

A Study to Evaluate The Comprehension Regarding Eye Donation Among Medical Students

Dr. Kanchana Lakshmi Devi (Postgraduate),
Dr. Vankadara Nagasuresh (HOD),
Dr. K Bharani Kumar Reddy (professor)
Dr. Murasani Pushpalatha (associate professor),
Dr. Yasam Raghavendra reddy (assistant professor).

Abstract:

Aim: To assess the information regarding awareness, Comprehension(Knowledge), and the source of their knowledge, the need of eye donation among the undergraduate medical students in Viswabharathi medical college ,department of ophthalmology.

Materials and Methods: This was a cross-sectional closed questionnaire-based study. The participants were given a series of questions, which tested the undergraduates' information regarding awareness, Knowledge, and the source of their knowledge regarding the need of eye donation. The responses were then gathered and studied for each of the questions.

Results: Out of the 150 responses from the undergraduate medical students, 28.1% (42) students were pursuing second year of medical education, 33.3% (50) of the students were pursuing the third year, and 38.6% (58) of the students were pursuing final year. 142(94.6%)students were aware of regarding eye donation.

Conclusion: The results of the study showed that the majority of the students are aware of eye donations. They need to be educated about the importance of eye donation awareness. With proper knowledge and interest about the subject, the medical students can volunteer in the eye donation campaigns and awareness programs to encourage the public to donate their eyes to treat blindness in India.

Date of Submission: 08-07-2022

Date of Acceptance: 22-07-2022

I. Introduction

One of the advanced senses in the human body is the ability of the beautiful eyes to see the wonderful world and appreciate the vibrant colours which add life and joy to everyone around us, which is useful for learning, using devices and to perform all activities^[1]. Blindness is a worldwide problem in which corneal blindness accounts for 0.9% in India^[2]. Especially in developing countries significant causes for visual impairment, constitute corneal diseases which include corneal ulcer, trauma, bullous keratopathy followed by cataract surgery, corneal dystrophies, trachoma^[3]. These group of Corneal diseases causing blindness can be treatable by keratoplasty. Keratoplasty is removal of damaged cornea and replacement with healthy donor cornea ^[4]. To restore the vision corneal transplantation is the treatment of choice which can be accomplished through cornea donation. ^[4] At present every year in India 22,000 eyes collected from donors which doesn't meet the sufficient target ^[5] Therefore to reduce corneal blindness a genuine effort should be made for collecting eyes which is the only solution to increase the number of corneal transplants. Most important step to achieve more number of donations is by raising the level of understanding about eye donation among public.^[6] One of the barrier for eye donation is lack of awareness and negative attitude among public who are unaware regarding eye donations to create awareness among them^[7] Medical students who are future primary health care providers play a crucial role for creating awareness regarding eye donation ,therefore educating them will ultimately help in generating better results among public.^[8]

Visual loss caused by cataracts can be improved with cataract surgeries whereas the only way to improve vision in corneal opacities is to replace the opacified cornea with clear cornea .The source of which is cornea from dead , as synthetic corneas are not available yet. There is wide gap between the number of patients needing corneal transplantation (1,00,000) and availability of corneas (25,000 to30,000) per year. So there is urgent need to improve cornea collection from dead people by creating awareness among all sectors of population. Corneal blindness more common in young which has great impact on family as well as nation.

Therefore it is always important to evaluate awareness and knowledge among medical undergraduate students who will create awareness and educating the patients and their relatives by clearing their myths, relieving the facts and the encouraging them for corneal donation.

II. Materials And Methods

Study design: cross sectional study

In this study involved 150 undergraduate medical students of Viswabharathi Medical College willing to participate in the study

2.1 Inclusion Criteria:

Medical Students IInd to IVth year .

2.2 Exclusion Criteria:

Students who have participated in a similar study previously .

2.3. Methodology

Medical students in the second year, third year and fourth year willing to take part in the study are included in the study, the sample size 150 is calculated using open EPI software.

• The students were assessed on their awareness and comprehension on eye donation using the standard **closed questionnaire with multiple options**. All the students were enrolled after obtaining the verbal consent.

Questionnaire includes four sections:

- First section includes questions to assess the awareness of student regarding eye donation.
- Second section includes set of questions to assess the knowledge of the student .
- Third section regarding the source of information.
- Fourth section regarding the participation for eye donation.

The results as obtained were submitted for analysis using SPSS (statistical package for social welfare) Version 20.

Ethics approved by local ethical clearance committee.

Table - 1: Data collection questionnaire on awareness and knowledge of eye donation.

1. Are you aware of regarding eye donation?
2. Are eyes removed only after death?
3. Can the whole eye be implanted to a blind person?
4. Can a child eye be used for transplantation?
5. Do you know the location of the nearest eye bank?
6. Do you know that India is the leading country in number of eye donations?
7. Can the eye be removed any time after death?
8. Is HLA matching necessary for eye donation?
9. Can any medical professional remove the eye from the donor?
10. Are you willing to donate your eyes?
11. Can the next of kin give consent for eye donation?
12. Is family consent necessary for eye donation?
13. Can people with refractive errors donate eyes?
14. Can people with diabetes and hypertension donate eyes?
15. Can people with HIV or malignancy donate eyes?

