

Awareness regarding Eye Donation among Patients Attending Tertiary Care Hospital, Jammu, J&K, North India-Time to Educate People

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ABSTRACT

Introduction: It is observed that corneal blindness affects 12% of world's population which is amenable to treatment and main causes of corneal blindness are ocular trauma and corneal ulceration. The alarming figures rise every year, keeping India in the lead. The main-stay of treatment for restoring vision in such patients is corneal transplantation. In India awareness about eye donation in public is very low as per literature review. Hence creation of awareness carries paramount importance. Aim: To evaluate the level of awareness regarding eye donation among eye OPD patients at a tertiary hospital.

Material and Methods: The present cross sectional study involved 256 patients who presented to the out-patient department of a tertiary care hospital, were willing to participate, were requested to fill the semi-structure pilot tested question-naire form on eye donation pertaining to awareness of eye donation. But out of 256 patients, 56 patients were not aware of eye donation and filled form incompletely so it was discarded. Thus, total of 200 patients included in the present study.

Results: The results showed that 60% participants were not aware of an eye bank in GMC Jammu. Awareness through television was maximum i.e. 50%. About 45% of participants knew that whole eyeball is removed in eye donation. There is no age limit for eye donation was answered by 22% of participants. Only 26% of participants were aware that eyes of any dead person can't be removed for donation whereas 42.5% of participants knew that a person with diabetes/ hypertension can donate eyes. 80% were willing to donate their eyes.

Conclusion: There is gross lack of awareness about eye donation among patients attending eye outpatient department. Education on organ donation is a must for the society. Media campaign can play a commendable role to reach out to the masses for optimum benefit. Therefore, there is a need for awareness of eye donation in an effort to increase the procurement of donor corneas.

Keywords: Awareness, Corneal Transplantation, Eye Donation, Outpatient department.

trachoma, corneal ulceration following xerophthalmia due to vitamin A deficiency, ophthalmia neonatorum, the use of harmful traditional medicines, onchocerciasis, leprosy and ocular trauma.⁴ Corneal transplantation offers the potential for sight restoration to those who are blind from corneal diseases and remains the most common type of human transplant surgery.⁵ Due to insufficient number of eye donations in India, the number of patients waiting for corneal transplantation is growing. People willing to pledge their eyes for donation and their relatives to honor that pledge upon the death of the person are two important aspects of eye donations. In India, the number of corneal transplantations far out-numbers its requirement.¹ About 95% of corneal blindness is avoidable by corneal transplantation which is the most commonly done organ transplantation procedure. Eye donation is an act of voluntary donation of one's eyes after his/her death. NPCB developed future action plan towards eye donation to prevent corneal blindness. But there is a huge gap between demand and supply of cornea due to low awareness.⁶ This study was undertaken to assess the level of awareness regarding eye donation among the patient coming to eye out patient department GMC Jammu for eye check up.

MATERIAL AND METHODS

The present cross-sectional study was conducted in the out patient department of upgraded department of Ophthalmology, Government Medical College, Jammu, over a period of 3 months, on patients who were coming for eye check up. After explaining the purpose of the study, total of 256 patients participated in study and informed written

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INTRODUCTION

The most common significant causes of corneal blindness are ocular trauma and corneal ulceration. India needs 2.5 lakh donated eyes every year but able to collect a maximum of just 25,000 eyes.¹ It is observed that 12% of the world's blind population is affected by corneal blindness, a visual impairment that is amenable to treatment.² According to national program for control of blindness for vision loss among Indians, 0.9% of the blindness in India is corneal blindness.³ The major causes of corneal blindness include

consent from all the participants were undertaken before inclusion in the current study. The study was undertaken to assess the awareness regarding eye donation among the patient attending the eye out patient department using a semi-structure pilot tested question-naire on eye donation. The questionnaires were provided to the each participant and every question explained in their local language. But out of 256 patients, 56 patients were not aware of eye donation and filled form incompletely so it was discarded. Thus, total of 200 patients were included in the present study.

STATISTICAL ANALYSIS

Analysis of data was done using statistical software MS Excel / SPSS version 17.0 for windows. Data presented as percentage (%) as discussed appropriate for quantitative and qualitative variables.

