

Original Research Article

A cross sectional study on perceptions and promoting factors for eye donation among undergraduate medical students

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Received: 15 February 2023

Accepted: 16 March 2023

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ABSTRACT

Background: It is realized that voluntary corneal donation rate depends upon the level of awareness of various stakeholders in our society. The aim of the current study was to evaluate the characteristics that encourage eye donation among medical students.

Methods: This study was carried out using a pretested self-administered questionnaire, in the month of February 2022 among 350 undergraduate medical students of a medical college in central India. After classes ended, authors delivered questionnaires to students in the classrooms, explaining the nature and aim of the study and requesting them to participate in the study.

Results: 80% (280/350) of study subjects knew about eye donation. 54.8% (192/350) of study subjects were willing to donate their eyes. 89.1% knew that a big proportion of blindness is preventable. 98.6% of the study participants opined that vitamin A plays a significant role in preventing childhood blindness. three most important such factors as perceived by study participants were noble cause (44%, n=154), pleasure to support the blind people (36.3%, N=127) and inspiration from advertisement on TV by favorite actor (30%, N=105). 67.7% subjects said that blind religious beliefs are significant obstacle in eye donation.

Conclusions: Majority of students support active participation in the dissemination of knowledge, lack of awareness is the primary impediment to cornea donation. The course curriculum should include both fundamental eye care and other preventive and promotive elements of corneal blindness.

Key words: Perceptions, Promoting factors, Eye donation, Eye care, Medical students

INTRODUCTION

In the underdeveloped world, corneal disorders constitute a key factor in vision loss and blindness. One of the serious forms of blindness that can be avoided via adequate health education and traditionally treated through corneal transplantation for which awareness of eye donation is crucial, is corneal blindness. In India, there are over 18.7 million blind people, 190,000 of whom have bilateral corneal illness.¹ Corneal transplantation aids in their vision recovery. The Eye Bank Association of India reports that 22,000 corneas are currently purchased in India each

year.^{2,3} To fulfil the need for transplants in India, however, the present rates of corneal procurement are insufficient. According to the Andhra Pradesh Eye Disease Study (APEDS), which was done between 1996 and 2000 among Andhra Pradesh's rural population, the prevalence of corneal blindness is 0.13%, or 9% of all blindness.⁴ Based on the ratio of safe donor eyes that are currently available, 277,000 donor eyes are required to perform 100,000 corneal transplants in India each year.⁵ The number of cases of corneal blindness increases by roughly 20000 year.⁶ Since there are now only around 22,000 corneal transplants performed year, there is a rising backlog.⁷ Thus, there is a significant disparity between supply and

demand. It is realized that voluntary corneal donation rate depends upon the level of awareness of various stakeholders in our society. The community's stakeholders of future are today's medical students. The medical students are the community's future health care providers, and they have a scientific background and a natural desire to help people. By informing and encouraging the patient's family in the event of their passing, medical personnel can increase the percentage of corneal donation. Therefore, the aim of the current study was to evaluate the characteristics that encourage eye donation among medical students. Finding out what they thought about eye health care was another aim of this study.

METHODS

This study was carried out using a pretested self-administered questionnaire, in the month of February 2022 among undergraduate medical students of a medical college in central India. Undergraduate medical students (MBBS) who were enrolled for 1st and 2nd year in the institution formed the study population. The study planned to cover every student enrolled in the medical college's for 1st and 2nd year MBBS programme at the time. Excluded from the study were any study subject who could not be contacted even after the third attempt. After classes ended, authors delivered questionnaires to students in the classrooms, explaining the nature and aim of the study and requesting them to participate in the study.

A proforma containing 20 questions was prepared for the purpose of gathering sociodemographic data about the study participants, questions relating to various aspects of eye health care, eye donation, and factors that promote eye donation. Twenty students completed a pre-test of the questionnaire, which was then clarified by adding certain response alternatives and adjusted as necessary. Informed consent was obtained from study subjects. Study was approved by ethical committee of the medical college. Students were requested to return the filled questionnaires. Collected questionnaires were checked for completeness. Data was then entered in excel sheet. Data was analyzed by statistical software (SPSS version 21, IBM Chicago). The findings were presented by appropriate statistical methods.

RESULTS

Of total 400 students who were present in morning class, 355 could be traced and contacted after three modest attempts. Out of 355 medical students, 352 returned the filled proforma. Three proforma were found incomplete hence discarded. Thus, data of 350 subjects were included in the current study giving a response rate of 87.5 percent. Gender wise, 208 (59.4%) were males and remaining 128 (40.6%) were female students. 80% (280/350) of study subjects knew about eye donation. 54.8% (192/350) of study subjects were willing to donate their eyes.

