



## ASSESSMENT OF AWARENESS AND KNOWLEDGE REGARDING EYE DONATION AMONG MEDICAL AND NON-MEDICAL STUDENTS AROUND OUR HOSPITAL REGION

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### ABSTRACT

**Background:** Corneal blindness is a major public health problem and one of the leading causes of visual impairment worldwide. Eye donation remains the only effective means of obtaining donor corneas for corneal transplantation and restoration of vision. Awareness and knowledge regarding eye donation among young adults are essential for improving donation rates. This study was conducted to assess and compare the awareness and knowledge regarding eye donation among medical and non-medical students.

**Methodology:** A cross-sectional questionnaire-based study was conducted in the Department of Ophthalmology, Sree Mookambika Institute of Medical Sciences, Kulasekharam, from March 2024 to February 2025. Undergraduate medical and non-medical students were included after obtaining informed consent. Data were collected using a pretested, semi-structured self-administered questionnaire comprising 21 questions related to awareness, knowledge, sources of information, and willingness toward eye donation. Data were analyzed using SPSS version 25.0, and statistical significance was considered at  $p < 0.05$ .

**Results:** The majority of participants were aware of eye donation. Among them, 73.42% of medical students and 71.57% of non-medical students correctly identified eye donation as donation of eyes after death. Doctors and healthcare workers were the primary source of information for both groups. Awareness regarding eye banks was higher among medical students (83.21%) compared to non-medical students (55.78%). Only 17.22% of participants knew the correct storage duration of donor corneas. Overall, 77.22% of students expressed willingness to donate their eyes in the future, with greater willingness observed among medical students (81.81%) than non-medical students (72.63%).

**Conclusion:** Although awareness regarding eye donation was high among both medical and non-medical students, important knowledge gaps and misconceptions persist. Medical student's demonstrated better knowledge and awareness compared to non-medical students. Targeted educational programs and awareness campaigns are needed to improve understanding and encourage eye donation practices among young adults.

**Keywords:** Eye Donation, Corneal Blindness, Awareness, Knowledge, Medical Students, Non-Medical Students, Eye Bank, Organ Donation.

### INTRODUCTION

Blindness and visual impairment continue to be major public health concerns worldwide, particularly in developing countries. Among the various causes of blindness, corneal diseases constitute a significant proportion of avoidable visual disability. According to the World Health Organization (WHO), corneal blindness is one of the leading causes of blindness globally, following cataract and glaucoma. It is estimated that



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approximately 5% of the world's blind population suffers from blindness attributable to corneal diseases.[1,2] In India, corneal blindness represents a substantial burden, affecting millions of individuals and significantly impacting their quality of life, productivity, and socioeconomic well-being.[3]

Corneal blindness may result from a variety of etiological factors including infectious keratitis, ocular trauma, vitamin A deficiency, congenital corneal anomalies, corneal dystrophies, degenerative disorders, and postoperative complications.[4] Unlike many retinal and optic nerve disorders, corneal blindness is often reversible through corneal transplantation. Corneal transplantation, also known as keratoplasty, remains the most successful and effective treatment modality for restoring vision in patients with corneal opacity and endothelial dysfunction.[5]

The success of corneal transplantation largely depends on the availability of healthy donor corneas obtained through eye donation. Eye donation refers to the voluntary donation of eyes after death for the purpose of corneal transplantation and vision restoration in blind individuals. One donated pair of eyes has the potential to restore sight to two corneally blind patients, making eye donation one of the most noble and impactful forms of tissue donation.[6] Despite advances in surgical techniques and increasing demand for corneal transplantation, the availability of donor corneas remains inadequate in many countries, including India.[7]

A major challenge in achieving self-sufficiency in donor cornea procurement is the lack of awareness and misconceptions regarding eye donation among the general population. Factors such as inadequate knowledge, religious beliefs, cultural barriers, fear of body disfigurement, and lack of information about the donation process contribute to low rates of eye donation.[8] Several studies have demonstrated that improving awareness and knowledge significantly enhances willingness to pledge and support eye donation initiatives.[9]

Students represent an important target group for awareness programs because they are future professionals, opinion leaders, and potential advocates for organ and tissue donation. Medical students, due to their educational background and exposure to healthcare systems, are generally expected to possess greater knowledge regarding eye donation compared to non-medical students. However, misconceptions and gaps in knowledge may still exist even among healthcare students.[10] Assessing and comparing awareness levels among medical and non-medical students can provide valuable insights into existing knowledge gaps and help formulate effective educational strategies.

