could be donated after death. In a study among the south Indian population, 50.7% of participants were aware of eye donation. [10] In another study among hospital staff, 97% of them had well to excellent knowledge about transplantation of various human organs. [11] Information by mass media could be related to the high level of awareness in our study participants. A large number of students, 344 (86%) out of 400 knew that the donated eye is used for corneal grafting and less than 50% knew that the ideal time for donation is within six hours of death. A study on medical and nonmedical students also observed that 79.6% of medical students knew that eyes can be donated after death and 63.3% knew that it should be done within six hours. [8] Another study in the general population showed the awareness level on eye donation to be 73.8%. [1] In the present study, only 49 (27.2%) out of 180 students knew about appropriate place for eye

Reason for donating eye	Number	Percentage
Eye donation is a noble work	288	86.2
Pleasure to help blind	251	75.1
Donated eyes can give vision to a blind	221	66.1
Influenced after reading an article	232	69.4
A friend or relative has donated eyes	4	1.1
A friend or relative has received donated eye	1	0.2
Influenced by an lecture	21	6.2

Lack of awareness was cited as an important reason for people not donating their eyes among 21 (31.8%) of 66 students. Eighteen (27.2%) of 66 students each perceived

donation. A study done on final year medical students showed that 67.4% students could name a few eye banks.[8] This could be due to their increased knowledge in this field as compared to first-year students. Our study showed that 358 (89.5%) of 400 participants agreed that there is shortage of eye donors and 334 (83.5%) of 400 were willing to donate eyes. In a study among optometry students, 64.5% of the respondents were willing for eye donation.[12] Another study in the urban population observed that 73.8% were aware of eye donations and only 44.9% were willing to pledge their eyes.[13] Willingness to donate eyes was less (41.5%) even among relatives of post-mortem cases who were aware about eye donation.[14] High percentage of medical students willing to pledge their eyes is supported by another study done on final year medical students, where 83.7% were willing.[8] It was observed in a study that as the waiting list of patients requiring organ transplantation grows, there is a subtle but noticeable shift in the society towards accepting organs as a commodity, which can be paid for. It is essential to instill and promote human values in medical education to discourage such unscrupulous trade strongly, which exploits the poor. The prime reasons cited in the study for eye donation was nobility in the work by 154 (85.5%) and pleasure to help the blind by 141 (78.3%) of the 180 participants. But lack of awareness was the reason for people not donating eyes according to 59 (32.7%) of 180 respondents. Other reasons for not donating eyes included objection by family members, dislike of disfiguring the body, delaying of religious rites and religious restrictions. Similar reasons were also reported in other studies.[9],[12],[14] Mandatory consent for donation expressed before the death of the donor should form the basis for eye donation ideally. However, in case of unavailability of such consent, consent from adult family members of the deceased donor should be obtained for eye donation. In a study done on the responses of relatives of post-mortem cases, it was revealed that out of the potential post-mortem donors, only 44.3% of relatives of such cases gave consent for donation after intensive counseling.[14] Mass media in the form of television, newspapers, magazines and posters were important sources of information on eye donation. Other studies also found publicity campaigns and the media to be the major sources on this issue.[1],[10],[13] The present study revealed that first-year medical students were well aware about eye donation and most of them were inclined to pledge for eye donation. The perceived reasons for not donating eyes need to be

considered while creating awareness about eye donation in the community. The medical students 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. They can also contribute by participating in creating awareness and motivating the people for eye donation during their postings in the community medicine.

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