

Original Research Article

A study on knowledge regarding eye donation among first year nursing students of a nursing school and college of Berhampur, Odisha

Parsuram Jena¹, Dhaneswari Jena^{2*}, Monali Kar², Pravati Jena³, Ranjeeta Nayak²

¹Department of Medicine, SCB Medical College, Cuttack, Odisha, India

²Department of Community Medicine, ³School of nursing, MKCG Medical college, Berhampur, Odisha, India

Received: 05 September 2017

Accepted: 02 October 2017

*Correspondence:

Dr. Dhaneswari Jena,

E-mail: drdjena@rediffmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: In India bilateral corneal blindness constitute one percent of total blindness, With huge addition of cases of corneal blindness annually. Corneal transplantation offers the potential for sight restoration. The patients for corneal transplantation are growing due to insufficient number of eye donations in India. The gap between demand and supply is due to low awareness. Especially there is a need to study the knowledge of first line health counsellor in health facility where potential donors are available.

Methods: A cross-sectional study was conducted on May 2016 with 140 first year Nursing students to assess their perception towards eye donation. Data were expressed as proportions and percentages using SPSS 16.

Results: All participants knew about eye donation and 95.7% said these can be done irrespective of age and sex of the deceased. 55% students told HIV is a contraindication, 10% said that request for eye donations can be made by person himself alive or relatives after death. 15% knew that eye can be donated within six hours of death but none were aware regarding storage of donated eyes before transplantation. Only 2.1% of them heard about Hospital Corneal Retrieval Programme. Television (100%) was the main source of information. All of them personally supported eye donation.

Conclusions: The present study revealed that nursing students had heard about eye donation but knew less about the details of the procedure. They can contribute to awareness and motivating people for eye donation during their postings in various department in hospital.

Keywords: Corneal transplantation, Eye donation, Nursing student

INTRODUCTION

Globally blindness is a serious public health problem. Worldwide about 285 million people are visually impaired: 39 million people are blind and 246 million people have low vision and about 90% of world's blind live in developing nation.¹⁻⁴ Corneal diseases constitute a significant cause of visual impairment and blindness, especially in developing countries including India. Conventional approaches in India have focussed largely on age related cataract and refractive errors as they

constitute the major cause of avoidable blindness. 1% of total blindness in India is due to bilateral corneal blindness. Twenty- thousand new cases of corneal blindness are being added annually.⁴ Corneal transplantation offers the potential for sight restoration to those who are blind for corneal diseases. Though there is a high need for cornea transplantation, due to different factors availability donated eye is negligible in India. NPCB has undertaken initiatives to prevent corneal blindness and developed future action plan towards eye donation.⁴ Eye donation is an act of voluntary donation of

one's eyes after his/her death. Only corneal blindness can be benefitted from this process no other blindness. But there is a huge gap between demand and supply of cornea due to low awareness. According to the Eye Bank Association of India, the current cornea procurement rate in India is 22,000 per year. It is estimated that a significant proportion of donor corneas are unsuitable for corneal transplantation.⁵ Based upon our current ratio of available safe donor eyes, we would need 277,000 donor eyes to perform 100,000 corneal transplants in a year in India.⁶ Hospital Corneal Retrieval Programme is the major strategy for collection of donated eyes, which envisage motivation of relatives of terminally ill patients and accident victims to donate eyes.⁷

Therefore, this study was conducted to assess awareness, knowledge and attitude about this eye donation among nursing students of GNM training school and BSc Nursing college, Berhampur, Odisha who may be a major contributor for the program. This was undertaken because they are the future health care providers and hence can make a difference to the rate of eye donations by counselling the patients and their relatives being closer to them. Aim of the study is to assess the awareness and knowledge of eye donation among first year BSc and GNM nursing students.

METHODS

A cross-sectional study was conducted on May 2016 using a predesigned and pretested questionnaire with a sample size of 140 first year Nursing students (universal sampling). The questionnaire was self-administered for collecting the necessary information after obtaining informed consent. GNM training school and BSc college of nursing, Berhampur, Odisha. Approval from IEC was obtained before conducting the study.

Statistical methods

The students' responses to the questions were analysed using SPSS (version 16.) Data were expressed as proportions and percentages. In the study P value less than 0.05 was taken as a statistical significant.

RESULTS

Table 1: Socio demographic profile of study participants (n=140).

