

## Study of Awareness Regarding Eye-donation among Medical Students of Akash Institute of Medical Sciences and Research Centre, Bengaluru

Vijay Kumar TS<sup>1</sup>, Chethan KS<sup>2</sup>

### Abstract

**Introduction:** A significant amount of visual disability and blindness is caused by corneal diseases. The cornea is the clear tissue covering the front of the eye. The vision is dramatically reduced or lost if the cornea becomes cloudy. This loss of vision is referred to as corneal blindness. Eye donation is an act of donating one's eyes after his/her death. It is an act of charity, purely for the benefit of society and is totally voluntary. The aim of the study is to assess awareness regarding eye donation among medical students of Akash Institute of Medical Sciences and Research Centre, Bangalore. **Materials and Methods:** This cross sectional descriptive study was conducted in department of Ophthalmology, Akash Institute of Medical Sciences and Research Centre, Bangalore. A total of 150 undergraduate MBBS 2<sup>nd</sup> year students were assessed for their awareness on eye donation. **Results:** In this study, 45% students did not know that eyes should be enucleated within 6 hours of death. Lack of awareness on eye donation was the major reason (47%) for not donating eyes. 70% students did not know the correct place and contact for eye donation. Majority of the students reported that Medical Personal as the major source of information (32%) on eye donation. 51% did not know that Cornea is the part which is to be used for eye donation. 71% students did not know that a near relative of the donor should give consent for eye donation. 77% students did not know that anybody can donate eyes. **Conclusion:** Medical students should be exposed to information about eye donation from 1<sup>st</sup> year itself as they are the future Doctors. They should be trained to counsel and motivate the relatives of patients for eye donation. There is a need of an intervention in the academic activities to increase awareness in medical students regarding eye-donation.

**Keywords:** Corneal Blindness; Eye Donation; Knowledge; Medical Students.

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### Introduction

A significant amount of visual disability and blindness is caused by corneal diseases. The cornea is the clear tissue covering the front of the eye.

It is a focusing element of the eye. The vision is dramatically reduced or lost if the cornea becomes cloudy. This loss of vision is referred to as Corneal blindness. It accounts for 5% of blindness in India. Approximately 18.7 million people are blind in India and 190,000 are blind from bilateral corneal disease. Every year, another 20,000 join the list.<sup>1,2</sup> Trachoma, corneal ulceration following xerophthalmia due to vitamin A deficiency, Ophthalmia neonatorum, use of harmful traditional medicines, onchocerciasis, leprosy and ocular trauma are the major causes of corneal blindness in the developing world. When the eye is affected only by corneal diseases, replacing with donor tissue will restore the vision. Corneal transplantation surgery, though not as common as cataract surgery, is performed at several eye hospitals in the country. Eye donation is

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an act of donating one's eyes after his/her death. It is an act of charity, purely for the benefit of society and is totally voluntary.<sup>3</sup> The eye donation of the deceased can be authorized by the next of kin and kin even if the deceased did not pledge to donate his/her eyes before death. In eyes affected only by corneal diseases, replacement of cornea with donor tissue can improve the vision remarkably. These days corneal transplantation surgery is performed in many hospitals. Eye donation is an act done voluntarily by the patient. The next kin and kin of the patient can authorize the eye donation even if the patient has not pledged his eyes. Age or systemic illness such as Diabetes, Hypertension, Heart Disease and Kidney disease are not barriers for eye donations. The corneas of a person are unaffected even if they have undergone eye surgeries in the past and hence can be transplanted in others.<sup>4-5</sup>

The vision is drastically reduced or lost if the cornea becomes cloudy. The late Muthiah started the very first eye bank in India and he performed the first corneal transplant successfully in 1948.<sup>6</sup> The practice of keratoplasty has witnessed phenomenal advances owing to innovations in instrumentation, surgical techniques, and perioperative care, resulting in improved outcomes and cost effectiveness. Even after more than 60 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. Till date, medical researchers and scientists are working on developing artificial cornea, but till that time, donating the eye would be the best gift ever for blind person suffering from corneal blindness. There are wide spread social awareness programs and activities conducted across the country to impart the knowledge regarding eye donation and its use to the visually impaired. Donated eyes can be used to restore vision in people suffering from corneal blindness. The front, clear and transparent tissue of the eye the cornea can be used to restore vision in a corneally blind person. The other portions of the eye are also used for research and training purposes to develop cures for other eye diseases. The main ease of corneal transplantation surgery is that no blood grouping and Rh typing is mandatory between the donors and recipient.<sup>7</sup>

Medical students are the future healthcare providers for the community. Well informed medical students can be expected to influence eye-donation rates. They can motivate people for the same during their postings in Community medicine. They can be actively involved as volunteers in eye

donation campaigns and after proper training, they can act as counselors for eye donation. The aim of the study was to assess the awareness regarding eye donation among medical students of Akash Institute of Medical Sciences and Research Centre, Bangalore.

