

Original Research Article

Knowledge about glaucoma among patients attending the outpatient department of the department of ophthalmology of a tertiary care hospital

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Received: 28 May 2022

Accepted: 13 June 2022

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ABSTRACT

Background: Glaucoma is the leading cause of irreversible blindness in the world. It is a noncommunicable chronic eye disease which needs lifelong care and treatment. Optic nerve damage is progressive and the disease mostly remains asymptomatic which makes it a public health challenge. Raising public awareness and knowledge about glaucoma is a key factor in early detection and management. The aim of the study was to assess knowledge about glaucoma among patients attending the eye outpatient department (OPD) of a tertiary care hospital.

Methods: This study was conducted on 100 patients who attended the eye OPD of department of ophthalmology, Government Medical College (GMC), Jammu from December 2021 to May 2022. The study subjects were given a questionnaire and they had to respond to questions by choosing one of the three options.

Results: In our study the mean age of patients was 50.65 years with majority of patients (50%) falling in the age group of 30 to 50 years. The male to female ratio was 1.7:1. Only 23% of the study subjects were knowledgeable about the fact that glaucoma was the most important cause of irreversible blindness. 83% of the respondents correctly identified people over 40 years of age at risk for developing glaucoma. Only 25% of the respondents identified pressure related damage to optic nerve as a feature of glaucoma. Majority of patients were unaware about asymptomatic nature of glaucoma. 93% of the study subjects considered glaucoma treatable. Only 23% had knowledge that irreversible loss of vision was the end result of glaucoma.

Conclusions: This study showed that knowledge about glaucoma was limited in our part of the country. There is a need to increase awareness about the disease so that we can reduce the burden of glaucoma related blindness.

Keywords: Knowledge, Glaucoma, Blindness, Questionnaire

INTRODUCTION

Glaucoma is a term describing a group of ocular disorders with multi factorial etiology united by a clinically characteristic intraocular pressure associated optic neuropathy.¹ It is the second leading cause of blindness worldwide.² It is the most common cause of irreversible blindness worldwide.³ It is estimated that there are approximately 11.2 million persons aged 40 years or older suffering from glaucoma in India.⁴ Most of the cases are undetected and, hence, pose a major challenge. Lack of

awareness about glaucoma is an important reason for its late presentation which significantly increases the risk of blindness.^{5,6}

Glaucoma can be congenital or acquired. The most clinically useful classification of the glaucoma is that devised by Barkan which divides glaucoma into angle-closure or open-angle.⁷ This is based upon mechanism by which aqueous outflow is impaired with respect to the anterior chamber angle configuration. It can be primary or secondary. In secondary glaucomas there is a recognizable

ocular or non-ocular disorder that contributes towards elevation of intra-ocular pressure (IOP). Primary open angle glaucoma (POAG) constitutes 74% of all cases of glaucoma.⁸

The risk factors for developing POAG are old age, race (African-American, Afro-Caribbean, and West African patients have a four-fold increased risk of developing POAG), family history (The Rotterdam eye study found 9.2 times higher risk of developing POAG if first degree relatives had glaucoma), elevated IOP, myopia, thin corneas, low ocular perfusion pressure, diabetes mellitus type 2, use of corticosteroids, use of oral contraceptives, migraine, and smoking.^{9,10}

As glaucoma causes irreversible vision loss it is important to diagnose and treat it at an early stage. Open-angle glaucoma is often asymptomatic in its early stages. Early changes in POAG involve a loss of peripheral vision that the patient is usually not aware of until 40% of the nerve fibers have been compromised. Increased awareness about glaucoma amongst the general population can go a long way in tackling this menace at an early stage and reduce the burden of glaucomatous blindness.

Aim

The aim of the study was to assess the knowledge about glaucoma in the patients attending the eye outpatient department (OPD) of a tertiary care hospital in Jammu.