Age	≤ 19 yrs	>19 yrs
	71 %	29%
Residence	Rural	Urban
	78%	21%
Educational medium	English	Oriya (regional language)
	20%	80%
Religion	Hindu	Others (Christian, Muslim)
	92%	8%

Age of the students ranged from 17 to 22 years. The socio demographic profile of study participants were described in the Table 1. Most of them (71%) belongs to teen age group and from rural area (78%). 80% read in oriya medium school. Majority were Hindu (92%) and rest were Christian except one Muslim student (Table 1).

Awareness about eye donation among participants was described in Table 2. Responses to the questionnaire regarding awareness about eye donation indicates that all students had heard about organ and eye donation.95.7% of students were aware that eye donations can be done at any age. More than half (55%) of the students knew that HIV is a contraindication for eye donation whereas awareness regarding Hepatitis, Rabies and Other infections as contraindications were known to 40% , 20% and 35% of students respectively. 30% of them also believed accidents as a contraindication. Only 10% of the students could tell that request for eye donations can be made by both person himself alive and relatives after death (Table 2).

Table 2: Awareness about eye donation among participants (n= 140).

Awareness	*Number of responses	%
Awareness about organ donation		
Yes		
No	0	0
Awareness about eye donation		
Yes	140	100
No	0	0
Person eligible for eye donation		
Anybody	134	95.7
Children	02	1.4
People old	04	2.8
Who cannot donate eyes*		
HIV	77	55
Hepatitis	56	40
Other infection	49	35
Rabies	28	20
Accidents	42	30
Who can pledge for eye donation *		
Person himself alive	42	30
Relatives after death	49	35
Both above	14	10
Relatives before death	21	15
Do not know	140	100

*Multiple responses

Table 3 described the knowledge on eye donation among participants. Responses to the questionnaire regarding knowledge on eye donation indicates that only 10% of students knew that only cornea can be donated. 45% of students were aware that eye is removed by an eye specialist. 10% of participant told the cornea should be collected as soon as possible. 15% of them agreed that eye can be donated within six hours after death but none

were aware regarding the storage of donated eyes before transplantation. Only 2.1% of the students had heard about Hospital Corneal Retrieval Programme (Table 3).

Table 3: Knowledge on eye donation among participants (n= 140).

Knowledge	Number of responses	%
Regarding part of eye donated		
Whole eye ball	63	45
Black portion	14	10
black and white portion	42	30
Do not know	21	15
Person who can collect eye		
CDMO	07	05
Eye specialist	63	45
Medical officer	35	25
Social organization	14	10
Others (paramedics)	07	05
Do not know	14	10
Regarding ideal time for eye donation after death		
As soon as possible	10	7
Within 6 hours	21	15
Within 24 hrs	28	20
After 24 hours	14	10
Do not know	67	48
Regarding storage of donated eyes		
Yes	0	0
No	140	100
About hospital corneal retrieval program		
Yes	137	97.8
No	03	2.1

CDMO – Chief District Medical Officer

Table 4: Source of information on eye donation for participants (n=140).

Source	*Number of responses	%
Doctor	07	5
Friends and relatives	18	12.8
Magazines and newspapers	28	20
Pamphlets and posters	02	1.4
Radio	21	15
Television	140	100

*Multiple responses

Table 4 described the source of information on eye donation among participants. Information by mass media like TV (100%) was the main source of information, followed by Magazines and newspaper (20%) and radio (15%) whereas contribution by doctors was only 5%. Table 5 describes the opinion of students for eye donation. Only 2.8% of the students knew about other people who had donated their eyes. All of them

personally supported eye donation and 95% of them believed eye donation is a noble way to help others (Table 4), (Table 5).

Table 5: Participant’s opinion regarding eye donation (n=140).

	Number of responses	%
Aware about any eye donor		
Yes	4	2.8
No	136	97.1
Support of eye donation		
Yes	140	100
No	0	0
Causes of support to eye donation		
To help others	133	95
Religious causes	02	14
Other causes	05	35

DISCUSSION

The statistics on eye donation in India indicates that there is considerable and constantly growing backlog of cornea transplantation. Study shows only from 0.5% of all deaths (1.2 million deaths in 2013-14) eye were collected for transplantation. So, in the present scenario there is a need to enhance the awareness regarding eye donation among potential donors. Nursing students can directly communicate and counsel larger sections of the society that can contribute to enhancement of eye donations in India.

