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RESEARCH ARTICLE

Knowledge and Attitude towards Eye donation among Adolescents of a Nursing Institute in Mangalore.

Dr (Prof) Fatima D'silva

Principal and Professor, Department of Medical-Surgical Nursing, Nitte Usha Institute of Nursing Sciences, Nitte University, Mangalore, Karnataka.

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*Corresponding Author

Dr (Prof) Fatima D'silva

Abstract

Objective: This co relational study with an evaluative approach aimed to explore the knowledge and attitude of nursing students regarding eye donation and determine the relationship between these variables.

Methods: 300 nursing students pursuing their baccalearate and diploma formed the study samples. Purposive sampling techniques was utilised for the selection of the subjects. Knowledge was assessed with the help of structured questionnaire comprising of 30 items and the attitude was assessed using a 5 point Likert scale comprising of 12 items. Reliability of the tools was tested using Cronbach's Alpha and was found to be 0.763 and 0.798 respectively.

Results: Majority 239(79.7%) of the student nurses had 'Average' knowledge, 53(17.7%) had 'Poor' knowledge and 8(2.7%) had 'Good' knowledge regarding eye donation. 271(90.3%) of the nursing students knew the meaning of eye donation, but 247(82.3%) were ignorant of the year in which eye bank was started. Though they were health professionals, majority of the student nurses 186(62%) had 'Neutral' attitude, 78(26%) had 'Positive' attitude and 36(12%) had 'Negative' attitude regarding eye donation. Majority 205(68.3 %) had negative attitude that eye donation does not improve life in the community, 198(68%) felt that eye donation does not save life 95(31.5%) had neutral attitude that eye donation is consistent with moral beliefs and only 98(32.7%) had positive attitude that nurses have right to talk about eye donation with patients and attenders and 89(29.7%) felt that eye donation does not insult human right and dignity. There was a significant positive relationship between knowledge and attitude of nursing students regarding eye donation ($r=0.444$, $p=0.001$).

Conclusion: Our findings have revealed lack of knowledge of student nurses towards eye donation, and enhanced knowledge can thus positively influence the attitude and perception of individuals

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INTRODUCTION

Corneal diseases are a significant cause of visual impairment and blindness in the developing world. The major contributing factors of corneal blindness include trachoma, corneal ulceration due to vitamin A deficiency, ophthalmia neonatrum, and the use of harmful traditional medicines, onchocerciasis, leprosy, and ocular trauma. ¹⁻³

The prevalence of blindness in the Indian state has increased from 1.5% in the late 1980s to 1.84 % currently, as against the target of the National program for control of blindness to reduce the prevalence to 0.3% by 2000. The number of people with cataract related blindness has not reduced even with eye care policy focus on cataract. Reduction of

blindness in India will require strategies that are more effective than those that have been pursued so far.⁴ Approximately 18.7 million people are blind in India and 190,000 are blind from bilateral corneal disease.⁵ Every year, another 20,000 join the list.⁶

Life is a dynamic process, undergoing several changes due to the impact of diseases and problems. During the course many organs get affected like the kidneys, lungs, pancreas, eyes, etc. And thus organ transplantation becomes a viable option for patient with end stage organ failure. Worldwide organ transplantation saves thousands of lives. Yet organ shortages are a global problem; especially in Asia compared to the rest of the world. Though there is an annual requirement of 75,000 to 1, 00,000 corneas, according to the Eye Bank Association of India, the current cornea procurement rate in India is only 22,000 per year. The current organ donation for cadaver in India is 0.08 per million, while Spain tops the 3 list with 35 per million. Moreover according to the Union Health Ministry only 30% of donated eyes are used for treatment of corneal blindness.⁹

Lack of awareness along with myths and misconceptions add to the low percentage of organ donation.³ Reviews have revealed lack of knowledge and negative attitude regarding organ donation amongst health professionals.⁷ As health professionals play a significant role in organ donation and procurement process due to their scientific temperament and close contact with the community the present study intended to bridge this gap and create awareness among health professionals especially nurses as they are prime care givers of health care services.

