



ORIGINAL RESEARCH ARTICLE

AWARENESS, KNOWLEDGE AND WILLINGNESS REGARDING EYE DONATION AMONG DENTAL STUDENTS OF KIST MEDICAL COLLEGE AND TEACHING HOSPITAL, LALITPUR, NEPAL

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ABSTRACT

Background: Corneal disease constitutes a significant cause for visual impairment and blindness in the developing world. Visual rehabilitation by corneal transplantation for which increased awareness regarding an eye donation is essential, remains the only treatment option for restoring sight in those who suffer from corneal blindness. Hence, the present study conducted to assess the awareness, knowledge and willingness about eye donation among dental students of KIST medical college & teaching hospital, Nepal

Methods: A cross-sectional study was carried out in KIST medical college and teaching hospital in Nepal during the period of 21st to 30th April 2019. A total of 185 dental students were selected as study group by convenience sampling technique. A Semi-structured questionnaire was used for data collection and analyzed by using SPSS 16. Descriptive statistics and Chi square/ Fischer exact tests were used for data analysis.

Results: Out of total 185 dental students who participated in this study, 176 (95.1%) were aware about eye donation, 133 (71.9%) knew that the cornea is used for eye donation and 70 (37.8%) knew that ideal time for eye donation is within six hours of death. Awareness regarding eye donation in male and female students was found to be statistically significant ($p=0.013$).

Conclusions: The present study revealed that most of the dental students were aware regarding eye donation and most of them were willing to donate their eyes. Awareness regarding eye donation will form the prime base for the elimination of avoidable corneal blindness in Nepal.

INTRODUCTION

One of the major causes for visual impairment and blindness in the developing world has been attributed to corneal disease. According to the 2010 global blindness estimate, it accounts for around 4% of the total burden of 50 million.¹ To enhance the awareness of corneal donations further, raising the level of public education on eye donation was the most important first primary step.² Eye donation is an act of donating one's eye after his/her death. Only corneal blinds can be benefitted through this process not other blinds. Hence, this pledge of eye donation is purely an act of charity, for the benefit of the society and is totally a voluntary work.³ Well

informed medical students could be expected to influence and increase the eye donation rates.⁴ One of the obstacles in eye donation is lack of awareness and a negative attitude among general population as well. The willingness about eye donation among medical fraternity definitely will affect the attitude among general population. Since the dental students currently enrolled in various medical and dental schools are the future health-care providers for the community, well informed dental students are expected to influence eye-donation rates. The study was aimed to determine the awareness and willingness regarding eye donation among dental students.

METHODS

A cross-sectional study was carried out at KIST Medical College and Teaching Hospital, Nepal during the period of 21st to 30th April 2019. Ethical clearance was obtained from the Institutional Review Committee (IRC) of KIST Medical College (IRC No: 2075/76/68). This study was conducted by the Department of Ophthalmology in consultation with the Dental Department. Dental students from all the academic semesters were included in this study. Students who were absent in the class during the data collection and those who submitted the incomplete questionnaire were excluded from the study.

A total of 185 dental students were selected by convenience sampling. Data collection was meticulously done by the faculties of dental sciences. The students were asked to fill up a semi-structured questionnaire for collecting the necessary informa-

tion after signing an informed written consent. The questionnaire was related to demographic profile, their awareness, knowledge and willingness to donate eyes.⁵ Information given by the participants and their identity were kept strictly confidential.

Data were entered in MS Excel sheet and was statistically analyzed by SPSS 16. Descriptive statistics and Chi square/ Fischer exact tests were used for data analysis. p-value less than 0.05 was considered significant for the tests.

RESULTS

A total of 185 dental students participated in the study, out of which 37 (20%) were males and 148 (80%) were female students. The age ranged from 18 to 25, with a mean age is 20.96 and standard deviation of 1.64 years (Table 1).