In a study conducted by Tiwari et al. in Gwalior district (MP) showed about 62% of the adult population were aware of eye donation as compared to 100% in this study. The higher percentage of awareness in this study might be due to the fact that all students joined nursing course after passing +2 Science and so had a scientific background.⁸

Another study conducted by Mishra et al. found that though awareness among nursing student was 95.6% but only 40% knew that eyes can be donated within six hours as compared to this study in which the awareness on eye donation was 100% but only 15% of them knew the actual time within which eyes can be donated.⁹ Yadav et al. et.al in a cross-sectional study observed that more than half (58.5%) of nursing students knew that only cornea can be donated which was just found to be 10% in the current study.¹⁰ The present study was conducted in the early professional years of nursing students which might be the reason behind such low knowledge regarding timing of eye donation and the part of eye that can be donated.

According to Gawali et al, majority of Ist year medical students knew that eye can be removed by an eye specialists which found to be only 45% in this study. It

also found that 77% of the students did not know that donated eyes can be stored before transplantation. However, this study shows complete ignorance of nursing students in this regard.¹¹

Most common source of information regarding eye donation according to study by Gupta et al was Television (77.1%) followed by Newspaper (72.8%) and magazines (50%).¹² This study found Television (100%) as the sole major source of information regarding eye donation among the nursing students. As per a case-control study conducted by Dhaliwal et al. non-medical students were poorly informed about various aspects of eye donation as compared to medical students.¹³ This focuses on the fact that professionals associated with the medical field especially nursing students with proper knowledge on eye donation can contribute to its enhancement by motivating relatives during grief counselling after patients' death.

The present study revealed that nursing students heard about eye donation but knew less about the details of eye donation like eligibility for donation, time of collection, procedure, storage of donated eye. Most of them had inclined to pledge for eye donation. The nursing students could be actively involved as volunteers in eye donation campaigns and can also act as counsellors for eye donation. They can also contribute by participating in creating awareness and motivating people for eye donation during their postings in various departments. Therefore, it is recommended that present day curriculum of the nursing courses should be revised so that they get good understanding about eye donation and develop positive attitude to become role model prior to go to actual profession. Also, they should be properly trained in counselling techniques so that they can act as counsellor.

ACKNOWLEDGEMENTS

Authors would like to thank all study participants for their valuable time.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. WHO. Fact sheet: Blindness and Visual Impairment, Global facts. Available at <http://www.iapb.org>

2. Global Data on visual Impairment 2010. Available at <http://www.who.int/>
3. Gupta N, Tandon R, Gupta SK, Sreenivas V, Vashist P. Burden of corneal blindness in India. *Indian J Community Med.* 2013;38:198-206.
4. Managing Corneal Blindness. NPCB INDIA Newsletter. Available at <http://www.npcb.nic.in>
5. Dandona R, Dandona L, Naduvilath TJ, McCarty CA, Rao GN. Awareness of eye donation in an urban population in India. *Aust N Z J Ophthalmol.* 1999;27:166-9.
6. Saini JS. Realistic Targets and Strategies in Eye Banking. *Indian J Ophthalmol.* 1997;45:141-2.
7. National blindness control program. Park K, Text book of Preventive and Social Medicine, 23rd ed. Jabalpur: Banarasisdas Bhanot; 2015:439.
8. Tiwari R, Diwakar A, Marskole, L, Danish A. A study to assess awareness on eye donation and willingness to pledge eyes for donation in adult population in Gwalior district (M.P). India. *Int J Res Med Sci.* 2014;2(2):662-6.
9. Mishra PK, Anurag, Luthra M. Awareness and Perception Regarding Eye Donation In Students Of A Nursing College In Dehradun Hill City. *Indian J. Prev. Soc. Med.* 2012;43:3.
10. Yadav SK, Patil SB, Narasannavar AB, Angolkar M. Knowledge And Attitude Regarding Eye Donation Among Undergraduate Nursing Students Of Belagavi City:A Cross-Sectional Study. *IJIMS* 2015;2(8):17-23.
11. Gawali A, Dase R, Pawar K, Quadri U. Awareness and Knowledge Regarding Eye Donation in Students of Medical Colleges in Aurangabad. *IJCMAS.* 2014;2(1):09-13.
12. Gupta A, Jain S, Jain T, Karan G. Awareness and Perception Regarding Eye Donation in Students of a Nursing College in Bangalore. *Indian J Community Med.* 2009;34(2):122-5.
13. Dhaliwal U. Enhancing eye donation rates, Training students to be motivators. *Indian J Ophthalmol.* 2002;50:209-12.

Cite this article as: Jena P, Jena D, Kar M, Jena P, Nayak R. A study on knowledge regarding eye donation among first year nursing students of a nursing school and college of Berhampur, Odisha. *Int J Res Med Sci* 2017;5:4942-5.