Methods

Study design

A co relational descriptive study design was undertaken. 300 nursing students pursuing their second, third and fourth year of baccalaureate nursing program and second and third year of diploma nursing program formed the study samples. The study was conducted between January-April 2015.

Study setting

The study was conducted in a reputed nursing college which is a constituent college of a Deemed University in Mangalore. The student strength was 371 for baccalaureate nursing program and 120 for diploma nursing program.

Data collection procedure

The study was approved by the Central Ethics committee of the University. Purposive sampling technique was found appropriate for the selection of the subjects. Participants who gave their informed consent were enrolled in the study. The student nurses were explained the purpose of the study and a structured knowledge questionnaire and a 5 point Likert scale was administered to all the students at the same time to assess their knowledge as well as attitude regarding eye donation.

Data collection instruments

The structured knowledge questionnaire consisted of 30 items. All the questions were multiple choice questions. Each multiple choice had 4 options, with only one correct answer. A score value of '1' was allotted to every correct answer and the wrong answer as '0', the maximum score being 30.

An arbitrary classification of knowledge score was done which was as follows:

Good: 21-30

Average: 11-20

Poor: 1-10

A 5" point rating scale with 12 items to assess the attitude of nursing students regarding eye donation was prepared. The tool consisted of both positive and negatively worded statements.

A response of 'Strongly Agree' was given a score of 5, 'Agree' a score of 4, 'Neutral' a score of 3, 'Disagree' a score of 2 and 'Strongly Disagree' a score of '1'.

An arbitrary classification of rating scale to assess the attitude of nursing students regarding eye donation score was done which was as follows:

Good: 51-60

Average: 40-50

Poor: <40

The constructed tools were given to 5 experts for content validity with the blue print and the Content validity index(CVI) was 0.95..The reliability of the tools was tested using Cronbach's Alpha and was found to be 0.763 for the knowledge questionnaire and 0.798 for the 5 point Likert scale.

Data analysis plan

The questionnaire and the Likert scale were manually sorted and analyzed using SPSS statistical software, version 16. The validity of the data collected was ensured by random checks for errors. Relevant frequency distribution tables and summary measures were generated. The chi-square test was used to demonstrate relationships between categorical variables, and the level of significance was set at $p < 0.05$, and a 95% confidence interval (95% CI), for all inferential analyses.

Results

The data collected was organized, tabulated, analyzed and interpreted by using descriptive and inferential statistics. Findings were presented in following sections:

Section1: Assessment of level of knowledge of nursing students on eye donation.

Table 1a describes the level of knowledge of 300 student nurses assessed through a structured 30 item scale questionnaire.

TABLE1a: Frequency distribution of and subjects based on their responses to the Structured knowledge questionnaire

		n=300	
SL.No.	Item	Correct response f	%
1.	What do you mean by eye donation?	271	90.3
2.	What should be the age of eye donation?	144	48
3.	What is corneal blindness?	148	49.3
4.	Which part of the eye is transplanted after donation?	164	54.7
5.	How the eye donor should be?	254	84.7
6.	Which is not an indication of corneal transplantation?	162	54
7.	Can a person who has undergone cataract operation still donate eyes?	180	60
8.	If you are a donor what kind of tests do they conduct on your body?	227	75.7
9.	What is the abbreviation of DMEK?	156	52
10.	Does eye donation delay the funeral process?	136	45.3
11.	Does the body need to be shifted to the hospital for eye donation?	79	26.3
12.	Does removing the eye disfigure the face of deceased?	151	50.3
13.	What to do in the event of a death?	163	54.3
14.	What is meant by pledging the eyes?	156	52
15.	Where was the first eye bank established in India?	106	35.3
16.	What is the ideal time to donate the eye?	139	46.3
17.	For what the eye bank is responsible?	177	59
18.	What is the successful rate of Corneal transplantation?	85	28.3
19.	Which is the preservative media of Cornea?	92	30.7
20.	How long the donated cornea can be stored?	88	29.3
21.	What is the abbreviation of EBAI?	171	57
22.	Is there any cost incurred to family for eye donation?	170	56.7
23.	What is the duration of eye removal?	63	21
24.	What is used to examine the endothelial cell density of the cornea?	57	19
25.	What is the name of eye removal process?	76	25.3
26.	In which year eye bank was started?	53	17.7
27.	How many people are blind in India?	105	35
28.	What is the common cause of corneal blindness?	225	75
29.	Consent process for eye donation is done by whom?	120	40
30.	Can a person who wears glasses donate eyes?	97	32.3

