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Dr. Kedar Nemivant
Associate Professor,
Department of
Ophthalmology, IIMSR
Medical College, Badnapur,
Maharashtra, India

Dr. Shaikh Najamuddin
Junior Resident, Department
of Ophthalmology, IIMSR
Medical College, Badnapur,
Maharashtra, India

Corresponding Author:
Dr. Kedar Nemivant
Associate Professor,
Department of
Ophthalmology, IIMSR
Medical College, Badnapur,
Maharashtra, India

Study of knowledge, practice about eye donation among medical and paramedical students in eye OPD

Dr. Kedar Nemivant and Dr. Shaikh Najamuddin

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Abstract

Background: Eyesight is very important for human life. The World Health Organization (WHO) estimates that every 5 seconds someone goes blind. Globally, 37 million people are blind, and of these nearly 10 lakh blind people are willing for corneal transplantation.

Aims: The aim of the study was to assess the knowledge, attitude, and practice regarding eye donation among the students.

Materials and Methods: The data were collected by the questionnaire method from medical and paramedical students at. Data collected from the participants were analyzed using percentages and descriptive statistics.

Results: The participants were well aware of eye donation (99.2%) quoting media as a major source of information for their knowledge. Attitude regarding eye donation in few (45.6%) was different as it was against their religious belief, although they said it was a service to the mankind (92%). Out of the 250 students, 48% were willing to pledge and 52% of students did not believe in pledging their eyes.

Conclusion: The findings of the study showed that overall knowledge about eye donation among students was good, however the attitude and practice showed mixed responses.

Keywords: Attitude, eye donation, knowledge, practice

Introduction

Eyesight is very important for human life. The World Health Organization (WHO) estimates that for every 5 seconds someone goes blind. Corneal diseases constitute a significant cause of visual impairment and blindness in the developing world. With 7.8 million blind people in India, the country accounts for 20% of the 39 million blind population across the globe, of which 1% are on account of corneal blindness (WHO visual impairment and blindness fact sheet June 2012) [1]. Though there has been progress in eye donation only 53543 eyes were collected in the year 2012-2013, whereas the target was approximately 60,000 according to the National Program for Control of Blindness 2012-2013 [2]. According to the Eye Bank Association of India, the current cornea procurement rate in India is 22,000 per year. It is estimated that a significant proportion of donor corneas are unsuitable for corneal transplantation [3]. Based upon our current ratio of available safe donor eyes, we would need 277,000 donor eyes to perform 100,000 corneal transplants in a year in India [4]. This is approximately a 20-fold increase from the donor eyes available now. Shortage of transplantable corneas is common, and has been the subject of much attention. To increase procurement of corneas, raising the level of public education on eye donation is an important first step. Soliciting for actual eye donation at the time of family death is a necessary and accepted practice [4]. Though the factors affecting procurement of corneas and the public attitude towards eye donation have recently received attention in the developed world, [5] not much has been published from the developing world [4]. The purpose of this study is to spread awareness for eye donation among medical and paramedical students at a tertiary eye care centre.

Materials and Methods

Awareness was defined as having heard of eye donation. Knowledge was defined as "if the participants had some understanding about the use of the donated eye like replacing a part of another eye or for replacing the cornea of another eye". Attitudes were defined as "personal views, opinions, or feelings on eye donation/corneal transplant". Practice was defined by "participants who had heard about eye donation were willing to pledge eyes for donation." Two hundred fifty students were included in the study.

The data were collected by questionnaire method from medical and paramedical students. We used a structured questionnaire to elicit responses. We included questions regarding awareness of eye donation, sources of information, awareness of corneal transplantation, and religious beliefs. Questions were administered in the local language. We also collected demographic details from respondents including age, gender, and education.

Knowledge of the respondents was assessed through questions regarding meanings of the terms "eye donation", source of information for their knowledge, ideal time for retrieval of eyes, whether eye donation causes disfigurement of face, and which part of the donated eye is used for transplantation. Attitudes of the respondents regarding eye donation was determined through questions regarding opinions on issues such as the willingness to donate eye in the future and influence of religion on attitude towards eye donation. Practices were determined by, after counselling, whether the participant agreed to fill the pledge form, whether the participant agreed to motivate other family members/friends to fill the pledge form of eye donation, and whether the participant agreed to spread the knowledge regarding eye donation to others.

Questionnaire

1. Age/gender.
2. Religion and education.
3. Heard about eye donation: Yes/No.
4. If yes, source of awareness: Family/doctors/friends/media.
5. Do you think eye donation will be a service to mankind? Yes/No.
6. Is eye donation against your religious beliefs? Yes/No.
7. Whether eyes can be donated only after death? Yes/No.
8. Are you aware of the ideal time to retrieve eyes after death? Yes/No.
9. During transplantation which part of the donated eye is used for transplantation: Only cornea (layer in front of the black portion of the eye)/whole eyeball?
10. Eye donation causes disfigurement of face of the donor? Yes/No.
11. The eyes can be removed at donor's house itself? Yes/No.
12. Family will be charged for donating organs, tissues and eyes: Yes/No.
13. History of medical illness is contraindication for eye donation: Yes/No.
14. Is there age limit for eye donation: Yes/No.
15. Can patients using spectacles donate eyes: Yes/No.
16. Person with eye problems like cataracts or glaucoma cannot donate their eyes: Yes/No.
17. Prior permission required for eye donation: Yes/No.
18. Is there an eye bank in our city? Yes/No.
19. Do you believe in myths like we will be born blind in the next life? Yes/No.
20. Are you willing to donate/pledge your eyes? Yes/No.