### Objectives

(1) To test the knowledge about eye donation awareness as a special feature among medical students. (2) To try to fill lacunae in eye donation awareness program. (3) To assess the need to include eye donation content in syllabus.

### Materials and Methods

This cross sectional descriptive study was conducted in Department of Ophthalmology, Akash Institute of Medical Sciences and Research Centre, Bengaluru. A total of 150 undergraduate MBBS 2<sup>nd</sup> year students were assessed for their awareness on eye donation. A well-defined proforma was used to collect the details. Time period of 20 minutes was given to each student for filling up of proforma. Prior introductory lecture was taken to the students and that the answers would not in any way affect their academics and their non-influential response was expected from them. The collected data was kept confidential. Verbal informed consent to be obtained from all the students. Pre-designed, pre-tested, semi-structured questionnaire developed for the purpose, containing questions about the awareness of eye donation, source of information, their reasons for donating and not donating eyes, trying to eliminate assumption of their answers to the questions and some basic information about corneal transplantation was recorded in the Proforma.

### Results

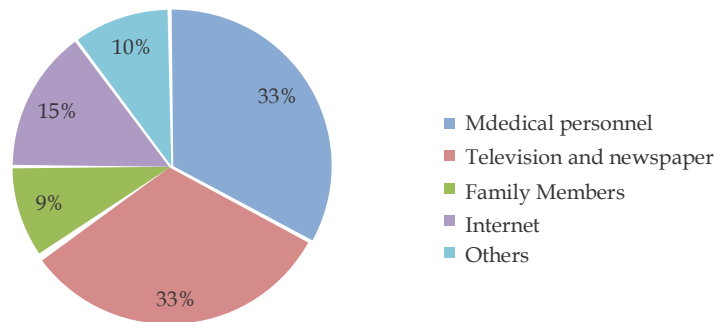
About 49% of the students knew that the donated eye is used to replace the Cornea of the recipient eye. Majority (70%) of the students did not know the correct place for eye donation. 45 out of 150 students (30%) believed that eye donation causes delay in the funeral process which lead to reduced donation rates. Majority of the students (70%) knew that identity of donor will not be revealed to the patient. Majority of the students (54%) knew that the ideal time for eye donation is within 6 hours of the death of the donor. Only 14% of students had history of Eye donation in their Families. Only 21% of students know that anybody can donate eyes &

**Table 1:** Awareness regarding Eye Donation

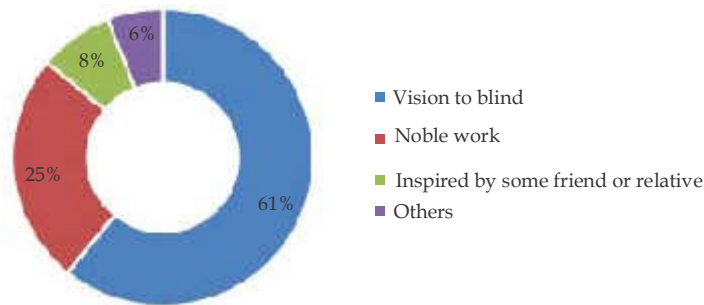
Awareness	Known (%)	Not known (%)
Donated eye is used to replace the Cornea	49	51
Knows contact place for eye donation	30	70
Eye donation causes delay in the funeral process	30	70
The donor details will not be revealed	70	30
Ideal time for donating eyes is within 6 hours after death	54	46
History of Eye donation in their Families	14	86
Anybody can donate eye	21	79
Donor should not have any disease	47	53
Knew the meaning of Keratoplasty	64	36

47% students believed that donor should not have any disease. Majority of the students 64% knew the meaning of Keratoplasty as illustrated in (Table 1, Charts 1 and 2).

Major source of information among medical students was that through medical personnel (33%) and television and newspaper (33%) played an equivalent role. Only 9% of the information was



**Chart 1:** The profile on perception on the Eye Donation



**Chart 2:** The sources of information about the Eye Donation

through family members and 15% came to know about eye donation through internet. Majority of the students (61%) considered eye donation as it can give vision to blind, whereas 25% believed it to be a noble work & only 8% were inspired by some friend or relative who had donated eyes which signifies the low level of motivation for eye donation.

**Discussion**

Medical students can play a huge role in eye donation programs as they are the future Doctors.

