

Original Research Article

Knowledge, Attitude, and Practice (KAP) Regarding Eye Donation, Eye Banking, and Corneal Transplant at a Tertiary Care Hospital

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ABSTRACT

Background

Corneal blindness is a significant global health issue, particularly in developing countries. The availability of donated corneas for transplantation is crucial in addressing this challenge.

Objectives

This study aimed to assess the knowledge, attitude, and practice regarding eye donation, eye banking, and corneal transplant among the non-teaching staff at a tertiary care hospital to identify potential areas for intervention that could improve donation rates.

Methods

A prospective, cross-sectional questionnaire-based study was conducted over 12 months at the Adichunchangiri Institute of Medical Sciences. The sample consisted of 400 non-teaching faculty members aged 18 to 60 years. Participants completed a 15-item questionnaire designed to evaluate their knowledge, attitudes, and practices concerning eye donation. Descriptive statistics were utilized for data analysis.

Results

The study encompassed 360 non-teaching faculty members, constituting 90% of the intended sample size. Participants, spanning ages 18 to 60, exhibited a balanced gender distribution, with 54.5% male and 45.5% female representation. Findings revealed a high level of awareness (90%) regarding eye donation, primarily disseminated through educational institutions (82%). Notably, 53% expressed willingness to donate their eyes, while reluctance stemmed from factors such as lack of awareness (43%) and religious beliefs (38%). Additionally, while 50% were receptive to participating in eye donation campaigns, only 28% actively promoted eye donation.

Conclusions

The results suggest that while awareness about eye donation is high among non-teaching staff at the tertiary care hospital, this does not necessarily translate into positive attitudes or practices towards eye donation. By improving knowledge and attitudes among this key group, there may

be a broader impact on the community's willingness to engage in eye donation, thus potentially increasing the donor cornea supply.

Keywords: Corneal Blindness, Eye Donation Awareness, Health Knowledge, Attitudes, Practice, Tertiary Healthcare Staff, Eye Banking

INTRODUCTION

Corneal blindness represents a significant public health challenge globally and particularly in developing countries like India, where it constitutes a major cause of avoidable blindness. Despite the advancements in ophthalmic medical sciences allowing for the treatment and prevention of various forms of blindness, corneal blindness remains prevalent due to a shortage of donor corneas available for transplantation. The World Health Organization (WHO) has estimated that approximately 80% of all visual impairment worldwide is avoidable or treatable, with corneal diseases being a significant contributor that could be addressed through transplantation.^[1] The global scenario of bilateral corneal blindness accounts for about 12% of blindness, with the Indian subcontinent alone contributing to 14% of this burden.^[2]

The National Programme for Control of Blindness (NPCB) in India, established to reduce the burden of preventable blindness by 2020, emphasizes the importance of corneal transplantation through eye donation as a key intervention.^[3] However, the success of these programs is heavily reliant on the availability of donated eyes, which remains critically low due to a variety of socio-cultural, religious, and awareness-related barriers. Studies indicate a significant gap in the general population's knowledge and attitudes towards eye donation, which directly impacts the willingness to pledge eyes posthumously.^[4]

In addition to public awareness, healthcare workers' knowledge and attitudes towards eye donation play a crucial role in the success of eye donation programs. Healthcare professionals, especially those working in tertiary care hospitals, are in a pivotal position to influence patient and family decisions about eye donation due to their trusted status and frequent interactions with patients and families.^[5] However, studies have shown varying levels of awareness and willingness among healthcare workers regarding eye donation, indicating a need for targeted educational interventions.^[6]

The gap in knowledge and attitudes is not just a challenge but also an opportunity for intervention, particularly in settings like tertiary care hospitals, which serve as focal points for health education and advocacy in the community. The importance of understanding healthcare workers' perspectives, especially non-teaching staff who may have direct contact with patients and their families, cannot be overstated. These staff members often serve as the first point of information for many patients and visitors, making their knowledge and attitudes towards eye donation critically important.^[7]

Given this context, the present study aims to assess the knowledge, attitude, and practice (KAP) regarding eye donation, eye banking, and corneal transplant among non-teaching staff at a tertiary care hospital. This demographic is of particular interest because their understanding and willingness to engage in and advocate for eye donation can significantly influence the hospital's broader community and potentially increase the number of eye donations. The study's findings could inform targeted interventions designed to improve awareness and attitudes towards eye donation among this key group, ultimately contributing to the reduction of corneal blindness in India and beyond.

MATERIALS & METHODS

Study Design

This research was a prospective, hospital-based, questionnaire study designed to assess the knowledge, attitudes, and practices regarding eye donation, eye banking, and corneal transplantation among the non-teaching faculty at the Adichunchanagiri Institute of Medical Sciences.

Study Setting

The study was conducted in the Department of Ophthalmology at the Adichunchanagiri Institute of Medical Sciences, a tertiary care hospital recognized for its comprehensive eye care services.

Study Duration

The research spanned a period of 12 months, allowing sufficient time to engage a large number of participants and to comprehensively analyze the collected data.

Study Participants

Participants included non-teaching faculty members of the Adichunchanagiri Institute of Medical Sciences. The study aimed to understand this group's perspective on eye donation, eye banking, and corneal transplantation due to their potential influence on the rural population and their role in the hospital setting.

