

Awareness And Perceptions Towards Eye Donation Among Undergraduate Medical And Allied Health Sciences Students In An University Teaching Hospital In Chennai

Dr G Srinivasan¹, Nayantara Srikanth², Dr. C. Xavier Jayaseelan³

¹ Associate Professor, Department of Ophthalmology, ² Final year MBBS student, ³ Professor, Department of Ophthalmology Saveetha Medical college, Saveetha Institute of Medical and Technical Sciences, Thandalam - 602 105, Tamil Nadu, India.

*Corresponding Author: Nayantara Srikanth
DOI: 10.47750/pnr.2022.13.S01.295

Abstract

Aim: To assess the awareness and attitudes towards eye donation in an university hospital students (medical and allied health sciences)

Methodology: A cross sectional descriptive study was done after obtaining Institutional ethics approval. The questionnaire consisted of majority of questions from a pre validated questionnaire on knowledge and awareness regarding eye donation and a few open-ended questions. The questionnaire was circulated as a google form among medical and allied health science undergraduate students of university teaching hospital in Tamil Nadu. The results were analysed using Microsoft excel and SPSS software and appropriate statistical tests were performed.

Results: In all of the 327 participants who responded, 94.5% of undergraduate medical and allied health science (AHS) students are aware of eye donation. There was a statistical significance with regard to the level of awareness among medical versus AHS students. Among the medical undergraduate students 70% were willing to donate eye as compared to 59% of the AHS students. Barriers to eye donation include social and religious reasons and lack of awareness. In addition, there is inadequate awareness regarding which part of the eye is used, in spite of the national programs such as VISION 2020 and Right to Sight and other initiatives on eye donation. An overwhelming 96% of the participants feel that more efforts are required to create awareness regarding eye donation.

Conclusion: In order to strengthen the national programme initiatives a structured awareness regarding eye donation must be included in the teaching programme of all health care professional students and target specific measures to overcome the barriers..

Keywords: Eye donation, willingness to donate, barriers to eye donation

INTRODUCTION

Several estimates over the year have identified that blindness is a major public health problem in India ⁽¹⁾. The national blindness control programme stated that the 25000 to 30000 corneal blind people cases will be added every year; this is correctable (NBCP). What has India done to address this major public health problem? India was one of the first countries to launch a nation-wide program to control blindness ⁽²⁾. Over the years there is trend towards a reduction in the prevalence of blindness ⁽³⁾. The estimated prevalence of blindness is 1.99% based on a National Blindness and visual impairment survey of India report ⁽⁴⁾. There is a reduction in the prevalence of blindness among those over fifty years of age from 9.8 to 8.5% in 15 states of India as per a national survey. There is targeted effort to reduce the cause of blindness due to cataract and refractive errors. However, much needs to

be done to improve eye donation in order to promote corneal transplants and make elimination of blindness a reality. As medical students and healthcare profession students play a key role in creating awareness and improving eye donations, this study was conducted to assess the awareness and attitudes towards eye donation in a teaching university hospital student among both medical and allied health sciences.

METHODS

This study was conducted in a teaching university hospital in Tamil Nadu between April and August 2021; 335 participants were selected using random sampling. The study design is observational, cross sectional. A pre tested pre validated questionnaire was used ⁽⁵⁾. Some open-ended questions were also added. The questionnaire was used to obtain details regarding demographics, knowledge about eye donation and perceptions towards eye donation. Demographic details such as age, gender, year of study and course were captured through the form. Questions about awareness included the duration within which eye donation can be done, which part of the eye will be used, awareness about vision 2020 and the national eye donation fortnight and who can be approached for eye donation. Institutional Ethics Committee approval was obtained prior to the start of the study. The questions regarding perceptions focused on the willingness to donate, reasons for unwillingness and if more efforts are required to spread awareness. The investigator sent the questionnaire as a google form. The participants had to choose one option among the ones given to them. The results of the questionnaire were entered in the form of a spreadsheet and analysed using Microsoft excel and SPSS version 20 software, mean median and SD were calculated where appropriate. Pearson's Chi squared was performed and statistically significant were set at 0.05.

