

## **Assessment of Awareness and willingness of Eye Donation among Medical Students in Central India**

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**Abstract:** *The Cornea is the clear tissue covering the front of the eye. It is a focusing element of the eye. The vision is dramatically reduced or lost if the cornea becomes cloudy. This loss of the vision is referred to as corneal blindness. As medical students are the future health care providers for the community. Our aim was to assess scientific knowledge of medical students whom can be expected to influence eye-donation rates In our study 1<sup>st</sup> year and 2<sup>nd</sup> year medical students of ,Chhattisgarh Institute of Medical Sciences Bilaspur (CIMS Bilaspur (CG)) were taken for this study. 1<sup>st</sup> and 2<sup>nd</sup> year medical students were chosen to eliminate bias of knowledge, as senior students may have better knowledge. A total of 270 students participated in the study. The questionnaire content question regarding their knowledge of proper time, place, for cornea donation parts of eye required for transplantation .Willingness to donate their eyes and reasons for not donating. Results of our study showed that only 65% of the students knew that cornea is the part of the eye required for transplantation, while 22% of students had the wrong idea that the whole eyeball is used for transplantation, whereas retina by 3%, 6% of students replied that whole eye was required and 4% of students did not knew which part was used in transplantation. Hence it can be concluded that level of knowledge of medical students are important determine in promoting eye donation as they are the future potential doctors.*

**Keywords:** *Medical Students, Eye Donation, Corneal Blindness, Pledging of eyes.*

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### **I. Introduction**

Cornea is the clear tissue covering the front of the eye. The vision is dramatically reduced or lost if the cornea becomes cloudy. This loss of the vision is referred to as corneal blindness. As corneal diseases are significant causes of visual impairment and blindness in developing countries, cornea donation can be only used for keratoplasty. Till date though medical researchers and scientist are working on developing artificial cornea, but till hat time donating the eyes is the only source by which a person suffering from corneal blindness can be cured.

#### **Magnitude Of The Problem**

It is estimated that in India there are approximately 6.8 million people who have vision less than 6/60 and at least one eye due to corneal diseases; among which, about a million have bilateral involvement.<sup>1, 2</sup> It is expected that the number of individuals with unilateral corneal blindness in India will increase to 10.6 million by 2020.<sup>(2)</sup> According to the National Programme for Control of Blindness (NPCB) , there are currently 120,000 corneal blind persons in the country. According to this estimate there will be an addition of 25,000-30,000 corneal blindness cases every year in the country.<sup>3</sup>

There are many causes of corneal blindness some of them like injuries, malnutrition, infections chemical burns and congenital disorders. The burden of corneal disease in our country is reflected by the fact that 90% of the global cases of ocular trauma and corneal ulceration leading to corneal blindness occur in developing countries. <sup>4</sup> The main hindrance regarding cornea donation are due to some common myths like, long time is required to remove the cornea from eye which may delay the funeral process ,the face get disfigured during removal of the eye which prevails in the society.

The eye donation of the deceased can be authorized by the next of kith & kin even if the deceased did not pledge to donate his / her eyes before death. Age or systemic illness such as diabetes or hypertension, heart disease, kidney disease does not act as barriers for eye donations. Strategies if implemented successfully it will prevent 90% of the preventable blindness due to corneal disease by 2020.<sup>5</sup> Though many studies have shown that young college students are well aware of eye donation and most of them well interested to donate their eyes, but scientific knowledge regarding the place of eye donation, time duration for collection of cornea and person whom to contact and when to contact was still clearly not known. <sup>6, 7, 8, 9</sup>. The study conducted in nursing college revealed that nursing students are also well aware of eye donation, <sup>10</sup>

### **Aim & Objectives**

Hence this study was undertaken with the objective to assess the awareness about proper knowledge about eye donation and also to study their willingness for eye donation among 1<sup>st</sup> and 2<sup>nd</sup> year medical students.

### **II. Methodology**

1<sup>st</sup> year and 2<sup>nd</sup> year medical students of Chhattisgarh Institute of Medical Sciences Bilaspur (CIMS Bilaspur (CG)) were taken for this study. 1<sup>st</sup> and 2<sup>nd</sup> year medical students were chosen to eliminate bias of knowledge, as senior students may have better knowledge. A total of 270 students participated in the study. Out of 270 students 150 students were boys and 120 students were girls. The students were asked to fill a pretested questionnaire. The questionnaire content question regarding their knowledge of proper time, place, for cornea donation parts of eye required for transplantation. Willingness to donate their eyes and reasons for not donating. Responses of the students were evaluated to understand their knowledge regarding eye donation and willingness to pledge. Verbal consents were taken from the students before the beginning of the study.