Inclusion Criteria

- Non-clinical workers from all departments of the Adichunchanagiri Institute of Medical Sciences.
- Participants aged greater than 18 years.

Exclusion Criteria

- Workers aged more than 60 years.
- All clinical staff, including ophthalmologists, nurses, optometrists, and eye bank managers.
- Individuals who were not willing to attempt the questionnaire.

Study Sampling

A convenience sampling method was employed to select participants from the non-teaching faculty at the Adichunchanagiri Institute of Medical Sciences, considering the accessibility and willingness of individuals to participate in the study.

Sample Size

The study targeted a sample size of 400 non-teaching faculty members, based on the institute's employee strength and the expected response rate to ensure statistical significance of the findings.

Study Data Collection Tools

A structured questionnaire comprising 15 multiple-choice questions was developed to evaluate the participants' knowledge, attitudes, and practices related to eye donation, eye banking, and corneal transplantation. The questions were designed to cover various aspects of eye donation, including sources of information, willingness to donate, and barriers to donation.

Data Collection

Data were collected by distributing the questionnaires to the participants and retrieving them upon completion. Efforts were made to ensure confidentiality and encourage honest responses. Trained personnel were available to clarify any doubts regarding the questionnaire without influencing the participants' responses.

Data Analysis

The collected data were analyzed using descriptive statistics to summarize the participants' responses. Frequencies and percentages were calculated for categorical variables, such as gender distribution, sources of information, and willingness to donate eyes. The analysis aimed to identify patterns and correlations between the participants' demographics and their knowledge, attitudes, and practices regarding eye donation.

Ethical Considerations

The study was conducted by the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments. Informed consent was obtained from all individual participants included in the study. Participants were informed about the study's purpose, and confidentiality of responses was assured. Participation was voluntary, with participants having the right to withdraw from the study at any time without any consequences.

RESULT AND ANALYSIS

Demographics of Participants

- **Total Participants:** 360 non-teaching faculty members participated out of the 400 targeted for the study.
- **Age Range:** Participants ranged from 18 to 60 years.
- **Gender Distribution:** There was a nearly even split among participants, with 54.5% (218) male and 45.5% (182) female.

Gender	No.	Percentage
Male	218	54.5%
Female	182	45.5%

Table 1: Demographics of the study

Knowledge about Eye Donation

Awareness: 90% (324) of participants had heard of eye donation. The primary source of information was educational institutions (82%), followed by newspapers (10%), and television (3%).