Results

In all 335 responses were received. Five responses were not analysed because they belonged to participants less than 18 years and three responses were in duplicate as they have been submitted twice. Among the 327 respondents whose questionnaires were analysed, 186 (56 %) were allied health sciences and 147, (43.12%) were medical students.

Demographics:

Majority (84.5%) of the respondents were in the age group 18-20, the mean age was 19.4, the median age was 19, and the Std. Deviation was 1.06. Most of the respondents were females (73.08%)

Awareness:

Only 5.5% of the respondents were unaware about eye donation. Social media was an important source of awareness (25%), followed by through health care professionals (22.4%) and family and friends (18.2%). Television did not feature as a major contributor for creating awareness.

Though the participants were aware that there is a pledge form for eye donation (63%), majority (57.8%) were unaware about the national eye donation fortnight. Little more than half of the participants (51%) were unaware that India has the largest number of corneal blind population and that there was a targeted vision 2020: right to sight in India to improve eye donation (51.6%). Clearly many are willing to donate eyes (64.8%) but only 23.8% knew of anyone who had donated their eyes. With regard to willingness to donate eyes we found that medical students were more willing (Figure 3a) than AHS (Figure 3b).

Association between awareness of when the eye can be donated and course-wise distribution:

Pearson Chi-Square, χ^2 (df = 1, n=327) = 6.049, p = 0.014) was performed. There is a statistically significant relationship observed between the course of the student and awareness of when the eye can be donated (p<0.05). MBBS students appear to be slightly more aware about the ideal time of eye donation when compared with AHS students.

Association between awareness between which part of the eye can be donated and course-wise distribution

Association between awareness of which part of the eye can be used and course-wise distribution was done using Pearson Chi-Square, χ^2 (df = 1, n=327) = .077, p = 0.782. There is no association between the course of the student and the awareness of specific parts of the eye that can be donated (p>0.05).

There is a reasonable level of awareness regarding which part of the eye is donated and which part is transplanted (table 2). There is also adequate knowledge about whom to approach for eye donation. Knowledge on who can consent to an eye donation if the dead family member did not sign a pledge form clearly shows that 64% knew that the next of kin was legally permitted to allow for eye donation of the deceased.

DISCUSSION

There is an urgent need to gather momentum to improve eye donation. A My Gov strategy in 2020 has come up with a web page on eye donation to urge people to donate.⁽⁶⁾ While these strategies do give access to information it is important to identify the gaps with regard to knowledge and perceptions on eye donation especially among the student community who are budding healthcare professionals. The student community in university teaching hospitals must become the brand ambassadors for creating awareness and increasing eye donation, which is indeed a noble act.

There are several programmatic interventions that have been embarked on such as VISION 2020 geared towards correcting blindness and visual impairment through a tiered approach, which includes eye donation. However, there are several barriers to eye donation. Some of the barriers are socio cultural, others are based on misinformation. Thus, the key to improve eye donation is to identify the barriers and develop strategies to correct or overcome them. A google search on “Why is it important to know about eye donation” revealed about 11,30,00,000 results in 0.68 seconds yet the number of eye donations per year is only twenty-two thousand⁽²⁾. Thus, clearly lack of awareness is not the only barrier to eye donation. Just like there was a high degree of hesitancy to take up vaccination against COVID-19 between Jan to June 2021 due to misinformation, it is the perceptions and misinformation regarding eye donation that needs to be corrected.

According to a study done among nursing students in Bangalore, 96.8% of them knew that eyes could be donated after death. In this study, mass media was the major source of information on eye donation⁽⁷⁾. The awareness regarding eye donation among the adult population of south India varies between 50.69% to 93% in Srikakulam⁽⁸⁾.

In a study done among allied health sciences, medical and nursing students in Goa, 97.9% of the participants were aware about eye donation. Mass media was the major source of information. In our study too the awareness regarding eye donation was very high (95%) Only 42.6 % of the participants were willing to donate their eyes⁽⁹⁾.

Publicity campaigns played an important role in acquiring the awareness. Social media is gaining momentum as a vehicle to create awareness. In our study majority of the participants were aware of eye donation through social media. Healthcare professionals also aided in creating awareness regarding eye donation. Television as a medium for creating awareness played a small role only.

