

**Assessment and Comparison of Perception of Eye Donation and Some Aspects of Eye Health Care Among the Medical and Nursing Students : A Cross-sectional Comparative study in Uttarakhand State**

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**ABSTRACT**

**Background:** For the avoidable blindness (curative and preventive blindness), there is a need for capacity building of young future health functionaries which can be achieved by collecting data about their percept for eye donation/healthcare. **Objective:** To assess and compare the percept of eye donation and some aspects of eye health care amongst nursing and medical students. **Material and methods:** The total 290 medical and 439 nursing students were studied in the present study and information was obtained using semi-structured questionnaire. **Results:** Of the total 290 medical and 439 nursing students respectively that was studied, the awareness about eye donation was 100% in medical and 93.6% in nursing with mass media (TV/newspaper) constituted the greatest source of information in 72.7% (nursing) and 75.9% (medical). **Conclusion:** The incorrect information for the ideal time of eye donation was given by 17.7% students and for the incorrect usage of donated eyes was given by 79.5% students.

**Key Words:** Perception, eye donation, students, eye health care.

**INTRODUCTION**

Corneal transplant first performed by Edward Zirm in 1905 is the most widely practiced and most successful clinical allografting.<sup>1-4</sup> The practice of corneal transplant has witnessed phenomenal advances owing to innovations in instrumentation, surgical techniques and perioperative care, resulting in improved outcomes and cost-effectiveness.<sup>5</sup> Despite these developments, widespread use of corneal grafting remains hindered by the relative scarcity of donor corneas in both developed and developing countries. This has been attributed to the unwillingness of potential donors to pledge their eyes and to the failure of health care personnel to educate potential donors on the process of eye donation.<sup>3,4,6-13</sup>

The late Dr Muthiah started the very first eye bank in India and he successfully performed the first corneal transplant in 1948.<sup>14</sup> India has the world's largest corneal blind population so corneal donation is one of the major requirements in India.<sup>15</sup> In India, there is addition of 40000-50000 corneal blind persons every year. Restoration of their vision is possible only through transplantation of cornea from donated eyes. Currently, in India the collection is nearly 22 thousand eyes a year which are negligible to the requirement.<sup>17</sup>

As medical and nursing undergraduates are the future healthcare providers, their percept about eye health care and eye donation plays an important role in strengthening the existing eye health services at different infrastructure levels of school health, varied cadres of health care and teaching medical/educational institutions as well as supporting the ongoing hospital retrieval programme in superspeciality centres. The study was done to assess the socio-demographic profile of the medical and nursing students along with their percept about eye donation and some aspects of eye health care and also to find the relationship of some aspects of eye health care, awareness and willingness of eye donation amongst medical and nursing students.

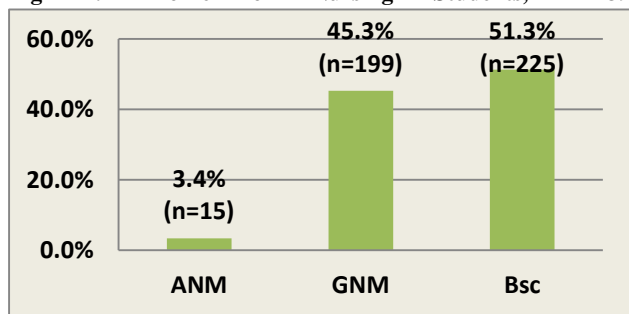
**MATERIAL AND METHODS**

After taking institutional ethical approval, the community based cross-sectional study was carried from November 2013 to April 2014 on amongst medical and nursing students. The medical students of different years along with interns posted in the department and nursing students of any cadre who were co-operative and available at the time of data collection were included in the study. The questionnaire include knowledge on the exact time of removal of cornea, usage of donated eyes, eligibility of

