

## LEVEL OF AWARENESS AND ATTITUDE REGARDING EYE DONATION AMONGST NURSING AND PARAMEDICAL STAFF WORKING IN TERTIARY CARE CENTRE

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### ABSTRACT

#### BACKGROUND

Corneal diseases constitute significant cause of visual impairment and blindness in the developing countries, it can be prevented through corneal transplantation. There is a large gap between demand and supply of corneal tissue due to lack of awareness about eye donation. Nurses and paramedical staff are potential source that is underutilised as they are in constant touch with the patients and their relatives and can be inspired to pledge their cornea for eye donation. Aim of the study is to assess the level of awareness among the nursing and paramedical staff regarding eye donation.

#### METHODOLOGY

A cross-sectional study was carried out to get the information from nursing and paramedical staff.

#### RESULTS

Total 66.16% nursing and 33.83% paramedical staff participated. Among the participants about 60% nurses and 68% paramedics did not know about any existing eye bank in Bhopal. Only 69% of nurses and 13.43% paramedical staff knew that eyes can be removed within 6 hours of death for effective use, 59.54% nurses knew that cornea is used for grafting, but among paramedical staff only 13.43% showed any awareness about the subject. Only 24.42% nurses and 13.43% paramedical staff had good knowledge about eye donation. Total 65% were not willing to donate their own eyes.

#### CONCLUSION

Result of this study indicates that there is lack of awareness and poor attitude related to eye donation amongst nurses and paramedical staff. This also indicates a high level of ignorance about eye donation in society in general.

#### KEYWORDS

Awareness, Corneal Transplantation, Eye donation, Nursing, Paramedical.

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**INTRODUCTION:** According to World Health Organization 39 million people are blind in the world, of which 12 million blind live in India. This will double by 2020 due to increase in population and longevity. Corneal diseases are a significant cause of visual impairment and blindness in the developing world.<sup>1,2</sup> Corneal blindness accounts for 0.9% of the blindness in India.<sup>3</sup> As per national program for control of blindness; vision loss among Indians is due to cataract (62.60%), refractive error (19.70%), glaucoma (05.80%), posterior segment disorder (04.70%), surgical complication (01.20%), and corneal blindness accounts for 0.9% of the blindness in India.<sup>4</sup>

The major causes of corneal blindness include trachoma, corneal ulceration following xerophthalmia due to vitamin A deficiency, ophthalmia neonatorum, use of harmful traditional medicines, onchocerciasis and ocular trauma.<sup>4,5,6,7</sup> Half of these patients can get their sight restored through corneal transplantation. Eye donation for transplant of cornea is an important health care activity. Unfortunately, due to illiteracy, lack of awareness, social beliefs and lack of proper health care infrastructure, cornea transplant or eye donation has not been able to become a common practice or a mass movement. Against the annual demand for 100,000 corneas, only 16,000 are available in India. In Madhya Pradesh, according to NPCB 03/03/2015 (2014-2015) target of eye donation was 1000 and achievement was zero (As per NPCB website). There is a large gap between demand and supply because of low awareness about the idea of eye donation. Eye donation and corneal transplant is the only hope for corneal blind patients.

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Nurses and paramedical staff of the hospital are a major potential that are under-utilised force as far as eye donations are concerned. They are in constant touch with the patients and their close relatives and can be inspired to donate their eyes for this humanitarian cause. We intend to assess the level of awareness and knowledge regarding eye donation among the nursing staff and paramedical workers.

**AIMS & OBJECTIVES:** The aim of the study is to assess awareness among the nursing and paramedical staff regarding eye donation at tertiary care centre by conducting a survey using a questionnaire.

**METHODOLOGY:** A cross-sectional study was conducted by Department of Ophthalmology at tertiary care centre, over a period of two months from October to December 2015. We have enrolled 200 participants but out of 200, 2 participants incompletely filled their form hence it was discarded. Out of 198 respondents, nursing staff constituted 131 and the number of paramedical staff was 67. The participants in the study were working in the tertiary care centre. All of them were in the age bracket of 20-50 years. They were assessed on their awareness and knowledge regarding eye donation using a standard predesigned and pretested closed-ended questionnaire. We included in the study only those who were willing to participate. All the participants were enrolled after explaining the purpose of the study. Their written consent was obtained and they were asked to fill the survey form with predesigned questionnaire which was prepared.