METHODS

This hospital based cross sectional study was conducted among patients attending the eye OPD of department of ophthalmology, Government Medical College (GMC), Jammu from December 2021 to May 2022.

A total of 100 patients were included in the study, after obtaining informed consent. The study subjects were selected randomly while sitting in the waiting area of the eye OPD and were invited to answer questionnaire (Annexure) voluntarily.

The questionnaire contained information regarding age, gender, occupation and educational qualification of the study subjects and included questions on epidemiology, risk factors, symptoms, management and sequelae of glaucoma.

Each question had three options and the respondent had to tick the response of their choice (Annexure). The questionnaire began with entry level question- “do you know of a disease called glaucoma?” Only those who answered this question in yes were allowed to complete the questionnaire and included in the study.

The data was entered in Microsoft excel and expressed as mean, proportion and percentage.

Inclusion criteria

The study included patients with age 30 years or more, and education qualification of 10th standard and above.

Exclusion criteria

Patients with age less than 18 years who were already diagnosed with glaucoma, and patients who did not answer the questionnaire in full were excluded.

RESULTS

A total of 100 patients participated in the study. In our study the mean age of patients was 50.65 years with majority of patients (50%) falling in the age group of 30 to 50 years (Table 1). The male to female ratio was 1.7:1 with 63% of the patients being male (Figure 1). 67% of the study subjects were undergraduates.

Table 1: Age of patients.

Age (years)	No. of patients (n=100)	%
30-50	50	50
51-70	40	40
>70	10	10

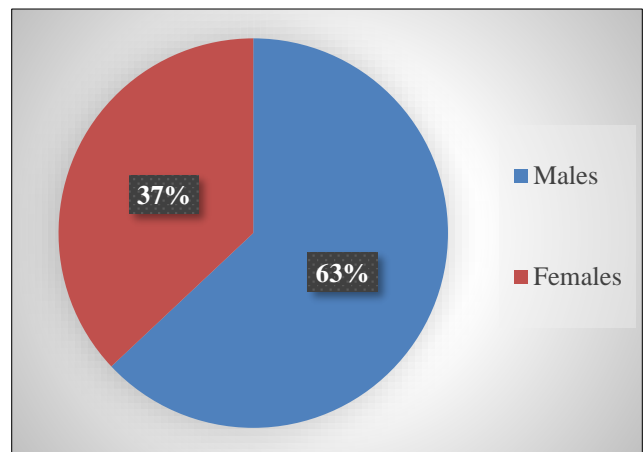


Figure 1: Pie chart showing sex distribution of patients.

On being asked about the leading cause of irreversible blindness worldwide 45% of the patients chose cataract. Only 23% of the study subjects answered it correctly as glaucoma (Figure 2).

83% of the respondents correctly identified people over 40 years of age at risk for developing glaucoma (Figure 3).

While 45% respondents believed that glaucoma is caused by progressive increase in power of spectacles, 30% listed infections as causative agent. Only 25% chose pressure damage to nerve of vision (Figure 4).

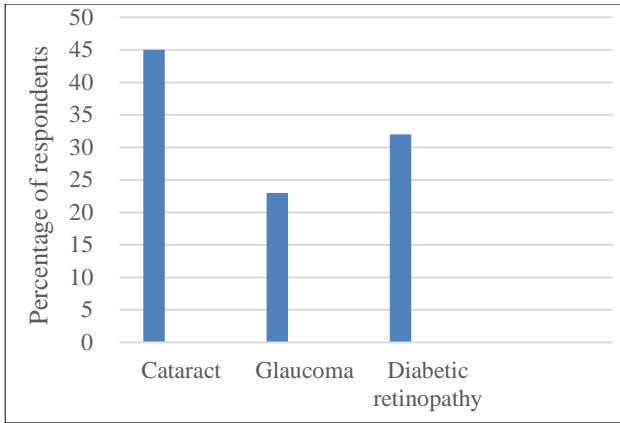


Figure 2: Bar chart depicting response about leading cause of irreversible blindness.

