

Content available at: <https://www.ipinnovative.com/open-access-journals>

IP International Journal of Ocular Oncology and Oculoplasty

Journal homepage: <https://ijooo.org/>

Original Research Article

Assessment of awareness, attitude, knowledge and willingness for eye donation in undergraduate medical students

Ramavath Sirisha^{1*}, Ranjitha C S¹, Suresh Babu G¹, Meghana S K¹, Anusha¹, Saumya¹¹Dept. of Ophthalmology, Minto Ophthalmic Hospital, BMCRI, Bangalore, Karnataka, India

ARTICLE INFO

Article history:

Received 09-11-2023

Accepted 29-12-2023

Available online 01-02-2024

Keywords:

Vision

Blindness

Corneal blindness

Eye donation

Eye bank

Corneal transplant

ABSTRACT

Purpose: To assess awareness, attitude, knowledge, and willingness towards eye donation in medical students.**Materials and Methods:** This is a questionnaire based cross sectional survey on 750 undergraduate medical students at a tertiary eye care hospital. Each student was given questionnaire to assess the awareness, attitude knowledge and willingness towards eye donation. And the responses were analyzed.**Results:** Out of 750, 22% were 1st year, 21% were 2nd year, 26% were 3rd year, 20% final year and rest were interns. About 60% students were aware about the time of enucleation, and 40% were willing for pledging for eye donation.**Conclusion:** Majority of students are aware and had good knowledge but need more motivation to pledge for eye donation. Medical students with good knowledge and attitude can help spread awareness in the community regarding the same.This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.For reprints contact: reprint@ipinnovative.com

1. Introduction

Of all the senses, vision is the most important sense as it allows to freely interact with the environment and to see the beauty of life and the problem of blindness is as old as mankind.¹ Number of people with visual impairment is around 285 million in world as per WHO estimates. According to WHO corneal blindness is 4th leading cause of blindness in world.² About 12% of world blind and 14% of Indian blindness is due to bilateral corneal opacities. NPCB estimates 1,20,000 corneal blind people in India with 25,000-30,000 cases adding every year.³ Trachoma is the leading cause of corneal blindness followed by ocular trauma, ulceration, onchocerciasis and leprosy. Traditional medications also are the major risk factor for corneal ulcerations in developing countries. The only treatment

option is a corneal transplant but it is difficult to accomplish because access to eye banks that provide viable eye tissue is not as readily available in developing countries. Even in developed countries, access to necessary surgeries is limited.⁴ The process of eye donation includes recovering, preparing, and delivering donated eyeballs for use in corneal transplants and research. The first corneal transplant was completed successfully in 1905, and the in 1944 the first eye bank was established.⁵

The Indian Association of Eye Banks has tried to increase corneal procurement over the years. It currently stands at 49,000 cases per year, but much remains to be done to combat the number of corneal blindness cases that are increasing every year. About 2,70,000 donor tissues are needed every year.⁶ The number of corneal transplants can be increased by with increasing eye donations. A well aware medical student can positively influence eye donation

* Corresponding author.

E-mail address: sirisharamavath@gmail.com (R. Sirisha).

rates as they are the future health care providers. In order to increase motivation for eye donation, it is important to assess the awareness and knowledge of medical students.⁷

This study is thus designed to assess awareness, attitude, knowledge, and willingness towards eye donation in medical students in tertiary care hospital. Who can further help to motivate the public for organ donation. They can directly influence the families and thus help to increase rates of eye donation. Eye donation is a gift that mankind can give to the blind people.

2. Methods and Materials

1. This is a questionnaire based cross sectional survey on 750 undergraduate medical students at a tertiary eye care hospital. Each student was given questionnaire with 19 questions to assess the awareness, attitude knowledge and willingness towards eye donation.
2. The questionnaire consists of total of 19 questions of which questions 1-7 reflect awareness on eye donation and eye banking, 8-16 on knowledge on eye donation and the rest reflect willingness of the students towards eye donation.
3. The responses were compiled and analyzed using MS Excel and google forms.

2.1. Inclusion criteria

1. Medical students from 1st to final year and interns.
2. Students willing to give consent for the study.

2.2. Exclusion criteria

Students not willing to give consent.

3. Results

Among the students participated there were 21% (157) 1st year, 22%(165) 2nd year, 26% (195) 3rd year, 20%(150) final year and 83 interns Among the participants the major source of information was mass media/ social media 39.1% with followed by clinic/hospital (32.7%) and lectures (28.2%). 80.8% knew the age for pledging the eyes is above 18 years. Only 53.8% students knew that the eyes can be donated only after death. 67.9% answered that anyone irrespective of having any medical condition and reduced vision can donate the eyes. 66% students thought that only cornea is taken from the donor and only 32.1% knew that the whole eye is enucleated. But 89.7% students are aware that cornea is transplanted to the recipient where as 9% thought entire eye, 6% retina and 1% lens could be transplanted to recipient.

