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AWARENESS AND WILLINGNESS OF EYE DONATION AMONG ATTENDANTS OF PATIENTS IN RURAL KARNATAKA

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ABSTRACT: AIM: In India it is estimated that there are approximately 6.8 million people who have vision less than 6/60 in atleast one eye due to corneal disease: the rate of eye donation is low. The aim of the study was to assess the awareness about eye donation, pledging their eyes and willingness to donate eyes among attendants of patients in rural Karnataka. **STUDY DESIGN:** Cross-sectional study design. **MATERIALS AND METHODS:** This observational study was conducted on attendants who accompanied patients ($n = 200$) visiting various outpatient departments of the Hospital between November 2014 and December 2014. The participants answered a questionnaire (Kannada and English versions) which included demographic profile, awareness of eye donation, knowledge regarding facts of eye donation, pledging and willingness to donate eyes. **RESULTS:** Awareness of eye donation was observed in 182 (91%) participants. Analysis showed that awareness was equal among males and females. Of the 182 participants who were aware of eye donation, only 108 (59.34%) were willing to donate eyes. Willingness was more among the males (55.55%). 142 (71%) participants would recommend eye donation. Main reasons for not pledging eyes were: lack of information regarding pledging eyes (39.18%), objection by family members (33.78%) and religious belief (17.56%). Educational status was associated with willingness to donate eyes ($P=0.0001$). Media was the major source of information about eye donation. Of those aware of eye donation only 9.34% have pledged their eyes. **CONCLUSIONS:** Although multiple strategies are currently followed to increase awareness of eye donations, we need to develop more innovative strategies to target young rural population to make them pledge their eyes. Awareness has to be created through the curriculum. Training of anganawadi, ASHA workers and paramedical personnel in spreading awareness, pledging and benefits of eye donation at community level.

KEYWORDS: Eye Donation, Awareness, Rural, Willingness.

INTRODUCTION: According to world health organisation corneal disease are among the major causes of visual loss and blindness in the world today, after cataract and glaucoma.⁽¹⁾ In India it is estimated that there are approximately 6.8 million people who have vision less than 6/60 in at least one eye due to corneal disease.⁽²⁾ According to the Eye Bank Association of India, the current cornea procurement rate in India is 22,000 per year. It is estimated that a significant proportion of donor corneas are unsuitable for corneal transplantation.⁽³⁾ Although strategies to prevent corneal blindness are likely to be more cost-effective, visual rehabilitation by corneal transplantation remains a major treatment option for restoring sight in those who already have corneal blindness.⁽⁴⁾ Patients waiting for corneal transplants constitute a considerable backlog, which continues to grow. According to 2011 census nearly 70% of India's population lives in rural

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areas. Therefore, it is necessary to educate the rural masses about eye donation in an effort to increase the procurement of corneas. This study was designed to assess the awareness of eye donation and willingness to donate eyes among the attendants of patients in rural Karnataka.

MATERIALS AND METHODS:

Type of Study: Cross-sectional study design.

Period of Study: November 2014- December 2014.

Place of Study: MVJ Medical College and Research Hospital, Hoskote, Bangalore, Karnataka.

Sample Size: 200.

A questionnaire was given to attendants of patients for collecting the necessary information. The questionnaire contained questions on demographic profile, awareness of eye donation, knowledge regarding facts of eye donation, pledging and willingness to donate eyes, reasons for donating and not donating eyes, and sources of information.

A total of 200 attendants of patients who were admitted in our hospital at various departments were included in the study. The participants were asked to answer a questionnaire either in English or Kannada. The questionnaire included questions pertaining to demographic profile, awareness about eye donation and willingness to donate eyes. "Awareness" was considered as knowing that the eyes can be utilized to give vision to those who are blind. "Knowledge" was considered as knowing the details of different aspects of eye donation like when can eyes be donated, who can donate eyes, pledging of eyes. Literate subjects self-administered the questionnaire; the chief author read out the questionnaire to the illiterate participants. Only nonmedical participants who were not related to the medical field were selected.

RESULTS: Out of 200 participants, 103(51.5%) were males and 97(48.5%) were females. Age varied from 18 to 80 years. 48 participants had primary education, 88 participants had secondary education, 58 participants were graduates and 6 participants were illiterates. Of the 200 participants it was observed that 93(46.5%) males and 89(44.5%) females knew that eyes can be donated. That they should ideally be donated within 6 hours of death was known to 82(45.05%) participants. 152(83.51%) knew that prior pledging is essential for eye donation, 107(58.79%) knew that first degree relative has right to give consent for eye donation. Only 17 participants had pledged to donate eyes. The contact place for donation was known to only 57(31.31%). 108(59.34%) participants were willing to donate eyes. Main reason for donating eyes was that the donated eyes give vision to blind person 75(69.44%) and influence by media was the second main reason 26(24.07%). On applying chi-square test significant association was seen between educational status and willingness to donate eyes $P=0.0001$ (Table 1 & Table 2). 74(40.65%) participants were not willing to donate eyes. Lack of awareness was cited as an important reason for people not donating their eyes among 28(39.18%) participants. objection by family members was found in 25(33.78%) participants. Television was the major source of information on eye donation for 88(48.35%) participants followed by medical personnel 37(20.32%). 142 participants would recommend their friends and relatives for eye donation.