Results

Out of the 250 students. The participants were well aware regarding eye donation (99.2%) quoting media as a major source of information for their knowledge [Table 2]. Students were well aware that eyes could be donated only after death (82.4%), and that during transplantation only the front part of the eye or the cornea is used for replacing the recipients' cornea (93.6%). Majority were well aware of the

ideal time to collect eyeballs (74%) without causing disfigurement and eyes can be collected even at house itself (57.2%). Majority knew that eye donation being a novel cause was not charged (91.6%) and systemic illnesses, such as diabetes mellitus or hypertension, were not contraindications for eye donation (64%), even persons with spectacles and the one with cataracts or glaucoma without age limit (64%) can also donate the eyes [Table 3]. Attitude regarding eye donation in few (45.6%) was different because it was against their religious belief, although they said it was a service to the mankind (92%) [Table 4]. Practice regarding eye donation among these students showed a mixed response. Out of 250 students, 48% (120) were willing to pledge and 52% (130) students did not believe in pledging the eyes. In India there are various myths associated with eye donation that may prevent many people from donating their eyes.

Table 1: Distribution based on religion

Religion	No	Percentage (%)
Hindu	151	60.4
Muslim	51	20.4
Others	48	19.2

Table 2: Source of information

Source of information	No. of participants	Percentage (%)
Media	152	60.8
Doctors	62	24.8
Others	36	14.4

Table 3: Knowledge about eye donation

Responses	No	Percentage (%)
Aware about eye donation	248	99.2
Knew eyes can be donated after death	206	82.4
Knew ideal time for donating eyes is within sixhours after death	185	74
Participants knew that during transplantation, cornea of the donated eye is used for transplantation	234	93.6
Knew that the eyes can be removed at donor's house itself	143	57.2
Believed that eye donation causes		
Disfigurement of face of the donor	17	6.8
Knew not charged to donate eyes	229	91.6
Believed medical illness (diabetes/hypertension) is a contraindication	90	36
Knew no age limit for eye donation	160	64
Knew about prior permission for retrieval	232	92.8
Knew about eye bank facility	168	67.2

Table 4: Attitude regarding eye donation

Responses	No	Percentage (%)
Believe its a service to mankind (novel cause)	230	92
Said against their religious belief	114	45.6
Spectacle users cannot donate	36	14.4
People with cataracts and glaucoma cannot donate	45	18
Belief in myths	17	6.8

Discussion

Corneal transplantation offers the potential for sight restoration to those who are blind from corneal diseases. This, however, is dependent on people willing to pledge their eyes for donations. Although 99.2% of the participants were aware of eye donation, the willingness to donate eyes was seen in only 48% of the participants. This finding of

better awareness than willingness to donate eyes was well observed in the study by Yew *et al.* in 2005 in Singapore (awareness 80.7% and willingness 67%)^[6]. Furthermore, the study by Tandon *et al.* in 2004, showed that the prior knowledge of eye donation, literacy, and socioeconomic status had no influence on willingness for eye donation and major reasons for not donating eyes included refusal to discuss the issue, legal problems, and religious beliefs^[7]. According to study by Bhandary *et al.*^[8] awareness of eye donation was observed in 69% of the participants. In our study, 57.2% of the participants knew that eyes could be retrieved at the house of the deceased. Among those who were aware regarding eye donation, 88% knew that eyes could be donated only after death whereas according to our study 82.4% knew this fact.

Disfigurement of the face as a result of eye donation was documented by 6.8% of the participants in our study. According to Bhandary *et al.*, no disfigurement of the face as a result of eye donation was documented by 76.2%. They also observed that the most important source of awareness was the media (55.4%) with newspapers topping the list (36.7%). According to our results, media was the most common source of information on eye donation in 60.8% of the participants. In our study, 60.4% of the Muslim participants felt that eye donation is against their religion. Many studies have shown that ethnicity has an important role in the willingness of organ donation. Studies show that there was poor awareness about the "Fatwa" regarding organ donation passed by the Muslim Law Council in 1995. According to fatwa, it is permissible to benefit from another person's organ or tissue which has been excised for medical reasons such as cornea. Probably, the reasons for the unwillingness could have been culture-specific issues, arguing against donation including a sense of the sacredness of the body, belief that it is important to have an intact body after passing away and fear of illegal trade in organs^[9, 10].

Thus, to realize the dream of reducing the burden of avoidable corneal blindness, the ophthalmologists, general physicians, nongovernmental organizations (NGOs), and especially religious leaders have to work in unison to educate and motivate people to donate eyes. There is also a great need to educate students in all fields, particularly those in the medical profession regarding eye donation; to enable the younger generation to act as future motivators for enhancing eye donation rates. This concept has legal sanction, where, if the dead person has not registered any objection to donating while alive, consent is presumed and eyes can be removed as required. This legislation has led to a manifold increase in the availability of corneal tissue. In India, we do not yet have such legislation; the government may consider the concept of "presumed consent" to boost eye donations. Such legislation would emphasize the government's commitment to the cause of eye donation. Another area of legislation is the "required request law", wherein it becomes mandatory for all healthcare staff, institutions coming into contact with bereaved families to make a request for eye donation. This requires legal sanction^[11].

Conclusion

The findings of the study showed overall knowledge regarding eye donation among students was good; however, the attitude and practice showed mixed responses. Effective measures should be taken to educate people with relevant information with the involvement of media, doctors, and

religious scholars.

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