

Awareness regarding eye donation among public of the Malwa region of Punjab- A pilot study

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Abstract

Purpose: To assess the awareness regarding eye donation in public of the Malwa Region of Punjab.

Methods A prospective, cross-sectional study was conducted on the public of the Malwa region of Punjab. Socio-demographic profile, awareness, of patients, employees and general public regarding eye donation were evaluated through a pretested, self-administered questionnaire.

Results: A total of 901 participants were a part of this awareness survey conducted in the malwa region of Punjab. 56.9% were females and 42.7 were males out of 901 who took up the test questionnaire. 97.7% had the thoughts that eye donation will be an act of kindness for mankind, and 79.9% were willing to pledge their eyes. Nearly 50% had lack of information regarding whether they can donate if they had cataract and/or glaucoma, or if the eyes can be donated at the house itself in case of death and if there were any contradictions to pre-existing medical illness.

Conclusion: Willingness to corneal donation of the studied region is relatively good. Still large sector of population were confused and seeks more information regarding eye donation in patients suffering from cataract and/or glaucoma. People are still unaware about whom and where to contact in case they want to go for eye donation or the locations of eye banks.

Keywords: Eye donation, Awareness, Punjab, Pilot Study

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I. Introduction:

Corneal blindness is a major challenge throughout the world and more so in developing countries due to high prevalence, high incidence and low intervention rates [1]. A meta-analysis of various population-based blindness studies conducted in India demonstrated that the prevalence of corneal blindness was 0.45% (95% CI 0.27–0.64%) in adults [2]. The Corneal Opacity Rural Epidemiological (CORE) study conducted by Gupta et al. [3] showed that there is a shift of corneal diseases from keratomalacia and trachoma to treatable corneal disorders, making 70% of them amenable to corneal transplantation. It is expected that the number of individuals with unilateral corneal blindness in India will increase to 10.6 million by 2020 [4]. Visual rehabilitation by corneal transplant still remains the mainstay of treatment for patients suffering from corneal blindness. Over the years, the Eye Bank Association of India (EBAI) has made efforts to increase corneal procurement which currently stands at 49,000 per year [5]. It is estimated that 277,000 donor tissues are needed every year, and shortage of transplantable tissue is a subject that deserves much attention [6].

II. Materials and methods

A pilot study is being conducted, self-administered, bilingual (English and Punjabi) questionnaire was developed and used for this study. The questionnaire was developed by experts in the field originally in English and then translated into Punjabi. The questionnaire translated into Punjabi was again back-translated into English to check for the loss of critical information.

A thorough search was conducted for publications from any date in the PubMed/MEDLINE and Google Scholar databases. Search terms included “eye donation,” “cornea donation,” “attitudes AND awareness AND eye donation and we found a review article comparing all surveys and interviews being conducted in the form of 55 articles across the globe which led us to conduct a pilot study come survey in our region first followed by a pan-India awareness drive to make more masses aware about the corneal eye donation.

Data Collection: As it is a pilot study, 10 percent of actual population being planned for the phase 1 of the survey, so a total of 901 people were a part of this survey in which a google form having preset questionnaire was floated to the patients, public visiting our tertiary care eye hospital, conducting lectures of awareness in schools, medical college, old age homes, nearby hospitals that we were able to reach such a number.

Study Period: The study was conducted from August 2021 – January 2022 for a period of 6 months at Sankara Eye Hospital, Ludhiana, Punjab

III. Results:

Socio-demographic and economic characteristics of study participants, Malwa region of Punjab 2021-2022 (n = 901)