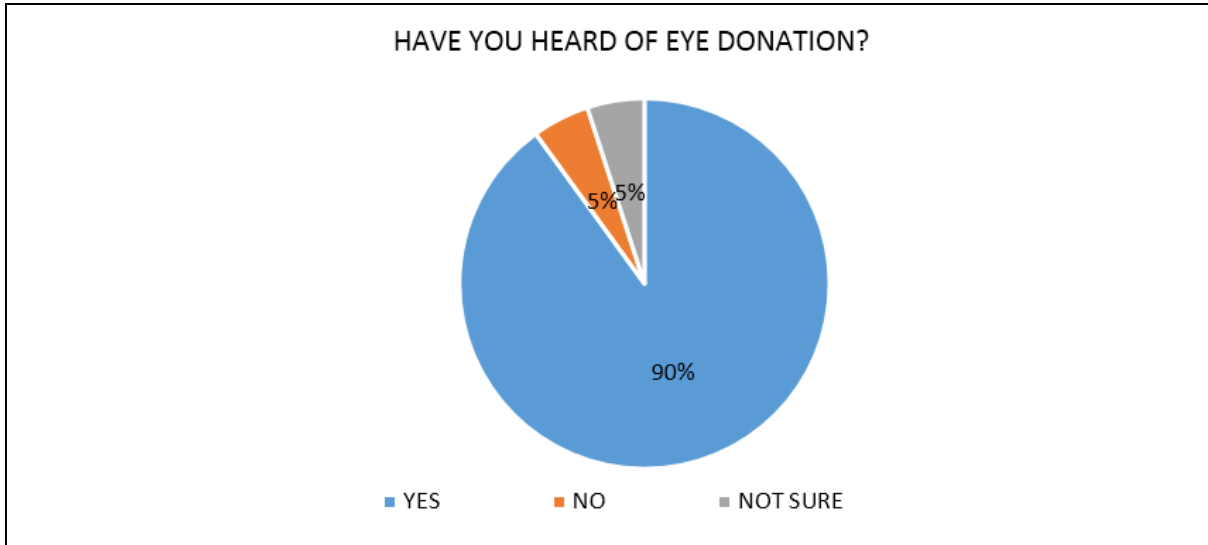


Figure 1: Awareness About eye donation

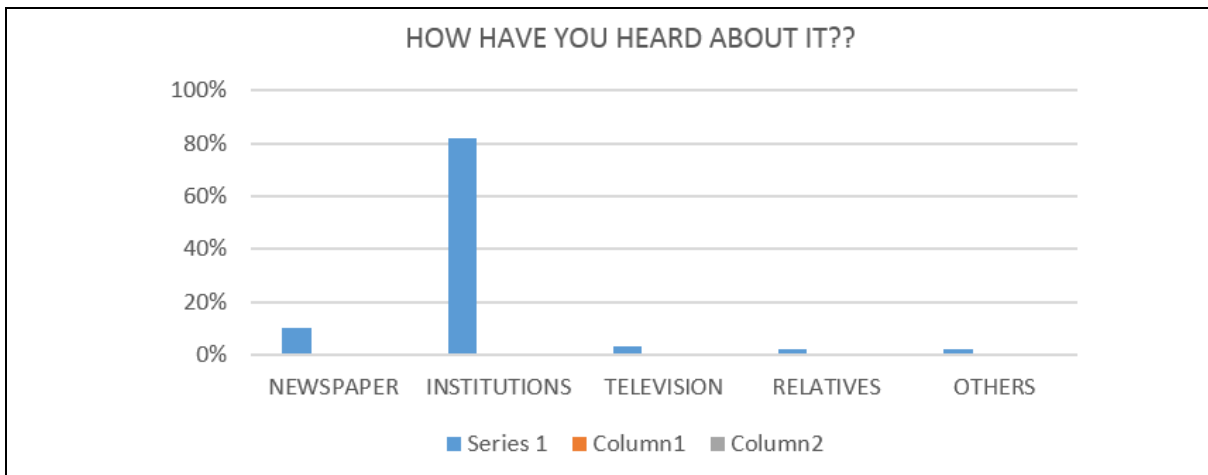


Figure 2: Primary source for information

Understanding of Eye Donation: 50% (180) believed eyes could only be donated after death, 20% (72) were unsure, and 30% (108) knew eyes could be donated under other circumstances.

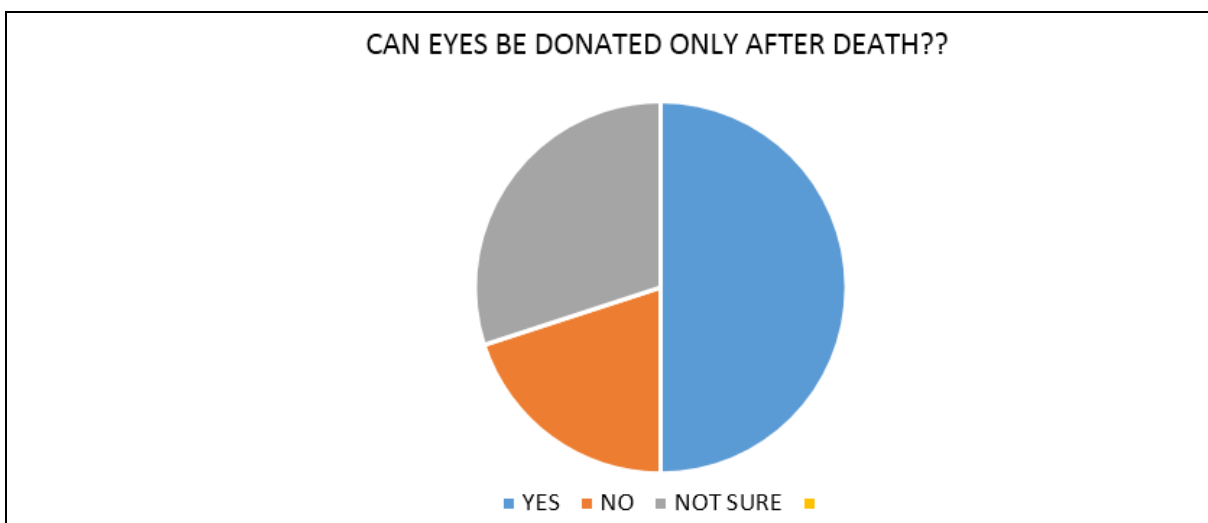


Figure 3: Understanding of Eye Donation

Timing for Eye Donation: A significant number of participants (43%, 155) correctly identified the optimal time for eye donation as within 6-24 hours after death.

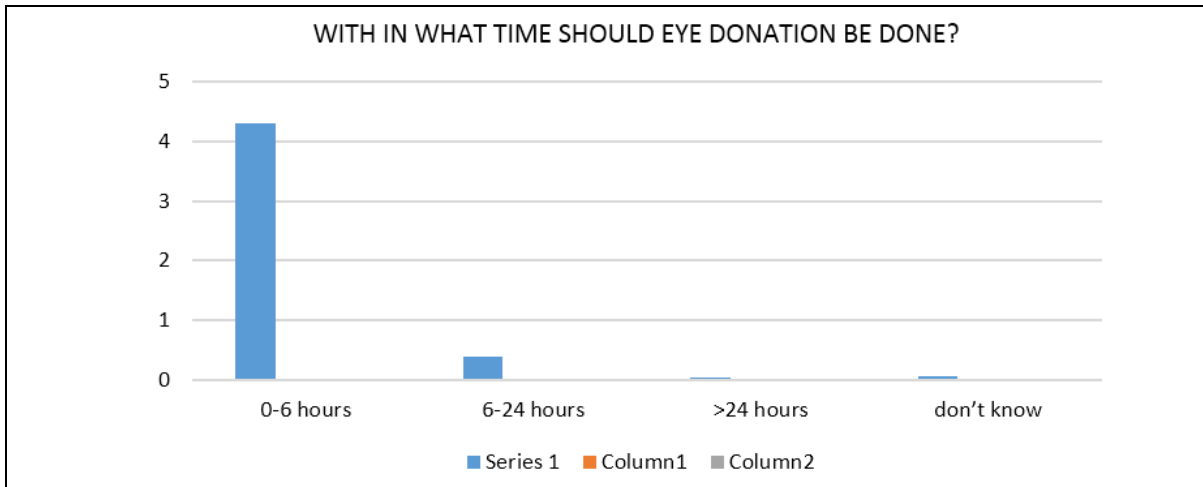


Figure 4: Timing for Eye Donation

Awareness regarding the existence and functioning of eye: A majority, representing 55% of respondents, are aware, while 35% are not, and 10% are unsure about eye banking and corneal donation.

