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Knowledge and Attitude Regarding Eye Donation among Undergraduate Nursing Students of Belagavi city: A Cross-Sectional Study

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Abstract

Corneal blindness is one of the most common causes of treatable and preventable blindness in India. The only treatment available for corneal blindness is keratoplasty of donor corneas that are obtained through eye donation, upon person's death. The objective of the study was to assess the knowledge and attitude among the undergraduate students of nursing colleges towards eye donation. A descriptive cross-sectional study was carried out among 400 students of different nursing colleges using pretested, self administered questionnaire. Proportionate based random sampling technique was used. Ethical clearance and informed consent were taken from the concerned authority and person. Data was analyzed using appropriate statistical tools in SPSS version 20. It was found that majority of the students (98.5%) had heard about organ donation. 100% students had heard about eye donation but 75.5% students knew that eyes can be donated after death and ideal time of donation was within 6 hours of death. Nearly, more than half (58.5%) students knew that cornea only can be donated which was correct. About 64.25% students were willing to donate their eyes to save vision of blind people. Majority students had average knowledge and attitude and only few students had good knowledge and attitude on eye donation. It was concluded that Nearly, more than half of students had average knowledge and about three quarters of the students had average attitude regarding eye donation.

Key words: Eye donation, Knowledge, Attitude, Nursing student

Introduction

Blindness is a serious public health problem globally. 80% of this problem is either preventable or treatable and 90% of this occurs in the developing nations of the world¹. The World Health Organization estimated, for every five seconds someone goes blind² and today, WHO estimated that there are 180 million people worldwide visually disable³. Blindness and vision impairment remain major public health problem in India⁴.

Corneal transplantation is the most successful among all forms of organ transplant procedure. Corneal transplants are the most common human transplant which enjoys a 95% success rate.⁶ India has also committed to take part in global initiative to reduce avoidable blindness by the year 2020, Vision 2020; The Right to Sight.⁷

The National center for advancement of rural eye care estimated that blindness in India from 2000 through 2020. Results obtained from the estimations are, the number of blind persons in India in 2000 was estimated to be 18.7 million, the number of persons will be increasing to 31.6 million in 2020.⁸ Only 14304 eyes were collected in year 2014-15, whereas target was around 50000 according to National Program for Control of Blindness 2014-15. In Karnataka target was 5000 whereas only 870 eyes were collected in year 2014-15(Figures of physical performance for the year 2014-15 is as on 23.09.2014).⁹

There are approximately 0.12 million corneal blind person in the country and many others with visual impairment due to corneal diseases (corneal ulcer, trauma, bulbous keratopathy) and about 20000 new cases are added per year. The

major part of the problem lies among young persons in the productive age group who lose their vision due to vitamin A deficiency, malnutrition, injuries and infections, congenital abnormalities and only corneal blindness can be restored by a corneal transplant which needs eye donation. India is home to 23.5% of world's blind population out of which 0.9% is due to corneal blindness.¹⁷

Therefore, there is an urgent need to create awareness among the all concerned people about the preventive aspects of corneal blindness and to come forward to pledge their eyes for donation after demise so that corneal blindness could be treated.⁵ Hence, the nursing students were chosen for study because they are young, well educated, undergoing training in the life sciences and related professions with access to newspapers, magazines, movies internet and television and should well informed about eye donation compared to other groups in society and also no enough literature on knowledge and attitude in nursing students about eye donation was found in North Karnataka; with this background, they are admitted into this research with the objective for assessing their knowledge and attitude towards eye donation studying in different colleges in the Belagavi, North Karnataka, India.

Material and Methods:

Study design and period:

A cross- sectional study was conducted over a period of nine months from February, 2014 to October, 2014.

Study area:

All nursing colleges of the Belagavi city

Sample size:

Assuming prevalence of knowledge on eye donation among students to be 50% and was calculated by the below mentioned formula: - $n = Z^2 pq/d^2$

Where, p=Prevalence i.e. 50%

q=100-p =50%

d= (absolute error) = 5%

(Z= 1.96 at 95%, nearly 4)

$n = 4 \times 50 \times 50 / 5^2$

=10000/25

Total sample (n) = 400 Students

Sampling technique:

Proportionate based random sampling technique was applied to select the sample.

Inclusion criteria:

All undergraduate BSc nursing students randomly selected from first to fourth year studying in nursing colleges who gave written consent

Exclusion criteria:

Those who were absent during data collection period

Ethical clearance:

Institutional Ethics Committee (IEC) of J.N.M.C, KLES, Belagavi

Tool of data collection:

Data was collected using a pretested and predesigned self administered questionnaire.

Statistical analysis:

Data was compiled, checked and rechecked for its completeness and missing item, coded and recoded before entering in the computer. Data was entered in to the computer based software SPSS-20 and analyzed in the same applying appropriate statistical tools. Data was interpreted in tabular, graphical and narrative form as per necessary.