If they have the right knowledge regarding eye donation, they can increase the number of eye donations. Though Mandatory consent for donation expressed before the death of the donor should form the basis for eye donation ideally, in case of unavailability of such consent, adult family members of the deceased can give consent. Newspapers, television, magazines and posters were important sources of information on eye donation. In our study, 150 medical students were surveyed about their awareness regarding eye donation. The knowledge that Cornea is the part of the eye which is used for transplantation was known to only 49% students in our study.

Medical students are the future Doctors and can play a huge role in eye donation programs. They can increase the number of eye donations if they have the right knowledge regarding eye donation. In our study, 150 medical students were surveyed about their awareness regarding eye donation. The knowledge that Cornea is the part of the eye which is used for transplantation was known to only 49% students in our study. Though medical students are from science stream during school, only 49% of them knew that cornea is the part of the eye used for corneal transplantation. This stresses on the fact that teaching about organ donation should start in school itself. In our study, 70% did not know the contact place for eye donation, similarly in the study by Sadana *et al.*,<sup>8</sup> 26% knew the contact place for eye donation. Our study shows that the major source of information among medical students was that through medical personnel (33%) and television and newspaper (33%) played an equivalent role. Only 10% of the information for eye donation was through family members and 15% came to know about donation through internet.

In the study by Gupta *et al.*,<sup>2</sup> television was the most common source of information on eye donation. Only 13% answered that medical teacher or doctor was the source of information. 14% students knew about eye donation from camps which they had attended which shows that students should be trained as volunteers of eye donation campaigns, which can increase their knowledge about eye donation.

In our study, the ideal time for eye donation is within six hours of death was known to only 54% of students. It was observed by Gupta *et al.*,<sup>2</sup> that the same was known to only 57% of students. Maximum knew that eye donation does not cause disfigurement of the donor. 27% answered that there is delay in funeral arrangements. In our study, only 27% students knew that only near relative can give consent for eye donation. In a similar study by Kumar *et al.*,<sup>9</sup> it was 18%. Our study shows that 64% knew that the donor or recipient family is not told who donated or received the cornea. In our study, only 20.89% of the students knew that anybody can donate eyes and about 48% students believed that donor should not have any disease. Only 4% knew a person who had donated eyes and only 1% knew a person who had undergone corneal transplantation. Our study shows that majority of the students (59%) considered eye donation as it can give vision to the blind, whereas 25% believed it to be a noble work and only 8% of the students were inspired by some friends or relatives who

had donated eyes which signifies the low level of motivation for eye donation our findings suggests that there is a great need to educate students in medical profession about eye donation and the misconceptions regarding eye donation should be removed. This will enable them to become better future motivators for enhancing eye donation rates.

In our study, the lack of awareness was the major reason for not donating the eyes (40%) and 15% of the students were afraid of the invasive procedure for eye donation. 13% considered religion to be an obstacle in the donation and 14% of the students were superstitious regarding the eye donation. Similarly according to the study by Gupta *et al.*,<sup>2</sup> among medical students lack of awareness was cited as an important reason for people not donating their eye among 32.7% of students. Majority of the students (54%) knew that the ideal time for donation is within 6 hours of the death of the donor. Majority of the students 64% knew the meaning of keratoplasty. In our study, 37% students had average knowledge about the general aspects of eye donation whereas 49.3% had good knowledge about the same. 57.59% had good advanced awareness about eye donation. This study results were supported by Dandona R *et al.*,<sup>10</sup> and Priyadarshan B *et al.*<sup>11</sup>

## Conclusion

Medical students of 2<sup>nd</sup> year MBBS were assessed for their awareness and attitude on eye donation

1. 70% did not know the correct place and contact for eye donation.
2. 46% students did not know that eyes should be enucleated within 6 hours of death.
3. 71% did not know that a near relative of the donor should give consent for eye donation.
4. 77% students did not know the fact that anybody can donate eyes.
5. 50% of the students did not know that cornea is the part which is to be used after eye donation.
6. Majority of the students reported Medical personnel as the major source of information 32% on eye donation.
7. Lack of awareness on eye donation was the major reason (40%) for not donating eyes.

When Doctors play an active role in health education, they can improve the health in a community. Good knowledge and attitude of medical students are important in promoting eye

donations as they are the future potential Doctors. In many countries including India the decision to donate eyes ultimately lies with family members. If Doctors fail to approach family members about the possibility of eye donation to answer questions of concerns of family members after death of the donors, many potential eye donors can be missed. In our country with so many cases of corneal blindness, there is a strong need for developing effective means of procuring corneas. Medical students should be exposed to information about eye donation from 1<sup>st</sup> year itself as they are the future Doctors. They should be trained to counsel and motivate the relatives of patients for eye donation. More information regarding organ donation is the need of the hour for Medical students.

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