Questionnaire sought answers pertaining to age, sex, religion, level of awareness, regarding consent, duration of eye donation after death, procedure, contraindications of eye donation and willingness to donate eyes. Participants were told to write and tick the options for the questions mentioned in the questionnaire. Study variables were name, age/sex, qualification, religion. The data were collected, compiled and entered in Excel sheet and responses to the questions were analysed using SPSS Version 20.

**RESULTS:** A study carried out among nurses and paramedical staff of tertiary care centre showed that a total of 66.16% nursing and 33.83% of paramedical staff participated.

Total 60.30% nurses and 68.65% paramedical were not aware about any eye bank in Bhopal. The study showed that majority of participants came to know about eye donation through hospital and clinic (47%), followed by mass media/TV/radio/ movies (34%). It is an eye opener that 6 nurses and 4 paramedical staff came to know about eye donation only after participating in this study. In the study, it was found that 29.79% respondents didn't know about the necessity to fill the consent form for eye donation before death, among the respondents 36.64% were nurse and 16.41% were paramedical staff. In the study, 67.93% nurse and 62.68% paramedics knew that eyes cannot be donated by living persons. Majority of the respondents knew that donor family does not get any remuneration for eye donation i.e. 69.46% nurse and 23.88% paramedic staff, total 54.04% are aware about this.

Total 111 respondents out of 198 knew that eyes retrieval could be done at home (62.59% nurses and 43.28% paramedics) knew about this. Majority of the participants were aware that recipients should not be informed of the donor's details. 83.20% nurse and 20.89% paramedics, total 62.12% answered correctly.

In our study, only 52.52% (67.17% nurses and 23.88% paramedics) respondents knew that close relatives can give consent for eye donation after death of a person.

In our finding, only 39.39% (52.67% nurses and 13.43% paramedical staff) had correct knowledge that eye should be removed from dead donor within 6 hours.

In our study, only 43.93% (59.54% nurses and 13.43% paramedics) respondents knew that only cornea is donated for eye transplantation.

In the study, we found that majority of nurses i.e. 74.80% were aware that people affected with communicable diseases (Hepatitis B and AIDS) shouldn't donate their eye for transplantation while only 20.89% paramedics knew about this fact.

Present findings showed that 45.45% respondents (52.67% nurses and 31.34% paramedics) were unwilling to donate their near relative's eyes after their death. Majority of the respondent nurses i.e. 70.22% and 56.71% paramedics, total 65.65% were not willing to donate their own eyes. Only 24.42% nurses and 13.43% paramedics had good knowledge in present study.

		<b>Nurses n= 131</b>	<b>Paramedical n= 67</b>	<b>Total n= 198</b>
Gender	Male	26(19.84)	56(83.58)	82(41.41)
	Female	105(80.15)	11(16.41)	116(58.58)
Age (yrs.)	20 -30	55(41.98)	53(79.10)	108(54.54)
	31-40	47(35.87)	9(13.43)	56(28.28)
	41-50	29(22.13)	5(7.46)	34(17.17)
Religion	Hindu	12(9.16)	35(52.23)	47(23.73)
	Muslim	3(2.29)	9(13.43)	12(6.06)
	Christian	116(88.54)	23(34.32)	139(70.20)

**Table 1: Demographic Profile of Subjects According to Age, Gender and Religion**

Question	Answer	Nurses n=131	Paramedical n=67	Total n= 198
Any eye bank in Bhopal	Yes	52(39.69)	21(31.34)	73(36.86)
	No	79(60.30)	46(68.65)	125(63.13)
Source of information of eye donation	Mass media	51(38.93)	17(25.37)	68(34.34)
	Hospitals	60(45.80)	34(50.74)	94(47.47)
	Friend	5(3.81)	6(8.95)	10(5.05)
	Through lecture	4(3.05)	5(7.46)	9(4.54)
	Eye donation campaigns	5(3.81)	1(1.49)	6(3.03)
	Through this form	6(4.58)	4(5.97)	10(5.05)