Table1 above depicts the following findings:

Majority 271(90.3%) nursing students knew the meaning of eye donation, but only 63(21%) were aware of the duration for eye removal. Less than 50% of the student nurses responded correctly to the following questions about eye donation.

- What should be the age of eye donation?
- What is corneal blindness?
- Does eye donation delay the funeral process?
- Does the body need to be shifted to the hospital for eye donation?
- Where was the first eye bank established in India?
- What is the ideal time to donate the eye?
- What is the successful rate of corneal transplantation?
- What is the preservative media of cornea?
- How long the donated cornea can be stored?
- What is the duration of eye removal?
- What is used to examine the endothelial cell density of the cornea?
- What is the name of eye removal process?
- In which year eye bank was started?
- How many people are blind in India?
- Consent process for eye donation is done by whom?
- Can a person who wears glasses donate eyes?

Fig.1below depicts the level of knowledge of nursing students regarding eye donation

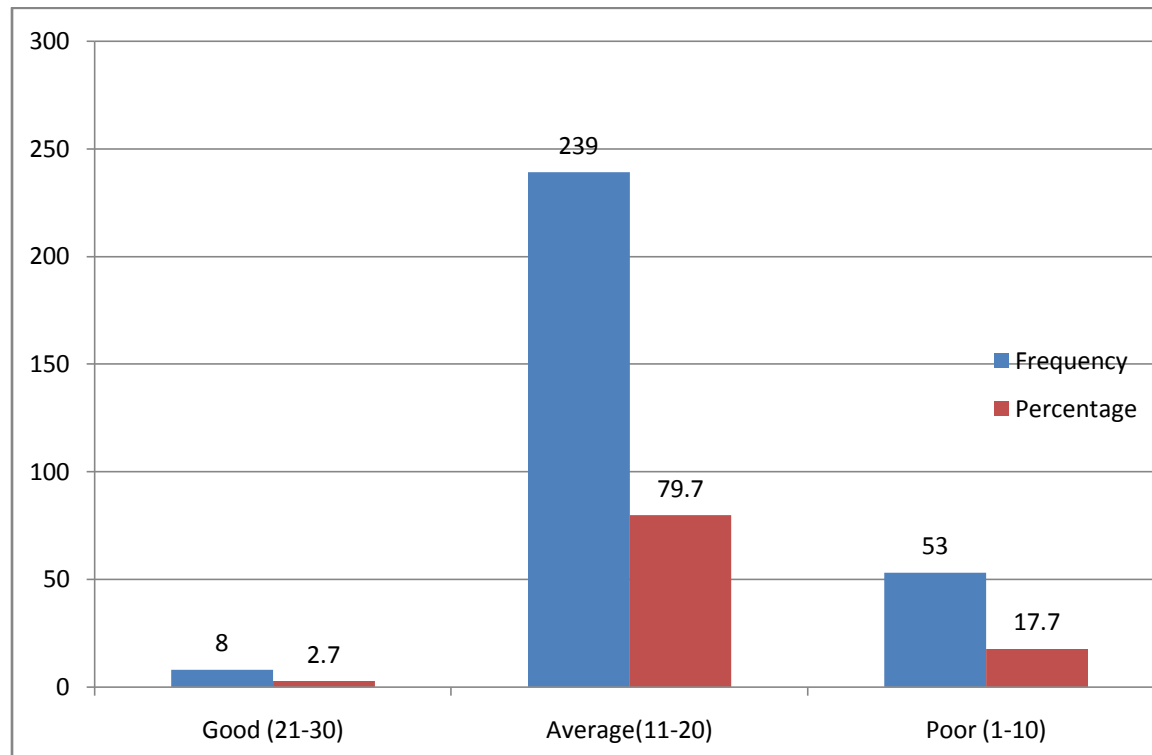


Fig 1- LEVEL OF KNOWLEDGE OF NURSING STUDENTS REGARDING EYE DONATION

Section2: Assessment of level of attitude of nursing students on eye donation.

