



Awareness of Eye Donation and Willingness to Donate Eyes in Population Attending Outdoor Patients Department of Ophthalmology at Sknmc, Pune (Maharashtra)

KEYWORDS

EYE DONATION, SOCIOECONOMIC STATUS, TRANSPLANTATION.

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ABSTRACT *Aim: To assess the level of awareness of eye donation and willingness to pledge eyes in patients attending the outdoor patients department of Ophthalmology at SKNMC, Pune.*

Material and Methods: All the patients from age 18 years and above attending the outdoor patients department of ophthalmology were included in the study. Basic demographic data regarding age, gender, socioeconomic status, educational level, occupation and religion of the patients was recorded. The patients were asked to respond to a questionnaire.

Results: The average age of the study subjects was 44.03 years. Out of 204 cases there were 46.6% females and 53.4% males. 53.4% were aware that eyes could be donated after death. 15.2% cases knew that cornea of the donated eyes was used for transplantation. 80.3% expressed willingness to donate their eyes.

Conclusion: Data from our study suggests that additional efforts are needed to improve awareness of eye donation in the community to increase the rate of procurement of corneas.

INTRODUCTION

There is a huge need for the availability of transplantable donor corneas worldwide to reduce the burden of corneal blindness.

Corneal diseases constitute a significant cause of visual impairment and blindness in the developing world. The number of corneal transplants done is far less than the actual requirement in India. This is largely due to the inadequate number of corneas collected. The major causes of corneal blindness include vitamin A deficiency, Ophthalmia neonatorum use of harmful traditional medicines for the treatment of corneal ulcers, onchocerciasis, leprosy and ocular trauma.^{1, 2, 3}

According to the Eye Bank Association of India, the current cornea procurement rate in India is 49,000 per year. It is estimated that a significant proportion of donor corneas are unsuitable for corneal transplantation.⁴ Based upon our current ratio of available safe donor eyes, we would need around 277,000 donor eyes to perform 100,000 corneal transplants in a year in India.⁵ Thus to increase the rate of procurement of corneas, raising the level of public education on eye donation is an important initial step.

The Andhra Pradesh Eye Disease Study (APEDS) estimated that 1,200 people per million population are blind (<3/60) from corneal pathology. The prevalence of unilateral blindness due to corneal opacity in low income group is estimated to be in the range of 5,000 to 20,000 people per million populations. Blindness rates of 3.6% (95% CI: 3.3-3.9) were measured in India using a rapid assessment method where corneal opacities (including trachoma) accounted for 6.5% of blindness cases. This assessment provided a more up-to-date nationally representative estimate of the impact of corneal disease on vision and visual im-

pairment.⁶

Public health prevention programs are the most cost effective means of decreasing the global burden of corneal blindness. Once a corneal scar develops, surgical management remains the only option for visual rehabilitation.

Previous reports suggest that increasing the awareness level of the communities regarding eye donation will be useful for increasing eye donation in the community¹. The barriers to corneal donation reported include religious and cultural beliefs (e.g. significance of eyes), objection from the family members, associated health problem affecting the eye donation, and concerns about disfigurement and mutilation⁷. Possible enablers include a desire to help others and positive donor requestor technique and donor requestor training⁷.

The aim of this study was to assess the level of awareness about eye donation and willingness to pledge eyes in patients attending the outdoor patients department of Ophthalmology at SKNMC, Pune

MATERIALS AND METHODS

This was a prospective hospital based observational study. All the patients from age 18 and above attending the outdoor patients department of ophthalmology from May 2014 to June 2014 were included in the study. Patients less than 18 years of age were excluded from the study.

1.4 METHODOLOGY

Data collection

This study was conducted according to the principles of the Helsinki Declaration on research involving human subjects.

Informed written consent was obtained from all patients. Basic demographic data regarding age, gender, socioeconomic status, educational level, occupation and religion of the patients was recorded. Socioeconomic status was analyzed according to Modified B.G.Prasad Classification.

Statistical analysis was performed using primer of bio statistical software. Determinants of knowledge on eye donation such as gender, age, occupation, socioeconomic status and education level were analyzed between the groups using Chi-square test.

The patients were asked to respond to a questionnaire. The questionnaire included specific questions regarding awareness, knowledge and willingness of eye donation. A guideline for the preparation of the questionnaire was obtained from previous published reports for a study population^{1,8}. The questionnaire was given in English and Marathi. The questionnaire was administered by a single investigator and responses were manually recorded before transferring to a database.

The awareness was analyzed by asking whether the subjects had heard about eye donation. The knowledge regarding eye donation was assessed by asking the subjects about the purpose of eye donation. The willingness /unwillingness to donate eyes was also noted.

RESULTS

The average age of the study subjects was 44.03 years. Out of 204 cases there were 95(46.6%) females and 109(53.4%) males. Majority of the cases 109 (53.4%) were aware that eyes could be donated after death. Out of the cases who were aware of eye donation majority 60 (30.4%) did not know the purpose of eye donation. Only 31 cases (15.2%) knew that cornea of the donated eyes was used for transplantation.

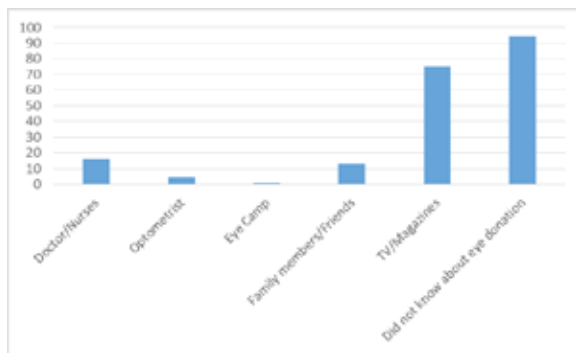


Fig 1: Sources of awareness about eye donation.

