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Short Communication

Corneal donation and its relationship with public awareness

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ABSTRACT

Only one donor tissue is available for seventy patients awaiting a corneal graft, indicating a global scarcity of corneal graft tissue. The lack of awareness and information among potential donors and their families is directly linked to this deficiency in eye donation practices. There is a much greater need for corneal tissue than there are eye donations. Prompt corneal procurement demonstrates its maximum utility. A maximum of six hours from the time of death is the optimal window for corneal procurement.

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1. Introduction

Visual impairment, varying in severity and acuity, is a decline in vision, affecting the ability to perceive the environment using visible light reflected by objects. Over ninety percent of people who are blind or visually impaired live in poor nations, making blindness a global health concern. Eighty percent of blindness can be prevented or treated, according to the World Health Organization.¹ Second only to cataract and glaucoma, corneal blindness accounts for five percent of cases worldwide. Visual rehabilitation by corneal transplantation continues to be the cornerstone of treatment for patients with corneal blindness, despite the fact that primary prevention techniques are known to be more cost-effective in controlling the condition.² Through the National Programme for Control of Blindness, the Indian government has attempted to address the backlog of blindness by providing comprehensive eye care services, such as corneal transplantation.³ The Eye Bank Association of India has been actively working to increase the rate of corneal procurement over the years.

Currently, this stands at forty-nine thousand annually, but more work remains to be done to counteract the annual increase in corneal blindness cases, which some studies indicate could reach thirty thousand annually. The scarcity of transplantable tissue is a topic that warrants significant study, as it is anticipated that 277,000 donor tissues are required annually.⁴

The World Health Organization estimates that one person becomes blind every five seconds, which is particularly concerning considering that 80% of known visual impairments are either avoidable or treatable.⁵ Approximately 39 million of the estimated around 1.2 billion visually impaired people in the globe are classified as blind. Eighty percent of blind people worldwide live in developing nations. According to Bourne,⁶ the annual global expenses of lost productivity resulting from untreated myopia and presbyopia alone are projected to be 244 billion USD and 25.4 billion USD, respectively. There is only one cornea available for every seventy corneal recipient worldwide, according to a recent global survey on eye banking and corneal transplantation. This indicates that there is a significant mismatch between the supply and demand for donor corneas.⁷

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India's Transplantation of Human Organs and Tissues Act (T.H.O.T.A.) 1994 and Transplantation of Human Organs and Tissues Rules, 2014 govern organ donation, which involves recovering, preparing, and delivering donated eyeballs for corneal transplants and research. The World Health Organization estimates that 0.01% of Indians donate their organs to charity. Blindness and visual impairment are common global public health issues, with cataracts accounting for the majority of visual impairment in the Indian population (62.6%). The number of individuals affected by vision impairment has grown globally, but prevalence rates in India appear to be declining. The National Program for Control of Blindness and Visual Impairment aims to reduce this issue, with a goal of reducing the number of cases. In order to eliminate preventable blindness by 2020, the World Health Organization and the International Agency for the Prevention of Blindness worked together to create VISION 2020. Understanding population knowledge about eye health and eye illnesses is crucial, as people's perception of facts and information represents a fundamental understanding of the disease's origin and symptoms. Elderly adults are more likely to suffer from eye conditions that cause vision impairment, and they are familiar with specific information when receiving care.

Over 301 million people worldwide suffer from vision impairment, with South Asia, including India, bearing 18% of the burden. Eastern Europeans have the highest prevalence of all types of vision impairment at 20.7%. As the world's population grows exponentially, the burden on blind or visually impaired individuals will also increase.⁸ Eye donations are required to combat corneal blindness, which affects 4.2 million people worldwide and 2 million due to trachoma. The global demand for ocular donations is increasing.^{9,10} Corneal opacities are the second most common cause of blindness in India, with a prevalence of 0.36 percent.¹¹ Non-trachomatous corneal blindness accounts for 7.4% of all blindness in those aged ≥ 50 years and 37.5% in those aged 0–49 years.¹² Corneal transplantation is the most effective treatment for vision rehabilitation, and a three-tiered community system called eye donation centers, eye banks, and eye bank training centers has been proposed to address the lack of eye donors.¹³ Organ donation is essential for corneal transplants, ophthalmology, research, and therapeutic purposes, regardless of age, gender, religion, or culture.

2. Conclusion

Donating organs, such as kidney, liver, skin, and blood, both antemortem and postmortem, is an essential part of healthcare. Although celebrity pledges and commercials have raised awareness of organ donation, some communities

and religions still have concerns. Establishing consent for eye donation involves important family members. Students studying paramedicine and allied health sciences play a critical role in encouraging eye donation and creating a network of support. To satisfy India's transfer needs, corneal donation rates are currently too low. There is a dearth of research on the general public's knowledge of prevalent eye disorders in Europe and only in low-. There are two ways to raise awareness: employing multimedia materials and including organ donation into medical school curriculum.

3. Source of funding

None.

4. Conflict of interest

None.

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