Questionnaire	Frequency (n=901)	Percentage
Age		
• <20	• 120	• 13.3
• 20-30	• 405	• 45
• 30-40	• 272	• 30.2
• Senior Citizens	• 104	• 11.6
Sex		
• Female	• 513	• 56.9
• Male	• 385	• 42.7
Education		
• School going	• 35	• 3.9
• Medical Student	• 328	• 36.4
• General Population	• 431	• 47.8
• Paramedical Student	• 62	• 6.9
• 10 th ,10+1, 10+2	• 45	• 5
Have you ever heard about eye donation?	• Y= 871 • N=30	• 96.7 • 3.3
If the previous response was yes then your source of awareness is- (else you can skip this)	• Family=152 • Friends=57 • Doctors=236 • Media=375	• 18.5 • 7 • 28.8 • 45.7
Do you think eye donation will be a service to mankind?	• Y=880 • N=21	• 97.7 • 2.3
Is eye donation against your religious belief?	• Y=52 • N=849	• 5.8 • 94.2
Can eyes be donated (pledged) only after death?	• Y=518 • N=383	• 57.5 • 42.5
Are you aware of the ideal time to retrieve eyes after death?	• Y=580 • N=321	• 64.4 • 35.6
During transplantation which part of the donated eye is used for transplantation?	• Only Cornea(layer in front of the black portion of the eye)=677 • Whole Eyeball=224	• 75.1 • 24.9
Does eye donation cause disfigurement of face of the donor?*	• Y=164 • N=737	• 18.2 • 81.8

Can the eyes be removed at the donor's house itself?	<ul style="list-style-type: none"> • Y=450 • N=451 	<ul style="list-style-type: none"> • 49.9 • 50.1
Will the family be charged for donating organs, tissues and eyes?	<ul style="list-style-type: none"> • Y=93 • N=808 	<ul style="list-style-type: none"> • 10.3 • 89.7
Is history of medical illness a contraindication for eye donation?	<ul style="list-style-type: none"> • Y=468 • N=433 	<ul style="list-style-type: none"> • 51.9 • 48.1
Is there an age limit for eye donation?	<ul style="list-style-type: none"> • Y=220 • N=681 	<ul style="list-style-type: none"> • Y=24.4 • N=75.6
Can the patients using spectacles donate eyes?	<ul style="list-style-type: none"> • Y=74 • N=160 	<ul style="list-style-type: none"> • Y=82.2 • N=17.8
Can the patients of cataract and glaucoma donate eyes?	<ul style="list-style-type: none"> • Y=436 • N=465 	<ul style="list-style-type: none"> • Y=48.4 • N=51.6
Is prior permission required for eye donation?	<ul style="list-style-type: none"> • Y=741 • N=160 	<ul style="list-style-type: none"> • Y=82.2 • N=17.8
Is there an eye bank in your city?	<ul style="list-style-type: none"> • Y=417 • N=484 	<ul style="list-style-type: none"> • Y=46.3 • N=53.7
Do you believe in myths like we will be born blind in the next life if we donate eyes?	<ul style="list-style-type: none"> • Y=65 • N=836 	<ul style="list-style-type: none"> • Y=7.2 • N=92.8
Are you willing to donate/pledge your eyes?	<ul style="list-style-type: none"> • Y=720 • N=181 	<ul style="list-style-type: none"> • Y=79.9 • N=20.1

IV. Discussion:

Krishnaiah et al ⁷ in 2004 demonstrated that in a total of 7,775 subjects which were recruited in Andhra Pradesh Eye Disease Study (APEDS) with subjects older than 15 years were interviewed regarding awareness of eye donation and willingness to pledge eye for donation. The results showed that media comprised the major source of information about eye donation. Of those aware of eye donation, 32.9% were willing to pledge eyes, and 50.6% needed more information to decide whether or not to pledge their eyes, which was indeed a huge number still unaware of information. The largest study so far done in India paved way for our pilot study to be conducted in the state of Punjab followed by a pan India multi-centric survey at a later position. Our study led to a drastic awareness drive in which around 79.9 % of population of malwa region of Punjab were willing to pledge their eyes and be a part of the noble cause.

Williams and Muir et al⁸ in 2018 did a worldwide review regarding awareness and attitudes toward corneal donation: challenges and opportunities and found that out of 55 studies streamlined approximately 31 surveys and interviews being conducted were from India and that majority were done in south India, central India and Delhi region. This motivated us to start the endeavor to do a pilot study in the state of Punjab. All the studies being conducted so far were doing survey in a particular strata of population may it be students, employees etc. Our study has mix-matched population strata comprising students, employees, senior citizens, non-medical background population as well which makes it unique in its own way. This awareness drive even took us for awareness talks in high school, which we thought would send a massive awareness storm taking young brigade with us, also not to forget the foundation years medical college students were an integral part of this survey.

V. Conclusion:-

Willingness to corneal donation of the studied region is relatively good. Still large sector of population were confused and seeks more information regarding eye donation in patients suffering from cataract and/or glaucoma. People are still unaware about whom and where to contact in case they want to go for eye donation or the locations of eye banks.

