

# **A STUDY TO EVALUATE THE COMPREHENSION REGARDING EYE DONATION AMONG MEDICAL STUDENTS**

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# Abstract

- **Aim:** To assess the information regarding awareness, Knowledge, and the source of their knowledge, the need of eye donation among the undergraduate medical students in Viswabharathi medical college.
- **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 of 150 students 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.



# 1. 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<sup>[1]</sup>. Blindness is a worldwide problem in which corneal blindness accounts for 0.9% in India<sup>[2]</sup>.
- 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<sup>[3]</sup>. These group of Corneal diseases causing blindness can be treatable by keratoplasty. Keratoplasty is removal of damaged cornea and replacement with healthy donor cornea <sup>[4]</sup>.



- 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.
- Hence there is wide gap between the no of patients needing corneal transplantation (1,00,000 per year) and availability of corneas(25,000 to 30,000 per year) collected from donors [5].
- So there is urgent need to improve cornea collection from dead persons by creating awareness among all sectors of population to make a genuine effort to collect 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.<sup>[6]</sup> 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.<sup>[7]</sup>
- 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.<sup>[8]</sup>
- 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.



## 2. MATERIALS AND METHODS

- Study design: Cross sectional study

In this study, involved 150 undergraduate medical students of Viswabharati 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 studying second, third, fourth year willing to take part in the study are included in the study, the sample size 150 is calculated using open EPI software.
- All the students were enrolled after obtaining the verbal consent.
- The students were assessed on their awareness and knowledge on eye donation using the standard **closed questionnaire with multiple options**.
- Students responses to questions were analyzed using SPSS version programme.

### **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.
- 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?





# 3.RESULTS

## **Participants -**

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

## **Table 2 summarises the students' awareness on eye donation.**

- 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 - 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%)



## **Table 4 summarises**

- 80.2% (120) were aware that family consent is required for eye donation
- There is a mixed response for willingness for eye donation
  - a) 40.9% (61) ready for the donation whereas
  - b) 48.3% (72) are still not willing to donate their eyes.
- Internet was the majority (41%) source of the information among the students.



## 4. DISCUSSION

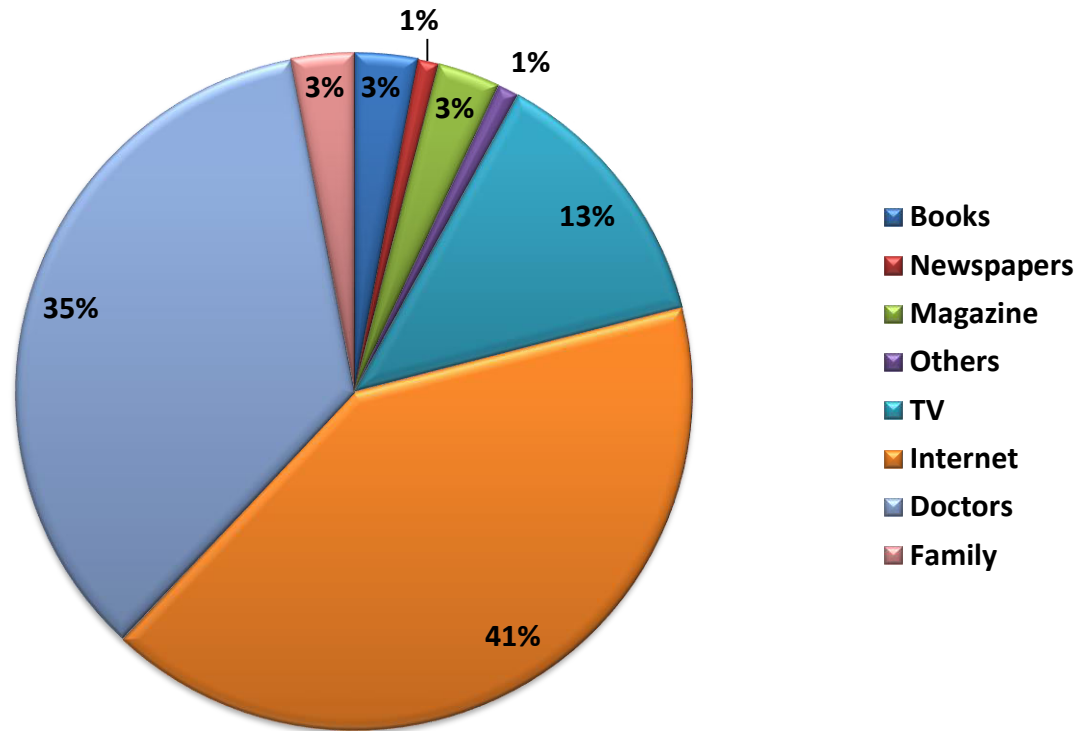
- Our study estimates the awareness and knowledge of eye donation among undergraduate medical students in **Viswabharati Medical College**.
- Medical students can be role models for general public regarding awareness for corneal donation.
- Results of this survey shows that students had good awareness 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.<sup>[6]</sup>
- In our study 142 students were 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%, thereby emphasising the internet power to create awareness about eye donation.(diagram 1)
- 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.<sup>[9]</sup>



# Diagram - 1 source of knowledge of students regarding eye donation





- 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.<sup>[10]</sup>
- Hematological malignancies, neurodegenerative conditions chronic renal failure, ocular tumors, uveitis, glaucoma, HIV, Hepatitis B are contraindications<sup>[11]</sup>
- 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.<sup>[12]</sup>



# 5. 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.



## **6. SOURCE OF FUNDING**

- None

## **7. CONFLICT OF INTEREST**

- None



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