ORIGINAL RESEARCH VOLUME 4; ISSUE 1 (2026)

A Cross-sectional Study to Estimate Level of Awareness about Eye Donation and Willingness to Donate Eyes among the Students of MBBS Degree in a Medical College in North Maharashtra Region

Mahi Shah[1], Shubhangi Sathe[1], Jagdish Powar[2]

Abstract

Background: Corneal blindness is a significant public health challenge in India, with transplantation being the only curative option. Despite high awareness, the supply of donor corneas remains inadequate. Medical students, as future influencers of healthcare policy and community attitude, play a vital role in bridging this gap.

Aim: To assess the knowledge, awareness, and willingness regarding eye donation among undergraduate MBBS students in a medical college in North Maharashtra.

Methods: A cross-sectional, questionnaire-based study was conducted among 174 undergraduate medical students. A pre-validated semi-structured questionnaire was administered via Google Forms to assess demographics, knowledge levels, and attitudes toward eye donation. Data were analyzed using descriptive statistics.

Results: General awareness of eye donation was near-universal (95.98%), and 85.63% were aware of eye banks. However, specific knowledge regarding eligibility was suboptimal; 25.29% were unaware that age is not a bar to donation, and nearly 40% incorrectly believed cataract surgery disqualifies a donor. While 74.71% of students were willing to pledge their eyes, the primary barrier among the unwilling was a lack of knowledge regarding the process (45.16%), followed by family objections (25.81%).

Conclusion: While medical students possess high superficial awareness, critical gaps exist regarding technical eligibility and procedural details. The findings underscore the need for vertical integration of organ donation modules in the medical curriculum to convert passive awareness into active advocacy.

Keywords: Eye donation, Corneal blindness, Medical students, Awareness, Organ transplantation, India.

Journal of Research in Medical and Interpathy Sciences. 4(1);2026; doi: 10.61081/jremedis/4v1i102

Introduction

Corneal diseases remain a major cause of visual impairment and blindness, particularly in developing nations such as India. According to the National Blindness and Visual Impairment Survey (2015–2019), corneal opacity accounted for 7.4% of blindness among individuals aged over 50-years and a significant 37.5% among those aged 0–49 years, underscoring its severe impact across all age groups.[1] Currently, more than 1.2 lakh individuals in India suffer from corneal blindness, with an estimated 25,000–30,000 new cases reported annually.

Corneal transplantation remains the only definitive treatment to restore vision in affected individuals. However, the availability of donor corneas falls drastically short of demand. Data from the Eye Bank Association of India revealed that corneal transplants declined from 27,075 in 2019–2020 to 12,998 in 2020–2021, a reduction attributed to systemic constraints and a drop in public awareness, particularly during the COVID-19 pandemic.[2] Despite extensive nationwide campaigns, awareness and willingness to donate eyes remain suboptimal, especially among the younger population. Studies have highlighted that poor knowledge, emotional hesitancy, and cultural misconceptions significantly hinder eye donation rates.[3–5] Gupta *et al.*[3] reported inadequate awareness among nursing students and emphasized the positive impact of

[1]Department of Ophthalmology, Medicine, SMBT, IMSRC, Nashik, Maharashtra, India

[2]Department of Community Medicine, SMBT, IMSRC, Nashik, Maharashtra, India

Corresponding Author: Mahi Shah (**Email:** mahihshah@gmail.com)

Conflict of Interest: None

Source of Funding: None

How to cite: Shah M, Sathe S, Powar J. A Cross-sectional Study to Estimate Level of Awareness about Eye Donation and Willingness to Donate Eyes among the Students of MBBS Degree in a Medical College in North Maharashtra Region. Journal of Research in Medical and Interpathy Sciences. 2026;4(1):2–6

© The Author(s). 2026 Open Access This article is distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) (https://creativecommons.org/licenses/by-nc-sa/4.0/)

structured education. Similarly, Shwetha *et al*.[4] and Bharti *et al*.[5] noted that early sensitization of medical and paramedical students was critical to building a positive outlook toward donation. Research among college students in Rajasthan,[6] degree students in Karnataka,[7] and first-year MBBS students[8] further reinforced the existence of gaps in awareness and the necessity of structured education. Other studies focusing on patients in community settings[9] and postgraduate medical trainees[10] also highlighted variable levels of willingness and knowledge, pointing toward the need for consistent sensitization across educational levels.

