Acta Scientific Ophthalmology (ISSN: 2582-3191)

Volume 5 Issue 6 June 2022

Research Article

Evaluate the Awareness of an Eye (Cornea) Donation in Patients

Muhammad Asif Memon[1]*, Hajira[2], Mehak Nazir[3], Samreen[2], Nabila Noor[2] and Abdul Hameed Talpur[4]

[1]Lecturer, Al-Ibrahim Eye Hospital, Karachi, Sindh, Pakistan

[2]BS (Vision Science), Optometrist, Al-Ibrahim Eye Hospital, Karachi, Pakistan

[3]MPH (Master in Public Health), CHPE, Lecturer, Al-Ibrahim Eye Hospital, Karachi, Pakistan

[4]MS Ophthalmologist, Advisor of Isra School of Optometry, Al-Ibrahim Eye Hospital, Karachi, Pakistan

***Corresponding Author:** Muhammad Asif Memon, Lecturer, Al-Ibrahim Eye Hospital, Karachi, Sindh, Pakistan.

Received: February 24, 2022

Published: May 04, 2022

© All rights are reserved by **Muhammad Asif Memon., *et al.***

Abstract

Purpose: To evaluate the awareness of an eye (cornea) donation in patients attending Al-Ibrahim Eye Hospital.

Methods: A descriptive hospital based and non-probability convenience sampling study from May to November 2019. Total 200 patients were enrolled according to inclusion and exclusion criteria and those who gave consent.

Results: 200 participated were given consent, high percentage of age 83 (41%) between 34 to 54 years and mean age 40.84. 47 (23.5%) were willing to donate their eyes, 82 (41.0%) were denied and 71 (35.5%) had don't know on religious believe, however 84 (42.0%) of participated were found to be willing to donate, 100 were not and 16 had no knowledge. Furthermore 9 (4.5%) were willing, 150 (75.0%) were not and 41 (20.5%) were no idea to donate for money. The most common source of information regarding eye donation in respondents was 72 (36.0%) electronic media followed by information by friends and family 31 (15.5%) and other 88 (44.0%) was unaware of information abbot eye donation.

Conclusion: There is a need for regular eye donation awareness programs not only in the community but even for the college students, staff in hospitals and in government sector.

Keywords: Donation; Transplant; Awareness; Survey

Introduction

The cornea is the transparent front part of the eye that covers the iris, pupil, and anterior chamber. Along with the anterior chamber and lens [1].

From the anterior to posterior the layers of the human cornea are:

- **Corneal epithelium:** An exceedingly thin multicellular epithelial tissue layer (non-keratinized stratified squamous epithelium) [2].
- **Bowman's layer**: Bowman's Layer is a tough layer composed of collagen that protects the corneal stroma [3].
- **Corneal stroma:** A thick, transparent middle layer, consisting of regularly arranged collagen fibres along with sparsely distributed interconnected keratocytes [4].
- **Descemet's membrane:** A thin acellular layer that serves as the modified basement membrane of the corneal endothelium [5].

- **Corneal endothelium:** A simple squamous or low cuboidal monolayer, solute transport between the aqueous and corneal stromal compartments [6].

Objective

To evaluate the awareness of an eye donation in patients attending at Al-Ibrahim Eye Hospital.

Rationale

Estimate the awareness about eye donation among patient visiting at Al-Ibrahim eye hospital in order to acknowledge the patients about cornea donation.

This study also provides us baseline information regarding the cornea or corneal diseases, and cornea donation it will also help us to promote health education regarding cornea to inform and educate other health care practitioners as well as other professionals.

Methods

Study design

This was a hospital-based, descriptive study conducted.

Sampling technique

A non-probability convenience sampling technique were used.

Setting

Carried out in the Al-Ibrahim Eye Hospital (AIEH) Karachi, Pakistan.

Duration of study

The duration was from May 2019 to Nov 2019.

Sample size

The sample size was calculated from the online software Raosoft.com by taking the following criteria, The required sample size = 200 (drawn from software).

Inclusion criteria

- Age 18 to 75 years.
- Both genders were included.

Exclusion criteria

- Patients less than 18 years were excluded
- Those patients who did not sign on consent were excluded.

Data collection procedure

- The protocol for examination for all patients who were evaluated at the general outpatient clinic:
- Understand the written and verbal procedure to each patient and give then written and verbal consent was taken.