Table 1: Distribution of study population according to the socio-demographic characteristics (n=185)

Variables	Frequency(n)	Percentage (%)
Males	37	20
Females	148	80
Total	185	100
Type of family		
Nuclear	137	74.1
Joint	38	20.5
Three Generation	10	5.4
Total	185	100
Religion		
Hindu	172	93
Buddhist	11	5.9
Muslims	1	0.5
Christians	1	0.5
Total	185	100
Education		
First year	36	19.5
Second year	47	25.4
Third year	40	21.6
Fourth year	62	33.5
Total	185	100

It is evident from Table 2, out of 185 total students, 176 (95.1%) were aware about eye donation. Maxi-

imum number of students, 81 (44.8%) knew about eye donation through television followed by inter-

net (24.3%), friends and relatives (9.9%) and newspaper (7.7%) respectively.

Among the total 185 students, 50 (27%) students thought that the relatives of donor will get money for eye donating their eyes where as 135(73%) students were aware that they will not get any finan-

cial benefit for eye donation. Out of those who were aware, 33(89.2%) were males and 102(68.9%) were females. The awareness regarding eye donation was found to be statistically significant with the gender of the participants ($p=0.013$).

Table 2: Distribution of study population according to the awareness regarding eye donation (n=185)

Variables	Males (n=37) No %	Females (n=148) No %	Total (n=185) No %	Chi-square/ Fisher exact	p-value
1. Do you know about eye donation :					
Yes	37 (100%)	139 (93.9%)	176 (95.1%)	2.36	0.124
No	0	9 (6.1%)	9 (4.9%)		
2. Source of Information about eye donation					
a. Newspaper	6 (16.2%)	8 (5.6%)	14 (7.7%)	13.78	0.032
b. Television	12 (32.40%)	69 (47.9%)	81 (44.8%)		
c. Radio	3 (8.1%)	1 (0.7%)	4 (2.2%)		
d. Internet	9 (24.4%)	35 (24.5%)	44 (24.3%)		
e. Public hoardings	1 (2.7%)	6 (4.2%)	7 (3.9%)		
f. Friends & Relatives	3 (8.1%)	15 (10.4%)	18 (9.9%)		
g. Doctors & Hospital staff	3 (8.1%)	5 (3.5%)	8 (4.4%)		
3. Do you know whom to contact for eye donation:					
Yes	6 (16.2%)	26 (17.6%)	32 (17.3%)	0.038	0.846
No	31 (83.8%)	122 (82.4%)	153 (82.7%)		
4. Do you think there is shortage of eye donors in Nepal:					
Yes	34 (91.9%)	140 (94.6%)	174 (94.1%)	0.387	0.534
No	3 (8.1%)	8 (5.4%)	11 (5.9%)		
5. Do you know any eye bank in Nepal:					
Yes	3 (8.1%)	17 (11.5%)	20 (10.8%)	0.35	0.554
No	34 (91.9%)	131 (88.5%)	165 (89.2%)		
6. Do the relatives of donor get any money for eye donation :					
Yes	4 (10.8%)	46 (31.1%)	50 (27%)	6.167	0.013
No	33 (89.2%)	102 (68.9%)	135 (73%)		
7. Do you think eye donation causes disfigurement of the face :					
Yes	12 (32.4%)	43 (29.1%)	55 (29.7%)	0.162	0.688
No	25 (67.6%)	105 (70.9%)	130 (70.3%)		

Table 3: Distribution of study population according to the knowledge regarding eye donation

