

## Eye donation awareness and willingness among patients attending ophthalmology OPD at Goa medical college and hospital


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**Introduction:** Significant cause of corneal blindness in India is due to trauma and corneal ulcers. India needs 2.5lakh donated corneas every year, the country's eye banks manage to collect only about 44806, out of these only some are utilized for sight restoration as the others do not meet the standard for transplantation. The present study aimed to evaluate the awareness regarding eye donation among the patients and their relatives attending the outpatient department (OPD) at Goa Medical College and hospital, giving them the knowledge and thus encouraging them to pledge their eyes for donation, which is the need of the hour. **Material and Methods:** This study was conducted on 300 patients who attended ophthalmology OPD (outpatient department) at Goa medical college and hospital. This is a closed-end type of study wherein the patients who were willing to participate in the study were requested to fill the form and answer 10 questions related to the awareness of eye donation and willingness to donate eyes. The questionnaire had the first few questions regarding brief details about each participant followed by 10 questions which had multiple options and participants were requested to answer as per their choice. It was a pretested questionnaire that included questions on eye donation awareness, knowledge regarding the subject, and willingness to donate eyes. All participants were well informed about the study type and written informed consent was taken for the same. No patients were harmed during the study. **Results:** The results showed that 252 (84%) among 300 patients were aware of eye donation. Awareness was maximum through mass media and hospitals. 68% of responders were not aware that there is an eye bank in Goa. 79% of responders were not aware that only cornea is removed from the donor's eye. Only about 32% of the patients were willing to donate their eyes.

**Keywords:** Awareness, Eye donation, Knowledge, Outpatient department

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## Introduction

A significant cause of corneal blindness in India is due to trauma and corneal ulcers. Most of these cases are under-reported but yet they constitute about 1.5-2.0million new cases of unioocular blindness every year. India is the second most popular country in the world and is home to 23.5 % of the world’s blind population out of which 0.9% is due to corneal blindness [1,2].

India needs 2.5 lakh donated corneas every year, the country’s eye banks manage to collect only about 44806, out of these only some are utilized for sight restoration as the others do not meet the standard for transplantaion. The demand is much more than the supply as there is low awareness about how easy and noble eye donations are [3].

Voluntary eye donation is a result of the realization of one’s social responsibility towards the corneal blind.

The present study aimed to evaluate the awareness and willingness regarding eye donation among the patients and their relatives attending the outpatient department (OPD) at Goa Medical College and hospital, giving them the knowledge and thus encouraging them to pledge their eyes for donation, which is the need of the hour.

## Material and Methods

This study is a hospital-based study conducted at Goa medical college and hospital, Bambolim, Goa. This is a cross-sectional descriptive study done using a standard predesigned and pretested closed-ended structured questionnaire, conducted on 300 patients who attended ophthalmology OPD (outpatient department) at Goa medical college and hospital in 2017 throughout 3 months period from March to May. The sample size was calculated using the formula as below with estimated prevalence(p) of people willing to donate eyes 27%<sup>1</sup> With a precision of 5% (d=0.05) confidence level of

95% and prevalence of 25% minimum calculated sample size was 288.

$$N = z^2 p(1-p) / d^2$$

Z-confidence level (95%) i.e 1.96;

D- the precision of 5%

**Inclusion criteria:** Only Goan residents were included in the study.

**Exclusion criteria:** Patients not willing to participate or give consent were not included in this study.

**Data Collection Procedure:** A standard predesigned and pretested closed ended structured questionnaire was self-administered to the participants who were enlisted using systematic random sampling strategy and were approached to fill the questionnaire and informed consent was obtained.

The questionnaire had the first few questions regarding brief details about each participant followed by 10 questions which had multiple options. Participants were requested to answer as per their choice. It was a pretested questionnaire adapted from Bharti et al 1 which included questions on eye donation awareness, knowledge regarding the subject, and willingness to donate eyes. All participants were well informed about the study type and written informed consent was taken for the same.

No patients were harmed during the study. No surgical intervention was done on any of the participants during the study.

Data obtained was analyzed using the statistical package SPSS (IBM SPSS Statistics for Windows, Version 20.0. IBM Corp). Mean, Frequency, and percentages were used for all categorical variables.

Approval from the Ethical Committee is obtained for the above study. No financial disclosures or conflict of interests.