Table 1: Knowledge of study participants on eye health care & eye donation (n=350).

Responses	N	%
A big proportion of blindness is preventable		
Yes	312	89.1
No	38	10.9
Vitamin A plays a significant role in preventing childhood blindness		
Yes	345	98.6
No	05	1.4
Green leafy vegetables and yellow fruits contain good amount of vitamin A		
Yes	282	80.6
No	68	19.4
After death of a person, eyes can be donated		
Within 6 hours	188	53.7
More than 6 hours	162	46.3
Blind religious beliefs are significant obstacle in eye donation		
Yes	237	67.7
No	113	32.3

Table 2: Responses of the study of study participants on source of information for eye donation (n=350).

Source of information on the subject of eye donation	N	%
Social media	144	41.1
Television	127	36.3
Health workers	80	22.8
Relatives	45	12.9
Family members	22	6.3
Medical literature	22	6.3
Magazines	5	1.4
Others	8	2.3

Regarding knowledge of study participants on eye health care & eye donation, of total 350 study participants, 89.1% knew that a big proportion of blindness is preventable. 98.6% of the study participants opined that vitamin A plays a significant role in preventing childhood blindness. 80.6% of them had knowledge about green light vegetables and yellow fruits contain a good amount of vitamin A. 67.7% subjects said that blind religious beliefs are significant obstacle in eye donation (Table 1). Regarding source of information on the subject of eye donation, of total 350 study participants, 41.1% obtained information about eye donation from social media. Television acted as source of information for 36.3% of them. 12.9% subjects received such information from their relatives (Table 2). Regarding promoting factors for eye donation, three most important such factors as perceived by study participants were noble cause (44%, N=154), pleasure to support the blind people (36.3%, N=127) and inspiration from advertisement on TV by favorite actor (30%, N=105). Inspiration after seeing a documentary or movie was seen as promoting factor for eye donation by 23.7% (n=83) subjects (Table 3).

Table 3: Promoting factors for eye donation as perceived by study participants (n=350).

Promoting factors for eye donation	N	%
Eye donation is considered as noble cause in society	154	44
It gives immense pleasure to support the blind people	127	36.3
I got inspiration from advertisement on TV by my favorite actor	105	30
I got inspired after seeing a documentary or movie	83	23.7
I got inspired by studying relevant literature on eye donation	58	16.6
I got influenced by ophthalmology subject	24	6.8
My relative received cornea transplant	12	3.4
It gives monetary benefits	7	2
My relative donated cornea	7	2

DISCUSSION

The majority of corneal blindness is preventable.⁸ Compared to treatment options like corneal transplantation, prevention strategies for corneal blindness are more cost-effective. According to India's eye donor statistics, there is a sizable and steadily expanding waiting list for corneal transplants. There were more than 10,000 patients with corneal blindness in the state of Haryana as of the 2010 Consolidated Report for the Eye Donation Centers under the Nehru Drishti Yojana. In order to boost the supply of corneas, it is critical in the current scenario to raise awareness of eye donation among potential donors. In the current study, 280 out of 350 students (80%), had heard about eye donation. In contrast, Delhi-based research on medical students found that 99.4% of the participants were aware of eye donation.² This distinction may be explained by the fact that our study location is part of a rural institution in Uttar Pradesh. 50.7% of respondents in a different study of the south Indian population knew of it.⁹

The current study found that a significant portion of students (98.6%) were aware of vitamin A's crucial contribution to the prevention of childhood blindness. It is insufficient to use the media to raise consciousness about corneal blindness, eye health care to prevent it, and eye donation to treat it. Given the significance of students to our society, there is an urgent need to educate them. If they are informed on the causes, treatments, and prevention of corneal blindness, they may spread the word to their friends and relatives, serving as vital motivators. It's crucial to correct their ignorance about eye donation as well. Although hospital medical staff has been effective in obtaining organs in cases of hospital mortality by offering grief counselling to family members, obtaining corneas still requires the family members' permission.¹⁰ If the students are informed, they can increase family awareness and ultimately increase the rate of eye donation.

