

ORIGINAL RESEARCH ARTICLE

KNOWLEDGE AND ATTITUDE TOWARDS EYE DONATION AMONG BACHELOR OF NURSING STUDENTS

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ABSTRACT

Background: Corneal blindness, the second major cause of blindness in Nepal, can only be treated by corneal transplants which required an eye donor. The rate of eye donation can be increased by increasing knowledge and awareness programs among all peoples. The purpose of this study is to assess the knowledge and attitude among Bachelor students of Nursing.

Methods: An analytical cross-sectional study was conducted among 153 Bachelor of Nursing Students in Bharatpur using probability sampling technique. Data was collected by using self-administered questionnaire. Data was entered and analysis using SPSS-16. Data was analyzed by using descriptive and inferential statistical tools. P-value less than 0.05 was considered as statistically significant.

Results: Among the 153 students more than two thirds of the students 121(79.1%) were in the age group of 21-25 years and most of the students were from B.Sc Nursing 97(63.4%). More than half 91(59.5%) had good knowledge and more than half of the students 78(51%) have a good attitude regarding eye donation. Knowledge regarding eye donation and level of education found to be statistically significant(p=0.01).

Conclusions: This study concluded that more than half of the students had good knowledge and around half of students had a good attitude regarding eye donation. Hence, educating this framework to sensitize them toward the need for eye donation would be an imperative step toward reducing the global burden of corneal blindness.

INTRODUCTION

Corneal disease-related vision loss remains an important cause of many people turned into the dark due to the blindness. Although the services of corneal transplantation depend on several factors and availability of potential donors but due to lack of awareness, social or religious reserves cause less number of eligible donors.¹ Eye donation is charity purely for the benefit of the society and totally voluntary act of donating one's eyes after death by which corneal blinds get benefited. Hence people should be encouraged to pledge and donate their eye which will help to biomedical and clinician scientists for working to reduce the blindness through the corneal transplantation.² Here about 1.7% of the total blind in Nepal is corneal blindness due to the damage of cornea. About 2.8% (11,000) of Nepal's 28.5 million population (government projection for 2016) had regained their sight after the corneal transplants so far.³ A study conducted at Kathmandu, Nepal indicates that there was inadequate knowledge among 63.7% of medical students and only 37.4% had positive attitude towards

eye donation.⁴ Similarly a study conducted at eastern Nepal found that 60.5% of health worker had average knowledge regarding eye donation.⁵ Nowadays, there is increase in demand of the eye donors for the corneal transplantation and this type of study is not done among the Nursing students in Nepal, so the researcher would like to assess the knowledge and attitude regarding eye donation. The purpose of this study was to assess the knowledge and attitude among Bachelor students of Nursing.

METHODS

An analytical cross-sectional study was conducted among Bachelor in Nursing Science (BNS) and Bachelor of Science in Nursing (BSc Nursing) during the 22nd August to 3rd September 2021. Sample size was calculated by taking the prevalence as 60.9% from the study conducted by Chowdhury RK et. al.⁶ By taking this as prevalence and with a 5% level of significance (The z-score value at 95% Confidence interval is 1.96), with 5% margin of error and 10% nonresponse error

the optimal sample size of this study was 224. Sample size was determined by using the formula $(n) = \frac{Z^2pq}{e^2 + (Z^2pq/N)} = \frac{(1.96*1.96*0.601*0.391)}{(0.05*0.05) + \{(1.96*1.96*0.601*0.391)/224\}} = 153$. Before the main study to check the reliability and validity of the questionnaire among Nursing students a pretesting was done among (10% of the total sample size). Cronbach's alpha was calculated, its value was 0.776. Also, after the consultation with research experts, research advisors, and ophthalmologists, the questionnaire was modified and then finalized. Then, the well-structured questionnaire was sent via Google form among Nursing students of two college. Ethical approval was taken and also formal written approval was obtained from the concerned authority of both colleges. During data collection, consent was attached along with the online form. Those participants who did not give consent in online were not included in this research. In order to maintain the confidentiality of information, data were coded with serial numbers and raw information was used only for this research purpose. The collected data were checked for completeness and coded. Data analysis was done using SPSS-16 software. Categorical variables were presented in the form of tables with frequency and percentage. To find the overall level of knowledge, all the raw score was added and mean value was calculated. If the score is more than mean score (10.9) they are taken as good knowledge and below the mean score was taken as poor knowledge. Similarly, the overall attitude score, above mean score (56) was taken as good attitude, and below mean score (56) taken as poor attitude.⁶ Knowledge regarding eye donation and level of attitude with their socio-demographic variables was considered as statistically significant using chi-square test with P-value <0.05.

RESULTS

Out of 153 nursing students participated in this study, majority 121(79%) were from age group of 21-25 years where 41% were from the 3rd year and 63% of students were from BSc. Nursing.

