

## AWARENESS OF EYE DONATION AMONG MEDICAL STUDENTS

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### ABSTRACT

#### BACKGROUND

The blindness due to corneal aetiology accounts for 0.9% of blindness in India. Corneal transplantation is the major treatment option for them. The lower rate of eye donation is the major obstacle to this procedure. Twenty-two thousand eyes are collected every year in India, which only serve half the requirement of corneal transplantations. Medical students who are future medical practitioners can be a good motivator for this eye donation.

#### MATERIALS AND METHODS

To assess the awareness of eye donation among medical students, we did a cross-sectional study enrolling 112 fourth year MBBS students on the occasion of eye donation fortnight in the year 2015. A pretested semi-structured questionnaire was given to each student to conduct the study.

#### RESULTS

All the students knew that eyes can be donated after death, but only 68.7% knew that the ideal time of donation was within 6 hours of death. Most students (88.4%) were willing to donate eyes. Eye donation can give vision to the blind was the motivational force for eye donation according to most of the students. Lack of awareness (87.5%) and objection by family members (61.6%) were the main perceived reason by the students for not pledging the eyes for donation. Television, newspapers, magazines and posters were found to be the important sources of information about eye donation.

#### CONCLUSION

The study revealed that though the majority of medical students were aware of eye donation practices, still there is lack of knowledge among students, which need to be considered. As the medical students are one of the knowledge group of community, their perception regarding non-donation of eyes by the people can be considered, while creating awareness about eye donation.

#### KEYWORDS

Eye Donation, Pledging, Medical Students.

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#### BACKGROUND

The cornea is one of the major refracting media of the eye. The vision of a person is grossly reduced if the transparency of the cornea is lost. In developing world, corneal diseases contribute significantly to visual impairment and blindness. Trachoma, xerophthalmic corneal ulcer, ophthalmia neonatorum, harmful traditional medicine use,

onchocerciasis, leprosy and ocular trauma are the major causes of corneal blindness.<sup>1-3</sup> The current estimated blind population of India is 15 million. Out of which, 6.8 million suffer from blindness whose vision is less than 6/60 in at least one eye. Of these 6.8 million, around 1 million people are corneal blind bilaterally.<sup>4</sup>

The first eye bank in India was started by Muthiah in 1948 and he performed the first successful corneal transplant in India.<sup>5</sup> Now, after 70 years of the establishment of the concept of eye bank, the patients who are waiting for corneal transplant still constitute a major backlog in the society. Year by year, the need for corneal transplant is continuing to grow. The main obstacle for the corneal transplant in India is lack of awareness of eye donation. So, education about eye donation in the community is highly essential to increase procurement of the cornea.

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Though the factors affecting the procurement of cornea and the public attitude towards eye donation have recently received attention in the developed world, not much has been published from the developing world. But, the scope for improving the eye donation awareness in this part of world are numerous. The way through which we can create awareness about eye donation in developing world is to be explored as the corneal blindness in the developing world is continuing to grow.

Medical students are the future healthcare providers in the community. They are from different educational backgrounds with a scientific base and have an inherent motive to serve mankind. The medical students who are well-informed about eye donation could be expected to influence eye donation rates. The sensitisation of medical students early in their courses may lead to better procurement rates for donor cornea.

## MATERIALS AND METHODS

On the occasion of eye donation fortnight 2015, we did a cross-sectional descriptive study on the fourth year medical students in their classroom. The consent for conducting the study was taken from all students. We chose the fourth year medical students as our samples because they are sensitised about the ophthalmology subject and they have a slight orientation about the eye donation. The students on whom the study was conducted were unaware of the planned study by us.

**Inclusion Criteria-** The total strength of the class was one hundred and fifty. Out of one hundred fifty students, the students who attended on that particular day was 132. More than 50% of questionnaires were completed by 112 students. These 112 students were included in our study.

**Exclusion Criteria-** All the students who were absent on that day and those who did not complete the answer of a minimum of 50% of questionnaires were excluded from our study.

A pre-tested semi-structured questionnaire was distributed to each student in the classroom. The questionnaire contained questions on demographic details, awareness regarding eye donation, reasons for donating and not donating eyes, intention to donate eyes and sources of information for eye donation, etc. The questionnaires, which were used for conducting the study was shown in Figure 1. The responses given by the students were analysed and expressed in percentage.

