

ISSN : 2961-1636 (Print)

ISSN : 2961-1644 (Online)

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Arun Prasad Dhungana, Kiran Shakya, Purushottam Shah, Diwa Hamal, Om Prakash Budhathoki. Knowledge and willingness for Eye Donation in Patients attending a Tertiary eye care centre of Nepal. Purbanchal University Health Journal. 2025 April; 3(1)4: 54-58

DOI:

<https://doi.org/10.3126/puhj.v3i1.83405>

## Knowledge and willingness for Eye Donation in Patients attending a Tertiary eye care center of Nepal

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**Abstract**

**Introduction:** Strategies to prevent corneal blindness are likely to be more cost-effective however, visual rehabilitation by corneal transplantation remains a major treatment option for restoring sight in those who already have corneal blindness. Raising the level of public education and willingness on eye donation is an important first step to reduce the shortage.

**Objective:** To assess the knowledge, attitude and willingness of eye donation of patients and their attendants attending the outpatient department of a tertiary eye hospital in Nepal.

**Method:** A total of 1184 respondents were administered a pre-tested structured questionnaire. The study was done in a tertiary eye care center and respondents were involved after a written informed consent. The Chi-square test was used to determine the factors associated with willingness towards eye donation. Data was analyzed using SPSS version 17.

**Result:** In this study, 31.08% respondents were willing to pledge for eye donation, there was significant association of willingness to donate eyes among males (66.1%) (p value=0.0036), among respondents below 40 years of age (73.91%) (p-value=0.0025), respondents with higher education status (65.76%) (p-value=0.001) and urban population (79.89%). Perceived reasons among (45.3%) who were not willing to donate were, (58%) need more information regarding eye donation, (7%) thought family may not allow for eye donation and (11%) respondents did not want to donate due to religious disbelief whereas 24% do not want to donate because donation will disfigure the eye. Majority (78.2%) of the respondents have awareness about the eye donation. However, only 32% of the respondents have knowledge about the eye bank. Media played a major role in creating awareness for eye donation.

**Conclusion:** Multipronged innovative strategies should be adopted to increase the awareness regarding eye donation in less educated and rural population.

**Keywords:** Awareness; Education; Eye donation; Knowledge; Willingness

## Introduction

According to World Health Organization corneal diseases are among the major cause of vision loss and blindness in the world today.<sup>1-5</sup> There is burden of corneal diseases in our country which is reflected by the fact that 90% of the global cases of ocular trauma and corneal ulceration leading to corneal blindness occur in developing countries.<sup>3</sup> Although strategies to prevent corneal blindness are likely to be more cost-effective, visual rehabilitation by corneal transplantation remains a major treatment option for restoring sight in those who already have corneal blindness. Shortage of transplantable corneal tissue is common and is the subject of much attention.<sup>6-10</sup> To reduce this shortage, raising the level of public education and willingness on eye donation is an important first step.<sup>6</sup> Current study was planned to assess the knowledge, attitude towards eye donation and willingness to pledge eyes amongst patients attending a tertiary eye care centre of Nepal. It also determined the willingness to pledge the eye for donation among patients attending a tertiary eye care centre of Nepal.

## Method

The study work was designed as a prospective, descriptive and cross-sectional study. The study was undertaken after approval from institutional ethics committee. Eleven hundred eighty-four eye care seekers attending the outpatient department with various ocular diseases were included in the study by convenient sampling after their informed consent. A predesigned, pretested, structured, self-administered questionnaire was used. The questionnaire involved questions regarding knowledge and awareness towards eye donation, knowledge of death retrieval time, part to donate and different factors associated with willingness to donate eye. The patients were requested to participate in the study, and informed written consent was obtained. Those who were not willing to participate or gave incomplete response, those with age less than 18 years, and illiterates were excluded from the study. The outcome variables considered were individual knowledge and awareness regarding the social and technical aspects of eye donation and corneal transplantation and their willingness to donate eyes. The study also estimated the effect of demographic profile, the reasons for eye donation by donors, the reasons for not donating eyes, and

sources of information. The ethical clearance was obtained from Nepal health research council (2129). The duration of the study was one year. The data was analyzed with the Statistical Package for the Social Sciences SPSS version 17. Chi-square test was used for univariate analysis.