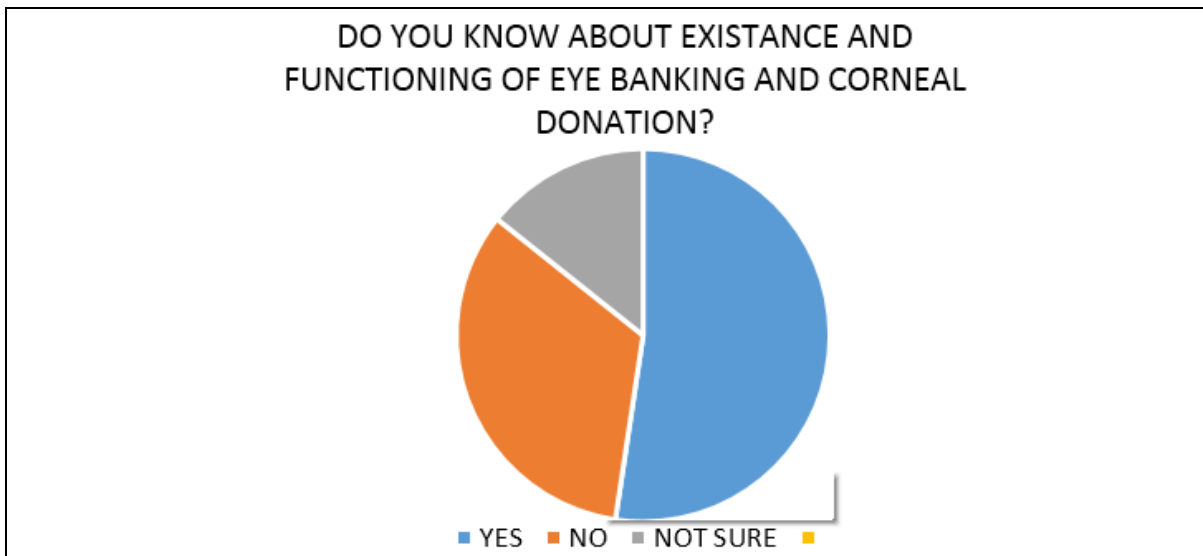


Figure 5: Awareness regarding the existence and functioning of eye

Attitudes towards Eye Donation

3.4.1 Willingness to Donate: 53% (191) expressed willingness to donate their eyes, while 33% (119) were not willing, and 14% (50) were undecided.

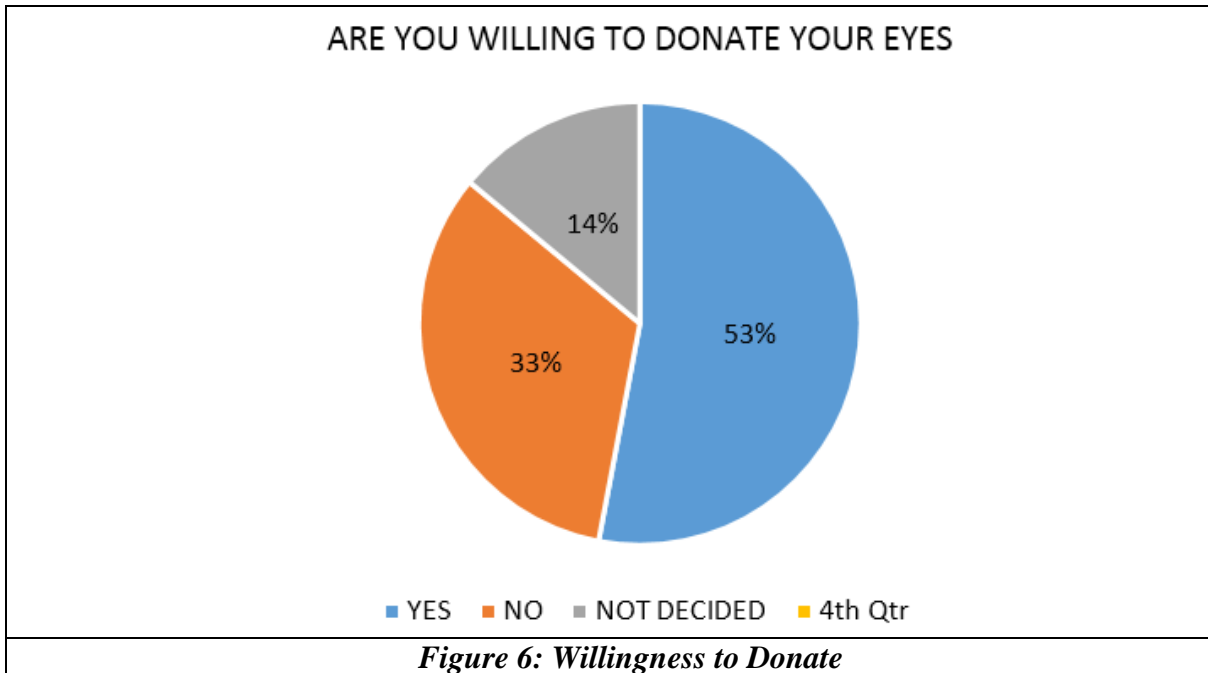


Figure 6: Willingness to Donate

Reasons for Reluctance: Among those not willing to donate, the main reasons were lack of awareness (43%, 51) and religious beliefs (38%, 45).

