

Assessment of Knowledge and Attitude Regarding Eye Donation among School Students - “Time To Educate Early”

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ABSTRACT

Background: Corneal blindness is a significant cause of visual impairment in India. There is an acute shortage of donated eyes in India and hence need to create awareness early in young population.

Purpose: This study aimed to knowledge and created awareness about eye bank and eye donation among school students.

Materials and Methods: Cross-sectional and observational type of study was conducted on school students of class eight to twelfth of Kendriya Vidhyalaya, Nagrota (total students - 450). Pre-designed semi-structured questionnaire was given to the students for eliciting responses. The data were entered into MS Excel 2007 and was analyzed using Open Epi version 2.3. Descriptive tabulations and Chi-square tests were used to generate descriptive information from qualitative data assuming normalcy.

Result: Mean age of respondents was 14.75 ± 1.68 years. 98% of the students knew eyes can be donated after death. 80.4% of the students were willing to donate eyes after death. There was no significant association between gender and willingness to donate eyes ($P = 0.75$). 55.3% students knew donated eyes are used for corneal grafting. 74.9% students knew about shortage of eyes for donation in India. 73.8% students were willing to encourage their relatives for eye donation. 42.9% knew consent is mandatory for removal of eyes. Only 17.3% knew where to contact for eye donation. 20.44%, 45.77%, and 33.77% of students had, respectively, good (knowledge score-KS 8-10); satisfactory (KS = 5-7); and poor (KS < 5) knowledge regarding eye donation.

Conclusion: The present study revealed that school students were aware of eye donation. However, the knowledge regarding the place of eye donation, time limit to collect cornea, consent, and contradictions was still not clearly known. Most of the students agreed to encourage their family members for eye donation and spread awareness regarding it in community.

Key words: Attitude, Eye donation, Knowledge, School students

INTRODUCTION

India has a very large population of blind people. The majority of the blindness cases are preventable or treatable. Globally, India has the world's largest population of people with corneal blindness.¹ 18.7 million people approximately are blind in India² and 1 in 90,000 is blind from bilateral corneal disease. Cornea obtained through donated eyes is the only source of treating corneal blindness. There is an acute shortage of donated eyes in India. Annual procurement of donor eyes is very low in India - 18,000 annually.³ Hence, there is a need to create awareness

regarding eye donation in the masses. School students were chosen in this study with the intention to create awareness early regarding eye donation.⁴ They can directly communicate with their family members including grandparents to encourage them for registering with eye banks. This would hasten the eye donation movement which is sadly in a lethargic state in India. Various studies have been done regarding awareness about eye donation in Indian population.^{5,6} This study is specifically aimed to study the knowledge and create awareness regarding eye donation among school students.

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Cross sectional and observational study was conducted in school students. Pre-structured questionnaire was provided.

MATERIALS AND METHODS

Cross-sectional and observational type of study was conducted on school students of class eight to twelfth of Kendriya Vidhyalaya, Nagrota (total students - 450). All the students present in the classes of eight to twelfth on 1st September 2016 were included in the study. Students absent from the school and uncooperative students were excluded from the study. After taking informed consent; pre-designed semi-structured questionnaire was given to the students for eliciting responses. The questionnaire consisted of 25 questions that covered five areas which affect factors related to eye donation:

- Demographic details
- Knowledge of eye donation and transplantation
- Sources of information
- Attitudes of students on eye donation
- Reasons for willingness or unwillingness of eye donation.

The data were entered into MS Excel 2007 and was analyzed using Open Epi version 2.3. Descriptive tabulations and Chi-square tests were used to generate descriptive information from qualitative data assuming normalcy. Knowledge score of each student was calculated using modified Bloom's cut off points.⁷

RESULTS

Mean age of respondents was 14.75 ± 1.68 years. 68.4% were male, and 31.6% were female. 98% of the students knew eyes can be donated after death. Most important sources of information regarding awareness of eye donation among school students were television (80%) and newspaper (61.1%), respectively, as shown in Figure 1. Perceived reasons for willingness and unwillingness to donate eyes are listed in Tables 1 and 2, respectively. 80.4% of the students were willing to donate eyes after death. There was no significant association between gender and willingness to donate eyes, on applying Chi-square test ($P = 0.75$). 69.6% students knew that ideal time for eye donation was within 6 h after death. 89.6% knew HIV positive cannot donate eyes. 55.3% students knew donated eyes are used for corneal grafting. 74.9% students knew about shortage of eyes for donation in India. 42.9% knew consent is mandatory for removal of eyes. 73.8% students were willing to encourage their relatives for eye donation. Only 17.3% knew where to contact for eye donation. 3% students knew person who had donated eyes. 2.4% students knew some persons who had received eyes. 20.44%, 45.77%, and 33.77% of students had, respectively, good (knowledge score - KS 8-10); satisfactory (KS = 5-7); and poor (KS < 5) knowledge regarding eye donation. Mean knowledge score of boys and girls were, respectively, 5.51 and 5.71. On applying *t*-test, $P = 0.325$

