Original Article

Awareness Regarding Eye Donation among Patients Attending Rural Medical College of North India

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ABSTRACT
Corneal diseases constitute a major cause of vision impairment and blindness in children and young adults. Corneal transplantation offers a great potential for visual rehabilitation of these patients. There is a considerable backlog for corneal transplantation so there is need to educate the people about corneal donation. In lie of this a survey was conducted to assess the awareness about eye donations among patients attending OPD of medical college. Results revealed that although 72% of subjects were aware about eye donation only 4.6%had pledged their eye for donation. Therefore it can be concluded that there is great need to increase the knowledge and awareness about eye donation.

Keywords: Corneal diseases, preventable blindness, eye donation, corneal transplantation.

INTRODUCTION
Corneal diseases constitute a huge burden of visual impairment and blindness in developing countries\(^1,2\). Corneal diseases either in the form of ulcers or trauma is a major cause of bilateral or unilateral blindness and vision impairment in children and young adults\(^3\). The etiology of corneal blindness include trachoma, ulceration, vitamin A deficiency, leprosy, ophthalmia neonatorum, and ocular trauma. The current statistics labeled corneal blindness as fourth leading cause of blindness worldwide\(^4\). According to Andhra Pradesh Eye Disease Study (APEDS), the prevalence of corneal blindness is 0.13% which makes it 9% of total blindness\(^5\). Corneal transplantation offers the potential for visual rehabilitation to those who are blind due to corneal diseases\(^6\). There are about 18.7 million people in India\(^7\) who are blind and out of which about 190,000 have bilateral corneal disease and 20,000 new patients join the list annually\(^8\). The first eye bank in India was started by Dr Muthiah and successfully performed first corneal transplantation in the year 1948\(^9\) but even after so many years there is a considerable backlog for corneal transplantation and that is why there is need to educate the masses about corneal transplantation. The Eye Bank Association of India estimated that the current cornea procurement rate is 22,000 per year in
India and a significant amount of donor corneas are not suitable for transplantation\textsuperscript{10}. Depending on our current data, we would need 277,000 donor eyes in order to perform 10,000 corneal transplantation per year in India\textsuperscript{11}. The factors affecting corneal procurement and attitude of public towards corneal transplantation have been received attention in developed countries but not in developing countries.\textsuperscript{12} In view of all the above factors, a hospital based study was conducted to assess the awareness about eye donation among people attending eye outpatient department in a tertiary hospital of northern India catering mainly rural population using a questionnaire.

**METHODOLOGY**

The present cross sectional study was conducted in a tertiary hospital of Northern India mainly catering rural population. The study included about 475 patients attending various Outpatient department of the hospital. The nature of the study was explained to the patients and a pre tested semi instructed questionnaire was asked to each and every patient. The questionnaire included questions regarding demographic data, age, sex, marital status, educational status, awareness about eye donation, source of awareness willingness to donate eyes.

**RESULTS**

We asked questionnaire from 475 subjects attending various outpatient department of the hospital. The mean age of subjects was 57 years (range 35 – 75 years), out of whom 280 (58.9%) were males and 195(41.1%) were females. Out of 475, only 176 (37.1%) were literate. Table 1 described various demographic characteristics of subjects included in our study. About 342 respondents (72%) out of total subjects were aware of eye donation. The major source of information about corneal transplantation was TV, magazine and other media sources (57.9%) as described in table no.2. Only 4.2% of the total subjects were aware about the fact that eye donation had to be done within 6 hours of death. The response of the questionnaire has been described in table no.3.