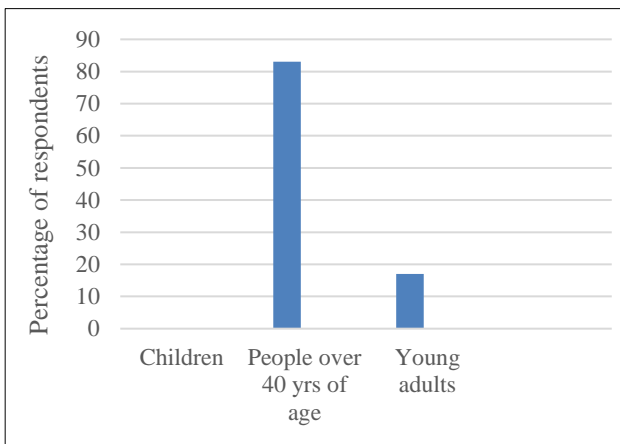


Figure 3: Bar chart depicting response regarding age at risk of developing glaucoma.

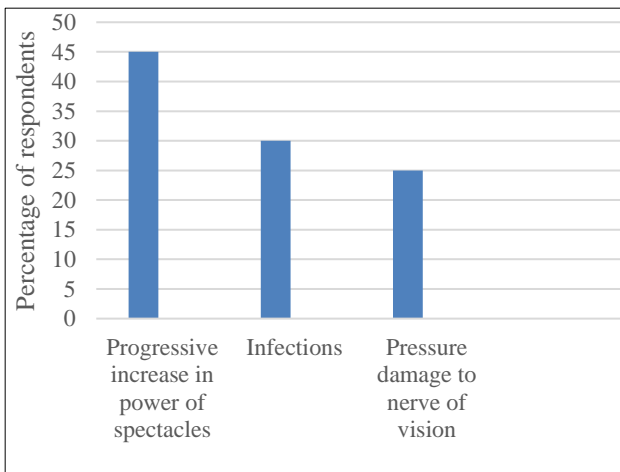


Figure 4: Bar chart depicting response about causes of glaucoma.

Majority of the respondents (44%) ticked pain in eyes as the commonest symptom. 34% responded by identifying gradual loss of vision as the commonest symptom (Figure 5). 7% of the study subjects considered glaucoma

untreatable. Of the rest 93 respondents 47.13% chose medicine, 17.20% chose surgery and 35.48% chose both as ways to treat glaucoma (Figure 5). Majority (64%) of the patients did not know the end result of uncontrolled glaucoma. Only 23% had knowledge about irreversible loss of vision. 13% of the patients identified continuous pain as the end result (Figure 6).

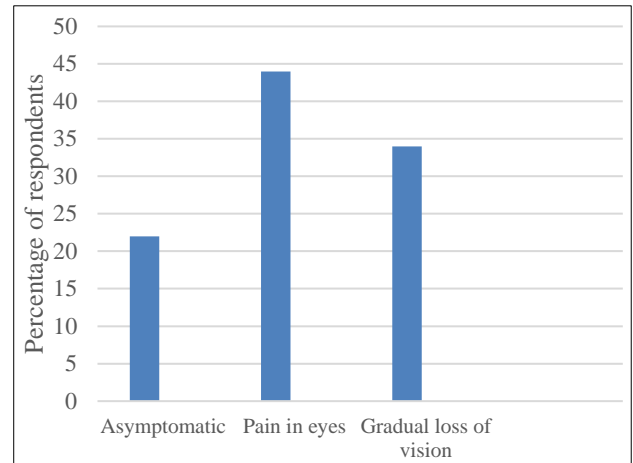


Figure 5: Bar chart depicting response about symptoms of glaucoma.