Data analysis

- Data analysis was done on Statistical Package of Social Sciences (SPSS) version 20.0.
- All continuous variables were presented as Mean ± Standard Deviation.
- The entire categorical variables are shown as frequency and percentages.
- Statistical charts are present in the form of Bar chart, Frequency curve and Pie chart etc.

Ethical consideration

- Permission from ethical committee of Isra postgraduate institute of Ophthalmology Karachi Pakistan
- Prior communication with Al-Ibrahim Eye hospital Malir Karachi Pakistan
- Verbal and written consent was taken from patient.

Results

Total 200 respondents participated, Male and female distribution was almost equal, male being 114 (57.0%) while female 86 (43.0%) (Figure 1 Gender Distribution).

Figure 1: Gender Distribution

The mean age at presentation was 40.84. In which maximum age was between 34 to 54 years 83 (41.5%) (Table 1).

Gender	Frequency	Percentage	Mean	Std. deviation
18 to 33 Year	71	35.5%	40.84	15.180
34 to 54 Year	83	41.5%		
55 to 75 Year	42	21.0%		
>75 Year	4	2.0%		
Total	200	100%		

Table 1: Distribution of age.

Initially the more respondents were married 142 (71.0%) and rests of them were single 58 (29.0%). Most of them were Metric pass 85 (42.5%) and only 19 (9.5%) were intermediate, 76 (38.0%) were job worker in either Government or Private and only 8 (4.0%) had own business (Table 2).

Status		Frequency	Percentage	Total
Marital	Single	58	29.0%	100%
	Married	142	71.0%	
Education	Graduation	18	9.0%	100%
	Intermediate	19	9.5%	
	Metric	85	42.5%	
	Middle	78	39.0%	
Occupation	Student	26	13.0%	100%
	Job Worker	76	38.0%	
	Job Less	36	18.0%	
	Own Business	8	4.0%	
	House wife	54	27.0%	

Table 2: Information of Patients.

112 (56.0%) respondents know about cornea donation, however only 84 (42.0%) of participated were found to be willing to donate their eyes more male 56 (28.0%) than female 46 (23.0%). The most common source of information regarding eye donation in respondents was 72 (36.0%) electronic media followed by information by friends and family 31 (15.5%) and other 88 (44.0%) was unaware of information abbot eye donation (Table 3).

Source of information	Frequency	Percentage
Family and Friend	31	15.5%
Electronic Media	72	36.0%
Print Media	9	4.5%
Unaware	88	44.0%
Total	200	100%

Table 3: Source of information.

Out of 200, the 47 (23.0%) of participated thought that it against of religious beliefs. Furthermore 9 (4.5%) said it's ethical to donate your eye for money (Table 4).

Status		Frequency	Percentage	Total
Religious beliefs	Yes	47	23.5%	100%
	No	82	41.0%	
	Don't Know	71	35.5%	
Donation for money	Yes	9	4.5%	100%
	No	150	75.0%	
	Don't Know	41	20.5%	
Willing & register	Yes	84	42.0%	100%
	No	100	50.0%	
	Don't Know	16	8.0%	

Table 4: Willing for donation their eyes.

Discussion

Organ of the body is Perpetual Charity to donate the specific organ to anyone (relative or other), Cornea is also a part of the eye that can donate to other people for store the sight and vision. Data from study suggested that 56.0% of the people interviewed had knowledge of eye donation. This shows a fair amount of awareness however 42.0% of them pledged to donate their eyes after death. Compare with another study that done in Pakistan 2016 showed 54 out of 800 participates (6.7%) male and 58 (8%) females willing to donate their eyes after death.

In another study done in North-western India population showed that 70.5% of their respondents knew about eye donation and 52% of them were willing to donate their eyes after death. This depicts that as compare to India which also a developing country. Pakistan is lack of adequate level of awareness on this subject and this reflects on the significant amount of eye donation.

Furthermore, study done in California, USA, 64.5% of who responded was willing to donate body organs, while 31.6% were not. Of those not willing to donate organs, 11.8% cited religious reasons. Other personal reasons included: fear (4%), respect for the human body (7.9%), and parental disapproval (6.4%). Only 46.1% of respondents had donation stickers on their driver's licenses. Furthermore, conclusion of survey was the literature review and survey indicate that age, religion, culture, personality characteristics, views on death and mortality, body image, and humanitarian concerns are among the many factors that influence people's opinion concerning organ donations.