In nutshell, being a cornea fellow, I feel this awareness drive is a prime and utmost duty to make people aware of eye donation in the areas wherever we go, work and clear their doubts and be a helping hand for the corneal blind people to see the beautiful colors of the world. These awareness activities in the form of surveys, interviews, motivational talks will always be an integral part of the author's life forever.

VI. Limitations

There are several limitations to this survey. First, research methods vary greatly between included studies, particularly regarding question wording and interview methods. In particular, differences in question wording, such as asking if one is willing to donate her eyes versus asking if she is willing to consider eye donation, could lead to substantial variation in responses. It is restricted to one region of Punjab and the need to involve whole of the state both rural and urban population will be our priority in subsequent awareness survey.

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Conflicts of interest: There are no conflicts of interest

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References

- [1]. Bourne RRA, Flaxman SR, Braithwaite T, Cicinelli MV, Das A, Jonas JB Et Al (2017) Magnitude, Temporal Trends, And Projections Of The Global Prevalence Of Blindness And Distance And Near Vision Impairment: A Systematic Review And Meta-Analysis. *Lancet Glob Health* 5(9):E888–E897
- [2]. Gupta N, Tandon R, Gupta SK, Sreenivas V, Vashist P (2013) Burden Of Corneal Blindness In India. *Indian J Community Med* 38:198–206
- [3]. Gupta N, Vashist P, Tandon R, Gupta SK, Dwivedi S, Mani K (2015) Prevalence Of Corneal Diseases In The Rural Indian Population: The Corneal Opacity Rural Epidemiological (CORE) Study. *Br J Ophthalmol* 99:147–152
- [4]. Dandona R, Dandona L (2003) Corneal Blindness In A Southern Indian Population: Need For Health Promotion Strategies. *Br J Ophthalmol* 87:133–141
- [5]. The Global Alliance Of Eye Bank Associations. www.Gaeba.Org/Wp Content/Uploads/2014/01/Session-1-Basak.Pdf. Accessed 2 Apr 2019
- [6]. Saini JS (1997) Realistic Targets And Strategies In Eye Banking. *Indian J Ophthalmol* 45:141–142
- [7]. Williams And Muir Et Al. Awareness And Attitudes Toward Corneal Donation: Challenges And Opportunities. *Clinical Ophthalmology* 2018;12; 1049-1059.

