Awareness about Eye Donation among Medical Students

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ABSTRACT

To assess the awareness about eye donation among undergraduate medical students. A cross-sectional descriptive study was carried out among 400 medical students studying in a tertiary medical college/hospital located in Tamil Nadu. The study tool used was a semi-structured google form questionnaire designed for assessing the awareness about eye donation among medical students. It was observed that the majority of the students (99.4%) were aware of eye donation. Media has been the primary source for this awareness. The cornea is the part of the eye used for transplantation, and only 238(59.6%) knew about this. The identity of the donor and the recipient will be kept confidential, and also the donors family will not be charged any money for the donation, but only 54% of the students were aware of this fact. Though the awareness was high, only 206(51.60%) were willing to pledge their eyes for donation. The study highlights the importance of educating medical students about eye donation as they play a significant role in helping the public in clarifying misconceptions and also increase the eye donation rates. The importance of consent over the telephone has also been emphasized in this study. Media can be used as a powerful tool in creating appropriate advertisements through television, newspapers, billboards and social media, which will be helpful.

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and willingness among the public, corneal transplantation is less, and this had become a significant problem in controlling blindness (Williams and Muir, 2018). Medical students can play a significant role in increasing awareness among the public. They can be actively involved as volunteers in eye donation campaigns, and well-informed students can influence the eye donation rates. This study was designed to assess awareness about eye donation among medical students.

METHODOLOGY

A questionnaire-based cross-sectional descriptive study was conducted among undergraduate medical students in Saveetha Medical College, Thandalam, Tamil Nadu. Based on a previous study (Bharti et al., 2009), the sample size was calculated to be 400 by the formula $4pq/d^2$. The Institutional Ethics Committee approved the study protocol, and the study was conducted according to the tenets of the declaration of Helsinki.

A semi-structured google forms e-questionnaire (Annexure 1) with 22 questions was circulated to the electronic communication devices of the students. The students were asked to choose the appropriate answers from the given options for each question in the e-questionnaire. The e-questionnaire was designed to assess the necessary knowledge and awareness about eye donation and also to know their willingness to pledge their eyes for donation. The values are expressed as percentage and number (within parenthesis).

RESULTS

Basic Knowledge Regarding Eye Donation

Out of the 400 students who participated in the study, 99.4% of the students were aware of eye donation. The source of awareness for eye donation was from media 38.6% (155), family members 26.1% (104), doctors 21.9% (87) and 13.50% (54) from other sources. (Figure 1) When questioned, if eyes could be donated only after death: 56.3% (225) of the respondents said yes, 25.6% (102) said no and 18.3% (73) were not aware of it. When asked, if they knew about the existence of an eye bank in their city and 53.3% (213) said yes, 18% (72) said no and 28.7% (115) were not sure. Only 59.6% (238) felt that cornea is the tissue being transplanted in eye transplantation whereas 5.3% (21), 5.3% (21) and 17.8% (72) felt lens, retina and the entire ball is being transplanted in the procedure respectively. Moreover, 17.8% (72) were not sure which part of the eyeball is being transplanted in the procedure.

Figure 1: Source of awareness

Figure 2: Ideal time for retrieval of an eye after the death

Figure 3: Is prior permission (before death) required for eye donation

Figure 4: Willingness among the students to donate eyes
Knowledge Regarding Eye Transplantation Procedure

For the ideal time for retrieval of an eye after death, 35%(140) answered it to be within 1 hour, 18.6%(75) said it was within 3 hours, 26.3%(105) said it was within 6 hours, and 20.1%(80) were not aware of the ideal time for retrieval of the eye after death. (Figure 2) When asked about the duration taken for the removal of the eye, 45.5%(182) answered it to be within 20-30 minutes, 14%(56) said it was within 30-40 minutes 8%(32) said it was within 40-50 minutes and 32.5%(130) were not sure. When asked regarding the person who conducts this procedure: 77.7%(311) answered it as a registered medical practitioner, 13.3%(53) said it was staff from the eye bank and 9%(36) said they were not sure.

Knowledge Regarding Other Donor Related Queries

Out of 400 students, 68.50%(275) of the students were aware that prior permission before death is required for donating eyes whereas 16.40%(65) of the students were unaware and 15.10%(60) were not sure about it. (Figure 3) When asked if the identities of both the donor and the recipient could be kept confidential: 66.7%(267) said yes, 7.5%(30) said no and 25.8%(103) were not sure about it. Almost 23.6%(94) felt that the donor’s family would be charged for donating the eyes, but 55.6%(223) felt the other way and 20.8%(83) were not sure. On the other hand, when asked if the donor’s family will be paid for the donation: 30.5%(123) said yes, 34.8%(139) said no and 34.7%(138) were not sure. Almost 24.6%(99) felt that eye donation could lead to marked disfigurement of the donor’s face, but 54%(216) felt the procedure would not cause any disfigurement and 21.4%(85) were not sure.

