



Awareness of Eye Donation among Paramedical Students in a Tertiary Care Centre in Western Uttar Pradesh

Aastha Agarwal¹, Neelima Mehrotra², Shipra Tripathi³, Kunwar Gaurav Singh⁴,
Manu Priya⁵, Ram Mohan Mishra⁶

1. Junior Resident, Department of Ophthalmology, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

2. Head and Professor, Department of Ophthalmology, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

3. Associate Professor, Department of Ophthalmology, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

4. Assistant Professor, Department of Ophthalmology, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

5. Junior Resident, Department of Ophthalmology, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

6. Junior Resident, Department of Ophthalmology, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

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ABSTRACT

Aim: To assess the awareness among optometry students regarding eye donation in a tertiary care centre in western Uttar Pradesh

Material and Methods: A cross-sectional observational study using a questionnaire was carried out during the eye donation fortnight in a tertiary care centre in Western Uttar Pradesh on 90 optometry students. A self-administered questionnaire was given to evaluate the awareness and knowledge regarding eye donation.

Results: 100% of students were aware of eye donation and 70 (77.7%) were aware of the eye donation fortnight. Only 64 students (71.1%) knew that eyes can be pledged by anyone. An important source of information was the hospital-based activities during the fortnight. 73 (81.1%) students were willing to pledge their eyes. The objection of family members and religious reasons were the main reasons for non-willingness to donate eyes.

Conclusion: The study concluded that there is considerable awareness of eye donation among optometry students. But there still is still some room for knowledge. Appropriate information and communication are required to educate and motivate them to spread this awareness among the people around them.

I. INTRODUCTION

In India, corneal blindness is a significant public health issue[1]. It is estimated that 0.46 percent of adult Indians have corneal blindness, which may have been corrected with a corneal

transplant. To our dismay, the number of corneas acquired annually in 2016–2017 was just 63,256, even though 2.77 lakh corneas are needed each year to combat corneal blindness [2].

Understanding people's awareness levels and attitudes towards corneal donation is a crucial first step in alleviating the corneal shortage, according to a review written by Williams et al. in 2018 [3]. Researchers in India offered recommendations that were similar [4].

The greatest possible treatment for improving vision is still corneal transplantation. In the Indian population, the rate of eye donation is still barely 0.9% of the death rate, despite awareness of eye donation ranging from 28% to 35% in rural people to 100% in medical students and an average desire to donate of 59.6% across 25 separate studies [3,5].

This study was undertaken to assess the awareness and knowledge on eye donation among the optometry students in a tertiary care centre in western Uttar Pradesh. The students were chosen for this study because as future health professionals, they can motivate the people and spread awareness about eye donation.

II. MATERIAL AND METHODS

This cross-sectional observational study is based on a questionnaire. After receiving ethical approval from the Institute Ethics Committee, the study was prepared and conducted. This was conducted during the eye donation fortnight in a tertiary care center in Western Uttar Pradesh on 90



optometry students in 2022. A self-administered questionnaire was given to evaluate the awareness and knowledge regarding eye donation. The questionnaire consisted of 16 closed ended questions. The results were acquired using percentage and descriptive statistics, and Microsoft Office 2016 Excel sheet (Microsoft® Corp., Redmond, WA) was chosen to compile and evaluate the data.

III. RESULTS

100% of students were aware of eye donation. Majority of the students, 63 (70%) expressed that hospital-based activities were the main reason for their awareness followed by social media and lectures. 80 students (88%) were aware that eye donation can be carried out only after death, and majority, 75 (83%), were aware of the time required for retrieval of eyes after death. (Table 1)

Table 1: Responses of study subjects on different aspects of eye donation (n=90)