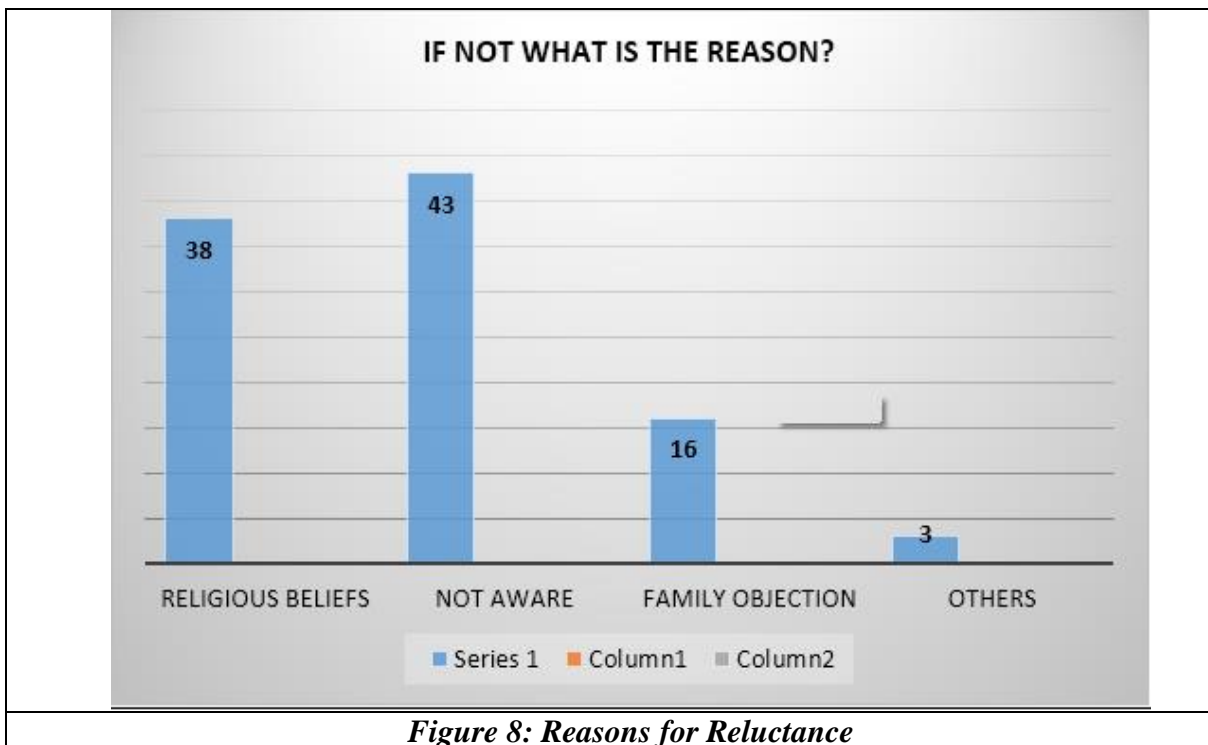
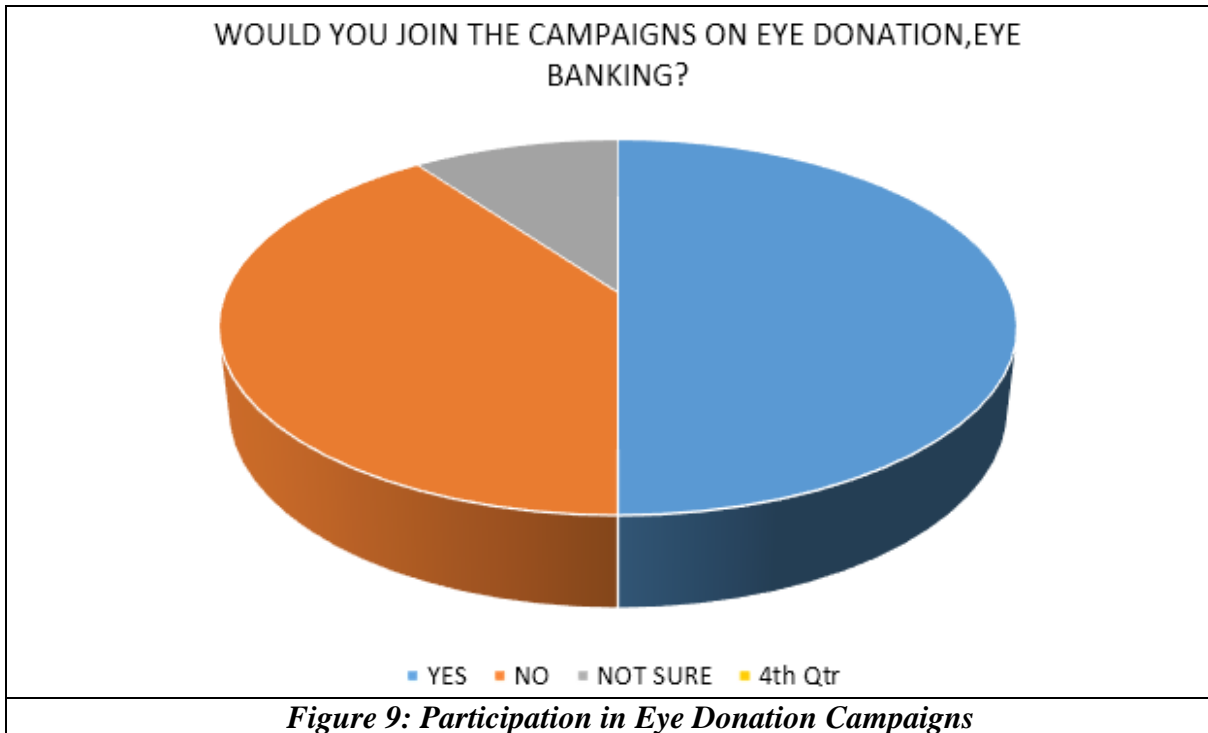


