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Original Research Article

Awareness and knowledge regarding cataract and glaucoma in patients visiting outpatient department of a tertiary healthcare center

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ABSTRACT

Objective: To assess the awareness and knowledge regarding cataract and glaucoma in patients visiting OPD of a tertiary healthcare centre.**Materials and Methods:** A questionnaire based survey, involving 100 patients visiting OPD was conducted through random sampling. The questionnaire was structured to evaluate the level of awareness and knowledge about cataract and glaucoma and the effect of gender, education status, occupation, family history and diagnosis of the above diseases on awareness was studied. The source of awareness was also questioned.**Results:** Of the 100 patients enrolled for the survey, responses from the participants were evaluated. A total of 73% and 39% patients were aware about cataract and glaucoma respectively, whereas a total of 67% and 27% were qualified as having knowledge about cataract and glaucoma respectively as per the set questionnaire and criteria. Education, occupation, diagnosis and family history are the variables significantly correlated with the awareness and knowledge of cataract and glaucoma. 85% of the patients having awareness about both cataract and glaucoma were well educated. Out of the patients having cataract awareness, 52.23% were also aware about glaucoma.**Conclusion:** Awareness and knowledge about glaucoma was low in comparison to cataract. The level of education has an impact on the level of awareness. The study findings stress the need to spread awareness about cataract and glaucoma in the community for its diagnosis and treatment and thus prevent blindness due to cataract and glaucoma.This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.For reprints contact: reprint@ipinnovative.com

1. Introduction

Cataract is the major cause of reversible blindness in India, reported to be responsible for 50-80% of bilateral blindness in the country.^{1,2} In India, around 12 million people suffer from glaucoma and 1.5 million are blind due to it.^{3,4} Early detection of glaucoma is often difficult due to its asymptomatic course in the initial stage.^{3,5} A large proportion of the population are actually aware about it or have knowledge about it. Awareness about the nature and

risk factors of a disease is known to affect the behavior for seeking intervention.

2. Materials and Methods

The study was conducted in accordance with the Declaration of Helsinki and was approved by the local ethics committee of the institute. Informed written consent was obtained from all participants prior to their enrolment in the study. A questionnaire based cross sectional study was carried out. The questionnaire had three sections: The first section pertaining to information

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about the patient’s demographic characteristics (age, gender, education level, occupation). Section two and three pertained to the patient’s awareness and knowledge about cataract and glaucoma respectively, through 10 questions (four questions evaluating their awareness and six assessing their knowledge). The questions were divided into awareness and knowledge sub-sections, by applying standard definitions of these terms. Questions asked to assess awareness merely required information, without the need of understanding whereas the questions asked to assess knowledge required information and understanding of the subject gained through some source or learning. Each question had three options, and the respondent had to tick (✓) the response of their choice. In our study we defined awareness and knowledge as 50% and 30% correct responses respectively for both cataract and glaucoma.

Hundred individuals, aged above 40 years were enrolled by random sampling. The demographic details and literacy level of the participants were collected. Diagnosed cases of cataract and glaucoma were excluded from participating, as we believed they might have acquired information about the disease after diagnosis, which would affect the true assessment of the general population. The survey was done by trained healthcare professionals, who had optimum knowledge about the diseases and the questionnaire. The questionnaire began with the entry level question in the local language (Hindi) If the response to this question was yes, the participants were allowed to take up the rest of the questions evaluating awareness and knowledge about cataract and glaucoma respectively. Having heard about the term cataract or glaucoma was not considered as awareness, because merely being aware of the term did not ensure awareness about the disease. However, not having heard the term itself meant lack of awareness.

3. Results

Of the 100 enrolled patients visiting the eye OPD of a tertiary healthcare centre who consented to participate in the study and answered the questionnaire, 56% were males and 44% were females. The mean age of the study population was 58.99 ± 9.51 years.

Figure 1 describes the age wise gender distribution of the study population.

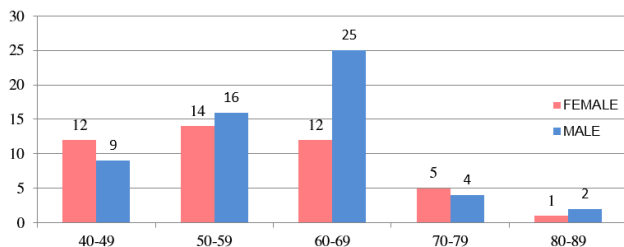


Fig. 1: Age wise distribution of Gender

The participants were classified on the basis of their level of education as illiterate, primary school, middle school, 10th pass, 12th pass, graduate and post graduate.

Chart 2 describes the education wise distribution of the study population.

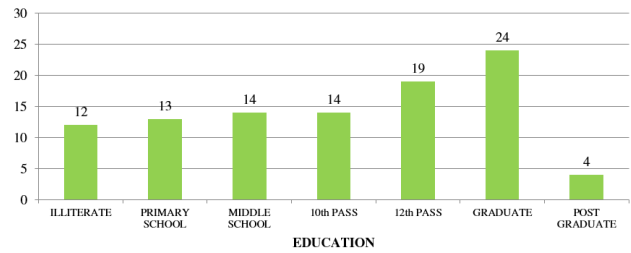


Fig. 2: Education wise distribution of study population.