In this study, it was shown that 192 out of 350 participants (55.8%) were willing to donate their cornea. These findings don't match those of previous studies. In his survey, Dhaliwal found that 80 percent of students were eager to donate their cornea.¹¹ These findings are positive since motivated students will be better able to persuade others to donate their eyes. In a different study, 41.5% of participants were willing to donate their eyes, but the remaining families declined for corneal donation.¹² However, it was shown that the consent rates in developed nations like Toronto and Singapore were 63% and 67%, respectively.^{13,14} This has been attributed to the industrialised countries' higher socioeconomic standing and higher education levels.¹³ Blind religious views, according to 67.7% of study participants, are a major barrier to eye donation. Another study from Delhi indicated that lack of confidence that the donated tissue would be used appropriately posed the most frequent barrier (32.25%).¹⁴ This included the idea that tissue might be squandered, sold, or trafficked illegally. Additionally, 5% of families expressed concern about organ trafficking, according to Tandon et al.¹⁵ By setting up eye donation fortnights where those who have received corneal transplants may show their gratitude and share their success stories, this obstacle can be removed. Continuous awareness campaigns, in the form of promotional commercials and even official Internet platforms, that provide sufficient scientific knowledge regarding eye donation and encouragement should be encouraged in order to address the issue that "body should remain intact." To lessen harm to the body of the deceased, all eye banks should be urged to switch to in-situ corneo-scleral rim excision rather than entire globe enucleation.

CONCLUSION

The results of the study underline that while the majority of students support active participation in the dissemination of knowledge, lack of awareness is the primary impediment to cornea donation. It takes more than media attention to raise public awareness of eye health issues and eye donation. Therefore, it is imperative that the course curriculum should include both fundamental eye care and other preventive and promotive elements of corneal blindness.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

- Whitcher JP, Srinivasan M, Upadhyay MP. Corneal blindness: A global perspective. Bull World Health Org. 2001;79:214-21.
- Singh MM, Rahi M, Pagare D, Ingle GK. Medical students' perception on eye donation in Delhi. Indian J Ophthalmol. 2007;55:49-53.

3. Gupta A, Jain S, Jain T, Gupta K. Awareness and perception regarding eye donation in students of a nursing college in Bangalore. *Indian J Community Med*. 2009;34:122-5.
4. Dandona L, Dandona R, Srinivas M, Giridhar P, Vilas K, Prasad MN, et al. Blindness in Indian state of Andhra Pradesh. *Invest Ophthalmol Vis Sci*. 2001;42: 908-16.
5. Ronanki A. Awareness regarding eye donation among stakeholders in Srikakulam district in South India. *BMC Ophthalmol*. 2014;14:25.
6. Saini JS, Reddy MK, Jain AK, Ravindra MS, Jhaveria S, Raghuram L. Perspective in eye banking. *Indian J Ophthalmol*. 1996;44:47-55.
7. Gupta A, Jain S, Jain T, Gupta K. Awareness and Perception Regarding Eye Donation in Students of a Nursing College in Bangalore. *Indian J Community Med*. 2009;34:122-5.
8. Mohan M. Survey of Blindness India (1986-1989): Summary Results. New Delhi: Programme for the Control of Blindness. *Natl Med J India*. 2001;14(6): 327-34.
9. Priyadarshini B, Srinivasan M, Padmavathi A, Selvam S, Saradha A, Nirmalan PK. Awareness of eye donation in an adult population of southern India. A pilot study. *Indian J Ophthalmol*. 2003;51:101-4.
10. Vernale C. Critical care nurses' interactions with families of potential organ donors. *Focus Crit Care*. 1991;18:335-9.
11. Dhaliwal U. Enhancing eye donation rates. Training students to be motivators. *Indian J Ophthalmol*. 2002; 50:209-12.
12. Tendon R, Verma K, Vanathi M, Panday RM, Vajapayee RB. Factors affecting eye donation from postmortem cases from a tertiary care hospital. *Cornea*. 2004;23(6):597-601.
13. Yew YW, Saw SM, Pan JC, Shen HM, Lwin M, Yew MS, et al. Knowledge and beliefs on corneal donation in Singapore adults. *Br J Ophthalmol*. 2005;89:835-40.
14. Basu PK, Hazariwala KM, Chipman ML. Public attitudes towards donation of body parts, particularly the eye. *Can Ophthalmol*. 1989;24:216-20.
15. Acharya M, Farooqui JH, Dave A, Chaku D, Ganguly KK, Das A, Mathur U. Eye donation in north India: Trends, awareness, influences and barriers. *Indian J Ophthalmol*. 2019;67(10):1570-4.
16. Tandon R, Verma K, Vanathi M, Pandey RM, Vajpayee RB. Factors affecting eye donation from postmortem cases in a tertiary care hospital. *Cornea*. 2004;23:597-601.

Cite this article as: Khatwani P, Raghunath D, Sakalle S. A cross sectional study on perceptions and promoting factors for eye donation among undergraduate medical students. *Int J Community Med Public Health* 2023;10:1775-8.