

Eye Donation: Awareness in Urban Population of Pakistan: An Analysis

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ABSTRACT

Objectives: To evaluate the awareness and willingness of an eye donation among urban population of Pakistan. **Methodology:** A cross sectional study was conducted among urban population of Pakistan to assess the awareness and concern about eye donation. For this a convenient sampling technique was used and a self-administrative questionnaire was administered. Participants were selected from 3 provinces and 5 major cities of Pakistan. A total of 1520 responded, 52.6% were males and 47.4% were females. **Results:** 530(66.2%) out of 800 male and 463(64.3%) out of 720 female participants were aware about eye donation. Willingness to donate eyes after death was only seen in about 54/800 (6.7%) males and 58/720 (8%) females. Mass media, television, radio were the most common source of information for both male 342/800 (42.7%) and female 316/720 (43.8%) regarding eye donation. At the end nobility was treated the most common influencing factor for both male 102/800 (12.7%) and female 145/720 (20%) participants.

Conclusion: Awareness of eye donation among urban population was not found to be adequate and the willingness for eye donation is too much low. This may be because of lack of high literacy rate in Pakistan, no government eye banks, very few NGO's eye bank and lack of eye donation awareness campaigns.

Keywords: Eye donation, religion, nobility, willing, media, perception,

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INTRODUCTION

World health organization (WHO) defines blindness as when the visual acuity of an eye is 3/60 or less.¹ Globally, there are approximately 45 million people who are blind.² Although cataract is answerable for 20 million blind individuals.¹ The second most prevalent cause blindness after cataract is corneal blindness in the developing countries.³ Globally, 6-8 million people are recorded for corneal blindness.⁴ The most frequent cause of corneal blindness is trachoma which accounts for 4.9 million human beings.¹ Others are xerophthalmia, ophthalmia neonatorum, leprosy, herpes simplex, vitamin A deficiency and others.^{1,3,5} A recent study suggested that 90% of blind population are alive in the

establishing countries at the same time others in the stable nations.^{2,6} A study has mentioned that in India there are 18.7 million people who are suffering from blindness,³ where as in Pakistan there are 1.14 million blind individuals.⁷ Pakistan is one of the most prevalent countries of having blindness.⁸

Corneal grafting is an achievable for sight recovery; however it highly depends on willingly eye donation by relevant donor.⁴ Corneal transplantation is one of the universally proficient human tissue transplantation methods.⁹ According to oxford Radcliffe hospital there are three types of keratoplasty <1> Penetrating= in which the full

thickness of the cornea is changed, <2> Deep Lamellar= in this type partial thickness graft is replaced superficial layer of the cornea, <3> Endothelial Lamellar= partial thickness graft replaces the innermost layer of the cornea.¹⁰ A recent study showed that the corneal grafting is suggested for visual problem due to corneal thinning, scarring of the cornea because of infections and corneal blindness.¹¹ In this era of science and technology, the techniques have been revamped so that the chances of the graft rejection and recurrence of the corneal disease have greatly decreased.¹²

The aim of our study is to assess the awareness and the willingness of eye donation in urban population of Pakistan.

METHODOLOGY

Study design:

Cross sectional study

Sampling technique:

Convenient sampling

Subjects:

Participants were selected from 3 provinces and 5 major cities of Pakistan namely; Karachi, Lahore, Rawalpindi, Peshawar and Faisalabad. These cities are among the ten largest cities of Pakistan and adequately represent the urban population of Pakistan.

Inclusion Criteria:

Both gender and age above 18 years and above were included. Participant should be a resident of that city

Exclusion Criteria:

Age less than 18 and travelers and non-residents of the selected cities

Questionnaire:

Self-administered questionnaire was developed keeping in view the social dynamics of the society, cultural and religious values were also considered. Questions were targeted towards public's information regarding Eye donation and their perception regarding that.

Ethical considerations:

Participants were told regarding the nature of the study in the beginning and that the confidentiality of their identity will be respected. Oral and written consent was obtained before the start of the study.

The data were analyzed using Statistical Package for Social Software (SPSS) version 17.

RESULTS

Out of total 1800 selected 1520 respondents participated, giving a response rate of 84.4%. Male and female distribution was almost equal, male being 52.6% while females 47.4% (table 1)

Majority (65.3%) of the respondents had heard about eye donation with male to female odds of 1.0 (C.I: 0.11-5.24), however only a small percentage (7.3%) of the participants were found to be willing to donate their eyes after dying. More females (8%) than males (6.7%) asserted that they will donate their eyes. On inquiring regarding if they have registered for eye donation, 1.3% of the participants disclosed that they have already registered in the concerned authorities with M/F OR: 0.8 (C.I: 1.54-4.53).

Table 1: Demographics of the participants

	Male	Female	Total
Participants	800 (52.6)	720 (47.4)	1520 (100)

Table 2: Perception regarding eye donation

Questions	Male (% of male) n=800	Female (% of female) n=720	Total (% of total) N=1520	(Male/Female OR) 95% C.I
Heard about eye donation	530 (66.2)	463 (64.3)	993 (65.3)	(1.0) 0.11-5.24
Willing to donate eyes	54 (6.7)	58 (8.0)	112 (7.3)	(0.8) 1.54-4.53
Registered for eye donation	13 (1.6)	7 (1.0)	20 (1.3)	(1.6) 0.28-3.72
Aware regarding the procedure of donation	28 (3.5)	21 (3.0)	49 (3.2)	(1.1) 1.3-86.4

The most common source of information regarding eye donation in respondents was Mass media, TV, radio; 43.2% M/F OR: 0.97 (C.I: 0.35-6.51) followed by information by Friends and family; 11.3%, with M/F OR: 1.0 (C.I: 0.47-7.74).