Figure 2 The participants were classified on the basis of occupation as unemployed, unskilled worker, semiskilled worker, skilled worker, clerical/shopkeeper, semi-professional and professionals.

Figure 3 describes the occupation wise distribution of the study population.

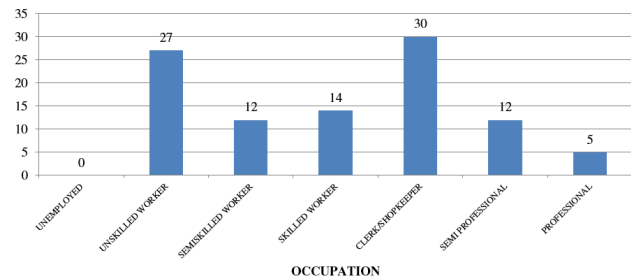


Fig. 3: Occupation wise distribution of study population

81% of the total population had heard about cataract, 73% were aware and 67% had some knowledge about cataract. Awareness of cataract was not statistically significant in terms of age and gender.

A total of 41% of the participants had heard about glaucoma, 39% were aware and 27% had some knowledge about glaucoma.

Out of the 73% having awareness about cataract, 91.78% had knowledge about it as well. Table 3

Figure 4 describes the awareness and knowledge about cataract.

Out of 39% having awareness about glaucoma, 69.23% had knowledge about it as well.

Figure 5 describes the awareness and knowledge about glaucoma

Well educated participants were more likely to be aware about both cataract and glaucoma than lesser educated participants. The level of education had a significant association with both awareness as well as knowledge.

Table 1: Cataract entry questions

Entry question	Yes	No	Don't know
Cataract can lead to loss of vision	85	11	4
Blindness from cataract can be prevented	53	21	26
Anyone can have cataract	34	9	57
Treatment of cataract is possible	56	21	23
Risk of cataract increases with age	51	2	47
Vision is affected in early course	40	20	40
Cataract has familial predisposition	22	42	36
Cataract is same as glaucoma	20	34	46
What will happen in untreated cataract	6	21	73

Table 2: Glaucoma entry questions

Entry question	Yes	No	Don't know
Glaucoma can lead to loss of vision	31	44	25
Blindness from glaucoma can be prevented	25	33	42
Anyone can have glaucoma	33	36	31
Open and narrow angle are the types of glaucoma	1	0	99
Treatment of glaucoma is possible	35	33	32
Risk of glaucoma increases with age	28	13	59
Vision is affected in early course	26	0	74
Glaucoma has familial predisposition	9	15	76
Glaucoma has asymptomatic course	0	24	76
What will happen in untreated glaucoma?	4	23	73

Table 3: Awareness and knowledge about cataract and glaucoma

Cataract awareness	73%
Cataract knowledge	67%
Glaucoma awareness	39%
Glaucoma knowledge	27%