### Questionnaire

Name: Age: Gender:

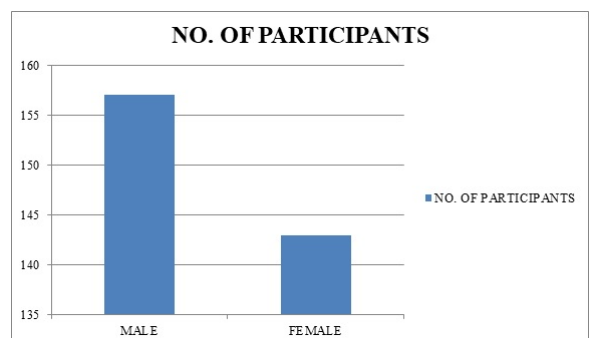
Sr No	Questions	Options
	Education	No formal education Primary Secondary Graduate/PG
1	Can eyes be donated?	Yes No

2	Are you willing to donate your eyes?	Yes No Don't know Not sure
3	How did you come to know about eye donation?	Mass media/TV/Radio Hospital/clinics Organ donation campaign Doctor Friend Through this form Don't know
4	The eyes can be removed at the donor's house itself.	Yes No
5	Whom do you have to approach for eye donation?	Hospital/society Parents Doctor Eye bank Specialist Don't know
6	Who should remove the eyes of the donor?	Eye specialist Doctor/surgeon Anyone Don't know
7	Within how much time after death should the eyes be removed?	Don't know Within 6hours Within 24hours As soon as possible
8	What is removed from the donor's eye?	Don't know Whole eye Cornea Lens Retina/other tissues
9	How long can the donor's eye be kept stored before transplantation?	Don't know Up to 6hours Up to 12hours Up to 72hours Few days/Few weeks Few months As soon as possible
10	Name any eye bank that you know in Goa	Don't know Rotary eye bank Lion eye bank

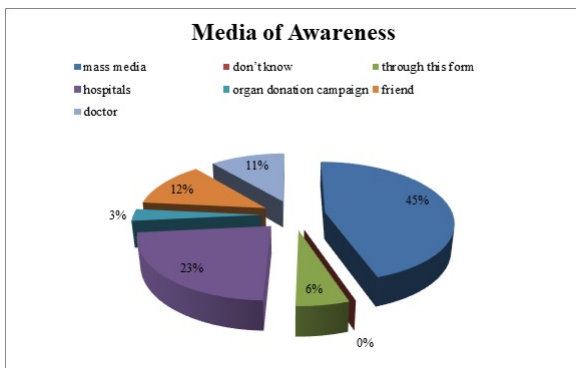
## Results and Analysis

The majority of the participants who participated in the study were males (157) as compared to females (143)

**Fig-1: Sex distribution.**

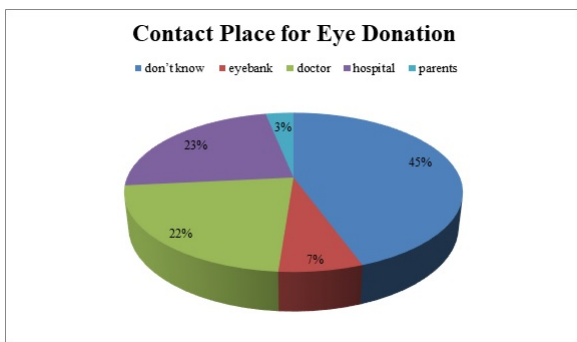


01. The mean age of the participants was 46years with a range of 18-72years.
02. The results of the study showed that 84% of the participants were aware that eyes can be donated.
03. 92% of the participants were not aware that the eyes can be removed at the donor's house itself
04. Awareness through mass media was a maximum of 45% followed by hospitals 23%.
05. Awareness through friends and doctors was 12% and 11% respectively

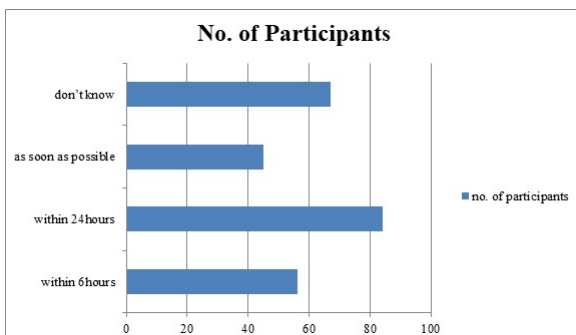


**Fig-2: Media of Awareness.**

06. The majority of the participants (45%) did not know the contact place for eye donation.
- 23% of the participants said they would contact the hospital and 22% thought they would contact the doctor for the same.



**Fig-3: Contact place for eye donation.**



- Fig-4: Distribution of participants' availability.**
07. The above chart shows that the majority (77.7%) of the participants were not aware that the ideal time for eye donation is within 6hours.
  08. The majority of the participants 79% were not aware that only cornea is removed from the donor's eye.
  09. 68% of the participants were not aware of any eye bank in Goa.
  10. Out of the 84% who were aware of eye donation, the willingness to donate was seen in only 32% of the participants.

## Discussion

The level of awareness about eye donation is important in our country as corneal blindness is the fourth leading cause of global blindness after cataracts, glaucoma, and age-related macular degeneration. It is a major problem that can be treated primarily by corneal transplants. There is no doubt that the rate of eye donations has picked up recently but the myths associated with eye donation are still holding back many from contributing to the cause.