Medical students, as future healthcare providers, are uniquely positioned to influence societal attitudes through awareness, education, and advocacy. Their personal beliefs and willingness to pledge for eye donation are critical, as they may serve as catalysts for public change and enhance community-level participation.

This study aimed to assess awareness, knowledge, and willingness regarding eye donation among undergraduate MBBS students in a medical college in North Maharashtra. By identifying existing gaps, the study intended to inform the development of targeted educational interventions that can ultimately support India's efforts to reduce the burden of corneal blindness.

Methodology

Study Design and Setting

This cross-sectional, questionnaire-based observational study was conducted at a tertiary care medical college in North Maharashtra. Prior to the commencement of data collection, the research protocol was first submitted to the Scientific Research Committee (SRC) for technical review. Upon receiving clearance from the SRC, the study was presented to the Institutional Ethics Committee (IEC) and received formal ethical approval.

Study Population and Sampling

The study population comprised undergraduate MBBS students enrolled in the institution. Students from all academic years (First MBBS to Final MBBS) were eligible to participate. The sampling method employed was convenience sampling, targeting students available during the data collection period. Inclusion criteria were defined as all undergraduate medical students willing to provide informed consent. Students who were absent on the day of data collection or who declined to participate were excluded from the study. A total of 174 students participated in the final analysis.

Data Collection Instrument

A semi-structured, pre-validated questionnaire was utilized as the primary tool for data collection. The instrument was designed based on a review of similar literature and validated by subject experts in the Department of Ophthalmology to ensure content validity. The questionnaire was divided into four distinct sections:

1. **Knowledge Assessment:** Questions regarding the definition of eye donation, eligibility criteria (age, medical history), the transplantable part of the eye, and the ideal time frame for retrieval.
2. **Awareness:** Knowledge of eye banks and existing legislation.
3. **Attitude and Willingness:** Willingness to pledge eyes and specific reasons for refusal (if applicable).

Data Collection Procedure

To ensure a uniform environment and minimize peer influence or external distractions, participants were assembled in the college lecture hall at a pre-notified time. The purpose and nature of the study were explained to the students, and implied consent was obtained.

To facilitate efficient data entry and maintain anonymity, the questionnaire was digitized using Google Forms. A link to the form was disseminated via a shared class WhatsApp group. Students were allotted a strict time limit of 15 minutes to complete the form on their personal mobile devices. This digital approach ensures confidentiality, minimized response bias, and prevents data entry errors. Immediately following the submission of responses, an interactive session was conducted where correct answers were displayed, and misconceptions were clarified, providing an immediate educational intervention.

Statistical Analysis

Data collected via Google Forms were automatically compiled into a spreadsheet (Microsoft Excel). The data were cleaned and coded for analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to summarize the demographic profile and levels of awareness. Chi-square tests were applied where appropriate to determine associations between categorical variables such as gender, year of study, and willingness to donate. All statistical analyses were performed using standard statistical software.

Results

Knowledge Regarding Eye Donation

A total of 174 MBBS students participated in the study assessing knowledge regarding eye donation.

A total of 174 MBBS students participated in the study. The assessment of general knowledge revealed that the vast majority of participants (95.98%, n = 167) were aware of the concept of eye donation, while only a small minority (4.02%, n = 7) reported no prior knowledge.

Table 1: Knowledge regarding Eye Donation.

Knowledge Questions	Options	Frequency	Percent
Do you know what is eye donation?	Yes	167	95.98%
	No	7	4.02%
A person of any age can donate their eyes	Yes	130	74.71%
	No	44	25.29%
Do you know that eye banks exist?	Yes	149	85.63%
	No	25	14.37%
Do you know which part of eyes is transplanted?	Cornea	150	86.21%
	Entire eyeball	17	9.77%
	Retina	7	4.02%
Eye donation by one person can benefit how many people?	1	24	13.79%
	2	150	86.21%
What is the ideal time to donate eyes after death?	0-G hours	132	75.86%
	12-24 hours	3	1.72%
	G-12 hours	39	22.41%
Can a person donate eyes if he/ she had undergone cataract surgery	Yes	105	60.34%
	No	69	39.66%
Can a living person donate their Eyes?	Both (living & dead)	50	28.74%
	No (After Death)	101	58.05%
	Yes	23	13.22%

Awareness regarding the existence of eye banks was similarly high, with 85.63% (n = 149) answering in the affirmative.