**Table 2: Awareness on Eye Donation (n= 198)**

Question	Reponses	Nurses n=131	Paramedical n= 67	Total n=198	Chi Square Value	P value
Consent form is not necessary before death	Yes	76(58.01)	52(77.61)	128(64.64)	8.75	0.013
	No	48(36.64)	11(16.41)	59(29.79)		
	Don't know	7(5.34)	4(5.97)	11(5.55)		
Eyes cannot be donated(removed) by a living person	Yes	39(29.77)	16(23.88)	55(27.77)	9.82	0.007
	No	89(67.93)	42(62.68)	131(66.16)		
	Don't know	3(2.29)	9(13.43)	12(6.06)		
Donor family does not get any money for eye donation	Yes	33(25.19)	43(64.17)	76(38.38)	37.1	0.001
	No	91(69.46)	16(23.88)	107(54.04)		
	Don't know	7(5.34)	8(11.94)	15(7.57)		
Eyes retrieval can be done at home or any other place where the body is kept	Yes	82(62.59)	29(43.28)	111(56.06)	9.27	0.010
	No	36(27.48)	33(49.25)	69(34.84)		
	Don't know	13(9.92)	5(7.46)	18(9.09)		
Will the recipient be informed of the donor's details?	Yes	109(83.20)	47(70.14)	156(78.78%)	73.7	0.001
	No	18(13.74)	14(20.89)	32(16.16%)		
	Don't know	4(3.05)	6(8.95)	10(5.05)		

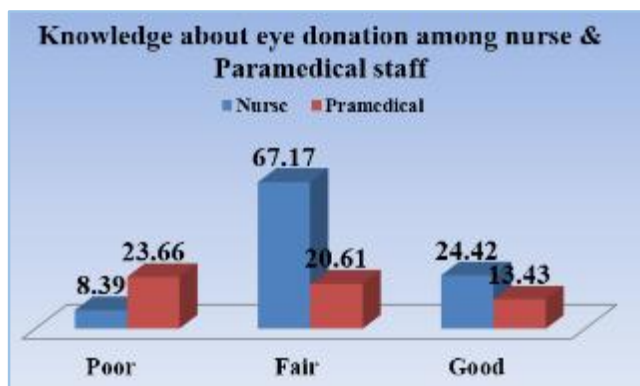
**Table 3A: Awareness on Eye Donation**

Question	Responses	Nurses N=131	Paramedical N=67	Total N= 198	Chi Square Value	P value
Close relatives can give consent for eye donation after death of a person	Close relatives	88(67.17)	16(23.88)	104(52.52)	33.4	0.001
	Neighbours' can give consent	32(24.42)	39(58.20)	71(35.85)		
	Don't know	11(8.39)	12(17.91)	23(11.61)		
Ideally eye should be donated within six hrs.	1- 2 Hour	19(14.50)	30(15.15)	49(24.74)	34.8	0.001
	1-6 Hour	69(52.67)	9(13.43)	78(39.39)		
	7-12 Hour	36(27.48)	23(34.32)	59(29.79)		
	Don't Know	7(5.34)	5(7.46)	12(6.06)		
Cornea is used for transplantation	Cornea	78(59.54)	9(13.43)	87(43.93)	40.6	0.001
	Lens	10(7.63)	17(25.37)	27(13.63)		
	Retina	7(5.34)	9(13.43)	16(8.08)		
	Whole eye	29(22.13)	26(38.80)	55(27.77)		
	Don't know	7(5.34)	6(8.95)	13(6.56)		
Conditions eye cannot be donated	Old age(Natural) death	9(6.87)	17(25.37)	26(13.13)	53.2	0.001
	Communicable disease(Hep-B, AIDS)	98(74.80)	14(20.89)	112(56.56)		
	Brain Dead	5(3.816)	8(11.94)	13(6.56)		
	Heart Attack(MI)	17(12.97)	23(34.32)	40(20.20)		
	Don't know	2(1.52)	5(7.46)	7(3.53)		