Fig 2 below depicts the attitude of student nurses towards eye donation. Majority 186 (62%) had neutral attitude while 78(26%) had positive attitude. But it is astonishing to note that being health professionals quite a few number of the student nurses 36(12%) had negative attitude towards eye donation.

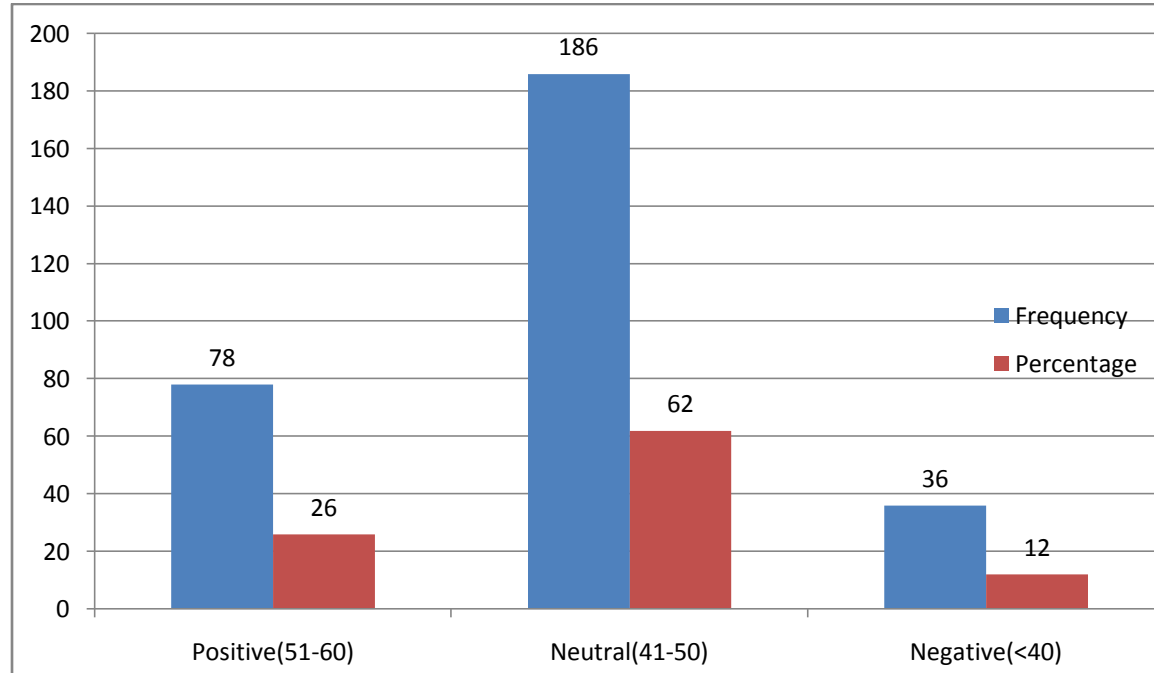


Fig 2- Level of attitude of nursing students regarding eye donation

Section3: Relationship between knowledge and attitude of nursing students regarding eye donation.

Table 2 below depicts the mean knowledge and attitude scores of student nurses towards eye donation and **Table 3**

below depicts the relationship between these two dependent variables

TABLE 2: Mean Knowledge and Attitude score of nursing students on Eye donation

n=300

AREA	MINIMUM SCORE	MAXIMUM SCORE	MEAN SCORE	STANDARD DEVIATION
Knowledge	3	24	14.05	3.719
Attitude	31	60	47.066	5.368

TABLE 3: Coefficient of correlation between Knowledge and Attitude

n=300		
Variables	r-value	p-value
Knowledge	0.444	0.001, $p < 0.05^*$
Attitude		

*Correlation is significant at 0.05 level.