Understanding the awareness, knowledge, and perceptions regarding eye donation among young

adults is crucial for developing targeted interventions aimed at increasing donor registration and promoting community participation in eye donation programs. Educational campaigns conducted within educational institutions can significantly influence attitudes toward donation and contribute to reducing the burden of corneal blindness in the long term.[11]

The present study was undertaken to assess and compare the awareness and knowledge regarding eye donation among medical and non-medical students and to identify factors influencing their understanding and willingness to participate in eye donation initiatives.

#### **Aim and Objective:**

##### **Aim**

To assess and compare the awareness and knowledge regarding eye donation among medical and non-medical students.

##### **Objectives**

1. To evaluate the level of awareness regarding eye donation among medical students.
2. To evaluate the level of awareness regarding eye donation among non-medical students.
3. To assess the knowledge of students regarding the process, eligibility, and benefits of eye donation.

#### **METHODOLOGY**

This cross-sectional questionnaire-based study was conducted in the Department of Ophthalmology, Sree Mookambika Institute of Medical Sciences, Kulasekharam, over a period of one year from March 2024 to February 2025. The study population comprised undergraduate students from both medical and non-medical streams who were pursuing their respective courses during the study period. Participants were selected after obtaining informed written consent and were enrolled voluntarily in the study. Students who were willing to participate and complete the questionnaire were included in the study.

Data were collected using a pretested, semi-structured, self-administered questionnaire designed to assess awareness and knowledge regarding eye donation. The questionnaire consisted of 21 items covering various aspects of eye donation, including awareness about eye donation, knowledge of the donation process, eligibility criteria, benefits of eye donation, sources of information regarding eye donation, and willingness to donate eyes. Information regarding demographic characteristics and educational background was also obtained. Participants were instructed to complete the questionnaire independently without external assistance to ensure unbiased responses.

The collected data were reviewed for completeness and accuracy before analysis. Responses were categorized and scored based on the level of awareness and knowledge demonstrated by the

participants. Comparative analysis was performed between medical and non-medical students to identify differences in awareness, knowledge, attitudes, and willingness toward eye donation. The primary outcome measures included the proportion of students aware of eye donation, knowledge regarding specific aspects of eye donation, major sources of information, and willingness to pledge eyes for donation.

#### **Statistical Analysis**

Data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) software version 25.0. Categorical variables were expressed as frequencies and percentages, while continuous variables were summarized using mean and standard deviation where applicable. The association between awareness and knowledge levels among medical and non-medical students was assessed using the Chi-square test or Fisher's exact test as appropriate. Differences between groups were considered statistically significant at a p-value of less than 0.05. The results were presented in the form of tables, graphs, and percentages for easy interpretation and comparison.

#### **RESULT**

The study demonstrated a high level of awareness regarding eye donation among both medical and non-medical students, with awareness being significantly higher among medical students (94.08%) compared to non-medical students (81.90%). The majority of participants correctly understood eye donation as the donation of eyes after death, while a smaller proportion associated it with restoring sight to the blind or considered it a service to mankind.

Doctors and healthcare workers emerged as the primary source of information regarding eye donation in both groups, indicating the important role of healthcare professionals in disseminating knowledge and promoting awareness. Despite the overall high awareness levels, several knowledge gaps were identified. Most participants were unaware of the time required for eye retrieval, with only one-fourth correctly identifying that the procedure takes approximately 15–20 minutes. Similarly, awareness regarding corneal preservation was poor, as only 17.22% of students knew that donor corneas could be stored for up to 14 days.

Regarding post-donation appearance, approximately 40.79% of participants correctly believed that an artificial prosthetic eye is placed after eye removal, maintaining a normal facial appearance. More than half of the respondents were aware that the donor's family neither pays nor receives any fees for eye donation. However, misconceptions regarding eligibility for donation were common, with 60.07% of students incorrectly believing that common

medical illnesses such as diabetes mellitus and hypertension are contraindications to eye donation. In contrast, awareness regarding communicable diseases as contraindications was satisfactory, with nearly two-thirds of participants answering correctly.

Awareness of eye banks was considerably higher among medical students than non-medical students, reflecting the influence of medical education on knowledge of eye donation services. Encouragingly, more than three-fourths of the participants expressed willingness to donate their eyes in the future, with willingness being greater among medical students (81.81%) than non-medical students (72.63%).

Among those unwilling to donate, family objection emerged as the most common barrier, followed by lack of awareness. These findings suggest that although awareness and willingness toward eye donation are generally favorable, important misconceptions persist regarding procedural aspects, storage of donor corneas, and eligibility criteria. Targeted educational interventions addressing these knowledge gaps and involving family members may further enhance eye donation acceptance and participation.