Knowledge Regarding Contra-Indications for Eye Donation

When asked if there was any age limit for eye donation: 52.5%(211) said yes, 29.3%(117) said no and 18.2%(72) were not sure. About 63%(252) felt that the use of spectacles by the donor is not a contraindication for eye donation. However, unfortunately, 9.3%(37) still believed that spectacle use is a contraindication and 27.7%(111) were still unaware of any specific answer. When asked further if patients with glaucoma and cataract could donate eyes: 36.6%(147) said yes, 33.3%(133) said no and 30.1%(120) were not sure.

Only 26.5%(106) knew that systemic conditions like hypertension and diabetes were not definite contraindications of eye transplantation, the rest felt the other way or were not sure. Similarly, only 52.8%(212) knew that AIDS and HEPATITIS B were definite donor contraindications for the transplantation; the rest felt the other way or were not sure.

Willingness to Pledge their Eyes

The attitude towards eye donation among medical students was assessed by asking if the students were willing to pledge their eyes for donation and 51.60%(206) were sure about donating their eyes, 13.90%(56) refused, and 34.50%(138) said they might consider eye donation in the future. (Figure 4)

DISCUSSION

Awareness about eye donation plays a significant role in encouraging the public to donate their eyes which is the only way to combat the increasing demand for corneal donation especially in a developing country like India where blindness due to corneal diseases is high. In this study, 99.4% of the students were aware of eye donation which is similar to the study by (Singh et al., 2007)

The primary source of awareness even among medical students was found to be from mass media in our study; thus, emphasizing the significant role media plays in creating awareness. The media must carry out more advertisements and campaigns regarding eye donation for a wider reach among the public and campaigns on television can create awareness even among illiterates and eventually increase the eye donation rates.

Tamil Nadu has 42 eye banks approved by the government of Tamil Nadu, but only 53.3% were aware of the existence of an eye bank in their city. Eye banks and eye bank training centres play a significant role in striking a balance between eye donation and donors because they are responsible for tissue harvesting, processing, distribution, creating public awareness as well as training professionals as reported by Gupta et al. (2018)

The cornea is the part of the eye that is transplanted but and 59.6% of the students were aware of this fact which is similar to the study conducted by Gupta et al. (2009) but lower than the study done by Lal et al. (2018) This could be due to the inclusion of first-year and second-year medical students who are not exposed to facts about eye donation.

A registered medical practitioner conducts eye transplantation and the ideal time for retrieval of eyes after death is 6 hours. A study by Bharti et al. (2009) reported that only 28.75% of the students from Malaysia knew about this, whereas our study reported that 45.5% of the students knew about this.
Knowledge regarding other donor-related queries

The identity of the donor and the recipient will be kept confidential, and also the donors family will not be charged any money for the donation. In a study conducted by Boniface (Eze et al., 2014) and (Lawlor et al., 2010) 10.45% and 18% respectively said eye donation causes facial disfigurement. But in our study, it has been reported that 54% of the students were aware of this fact. This may be due to better exposure in our curriculum. It is important that facts are to be known by the students because this knowledge helps in clarifying doubts and misconceptions that the public has regarding eye donation. This can be achieved by educating the students with facts about eye donation right from the beginning of their medical course.

Acquiring prior consent is a significant problem in eye donation. In this study, 68.50% of the students were aware that prior permission before death is necessary for eye donation. In a study conducted by Ting et al. (2016), it was found that consent over the telephone has been much more useful than getting consent face to face. If consent can be obtained from the family over a phone call, it will be a significant move in increasing the eye donation rates as it simplifies the process. If this method is adopted in a developing country like India, it will fasten the eye donation process and also increase the eye donation rates.

Patients with spectacles and conditions like diabetes, hypertension can donate their eyes, but conditions like AIDS and Hepatitis B are contraindicated for eye donation, and only a few were aware of this which is lesser than the findings reported by Murkey (2020)

In this study, though students were aware of eye donation, only 51.60% of the students were willing to pledge their eyes for donation. This finding is higher than the findings reported by Lal et al. (2018). Despite the awareness about eye donation, the number of students willing to donate their eyes was significantly lesser; this is because of lack of motivation and less interest towards eye donation. Also, proper teaching and exposure to eye donation must start in high school, which will motivate the students to pledge their eyes as well.

CONCLUSION

Medical students play a significant role in encouraging the general public to donate their eyes. For this to effectively happen, medical students must be taught the basic facts about eye donation from their first year of medical college. This will help them in clearing the misconceptions the public has towards eye donation. Media can be used as a powerful tool in creating appropriate advertisements through television, newspapers, billboards, and social media will be helpful.

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Conflicts of Interest

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