



KNOWLEDGE, ATTITUDE, AND PRACTICE TOWARDS EYE DONATION IN PATIENTS ATTENDING OUTPATIENT DEPARTMENT OF A PERIPHERAL TERTIARY CARE HOSPITAL OF EASTERN INDIA

Ophthalmology

Dr. Somnath Choudhury RMO cum Clinical Tutor, Ophthalmology Department, Government Medical College & Hospital, Malda, West Bengal.

Dr. Jayanta Dutta* Associate Professor, Ophthalmology Department, Deben Mahata Government Medical College & Hospital, Purulia, West Bengal. *Corresponding Author

Dr. Ashis Majumdar 3rd year Post Graduate Trainee, Regional Institute of Ophthalmology (RIO), Kolkata, West Bengal.

KEYWORDS

INTRODUCTION

Damage to the cornea is the second most common cause of visual impairment and blindness which accounts for about 6–8 million of the total blind cases in the world.^{1,2} The majority of blinding corneal damage in the form of trachoma affects 4.9 million individuals. Other major causes include ocular trauma, ulceration, xerophthalmia, ophthalmia neonatorum, onchocerciasis, leprosy, and use of traditional eye medicines.^{3,4}

In India, it is estimated that there are approximately 6.8 million people who have vision <6/60 in at least one eye due to corneal diseases; of these, about a million have bilateral involvement.⁵ According to the National Programme for Control of Blindness estimates, there are currently 120,000 corneal blind persons in the country. It is estimated that there is an addition of 25,000–30,000 corneal blindness cases every year in the country.

Corneal blindness in a large proportion of cases is avoidable. Corneal transplantation is the only method for sight restoration for patients having corneal blindness. The source of transplantable cornea can be obtained from the general population. This, however, is dependent on people willing to pledge their eyes for donation and relatives willing to honour that pledge upon the death of that person.

As restoration of vision for corneal blindness is possible through corneal grafting, this has led to a sustained multipronged drive to raise awareness regarding eye donations and corneal transplantation. Based on the present availability of safe donor eyes and utilization rates, it is estimated that 270,000 donor eyes are required to perform 100,000 corneal transplants per year in India, and this is approximately four times the present availability of donor eyes.⁵ Currently, the utilization rate of donor cornea ranges between 25% and 60%. There is a limited supply of quality donor corneas. To enhance the procurement of corneal donations further raising the level of public awareness on eye donation is important.

The study was conducted at tertiary medical college of eastern India which is serving mostly rural population among whom eye donation awareness is supposed to be typically low. The study was conducted to discover actual ground reality and to explore possible reasons behind it.

MATERIALS AND METHODS

A cross-sectional study was conducted on 1500 participants, who were the patients visiting the outpatient department of Ophthalmology, of the tertiary care medical college hospital, between October 2018 and April 2019. The study was approved by the Institutional Ethics Committee and written informed consent was obtained from the participants. The study followed the Tenet's of Declaration of Helsinki. Every willing patient was taken as participants. The pre validated questionnaire was prepared in English and the local language used as per the participant's convenience. The initial questions pertained to demographic profile, literacy, occupation of the participants, and the main body of questions dealt with awareness about eye donation, willingness to donate/pledge eyes, the reasons for donating/pledging or not opting to donate/pledge, and the sources of information of their awareness.

"Awareness" was defined as having heard about eye donation. "Knowledge" was considered as having understanding regarding the details of different aspects of eye donation such as process of pledging of eyes, who can donate eyes, when can eyes be donated, and what steps are to be taken after death to donate the eyes. Only those participants who were aware of eye donation were asked about their willingness to pledge eyes for donation. "Attitudes" of the respondents regarding eye donation was determined through questions regarding opinions on issues such as the willingness to donate and influence of religion and other factors on eye donation. "Practice" was determined by the observation that after counselling, whether the participant agreed to fill the pledge form and whether the participant agreed to motivate other family members/friends to fill the pledge form for eye donation. Only adult (above 18 years) participants were included in the study.

Data were entered into Excel sheet and analysed using Microsoft excel). Proportions and percentages were used for descriptive statistics. Chi-square test was used for inferential statistics. $P < 0.05$ was considered statistically significant.