Variables	Males (n= 37) No.(%)	Females(n=148) No.(%)	Total (n=185) No.(%)	Chi square/ Fisher exact	p- value
1.Do you know that eyes can be donated :					
a.After death				5.108	0.062
b.Living	16(43.2%)	42(28.4%)	58(31.4%)		
c.Both	2(5.4%)	3(2.0%)	5(2.7%)		
	19(51.4%)	103(69.6%)	122(65.9%)		
2.What is removed from the donor eye :					
a.Whole eye	1(2.7%)	3(2.0%)	4(2.2%)	6.957	0.104
b.Cornea	32(86.5%)	101(68.2%)	133(71.9%)		
c.Lens	0	1(0.7%)	1(0.5%)		
d.Retina	0	14(9.5%)	14(7.6%)		
e.Don't know	4(10.8%)	29(19.6%)	33(17.8%)		
3.Ideal time for eye donation (Time after death) is :					
a.Within 2 hrs				7.803	0.05
b.Within 6 hrs	8(21.6%)	44(29.7%)	52(28.1%)		
c.Within 1 day	18(48.6%)	52(35.1%)	70(37.8%)		
d. Anytime after death	6(16.2%)	45(30.4%)	51(27.6%)		
	5(13.5%)	7(4.7%)	12(6.5%)		
4.Donated eyes are used for :					
a.Transplant full eyeball	0(0%)	4(2.7%)	4 (2.2%)	7.292	0.042
b.Cornea transplant	32(86.5%)	92(62.2%)	124(67%)		
c.Lens transplant	0(0%)	3(2.0%)	3(1.6%)		
d.Don't know	5(13.5%)	49(33.1%)	49(33.1%)		
5.Is there any age limit for donor :					
Yes	10(27%)	63(42.6%)	73(39.5%)	2.992	0.084
No	27(73%)	85(57.4%)	112(60.5%)		
6.Can a person with communicable disease donate eyes :					
Yes				2.404	0.121
No	21(56.8%)	63(42.6%)	84(45.4%)		
	16(43.2%)	85(57.4%)	101(54.6%)		
7. One donor can give sight to :					
a. One blind person	17(45.9%)	88(59.5%)	105(56.8%)	2.753	0.252
b. Two blind person	19(51.4%)	54(36.5%)	73(39.5%)		
c. More than two blind person	1(2.7%)	6(4.1%)	7(3.8%)		

It was observed from Table 3, majority of the dental students 133 (71.9%) were aware that the cornea can be removed separately. Only 70 (37.8%) participants knew that the ideal time for eye donation is within six hours of death.

Of the 185 respondents, 124(67%) participants had the knowledge that the donated eyes are used for corneal transplantation. Among them 32(86.5%) were males and 92(62.2%) were females. The knowledge regarding eye donation was found to be statistically significant with the gender of the participants (p= 0.042).

Table 4 summarizes the student's willingness regarding eye donation. Among 185 dental students, 111(60%) students were willing to donate their eyes and 70 (37.8%) students were willing to donate the eyes of their close relatives. Out of 111 students who were willing to donate eyes, 68 (61.3%) felt pleasure in helping the blind, 27 (24.3 %) thought eye donation as a noble cause and 10 (9.0%) students told they were influenced by the knowledge they received during their academic classes. Only 74(40 %) students were not willing to donate the eyes.

Table 4: Distribution of study population according to the willingness regarding eye donation

