



## Original Research Article

## Awareness about eye donation among nursing staff in a hospital in South India- A questionnaire based study

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## ABSTRACT

**Context:** Corneal diseases constitute major cause of blindness in the developing countries. Current rates of corneal procurement are inadequate that it is difficult for eye banks in India to meet the growing demands for cornea. Nursing staff community must be made aware of the significance of eye donation which can in turn influence the transplantation rates of cornea.

**Aims:** To assess the understanding and attitude along with willingness towards eye donation within the nursing staff community.

**Settings and Design:** Cross-sectional, questionnaire based study.

**Materials and Methods:** Fifty-five nursing staff participated in the study. A self designed validated questionnaire was administered to them.

**Statistics:** Descriptive statistics like percentages and proportions were used for the analysis.

**Results:** There was a strong awareness amongst the nursing staff on the option to make an eye donation after death and it was noted that 63.6% (n= 35 ) of the subjects knew that it has to be done within 6 hours of death. Majority (n= 45) of the subjects who were willing to donate their eyes responded that the reason behind their willingness is to provide vision to a person in need. Main reasons for not pledging to donate their eyes by the nursing staff included objection from the family, lack of knowledge about the process.

**Conclusion:** The nursing staff of a hospital can play a significant role in sensitising patients and their attendants towards eye donation. Even though all of the nursing staffs were aware of eye donation, few of them were hesitant to donate eyes.

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## 1. Introduction

Corneal pathology is a major cause of visual disability in the developing world.<sup>1</sup> Globally, approximately 4.9 million individuals have corneal blindness bilaterally, while 23 million are unilaterally blind.<sup>2</sup> The major causes of corneal blindness include corneal ulceration, ocular trauma, bacterial, viral and fungal infections of cornea.<sup>3</sup> Corneal blindness is one of the major causes of blindness worldwide.<sup>4</sup> Keratoplasty is the surgery which can re-establish sight in a corneal blind. It is a procedure where the damaged or diseased cornea is replaced by a healthy donor cornea from a deceased person. It is a surgery which

is totally dependent on eye donation after death. One of the barriers in eye donation is inadequate attention which is due to lack of awareness in the community. Therefore it is important to raise the level of public knowledge regarding eye donation and related issues. Nursing staff of a hospital form the mainstay of health care structure. They spend more time with seriously ill patients and thus possible donors. Hence they can play a major role in motivating the patients and their attendants for this deed. Properly educated nursing staff could be expected to influence rates of eye donation. This study assessed awareness and perceptions of nursing staff towards eye donation and their willingness for the same.

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## 2. Materials and Methods

A cross-sectional descriptive study was conducted in a tertiary care hospital in South India from June to July 2019 among the nursing staff. Sample size was calculated using estimation of proportion formula with level of significance  $\alpha = 5\%$ , power  $1-\beta = 80\%$  with 95% confidence interval, the minimum sample size was 55. Thus a total of 55 subjects were included as participants. Institutional ethics committee clearance was obtained before starting the study. Purpose and nature of the study were explained to the subjects and only those who gave written consent were included. A self designed questionnaire in English, validated by subject experts was administered to the participants. They were requested to respond promptly to all the questions. The questionnaire included questions pertaining to age, years of experience of the nursing staff as well as their beliefs about eye donation, willingness to donate eyes and factors preventing or motivating them to donate. The filled questionnaire was collected.

### 2.1. Statistical analysis

The data collected was entered in MS excel sheet and descriptive statistics like percentages and proportions were used for the analysis.

## 3. Results

Fifty five participants participated in the study out of which 45(81.8%) was in the age group 21-30 years, 9(16.4%) was from 31-40 years and 1(1.8%) was in the age group 51-60 years. All of them were females and were aware about eye donation. Mean years of experience was 4.4 years. The data regarding responses of the participants are shown in Table 1. Participants who were willing to do motivation of their relatives for eye donation constituted 81.8% (n=45). 18.2% (n= 10) of the participants were not sure about it. Participants who were willing to donate their eyes constituted 72.7% (n=40) whereas those not willing for it constituted 5.5% (n=3).