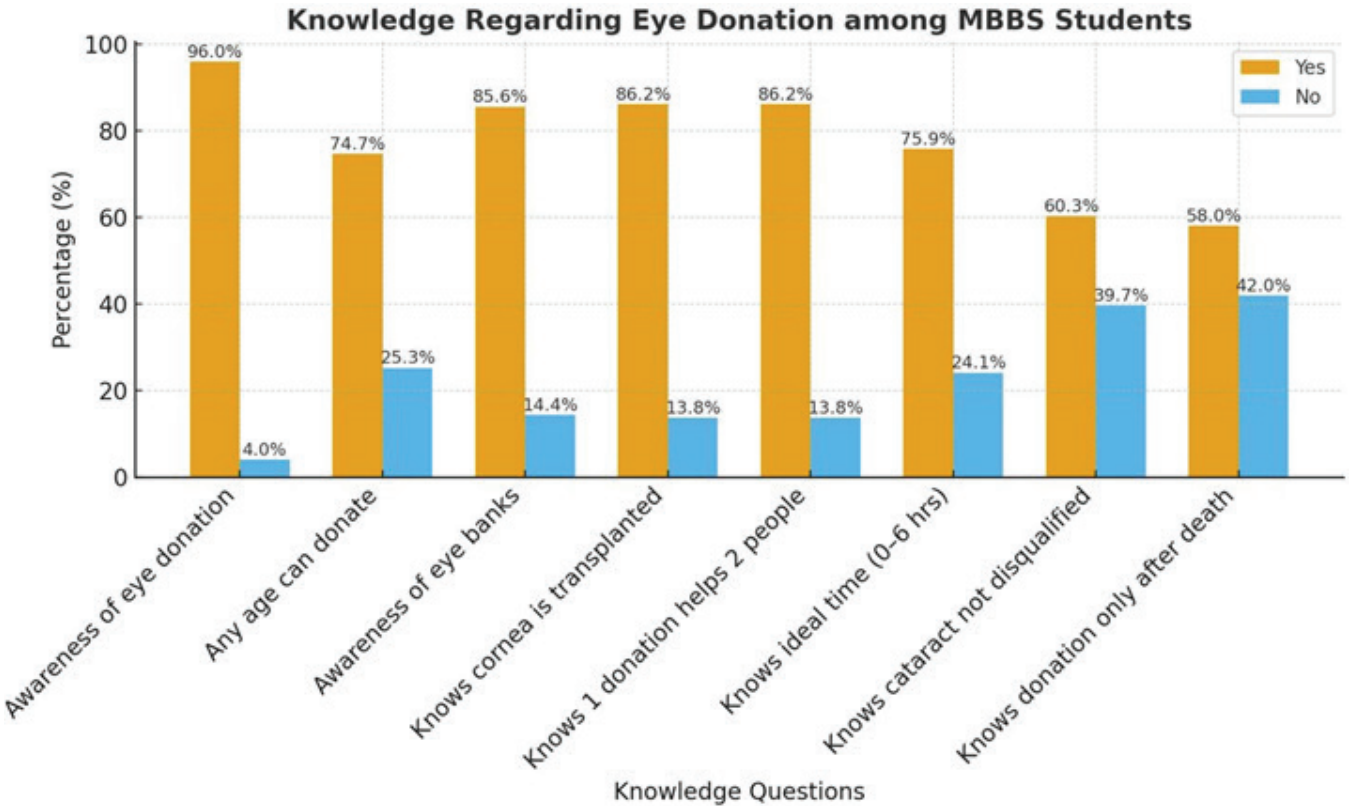
However, specific knowledge regarding donor eligibility showed significant gaps. While 74.71% (n = 130) correctly identified that a person of any age can donate eyes, nearly one-quarter of the students (25.29%) were unaware of this fact. Furthermore, misconceptions regarding medical history were prevalent; only 60.34% (n = 105) knew that individuals who had undergone cataract surgery could still donate eyes, while 39.66% believed they could not.