To find out the level of knowledge and attitude all the knowledge and attitude related question were compiled with considering the score of correct answer as 1 and wrong answer as 0. The level of knowledge and attitude scores were grouped as good, average and poor as stated below: $> \text{Mean} + \text{SD} = \text{good}$, $\text{Mean} \pm \text{SD} = \text{average}$, $< \text{Mean} - \text{SD} = \text{poor}$

Results

The age students ranged from 18 to 23 years old with majority of students 107 (26.75%) were 20 years old, 50(12.5%) students were 18 years old, 93(23.25%) students were 19 years old, 102(25.5%) students were 21 years old, 31(7.75%) students were 22 years old and 17(4.25%) students were 23 years old. There were only 48 (12%) males and 352(88%) were females.

Out of 400 students, there were equal numbers of student in 2nd and 4th year batch i.e. 108 (27%). There were 91(22.57%) students studying in the 1st year and 93(23.25%) students were in 3rd year. (Table 1)

Table No. 1: Participants by socio-demographic characteristics

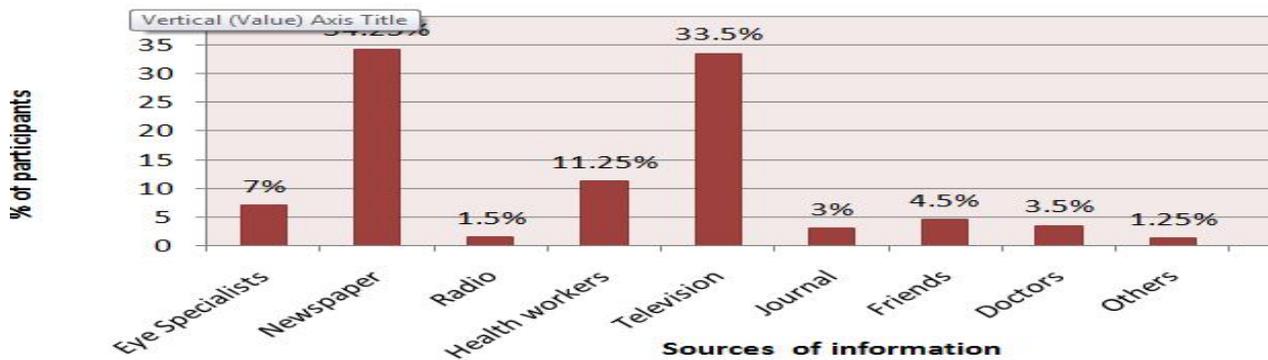
Variables	Frequency	Percentage (%)
Age		
18	50	12.5
19	93	23.25
20	107	26.75
21	102	25.5
22	31	7.75
23	17	4.25
Sex		
Male	48	12
Female	352	88
Year		
First Year	91	22.75
Second Year	108	27
Third Year	93	23.25
Fourth Year	108	27
Types of college		
Government college	56	14
Private college	344	86
Total	400	100

Table No.2: Responses to the questionnaire on eye donation (n=400)

Responses	Frequency	Percentage
Heard about organ donation	394	98.5
Heard about eye donation	400	100
Removal of eye from dead donor within 6 hours	302	75.5
Cornea only donated	234	58.5
Eye donation is done give the vision of blind person	380	95
All age group of people can be donated eye	187	46.75
Willing to donate their eye	257	64.25
Eye donation disfigures the face of donor	98	24.5

Table No. 2 indicate that out of 400 students, 98.5 % students had heard about organ donation where as 100% of them had heard about eye donation, but 75.5% knew that eye can be removed from dead donor within 6 hours whereas 58.5% of the students had correct knowledge about the part of eye donated. 95% of the students thought that eye donation is done to give vision. Nearly, half of them responded that eye donation is done by all age group and more than half willing to donate their eye, very few of the students responded that it disfigures the face of donor.

Figure No.1: Commonest sources of information on eye donation.



Among 400 participants, 137 (34.25%) participants said that mass media especially newspaper was commonest source of information for eye donation, followed by television and Health workers 134 (33.5%) and 45 (11.5%) respectively. It was found that only 28 (7%) participants got information from eye specialists and from radio only 3 (1.5%) participants got information (Figure 1)

Nearly, more than half students (57%) had average knowledge on eye donation, 30% of the students had only good knowledge on eye donation, similarly 71.5% of the students had average attitude on eye donation whereas the numbers students who had poor and good attitude were almost equal (table 3).

Table No. 3: Knowledge and attitude level of respondents on eye donation (n=400)

Variables	Frequency	Percentage (%)
Knowledge		
Poor	52	13
Average	228	57
Good	120	30
Attitude		
Poor	57	14.25
Average	287	71.75
Good	56	14

Discussion

Nursing students can directly communicate and counsel larger sections of the society that give a push up to the eye donation movement in India.