92.9% knew that medical professional has to perform the process of enucleation. Majority i.e., 75.6 % are aware that the time of retrieving eyes after death is 6 hours and 41% answered that the eyes can be preserved for 30 days, 24.4% answered 5 days, 23.1% answered up to 1 year. Only about 60-65% of the students know the burden of corneal blindness and majority (97.4%) knew that donated eye alone cannot cure all types of blindness. About 70% students knew the roles of eye bank. But only 49.4% students responded that they are aware of any eye bank close to them.

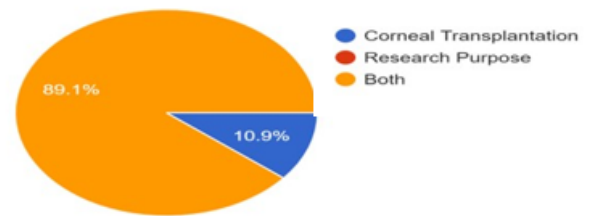


Figure 1: Donor eyes can be used for?

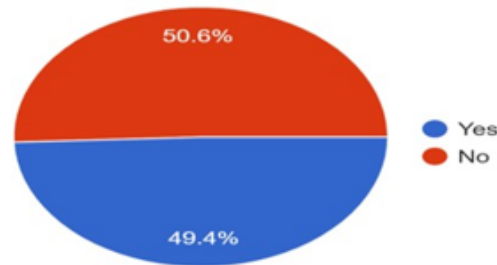


Figure 2: Do you know any eye banks nearby?

Among 750 students only 64.1% were willing to pledge for and to spread awareness about eye donation. 3.2% are not willing to donate, whereas rest 32.7% were unsure. Many students responded that the main and most common cause for people not willing to donate their eye is due to lack of proper awareness then followed by reasons like religious belief, social stigma and fear that the face would be disfigured.

Table 1:

Your source of information on Eye donation	Count %
Hospital / Clinic	33%
Lectures	28%
Mass Media / Social Media	39%

Table 2:

At what age a person can pledge for Eye donation	Count %
Above 18 years	81%
Above 35 years	4%
Any age	15%

Table 3:

Can eyes be donated only after death?	Count %
No	46%
Yes	54%

Table 4:

What is the percentage of worlds blindness attributed to corneal diseases?	Count %
Around 15 percent	62%
Around 50 percent	17%
Less than 5 percent	22%

Table 5:

What can be the approximate number of people waiting for corneal transplantation?	Count %
Around 1 million	65%
Around 10,000	31%
Around 1000	4%

Table 6:

Who has to give consent before eye donation?	Count %
Deceased persons will	56%
Doctor	8%
Family	35%
Lawyer	1%

Table 7:

Can donated eyes cure all types of blindness?	Count %
No	97%
Yes	3%

Table 8:

Who can donate the eyes	Count %
Anyone	68%
Only people with good vision	11%
Only people without any medical condition	21%

Table 9:

Which part of the eye is taken from donor?	Count %
Cornea	66%
Whole eye	32%
Retina	1%
Sclera	1%

Table 10:

Which part of the eye is transplanted into the recipient?	Count %
Cornea	90%
Lens	1%
Retina	4%
Whole eye	6%

Table 11:

Who can remove the eyes from the donor ?	Count %
Medical Professional	93%
Nursing / Hospital staff	6%
Anyone	1%

Table 12:

Recommended time for retrieving eyes after persons death	Count %
Less than 6 hours	76%
Less than 24 hours	15%
Less than 1 hour	8%
Anytime	1%

Table 13:

How long can be a donor tissue preserved?	Count %
Less than 24 hours	12%
Less than 5 days	24%
Upto 1 year	23%
Upto 30 days	41%

Table 14:

Donor eyes can be used for ?	Count %
Both	89%
Corneal Transplantation	11%

Table 15:

Do you know any eye banks near by?	Count %
No	51%
Yes	49%

Table 16:

Are you willing to pledge and spread awareness of eye donation?	Count %
Yes	64%
May be	33%
No	3%