The response of participants regarding part that is transplanted from donor eye is as given in Table 2. The reasons quoted for willingness to donate eyes and not to donate eyes are as shown in Table 3. Hospital/doctor was found to be the most preferred resource of information on eye donation for 26(47.3 %) followed by television/radio for 12(21.8 %) and newspaper for 9(16.4%). Of the 55 participants, the ideal time of collection of eyes was known to 35(63.6%). The number of participants who considered HIV (Human immune-deficiency virus) to be a contraindication for eye donation was 40(72.7%), Diabetes was 9(16.4%) and previous eye surgery was 6(11%). The place to be contacted for eye donation was cited as eye bank by 28(51%) followed by hospital (32.7 %)

## 4. Discussion

Corneal transplantation provides sight to those people who are affected with corneal diseases. But it is noted that in India the willingness of the people to pledge their eyes for donation is low and this is impacting the rate of surgeries that are being conducted. All the subjects, participated in this study had some knowledge on eye donation and its importance, another survey conducted in South India showed similar conclusion<sup>5</sup>. 70% of the participants knew about the timeline restriction around eye donation, result showed a strong relation to other similar surveys conducted in Maharashtra<sup>6</sup> and New Delhi.<sup>7</sup> It is noted that awareness on the timing of eye donation is very important for further procedures preventing unavailability of donor cornea at optimal time. When asked about the resource of information regarding eye donation doctors/hospitals was found to be the most preferred followed by Television /Radio showing that these play a crucial role in creating awareness about eye donation. Creating campaigns regarding eye donation can play a major role in motivating the hospital staff towards eye donation. Similarly more programmes about eye donation should be shown on media to create awareness among the people. Knowledge about the part that is transplanted from the donor eye was poor i.e. about 29 % which is similar to another study<sup>8</sup>. In our study, 14.5% of the participants believed that eye donation causes mutilation of the face of the person. Majority (72.7%) of the participants were willing to donate their eyes which are comparable to other studies<sup>6,7</sup>. The main reason behind donating eyes among majority(76.3%) was giving sight to the blind followed by nobility of the task (7.2%). This is similar to other studies.<sup>5,6,9</sup> Our study revealed that there is a strong awareness amongst nursing staff with respect to the provision on eye donation and most of the subjects showed willingness to donate and interest to motivate others to do the same. A sizeable amount of subjects showed hesitation in donating their eye due to lack of knowledge and objection from their families. Factors mentioned above are noted as some of the major hurdles in the society.

Influential factors noted above along with others need to be paid attention to and dealt with on a pro active basis while creating awareness about eye donation.

Social media can make a huge impact on creating awareness in today's dynamic world and other noticeable methods would include active counselling in families. Nationwide programmes should be encouraged by government and NGO's with the assistance from hospital/nursing staff who should be made to volunteer in such programmes actively. Posters about eye donation may be displayed in the hospitals for awareness to the public. Various efforts are being put at national level to create awareness about the same. The se need to be continued and further reinforced for achieving higher rates of eye donation.

**Table 1:** Responses of the study subject on different aspects of eye donation

Responses Number (%)	Yes	No	I do not know
Can eyes be donated	55(100%)	18(32.7%)	9(16.3%)
The close relative has the right to give the consent for eye donation.	28(50.9%)	27(49%)	8(14.5%)
The procedure involves removal of the whole eyeball from the donor	20(36.7%)	39(70.9%)	8(14.5%)
Eye donation disfigures the face of the donor.	8(14.5%)	39(70.9%)	3(5.5%)
Can eyes be removed at donor's house itself?	12(21.8%)		
Responses Number (%)	Yes	No	I do not know
Name of the donor and recipient remains anonymous.	27(49%)	16(29%)	11(20%)
Do you think some religious beliefs impact eye donation?	15(7.4%)	31 (56.4%)	8(14.5%)
Can eyes be bought or sold?	5(9%)	35(63.6%)	15(23.3%)
There is shortage of eye donors in India.	40(72.7%)	5(9%)	10(18.2%)

**Table 2:** Response on what is transplanted to the recipient from the donor eye

<b>Cornea</b>	<b>16(29%)</b>
Lens	20(36.4%)
Retina	6(10.9%)
Whole globe	10(18.2%)
I do not know	3(5.5%)

**Table 3:** Reasons quoted by the participants regarding their willingness for eye donation

<b>Reasons for willing to donate the eyes</b>	
It is a noble task	4(7.3%)
It can give vision to the blind	42(76.4%)
Motivated after listening to a talk/ watching video	2(3.6%)
Close relative/friend has donated eyes	0
Close relative/ friend has received eyes	0
Other reasons	
<b>Reasons for not willing to donate the eyes</b>	
I am not aware how this process really works	1(1.8%)
My family will not agree for this	5(9%)
My religion does not approve of eye donation	0
I don't like my eyes to be removed from my body	1(1.8%)
Other reasons	

## 5. Source of Funding

None.

## 6. Conflict of interest

None.

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