#### **DISCUSSION**

The present study assessed the awareness and knowledge regarding eye donation among medical and non-medical undergraduate students. The findings revealed a high overall level of awareness, with the majority of participants having heard about eye donation. This observation is encouraging, as awareness among young adults plays a crucial role in promoting eye donation and reducing the burden of corneal blindness. Similar findings have been reported in previous studies, which demonstrated that college students generally possess a favorable level of awareness regarding eye donation, although significant knowledge gaps continue to exist.[12,13] In the present study, 73.42% of medical students and 71.57% of non-medical students correctly identified eye donation as the donation of eyes after death. A smaller proportion of students perceived eye donation as a means of restoring vision to the blind or as a service to humanity. These findings indicate that while general awareness is satisfactory, detailed understanding regarding the concept and process of eye donation remains incomplete. Similar observations were reported by Priyadarshini et al., who found that many students were aware of eye donation but lacked comprehensive knowledge regarding the actual donation process.[14]

Doctors and healthcare workers emerged as the primary source of information regarding eye donation among both medical and non-medical students. This finding highlights the significant role healthcare professionals play in disseminating information and influencing public attitudes toward

eye donation. Previous studies have similarly identified healthcare personnel, educational institutions, and mass media as major sources of awareness regarding eye donation.[15,16]

Despite good overall awareness, substantial gaps in specific knowledge were identified. More than half of the participants were unaware of the time required for eye retrieval after death, and only a small proportion knew that donor corneas could be preserved for up to 14 days under appropriate storage conditions. These findings are consistent with previous studies that have reported inadequate knowledge regarding technical aspects of eye donation among students and the general public.[17] Such misconceptions may contribute to hesitancy and reduced participation in eye donation programs. An encouraging finding of the present study was that approximately 40.79% of participants were aware that an artificial prosthetic eye is placed after eye retrieval and that facial appearance remains unaffected. Fear of facial disfigurement has been identified as one of the common barriers to eye donation in several studies. Improved awareness regarding post-donation cosmetic restoration may help alleviate these concerns and encourage donation.[18]

Knowledge regarding contraindications for eye donation varied among participants. A considerable proportion believed that all medical illnesses preclude eye donation, reflecting incomplete understanding of donor eligibility criteria. However, most participants correctly recognized communicable diseases such as HIV/AIDS as contraindications to eye donation. Similar findings have been reported in studies assessing awareness among healthcare and non-healthcare students.[19] Awareness regarding eye banks was significantly higher among medical students compared to non-medical students. This difference may be attributed to greater exposure to healthcare education and clinical settings. Knowledge of eye banks is important because awareness of donation facilities directly influences the likelihood of eye donation registration and utilization of eye banking services.[20]

A notable finding of the study was the high willingness to donate eyes in the future, reported by 77.22% of participants. Willingness was greater among medical students than non-medical students. This finding is comparable to previous studies that have demonstrated a positive attitude toward eye donation among educated young adults.[21] Nevertheless, a proportion of students remained unwilling to donate, emphasizing the need for targeted educational interventions to address misconceptions, religious concerns, and lack of information.

Overall, the study demonstrates that although awareness regarding eye donation is relatively high

among both medical and non-medical students, significant deficiencies remain in specific areas of knowledge. Strengthening educational programs, increasing public awareness campaigns, and involving healthcare professionals in advocacy efforts may enhance knowledge and translate positive attitudes into actual eye donation practices.

## CONCLUSION

The present study demonstrated that awareness regarding eye donation was relatively high among both medical and non-medical students, with medical students exhibiting better knowledge and understanding of eye donation-related concepts. Healthcare professionals were identified as the major source of information, highlighting their important role in promoting eye donation awareness. Despite the satisfactory level of awareness, significant gaps in knowledge were observed regarding specific aspects of eye donation, including the time required for eye retrieval, storage of donor corneas, eligibility criteria for donation, and the role of eye banks. Misconceptions regarding medical contraindications and concerns related to the donation process were also evident among a proportion of participants.

A positive finding was the high willingness to donate eyes in the future, particularly among medical students, indicating a favorable attitude toward eye donation. However, translating awareness and willingness into actual donor registration requires continuous educational efforts and public health initiatives.

The study emphasizes the need for structured awareness programs, educational campaigns, and inclusion of eye donation-related information in academic curricula to improve knowledge and dispel misconceptions. Strengthening awareness among students can contribute significantly to increasing eye donation rates and ultimately help reduce the burden of corneal blindness in the community.

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