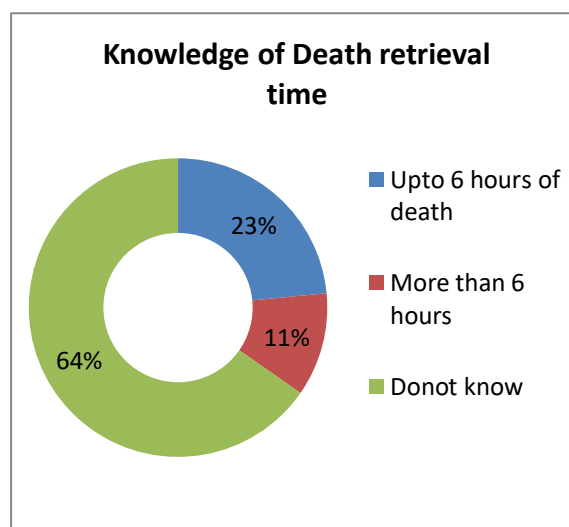
## Result

A total of 1184 respondents were enrolled in the study. There was equal number of male and female, equal number of less educated and high educated respondents in the study. The number of respondents with age more than 40 years and age less than 40 years of old were also equal. However, the number of the respondents from urban area were more 770 than rural 415. Among the 1184 respondents, 926(78.2%) were aware about the corneal transplantation.

**Table 1: Knowledge, awareness and attitude towards eye donation (N=1184)**

Knowledge, awareness and attitude	YES	NO
Awareness of eye donation	926(78.2%)	258(21.8%)
Pledge for Eye Donation	(31.08%) 368	(68.92%) 816
Knowledge about eye bank	(32%) 379	(68%) 805
Knowledge of name of Eye Bank	(21%) 249	(79%) 935
Knowledge of requirement of filling consent before death	(27%) 320	(73%) 864

Most of the respondents have awareness for the eye donation however, there was less pledge for eye donation.(Table 1)



**Figure 1: Knowledge of death retrieval time (N=1184)**

Figure 1 depicts that 64% of the respondents do not know about the death retrieval time. Only 23% of the respondents know the correct answer of the death retrieval time which is up to six hours of death.

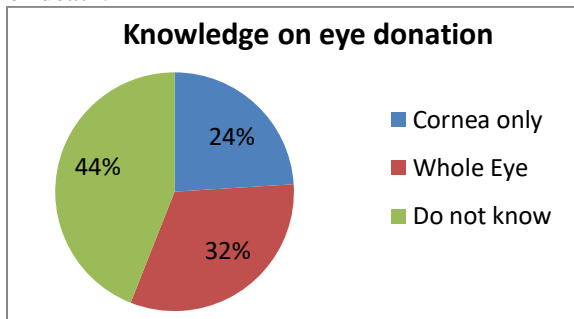


Figure 2: Knowledge on eye donation (N=1184)

Figure 2 shows that 44% of the respondents do not know about the part to donate.

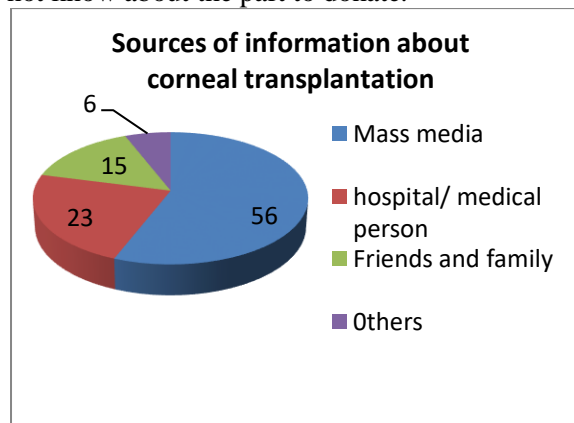


Figure 3: Sources of information about corneal transplantation (N=1184)

The major source of the information about the corneal donation was mass media which constitutes 56% of the total population.

Table 2: Factors associated with willingness to donate eyes (N=1184)

Characteristic	Cate-gory	Fre-quency	Willing to do-nate (368)	Not will-ing to do-nate(N=816)	P valu-e
Age group	≤ 40 years	592	272	320	0.0025
	> 40 years	592	95	497	
Gender	Male	592	206	386	0.0036
	Female	592	162	430	
Educa-tion	Highly edu-cated	592	242	350	0.0001
	Less edu-cated	592	126	466	

There were more number of the people under the 40 years of age who were willing to donate the eyes than the respondents above the 40 years of age which is statistically significant ( p- value 0.0025). Likewise, the number of male willing to donate the eyes were more than female which was statistically significant ( P-value 0.0036). The number of highly (educated respondents willing to donate the eyes were significantly more than no of less educated respondents (P - value 0.0001) (Table 2) .