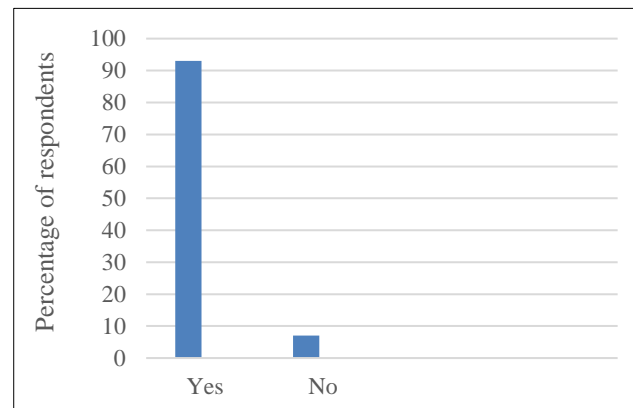


Figure 6: Bar chart depicting the response to whether glaucoma is treatable.

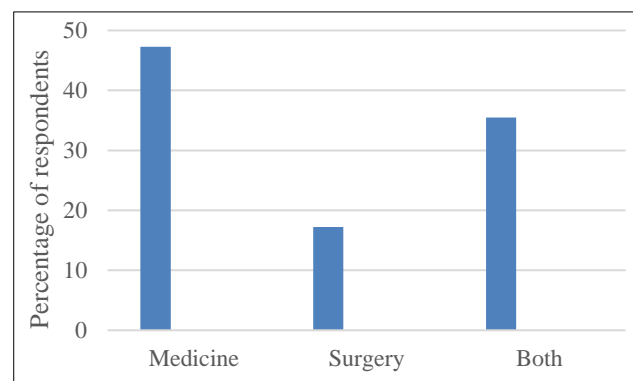


Figure 7: Bar chart depicting response regarding method of treatment.

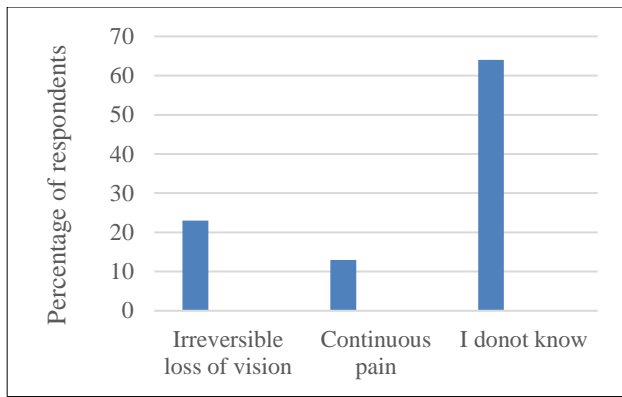


Figure 8: Bar chart depicting response regarding end result of glaucoma.

DISCUSSION

The intent of our study was to assess the knowledge about glaucoma in our part of the country without laying stress on technical, anatomical and physiological aspects of the disease. We found being aware of the nomenclature of the disease did not imply that respondents had reasonable knowledge about the disease. Our study did not find any relationship between age or gender as far as awareness regarding glaucoma was concerned. This was similar to the findings of the study conducted by Tenkir et al in Ethiopia.¹¹ As we conducted the survey only on those whose basic educational qualification was matriculation; we could not find any significant difference in response between undergraduate and graduate respondents. However, there are studies which have shown better knowledge among individuals with higher elementary education.¹² Study subjects identified cataract as a leading cause of irreversible blindness which could be attributed to the fact that they did not know the difference between treatable/preventable and irreversible blindness. While patients were aware that increasing age was a risk factor, it was more from the traditional belief that old age and diseases go hand in hand than any real knowledge. Another concern was that very few persons knew about the irreversible nature of vision loss in glaucoma. Similar trends were noted in many previous studies.^{11,13} Overall knowledge about glaucoma in our study group was limited. This study has limitations as it was conducted on a small sample size on subjects who were suffering from some ocular problem and, hence, could be loosely believed to be medically aware. Results can be more dismal if study population is taken from a more diverse background.

