

Awareness and knowledge about glaucoma among under-graduate medical students in a medical college in south India

Harshila Jain^{1*}, Datta Gulnar Pandian², Vasudev Anand Rao³

¹Associate Professor, Department of Ophthalmology, Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur 621113

²Assistant Professor, ³Professor and Former Head, Department of Ophthalmology Sri Venkateshwaraa Medical College and Research Centre, Pondicherry, 605102

Email: drjayanthj@rediffmail.com

Abstract

Background: Glaucoma is a leading cause of irreversible blindness and often presents late, as early stage is asymptomatic. Most of the studies regarding awareness of glaucoma have been done in general population or professionals working in hospital which leads to delayed presentation of it. The present study has been done to evaluate the awareness and knowledge about Glaucoma among medical students of one of the private medical colleges in South India. **Material and Methods:** A semi- structured questionnaire has been administered to 739 medical students after taking their verbal consent. The questionnaire was structured to evaluate the awareness (heard about glaucoma) and knowledge (understanding about glaucoma) about different aspects of glaucoma apart from age, sex, semester and intended specialisation of medical student. **Results:** All 739 respondents were aware of Glaucoma and 59.94% students defined it as chronic optic neuropathy with involvement of optic nerve. Only 21.24% students were having knowledge that glaucoma can be asymptomatic. 54.39% students knew that untreated glaucoma results in irreversible loss of vision. 46.68% students knew that peripheral vision will be affected early in course. **Conclusions:** Although all students were aware of glaucoma, their knowledge regarding epidemiology, patho-physiology, risk factors and treatment principles were insufficient. There is a need to update these deficient areas about glaucoma to become better medical professionals and to avoid delay in diagnosis and management of this disease.

Key Word: Glaucoma, Awareness, Knowledge, risk factors, under-graduate medical students

*Address for Correspondence:

Dr. Harshila Jain, Associate Professor, Department of Ophthalmology, Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur 621113

Email: drjayanthj@rediffmail.com

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INTRODUCTION

As per World Health Organization, Glaucoma is a second leading cause of blindness in the world (12.3%) after cataract (47.8%). It is pertinent to note that cataract

blindness can be reversed by surgical intervention whereas blindness due to glaucoma is irreversible. In India, nearly 12 million people are suffering from glaucoma.^{1,4} Hence glaucoma assumes a priority in under Vision 2020 Right to sight India program.⁵ Glaucoma is a progressive optic neuropathy, presenting as slowly progressive diminution of vision. It is insidious and asymptomatic early in course with retention of central vision, which often leads to late diagnosis.^{6,7} Nearly, 90% of patients remain undiagnosed. [8] Most of the patients are having advanced visual defects at the time of presentation. 9 Glaucoma is a preventable cause of blindness by early diagnosis and regular treatment.^{1, 10} it is associated with raised IOP, age, systemic hypertension, diabetes mellitus and smoking. All health care professionals dealing with co-morbidities make an

important bridge between high risk patients and Ophthalmologists^{11,12,13} Hence, medical education should be aimed to train these future doctors to identify high risk patients and to refer them to Ophthalmologists. This study is planned to assess awareness and knowledge about glaucoma among medical students so that steps can be taken to fill the deficiencies.

MATERIAL AND METHODS

This descriptive, cross-sectional study was conducted in a private medical college located in South India over a period of three months. Inclusion criteria were medical students over age of 18 years attending 1st to 9th semester. Exclusion criteria was students those have not given their free and informed verbal consent after complete explanation of study procedure. The study instrument was a semi-structured questionnaire in English comprising of 18 questions. It was designed to assess awareness and knowledge about glaucoma. Most questions were having yes or no answers. Four questions were having multiple choice answers. Information regarding the semester and intended specialization were also taken. It was pre-tested on 10 randomly chosen subjects those were not the part of main study to look for potential changes in questionnaire.

RESULTS

The study had 342 males (46.27%) and 397 (53.72%) females. The male to female ratio was 1: 1.16. Only 42(5.68%) students were intended to take Ophthalmology, while 548 (74.15%) intended to pursue other specializations. 149 students (20.16%) had not

chosen any speciality. All the students had heard about glaucoma. A family history of glaucoma was found in 172 students (23.27%). Most respondents 484 (65.49%) were unaware of glaucoma cases in their family. 83 students (11.23%) informed that there were no cases of glaucoma in their family. Definition of glaucoma: 443 students (59.94%) knew that it is a progressive optic neuropathy with changes in optic disc associated with field defects. Fig. 1 describes the responses of student when asked for leading cause of irreversible blindness in world. 484 students (65.49%) answered correctly whereas 214 students (28.95%) thought diabetic retinopathy as the main cause. Most of the students intended to specialize Ophthalmology answered correctly.

368 students (49.79%) identified Primary open angle glaucoma as most common variety whereas 343 students (46.41%) thought Primary narrow angle glaucoma is common. 22 (2.97%) students mentioned other causes and 6 students (0.81%) were not knowing the answer. 402 students (54.39%) knew untreated glaucoma leads to blindness whereas 39 students (5.27%) have responded negatively. 298 students (40.32%) were not knowing the answer. 512 students (69.28%) classified Glaucoma blindness as irreversible whereas 214 students (28.95%) thought it is reversible with some treatment and 13 students (1.75%) didn't know the answer. Only 157 students (21.24%) correctly replied as Glaucoma can be asymptomatic early in course whereas 392 students (53.04%) thought it is a symptomatic disease from the beginning. 190 students (25.71%) were not knowing the answer.