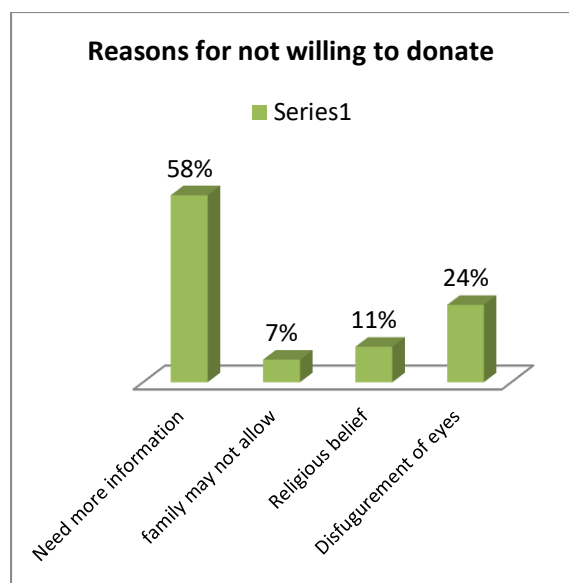


Figure 3: Reasons for not willing to donate (N=1184)

Around 58% of the respondents said that they need more information about eye donation which might be the reason for not willing to donate the eyes. Where as 24% of the respondents were scared of disfigurement of the eyes and it might be the reason for not willing to donate the eyes.

## Discussion

Hospital-based surveys have shown that the information required about organ donation as such was higher among respondents seeking care at various hospitals.<sup>6</sup> This can be extrapolated to eye donation as well. The mass media was the major source of information regarding eye donation in our study which is different from the study done in different parts of the world where the medical and paramedical personnel involved in eye care form the major source of information regarding eye donation for the public.<sup>11-18</sup> This is often limited to medical personnel dealing with critical care in the hospital setup. It is reported that a significant majority (82%) of previous eyes

donors included in their study had not pledged earlier for eye donation.<sup>19-22</sup> They commented that pledging is not influenced by the actual donation and a majority of donations were initiated by the family members belonging to the same community. It is suggested the requirement of creating catalysts at the community level to act as grief counselors to promote eye donation in the community.<sup>8</sup> Around 31.08% of the respondents were willing to donate their eyes and were willing to implement eye donation as a family custom in our study. Comparable willingness rates have been observed in the literature, ranging from 34% to 82.5%.<sup>9-11</sup> Willingness, consent, and wish to make eye donation as a family custom was more among males ( $P$ -value 0.036), highly educated ( $P$ -value= 0.001), and respondents of age less than 40 years (0.00025) which is comparable with the study done in other parts of the world which shows Willingness, consent, and wish to make eye donation as a family custom was more among males ( $P$ -value 0.049), graduates ( $P$ -value 0.013), Christians ( $P$ -value 0.019), and those who were aware of the subject ( $P$ -value 0.00) and were single ( $P$ -value 0.00).<sup>15-20</sup> Around 68% of the respondents were unaware about eye bank which is significantly different from the other studies<sup>2-5</sup> which shows two-third of the respondents were aware of the existence of a registered eye bank in the institute. The rate of voluntary pledging was less but could be accounted by poor understanding about the functioning of registered eye banks or access to such centers in their locality. Perceived reasons for not donating eyes were lack of information, fear of disfigurement of eyes, religious belief, lack of family support which need to be addressed. This are similar to other study done elsewhere<sup>14</sup> which included lack of awareness, fear, religious reasons, being not sure about family support, and not sure about how to proceed with pledging. The major source of information was mass media which comprise of 56% of the total respondents. The second major source of information was hospital and health person. Linking eye donation campaigns and classes with the existing screening camps (cataract, glaucoma, Diabetic Retinopathy, school screening) can enhance the public awareness. Limitation of the study includes various factors that are responsible for discouraging respondents to donate eyes which need to be elaborated in the

study so this study lacks different barriers and enablers of eye donation. So, another study including barriers and enablers of eye donation can be done.

### Conclusion

This study shows that each eye care seeker is a potential motivator. Educating these peer group regarding preventive and curative aspects of corneal blindness will help to spread the message among their friends and family members. Future campaigns should target at changing the existent pessimistic attitude toward eye donation in the community. Misconceptions need to be addressed. The receptive group trained in the technical details can be encouraged to volunteer as grief counselors in their locality.

**Recommendation:** Future campaigns should target at changing the existent pessimistic attitude toward eye donation in the community.

**Conflict of interest:** The authors declare no conflict of interest.

**Financial disclosure:** There is no any financial support to this study.

**Acknowledgements:** We are grateful to all the respondents of this study.

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