RESULTS

Table 1. shows the sociodemographic profile of the participants. Out of the 1500 participants, 716 (47.73%) were male and 784 (52.3%) female. The mean age of participants was 42.15 years (standard deviation 5.8 years), and the range was 18–80 years. The ethnic distribution was 290 (19.3%) Hindus, 1165 (77.6%) Muslims, and 45 (3%) others mostly Santali, traditional primitive religion. 127 participants (8.46%) were illiterate, 600 participants (40%) had completed only primary education, 487 participants (32.46%) had completed secondary education, 202 participants (13.46%) were graduates, 53 (3.5%) were postgraduates, while 31 participants (2.06%) chose to not answer this question. 580 participants (38.6%) belonged to urban population and 920 (61.33%) were from the rural population.

Table 1

Demographic factors		Aware	Not aware	Total	P value
Age	18-30	445	110	555	1.314
	30-60	394	203	597	
	60-80	186	162	348	
Gender	Male	601	115	716	2.128
	Female	424	360	784	
Religion	Hindu	215	75	290	0.015
	Muslim	785	380	1165	
	Others	25	20	45	
Education	Illiterate	29	98	127	1.124
	Primary education	399	201	600	
	Secondary education	344	143	487	
	Graduate	184	18	202	
	Post graduate	51	02	53	
	NA	18	13	31	
Residence	Urban	456	124	580	1.041
	Rural	569	351	920	

Occupation	Unemployed	99	78	177	1.243
	Retired	119	16	135	
	Businessman	97	16	113	
	Farmer	121	76	197	
	Service	244	00	244	
	Homemaker	159	288	447	
	Student	186	01	187	

Those who were aware mentioned that the most common source of information was friend and colleagues with 38.63%, followed by television (22.04%) newspapers (19.21%) doctors and other health care workers (6.8%) banners and posters (4.78%), and 5.36% of participants either could not remember the source or declined to answer.

News paper	197
Television	226
Banners and Posters	49
Friend and colleague	396
Doctor and health care provider	102
Cannot remember	51
No answer	4

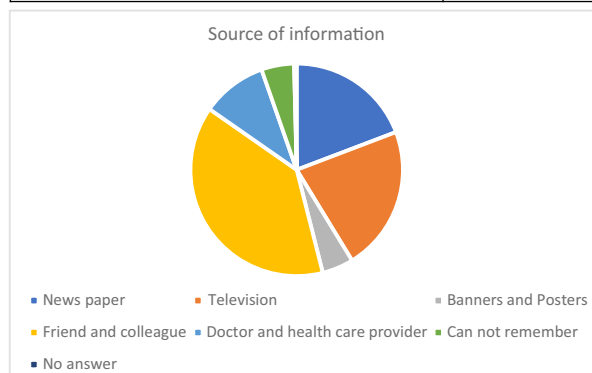


Fig: 1

About 68.3% participants were aware about eye donation. The knowledge that eyes are to be collected within 6–8 h of death was known to only 33 (3.2%) participants and 188 (18.3%) knew that eyes could be collected despite most existing medical ailments. Only 114 (11.1%) participants knew that only cornea could be transplanted. One hundred and forty six (14.2%) participants were willing for their eye donation.

Table 2

QUESTIONS	YES	NO	% OF YES AMONG THOSE WHO ARE AWARE OF EYE DONATION (n=1025)
Know that only cornea is transplanted	114	911	11.12
Know that they can give consent any time after reaching adulthood	449	576	43.8
Know that consent of nearest kin is must at actual time of eye collection	231	794	22.53
Know that eye can be collected by consent of nearest kin even if no ante mortem consent was given	23	1002	2.24
Know that ideal time for collection is within 6 hours after death	33	992	3.22
Know that only document required is valid death certificate	12	1013	1.17
Know that it is not necessary to transport the donor to hospital after death	411	814	40.09
Know that there is no delay in funeral arrangement	398	627	38.82
Know that eye donation doesn't disfigure donor's face	445	580	43.41
Know that eyes can be donated in spite of medical ailments or previous cataract surgery	188	837	18.34

Know any person who have donated his eyes	685	340	66.82
Know any person who have received donated eyes	779	246	76
Know any person who have pledged to donate his eyes	213	812	20.7
Are you willing to donate your eyes in future	146	879	14.24
Are you willing to pledge your eyes now (by filling prescribed form during interview)	06	1019	0.58

Out of 879 unwilling participants Table 3, lack of awareness was seen in 212 (24.11%) participants, 198 (22.52%) disliked the idea of separating the eyes from the body, and 211 participants (24%) had objection by family members. 48 (5.46%) participants thought that eyes are unsuitable for eye donation because of health problem, while 21 (2.38%) participants had the misbelief that they would be born blind in their next birth. 213 participants (24.23%) answered that it was against their religious belief.