| TABLE NO.1 Demographic Data about Respondents |
|-----------------------------------------------|
| Age (In Years) | Total No. (%Age)  |
| 35-45          | 152 (32%)         |
| 46-60          | 228 (48%)         |
| >60            | 95 (20%)          |
| Gender         |                   |
| Male           | 280 (58.9%)       |
| Female         | 195 (41.1%)       |
| Literacy       |                   |
| Illiterate     | 299 (62.9%)       |
| Literate       | 176 (37.1%)       |
| Residence      |                   |
| Rural          | 275 (57.9%)       |
| Urban          | 200 (42.1%)       |

| TABLE NO.2 Source of Awareness about Eye Donation among 342 Subjects |
|---------------------------------------------------------------------|
| Source                                  | Total No. (% Age) |
| T.V.,Magazines & Other Media            | 198 (57.9%)       |
| Neighbours, Family & Relatives          | 44 (12.9%)        |
| Publicity Campaigns                     | 76 (22.2 %)       |
| Others                                  | 24 (07.01%)       |
| Total                                   | 342 (100%)        |

| TABLE NO.3 Questionnaire Response about Eye Donation |
|------------------------------------------------------|
| Response                                             | Total No. (%Age) |
| Can Eyes Be Donated                                  |                   |
| Yes                                                  | 342 (72%)         |
| No                                                   | 14 (2.9%)         |
| No Response                                          | 119 (25.1%)       |
| Eyes Can Be Donated Only After Death                 |                   |
| Yes                                                  | 266 (56%)         |
| No                                                   | 114 (24%)         |
| No Response                                          | 95 (20%)          |
| Willing For Eye Donation                             |                   |
| Yes                                                  | 256 (53.9%)       |
| No                                                   | 184 (38.8%)       |
| No Response                                          | 35 (7.3%)         |
| Already Pledged For Eye Donation                     |                   |
| Yes                                                  | 22 (4.6 %)        |
| No                                                   | 396 (83.4%)       |
| No Response                                          | 57 (12 %)         |
TABLE NO.4 Awareness about Optimal Time For Eye Donation

| Time                  | Total No. (%Age) |
|-----------------------|------------------|
| After Death           | 175 (36.8%)      |
| Within 6 Hrs Of Death | 20 (4.2%)        |
| No Idea               | 199 (41.9%)      |
| No Answer             | 81 (17.1%)       |

DISCUSSION

Everywhere a significant proportion of corneal blindness adds to the social and economic burden. There are about 190,000 persons blind from bilateral corneal disease in India and another 20,000 new cases join the existing backlog annually. Corneal transplantation offers a great potential for visual rehabilitation to those who are blind due to corneal involvement. However it depends on the willingness of the people to pledge their eyes for eye donation. Our study showed that there is under utilization of the sources to obtain corneas as in our study 72% of subjects were aware about eye donation but only 4.6% had pledged their eyes for donation. To increase the level of awareness of our community on corneal transplantation, more health education about eye donation, eye diseases is required along with motivation of family members of sick and diseased patients to pledge for eye donation. Even though females were aware of eye donation but still they were willing to pledge eyes less than that of males. The awareness and willingness for eye donation was found to be higher in subjects above 55 years of age. There was no significant association between socioeconomic status and willingness to pledge for eye donation. Despite a good number of rural population being aware about eye donation, inability to pledge eyes for donation was due to lack of knowledge about significance of eye donation. The need of the hour is to provide detailed information about when to donate eyes, how to pledge for eye donation, discussion with family members, providing donor card and informing about optimal timing for corneal transplantation. Educating students particularly those in medical colleges about corneal transplantation so that they can motivate the younger generation for enhancing eye donation rates. Following deaths of patients, the hospital staff counseling the grieving relatives have been successful in procuring organs. Even if a pledged donor die, family consent is a must at the time of death. Some of studies showed that training of hospital staff about eye donation is associated with significantly higher rate of eye donation. Thus, it is important to involve the hospital staff, nurses and counselors for motivating the relatives of diseases whenever there is a death. In 1975, in USA, a law was passed as Pre sumed consent law according to which if a dead person has not raised any objection to donate when alive, consent is presumed and eyes can be removed. This has led to increased availability of cornea. Such legislation should be introduced in India to increase corneal transplantation.

CONCLUSION

From the present study it can be concluded that there is a great need to take appropriate strategies to increase the knowledge and awareness about eye donation, to encourage the population to pledge for eye donation and enhance eye donation.

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