4. Discussion

The knowledge of medicals students is an important factor which helps in promoting eye donations. In India the decision of donating deceased persons eye is of family members, many families will be willing for donation if the doctors approach the family and when the doctor can answer all the queries and myths with sufficient knowledge. Great advancements in social and mass media have made it possible to gather any information.^{8,9} In our study majority (40%) students' source of information was social media followed by clinics and lectures which is similar to the study, these results are similar to a study conducted by Aimanfatima et al¹⁰ in which 69% of the students answered that the major source of information is through mass media, though the information is accessible here are a plethora of misinformation and these aspects should always be kept in mind. 46% students are not aware that eyes are donated only after the death. Only 32% students are aware that whole eye is enucleated from the deceased where as 87% students are aware that cornea is transplanted to recipients which is a good improvement when compared to study done by Harshitha KM et al where only 56% were aware that only corneal blindness can be cured by eye donation.¹¹ In our study 76% students responded correctly about the time of enucleation to be in which done after death which is much higher than the study conducted by Dave A et al among secondary level students in Kolkata.¹² Less than 50% are aware of any eye banks near them and about 70% knew the roles of eye bank. There is shortage in corneal transplantations in India and it's is important for medical students to be aware of eye banks near them to spread awareness to families.¹³ Majority of the students are aware about the corneal blindness. And about 97% are aware that donated eyes cannot cure all types of blindness. Only 64% of students in the study conducted by us are willing to donate their eyes which is less compared to the study conducted by Dhaliwal et al.,¹⁴ disfiguration of the face is also one of the major concern and myth associated with eye donation as it is also revealed to be substantial cause in earlier reason, family members of the deceased must be made aware about the myth and should be persuaded more for eye donation.¹⁵ Though 64% students responded that they are willing to donate eyes and spread awareness, it still remains a question how any donations will happen when the time comes. Knowledge and willingness to spread awareness among medicals students can increase number of donations to very high rates.

5. Conclusion

Hospital deaths are good source for retrieval of organs and for treating corneal blindness but this resource are underused by the hospitals. The results of our survey revealed that while the majority of medical students are

aware of eye donation, they lack the knowledge necessary to raise awareness of eye donation in community. These medical specialists will advise family members to give their eyes if they are well-informed about the implications and advantages of doing so. Then, educated families can transfer this duty by educating community. There are few lacunae in the knowledge of these students which can be enhanced so that they can become better counsellors for eye donation in the future.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Chacko HM, Mathew J, Jose J, Dominic J, Sachina BT, Babu D, et al. Knowledge and attitude regarding eye donation Among the adolescents: A co-relational study. *J Health Allied Sci NU*. 2009;4(1):66–71.
2. Pineda R. World Corneal Blindness. In: Foundations of Corneal Disease. Springer, Cham; 2020. p. 299–305.
3. National Blindness And Visual Impairment Survey 2015-2019. Available from: <https://indiavisionatlasnpcb.aiims.edu/national-blindness-and-visual-impairment-survey-2015-2019>.
4. Corneal blindness. Available from: <https://www.seeintl.org/corneal-blindness>.
5. Sushma H, Warad V, Kshetrapal M. Knowledge, attitude and practice about eye donation among medical and paramedical students in tertiary eye care hospital. *Kerala J Ophthalmol*. 2016;28(2):112. doi:10.4103/kjo.kjo_30_16.
6. Saini JS. Realistic targets and strategies in eye banking. *Indian J Ophthalmol*. 1997;45(2):141–2.
7. Chowdhury RK, Dora J, Das P. Awareness of eye donation among medical and nursing students: A comparative study. *Indian J Ophthalmol*. 2021;69(6):1511–5.
8. Vidusha KS, Manjunatha S. Awareness of eye donation among medical students of tertiary care hospital, Bangalore. *Asian Pac J Health Sci*. 2015;2(2):94–102.
9. Acharya AS, Priyanka, Khandekar J, Bachani D, Rasania SK. Awareness and willingness to pledge for eye donation among adult population of an urban re-settlement colony of Delhi. *Indian J Comm Family Med*. 2018;4(1):28–33.
10. Kacheri A, Mudhol R, Chougule S, Reny R, Kamath S, Kamath R, et al. Eye donation: awareness, knowledge, willingness, and barriers among paramedical and allied health science students at a tertiary care teaching hospital in South India. *Scientific World J*. 2022;doi:10.1155/2022/5206043.
11. Harshitha KM, Sandhya R. Knowledge and awareness of eye donation among undergraduate medical students. *IP Int J Ocul Oncol Oculoplasty*. 2020;6(3):179–82.
12. Dave A, Patel NV, Acharya M, Chaku D, Das A, Mathur U, et al. Awareness regarding eye donation among staff of a tertiary eye care hospital in North India. *Int Ophthalmol*. 2020;40(3):649–58.
13. Chowdhury RK, Dora J, Das P. Awareness of eye donation among medical and nursing students: A comparative study. *Indian J Ophthalmol*. 2021;69(6):1511–5.

14. Dhaliwal U. Enhancing eye donation rates. Training students to be motivators. *Indian J Ophthalmol.* 2002;50(3):209–12.
15. 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(2):122–5.

Suresh Babu G, Professor

Meghana S K, Post Graduate

Anusha, Post Graduate

Saumya, Post Graduate

Author biography

Ramavath Sirisha, Post Graduate

Ranjitha C S, Assistant Professor  <https://orcid.org/0000-0001-8486-2107>

Cite this article: Sirisha R, Ranjitha C S, Suresh Babu G, Meghana S K, Anusha, Saumya. Assessment of awareness, attitude, knowledge and willingness for eye donation in undergraduate medical students. *IP Int J Ocul Oncol Oculoplasty* 2023;9(4):186-190.