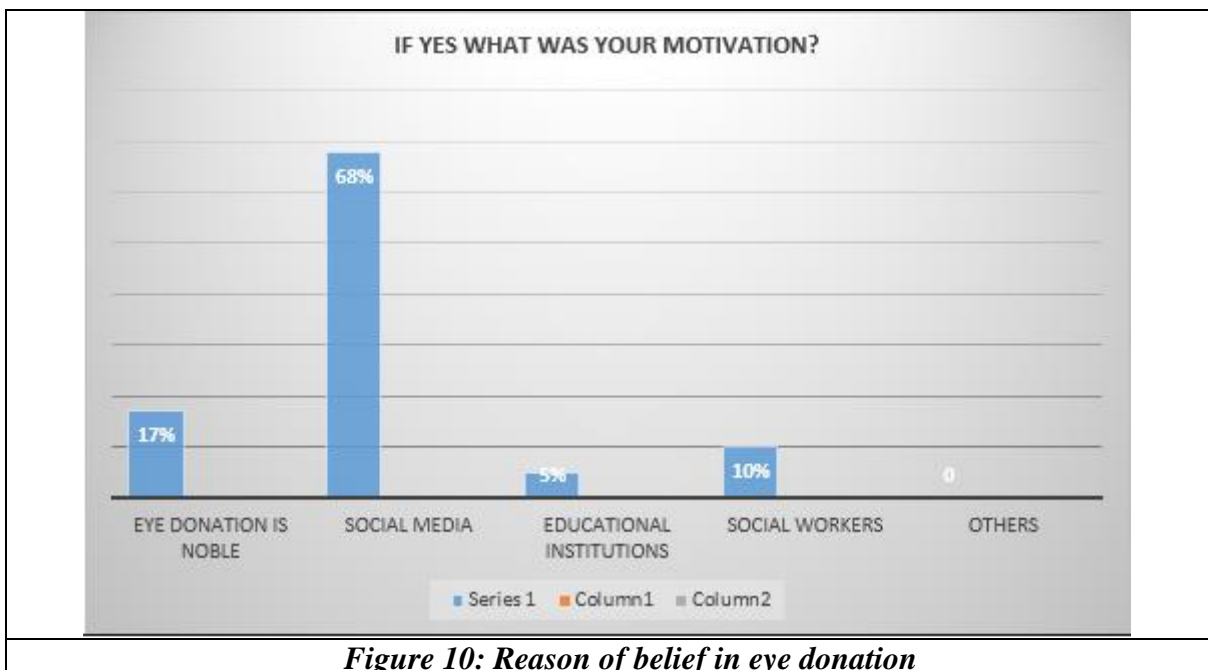
Figure 8: Reasons for Reluctance

Practices Related to Eye Donation

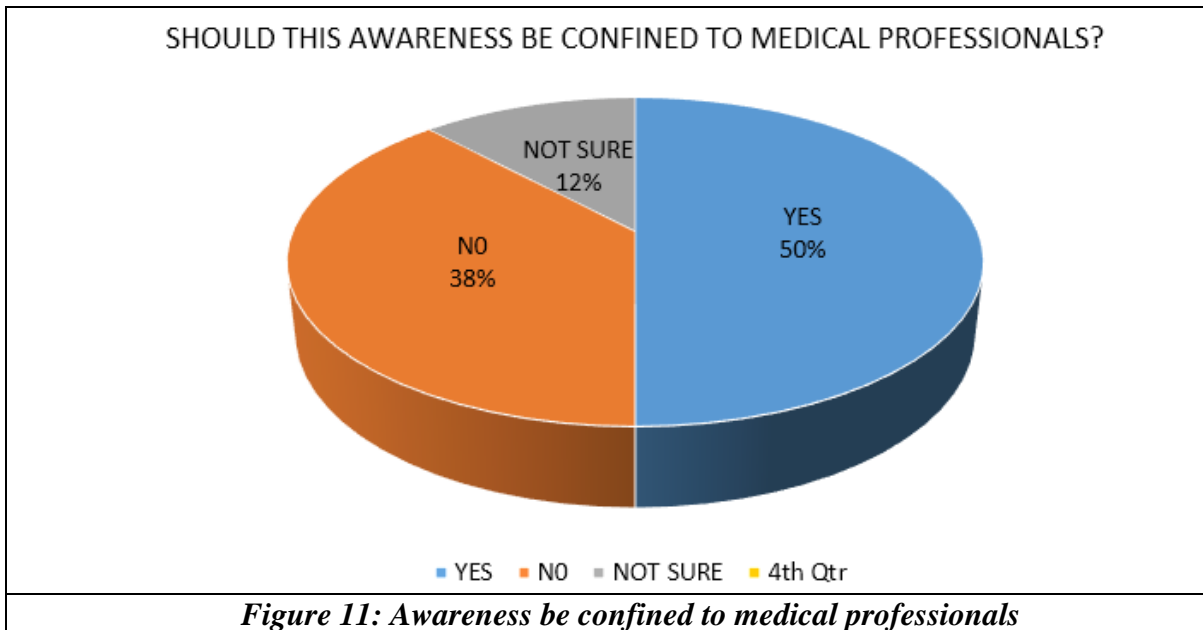
Participation in Eye Donation Campaigns: 50% (180) were open to joining campaigns on eye donation and eye banking. The most cited motivation was the belief in the nobility of eye donation (68%), influenced mainly by social media.