S.No.	Question	Response	No.	Percentage
1	Awareness of eye donation	Yes	90	100.0%
		No	0	0.0%
2	Source of awareness	TV, newspaper	2	2.3%
		Social media	10	11.1%
		Lectures	8	8.9%
		Hospital	63	70.0%
		Camps	4	4.4%
		Friends/relatives	3	3.3%
3	Awareness of time for eye donation	Before death	10	11.1%
		After death	80	88.9%
4	Awareness of ideal time for retrieval	Within 6hrs	75	83.3%
		Within 12hrs	15	16.7%
5	Awareness of part of eye donated	Eye ball	23	25.5%
		Cornea	58	64.5%
		Don't know	9	10.0%
6	All blind treated by eye donation	Yes	47	52.2%
		No	43	47.3%
7	Aware that 1 eye donation can help multiple people	Yes	48	53.3%
		No	42	46.7%
8	Aware that identity is kept confidential	Yes	56	62.2%
		No	34	37.8%
9	Aware that consent is required	Yes	77	85.5%
		No	13	14.5%
10	Awareness of eye donation fort night	Yes	62	68.8%
		No	28	31.2%
11	Awareness of shortage of eye donation	Yes	82	91.1%
		No	8	8.9%
12	Aware that eye donation is free	Yes	55	61.1%
		No	35	38.9%
13	Willingness to donate eyes	Yes	32	35.5%
		No	58	64.5%
14	Reason for donation	Noble work	21	65.7%
		Happy to help the blind	6	18.8%
		Know someone who has donated or received and eye	3	9.3%
		Influenced by articles/lectures	2	6.2%
15	Reason for not donating	Family would not allow it	19	32.8%
		Disfigurement of face	5	8.7%
		Religious reasons	28	48.2%
		Will be born blind in next birth	6	10.3%
16	Willingness to ask friend/family for donation	Yes	42	46.7%
		No	48	53.3%



23 students (25%) responded that the whole eye can be transplanted, 58 (65%) were aware that the cornea is transplanted, and nine (10%) were unaware of the part donated. 43 (47%) were aware that not all kinds of blindness can be cured by eye donation. 53% (48) knew that two people are benefitted from one donation.

56 students (62%) knew that confidentiality is maintained on both donor and recipient side. 77 (85%) were aware that prior consent is required. 62 students (68%) knew about the eye donation fortnight. 82 (91.1%) were aware that there is a shortage of eye donation in India. 55 (61%) knew that eye donation is free of cost for the donor's family.

Only 32 (35%) students were willing to pledge their eyes whereas 58 (65%) were unwilling to pledge their eyes. Majority of the participants stated nobility in the work as the reason for willingness (21 (66%)), followed by pleasure to help the blind (6 (19%)). The remaining three (9%) know someone who has either received or donated an eye and two (6%) students were influenced by articles/lectures. Out of those unwilling to donate, 28 (48%) stated religious reasons for unwillingness, followed by an objection from family members (19 (33%)). Six (10%) students thought they will be born blind in the next birth whereas the remaining five (9%) believe that donating eyes can cause disfigurement of face. Majority (53.3%) were not willing to counsel their friend/family for eye donation.

IV. DISCUSSION

According to the results of this study, 100% of participants were aware of eye donation which is higher than in previous studies. In tertiary care facilities, Sushma et al.'s identical study of medical and paramedical students found a 99.2% awareness rate [6]. Another study reported 93.3 percent awareness of eye donations [7].

The major source of awareness in this study was found to be hospital-based activities (70%) followed by social media (11.1%). The activities done in the hospital during the eye donation fortnight made the students more aware. In similar lines, an analysis conducted in Nepal by Nekar et al. found that 69.1% of participants stated they got their knowledge from media, 24.3% from newspapers and 44.8% from the television [8].

Eighty students (88%) were aware that eye donation can be carried out only after death, and majority, 75 (83%), were aware of the time required for retrieval of eyes after death. However, research on medical and non-medical students done in New Delhi, India found that 79.6% of medical

students were aware that eyes can be donated after death and 63.3% were aware that the donation should be made within six hours [9].

Only 65% knew that cornea is transplanted and 53% thought all kinds of blindness can be cured. 53% of the students were aware that one donation can benefit multiple people. These results were like the results shown in a study done among paramedical and allied health science students by Kacheri et al [7].

Only 35% of participants were willing to pledge their eyes which is much lower than the result of study carried out by Dandona et al. which showed 64.5% willingness. The nobility of this donation inspired majority of these students to donate their eyes, while 18.8% felt happy to help the blind. A study done in a nursing college in Bangalore showed that 85.1% were willing to donate their eyes and the reason for willingness were the same [10].

65% of participants were unwilling to pledge their eyes which is much higher than a study done among medical and paramedical staff by Arya et al. (7%) [11]. Religious reasons were the main cause for unwillingness and 33% believe that their family members would not allow it. This finding contrasts with those of similar studies done by Basnet et al. & Williams and Muir, in which students primarily explained their refusal on a lack of information and awareness, respectively [3,12]. However, similar reasons were cited in a study done by Magdum et al [13].