Karl Pearson's coefficient of correlation in Table 3 above depicts a positive significant relationship between knowledge and attitude ($r = 0.444$, $p < 0.05$). Thus attitude can be changed if there is change in the level of knowledge.

Discussion

The present study revealed that majority 239(79.7%) of the nursing students had 'Average' knowledge, 53(17.7%) had 'Poor' knowledge and 8(2.7%) had 'Good' knowledge regarding eye donation. Majority 271(90.3%) of the nursing students knew the meaning of eye donation, but 247(82.3%) were ignorant of the year in which eye bank was started and 139(46.3%) knew the ideal time to donate the eyes. These findings were similar to a cross-sectional study conducted to study the awareness and knowledge of medical, paramedical and nursing students towards eye donation in 2014 at Bhopal. Out of 400 students who participated in this study, 98% were aware about eye donation but less than half of them 46.75% were willing to donate their eyes. Majority of the students 94% did not know about any eye bank in India and only 39.7% of students knew that eye should be removed within 6 hours of death. A remarkable number of students 68.5% felt it necessary to obtain the consent of family members before pledging eyes. (Sanjeev Kumar et al;2012) Another cross-sectional study conducted at Kadapa in 2011 among 200 undergraduate medical students also showed that they were aware of eye donation but the knowledge regarding the place of eye donation, time limit to collect cornea, storage, consent, age limit, contraindications, whom to contact were still not known clearly. (M Phani Kumar and B Sidda Naik, 2013)

The results of both the above studies reveal that although awareness regarding eye donation is high, there is lack of knowledge and motivation related to eye donation. Similar findings were revealed in a study conducted in Bangalore where majority 96.8% of students knew that eyes can be donated after death but only 38.2% knew the ideal time of donation of eyes was within 6 hours of death. (A Gupta et al;2009)

The present study showed that majority 186(62%) nursing students had 'Neutral' attitude, 78(26%) had 'Positive' attitude and 36(12%) had 'Negative' attitude regarding eye donation. Majority 205(68.3 %) nursing students had negative attitude that eye donation does not improve life in the community, 95(31.5%) had neutral attitude that eye

donation is consistent with moral beliefs and 98(32.7%) had positive attitude that nurses have right to talk about eye donation with patients and attenders. Contrary to the study, a study conducted by Simon George and Prashob Mohan revealed that out of 557 subjects, 546 subjects (98%) felt that eye donation should be promoted. However only 393 subjects (70.6%) were willing to donate their eyes or had already pledged their eyes. The major reason to donate eyes was the desire to help the visually challenged (85.5%). 48.2% of those who were unwilling to donate eyes believed that body would be disfigured following eye donation. Two other reviews have also revealed positive attitude towards eye donation. (Manjunath S et al; 2012 and Abuksis et al; 2003) In one of the reviews Religion was a contributing factor for a negative decision to donate organs. (Abuksis et al; 2003)

In the present study there was a positive relationship between the knowledge and attitude of nursing students ($r = 0.444$, $p = 0.001$). Another supportive co relational study was conducted in Mangalore to assess the relationship between knowledge and attitude regarding eye donation among the 100 adolescents from Yenepoya Pre-University, Mangalore, India. The findings of the study showed that there was a positive co-relation between knowledge and attitude among adolescents. (Heyke MC et al; 2014) In one of the reviews age, gender, marital status, and education were not significantly associated with attitude toward donation. (Abuksis et al; 2003)

Conclusion

The present study revealed the current knowledge and attitude of student nurses regarding eye donation. Majority of the student nurses had average knowledge and a neutral attitude towards eye donation. Hence being primary care givers to patients, creating awareness on eye donation can play a significant role in bringing a positive outlook towards eye donation. Nurse Managers can organize seminars and in-services education to nurses regarding eye donation and its new approach and thus play a vital role in providing comfort, satisfaction and meeting requirements of all needs of person with corneal blindness.

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Author contributions

The author has contributed to the design of the study and the preparation and critical revision of the manuscript, and agrees to be accountable for all aspects of the study.

Disclosure

The findings from this study are those of the author and do not reflect the views of the funding body .The author reports no other conflicts of interest in this work.

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