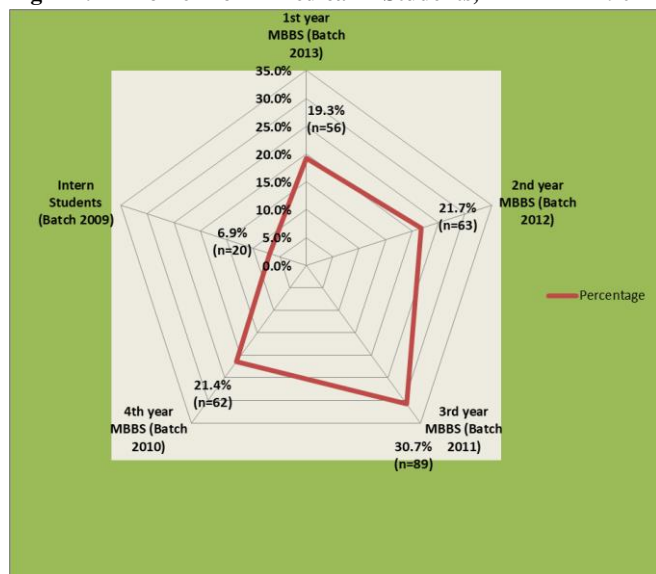
particular persons for eye donation on the basis of use of spectacles, existence of chronic diseases and some questions on eye health care aspects. Also, the questionnaire include willingness/unwillingness to donate eye and the reasons for doing so. Informed consent was obtained from all the individuals after explaining the purpose of the study. The medical students were MBBS students of different academic years studying in the Government Medical College, Haldwani, Uttarakhand. The information from medical students/interns was obtained by the investigator in the lecture hall through semi-structured questionnaire. The nursing students that were enrolled in the study were studying in three private nursing colleges of Haldwani Block, district Nainital i.e Pal college (n=146), Dronh college (n=152) and Nancy college (n=141). The investigator approached the nursing tutors in their respective colleges for the collection of filled questionnaires by the students. All of them were ready to participate in the study who were present on the day when the questionnaire was administered to them. Frequency tables was prepared and descriptive analysis was done in percentages and appropriate figures like bar diagram and radar chart has been made for data presentation in the study and inferential statistics using chi square test was carried out. Analysis was done with the help of MS excel and SPSS version 18. (IBM SPSS)

**RESULTS.**

**Fig 1: Profile of Nursing Students, n=439**



**Fig 2: Profile of Medical Students, n= 290**



**Table 1: Socio-demographic characteristics of the studied nursing and medical students**

Socio-demographic characteristics	Nursing	Medical
	(n=439)	(n=290)
Mean age in years (SD)	20.4 (± 3.02)	21.3 (± 2.02)
	<b>Number (%)</b>	<b>Number (%)</b>
<b>Sex</b>	<b>(n=439)</b>	<b>(n=290)</b>
Male	23 (5.2%)	116 (40%)
Female	416 (94.8%)	174 (60%)
	<b>Number (%)</b>	<b>Number (%)</b>
<b>Religion</b>	<b>(n=439)</b>	<b>(n=290)</b>
Hindu	403 (91.8%)	256 (88.3%)
Muslim	8 (1.8%)	30 (10.3%)
Sikh	19 (4.3%)	3 (1%)
Christian	9 (2.1%)	1 (0.3%)
	<b>Number (%)</b>	<b>Number (%)</b>
<b>Caste</b>	<b>(n=439)</b>	<b>(n=290)</b>
General (others)	285 (64.9%)	210 (72.4%)
OBC	87 (19.8%)	48 (16.6%)
SC	48 (10.9%)	23 (7.9%)
ST	19 (4.3%)	9 (3.1%)
	<b>Number *(%)</b>	<b>Number# (%)</b>
<b>Education father</b>	<b>(n=436)</b>	<b>(n=289)</b>
Not specified	92 (21.1%)	42 (14.5%)
Illiterate	2 (0.5%)	1 (0.3%)
< high school	10 (2.3%)	6 (2.1%)
High school	43 (9.9%)	6 (2.1%)
Intermediate	150 (34.4%)	28 (9.7%)
Graduate	107 (24.5%)	99 (34.3%)
Post graduate	22 (5%)	58 (20.1%)
Professional	10 (2.3%)	47 (16.3%)
Semiprofessional (1 nurse and 1 bachelor in pharmacy)	0	2 (0.7%)
	<b>Number* (%)</b>	<b>Number # (%)</b>
<b>Occupation father</b>	<b>(n=436)</b>	<b>(n=289)</b>
Not specified	54 (12.4%)	19 (6.6%)
Government job	222 (50.9%)	194 (67.1%)
Private job	95 (21.8%)	52 (18%)
Farmer	65 (14.9%)	24 (8.3%)
	<b>Number** (%)</b>	<b>Number (%)</b>
<b>Education mother</b>	<b>(n=437)</b>	<b>(n=290)</b>
Not specified	99 (22.7%)	72 (24.8%)
Illiterate	8 (1.8%)	12 (4.1%)
< high school	81 (18.5%)	14 (4.8%)
High school	108 (24.7%)	18 (6.2%)
Intermediate	90 (20.6%)	35 (12.1%)
Graduate	37 (8.5%)	82 (28.3%)
Post graduate	10 (2.3%)	35 (12.1%)
Semi-professional (1 nurse)	0%	1 (0.3%)
Professional	4 (0.9%)	21 (7.2%)
	<b>Number** (%)</b>	<b>Number (%)</b>
<b>Occupation mother</b>	<b>(n=437)</b>	<b>(n=290)</b>
Not specified	68 (15.6%)	52 (17.9%)
Housewife	327 (74.8%)	180 (62.1%)
Government job	36 (8.2%)	55 (19%)
Private job	6 (1.4%)	3 (1%)