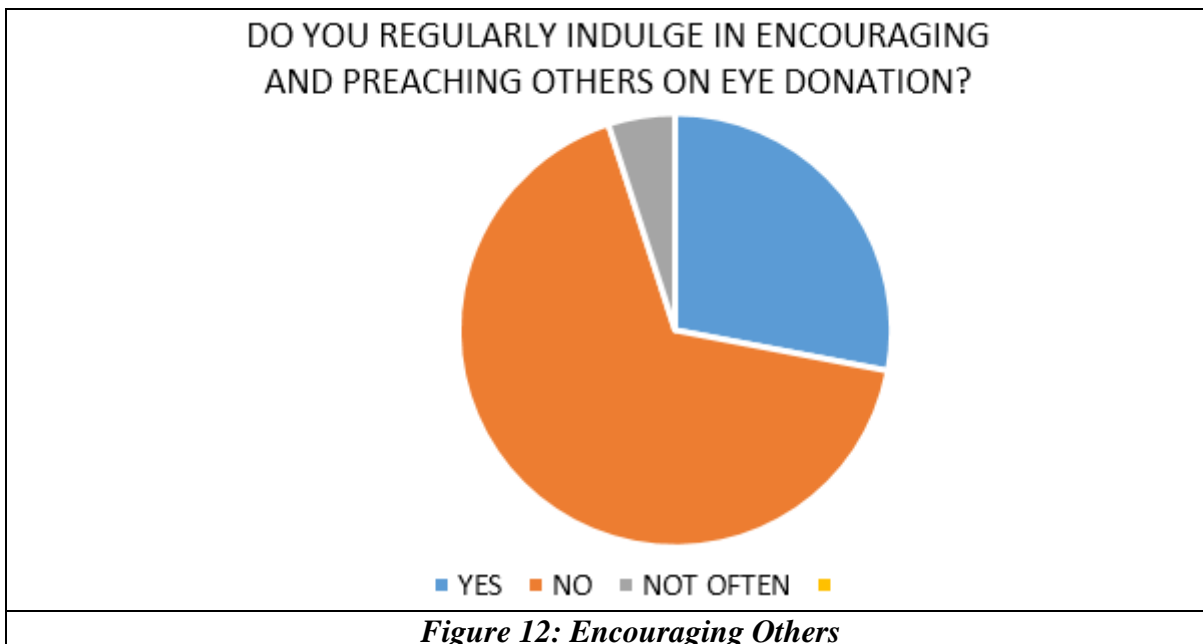
Reason of belief in eye donation: A large majority of participants (68%) indicated that their motivation for eye donation was the belief that it is a noble cause. Social media played a significant role as well, motivating 17% of the respondents, while educational institutions and social workers influenced 5% and 10% of participants, respectively.



Awareness be Confined to Medical Professionals: Exactly half of the respondents believe that awareness about eye donation should be confined to medical professionals. In contrast, 38% disagree, and 12% are not sure, indicating a division in opinions on whether such awareness should be specialized or more widespread.



Encouraging Others: Only 28% (101) regularly indulged in promoting eye donation among others, while 67% (241) did not, and 5% (18) did so infrequently.



DISCUSSION

The findings present a critical insight into the existing awareness levels and the readiness to participate in eye donation initiatives, which are pivotal in addressing the challenge of corneal blindness. The study reveals a notable awareness of eye donation among the participants. This is a positive sign, indicative of the reach and impact of awareness campaigns and educational efforts thus far. However, knowledge does not equate to action, and the study brings to the forefront the gap between awareness and practice. Although a majority are aware of eye donation and eye banking, a lesser number have actively participated in related events or

expressed a clear willingness to donate their eyes. Such a disparity highlights the presence of underlying factors that influence the decision-making process regarding eye donation.

The reasons for hesitation are complex and multi-layered. Cultural and religious beliefs play a significant role, as do personal and familial attitudes towards posthumous donation. These barriers are not unique to this study's context but are echoed across different regions and demographics. The reluctance rooted in misinformation or lack of understanding emphasizes the need for education that not only informs but also engages and addresses the concerns of potential donors.