Table 1: Students' sociodemographic characteristics n=153

Characteristics	Frequency (%)
Age (in years)	
16-20	13(9)
21-25	121(79)
>25	19(12)
Marital Status	
Married	27(18)
Unmarried	126(82)
Religion	
Hindu	139(91)
Buddhist	14(9)
Institution	
Shree Medical and Technical College	102(67)
College of Medical Sciences- Teaching Hospital	51(33)
Educational Status	
BSc. Nursing	97(63)
BNS	56(37)
Level of education	
2 nd Year	51(33)
3 rd Year	62(46)
4 th Year	40(26)
Area of residence	
Urban area	142(93)
Rural area	11(7)

Table 2: Students' correct responses to the knowledge items regarding eye donation

n = 153

Item wise distribution	Correct Response	Frequency (%)
Meaning of eye donation	Act of donating one's eye after his/her death	101 (66)
Removing part of eye	Corneoscleral	110 (72)
Ideal time for eye donation after death	Within 6 hours	65 (43)
Time duration to remove eye from donor	20-30 minutes	65 (43)
Age criteria for eye donation	People of any age	143 (94)
People with disease condition can donate their eye	Person with asthma	128 (84)
Process of receiving eye donation	Cornea Transplant	124 (81)
Receiver for eye donation	Person with cornea blindness	131 (86)
Preservation of donated eye	Refrigerated at 2-4°C	46 (30)
Preservation media of cornea	Cornisol	74 (48)
Donated eye kept up to	Upto 2 weeks	64 (42)
Donor figure after removing of cornea	Donors face will not be affected	97 (63)
Document required from donor	Consent	127 (83)
Removing blood from donor	For the screening of the blood-borne infection	61 (40)
Precautions taken after death of a donor	Raise the head of the deceased by six inches if possible	70 (46)

It evident from Table no 2, out of 153 students, 94 % know age criteria for eye donation and 66% of students said an eye donation is an act of donating one's eye after his/her death. Likewise, 94% eye can be donate by people of any age and 81% know about the process of receiving donated eye. Similarly, knowledge about eye can donate by people with asthma was

84% and only 63 % know that donor's face will not be affected after removing the cornea from the donor.

Table 3 summarizes the students' attitude regarding eye donation. Among 153 nursing students, 60% of students strongly agreed that the eye can be donated after death and

35% of students agree that only corneal blindness benefit from eye donation. More than two third of students 71% strongly agree with knowledge and awareness regarding eye donation

is important but only 55% students strongly disagree that eye donation leads to blindness in the next birth but only 36% of students disagreed that eyes can be bought and sold.

Table 3: Students' correct responses to the attitude items regarding eye donation

n=153

Statement	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Eye can be donated after death	92 (60%)	48 (31%)	7 (5%)	5 (3%)	1 (1%)
Eye donation benefits only for corneal blind	30 (20%)	53 (35%)	45 (29%)	22 (14%)	3 (2%)
Anyone can be a donor irrespective of age, sex, blood group, or religion	59 (39%)	65 (42%)	17 (11%)	9 (6%)	3 (2%)
Eye donation is noble work and totally voluntary.	63 (41%)	59 (39%)	25 (16%)	5 (3%)	1 (1%)
Knowledge and awareness regarding eye donation are important.	108 (71%)	34 (22%)	10 (6%)	1 (1%)	-
Person who has been treated or operated of eye disease can donate an eye if the cornea is normal	30 (20%)	63 (42%)	47 (31%)	11 (7%)	2 (1%)
The whole eye is removed from the donor.	3 (2%)	13 (9%)	29 (19%)	68 (44%)	40 (26%)
The eye can be bought and sold	6 (4%)	22 (14%)	24 (16%)	55 (36%)	46 (30%)
Person wearing spectacles or glasses cannot donate eyes	3 (2%)	20 (13%)	51 (33%)	56 (37%)	23 (15%)
Donation of eyes leads to blindness in the next birth	3 (2%)	11 (7%)	14 (9%)	41 (27%)	84 (55%)

Table 4 shows the association between the level of attitude regarding eye donation among the students with their selected demographic variables. This shows that there is

association between level of knowledge with level of education (p-value>0.05).

Table 4: Association between level of knowledge regarding eye donation among the students with their selected demographic variables

n=153

Socio-demographic variables	Level of Knowledge		Chi-square	p-value
	Good	Poor		
Age (in years)				
16-20	5 (38.5)	8 (61.5)	2.631	0.268
21-25	74 (61.2)	47 (38.8)		
>25	12 (63.2)	7 (36.8)		
Religion				
Hindu	83 (60.1)	55 (39.9)	3.219	0.359
Buddhist	8 (66.7)	6 (33.3)		
Educational status				
BSc Nursing	54 (55.7)	43 (44.3)	1.594	0.207
BNS	37 (66.1)	19 (33.9)		
Level of education				
2nd year	15 (70.6)	15 (29.4)	9.21	0.01
3rd year	39 (62.9)	23 (37.1)		
4th year	16(40.0)	24 (60.0)		
Marital Status				
Married	14 (51.9)	13 (48.1)	0.791	0.374
Unmarried	77 (61.1)	49 (38.9)		
Area of residence				
Urban area	87 (61.3)	55 (38.7)	2.627	0.105
Rural area	4 (36.4)	7 (63.6)		

*Significant at $p \leq 0.05$

Table 5 shows the association between the level of attitude regarding eye donation among the students with their selected demographic variables. This shows that there is no association

between level of attitude with selected sociodemographic variables (p-value>0.05).