RESULTS

Following observations were made during study period:

- Q 1. Do you know that Government Medical College Jammu has an eye bank ? Yes/No.
40% of participants were aware whereas 60% were not aware of an eye bank in GMC Jammu.
- Q 2. Which portion of eye is removed in eye donation ? Whole eye ball/Cornea (transparent black portion)/ Sclera (white portion).
Total of 45% of participants knew regarding portion of eye (whole eye ball) removed in eye donation.
- Q 3. Which portion of eye is used for transplantation? Whole eye ball/ Cornea (transparent black portion)/ Sclera (white portion).
About 23.5% participants knew regarding portion of eye(cornea)used for transplantation.
- Q 4. Do you knew where the donated eyes are stored?Yes where /No.
Only 27.5% knew regarding storage of donated eyes.
- Q 5. One eye donor can provide vision to? One blind person/ two blind person.
21% of participants knew that one eye donor provide vision to two blind.
- Q 6. Till how many hours after death, eyes can be donated? <6 hours/ 6-24 hours/ >24 hours
70% of participants knew that ideal time between death and enucleation is 6 hrs.
- Q 7. Is there any age limit for eye donation? Yes/No/Don't know.
22% of participants knew that there is no age limit for eye donation as depicted in fig.no.1.
- Q 8. Who do you think is unfit to donate eyes? HIV, HEP B etc/Nobody/Don't know
About 23.5% of participants knew that HIV and HEP-B patients can't donate eyes.
- Q 9. Can eyes of any dead person be removed for donation? Yes/No
26% of participants knew that eyes of any dead person can't be removed for donation.
- Q 10. Can a person with diabetes/ hypertension /any chronic

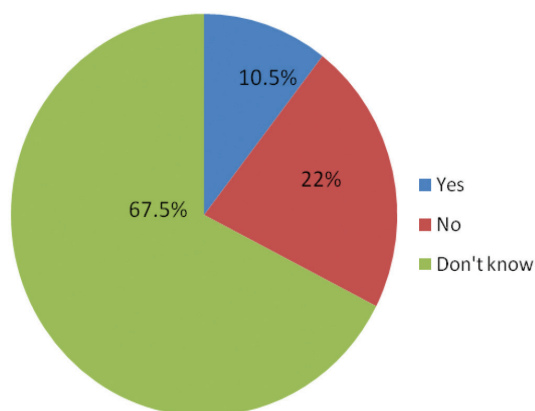


Figure-1: Shows awareness regarding age limit for eye donation among participants.

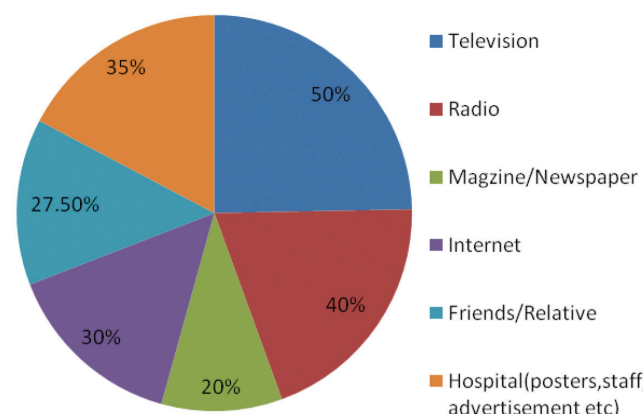


Figure-2: Shows source of information regarding eye donation among participants.

disease donate eyes? Yes/No/Don't know

42.5% of participants knew that diabetic and hypertensive's can donate eyes.

- Q 11. Are you willing to donate your eyes? Yes/No.
80% of participants were willing to donate eyes and believed eye donation is a noble way to help others.
- Q12. How did you learn about eye donation? Television/ radio/ internet/ advertisements in hospitals/ newspapers or magazines, friends ?
Multiple responses were given in this regard as depicted in fig.no.2.
- Q 13. Who is responsible for giving consent for eye donation? Person who is dead(self)/ parents/ children/ any other family member/ relative.
100% participants believed that consent for eye donation can be given by person himself/herself before death but multiple responses were given in this regard. Consent can be obtained from family/ relatives of the donor after death.
- Q 14. Have you registered yourself for eye donation? yes/ no.
No one among them registered for eye donation.
- Q 15. What would you do to ensure that your eyes get donated after your death?
80% of participants were not aware of procedure regarding donation of eyes.

DISCUSSION

Corneal transplantation which is hugely dependant on voluntary eye donation by suitable donors, offers the potential for sight restoration as 6–8 millions of blind persons in the world are due to corneal blindness.⁷ As per statistics on eye donation there is considerable and constantly growing backlog of cornea transplantation in India. Cost for donor cornea is prohibitive due to the lack of local donors which can be attributed to the lack of national awareness on corneal transplantation and eye donation.¹ So, in the present scenario there is a need to enhance the awareness regarding eye donation among potential donors.