### **III. Observations and results**

Our study shows that in response to question regarding knowledge of eye bank as shown in **table 1**. 28% of the students answered that they know there is an eye bank in their medical college, while 25% of them ever heard of any eye bank. When questioned about what is an eye bank 04% of the students answered it is a place where eye are removed, 64% answered it is a place where eyes are collected and stored, 13% answered that it is a place where eyes are pledge. While 19% of students answered all above options.

**Table 1.** Students' response about awareness about eye banks

Students' response about awareness about eye banks	Yes (%)
Dose your medical college have eye bank	28
Do you know about any eye bank	25
What is an eye bank	No of subjects (%)
It is a place where eyes are removed	04
It is a place where eyes are collected and stored	64
It is a place where eyes are pledge	13
All of the above	19

Regarding their answers of which part of eye is used for transplantation as depicted in **table 2** 65% of students answered cornea is the part used for transplantation, while 22% answered whole eye is used, 03% retina is used for transplantation. Any part of the eye can be used was answered by 06% of the students and 04% of students said they don't know which part is used for transplantation.

**Table2:-** Response of students when question about which part of eye is used for transplantation

Answer of students	No of student in (%)
Cornea is the part of the eye used for transplantation	65
Whole eye ball is used for transplantation	22
Retina is used for transplantation	03
Any part of the eye	06
Don't know	04

**Table 3** shows response to questions about eye donation. 15% of the students answered it is necessary to transport the donor to the hospital after death for donating eyes, 15% of the students answered there may be disfigurement of the donor's face because of eye donation, while 22% of students said donation of eye may cause delay in funeral. Consent of relatives required for removal of eyes was answered by 32%. Only 12% of the students have ever counseled any one for eye donation. 38% of the students believed that donor or recipient family must have the knowledge who donated or received the cornea. While only 16% of the students have knowledge that transplantation of cornea also come under preview of human organ transplantation act 1994. Regarding awareness about conditions that render the corneas unfit was know by 23% of the students. Only 05% students know any person who has donated eyes and only 01% knows any person who has received eyes. 08% were aware about deficiency of eyes and 04% knew that in some religion religious authorities approval is required for donating of one's eyes.

**Table 3:-** Students’ response about eye donation

Response of students	No of students answered yes in (%)
Is it necessary to transport the donor to the hospital after death for donating eyes	30
Do eye donation cause disfigurement of the donor’s face	15
Do eye donation cause delay in funeral arrangements	22
Is consent of relatives required for removal of eyes	32
Have you counseled any one for eye donation	12
Is it necessary that donor or recipient family must be told who donated or received the cornea	38
Do you have awareness about selling and buying of donor eyes	16
Do you have knowledge about conditions that render the corneas unfit	23
Do you knows any person who has donated eyes	05
Do you knows any person who has received eyes	01
Are you have any awareness about deficiency of eyes	08
Are you aware that in some religion religious authorities approval is necessary of donating one’s eyes	04

While answering reason for not pledging their eyes, as shown from **table 4**. 82% response was that of lack of awareness, for 12% of the students it is an unacceptable idea of separating the eyes from the body. 03% response were that there are objection from family members.02% response was that due to health problem they did not wish and 01% responded they do not wish to donate as they may be born blind in next birth.

**Table 4:-** Reasons for not pledging eyes for eye donation

Reasons for not pledging eyes for eye donation	No of students in (%)
Lack of awareness	82
Unacceptable idea of separating the eyes from the body	12
Objection by family members	03
Unsuitability to donate because of health problem	02
Will be born blind in next birth	01

**Table 5:-** Response of students when asked about their willingness to pledge their eyes

Willingness to donate eyes	Yes (%)
Have you already pledge your eyes	03
Are you willing to donate your eyes	92

As shown in **table 5** regarding willingness of eye donation 92% of students were willing to donate their eyes but only 3% of the students had pledged their eyes

#### **IV. Discussion**

The level of knowledge of medical students are important determine in promoting eye donation as they are the future potential doctors The major reason for not donating eyes was of course lack of proper knowledge and awareness. In our country with so many cases of corneal blindness there is a strong need for developing effective means of procuring cornea. Many potential donors may be missed if doctors themselves failed to approach their family members about the possibility of eye donation and if they lack sufficient knowledge about eye donation to answer questions or concerns of family members after death of the donors.

#### **V. Conclusion**

As corneal donation is the only source for curing corneal blindness, awareness in our society specially those who are involved in medical profession especially doctors must have proper scientific knowledge about eye donation , so they may spread the knowledge in the society which will ultimately create awareness regarding eye donation and will eliminate the myths prevailing in the society in context to eye donation .

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