■ AWARE BUT NO KNOWLEDGE ■ AWARENESS AND KNOWLEDGE

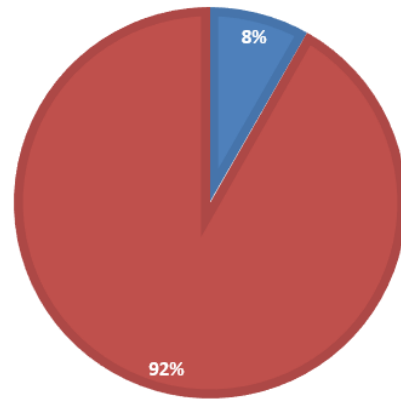


Fig. 4: Cataract Awareness and Knowledge among population

■ AWARE BUT NO KNOWLEDGE ■ AWARENESS AND KNOWLEDGE

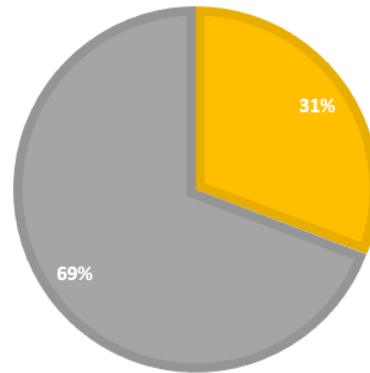


Fig. 5: Glaucoma awareness and Knowledge

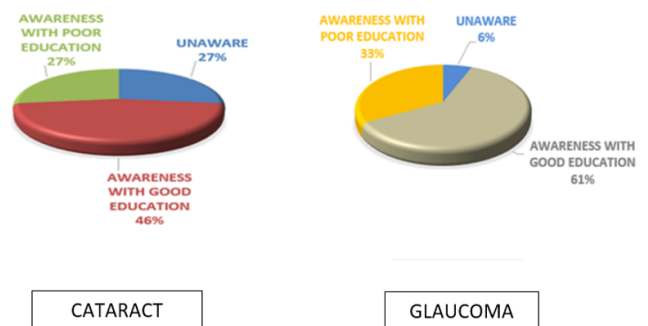


Fig. 6: Relationship between education and awareness about cataract and glaucoma

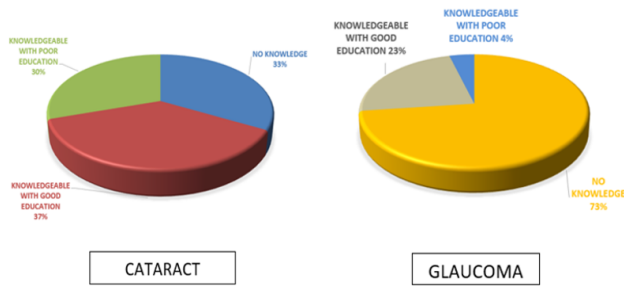


Fig. 7: Relationship between Education and knowledge about cataract and glaucoma.

Of the 73% of the participants who were aware about cataract, 47.94% were aware about glaucoma as well ($p=0.61708$), out of which 85.71% were well educated ($p=0.00001$) 4% were aware about glaucoma but not about cataract. Of the 67% who had knowledge about cataract, 35.82% had knowledge about glaucoma as well ($p=0.85716$), out of which 87.5% were well educated ($p=0.00018$). 2% had knowledge about glaucoma but not about cataract.

The source of information about cataract for 76.54% participants was “word of mouth” from family or friends. Another 19.75% had received information from visiting hospitals, medical personnel, eye camps or healthcare resources. Maximum participants (70.73% and 76.54% for glaucoma and cataract respectively) quoted their source of information as family or friends.

Chart 8 describes the source of information about cataract and glaucoma.

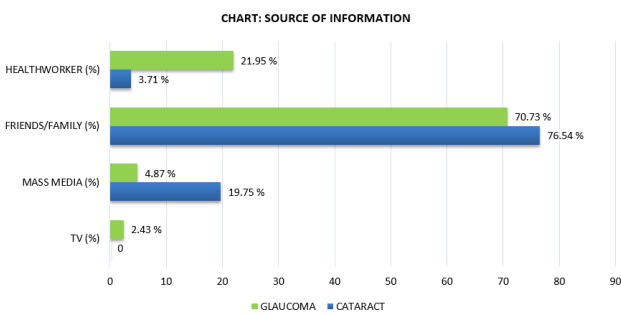


Fig. 8: Source of information about cataract and glaucoma

Of all the participants whose informants were either family or friends, 74.19 % were well aware about cataract and 96.55% were well aware about glaucoma.

4. Discussion

In this study there was no significant relationship between awareness and knowledge about cataract with age and gender and about glaucoma with gender which was in contrast to a study done by Krishnaiah et al in which

males had more awareness (0.50% vs 0.10) and another study done by Sathyamangalam et al in which females had more awareness about glaucoma (Odds ratio - 1.54).^{6,7} However the relationship of awareness of glaucoma was significant with age, which was similar to the study done by Sathyamangalam according to which glaucoma awareness increase with increasing age and subjects in the age groups 60 - 79 years were 2.7 to nearly 3 times more likely to be aware about glaucoma when compared to 40 - 49 years old.^{6,7}

It was observed that people could confuse glaucoma for other eye conditions due to the similar terminology which was in correlation with a study done by Livingston et al in which many respondents confused glaucoma with other eye conditions: 10% described it as cataract or a growth over the eye; 4% described it as trachoma, and 1% linked it with diabetes.⁸ In this study, awareness and knowledge was better among individuals with higher education. None of the respondents knew that glaucoma was an asymptomatic disease, which was a matter of great concern which was similar to a study done by Lee et al in which only 10.2% could describe its symptoms correctly.⁹ Close acquaintances are the most common source of information on cataract and glaucoma which was similar to a study conducted by Tenkir et al in which friends were reported to be the main source (87.5%).^{10,11} Overall, the awareness about cataract and glaucoma in the Indian general population is poor, as estimated by population-based studies, that of glaucoma being worse than that of cataract.¹²

The limitations of the above study is that the sample size is small and the study population is drawn from a very specific practice environment i.e. a tertiary healthcare centre and thus the findings cannot be generalized to the general population. Also interviewer bias could not be completely eliminated.

5. Conclusion

Public awareness of both cataract and glaucoma, especially glaucoma is very low. Communicating visual prognosis by primary health clinicians and primary eye care practitioners would help enhance the knowledge among the patients and thus reduce the morbidity of both the conditions. The aims of education should focus not only on modifying individual’s perception of risk of vision loss, but also on providing information regarding the benefits of early detection, long term therapy and importance of compliance to treatment. In addition, education programs should also be oriented towards the involvement of friends and family members, in supporting the seeking of eye care and in alleviating the fear or anxiety concerning treatment. Communicating and educating the general population, family members and friends by various methods should be targeted, while they visit any general hospital or eye

hospitals, starting from waiting rooms to final prescription in the form of audiovisual clips, placards, charts, pamphlets etc. Initiatives can also be taken to include awareness in the general curriculum at school and college level.

6. Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

7. Source of Funding

None.

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