Major source of information about eye donation was through media 75 (36.8%), followed by 16(7.8%) through eye specialists and nurses .13 (6.4%) received information regarding eye donation from their relatives and friends. (Fig 1)

Around 164(80.3%) expressed willingness to donate their eyes, 3 cases (1.5%) had already pledged their eyes. Amongst the 37 (18.1%) cases who were not willing to donate eyes the reasons were as follows- 3(1.5%) were afraid of deformity after death, 8 (3.9%) were concerned about being born blind in the next birth, 5(2.5%) due to religious causes, 2 (1.0%) thought it was not useful at all, 1(0.5) because of eye problem and 18(8.9%) did not give any rea-

son for their denial. (Table 1)

Willingness to donate eyes	Frequency	Percent
Already pledged eyes	3	1.5
No- afraid of deformity	3	1.5
No- afraid of being born blind in next birth	8	3.9
No- due to religious reasons	5	2.5
No- have an eye problem	1	0.5
No- don't think it will be useful	2	1
No- due to other reasons	18	8.9
Yes	164	80.3
Total	204	100

Table 1: Willingness and reasons for not willing to donate eyes.

In the present study 39(19%) of the study individuals were illiterates whereas 49(24%) had primary education, 14(29%) had secondary education, 33(16%) had higher secondary education, 48(24%) were graduates and 6(3%) were post-graduates. (Fig 2) It was noted that the awareness of eye donation was more in educated population than uneducated persons.

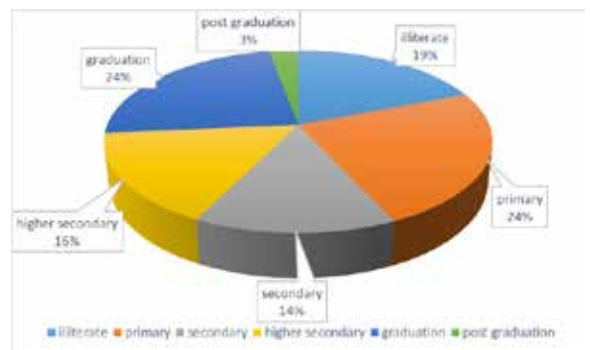


Fig 2: Educational status of study subjects in percentage.

Socioeconomic status was analysed according to Modified B.G. Prasad classification. There were 40(20%) subjects in Class I, 60(29%) in Class II, 63(31%) in Class III, 31(15%) in Class IV and 10(5%) in Class V. There was no association between willingness to donate eyes and socioeconomic status of the patients. [(x²-45.34 df-46 p value- 0.4994)].

There was no association between gender and willingness to donate eyes. [Odds ratio: 0.7005, 95% CL (0.3524-1.3926)].The association between different age groups and willingness for eye donation was statistically insignificant. [(x²-12.4266 df-7 p value- 0.0874)].

The willingness for eye donation was significant in cases, who were aware of it (p-0.000133) as compared to the cases who were unaware of eye donation. Fig 3



Fig 3: Willingness for eye donation in aware/unaware subjects

We did not find any association between religion and willingness to donate eyes. ($\chi^2=0.4105$, $df=2$, p value= 0.8144).

DISCUSSION

Corneal transplantation offers the potential for sight restoration to those who are blind from corneal diseases. This however, is dependent on people willing to pledge their eyes for donation, and relatives willing to honour that pledge upon the death of the person.¹¹

Approximately 18.7 million people are blind in India² and 190,000 have bilateral corneal blindness. Every year, another 20,000 get added to the list.⁹

The late Dr. Muthiah started the very first eye bank in India and he successfully performed the first corneal transplant in 1948.¹⁰ Even after more than 50 years, patients waiting for corneal transplants constitute a considerable backlog. The need, therefore, is to educate the masses about eye donation in an effort to increase the procurement of corneas. Data from our study show that there is a definite underutilization of the potential to obtain corneas.

In the present study majority 53.4% subjects were aware about eye donation. This is similar to a study by Priyadarshan et al¹¹ and Rao GN¹² where awareness regarding eye donation was 50.69%. High figures of awareness and willingness have been recorded from Indian studies from Delhi (55.4% & 41.5%), Tamilnadu (50.7%) rural (30.7%, 32.7%) and Urban (73.8% & 44.9%) Andhra Pradesh and Pune.^{13,14}

A sizeable proportion of the population is not aware of how donated eyes are used, and possibly do not understand the potential for sight restoration that corneal transplantation offers. In our study almost 60 (30.4%) patients who had heard about eye donation were unaware about the purpose of eye donation. This indicates that, there is a gross inadequacy of publicity on the entire cycle of eye donation in this population.

Knowledge about the time of eye donation is important, as it may not be ideal to utilize eyes that are donated later than 6 hours after death for optical purposes.

In the present study major source of information about eye donation was through media 75 (36.8%). Increase in awareness can be done through many programs like radio talks, audio visual programs, setting up publicity stalls in public places, drawing competitions, distribution of pamphlets or any awareness walk.

Prior knowledge about eye donation and the use of donated eyes could help to increase the level of consent of families. Another factor that could increase the procurement of corneas would be a legal obligation of hospital staff to request eye donation on death of a patient. In India there is currently no legislation to its effect.¹⁵

CONCLUSION

Data from our study suggests additional efforts are needed to improve awareness of eye donation in the community to increase the rate of procurement of corneas.

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