QUESTIONNAIRE FOR EYE DONATION FORTNIGHT 2015		
EYE BANK, DEPARTMENT OF OPHTHALMOLOGY, VSS INSTITUTE OF MEDICAL SCIENCE & RESEARCH, BURLA		
Name-	Age-	Sex - M / F
1. Have you heard about eye donation?	Yes/No	
1(a). Do you know about eye donation fortnight?	Yes/No	
2. How do you know about eye donation.(Multiple Response)		
Television	Friends	Poster
Newspaper	Pamphlets	Doctor
Magazine	Radio	Other
3. Can one donate eyes when he/she is alive?	Yes/No	
4. Do you know a person or Family members who has donated eye?	Yes/No	
5. Do you know a person who has received a donated eye?	Yes/No	
6. Do you know where to contact for eye donation?	Yes/No	
7. Appropriate place for eye collection-	Hospital/Home/Both	
8. Ideal time of eye collection from a donor is-		
Immediately after death / with in 4-6 hrs of death / 6-12 hrs of death / 12-24 hrs of death		
9. Which part of the donated eye is used for transplantation?	Cornea / Eyeball / Both	
10. Contra indication for eye donation is all except-	HIV / Ocular malignancy / Diabetes / Rabies	
11. Pledging means: Taking a pledge during life time to donate one's eye after death.		
True/False		
12. Prior pledging during life time is mandatory for eye donation.	Yes / No	
13. A family member can donate eyes of a deceased person even in absence of pledging for Eye donation by the person him/her self during life time	Yes/No	
14. Whether consent of family member / near relative is required before eye donation of a dead person.	Yes/No	
15. Do you know that there is scarcity of eye for transplantation in India?	Yes/No	
16. Do you know about organ donation act?		
Yes/No		
17. Have you heard about eye bank where preservation of collected eye is done		
Yes/No		
18. What is the motivational force for eye donation (multiple responses)		
Eye donation is noble work		
Pleasure to help the blind		
Donated eye can give vision to a blind		
Influenced after reading an article		
A friend or relative has donated his/her eyes		
A friend or relative has received a donated eye.		
Influenced by any lecture.		
19. What is the perceived reason you think to non donation of eyes.		
Lack of awareness		
Objection by family members		
Feels body ill treated by eye donation		
Dislike of separating eyes from body		
Unsuitability to donated eye because of health problems		
Religious restriction in separating eyes from the body after death		
Signing eye donation card is like signing death certificate.		
20. Are you willing to donate your eyes by pledging ?	Yes/No	
21. Are you willing to help in eye donation movement by-		
(a) Creating awareness on eye donation among Family members & people around you?		
Yes/No		
(b) Motivating Family members & people around you for pledging to donate eyes after death ?		
Yes/No		
(c) Motivating Family members & people around you to donate eyes in case of death ?		
Yes/No		

**Figure 1. Pre-Tested Semi-Structured Questionnaires Prepared for the Study**

RESULTS

Out of 112 students who were included in our study, 64 were males (57%) and 48 were females (43%). All the students knew that eyes can be donated after death, but the time within, which it should be collected was not known to all the students. 69% of them knew that the ideal time of donation was within 6 hours of death and 15% of had an idea that eye should be collected immediately after death. The responses marked by the students for the ideal time for collection of eyes was depicted in Figure No. 2.

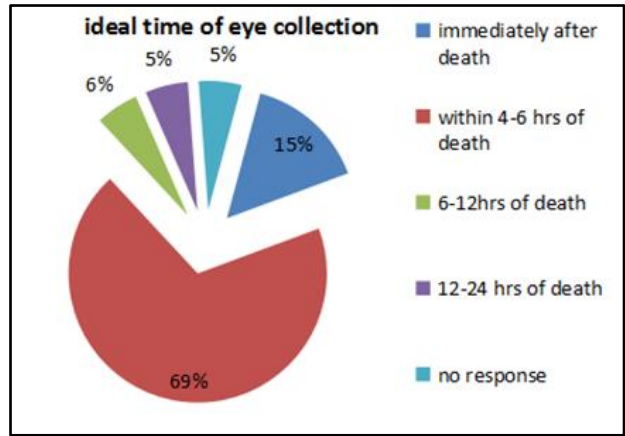


Figure 2. Responses for Ideal Time of Collection of Eyes

88.4% students were willing to donate their eyes in our study. The main motivational force to donate eyes was donation of eyes can give vision to the blind. The other reason for willing to donate eyes were eye donation is a noble work, a pleasure to help blind, influenced after reading an article, a friend or relative has donated his/her eyes and influenced by lectures on eye donation. Figure 3 describes the distribution of responses for the motivational force for eye donation among students in our study.

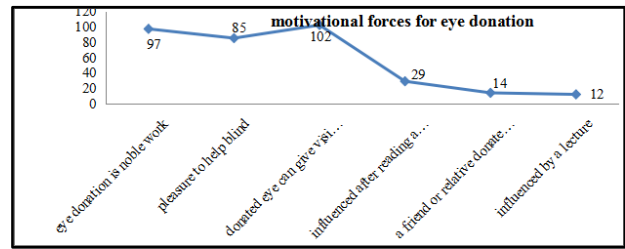


Figure 3. Response for Motivational Forces for Eye Donation

54% students believed that prior pledging during the lifetime is mandatory for eye donation. 46% students knew that a family member can donate eyes of a deceased person even in the absence of pledging during his lifetime. 89% students knew about the scarcity of eye for transplantation in India. 60% students knew about organ donation act. 84% students had heard about eye bank for the preservation of collected eye.