\*Death=3, # Death=1, \*\*Death=2

Amongst the nursing students, majority of them were in Bsc nursing (51.3%). Whereas in medical students studied, most of them belonged to 3<sup>rd</sup> year MBBS (30.7%) with only 6.9% intern female MBBS students posted in the department was also included in the study

The 3 fathers and 2 mother amongst nursing students were expired. While only 1 father expired in medical students The mean age of the students was almost same i.e 20 years with higher number of female students

studied in both the groups of students, being 94.8% (nursing) & 60% (medical). Majority of them with 91.8% in nursing and 88.3% in medical were hindu by religion. And 64.9% in nursing and 72.4% in medical belonged to the general caste.

Despite the higher percentage of literates with 78.4% in nursing and 85.3% in medical, there were 0.5% & 0.3% illiterates fathers respectively. The 2.3% and 16.3% fathers were professional respectively .More than half percentage of the fathers in both groups of students were in government job.

The cumulative percentage of literates mothers respectively in nursing & medical students was 75.5% & 71% and whereas that of illiterates was 1.8% in nursing & 4.1% in medical. Majority of their mothers were housewives with 74.8% in nursing and 62.1% in medical.

**Table 2: Source of information and Percept of students about some aspects of eye donation**

Heard about eye donation	Nursing (%) n=439	Medical (%) n=290
Yes	411 (93.6%)	290 (100%)
No	28 (6.4%)	0%
Source of information*	Nursing (%) n=411	Medical (%) n=290
Medical personnel	82 (19.9%)	128 (44.1%)
Teachers	46 (11.2%)	135 (46.6%)
TV/newspaper	299 (72.7%)	220 (75.9%)
Family members	29 (7.05%)	62 (21.4%)
Others (by advertisement, public awareness)	1 (0.24%)	23 (7.9%)
Did not answer	13 (3.2%)	3 (1.03%)
Ideal time for eye donation	n=411	n=290
<2 hrs	231 (56.2%)**	68 (23.4%)
2-6 hrs	107 (26%)	196 (67.6%)
6 hrs to ≤ 1 day	19 (4.6%)	10 (3.4%)
Any time after death	34 (8.3%)	4 (1.4%)
Did not answer	20 (4.9%)	12 (4.1%)
Usage of donated eyes*	n=411	n=290
To transplant full eyeball	161 (39.2%)	60 (20.7%)
Corneal transplant/corneal grafting	155 (37.7%)	214 (73.8%)
Lens transplant	51 (12.4%)	21 (7.24%)
None of the above	10 (2.43%)	1 (0.34%)
Did not answer	34 (8.27%)	13 (4.5%)
Cataract eyes can be donated	n=411	n=290
Yes	62 (15.1%)	154 (53.1%)#
Person wearing glasses can be donors	Number (%) n=411	Number (%) n=290
Yes	128 (31.1%)	242 (83.4%)###
Diabetes or Hypertensives can be	Number (%) n=411	Number (%) n=290
Yes	99 (24.1%)	180 (62.1%)###
Persons with hepatitis or HIV/AIDS can be donors	Number (%) n=411	Number (%) n=290
Yes	73 (17.8%)	106 (36.6%)####