In the present study, only 40% of participants were aware whereas 60% were not aware of an eye bank in GMC Jammu. Total of 45% of participants knew that whole eyeball is removed for eye donation while 23.5% participants knew that only black portion of eye i.e. cornea is used for transplantation. Bharti MK et al in their study found that 65.25% knew that either the whole eye (40%) or cornea (25.25%) is removed from the donor but only 30.25% knew that it is the cornea that is transplanted.⁸ In a study by Suresh K et al, the whole eyeball is removed from the donor for transplantation was answered by 31.5% participants.⁹ For the purpose of corneal transplantation the whole eyeball is removed generally but in some parts of India only corneal removal is also practical but whole eyeball removal has the advantage that for medical and research purposes sclera can also be used.¹⁰

In the present study 27.5% knew regarding storage of donated eyes. Kumari R in a study showed that 40% of the students knew where the donated eyes are stored.¹¹ Bharti MK et al in a study showed that 57.75% did not know that before transplantation the donor eye can be stored. The donated eyes are stored in an eye bank, which acts as a centre for the collection, storage, processing and distribution of donor corneas. The whole eye ball can be stored in the refrigerator (moist chamber) for up to 48 hours while the corneoscleral button preserved in Optisol medium could be stored for up to 14 days before transplantation.⁸ In the present study only 21% of participants knew that one eye donor provide vision to two blinds. Suresh et al in their study found that 87.53% knew that one donor can provide vision for two blind persons.⁹

In the present study 70% of participants knew that ideal time interval between death and enucleation is within 6 hours while 22% of participants knew that there is no age limit for eye donation. Khan et al in their study found that 27% of patient don't know that at what age eye can be donated.¹ Vallinayagam M et al in their study found that only 28.13% of participants were aware that the ideal time interval between death and enucleation is within 6 hours² while Kumari R in a study on 200 life science students found that a total of 170 believed that there is no age limit for donating eyes.¹¹

In the present study, 23.5% of participants knew that HIV and HEP-B patients can't donate eyes whereas 26% of participants knew that eyes of any dead person can't be

removed for donation. However, 42.5% of participants knew that diabetic and hypertensive's can donate eyes. All deceased people can be considered as suitable donors except when the cause of death or other factors might pose risk factors for the individuals performing the enucleation.¹² Suresh K et al in a study found that HIV (70.59%), cataract (14.59%), and diabetes (9.88%) are contraindications as perceived by participants⁹ while other authors in their study found haematological malignancies, neurodegenerative conditions, nonhaematological malignancies, chronic renal failure, corneal disease, ocular infections, ocular tumours, uveitis, glaucoma, HIV and Hepatitis-B infection as a contraindication for eye donation.¹³

In the present study, all the participants personally supported eye donation but only 80% of participants were willing to donate eyes and believed eye donation is a noble way to help others. Gupta A et al in their study found that, 85.1% participants were either willing or had already pledged to donate their eyes¹⁴ Dhaliwal U in his study found an encouraging finding that more than 80% of the participants of both groups were willing to donate.¹⁰

In the present study, awareness by mass media like TV (50%) was the main source of information followed by radio (40%) whereas contribution by hospital was only 35%. In this regard multiple responses were given. In creating awareness, mass media plays an important role. Khan N et al in their study found that awareness through eye donation campaign was maximum (38%) followed by awareness through mass media (18%).¹

In the present study, 100% participants believed that consent for eye donation can be given by person himself/herself before death (Multiple responses given) but no one among them was registered for eye donation and about 80% of participants were not aware of procedure regarding donation of eyes. Consent by parents are required if dead is minor. Consent is obtained from family/relatives of the donor after death. Magdum R et al in a study on paramedical group found that 75% of participants felt that the next of kin has the right to give consent for donation.¹⁵ In a study by Bhandary S et al 55.6% were knew about fact that the next of the kin has the right to give consent.⁷ Khan N, et al in a study found that 42% persons are not aware about the person authorized for consent while 79% responders were not aware that filling of eye donation form by the individual during lifetime is not mandatory for eye donation.¹

The correct answer of every question was explained to participants after filling question-naire form.

Eye donations are dependent on people willing to pledge their eyes for donation and on relatives to honor that pledge upon the death of the person. In India the number of patients waiting for corneal transplantation is growing due to insufficient number of eye donations coupled with inadequate transplant surgeons, therefore the number of corneal transplantations far out-numbers its requirement. Sri Lanka and USA are major donators of cornea for many countries including India because procurement of local donor eyes is low.¹⁶ India is the second most popular country in the world and is home of

23.5% of the world's blind population out of which 0.9% is due to corneal blindness.^{8,17} Against the annual demand for 100,000 corneas, only 16,000 are available. There is a large gap between demand and supply because there is such a low awareness about how easy and noble eye donations are.¹⁰ Raising the level of understanding about eye donation among the public through health education is an important step to achieve more local eye donations.^{8,17} Professionals have great potential to increase knowledge regarding eye donation as they come in contact with many people and therefore have a great opportunity to motivate them to donate eyes.⁶

Limitation of study

The present study doesn't tell us the level of awareness of people living in far-flung area.