CONCLUSION

The results of this study throw light on inadequate knowledge about glaucoma in our population. Glaucoma being a silent thief of vision, needs to be identified on time and treated adequately. Educating the general public can

go a long way in reducing glaucoma related blindness in the world.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

- Casson RJ, Glyn Chidlow G, Wood JPM, Crowston JG, Goldberg I. Definition of glaucoma: clinical and experimental concepts. *Clin Exp Ophthalmol*. 2012;40(4):341-49.
- Kingman S. Glaucoma is the second leading cause of blindness globally. *Bull World Health Org*. 2004;82(11):887-8.
- Dandona L, Dandona R. What is the global burden of visual impairment? *BMC Med*. 2006;4:6.
- Ronnie G, Ramesh SV, Lingam V. Glaucoma in India: estimated burden of disease. *J Glaucoma*. 2010;19(6):391-7.
- Attebo K, Mitchell P, Cumming R, Smith W. Knowledge and beliefs about common eye diseases. *Aust N Z J Ophthalmol*. 1997;25:283-7.
- Fraser S, Bunce C, Wormald R. Risk factors for late presentation in chronic glaucoma. *Invest Ophthalmol Vis Sci*. 1999;40:2251-7.
- Barkan O. Glaucoma: classification, causes, and surgical control. Results of microgonioscopic research. *Am J Ophthalmol*. 1938;2:1099-114.
- Mahabadi N, Foris LA, Tripathy K. *Open Angle Glaucoma*. Treasure Island, FL: StatPearls Publishing; 2022.
- Distelhorst JS, Hughes GM. Open-angle glaucoma. *Am Fam Physician*. 2003;67(9):1937-44.
- Wolf RC, Klaver CC, Ramrattan RS, an Duijn CM, Hofman A, de Jong PT. Genetic risk of primary open-angle glaucoma. Population-based familial aggregation study. *Arch Ophthalmol*. 1998;116(12):1640-5.
- Tenkir A, Solomon B, Deribew A. Glaucoma awareness among people attending ophthalmic outreach services in Southwestern Ethiopia. *BMC Ophthalmol*. 2010;10:17.
- Livingston PM, McCarty CA, Tylor HR. Knowledge, attitudes, and self care practices associated with age related eye disease in Australia. *Br J Ophthalmol*. 1988;82:780-5.
- Krishnaiah S, Kovai V, Srinivas M, Shamanna BR, Rao GN, Thomas R. Awareness of glaucoma in the rural population of Southern India. *Indian J Ophthalmol*. 2005;53:205-8 the formation of pterion and asterion in south Indian population. *Int J Cur Res Rev*. 2013;5(9):92-100.

Cite this article as: Raina B, Mahajan S. Knowledge about glaucoma among patients attending the outpatient department of the department of ophthalmology of a tertiary care hospital. *Int J Res Med Sci* 2022;10:1455-9.

ANNEXURE

Questionnaire		
Age		
Gender		
Education qualification (tick)	Undergraduate	Graduate
Entry question		
Do you know of a disease called glaucoma?	Yes	No
Tick the appropriate response		
1 What is the leading cause of irreversible blindness in the world?		
a. Cataract	b. Glaucoma	c. Diabetic retinopathy
2 Who are at risk of developing glaucoma?		
a. Children	b. People over 40 years of age	c. Young adults
3 Chronic simple glaucoma is caused by		
a. Progressive increase in power of spectacles	b. Infections	c. Pressure damage to nerve of vision
4 Commonest symptom of glaucoma is		
a. Asymptomatic	b. Pain in eyes	c. Gradual loss of vision
5 (i) Is glaucoma treatable?		
a. Yes	b. No	
(ii) If yes how is it treated?		
a. Medicines	b. Surgery	c. Both
6 What is the end result of uncontrolled glaucoma?		
a. There is irreversible loss of vision	b. Continuous pain in eyes	c. I do not know