Table 3

Reason of not donating eyes	n=879
Lack of awareness	212
Unacceptable idea to separate eyes from body even after death	198
Possible objection of family member	211
Considers himself unsuitable a donor because of health ailments	48
Against their religious belief	632
Fears he will be born blind in next birth	21
No answer	213

DISCUSSION

In study by G. Rakesh Maiya, K. G. Kiran, Sanjeev Badiger 44% participants knew about eye donation which is dissimilar to studies conducted by Vijayalakshmi et al in Bangalore where 93.8% knew^{7,8}, Singh et al in urban slum in New Delhi where 65.72% knew and Krishnaiah et al in rural Andhra Pradesh where 28% knew^{9,10}. But in our study 68.3% people were aware. This difference is may be due to varied population demography.

Our data suggest that participants from Muslim community were less aware of eye donation compared to the participants from Hindu community, and this difference was highly significant. Literacy had a significant influence on level of awareness about eye donation, but only a few had actually taken the steps of pledging their eyes. Females were less willing to pledge their eyes even though they were equally aware of eye donation. Awareness of eye donation and willingness to pledge eyes was higher among younger age group in contrast to previous studies. This can be explained by more informed and educated younger population owing to increased literacy rate.

Our study showed other than mass media, friends and colleague are very important source of information.

These shows relevance of community level worker and teachers are even today quite effective as a mass educator. Our recommendation is government should concentrate on these grass root level educators rather expending millions on television advertisements.

As a major limitation to our study is sampling done in a single college. Majority of the participants are from rural areas thus affecting the awareness and perception in general population. Further studies involving the general population as a whole would yield better results regarding the knowledge about eye donation among the masses.

REFERENCES:

- Whitcher JP, Srinivasan M, Upadhyay. Corneal blindness: a global perspective. Bull World Health Organ 2001; 79: 214-221.
- Kalevar V. Eye banking in India. Ind J ophthalmol. 1989; 37 (3): 110-111.
- Rao GN. What is eye banking? Ind J Ophthalmol. 1996; 44 (1): 1-2.
- Dandona L, Dandona R, Naduvilath TJ, McCarty C, Nanda A, Srinivas M, Mandal P, and Rao GN. Is current eye-care-policy focus almost exclusively on cataract adequate to deal with blindness in India? Lancet 1998; 351: 1312-1316
- Dandona R and Dandona L. Corneal blindness in a southern Indian population: need for health promotion strategies. Br J Ophthalmol 2003; 87: 133-141.
- Eye bank association of India (EBAI), head office, Plot # 12, BNR Colony, Road # 14, Banjara Hills, Hyderabad. Data obtained on October 6th, 2009.
- Maiya GR, Kiran KG, Badiger S. Assessment of awareness and perception regarding eye donation among selected patients attending field practise area of a tertiary care

- hospital in Mangalore: A cross-sectional study. *Int J Community Med Public Health* 2018;5:2920-5.
8. Vijayalakshmi P, Thiagarajan S, Gandhi S, Thimmaiah R, Math SB. Knowledge, Attitude and Behaviour of The General Population Towards Organ Donation: An Indian Perspective. *National Medical J India*. 2016;29(5):257-61
 9. Singh A, Gupta N, Ganger A, Vashist P, Tandon R. Awareness Regarding Eye Donation in an Urban Slum Population: A Community-Based Survey. *Experimental Clin Transplantation*. 2017
 10. Krishnaiah S, Kovai V, Nutheti R, Shamanna BR, Thomas R, Rao GN, et al. Awareness of eye donation in the rural population of India. *Indian J Ophthalmol* 2004;52:73-8.