CONCLUSION

There is gross lack of awareness about eye donation among patients attending eye outpatient department which must be increased in an effort to increase the procurement of donor corneas. Education on organ donation is must for the society. Media campaign and Professionals (Doctors, Engineers, lawyers etc) can play a commendable role to reach out to the masses for optimum benefit.

Recommendations

The lack of local eye donations should be taken seriously and measures must be taken by all the concerned governmental and non-governmental organizations to improve this situation so that needful patients can be transplanted at an affordable cost without waiting for long periods. This can be achieved by educating general public on the importance of eye donation and benefits of corneal transplantation and training them to motivate the families of ill patients to pledge for eye donation. Therefore, to increase the level of awareness and knowledge of community on eye donation, more health education about eye diseases, eye donation and corneal transplantation is needed.

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REFERENCES

1. Khan N, Agrawal PC, Tigga M, Saini VK, Gupta S. Level of Awareness Regarding Eye Donation among Patients Attending Eye OPD at Tertiary Hospital. *Ntl J of Community Med* 2015; 6: 70-73.
2. Vallinayagam M, Kumar PS, Krishnamoorthy J, Arumugam R. A Study on Eye Donation Awareness Among Medical and Engineering Students in Puducherry. *Delhi J Ophthalmol* 2017; 28; 20-24.
3. Krishnaiah S, Kovai V, Nutheti R, Shamanna BR, Thomas R, Rao GN. Awareness of eye donation in the rural population of India. *Indian J Ophthalmol*. 2004; 52: 73-78.
4. Dandona L, Dandona R, Naduvilath TJ, McCarty CA, Nanda A, Srinivas M, et al. Is current eye-care policy focus almost exclusively on cataract adequate to deal with blindness in India *Lancet* 1998; 351: 1312-1316.
5. Yew YW, Saw SM, Pan JCH, Shen HM, Lwin M, Yew

- MS et al. Knowledge and beliefs on corneal donation in Singapore adults. *Br J Ophthalmol* 2005; 89: 835-840.
6. Manhas A, Manhas RS, Manhas GS, Gupta D, Kumar D. Comparison of level of awareness regarding eye donation among medical, engineering and law students in Jammu, India. *Int J Res Med Sci* 2018; 6: 3663-3668.
7. 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: 41-45.
8. Bharti MK, Reddy SC, Tajunisah I, Ali NAM. Awareness and Knowledge on Eye Donation among University Students. *Med J Malaysia* 2009; 64: 41-45.
9. Suresh K, Priyanka P, Priya S. Awareness of Eye Donation in Rural and Hospital-based Population. *Ind Medica* 2008; 4: 1-2.
10. Dhaliwal U. Enhancing eye donation rates Training students to be motivators. *Indian J Ophthalmol* 2002; 50: 209-212.
11. Kumari R. Eye Donation Awareness among the Students: *Asian Journal of Biomedical and Pharmaceutical Sciences* 2016; 6: 37-38.
12. Deitch RD, Wilson FM, Foster J. Medical indications and contraindications for eye donation. *Indiana Med* 1990; 83: 826-827.
13. Johnson D, Dutch M, Knott J. Estimation of the potential eye and tissue donor pool in an Australian emergency department. *Emerg Med Australas* 2016;28:300-306.
- Suresh K, Priyanka P, Priya S. Awareness of Eye Donation in Rural and Hospital-based Population. *Ind Medica* 2008; 4:1-2.
14. Gupta A, Jain S, Jain T, Gupta K. Awareness and perception regarding eye donation in Students of Nursing college in Bangalore. *Indian J Community Med* 2009; 34: 122-125.
15. Magdum R, Arun S, Mushtaq I, Sharma N. To study awareness and willingness of eye donation among paramedical workers. *J Clin Ophthalmol* 2015; 3: 95-97.
16. Dr. R. Jose, Present status of the National Programme for Control of Blindness in India; *Community Eye Health Journal*, 2008; 65:103-105.
17. Thomas R, Paul P, Rao GN, Muliylil JP, Mathai A. *Surv Ophthalmol*. 2005; 50: 85-10.

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