\*Multiple responses,\*\* (n=1 said for 5min), #(n=2 said if cornea healthy, n=1 said if operated) ,###(n=2 said if cornea healthy),### (n=2 said if cornea healthy),#### (n=1 said if vascular supply absent)

Among the 10 professional fathers in nursing students, 2 were engineers and rest were teachers. While among 4 professional mothers, all of them were teachers. Among the 47 professional fathers in medical students, 18 were doctors, 17 were engineers, 4 were advocates, 2 did MBA/chartered accountant, 1 was police officer and 5 were teachers. While among the 21 professional mothers,

there were 4 doctors, 2 were advocates, 1 did MBA/chartered accountant and 14 were teachers.

Unlike all the medical students had heard about eye donation, the 93.6% nursing students were aware. Mass media (TV/newspaper) is the major source of information for spreading awareness in 72.7% nursing and 75.9% medical students. The correct time for eye donation which is within 6 hrs after death of an individual was known to 82.2% nursing and 91% medical students. There was lack of correct information for time of eye donation in 17.8% nursing and 8.9% medical students.

The correct usage of donated eyes was known to slightly more than one-third of nursing students unlike less than three-fourth of medical students. The percentage of medical students respondents regarding some selected aspects of eye donation like donation of cataract eyes, persons wearing glasses, diabetes or hypertensives, hepatitis or HIV/AIDS can be donors was higher that is 53.1%, 83.4%, 62.1%, and 36.6% respectively. These corresponding percentages in nursing students was 15.1%, 31.1%, 24.1% and 17.8% respectively. (Table 2)

**Table 3: Percept of students about some aspects of eye healthcare**

Some aspects of eye health care	Nursing (n=439)	Medical (n=290)
Role of awareness on eye problems (poor vision, watering, discharge)	416 (94.7%)	278 (95.8%)
Vitamin A role in childhood blindness	420 (95.6%)	282 (97.2%)
Vitamin A abundant in green leafy vegetables and yellow fruits	422 (96.1%)	255 (87.9%) <small>n=3 said that they contain precursor B carotene form</small>
Role of students in spreading awareness among family members	423 (96.3%)	275 (94.8%)
First eye screening	Nursing (n=439)	Medical (n=290)
<6months	87 (19.8%)	73 (25.2%)
6 month to 3 yr	55 (12.5%)	87 (30%)
3- 6 yr	71 (16.2%)	31 (10.7%)
None	38 (8.7%)	7 (2.4%)
Did not answer	48 (10.9%)	92 (31.7%)
Said yes but did not choose any given option	140 (31.9%)	0%
Aware about national programme for control of blindness in India	Nursing (n=439)	Medical (n=290)
	264 (60.1%)	209 (72.1%)

Regarding the role of awareness on eye health, vitamin A role in childhood blindness, abundance of vitamin A in green leafy vegetables and yellow fruits and role of students in spreading awareness among family members, both the groups of students had good knowledge. The 12.5% of nursing and 30% of medical students had said that the first eye screening should be done in between 6 months-3 years. Also, the 60.1% of nursing and 72.1% of medical students had awareness about national programme for control of blindness in India.(table 3)

The students who got agreeable attitude for eye donation was 59.7% in medical and 69.9% in nursing students. Amongst nursing students, the thought of pleasure to help the blind was noticed in higher (69.4%) . While, noble cause was considered to be the reason for eye donation in medical students in 53.7% followed by the thought of

pleasure to help the blind in 47.9%. In nursing students, the reasons for non-willingness for eye donation was health related problem and age factors each with 18.2%. Whereas medical students pointed out for objection from family (21.4%) being the prime reason for non-willingness for eye donation.(table 4)

