

A Study on Awareness and Willingness of Eye Donation in Paramedical Workers in a Tertiary Care Centre of North India

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Abstract

It is observed that 12% of the world's blind population is affected by corneal blindness, a visual impairment that is amenable to treatment.^{2,3} Corneal transplantation remains the main-stay of treatment for restoring vision in such patients. Current corneal procurement rates are inadequate to meet transplantation needs in India. Thus proper health care education and awareness regarding eye donation is essential.

Aims: To study awareness and willingness of eye donation among paramedical workers.

Settings and Design: Cross-sectional study design.

Materials and Methods: One hundred paramedical workers were asked to answer a pretested semi-structured questionnaire in their own language. Questions were asked pertaining to demographic profile and assessment of awareness about eye donation.

Statistical Analysis Used: SPSS (Statistical Package for Social Sciences) version 15.0.

Results: The majority (96/100) of the paramedical staff were aware that eyes can be donated after death and only 65/100 respondents knew that the ideal time for eye donation was within 6 hours of death.

Conclusion: The paramedical staffs of any hospital are the backbone of the health care system and can play a

major role in motivating patients and their next of kin towards eye donation.

Keywords: Awareness, eye donation, paramedical staff.

Introduction:

The visual impairment study (2010) estimated that 285 million people are visually impaired, out of which 39 million people are blind.¹ Corneal blindness accounts for 12% of the world's blind and India accounts for the majority, thus making it a global priority.^{2,3} Corneal blindness is due to scarring or clouding of the normally transparent cornea. Usual causes are infection, Vitamin A deficiency and trauma. Keratoplasty or Corneal transplantation is the sight restoring surgery for corneal blindness. It is a surgical procedure where the damaged or diseased cornea is removed and replaced by a healthy cornea from a deceased donor. This surgery is presently totally dependent on eye donation after death. In spite of establishment of the hospital cornea recovery programme and modern eye banking models in India, the current cornea procurement rate in India is a dismal 22,000 per year.⁴ The annual requirement of corneas being 100,000 and utilization being only 40% (8800). To increase the procurement of corneas, raising the level of public awareness on eye donation is of utmost importance. Paramedical staffs of any hospital are the backbone of the health care system. They have an inherent inclination to

serve mankind. They spend relatively more time with critically-ill patients and hence can play a major role in sensitising them and their relatives to this important cause. Thus keeping this in mind a hospital based survey was conducted to assess the awareness about eye donation amongst paramedical staff using a questionnaire in an urban area of North India.

Aim: To study awareness and willingness of eye donation in Paramedical workers in a tertiary care centre of North India.

Setting and Design: Cross sectional study.

Material and Methods: This cross-sectional study was carried out in a tertiary health care hospital in North India from July 2017 to September 2017. One hundred paramedical workers including nursing staff, ward boys, optometrists, radiographers, OT technicians and physiotherapists were included in the study as they are more likely to come across critically ill patients and therefore potential donor patients and their attendants. Institutional ethics committee clearance was obtained before the start of the study. The nature of the study was explained to each participant and they were asked to answer a pre-tested semi structured questionnaire in Hindi. The questionnaire included questions pertaining to the demographic profile, age, sex, religion, marital status, educational qualification, occupation of the paramedical staff as well as their awareness about eye donation, willingness to donate eyes and reasons for wishing to donate or not donate eyes. The data was collected and analyzed using SPSS version 15.0.

Results

Sample description: Out of 100 paramedical workers, 60 were females and 40 were males. Out of 100 paramedicals, 45 were of age group 20-30 year, 25 were of 30-40 year, 17 were of 40-50 year and 13 were of age

group 50-60 year. 72 paramedical workers were graduates and 28 were post-graduates.

Response to questionnaire on eye donation:

1. Do you know that eyes can be donated after death?

96% paramedical workers knew that eyes can be donated after death, 1% said no and 3% said they don't know.

2. Do you know that one eye donor can provide vision upto six persons?

Only 42% of paramedical workers were aware about it while 58% were not aware about the fact.

3. Do you know that whole eyeball is removed?

65% of paramedical staff was aware that whole eyeball is removed while 35% were oblivious to it.

4. Do you know that only cornea is used for transplantation?

71% of paramedical workers were aware that only cornea can be used for transplantation while 29% responded no.

5. What is your source about eye donation? Television/ Radio/ Internet/ Advertisement in hospital/ newspapers/magazines/ friends?

39% knew about eye donation by television, 2% by radio, 9% by internet, 25% by advertisement in hospital, 5% by newspaper, 4% by magazines and 16% by friends.

6. Do you know that ideal time interval between death and enucleation is 6 hrs?

65% of workers were aware of ideal time interval between death and enucleation. While 35% didn't know about it.

7. Are there any contraindication for eye donation? Yes/No/Don't know

72% of staff knew about it, 13% responded no and 15% didn't know about it.

8. Do you know where donated eyes are stored? Yes/No

Only 68% knew about storage of donor eyes while 32% didn't know about it.

9. Can a person with DM/ HTN/ any other chronic illness can donate eyes? Yes/No/Don't know

69% said yes, 11% said no and 30% responded don't know.

10. Do you know that consent of relatives is required for eye donation? Yes/No/Don't know

56% said yes, 24% said no and 20% did not know about it.

11. Do you know a person who has donated his/her eyes?

35% knew a person who has donated his/her eyes while 65% did not know about such person.