III. Results

28.1 % (42) were in the second year of medical course 33.3% (50) where in the third year and 38.6 % (58) of the students were pursuing final year.

Table 2 summarises the students' awareness on eye donation that 76.7 percent (115) showed awareness that the whole eye can't be implanted into another person. Only 32.5% (49) of the participants were aware that a child's eye could be donated. Only 38.2 % (57) were aware of where the nearest eye bank is located. 92% (138) of them knew that eyes could be donated only after the death of a person.

Table 4 summarises that 80.2% (120) were aware that family consent is required for eye donation there is a mixed response for willingness for eye donation 40.9% (61) ready for the donation whereas 48.3% (72) are still not willing to donate their eyes.

Internet was the majority (41%) source of the information among the students.

Diagram - 1 source of knowledge of students regarding eye donation

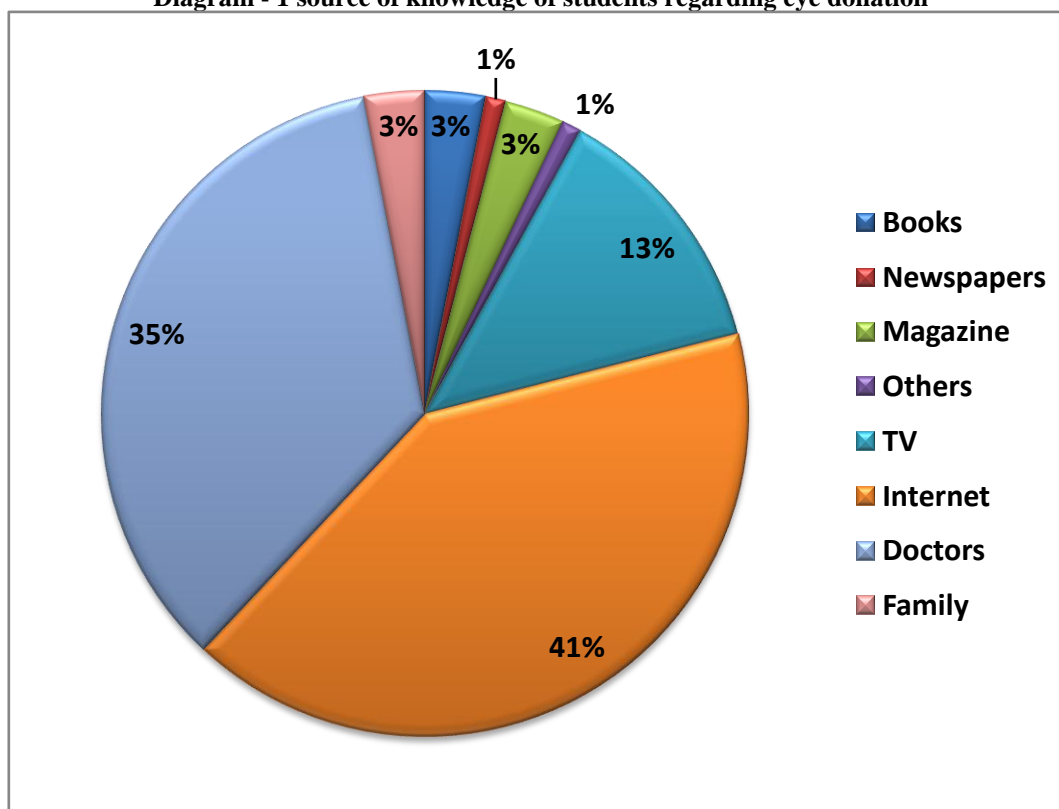


Table - 2: Responses to questionnaire regarding awareness of eye donation

Question	Yes	No	Don't Know
Are you aware of regarding eye donation	142(94.6%)	8(5.4%)	0%
Are eyes removed only after death?	138(92%)	8(5%)	4(3%)
Can the whole eye be implanted to a blind person?	31(20.7%)	115(76.7%)	4(2.6%)
Can a child eye be used for transplantation?	49(32.5%)	46(30.6%)	55(36.9%)
Do you know the location of the nearest eye bank?	57(38.2%)	81(53.8%)	12(8%)
Do you know that India is the leading country in number of eye donations?	105(70%)	15(10.5%)	30(19.5%)

Table - 3: Responses to questionnaire regarding knowledge of eye donation

Question	Yes	No	Don't Know
Can the eye be removed any time after death?	3(2.2%)	145(96.4%)	2(1.4%)
Is HLA matching necessary for eye donation?	46(30.6%)	82(54.7%)	22(14.7%)
Can any medical professional remove the eye from the donor?	111(74%)	30(20%)	9(6%)
Can people with refractive errors donate eyes?	70(46.5%)	75(50.2%)	5(3.3%)
Can people with diabetes and hypertension donate eyes?	64(42.8%)	46(30.5%)	40(26.7%)
Can people with HIV or malignancy donate eyes?	24(16.4%)	92(61.4%)	34(22.2%)