V. CONCLUSION

The study shows that there is a lack of knowledge and awareness among the paramedical students. Most students are unwilling to donate their eyes. The participation of paramedical students should be encouraged during the eye donation camps and eye donation fortnight activities. Posters and charts can be put up in the paramedical institutes which will increase awareness. Basic knowledge of ophthalmological conditions can also be imparted as it will help them understand better about the eyes requiring the transplant and the eyes that be donated. Teaching them proper counselling techniques can make them proficient counsellors for eye donors.

The paramedical personnel can play a significant role in raising awareness about eye donation among their family and friends and serving as vital motivators by educating them on the preventive and therapeutic elements of corneal blindness. Thus, there is a great need for increased awareness among paramedical students. As the foundation of our healthcare system, the



paramedical students must therefore be made more aware of the importance of eye donation. Further studies maybe carried out which also studies the demography and the literacy of the paramedical students.

REFERENCES

- [1]. Gupta N, Tandon R, Gupta SK, Sreenivas V, Vashist P. Burden of corneal blindness in India. *Indian J Community Med.* 2013, 38:198–206. [10.4103/0970-0218.120153](https://doi.org/10.4103/0970-0218.120153)
- [2]. Runda N, Ganger A, Gupta N, Singh A, Vashist P, Tandon R. Knowledge and attitude towards eye donation among health professionals of northern India. *Natl Med J India.* 2019, 32:9-12. [10.4103/0970-258X.272107](https://doi.org/10.4103/0970-258X.272107)
- [3]. Williams AM, Muir KW. Awareness and attitudes toward corneal donation: challenges and opportunities. *Clin Ophthalmol.* 2018, 12:1049–59. [10.2147/OPHTH.S142702](https://doi.org/10.2147/OPHTH.S142702)
- [4]. Gupta N, Vashist P, Ganger A, Tandon R, Gupta SK. Eye donation and eye banking in India. *Natl Med J India.* 2018, 31:283–86. [10.4103/0970-258X.261189](https://doi.org/10.4103/0970-258X.261189)
- [5]. Subburaman GB, Kempen JH, Durairaj S, et al. Making the decision to donate eyes: Perspectives from the families of the deceased in Madurai, India. *Indian J Ophthalmol.* 2020, 68:2094-8. [10.4103/ijjo.IJO_2324_19](https://doi.org/10.4103/ijjo.IJO_2324_19)
- [6]. 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, 28:112. [10.4103/kjo.kjo_30_16](https://doi.org/10.4103/kjo.kjo_30_16)
- [7]. Kacheri A, Mudhol R, Chougule S, Reny R, Kamath S, Kamath R. Eye Donation: Awareness, Knowledge, Willingness, and Barriers among Paramedical and Allied Health Science Students at a Tertiary Care Teaching Hospital in South India. *ScientificWorldJournal.* 2022, 5206043. [10.1155/2022/5206043](https://doi.org/10.1155/2022/5206043)
- [8]. Nekar MS, Lokare L, Gokhale SA, Godbole M, Mulkipatil SY, Mahesh V. Awareness of eye donation among college students of Hubli City, Karnataka. *Int J Biomed Res.* 2012, 3:201–204. [10.7439/ijbr.v3i4.415](https://doi.org/10.7439/ijbr.v3i4.415)
- [9]. Dhaliwal U. Enhancing eye donation rates. Training students to be motivators. *Indian J Ophthalmol.* 2002, 50:209-12.
- [10]. 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. [10.4103/0970-0218.51235](https://doi.org/10.4103/0970-0218.51235)
- [11]. Arya SK, Gupta N, Malik A. Eye donation awareness among medical and paramedical staff in a medical institute. *Nepal J Ophthalmol.* 2014, 6:177-84. [10.3126/nepjoph.v6i2.11700](https://doi.org/10.3126/nepjoph.v6i2.11700)
- [12]. Basnet A, Basnet PS, Lamichhane RS, Shrestha P. Awareness, knowledge and willingness regarding eye donation among dental students of kist medical college and teaching hospital, Lalitpur, Nepal. *JCMC.* 2019, 9:47–53. [10.54530/jcmc.369](https://doi.org/10.54530/jcmc.369)
- [13]. Magdum R, Arun S, Mushtaq I, Sharma N. To study awareness and willingness of eye donation among paramedical workers. *J Clin Ophthalmol Res.* 2015, 3:95-7. [10.4103/2320-3897.156599](https://doi.org/10.4103/2320-3897.156599)