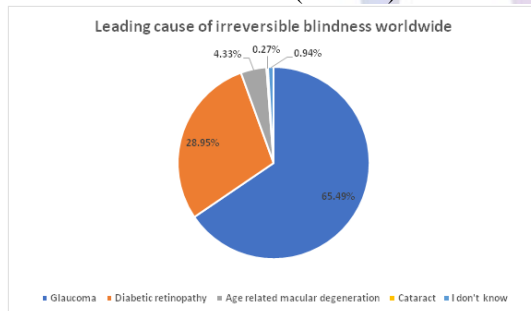


Figure 1

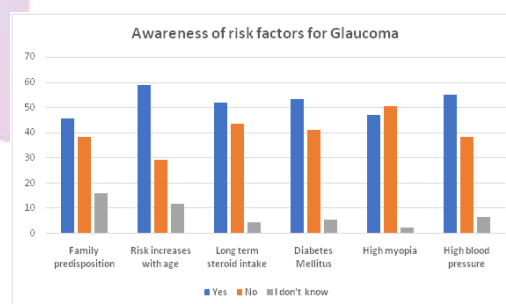


Figure 2: describes about awareness of risk factors for Glaucoma

345 students (46.68%) knew glaucoma affects side vision before central vision whereas 394 students (53.31%) were not aware of this fact.



Figure 3: depicts the importance of compliance of treatment in glaucoma.

Awareness about availability of surgical treatment was only 18.13% (134 students) Majority of the students 654 students (88.49%) rightly thought that regular examination of eye can prevent blindness due to glaucoma.

Table 1: Comparison with other studies

	Our study	Anitha S Maiya <i>et al.</i> [21] (Medical students)	Piyush Kumar R. Ramavat <i>et al.</i> [23] (Medical students)	N. Nageeb <i>et al.</i> [19] (Health care professionals)	Ichhpujani P <i>et al.</i> , [13] (Health care professionals)	Komolafe <i>et al.</i> , [18] (Health care professionals)
Have you heard about Glaucoma	100%	---	100%	100%	100%	100%
Glaucoma is a progressive optic neuropathy	59.94%	63%	---	35% Doctors 29% Nurses	80% Doctors 65% Nurses	88.3%
Untreated Glaucoma results in permanent vision loss	54.39%	46%	58.62%	72.3%	60.5%	76.7%
Glaucoma has a family predisposition	45.46%	75%	47.41%	19.2%	20%	31.7%
Risk of glaucoma increases with age	58.99%	90%	---	---	---	---
long term steroid is a risk factor for Glaucoma	51.96%	85%	64.22%	83.3%	---	---
Diabetes is a risk factor for Glaucoma	53.31%	---	55.60%	77.7%	---	---
High myopia is a risk factor for Glaucoma	47.09%	70%	---	---	---	---
High blood pressure is a risk factor for Glaucoma	55.07%	---	66.81%	77.7%	---	---
Glaucoma can be asymptomatic	21.24%	81%	45.29%	---	---	61.7%
Glaucoma affects side vision before central vision	46.68%	---	46.55%	---	---	76.7%
Compliance of drugs is important in Glaucoma	65.62%	---	71.55%	---	77.3%	---
Whether surgical treatments are available in Glaucoma	18.13%	64%	---	---	---	---

DISCUSSION

Most of the studies on awareness of Glaucoma have been done on general population^{14,17} and only few have been done on health care professionals^{13,18} especially, undergraduate medical students. As medical students are going to become future health care practitioners, they can become effective tool for early diagnosis and proper treatment of a very common disease Glaucoma. As this is

an effective way to avert irreversible blindness associated with glaucoma. Furthermore, by finding misconceptions and knowledge gap, we can rectify the approach towards common eye disorders. In our study, 100% students have heard about glaucoma which is same as study on health care professionals in tertiary hospital by Ichhpujani P *et al.*,¹³ and in study of workers working in tertiary hospital in Nigerian city by Komolafe *et al.*,¹⁸ whereas it is only 19% by Nageeb *et al.*,¹⁹ study on Health Professionals in

a Medical College Hospital and 4.9% by Adegbehingbe BO *et al.*,²⁰ In our study, 59.94% students knew glaucoma is a progressive optic neuropathy with changes in optic disc associated with field defects whereas in study of Anitha S Maiya *et al* among undergraduate medical students, it was 63%.²¹ In contrast to this, 65% doctors 71% nurses were not aware about involvement of optic nerve in glaucoma in study by Nageeb *et al*¹⁹

CONCLUSION

Though 100% students were aware about Glaucoma but the knowledge of the disease glaucoma, it's prevalence, natural course of disease, risk factors and treatment options were poor. Only 59.94% students knew that glaucoma involves the optic nerve, shows poor understanding about the disease. Medical students as future medical practitioners must be well informed about glaucoma which is painless and results in irreversible blindness. Thus, we recommend that pro-active measures are needed to focus on deficient areas for early diagnosis and management of glaucoma which in turn will reduce the blindness due to glaucoma and economic burden to health care system due to disease.²²

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