12. Do you know someone who has received a donated eye?

Only 18% paramedical workers knew someone who has received a donor cornea.

13. Did anyone in your family/ relatives have donated eyes? Yes/No

Only 8% of their relative/family members have donated eyes.

14. Do you know there is an eye shortage in India? Yes/No

94% of paramedical staff were aware about it.

15. Are you willing to donate your eyes? Yes/No

72% were willing to donate their eyes while 28% were not.

16. Have you registered for eye donation? Yes/No

Only 14% had registered for eye donation while 86% did not get themselves registered.

Distribution of perceived reasons for donating eyes (n=72)

Reason	Number	Percentage
1. Eye donation is a noble work	60	83.1%

2. Pleasure to help blind people	52	71.14%
3. Donated eyes can give vision to blind	56	77.8%
4. Influenced after reading an article	2	2.8%
5. A friend/relative has donated eyes	3	4.1%
6. A friend/relative has received donated eyes	1	1.4%
7. Influenced by some lectures	8	11.5%

Distribution of reasons for not donating eyes (n=28)

Reason	Number	Percentage
1. Lack of awareness	14	50%
2. Objection by family members	16	57.3%
3. Feels body ill treated by eye donation	3	10.6%
4. Dislike of eyes separating from body	4	14.6%
5. Unsuitability to donate eyes because of age	-	-
6. Unsuitability to donate eyes because of health issues	-	-

7. Religious restrictions	22	78.3%
8. Signing eye donation card is like signing death certificate	4	14.6%

Discussion

The major causes of corneal blindness include trachoma, corneal ulcer following xerophthalmia and ophthalmia neonatorum.⁵ The other causes of corneal blindness worldwide include the use of toxic medications, Onchocerciasis and ocular trauma.⁶ While this is the global scenario, the National Program for Control of Blindness (NPCB) has estimated that a total of 120,000 people are affected by corneal blindness and every year, an additional 25,000- 30,000 cases of corneal blindness get added to this alarming number.⁷ Corneal transplantation to restore vision in the corneal blind patients remains the most common type of human transplant surgery.⁸ Although existing strategies to prevent corneal blindness may be more cost-effective, visual rehabilitation by corneal transplantation remains the major treatment for restoring vision in patients with corneal blindness.⁹ Hence, eye donation awareness amongst the general population becomes a matter of paramount importance, especially in a country like India. Vision restoration through corneal grafting is possible for a sizeable population of the corneal blind in India. It has led to a sustained multipronged drive to raise awareness of eye donation and thus corneal transplantation.¹⁰ India has a strong infrastructural readiness to rapidly scale its keratoplasty numbers.² However, a major obstacle for eye donation is the lack of awareness and a negative attitude in the general population.¹¹

Our study showed 96% paramedical staff had the knowledge of eye donation which was high and similar to another study conducted in India among hospital staff, where 97% of them had good to excellent knowledge about transplantation of various human organs.³ Similarly in a study conducted in Bangalore, India by Anita Gupta et al, 96.8% of the nursing students were aware that eyes can be donated after death.⁵ Out of paramedical staff, 65% knew that the ideal time for eye donation is within 6 hours of death, unlike the study conducted by Kelaver V et al, where only 32.10% of the medical students knew that the ideal time for eye donation is within 6 hours of death.¹² This being quite low in comparison to our study. However in a study on medical and non-medical students conducted at New Delhi, India observed that 79.6% of medical students knew that eyes can be donated after death and 63.3% knew that it should be collected within 6 hours.¹³ Thus the timing of eye donation is very important for optical purposes preventing underutilization of donated corneas.

In our study, the prime reason for donating eyes amongst majority, 60 out of 100 paramedical staff was giving sight to blind. In a study conducted in the Raichur district of Karnataka by Sameena Kokab et al, 48.50% paramedical staff wanted to donate eyes as a way to help the blind or for the noble cause¹⁴ and that by Gupta A et al 85.60% for nobility in the work and pleasure to help the blind by 77.50%.⁵ Thus proving that nobility in the act of eye donation was the main motivational force for eye donation.

In our study, 22% respondents believed that eye donation was against their religious beliefs and second most common reason being objection by family members. 39% of respondents attributed different forms of mass media as the major source of awareness on eye donation. In a study

among medical students, 87.8% of the respondents were willing to be eye donors and other studies found publicity campaigns and the media to be a major source of information on this issue.⁹

From our study a few observations regarding limitations to this noble cause were made like the subjects were not sure about whom to contact, the idea about concept of an eye bank, the entire process of collection of eye and their rights to give consent regarding the same following the death of a relative. Thus there is a great need to increase awareness among the paramedical staff regarding eye donation, as they are the backbone of our health care system. Education of the paramedical staff regarding the preventive and curative aspects of corneal blindness can act as a major source for spreading awareness about eye donation among their family and friends thus acting as important motivators. A lot is being done at the national and state level with the help of prominent personalities in films and media becoming ambassadors for this noble cause. But still, the efforts need to be continued at level of individual hospitals. This can be done by conducting public awareness lectures during the eye donation week and putting up posters and charts regarding eye donation in ICU's and wards. We would like to suggest making the option of eye donation a part of the death certificate so that it gives a chance to every individual to contribute to the noble cause of eye donation irrespective of the fact whether they have pledged to donate their eyes or not.

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