In the present study, there was nearly 1:7 male to female ratio (12% male 88% female). The common age group was 20 years old, but a study in Bangalore showed that almost male to female ratio in the nursing course was equal (56.4% male and 43.6% female). A similar age group (18 to 21 years old) with highest 53.3% were aged group was 19 years old was observed in Bangalore and Dehradun studies.^{10, 11}

In the present study, 98.5% had heard about organ donation and 100% of the participants had heard about eye donation. Similar studies were conducted showed that 60 - 100% of them had heard about organ donation.¹²⁻¹⁶

A study among nursing students in Bhopal showed 98% of the total students had heard about eye donation.¹⁷ A study among 1525 students of North Kolkata showed that 81% of students had knowledge of eye donation.¹⁸ A study in South India showed that overall 93% of the respondents were aware of eye donation.¹⁹ A similar study in Dehradun, found that 95.5% of the students were aware eye donation¹¹ and also same type of study in Hubli, Karnataka, showed 96% of the students were aware about eye donation.²⁰

In present study the commonest source of knowledge on eye donation, Newspaper (34.25%) followed by television (33.5%), eye specialist (7%), doctors (3.75%), and health workers (11.25%).

A study conducted in Tirupati, showed that newspaper (64.75%) was the main source of information on eye donation for majority of students followed by Doctors (60.75%), Television (51.25%) and health workers (25.25%) which are higher than present study.²¹ A study conducted among university students in Kuala Lumpur, Malaysia²² nursing students in Bangalore¹⁰ and Aurangabad²³ showed Television as a main source of information for eye donation.

In the present study, majority (75.5%) of participants had correct knowledge that eye should be removed from dead donor within 6 hours. A study conducted among the students in Bhopal showed that 21.7% of nursing students had correct knowledge that.¹⁷ A study conducted in North Kolkata, India showed that only 32.1% of the participants knew that the ideal time.¹⁸ Similarly short survey in Gwalior district (8.2%)²⁴ and study in Dehradun (40.2%) had correct knowledge about eye donation.¹¹

In our study (58.5%) responded that cornea can only be donated for eye donation. Similar results were seen in Bhopal,¹⁷ Hubli,²⁰ Tirupati,^{21, 22} studies, but a study in Aurangabad showed that only 5% knew that cornea can be donated during eye donation.²³

In the present study majority (95%) responded that eye donation is done to give someone vision. Similarly, in a study reason for eye donation was doing some good to humanity after death replied 24% of the participants.²⁵ A study among medical students showed that 44% of participants said it is a pleasure to help the blind.²⁶ A study conducted in nursing college in Bangalore showed that 85.6% participants thought that eye donation was novel work, pleasure to help the blind was 77.5% and donated eyes can give vision to blind person said by 71.8% participants.^{10.}

In our study, 46.5% of the participants replied eye donation is done by all age group people. A study conducted in Hubli, Karnataka, 69% of the participants believed that there was no age limit for eye donation.²⁰

In our study, majority (64.25%) participants willing to donate their eyes whenever required and (24.5%) had agreed that eye donation can cause disfigurement to donor's face. In most of the studies 34.42% to 46% of the participants were willing to donate their eyes.^{27, 17, 28} A study in South India revealed that 30% of the subjects thought that eye donation can be caused disfigurement to the face.²⁹ A study conducted in tertiary hospital in Bhopal showed that disfigurement of the face as a result of eye donation was documented by 31.45% of the participants.²⁴ Another study in nursing college in Dehradun showed that 82.5% of the participants were willing to donate their eyes or had already pledged to donate their eyes.¹¹ A study in Hubli found that 32% of the participants had opinion that eye donation will cause disfigurement of face and 78% of them were willing to donate their eyes after death.²⁰

In our study, more than half (57%) students had average knowledge; nearly 1/3rd (30%) good knowledge 1/7th (13%) had poor knowledge on eye donation. Similarly, more than 2/3rd had average attitude and number of students who good and poor almost similar (14%).

A study in Mangalore showed that the mean percentage of overall level of knowledge was 57% which indicates a good level of knowledge regarding eye donation. Similarly, the mean percentage of overall level of attitude was 70.5% which indicates a good level of attitude regarding eye donation.⁸

Conclusion

Better knowledge may ultimately translate into the act of donation. Nurses play very important role in the process of eye donation and promote it to save many visions of the blind people who are suffering from the corneal blindness, for that the nurses should be equipped with adequate knowledge and positive attitude regarding eye donation. Although, almost all the student had heard about eye donation; nearly 2/5 of them had good knowledge on proper part of eye donation. The common source information was newspaper followed by TV. Most of the students were willing to donate their eye after death by feeling it as a good social. Most of the nursing students had average knowledge on eye donation. Hence, the present day curriculum of the nursing courses should be revised in such a way that, they get good understanding about eye donation and develop positive attitude to become role model prior to go actual professional life. It also suggests that a specialty course as 'Transplant Nursing' could be included in B.sc final year nursing in future.

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