**Table 4: Attitude of students about eye donation and reasons for willingness/non-willingness for eye donation**

Attitude towards eye donation	Nursing	Medical
	(n=439)	(n=290)
Agree	307 (69.9%)	173 (59.7%)
Disagree	11 (2.5%)	19 (6.6%)
Not sure	121 (27.6%)	98 (33.8%)
Reasons for willingness for eye donation*	Nursing	Medical
	(n=307)	(n=173)
Noble cause	33 (10.7%)	93 (53.7%)
Pleasure to help the blind	213 (69.4%)	83 (47.9%)
Monetary benefits	8 (2.6%)	3 (1.7%)
Inspired by an article/magazine	19 (6.2%)	22 (12.7%)
Influenced by knowledge in academics	15 (4.9%)	26 (15%)
Friends received cornea	2 (0.6%)	3 (1.7%)
Friends/family members donated cornea	1 (0.3%)	8 (4.6%)
Unspecified reasons	34 (11.1%)	10 (5.8%)
Reasons for non-willingness for eye donation*	Nursing	Medical
	(n=132)	(n=117)
Objection from family	12 (9.1%)	25 (21.4%)
Body ill treated by organ transplant	8 (6.1%)	12 (10.3%)
Health related problem	24 (18.2%)	3 (2.6%)
Dislike basic idea of eye donation	12 (9.1%)	2 (1.7%)
Religious myth	2 (1.5%)	4 (3.4%)
Age factors	24 (18.2%)	3 (2.6%)
Not sure about correct use of cornea after extraction	22 (16.7%)	12 (10.3%)
Unspecified reasons	31 (23.5%)	44 (37.6%)
Did not answer	0%	24 (20.5%)

\*Multiple response

**Table 5: Association of the some aspects of eye health, awareness and willingness of eye donation amongst medical/nursing students**

	Medical (n=278)	Nursing (n=391)	Odd Ratio	Inferential test
Ideal time for eye donation is ≤6 hours (Yes)	264 (95%)	338 (86.4%)	2.957	Chi sq is 13.084 df=1 P is 0.001
	Medical (n=198)	Nursing (n=391)	Odd Ratio	Inferential test
Time of first eye screening is ≤6 months(Yes)	73 (36.9%)	87 (22.3%)	2.041	Chi sq is 14.196 df=1 P is 0.001
	Medical (n=290)	Nursing (n=439)	Odd Ratio	Inferential test
Role of Vitamin A in blindness (Yes)	282 (97.2%)	420 (95.7%)	1.595	Chi sq is 1.206 df=1 P is 0.272
Role of awareness on eye health (Yes)	278 (95.9%)	416 (94.8%)	1.281	Chi sq is 0.463 df=1 P is 0.496
Source of Vitamin A is green leafy vegetables and yellow fruits	255 (87.9%)	422 (96.1%)	0.294	Chi sq is 17.712 df=1 P is 0.001
Aware about eye donation (Yes)	290 (100%)	439 (93.6%)	-	Chi sq is 19.235 df=1 P is 0.001
Willingness for eye donation (Yes)	173 (59.7%)	307 (69.9%)	0.636	Chi sq is 8.2 df=1 P is 0.004

The awareness about the ideal time for eye donation (≤6 hours post death) was higher in medical than nursing students (95% versus 86.4%) and the difference is

significant statistically. Also, the timing of the first eye screening (≤ 6 months post birth) was known to 36.9% medical and 22.3% nursing students and this difference is also significant statistically.

Regarding the role of vitamin A in blindness and role of awareness on eye health was known to almost equal number of medical and nursing students and hence the difference is not significant statistically. But the source of vitamin A being green leafy vegetables & yellow fruits was known to fairly greater number of nursing (96.1%) than medical (87.9%) students and hence the odd ratio is <1 with significant difference observed. The difference in the willingness for eye donation was also significant statistically being higher (69.9%) in nursing students with odd ratio of 0.636 (<1).

There was significant difference observed about the awareness about eye donation amongst medical and nursing students.