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DISCUSSION: In the present study, 91% of the participants were aware of eye donation. A study by Priyadarshini *et al.* showed an awareness of 50.69% among the patients attending two outreach clinics in southern India.⁽⁵⁾ However, the awareness was only 30.7% in the rural population of south India, compared to 73.8% in the urban population of India.^(6,3) A study by Tandon *et al.* in Delhi found that 55.4% next of kin were aware of the concept of eye donation.⁽⁷⁾ Another study in the general population showed the awareness level on eye donation to be 73.8%.⁽⁸⁾

Although 91% of the participants had the awareness about eye donation, the willingness to donate eyes was seen in only 59.34%. This finding of better awareness than willingness to donate eyes is well observed in the study by Yew *et al.* in Singapore (awareness 80.7% and willingness 67%).⁽⁹⁾ Another study in the urban population observed that 73.8% were aware of eye donations and only 44.9% were willing to pledge their eyes.⁽³⁾ Willingness to donate eyes was less (41.5%) even among relatives of post-mortem cases who were aware of eye donation.⁽¹⁰⁾ Our study showed that there was significant association between education status and willingness to donate eyes which is in contrast to the study by Tandon which showed that the prior knowledge of eye donation, literacy, and socioeconomic status had no influence on willingness for eye donation.⁽⁷⁾ However, Yew *et al.* have found that the knowledge and willingness is more due to the higher educational status in Singaporeans.⁽¹¹⁾

In the present study, 18.47% believed that eye donation is against their religion and 51.09% knew that it does not cause any disfigurement of the face. In contrast, other studies have shown a concern among the respondents, like disfigurement of the face of the deceased, fear that it is against their religious belief, and may be time-consuming thus delaying the funeral process.⁽¹²⁾

About 54(29.67%) out of 182 knew that the donated eye is used for corneal grafting and 45.05% knew that the ideal time for donation is within 6 hours of death. A study on medical and nonmedical students also observed that 79.6% of medical students knew that eyes can be donated after death and 63.3% knew that it should be done within 6 hours.⁽¹⁰⁾ In this study, only 57(31.31%) out of 182 participants knew about the appropriate place for an eye donation.

The prime reasons cited in the study for eye donation was giving vision to blind person by 75(69.44%) and influence by media by 26(24.07%) and friend/ relative has donated by 7(6.48%) of the participants. But lack of awareness was the reason for people not donating eyes according to 28(39.18%) of the 74 participants. Other reasons for not donating eyes included objection by family members and religious belief. Similar reasons were also reported in other studies.^(13,3)

Mandatory consent for donation expressed before the death of the donor should ideally form the basis for eye donation. However, in the case of unavailability of such consent, consent from adult family members of the deceased donor should be obtained for eye donation. In a study done on the responses of relatives of post-mortem cases, it was revealed that out of the potential post-mortem donors, only 44.3% of relatives of such cases gave consent for donation after intensive counseling. Medical personnel, Mass media in the form of television, newspapers, radio, and posters were important sources of information on eye donation. Other studies also found publicity campaigns and the media to be the major sources of information on this issue.^(6,7)

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CONCLUSIONS: Although multiple strategies are currently followed to increase awareness of eye donations, we need to develop more innovative strategies to target young rural population to make them pledge their eyes. Awareness has to be created through the curriculum. Training of anganawadi, ASHA workers and paramedical personnel in spreading awareness, pledging and benefits of eye donation at community level.

	Willing to donate eyes				Total
		A	b	c	
Education	6	0	0	0	6
Degree	16	37	4	1	58
Primary	38	4	5	1	48
Secondary	32	34	17	5	88
Total	92	75	26	7	200
P Value: 0.0001 < 5%, Statistically Significant					
Table 1					

	Not willing to donate eyes					Total
		A	B	C	D	
Education	0	4	0	1	1	6
Degree	42	1	9	4	2	58
Primary	10	22	8	5	3	48
Secondary	56	8	14	7	3	88
Total	108	35	31	17	9	200
P value: 0.0001 < 5%, statistically significant						
Table 2						

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