However though initially only 4.34% were aware that eye donation had to be done within 6 hours of death, this awareness has changed to almost 50% in our study. The higher level of awareness can be attributed to the fact that the participants were students of a healthcare professions university. There is a statistically significant relationship observed between the course of the student and awareness of the when the eye can be donated (p<0.05). MBBS students appear to be slightly more aware about the ideal time of eye donation when compared with AHS students⁽¹⁰⁾. In a study done among first year medical students in Delhi, 99.4% of the students were aware that eyes could be donated after death⁽¹¹⁾.

As there is no association between the course of the student and the awareness of specific parts of the eye that can be donated (p>0.05), it is important to address this aspect during eye donation campaigns. Thus, while medical undergraduate students can be mobilised to provide accurate information regarding the time interval as they are knowledgeable, more sensitisation of medical students requires to be done about the technical aspects of eye donation to enable them to spread awareness through social media

Surveys on willingness to donate eyes have shown clearly, though the awareness is very high regarding eye donation, the willingness to donate is not as high as the level of awareness. Clearly there are some barriers to donation of eyes as against probably organ transplantation. Barriers to eye donation include concerns regarding disfigurement^(12&13), which is a major component followed by the “need for sight in the afterlife” and also that the physical identity of the individual will be lost at the time of death, definite misperceptions about eye donation that need to be corrected.

In a study conducted in North India⁽¹³⁾, the major barrier to eye donation included “lack of surety” on whether the donated eye will be used appropriately as well the fear of disfigurement of the dead body and “that the body would not be treated properly during eye donation”. Religious beliefs only contributed to a small percentage of the barrier to eye donation in our study.

An overwhelming 96% felt that more efforts are required to spread awareness regarding eye donation. University teaching hospitals have a variety of undergraduate students who can create this awareness especially using social media. A previous recent study in Bihar⁽¹⁴⁾, and the present study have shown there is an urgent need to improve the understanding and perception of eye donation among the medical students and allied health students as there are gaps in the awareness regarding eye donation which needs to be corrected through sustained efforts.

CONCLUSION:

In order to strengthen the national programme initiatives, a structured awareness regarding eye donation must be included in the teaching programme of all health care professional students. Since the level of awareness regarding eye donation is very high, only aspects regarding the specific aspects of eye donation such as time, part to be donated and creating awareness to overcome the barriers to promote eye donation must be undertaken

REFERENCES:

1. Murthy GV, Gupta SK, Bachani D, Jose R, John N. Current estimates of blindness in India. *British Journal of Ophthalmology*. 2005 Mar 1;89(3):257-60.
2. Mohan M. National survey of blindness—India. NPCB-WHO report. New Delhi: Ministry of Health and Family Welfare, Government of India, 1989.
3. Mohan M. Collaborative study on blindness (1971–1974). A report. New Delhi: Indian Council of Medical Research, 1987:1–65.
4. <https://npcbvi.gov.in/>.
5. Bharti MK, Reddy SC, Tajunisah I, Ali NA. Awareness and knowledge on eye donation among university students. *Med J Malaysia*. 2009 Mar;64(1):41-5. PMID: 19852320.
6. <https://blog.mygov.in/importance-of-eye-donation/>
7. Gupta A, Jain S, Jain T, Gupta K. Awareness and perception regarding eye donation in students of a nursing college in Bangalore. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*. 2009 Apr;34(2):122
8. Ronanki VR, Sheeladevi S, Ramachandran BP, Jalbert I. Awareness regarding eye donation among stakeholders in Srikakulam district in South India. *BMC ophthalmology*. 2014 Dec;14(1):1-6.
9. Lal B, Usgaonkar U, Narvekar H, Venugopal D. Awareness and knowledge on eye donation among Allied Health Sciences, medical, and nursing students in Goa. *Journal of current ophthalmology*. 2018 Sep 1;30(3):255-62.
10. 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 journal of ophthalmology*. 2003 Jan 1;51(1):101-4.
11. Singh MM, Rahi M, Pagare D, Ingle GK. Medical students’ perception on eye donation in Delhi. *Indian journal of ophthalmology*. 2007 Jan 1;55(1):49-52.
12. Acharya, Manisha et al. “Eye donation in north India: Trends, awareness, influences and barriers.” *Indian journal of ophthalmology* vol. 67,10 (2019): 1570-1574. doi: 10.4103/ijo.IJO_2151_18.
13. Lawlor M, Kerridge I, Ankeny R, Dobbins TA, Billson F. Specific unwillingness to donate eyes: the impact of disfigurement, knowledge and procurement on corneal donation. *American Journal of Transplantation*. 2010 Mar;10(3):657-63.
14. Zahid MZ, Kumar A. Awareness and perception regarding eye donation among under graduate medical College Student in South Western Bihar. *International Journal of Health and Clinical Research*. 2021 Mar 16;4(5):317-21.