Other medium for information was by Medical specialists and hospital, which was 4.9% of the participants with M/F OR: 1.0 (C.I: 0.47-7.74)

Table 3: Source of information regarding eye donation

Sources	Male (% of male) n=800	Female (% of female) n=720	Total (% of total) N=1520	(Male/Female OR) 95% C.I
Mass media, TV, Radio	342 (42.7)	316 (43.8)	658 (43.2)	(0.97) 0.35-6.51
Hospitals, Medical specialists	43 (5.3)	32 (4.4)	75 (4.9)	(1.2) 0.43-7.98
Friends/Family	91 (11.3)	82 (11.3)	173 (11.3)	(1.0) 0.47-7.74
Others	32 (4.0)	28 (3.8)	60 (3.9)	(1.0) 0.27-5.22
Dont remember	22 (2.7)	5 (0.7)	27 (1.7)	(3.8) 3.6-145.2

Total 16.2% of the participants thought that the most influential factors in donating the eyes were on Humanitarian ground, with more females (20%) than male (12.7%) participants, M/F OR: 0.6 (C.I:0.1-6.54). Another important compelling factor was found to be the medical indications of eye donation, which was the most influential factor in view of 6.5% of the respondent M/F OR: 0.4 (C.I:0.44-2.15).

Table 4: Compelling factors for eye donation

	Male (% of male) n=800	Female (% of female) n=720	Total (% of total) N=1520	(Male/Female OR) 95% C.I
Humanitarian grounds	102 (12.7)	145 (20)	247 (16.2)	(0.6) 0.1-6.54
Religious considerations	22 (2.7)	17 (2.3)	39 (2.5)	(1.1) 0.23-4.78
Influenced by medical indications	34 (4.2)	66 (9.1)	100 (6.5)	(0.4) 0.44-2.15
Others	11 (1.3)	14 (1.9)	25 (1.6)	(0.6) 0.48-2.16

DISCUSSION

Data from our study suggest that 65.3% of the people interviewed had knowledge of eye donation. This shows a fair amount of awareness however what raises concern is that only 7.3 % of them pledged to donate their eyes after death. In another study done in Singapore results showed that 80.7 % of their population had knowledge of eye donation and 67% of them were willing to donate their eyes after death.¹³ 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.¹⁴ This depicts that as compared to Singapore, which is a developed country and has a high adult literacy rate (95.9%),⁶ Pakistan lacks adequate level of awareness on this subject and this reflects on the significantly low amount of eye donations. However this being said when we compare Pakistan with another developing country, India, their population too have a good level of awareness and high level of willingness to donate their eyes after death. As of August 7, 2014 it was reported that in the city of Gujrat and Tamil Nadu , India , the targets set by the National Programme for control of blindness (NPCB), a government organization involved in the eye donation movement, has reached double its set targets in these areas.¹⁶ This success is attributed to the several NGOs that constantly raise awareness among people through campaigns.¹⁶ To even further increase their eye donation numbers NPCB on June 11 2014 decided to organize more seminars and workshops to raise awareness and to remove misconceptions that prevent people from donating eyes.¹⁷ In Pakistan however there is no eye bank organization that is run by the government nor organization that is run on national level. The present study also showed that willingness to donate eyes was seen more in females (8.0%) as compared to males (6.7%). However another study done in India showed that their males (62.4%) were more willing to donate eyes as compared to females (53.8%).¹⁴ If we evaluate even further we see that Indian females are more willing as compared to Pakistani females. This could be due to the difference in literacy rate among the two. According to UNICEF, literacy rate in Pakistani females is 61.5 % while 74.4 % of Indian females are literate.^{18,19}

Our study also showed that the most motivational factor considered by the respondents was for the sake of humanity (16.2%). Another study done in Singapore showed that those who were willing to donate eyes, 92.9% of them did it because they felt they were doing good.¹³ Rehabilitation of sight in blind person was considered the most promoting factor according to studies done in Srikakulam district in South India,²⁰ Bangalore²¹ and Malaysia.⁴

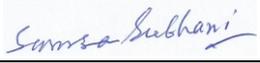
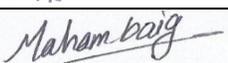
CONCLUSION

Our study shows that the level of awareness and willingness on the subject of eye donation is not enough. This is because of several factors like no government eye banks, few NGO eye banks, low literacy level and lack of eye donation awareness campaigns. All of this leads to less number of eye donations.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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Shehla Alvi	Revised the Manuscript	
Khalid Mahida	Analyze the Data	
Samra Subhani	Acquisition, analysis and/or interpretation of data	
Rakesh Kumar	Help in writing the Manuscript	
Abdul Basit	Supervised the Research	
Maham Baig	Co-Author	
Shahkamal Hashmi	Composing results and Reference	