Regarding the technical aspects of donation, 86.21% (n = 150) correctly identified the cornea as the transplanted tissue, though 9.77% incorrectly believed the entire eyeball is transplanted.

The majority (86.21%) correctly stated that one donor can benefit two recipients. Knowledge regarding the ideal retrieval time was robust, with 75.86% (n = 132) identifying the correct window of 0–G hours after death. However, confusion regarding living donation persisted; only 58.05% correctly identified that eye donation is only possible after death, while a significant portion (28.74%) believed both living and dead individuals could donate.

Attitude and Willingness

In terms of attitude, 74.71% (n = 130) of respondents expressed a willingness to pledge their eyes for donation, while 25.29% (n = 44) were unwilling.



Are you willing to donate your Eyes?	Frequency	Percent
Yes	130	74.71%
No	44	25.29%
If answer to the above	**Frequency**	**Percent**
question is No _State why?		
Body is ill-treated by Eye donation	10	16.13%
Delaying of religious rights	8	12.90%
Lack of awareness or knowledge about the process	28	45.16%
Objection by family members	16	25.81%
TOTAL	**62**	**100.00%**

Among those who were unwilling to donate (n = 62 responses recorded for specific reasons), the most cited barrier was a lack of awareness or knowledge about the process (45.16%). This was followed by objection by family members (25.81%). Other significant barriers included concerns regarding the disfigurement or ill-treatment of the body (16.13%) and the belief that donation might delay religious rites (12.90%).

Discussion

The present study highlighted the knowledge, awareness, and willingness regarding eye donation among undergraduate MBBS students in a medical college in North Maharashtra. A majority of participants (95.98\%) were aware of the concept of eye donation, reflecting a high baseline awareness consistent with findings from Gupta *et al.*[3] and Shwetha *et al.*[4] However, despite this encouraging figure, significant knowledge gaps persisted in specific domains. For instance,

25.29% of students were unaware that individuals of any age can donate their eyes, and nearly 40% incorrectly believed that cataract surgery disqualifies donors. These misconceptions aligned with earlier reports from Karnataka[7] and Rajasthan[6], emphasizing that medical undergraduates—though better informed than the general population—still required structured sensitization.

Encouragingly, 74.71% of respondents expressed a willingness to pledge for eye donation. This willingness was higher than reports from community-based studies[9] but indicated that nearly one-fourth of students remained hesitant. The reasons for refusal—lack of knowledge (45.16%), family objections (25.81%), and concerns regarding body integrity or religious rites (29.03%)— mirrored barriers reported in previous literature.[3–5] Importantly, the predominance of "lack of knowledge" as a primary barrier underscored the urgent need for continued educational interventions within medical curricula.

In the context of regional comparisons, the findings of the present study were noteworthy. Similar studies conducted in other parts of India showed wide variations in awareness and willingness levels, influenced by educational exposure, sociocultural factors, and institutional initiatives. For instance, Gotekar and Joshi[8] observed that only 68\% of first-year medical students had adequate knowledge about the eye donation process, while in the current study, awareness levels were considerably higher (95.98\%), possibly reflecting improved dissemination of health information and social media outreach. Nonetheless, the persistence of misconceptions such as age restrictions and ineligibility after cataract surgery highlighted the gap between superficial awareness and comprehensive understanding. This underlines the need for reinforcing factual clarity through regular sensitization programs, workshops by eye banks, and the inclusion of short modules on organ and tissue donation in the undergraduate curriculum.

Furthermore, the willingness to pledge eyes, although encouraging, does not always translate into actual registration or family consent. Previous literature[3–6] has consistently shown that the presence of family or religious objections acts as a stronger deterrent than individual hesitation. In this study, one-fourth of respondents cited family-related concerns. This indicated that awareness campaigns targeting only individuals may not suffice; instead, family-oriented and community-based approaches are essential. Engaging medical students in such initiatives could serve a dual purpose—enhancing their communication skills and fostering community trust.