VII. RESULTS

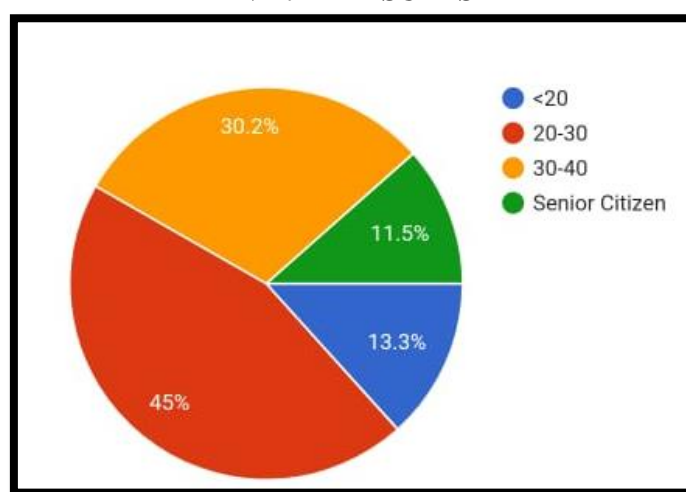


Fig-1: shows Age wise distribution

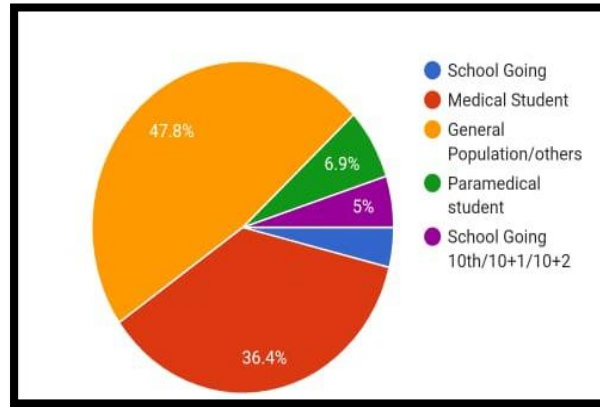


Fig-2: shows education-wise distribution

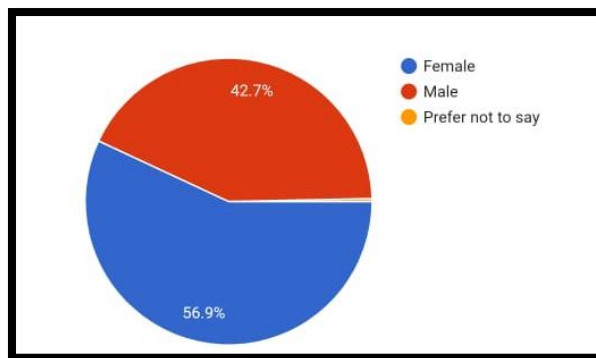


Fig-3: shows sex-wise distribution

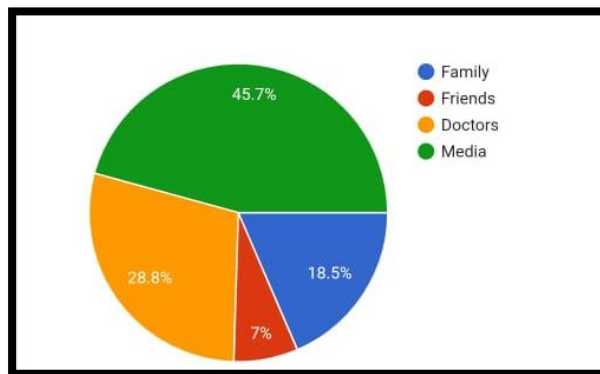


Fig-4: shows source of awareness about corneal eye donation

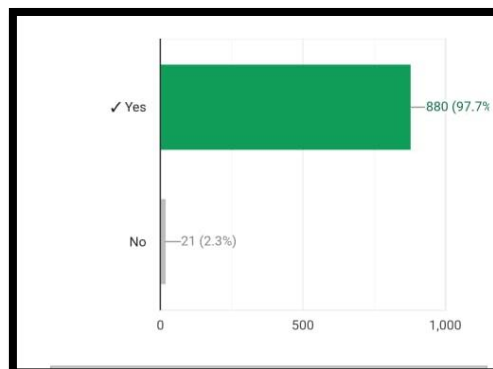


Fig-5: shows 97.7 % people think that eye donation will be a service to mankind

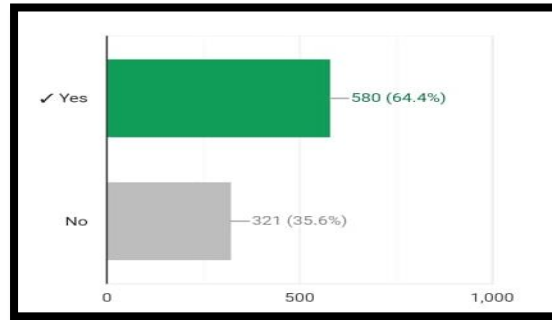


Fig-4: shows that only 64.4% people were aware about the ideal time to retrieve eye after death

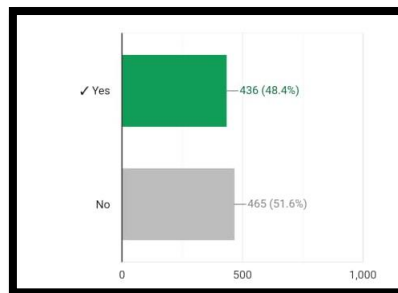


Fig-5: shows a 50-50 awareness regarding whether a person with cataract and/or glaucoma donate eyes

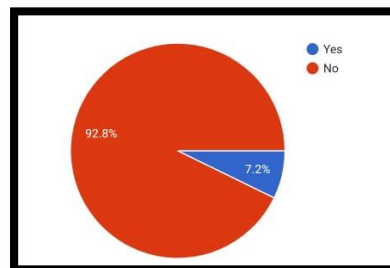


Fig-6 :- shows that the 92.8% people of malwa region of Punjab dont believe in superstitious beliefs that they will be born blind in next life if they donate their eyes.