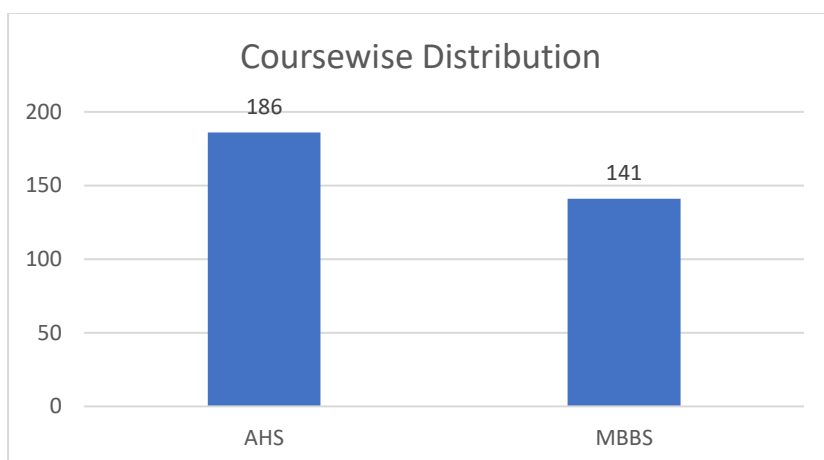


Figure 1: Coursewise distribution among study participants

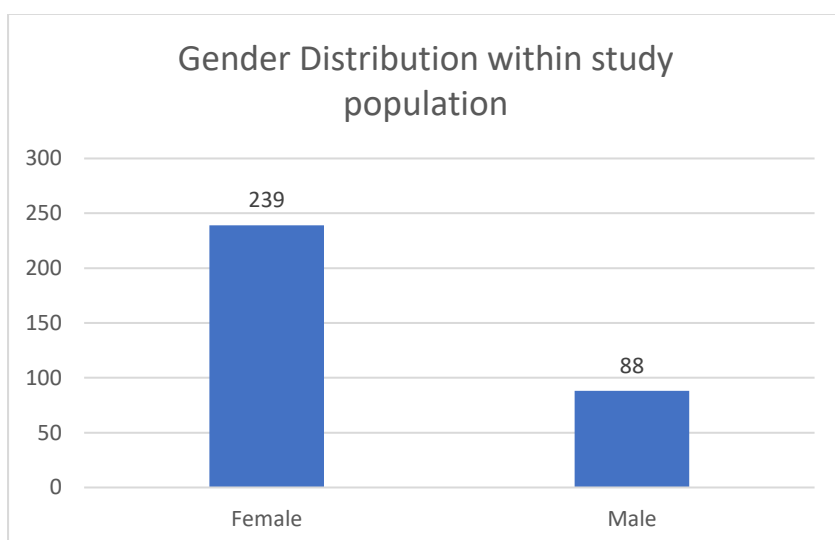


Figure 2: Gender distribution within study population

Table 1: Demographic profile of study participants

Title	Proportion	(n=327)
Age	Mean Age = 19.4 Median Age = 19 Std. Deviation = 1.06	
Gender	Females = 73.08% Males = 26.91%	239 females 88 male
Course	AHS-56.88% MBBS-43.12%	AHS - 186 MBBS - 141

Table 2: Response of the participants on awareness and knowledge of eye donation:

Title	Proportion	(n=327)
1.Are you aware about eye donation?	Yes-94.5% No-5.5%	Yes - 309 No- 18
2.Are you aware that there is a pledge form for eye donation?	No - 37% Yes - 63%	No -121 Yes - 206
3.Are you aware about the national eye donation fortnight?	No - 57.8% Yes - 42.2%	No - 189 Yes - 138
4.Are you aware that India has the largest number of corneal blind population?	No-51% Yes-49%	No - 167 Yes - 160
5.Are you aware that there is a targeted vision 2020: Right to Sight - India to improve eye donation?	No-51.6% Yes-48.32%	No - 169 Yes - 158
6.Are you willing to donate your eyes?	No-35.16% Yes-64.84%	No - 115 Yes - 212
7.Do you know of anyone who has donated their eyes?	No - 76.14% Yes - 23.86%	No - 249 Yes - 78
8.Can donated eyes be used for research purposes?	No - 29.36% Yes - 70.64%	No - 96 Yes - 231

Table 3: Awareness and perception regarding eye donation among the study population

Title	Proportion	(n=327)
Through which platform did you get to know about eye donation?	Campaigns 7.9% Don't know 3.97% Friends and Family 18.34% Healthcare professionals 22.3%; Mass Media - 47%	Campaigns - 26 Don't know – 13 Friends and family – 60 Healthcare professionals – 73 Newspaper and journals – 39 social media – 80; Television – 36
When can an eye be donated?	Within 6 hours of death - 80.73%	Any time after death – 24 Don't know -29; When the person is alive – 10;Within 6 hours of death – 264
What part of the donor eye can be removed?	Cornea - 58.1%	Cornea -190;Don't know – 53 Retina/sclera/tissues -21; Whole eye -63

what is transplanted from donor eye?	Cornea - 69.72%	Cornea -228 Don't know – 50 Retina – 19; Whole eye – 30
Whom should you approach for eye donation?	Don't know - 14.67%	Don't know – 48 Eye bank - 174 Hospital – 77; Specialist – 28
Who can consent to an eye donation if the dead family member did not sign a pledge form?	Next of Kin - 63.91% Any relative – 33.09%	Any relative – 118 Next of kin – 209
Who can donate their eyes?	Anyone over 18 - 57.4% Anyone over 1 – 21.4% Don't know – 21.2%	Anyone over 18 years of age – 188 Anyone over 1 year of age – 70 Don't know – 69
Can a living person donate eyes?	Don't know-26.3% No-48.92% Yes-24.77%	Don't know - 86 No - 160 Yes – 81
Reasons for unwillingness	Religious reasons-11.6% Misused-18.34% Social reasons-13.76% Not aware – 56.2%	Feel that it might be misused – 60 Not aware – 184 Religious reasons – 38 Social reasons – 45

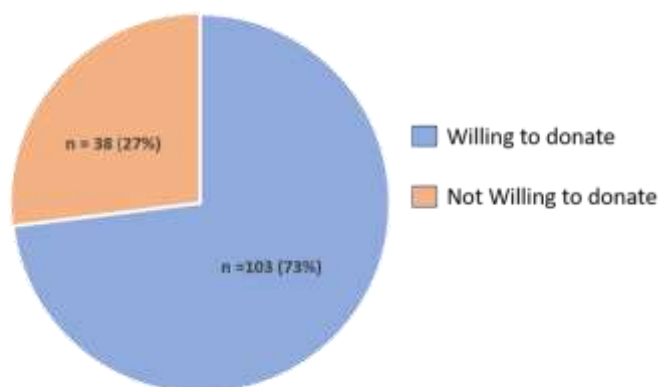


Fig:3a Willingness to donate among MBBS students

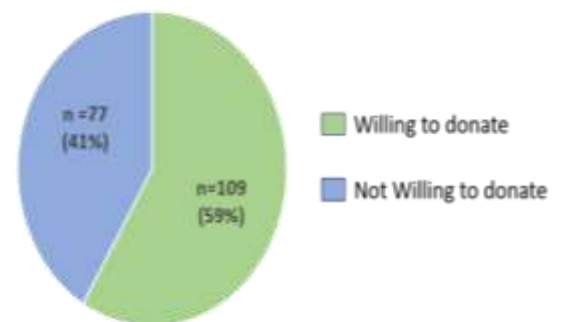


Fig:3b Willingness to donate among AHS students

Fig 4: Participants response on more efforts to spread awareness regarding eye donation