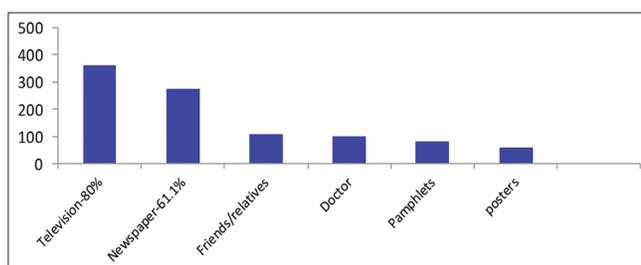


Figure 1: Sources of information regarding eye donation (n = 450)

(CI: 95% = -0.63, 0.207) - there was no significant association between gender and knowledge score. There is a significant association between education status of father and willingness to donate eyes ($P = 0.00136$) Table 3.

DISCUSSION

Knowledge and attitude toward eye donation among school students is an important determinant in promoting eye donation. School students can play an important role in spreading

Table 1: Distribution of perceived reasons for donating eyes

Distribution of perceived reasons for donating eyes (total 362 students)	Number of students
Pleasure to help blind	247 (68.23)
Eye donation is noble act	190 (52.48)
Encouraged after reading article	40 (11.04)
Relative has donated eyes	14 (3.80)

Table 2: Distribution of perceived reasons for donating eyes

Distribution of perceived reasons for not donating eyes (total 88 students)	Number of students
Unacceptable idea of separating eyes	48 (54.54)
Objection by family members	48 (54.54)
Eye donation will delay funeral	40 (45.45)
Lack of awareness	14 (18.18)
Religious restrictions	11 (12.5)

Table 3: Demographic data of students

Variable	n (%)
Males	308 (68.4)
Females	142 (31.6)
Urban	164 (36.4)
Rural	286 (63.6)
Hindu	425 (94.4)
Muslim	20 (4.4)
Sikh	5 (1.1)
Nuclear family	254 (56.4)
Joint family	196 (43.6)
Education status of father	
Post graduate	39 (8.7)
Graduate	236 (52.4)
12 th pass	114 (25.3)
<12 th	60 (13.3)
Illiterate	1 (0.2)
Education status of mother	
Post graduate	22 (4.9)
Graduate	146 (32.4)
12 th pass	178 (39.6)
<12 th	90 (20.0)
Illiterate	14 (3.1)

awareness in the community. In the present study, 98% of students knew eye can be donated after death. Similar results (99.4%) were attained by study conducted by Singh *et al.* on medical students.⁸ On the contrary, in a study by Dandona *et al.*, only 73.8% of urban population were aware of eye donation.⁹

In the present study, 80.4% of the students were willing to donate eyes after death. No significant association was found between gender and willingness to donate eyes on applying Chi-square test ($P = 0.75$). The students not willing to donate eyes need to be counseled well. Similar results were seen in study by Gupta *et al.*, where 85.1% were either willing or had already pledged to donate eyes.¹⁰ In studies by Singh *et al.* and Dandona *et al.*, 87.8% and 44.9% of participants were willing to donate eyes after death, respectively.^{8,9}

In this study, the most common perceived reason for donation of eyes was “pleasure to help the blind” (68.23%) followed by consideration of “eye donation as a noble act” (52.48%). In the study by Singh *et al.*, nobility in act of eye donation (85.5%) was similarly the leading cause of eye donation.⁸ The most common reasons for unwillingness toward donation of eyes were both “unacceptable idea of separating eyes from body” and “objection by family members” (54.54% each). Delay in funeral process due to eye donation (45.45%) was another leading cause. Other causes for unwillingness to donate eyes included lack of awareness regarding eye donation (18.18%) and religious restrictions (12.5%). Hence, awareness needs to be spread among these school students to clear these misconceptions.