**Table 3B: Awareness on Eye Donation**

Question	Responses	Nurses N=131	Paramedical N=67	Total N=198	Chi Square Value	P value
Willing to donate eyes of near relatives	Yes	39(29.77)	28(41.79)	67(33.83)	8.18	0.017
	No	69(52.67)	21(31.34)	90(45.45)		
	Unsure	23(17.55)	18(26.86)	41(20.70)		
Willing to donate eyes yourself	Yes	23(17.55)	20(29.85)	43(21.71)	9.28	0.010
	No	92(70.22)	38(56.71)	130(65.65)		
	Unsure	16(12.21)	9(13.43)	25(12.62)		

**Table 4: Attitude on Eye Donation**



**DISCUSSION:** Ocular trauma and corneal ulceration are common causes of corneal blindness.<sup>4,5,6,7</sup> Cost for donor cornea is very expensive due to lack of local donors, which may be attributed to the lack of awareness on corneal transplantation and eye donation. Gupta A et al study showed television (77.1%) was the most common source of information followed by newspaper (72.8%) on eye donation.<sup>8</sup> As per M K Bharti et al, major source of information was mass media/TV/radio/movies (71%).<sup>9</sup> Subodh Kumar Yadav et al showed commonest source of knowledge on eye donation was newspaper (34.25%) followed by television (33.5%).<sup>10</sup> Our study; however, showed that majority of the respondents came to know about eye donation through hospital and clinic (47%) followed by mass media/TV/radio/ movies (34%).

Of the 188 students interviewed, it was observed that 96.2% males and 97.5% females knew that eyes can be donated after death. The fact that they should ideally be donated within 6 hours of death was known only to 38.2%.<sup>8</sup> Knowledge on this issue among medical students in a Malaysian University was 31%.<sup>9</sup> Subodh Kumar Yadav et al study showed that out of 400 students 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.<sup>10</sup> Only 115(28.75%) students knew that the eyeball should be removed within few hours after death.<sup>9</sup>

In our study, only 39.39% (52.67% nurses and 13.43% paramedical staff) had correct knowledge that eye should be removed from dead donor within 6 hours. The willingness to donate eyes in our study is much less 21.71% (among nursing 17.55% and paramedical 29.85% staff) as compared to results of nursing college, Bangalore (85.1%).<sup>10</sup> Whereas a majority of our respondents around 65.65% (nurses 70.22% and 56.71% paramedics) were not

willing to donate their own eyes. Present findings showed that 33.83% respondents (41.79% nurses and 29.77% paramedics) were willing to donate their near relative's eyes after their death.

According to M K Bharti et al, knowledge that cornea is used for transplantation is 25.25%.<sup>9</sup> When compared to our study, 43.93% (59.54% nurses and 13.43% paramedics) respondents knew that cornea is used for transplantation and 56.06% did not know which part of eye is used for transplantation. As per Gupta A et al, whereas 96.8% nursing students knew eye can be donated after death,<sup>8</sup> in the study of Subodh Kumar Yadav et al this figure was 94%.<sup>10</sup> In our study, 27.77% (29.77% nurses and 23.88% paramedical staff) were aware of this fact. On the question of awareness of eye banks; 94% students were aware about the existing eye banks in the study of M K Bharti et al.<sup>9</sup> Similarly, Manjunath et al reported that 74% of the college students knew about eye banks in their surrounding.<sup>11</sup> Whereas in our study only 36.86% respondents (39.69% of nursing and 31.34% paramedical staff) knew about the existing eye banks in Bhopal, 63.13 % were not aware about it.

**RECOMMENDATION:** Systematic efforts need to be made to educate and sensitise the nurses and paramedical staff on this issue. Besides making this topic a part of their curriculum, annual trainings and workshops on this issue would go a long way in convincing them on the need of eye donation. Only when they are convinced will they be in a position to convince and educate other people on this very important medico-social topic, which will help resolve the problem of corneal blindness amongst the masses.

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