**DISCUSSION:**

It has been envisaged to provide ophthalmic services that is one ophthalmic surgeon for every five CHCs under NRHM (National Rural Health Mission) in Indian Public Health Standards (IPHS).<sup>18</sup> In line with these curative services, there is a need for capacity building of young future health functionaries which can be achieved by collecting data about their percept for eye donation/healthcare and find out the gaps in their knowledge. The concept of assessing the awareness level of the community inclusive medical and nursing students is embodied in the National Programme of Control of Blindness (NPCP 1976).<sup>19</sup>

Talking about the gender distribution in the study, the female students were studied in higher proportion in both medical and nursing students (60% and 94.8% respectively). This finding corroborates with the study conducted on nursing students in Karnataka where they have taken 88% female students.<sup>20</sup> In our study, all the nursing students were from three private nursing colleges unlike 86% in Karnataka study.<sup>20</sup> The frequency of third year medical students enrolled in the current study is 30.1% which is comparable to the study done on medical students in Bhopal.<sup>21</sup> But the authors in Bhopal study has included 44% female students which is lesser than our study.

The awareness level of medical students about corneal donation in the twin studies of Nigeria in different years ranged from 47.7% to 79.4%.<sup>22,10</sup> Also, in a study conducted in Delhi, the author has reported that 79.6% surveyed medical students were well aware of corneal donation from deceased donors.<sup>4</sup> Regarding the awareness of nursing students about corneal donation, the studies found that the percentage vary from 96.8% to 100%.<sup>23,20</sup> In the current study, more than four-fifth nursing students (93.6%) and all the medical undergraduates had heard about eye donation. The

increased awareness of students in our study may be due to enhanced community participation of the students regarding eye donation.

The mass media (TV/newspaper) was found to be the source of information on eye donation in amongst 75.9% medical students and in 72.7% nursing students in the current study. This finding is in agreement with the study done in Delhi on medical students where mass media such as television (77.8%), newspapers (72.8%) were found to be important source of information on eye donation.<sup>24</sup> Whereas the study in Nigeria has reported that mass media as leading source of awareness in only one-fifth medical undergraduates (20.6%).<sup>22</sup> The findings of the study done on nursing students in Karnataka corroborates with our study where newspaper (34.25%) and television (33.5%) was commonest source of information for eye donation, although the percentage is lesser than our study.<sup>20</sup> On the other hand, the study by Rimjhim Kumari on nursing students in Karnataka, the television is backed by 40% students.<sup>25</sup>

Cornea can be enucleated from any deceased person within time duration of 6 hours from the actual time of occurrence of death.<sup>26</sup> The studies done in Nigeria and Delhi on medical students regarding the awareness about the ideal time for eye donation that is  $\leq 6$  hours post death was found to be less than one-fifth students (11.2%), less than half (41.1%) respectively.<sup>22, 24</sup> On the other hand, other studies such as by Kannan KA and Dhaliwal U has reported more than half (63.3%) of medical students and 56% in a study by Aruna Gupta and colleague knew that eyes should be donated within six hours.<sup>14,4,27</sup> In contrast to above findings, our study has found a higher percentage (91%) of medical students knowing about the correct time for eye donation. In the current study, the nursing students too also had higher percentage of awareness (82.2%) about the ideal time of eye donation. This may be due to greater number and different years of nursing students being studied. The study done in Bangalore on nursing students has reported lesser percentage of awareness (38.2%) of the correct time of eye donation while the other studies done in India has found the awareness frequency percentage (75.5% and 70% respectively) comparable to the present study.<sup>23,20, 25</sup>

More than half of the medical students in different cited studies in the past were knowing that cornea is the part of the eye used in eye donation except that of 27.1% and 15% in twin Nigerian medical students.<sup>10,22, 27-29</sup> In our study also, more than three-fourth medical students knew about that cornea is used in eye donation. In contrast to medical students, only one-third nursing students in this study had knew about the corneal usage in eye donation which is lesser as compared to the study done in Karnataka where 58.5% knew that cornea only can be donated.<sup>20</sup>