Table - 4: Responses to questionnaire regarding participation for eye donation

Question	Yes	No	Don't Know
Are you willing to donate your eyes?	61 (40.9%)	72(48.3%)	17(10.8%)
Can the next of kin give consent for eye donation?	118(79%)	22(15%)	10(6%)
Is family consent necessary for eye donation?	120(80.2%)	24(15.9%)	6(3.9%)

IV. Discussion

Our study estimated the awareness and knowledge of eye donation among undergraduate medical students in Viswabharathi Medical College.

Medical students can be role models for general public regarding awareness for corneal donation.

Results of this survey shows that students had good awareness of eye donation ,although only 40.9 percent students are willing for donation. so based on this study it suggests that more health education should be given to students during their secondary school education on importance of eye donation and benefits of corneal transplantation ,so that they will motivated to pledge their own eyes for donation as well as motivate their relatives to do the same^[6]

In our study all participants (150) very well aware of the fact that eyes can be donated.

Most common mode of awareness about eye donation was internet 41%, followed by doctors advice 35%.

In this study 79% of students have appropriate knowledge and awareness of eye donation facts such as the next of kin can give consent for eye donation.^[9]

42.8% of students are aware about the fact that people with diabetes and hypertension can donate eyes. 61.4% of students were aware that HIV or malignancy can't donate eyes.

All deceased people can be considered as a donor except when the cause of death or some other factors which will cause risk to the individual who are performing enucleation^[10] hematological malignancies, neurodegenerative conditions chronic renal failure, ocular tumors, uveitis, glaucoma, HIV, Hepatitis B are contraindications.^[11]

There is a fair possibility that many potential donors may be missed out for lack of knowledge if doctors fail to convince and counsel the next of kin of the deceased regarding the importance of eye donation.^[12]

V. Conclusion:

The outcomes of our study showed that majority of medical students are aware of eye donation but lack the complete knowledge to promote awareness of eye donation in community. There are certain misapprehensions and deficits in their knowledge about eye donation which needs to be assed to tackle the problem of shortage of corneal transplants in India. A positive ray of hope is to enhance active participation of medical students, willingness for eye donation and eye donation campaigns awareness programs with good knowledge and attitude which can bring about change in the community by making them understanding the importance of eye donations.

SOURCE OF FUNDING

None.

CONFLICT OF INTEREST

None.

References

- [1]. Becoming Blind Is A Top 4 Fear- Smart Vision Labs. Why Vision Is The Most Important Sense Organ. Smart Vision Labs; 2017.
- [2]. Priyanka, Acharya AS, 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.
- [3]. Thylefors B, Negrel AD, Pararajasegaram R, Dadzie KY, Global data on blindness. *Bull World Health Organ* 1995; 73; 115-21.
- [4]. Lal B, Usgaonkar U, Narvekar H, Venugopal D. Awareness and knowledge on eye donation among Allied Health Sciences, medical, and nursing students in Goa. *J Curr Ophthalmol.* 2018;30(3):255–62.
- [5]. Sushma H, Warad VG, 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):112–5.
- [6]. M.K.Bharati, S.C.Reddy, I Tajunisah, N.A.M Ali awareness and knowledge on eye donation among university students. *Med J Malaysia Vol.64 No.1 March-2009.*
- [7]. Md.Zishan Zahid, Amresh Kumar awareness and perception regarding eye donation among under graduate medical students in south western Bihar. *International Journal of Health and clinical Research,* 2021;4(5): 317-321.
- [8]. Kannan K. Eye donation movement in India. *J Indian Med Assoc;*97:318–9.
- [9]. Magdum. To study awareness and willingness of eye donation among paramedical workers [Internet]. [cited 2020 Feb 18]. Available from: <http://www.jcor.in/article.asp?issn=2320-3897;year=2015;volume=3; issue=2; spage =95; epage=97;aulast=Magdum>
- [10]. Deitch RD, Wilson FM, Foster J. Medical indications and contraindications for eye donation. *Indiana Med J Indiana State Med Assoc.* 1990 Nov; 83(11):826–7.
- [11]. Distribution of potential eye and tissue donors within an Australian teaching hospital | Springer Link [Internet]. [cited 2020 Feb 18]. Available from: <https://link.springer.com/ article/10.1007/s10561-017-9676-8?sharedarticle-renderer>
- [12]. Harshitha K M and Sandhya R / *IP International Journal of Ocular Oncology and Oculoplasty* 2020;6(3):179–182.

Dr. Kanchana Lakshmi Devi, et. al. "A Study to Evaluate The Comprehension Regarding Eye Donation Among Medical Students." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(07), 2022, pp. 01-04.