Variables	Males (n=37) No.(%)	Female (n=148) No.(%)	Total (n=185) No.(%)	Chi square/ Fisher exact	p-value
1.Are you willing to donate your eyes: Yes No	19(51.4%) 18(48.6%)	92(62.2%) 56(37.8%)	111(60.0%) 74(40.0%)	1.441	0.23
2. Are you willing to donate your close relative's eyes : Yes No	11(29.7%) 26(70.3%)	59(39.9%) 89(60.1%)	70(37.8%) 115(62.2%)	1.293	0.256
3. If yes ,reasons for donating eye : a. Nobel cause b.Pleasure to help the blind c.Inspired by article/magazine d. Influenced by knowledge in academics e. Friend/relative received cornea f. Friend/relative donated cornea	6(31.6%) 12(63.2%) 0(0%) 1(5.3%) 0 0	21(22.8%) 56(60.9%) 4(4.3%) 9(9.8%) 1(1.1%) 1(1.1%)	27(24.3%) 68(61.3%) 4(3.6%) 10(9.0%) 1(0.9%) 1(0.9%)	2.106	0.834
4.Reason for not donating eyes: a.Objection by family members b.Not eligible due to health problem c.Not sure of correct use of cornea after extraction d.Signing eye donation card is like signing death certificate e.Lack of awareness	7(38.9%) 0 2(11.1%) 1(5.6%) 8(44.4%)	18(32.1%) 6(10.7%) 8(14.3%) 3(5.4%) 21(37.5%)	25(33.8%) 6(8.1%) 10(13.5%) 4(5.4%) 29(39.2%)	2.382	0.666
5.Have you already given consent & signed the eye donation card : Yes No	0 37(100%)	1(0.7%) 147(99.3%)	1(0.5%) 184(99.5%)	0.251	1
6.Even relatives can pledge for eye donation after one is dead Yes No	29(78.4%) 8(21.6%)	93(62.8%) 55(37.2%)	122(65.9%) 63(34.1%)	3.182	0.074

DISCUSSION

Corneal ulcers have also been recognized as one of the major cause of blindness in developing countries.⁶ Corneal diseases including keratitis or trauma resulting in corneal scarring are a major cause of bilateral or unilateral blindness and visual impairment in children and young adults.⁷ Although strategies to prevent corneal blindness are likely to be more cost effective, visual rehabilitation by corneal transplantation remains the major treatment for restoring sight in those who already have corneal blindness.⁸ Review has revealed lack of knowledge and negative attitude regarding organ donation amongst health professionals.⁹

In our study, out of total 185 dental students, 176 (95.1%) were aware about eye donation, only 111(60%) of them were willing to pledge their eyes for donation, and merely 70(37.8%) of them were willing to donate their relative's eyes. A similar study which was conducted in Bhopal city showed that 98% of the total students had heard about eye donation previously, only 46% of them were willing to pledge their eyes for donation, and merely 22% of them were willing to donate their relative's eyes.¹⁰

In this study, 81(44.8%) of students knew about eye donation through television followed by Internet 44 (24.3%), friends and relatives 18 (9.9%) or newspaper 14 (7.7%). In contrast to our study, Singh MM et al showed that 77.8% of the students knew about eye donation via television.¹¹ Using mass media to increase the awareness regarding eye donation is not enough. There is a great need to educate the students, as they are important part of our society.

Present study revealed that 18(48.6%) males and 52(35.1%) females had knowledge that eyes could be removed within the first 6 hours after death for effective use. Singh M et al found that 61% of students knew correct time of eye donation.¹² Our study observed that only 20 (10.8%) of the students knew about any existing eye bank in Nepal. However, Nekar MS et al in their study reported that 74% of the college students at Hubli knew about eye banks in their surroundings.¹³ If the students are aware about eye bank then they can raise the awareness among their family members and general population, thus ultimately enhancing eye donation rates.

Only 58 (31.4%) of the dental students had knowl-

edge that eye can be donated only after death. In contrast to our study, Singhet al reported that 99% of the medical students knew that eyes can be donated only after death.¹¹ Similarly, study done by Dhaliwal reported that 79% of the medical students at Delhi knew that eyes can be donated only after death.¹⁴

CONCLUSION

The present study concluded that majority of the dental students were aware regarding eye donation and most of them were willing to donate their eyes. The outcome of this study focuses the fact that although most of the students are in goodwill of active involvement to transmit the knowledge, but absence of awareness is the main obstacle. So continuous awareness programmes and camps should be held and should include not only the community population but also for the undergraduate medical and dental students. Since the present medical, dental and nursing students are the future health-care providers for the community, well informed students and the staffs of the hospitals are expected to influence eye donation rates. This can be achieved by educating the practicing doctorson the importance of eye donation and benefits of corneal transplantation and training them to motivate the families of ill patients to pledge for eye donation.

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