The cataract eyes as donor was rejected by 56.1% medical students in a study in Nigeria.<sup>22</sup> Almost similar

percentage of medical students (46.9%) in the present study had said that cataract eyes should not be donated while the comparatively greater proportion of nursing students (93.8%) of our study opined that cataract eyes should not be donated as compared to 30.7% environmental science students in Nigeria study.<sup>22</sup> On the other hand, in a study in Gujarat slightly more than one-fifth medical students (22%) answered that cataract or any other ocular disease or the use of spectacles render the cornea unfit for donation.<sup>27</sup>

In the various studies conducted in developing country like Nigeria and in Delhi and Gujarat, the percent response for positive attitude towards eye donation amongst medical students varied from 13.1% to 87.8% which may be due to regional differences, different semesters and number of medical students studied.<sup>22,4,24,27</sup> However, our study observed that 59.7% medical students had agreed for eye donation with 33.8% were not sure about their willingness for eye donation. Pertaining to the willingness of nursing students for eye donation, our study observed that more than half (69.9%) were willing to donate their eyes and the main reason behind eye donation was pleasure to help the blind in 69.4%. This finding is in agreement with a study done on nursing students in Karnataka where 64.25% were willing to donate their eyes to save vision of blind people.<sup>20</sup> However, Gupta and colleague found a higher percentage of nursing students (85.1%) who were willing to donate their eyes and nobility in the act of eye donation was the main motivational force for donation according to 85.6% students.<sup>23</sup>

The family objection as the reason for non-willingness for eye donation amongst medical students in the current study was 19.1% which is lesser in comparison to the study done in Delhi where they have found to be 27.7%.<sup>24</sup> In contrast, the medical graduates in Bilaspur study responded for 3% for objection from family members.<sup>29</sup> The reason for unsuitability to donate because of health problem in medical students in the current study was 18.2%. This is in accordance with the study done in Delhi where they have reported to be 17.7% whereas the Bilaspur study has revealed that only 2% medical students said unsuitability to donate because of health problem.<sup>24,29</sup>

**Conclusions:** The awareness about eye donation was 100% in medical and 93.6% in nursing with mass media (TV/newspaper) constituted the greatest source of information in 72.7% (nursing) and 75.9% (medical). The incorrect information for the ideal time of eye donation was given by 17.7% students and for the incorrect usage of donated eyes was given by 79.5% students. The awareness of medical students was comparatively higher than nursing about the disease/conditions the eyes can be donated. The role of awareness, vitamin A role and correct source of vitamin A was known to majority of the students. However, the time period for first eye screening was known to less than 20% (nursing) and 25.2%

(medical). The unfavourable attitude towards eye donation was observed in 70.5% students. Significant difference was observed in the percept of ideal time of eye donation and correct time period of first eye screening amongst medical/nursing students with non significant difference seen in aspects of eye health care, awareness and willingness of eye donation.