Also compare with study done in New Zealand (2000-2009), 36% (n = 457) were female and 64% male (n = 813). Median donor age was 67 years, and 23% of donors were younger than 50 years (range, 5-90 years). There was a decrease in donor age over the decade (P = 0.006). The median DPI was 18.5 hours. No relationship was identified between cornea suitability for transplantation and DPI (P = 0.28) or donor gender (P = 0.54). There was a low microbial contamination rate (1%). Human immunodeficiency virus, hepatitis B, or hepatitis C serology was positive in 48 donors (4%). Overall, 90% of corneas were suitable for transplantation with a high utilization rate (88%). A novel association was identified between male sex and lower corneal endothelial cell density (P = 0.03).

The common source of information for donate of body part was 72 (36.0%) electronic media followed by information by friends and family 31 (15.5%) and other 88 (44.0%) was unaware of information abbot eye donation compare with another study that conducted also in Nurpur, Islamabad, Pakistan (2009), Media emerged as a major source of information for the population of Nurpur Shahan; kidney was the organ most known for its donation. Most (69%) respondents did not consider organ vending to be ethically correct but a sizeable proportion (25%) thought it may be considered in times of dire need. Furthermore, conclusion of study was awareness of organ donation in our sample was high and more than half of the people were willing to become donors.

In another study done in Nepal result showed that 80.5% were aware of eye donation 72.4% knew about pledging for eye donation and only 65.4% consented for pledge of their eyes. Of those who did not want to pledge, 14.8% had religious reasons 11.1% feared disfigurement, 11.1% thought that they might be born blind in their next birth and 63% had some other reasons. My study also showed equal about religious beliefs 23.5% of respondent believe that it's against of religious beliefs and 41.0% said no it's not against of religious beliefs and 35.5% didn't know about it.

Out of 200, 47 (23.5%) were willing to donate their eyes, 82 (41.0%) were denied and 71 (35.5%) had don't not know on religious believe, however only 84 (42.0%) of participated were found to be willing to donate their eyes, 100 were not willing and 16 had no knowledge. Furthermore 9 (4.5%) were willing for money, 150 (75.0%) were not and 41 (20.5%) were no idea to donate the eyes for money, compare with other study in this study were aware about eye donation; the awareness was higher in biomedical (77.1%) and medical students (76.7%) compared to the others (55.9%-70.7%). One hundred and eight students (27%) were willing to donate their eyes. Most of the students (376, 94%) did not know about any eye bank in Malaysia. One hundred and sixty (40%) students were aware that whole eye can be removed from the donor and 101 (25.25%) were aware that the cornea can be removed separately. However, only 121 (30.25%) knew that donated eyes were used for corneal grafting. More than half of the students (231, 57.7%) did not know that the donor eye could be stored before transplantation.

In another study result showed that Mass media such as television, newspapers, magazines and posters were important sources of information on eye donation current study also showed that most of them were metric (S.S.C) pass and other was intermediate (H.S.S.C). Furthermore 38.0% were job worker in either Government or Private and only 4.0% had own business.

Conclusion

Most people were willing to donate their eyes (Cornea) to needy person, there must need for regular eye donation awareness programs not only in the community but even for the college students, staff in hospitals and in government sector.

Bibliography

1. Van Voorhis P. "On behalf of women offenders: Women's place in the science of evidence-based practice". *Criminology and Public Policy* 11 (2012): 111.

2. Merindano Encina., *et al*. "A comparative study of Bowman's layer in some mammal's relationships with other constituent corneal structures". *European Journal of Anatomy* 6.3 (2002): 133-140.

3. Hayashi S., *et al*. "Comparative observations on corneas, with special reference to Bowman's layer and Descemet's membrane in mammals and amphibians". *Journal of Morphology* 254.3 (2002): 247-258.

4. Hwang K. "Corrugator: Muscle of Empathy and Determination". *Journal of Craniofacial Surgery* 28.1(2017):3.

5. Dua HS., *et al*. "Human corneal anatomy redefined: a novel pre-Descemet's layer (Dua's layer)". *Ophthalmology* 120.9 (2013): 1778-1785.

6. Yanoff M and Cameron D. "Diseases of the visual system". In Goldman's Cecil Medicine. WB Saunders (2012): 2426-2442.