According to the NPCB state-wise statistics report of India 2017-18, only 6 donated eyes were collected while the target was 30. In the last 10 years (2007-17), there has been no subsequent growth in the rate of eye donation throughout the state, which reflects a lack of awareness among Goa's population [4-13].

In this study conducted at Goa Medical College and hospital among the patients attending Ophthalmology OPD, it was seen that majority (84%) of the participants were aware that eyes can be donated which can be compared to a study done by Nida Khan et al [4] where they have found that only 14% of the patients presenting to the OPD of a tertiary care hospital were not aware of eye donation. In their study, they also found that this awareness was maximum through mass media like television which was comparable to the results found in the present study.

A study was done by Barsha et al [14] among medical, nursing, and students of allied health science in Goa found that there was 97.9% awareness about eye donation but the willingness to donate eyes was only 42.6% which is comparable to the present study where the willingness to donate eyes was seen in 32% of the participants.

Although 84% of the participants were aware of eye donation the willingness to donate was far less and this finding of better awareness than a willingness to donate eyes is also observed in the study by Sulatha Bhandary et al [5] in Malaysia. Wherein they noted that there was 69% awareness amongst the participants but only 34.42% willingness to donate the eyes. A study by Yew et al [6] in Singapore showed that among the 80.7% who were aware of eye donation, 67% were willing to donate which is again a percentage lower than the awareness among the participants which is just comparable to the data obtained by us where the willingness to donate eyes among the participants was 32%

A study by Tandon et al discussed the factors affecting eye donation from post mortem cases in tertiary care hospitals which showed that refusal to discuss this issue with family members, religious beliefs and legal problems were the major reasons for not donating eyes [7]. Similar to the present study where people were unaware that eye donation can be done from the donor's house itself which will not affect the religious beliefs and that the process is not time-consuming and should be done within 6 hours from the time of death. A study by Randhawa G [8] has found that the participants are also not willing as they feel eye donation disfigures the face of the deceased and it may be time-consuming thus delaying the funeral process.

Educational status showed a positive impact on the awareness of eye donation among the participants but did not show any significant effect on the willingness to donate eyes. Gogate et al. pointed out the need to have more "catalysts" in the crucial hours of a death to facilitate eye donation rate [13]. Therefore, developing strategies to overcome the obstacles becomes necessary to enhance donation rates. A similar finding was reported by Boniface et al [15]. Since this study did not include the doctors from other disciplines or medical students from the hospital, it cannot attribute the willingness to donate eyes among the medical fraternity of Goa and as they come in contact with more people during their OPD hours or clinical postings or camps, including them in the study will help in creating awareness and reducing the myths surrounding this subject.

Another limitation was that this study did not assess reasons for not willing to donate eyes, religious viewpoints, factors like perception, attitude, and misconception regarding eye donation.

Further studies to elicit the factors which prohibit people from eye donation can also be undertaken.

To summarize, the findings of this study suggest that there is a great need to create awareness about eye donation in our state and remove the myths surrounding this issue so that it does not lose on potential donors and there are more people who are willing to pledge their eyes for donation.

#### **Why this study is useful in the current scenario**

- Presently in India, the donor eye collection is around 22,000 eyes every year, which is insignificant concerning the requirement [9].
- Therefore, the collection of donor's eyes is a priority in any organized effort to alleviate corneal blindness.
- Progress in transplants and procuring the corneas in Goa is slow-moving. In the past eleven years, only 40 eyes have been secured for transplantation in Goa [10].
- Most of the corneas are obtained from road accident victims; however, the time lag between completing formalities and carrying out the autopsy makes them unfit for transplantation.
- Various myths and a lack of public awareness associated with eye donation may lead to low donation rates [11,12].

#### **Conclusion**

- The level of awareness about eye donation among patients coming to ophthalmology OPD in Goa medical college has to be increased such that they have the will to pledge their eyes to give sight to the corneal blind.
- From the result, it is seen that the awareness was more due to the mass media and hospitals so it can be improved by educating people and showing more videos in peripheral camps.
- The display of posters about eye donation in clinics and hospitals will also help to increase awareness in the general population.
- To make this dream of reducing the burden of avoidable corneal blindness, the lack of local eye donations should be taken seriously and proper measures should be taken by the government and the nongovernmental organizations to improve this situation such that people in need do not have to wait for long periods.

## What does the study add to the existing knowledge?

Therefore, there is a pressing need to create awareness and raise the understanding among the public to come forward to pledge their eyes for donation. There is a paucity of studies on eye donation awareness in Goa. And as found in this study there is a need to increase knowledge about the process of eye donation and thus reduce the myths and false beliefs among the public.

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