## REFERENCES

1. An Ophthalmologist's Journey. Dr Eduard Konrad Zirm- 1863 bis 1994 website. <http://www.drzirm.org/ehistory.html>. Accessed March 19, 2014.
2. Yew YW, Saw SM, Pan JC . Knowledge and beliefs on corneal donation in singapore adults. *Br J Ophthalmol*, 2005; 89(7): 835-40.
3. Palamar M, Durusoy R, Egrilmez S, Salis O, Yagci A. Public opinion concerning corneal donation and transplant: a survey from izmir, turkey. *Exp Clin Transplant*, 2011; 9(2): 134-38. Erratum in: *Exp Clin Transplant*, 2011; 9(4): 286. Palamar Onay, Melis [corrected to Palamar, Melis].
4. Dhaliwal U. Enhancing eye donation rates; training students to be motivators. *Indian J Ophthalmol*, 2002; 50(3): 209-12.
5. Coster DJ. A century of corneal transplantation. *Clin Experiment Ophthalmol*, 2005; 33(6): 557-58
6. Essman C, Thornton J. Assessing medical student knowledge, attitudes and behaviors regarding organ donation. *Transplant Proc*, 2006; 38(9): 2745-750.
7. D' Alessandro AM, Peltier JW, Dahl AJ. A large-scale qualitative study of the potential use of social media by university students to increase awareness and support for organ donation. *Prog Transplant*, 2012; 22(2): 183-91.
8. Muraine M, Toubeau D, Menguy E, Brasseur G. Analysing the various obstacles to cornea postmortem procurement. *Br J Ophthalmol*, 2002; 86(8): 864-68.
9. Bharti MK, Reddy SC, Tajunisah I, Ali NA. Awareness and knowledge on eye donation among university students. *Med J Malaysia*, 2009; 64(1): 41-5.
10. Okoye OI, Maduka- Oka for FC, Eze BI. What does the medical student know about eye donation/corneal transplant? the university of nigeria scenario. *West Indian Med J*, 2010; 59(1): 41-4.
11. Gelaw Y, Ambaw F. Sociodemographic correlates of attitude towards corneal donation among health science students and academic staff of jimma univeristy. *Ethiop Med J*, 2010; 48(1): 41-7.
12. El-Shoubaki H, Bener A. Public knowledge and attitudes towards organ donation and transplantation: a cross-cultural study. *Transplant Proc*, 2005; 37(5): 1993-997.
13. Chen JX, Zhang TM, Lim FL . Current knowledge and attitudes about organ donation and transplantation among chinese university students. *Transplant Proc*, 2006; 38(9): 2761-765.
14. Kannan KA. Eye donation movement in india. *J Indian Med Assoc*, 1999; 97: 318-19.
15. Oliva MS, Schottman T, Gulati M. Turning the tide of corneal blindness. *Indian J Ophthalmol*, 2012; 60: 423-27.
17. Ramadoss A. National programme control blindness (NPCB)- India, 2004; 3(1).
18. Indian Public Health Standards (IPHS) for Community Health Centre (April 2005), Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India. ([www.nhm.gov.in/nhm/guidelines/indian-public-health-standards.html](http://www.nhm.gov.in/nhm/guidelines/indian-public-health-standards.html))
19. Park's Textbook of Preventive and Social Medicine, 21<sup>st</sup> edition, Banarsidas Bhanot Publishers, Jabalpur (MP), India.
20. Yadav Kumar Subodh, Patil S.B., Narasannavar Ashiwini B, Angolkar Mubashir. Knowledge and attitude regarding eye donation among undergraduate nursing students of belagavi city: a cross-sectional study. *International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS)*, 2015; 2(8): 17-23.
21. Ahirwar Kumar Rajesh, Shidhaye Pallavi R, Ekka Indu J, Saxena DM. Study of knowledge and willingness regarding eye donation among medical students of a tertiary care teaching hospital of central india. *International Journal of Community Medicine and Public Health*, 2016; 3(9): 2363-68.
22. Ikema Eze Boniface, Okoye Obiekwe, Ngozi Eze Joy. Knowledge and attitudes regarding eye donation and corneal transplant: medical versus non- medical university students in a developing country in africa. *Experimental and Clinical Transplantation*, 2014; 5: 454-61.
23. Gupta A, Jain S, Jain T, Gupta K. Awareness and perception regarding eye donation in students of a nursing college in bangalore. *Indian J Community Med*, 2004; 34(2): 122-25.
24. Singh MM, Rahi M, Pagare D, Ingle GK. Medical students perception on eye donation in delhi. *Indian J Ophthalmol*, 2007; 55(1): 49-53.
25. Rimjihim Kumari. Eye donation awareness among the students. *Asian Journal of Biomedical and Pharmaceutical Sciences*, 2016; 6(53): 37-8.
26. Eye Bank Association of India. Frequently Asked Questions. What is the Source for the Cornea? [online] [cited on 2012 Jan 20]
27. Aruna Gupta, Roopam Gupta. Awareness about eye bank and willingness for eye donation among medical students in western india- " Time to Educate Early". *NJMR,Jan-Mar,2015;5(1)*.
28. Sadana A, Sushma M, Lekha KC, Didala SR, Prabhu G, Reddy KK. Assessment of knowledge and attitude regarding eye donation among undergraduate medical students, Tirupati. *IJMPS*, 2014; 4(9): 16-24.
29. Shakuntala Jilpure. Assessment of awareness and willingness of eye donation among medical students in central india. *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, Jan 2017; 16 (1): 58-61.

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