Social media has emerged as a powerful motivator, indicating the influence of digital platforms in shaping public opinion and actions. The persuasive power of social media could be harnessed to create more impactful campaigns that speak directly to potential donors' values and beliefs, encouraging a shift from passive awareness to active participation.

The divergence in opinions on whether awareness should be confined to medical professionals or shared widely underscores a vital point of discussion in the field of public health advocacy. While specialized knowledge is crucial, the democratization of health information could lead to more inclusive and community-driven health initiatives. This approach could empower individuals, irrespective of their profession, to act as ambassadors for causes such as eye donation.

Engagement in eye donation campaigns and activities is an indicator of practice, which, in this study, shows room for significant improvement. The willingness to participate in such events is not only a direct indicator of an individual's commitment to the cause but also serves as a proxy for the potential influence they may exert within their community.

Furthermore, the motivations driving individuals to engage in eye donation activities—whether through belief in the nobility of the act, influence from social media, or educational institutions—reflect the multi-faceted nature of human motivation.

The studies by Chowdhury RK et al. (2018)^[8] and Acharya M et al. (2018)^[9] hone in on medical and nursing students, revealing an appreciable awareness of eye donation. These studies, while emphasizing the spread of information, also expose the persisting gap between awareness and the act of pledging for eye donation. The relatively high levels of knowledge among students, yet modest commitment to donation, suggest that awareness initiatives, though necessary, are not entirely sufficient. The need for persuasive communication that motivates action is evident from these studies.

In the study by Narendran V et al. (2022),^[7] a notable insight emerged: non-clinical staff, due to their accessibility and frequent interactions with the community, can serve as influential agents in promoting eye donation. This assertion aligns with the findings of the present study and highlights the strategic advantage of engaging non-clinical staff in awareness programs.

Furthermore, Robert R, Abhilash B et al. (2022)^[10] discovered that a robust practical curriculum on eye donation and banking can substantially boost knowledge and awareness among medical graduates. This insight is particularly relevant to educational institutions that are in a position to mold the perspectives of future healthcare professionals. The findings suggest that embedding practical, hands-on experiences in medical training could foster a generation of doctors who not only understand eye donation but are also committed to its advocacy.

Collectively, these studies spanning from 2018 to 2022 underline a critical theme: the journey from knowledge to action is complex and requires more than just information dissemination. Refusal to donate eyes often stems not from religious or cultural barriers alone but also from miscommunication and lack of clarity about the donation process. These insights

can inform strategies that appeal to altruistic values while leveraging modern communication channels to increase the reach and efficacy of awareness campaigns.

CONCLUSION

In light of the study's findings, it is evident that enhancing eye donation and transplantation activities through correct techniques and timely procedures is critical for preventing numerous treatable causes of blindness. The study underscores the influential role of social media, educational institutions, and social workers in shaping public perceptions and actions related to eye donation.

The prevalent reasons for the refusal to participate in eye donation-primarily lack of knowledge and religious beliefs-point towards a significant need for tailored educational interventions that can address these issues effectively. The pivotal role played by non-teaching faculty, who often serve as a bridge to the rural populace, is particularly noteworthy. Their potential to impact community attitudes and practices around eye donation is substantial given their consistent engagement with a broad segment of society.

Consequently, strategic efforts to enhance the knowledge, attitudes, and practices (KAP) of non-teaching faculty regarding eye donation could lead to an increased willingness to donate eyes, thereby alleviating the burden of corneal blindness. These initiatives should focus on providing comprehensive education on the importance and impact of eye donation and addressing the cultural and religious concerns that may inhibit individuals from participating in such life-saving programs.

REFERENCES

- [1] World Health Organization. Universal eye health: a global action plan 2014–2019. Geneva: World Health Organization 2013.
- [2] Dandona L, Dandona R. Corneal blindness in a southern Indian population: need for health promotion strategies. *Br J Ophthalmol* 2003;87(3):133-41.
- [3] National Programme for Control of Blindness (NPCB). Annual Report. New Delhi: Ministry of Health and Family Welfare, Government of India 2019-2020.
- [4] 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. *Scientific World Journal*. 2022;2022:5206043
- [5] Bhandary S, Khanna R, Rao KA, Rao LG, Lingam KD, Binu V. Eye donation – Awareness and willingness among attendants of patients at various clinics in Melaka, Malaysia. *Indian J Ophthalmol* 2011;59(1):41-5.
- [6] Sridhar U, Tripathy K. Commentary: a wareness about eye donation among medical and nursing students. *Indian J Ophthalmol* 2021;69(6):1515-1516.
- [7] Narendran V, Padmavathi S, Sangeetha S, Karthik N. Knowledge, awareness and attitude of eye donation among non-clinical staff of a tertiary eye hospital in South India. *Indian J Ophthalmol* 2022;70(10):3490-3495.
- [8] Chowdhury RK, Dora J, Das P. Awareness of eye donation among medical and nursing students: A comparative study. *Indian J Ophthalmol* 2021;69:15.
- [9] Acharya M, Farooqui JH, Dave A, Chaku D, Ganguly KK, Das A, et al. Eye donation in north India: Trends, awareness, influences and barriers. *Indian J Ophthalmol* 2019;67:1570-43.

- [10] Robert R, Abhilash B, Babu M, Sudhakar NA. A study on the perception, knowledge, attitude, and practices of eye donation among fresh medical graduates in India. *Oman J Ophthalmol* 2022;15(3):284-9.