Table 5: Association between the level of attitude regarding eye donation among the students with their selected demographic variables
n=153

Socio-demographic variables	Level of Attitude		Chi-square	p-value
	Good	Poor		
Age (in years)				
16-20	4 (30.8)	9 (69.2)	3.256	0.196
21-25	62 (51.2)	59 (48.8)		
>25	12 (63.2)	7 (36.8)		
Religion				
Hindu	75 (54)	64 (46)	5.623	0.131
Buddhist	4 (25)	10 (75)		
Educational status				
BSc Nursing	46 (47.4)	51 (52.6)	1.342	0.247
BNS	32 (57.1)	24 (42.9)		
Level of education				
2nd year	27 (52.9)	24 (47.1)	1.599	0.45
3rd year	34 (54.8)	28 (45.2)		
4th year	17 (42.5)	23 (57.5)		
Marital Status				
Married	11 (40.7)	16 (59.3)	1.376	0.241
Unmarried	67 (53.2)	59 (46.8)		
Area of residence				
Urban area	74 (52.1)	68 (47.9)	1.013	0.314
Rural area	4 (36.4)	7 (63.6)		

*Significant at $p \leq 0.05$ level

Table 6 shows the correlation between knowledge and attitude score regarding eye donation among the students. This shows that the level of knowledge is correlated with the level of attitude (p -value >0.05).

Table 6: Correlation between knowledge and attitude score
n=153

Variable	Correlation	p-value
Knowledge	0.439	<0.001
Attitude		

*Significant at $p \leq 0.05$ level

DISCUSSION

In this study, the demographic assessment of the 153 students revealed that the most 79% of students were in age group of 21-25 years, 12% were in age group above age 25 and least 9% of them were in age group of 16-20. A similar study conducted by Bugis et.al revealed that the majority 46% of the participants were in the age group of 21-29 years.⁷ Regarding the level of education, most 41% of participants were from 3rd year, 33% were from 2nd year, and the least 26% of the participants were from 4th year. Like, that study conducted by Hameed et. al where the majority of 40% of participants were from 3rd year, 33% were from 2nd year and the least 26% of the participants were from 4th year⁸ and Sultan Abdulaziz Alzuhairy et.al conducted a study reveals that majority 46% of participants were from 3rd year, 34% were from 2nd year and the least 20% of the participants were from 4th year.⁹

Knowledge of eye donation is important for nursing students, 59.5% of students who had a good level of knowledge was supported by a study conducted by Hussein et al which revealed that more than half 59.4% had an average level of knowledge, 32.2% of the respondents had a low level of knowledge, and few of them 8.4% had a good level of knowledge.¹⁰ Similarly, the study conducted by Maharjan et. al depicted that 34.6% of respondents had poor knowledge and 61.5% of them had moderate knowledge and 3.9% of them had good knowledge regarding eye donation.¹¹

Half 51% of the students had a good attitude regarding eye donation while 49% had a poor attitude which is supported by the study conducted by Hussein et al. reveals that more than half 59.1% of the participants had a good attitude and 40.9% had poor attitude regarding eye donation whereas in the study conducted by Ratna Kumari Maharjan et. al depicted that 53.3% of respondents had a positive attitude and 46.7% of them had negative attitude regarding eye donation.^{10,11} Similarly, attitude regarding eye donation is supported by a study conducted by Ahmad Bugis which showed that more than half of participants 61.5% had positive attitudes and 38.5% had negative attitudes regarding eye donation.⁷

But there is an association between the level of students' knowledge regarding eye donation and the level of education of students. It is fully supported by the study conducted by Kss Vidusha and et.al reported that the level of knowledge of the participants regarding eye donation is statistically significant in association with the level of education.¹²

Although we made every effort to address the issues and present no limitation, but this study only reflects knowledge and attitude of a bachelor nursing students which doesn't include other medical and paramedical students. Hence results can't be generalized to all the students with background in the health sciences.

CONCLUSION

This study concluded that more than half of the students had good knowledge and around half of students had a good attitude regarding eye donation. Students' knowledge

is influenced by the socio-demographic variables; level of education but not by age, religion, institution, education status, marital status, area of residence, and source of information. Hence, students enchanted satisfactory knowledge about eye donation. Educating this framework to sensitize them toward the need for eye donation would be an imperative step toward reducing the global burden of corneal blindness.

CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

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