Most important sources of information regarding awareness of eye donation among school students were television (80%) and newspaper (61.1%), respectively. Other sources of information were friends/relatives, doctor, pamphlets, and posters. In our study, 55.3% students knew donated eyes are used for corneal grafting. In study by Gupta *et al.*, 74.4% students knew that cornea is used for transplantation.¹⁰ Study conducted by Bharti *et al.*, reported that 30.25% of Malaysian students knew that cornea is used for transplantation.¹¹

69.6% students knew that ideal time for eye donation was within 6 h after death. On the contrary, knowledge regarding the duration of hours in which eye can be donated was low (39.7%) study conducted by Kumar *et al.* on students in Bhopal.¹² 74.9% students knew about shortage of eyes for donation in India which is an encouraging trend.

89.6% students knew HIV positive cannot donate eyes as compared to 38.8% in a study conducted Dhaliwal by at Delhi.¹³ 42.9% students knew consent is mandatory for removal of eyes compared to 15% of students at Delhi.⁸ Only 17.3% students knew where to contact for eye donation. Thus, there is need to spread knowledge about role of eye banks among masses.

Mean knowledge score of boys and girls were, respectively, 5.51 and 5.71. On applying *t*-test, $P = 0.325$ (CI: 95% = -0.63, 0.207) - there was no significant association between gender and knowledge score. There is a significant association between education status of father and willingness to donate eyes ($P = 0.00136$). Therefore, literacy status of parents influences knowledge and attitude toward eye donation.

20.44%, 45.77%, and 33.77% of students had, respectively, good (knowledge score - KS 8-10); satisfactory (KS = 5-7);

and poor (KS < 5) knowledge regarding eye donation modified Bloom's cut off points.⁷ Thus, the majority of the students had satisfactory knowledge regarding eye donation.

CONCLUSION

The present study revealed that school students were aware of eye donation. The majority of the students had satisfactory knowledge about eye donation (knowledge score 5-7). However, the knowledge regarding the place of eye donation, time limit to collect cornea, consent, and contradictions was still not clearly known. Most of the students agreed to encourage their family members for eye donation and spread awareness regarding it in community. Misconceptions regarding eye donation need to be removed. There is a need to educate young so that they can act as motivators in hastening the eye donation movement in India.

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REFERENCES

1. Oliva MS, Schottman T, Gulati M. Turning the tide of corneal blindness. *Indian J Ophthalmol* 2012;60:423-7.
2. Dandona L, Dandona R, John RK. Estimation of blindness in India from 2000 through 2020: Implications for the blindness control policy. *Natl Med J India* 2001;14:327-34.
3. Ministry of Health and Family Welfare, Government of India. Eye Care Services-Eye Banking. Available from: <http://www.mohfw.nic.in/b/index.html#vision>. [Last cited on 2012 Dec 25].
4. Biswas J, Bandyopadhyay S, Das D, Mandol KK, Saha I, Ray B. A study in awareness about eye health care and eye donation among secondary level students of North Kolkata, India. *Indian J Ophthalmol* 2003;51:101-4.
5. Priyadarshini B, Srinivasan M, Padmavathi A, Selvam S, Saradha R, Nirmalan PK. Awareness of eye donation in an adult population of Southern India. A pilot study. *Indian J Ophthalmol* 2003;51:101-4.
6. 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;52:73-8.
7. Nahida A. Knowledge Attitude and Practise on Dengue Fever. Thesis for Masters in Public Health. College of Public Health Sciences: Chulalongkorn University; 2007. Available from: http://www.cphs.healthrepository.org/bitstream/123456789/1296/3/Thesis2007_Nahida.pdf. [Last cited on 2013 Oct 08].
8. Singh MM, Rahi M, Pagare D, Ingle GK. Medical students' perception on eye donation in Delhi. *Indian J Ophthalmol* 2007;55:49-53.
9. Dandona R, Dandona L, Naduvilath TJ, McCarty CA, Rao GN. Awareness of eye donation in an urban population in India. *Aust N Z J Ophthalmol* 1999;27:166-9.
10. Gupta A, Jain S, Jain T, Gupta K. Awareness and perception regarding eye donation in students of a nursing college in Bangalore. *Indian J Community Med* 2009;34:122-5.
11. Bharti MK, Reddy SC, Tajunisah I, Ali NA. Awareness and knowledge on eye donation among university students. *Med J Malaysia* 2009;64:41-5.
12. Kumar S, Shukla US, Agarwal P. Awareness and knowledge on eye donation among students at Bhopal. *Natl J Community Med* 2012;3:685-9.
13. Dhaliwal U. Enhancing eye donation rates. Training students to be motivators. *Indian J Ophthalmol* 2002;50:209-12.

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