Establishing collaborations between medical colleges and local eye banks for regular awareness drives, donor pledge camps, and hospital-based counseling programs could further bridge the gap between intent and action.

Another critical observation pertained to the influence of the academic year on awareness and willingness. Although the current study did not analyze this association in depth, previous studies[6–8] reported a positive correlation between academic progression and both knowledge and attitude toward donation. This trend likely reflected cumulative clinical exposure and ethical discussions during medical training. Hence, introducing early exposure programs during the first year—such as orientation talks, real-life donor case stories, or interactive sessions with transplant coordinators—could help establish a stronger emotional and ethical foundation for donation practices. When reinforced across successive academic years, this vertical integration can ensure sustained motivation and a long-term commitment to the cause.

The role of medical students is, therefore, particularly crucial, as they will serve as future advocates influencing patients, families, and the wider community. If properly educated and sensitized, their collective impact could significantly boost eye donation rates. Moreover, addressing family-centered concerns and cultural sensitivities through communication training can empower students to counsel effectively.

Overall, the findings reaffirmed the need for a structured, multi-pronged approach—integrating knowledge dissemination, myth-busting, and family-inclusive awareness programs—to convert favorable attitudes into actual pledges and donations. Strengthening these educational and motivational frameworks within medical institutions can contribute meaningfully to the national goal of reducing corneal blindness and enhancing the availability of donor tissues across India.

Conclusion

The study demonstrated that while awareness about eye donation among MBBS students was high, knowledge gaps and attitudinal barriers persisted. Although nearly three-fourths of respondents were willing to donate, misconceptions regarding eligibility criteria, procedural aspects, and cultural concerns remained significant deterrents. The predominant reason for unwillingness was inadequate knowledge, highlighting the necessity of targeted educational strategies.

Medical students, given their future roles as healthcare providers, are in a unique position to influence public perceptions and strengthen community participation in eye donation. Incorporating structured awareness modules, interactive discussions, and counseling training into the undergraduate curriculum can bridge knowledge gaps and address socio-cultural hesitations. By empowering medical students with correct knowledge and positive attitudes, they can act as catalysts for change, not only pledging themselves but also motivating families and communities to contribute. Such efforts are essential to narrow the wide gap between demand and availability of donor corneas in India, thereby reducing the burden of corneal blindness and restoring vision to thousands in need.

References

1. National Programme for Control of Blindness and Visual Impairment (NPCBVI). National Blindness and Visual Impairment Survey 2015–2019. Ministry of Health and Family Welfare, Government of India.
2. Eye Bank Association of India (EBAI). Eye Donation Statistics 2020–2021. [Online] Available from: www.ebai.org
3. 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):122–125.
4. Shwetha R, Anitha G, Sathyamurthy M, et al. Awareness and knowledge on eye donation among medical students. Int J Sci Stud. 2016;4(7):180–183.
5. Bharti D, Singh N, Upadhyay S, Choudhary M. Awareness and willingness regarding eye donation among medical students in a tertiary care hospital in India. Int J Community Med Public Health. 2018;5(10):4428–4431.
6. G. Jhingonia LK, Paliwal P, Jain R, Laddha P, Jain P. A cross sectional study to assess awareness and attitude on eye donation among college going students of Jhalawar, Rajasthan. Int J Community Med Public Health. 2023;10(8):2790–2794.
7. Shwetha NC, Prakash GM, Kumari S, et al. A cross sectional study on awareness about eye donation among the students of a selected degree college and their willingness to pledge eyes for donation. Trop J Ophthalmol Otolaryngol. 2021;6(1):07–12.
8. Gotekar R, Joshi A. A study of knowledge and attitude about eye donation among 1st year medical students. Trop J Ophthalmol Otolaryngol. 2020;5(2):39–46.
9. U. Gaunekar A. Eye donation awareness and willingness among patients attending ophthalmology OPD at Goa Medical College and Hospital. Trop J Ophthalmol Otolaryngol. 2020;5(8):243–249.
10. Tiwari R, Shukla S, Gaur N, et al. Awareness regarding eye donation among postgraduate medical students admitted through NEET-PG 2014 at Gajra Raja Medical College, Gwalior, M.P., India. Int J Res Med Sci. 2015;3(11):3242–3246.