The perceived reasons for not pledging the eyes by the people for eye transplantation are shown in Table 1. The most common response was lack of awareness by 87.5% of

students. The reason for not pledging the eye was tabulated as follows-

Reason	Number (Multiple Responses)	%
Lack of awareness	98	87.5
Objection by family members	69	61.6
Feels body ill-treated by eye donation	30	26.7
Dislike of separating eyes from body	34	30.3
Unsuitability of donated eye because of health issues	31	27.6
Religious restrictions	36	32.1
Signing eye donation card is like signing death certificate	6	5.3

Table 1. Perceived Reason By Students for not Pledging the Eyes

The most common source of information for students regarding eye donation was the television (20%). Other source of information for eye donation were newspaper (18%), poster (11%), pamphlet (6%), magazine (9%) and radio (6%). Most of the students had given multiple responses for this question. The responses to this questions were depicted in Figure No. 4.

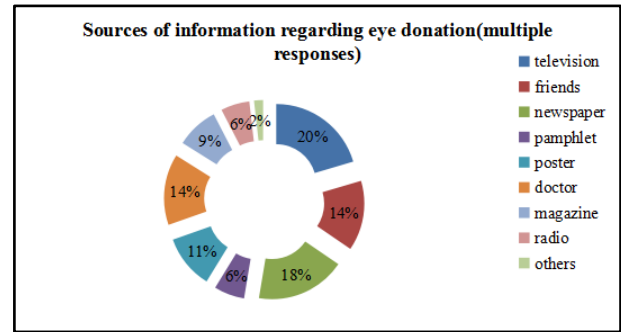


Figure 4. Responses Given by Students for Sources of Information Regarding Eye Donation

DISCUSSION

Eye donation is one of the noble donation among all the donations in the world. Creating awareness about eye donation in the society is a challenging job. A grief counsellor is a person who counsels the relative of the dead person and motivates them to donate the eyes. They plays an important role in the society to improve the number of eyes collected for transplantation. Grief counselling of relatives for eye donation is again a more difficult part. But, to be good counsellor for eye donation, knowledge regarding the topic is highly essential. Medical students who are the future medical practitioners can be a good motivator and grief counsellor for this noble eye donation. So, creating awareness about eye donation by different activities like meeting, rallies, conducting a seminar, cultural events, fixing to hoard at public places, distributing pamphlets and quiz programme are highly essential for the community. We tried one of the attempts by conducting such a study on the occasion of eye donation fortnight 2015. In India, eye donation fortnight is celebrated every year from 25<sup>th</sup> August

to 8<sup>th</sup> September since 1986 following the pledging of eyes by the late Prime Minister of India, Shri Rajiv Gandhi on his birthday, i.e. on 25<sup>th</sup> August.<sup>6</sup> After this pledging, more and more public got motivated for eye donation.

In our study, awareness regarding the ideal time of eye donation after death, which is within 6 hours of death was found to be 69% of students. The study by Gupta et al on nursing students only 72 (38.2%) of the 182 students knew that ideally eyes should be donated within 6 hours of death, whereas in a study by Dodia et al 52% students knew the ideal time for eye donation.<sup>7,8</sup> This shows the level of awareness in our study was slightly higher among the medical students. 54% students in our study believed that prior pledging during a lifetime is mandatory for eye donation, whereas 46% students knew that a family member can donate eyes of a deceased person even in the absence of pledging during his lifetime. 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, any adult family members of the deceased donor can give consent for eye donation. In fact, it is the family member of the deceased person who is to be motivated for eye donation as most of the time pledge card for eye donation is not available. 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.<sup>9</sup> Media like television and newspaper will play a major role in motivating the family member of the deceased person to donate the eye. Doctors being closely associated with the family member during the treatment of the deceased person can counsel for eye donation.

Willingness for eye donation was seen in 88.4% of students in our study, which is consistent with a study by Dhaliwal where the respondents were willing to be eye donors in 87.8% of cases.<sup>10</sup> In our study, lack of awareness (87.5%) and objection by family members (61.6%) were the perceived reasons for not pledging eyes by the majority of the students. In contrast, Gupta et al in their study found that 79% of students knew that there is a deficiency of donor tissue in the society and 38% answered that religious authority do not approve for donating one's eyes. Our findings suggest that there is a great need to educate students in the medical profession about eye donation and

the misconceptions regarding eye donation should be resolved. This will enable them to become better future motivators for enhancing eye donation rates.

## CONCLUSION

The study revealed that majority of medical students were aware of eye donation practices. But, to get 100% awareness among medical students, medical teachers should put extra effort in the classroom. Medical students being the future medical practitioner in the society will play a major role in grief counselling for eye donation.

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