International Journal of Medical Ophthalmology

E-ISSN: 2663-8274
P-ISSN: 2663-8266
www.ophthalmoljournal.com
IJMO 2020; 2(2): 68-72
Received: 19-05-2020
Accepted: 28-06-2020

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To study glaucoma awareness, knowledge, attitude towards screening in patients of western Uttar Pradesh

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DOI: https://doi.org/10.33545/26638266.2020.v2.i2b.42

Abstract
Purpose: To Study Glaucoma awareness, knowledge, attitude towards screening in patients of Western Uttar Pradesh.
Materials and Method: Descriptive study with 200 sample size including rural and urban population between the age of 18-60 years in outreach camps were given open ended Questionnaire fulfilling inclusion and exclusion criteria.
Result: Awareness distribution was 63.5% more among the males (81%) than females (63%). Urbans had 44.1% whereas in Rurals 90.4% had no awareness. Knowledge distribution was 32.5% with male 70.8% whereas in the Females it was 37.8%. Urbans knowledge was 86.2% whereas in Rurals 94.8% had no knowledge. Screening distribution was 76.7% in males whereas in the Female category 44.5% had no screening. 62.2% Urbans had screening but 93.6% Rurals had no screening.
Conclusion: Good knowledge of glaucoma through mass media and campaigns may enhance health-seeking behaviour among citizens and cope with the demands of the life-long management of the condition.

Keywords: Glaucoma awareness, Glaucoma screening, primary open angle glaucoma, Angle closure glaucoma.

Introduction

Blindness is acknowledged as an utmost public health issue in India [1]. Glaucoma leads to the irreversible cause of blindness and it is slowly becoming a public health problem globally [2]. It is mostly called the "Silent thief of sight" due to no symptoms in the early-stage making it so vicious. This entity triggers a loss of retinal ganglion cells, leading to optic nerve degeneration, visual field defects leads to progressive loss of visual acuity [3]. The main site for glaucomatous axonal damage is in lamina cribrosa [4].

Glaucoma has multiple types. It can be broadly classified into Primary open angle glaucoma (POAG) and Angle closure glaucoma (ACG).In primary open angle glaucoma there are blocked channels that drain the fluid within the eye leading to loss of vision gradually and due to few symptoms, some people don't notice losing their sight for a long time. In angle closure, there is a buildup of fluid but the onset is so sudden leading to headaches, eye pain and blurring. There are several physiological variations such as cupping, intraocular pressure and visual field loss being late manifestation and most pathognomonic of glaucoma but are not suitable for early detection of glaucoma. Both estimation of the cupping and increased Intraocular pressure (IOP) are used as early indicators for screening campaigns in developed countries. This disease can be recognized early and prevented if the risk factors are understood. Glaucoma blindness has imposed major financial distress for affected people as well as in healthcare cost, reducing quality of life, raising recovery cost which affects economic development of the nation. It is also causing major overburden on the healthcare system. Glaucoma campaigns are expensive due to the absence of specific cut off levels and due to the need for extensive follow-ups in large numbers of glaucoma suspect cases and due to low education and socioeconomic status, there is always the late presentation of glaucoma. In nine out of ten people, it remains undiagnosed globally.5 Prevention of blindness acts as a major tool for the national programs for control of blindness. Due to its asymptomatic nature of its progression, glaucoma remains undiagnosed until the advanced stage.6 Glaucoma is the disease on target sight in the Vision 2020 programme.

The initiative looks for Right to Sight by 2020 and eliminates the main cause of blindness. The data about awareness status is limited in India.

The purpose of this study was to acknowledge awareness and knowledge for glaucoma as well as regular eye care seeking behavior in people so that appropriate strategies can be developed to educate them about this vision threatening disease. Hence this study was planned to see Glaucoma Awareness, Knowledge and Attitude to Screening in Patients of Western Uttar Pradesh.

Material and Methods

This was a descriptive study conducted in outreach camps with a minimum 200 sample size including the rural and urban population.

Inclusion Criteria: All those patients and their relatives between 18-60 years of age.

Exclusion criteria

1. All newly diagnosed with glaucoma and/or undergoing treatment for glaucoma during the period of the study.
2. Patients who were not willing to participate/not signing the informed consent.
3. Patients of unsound mind.

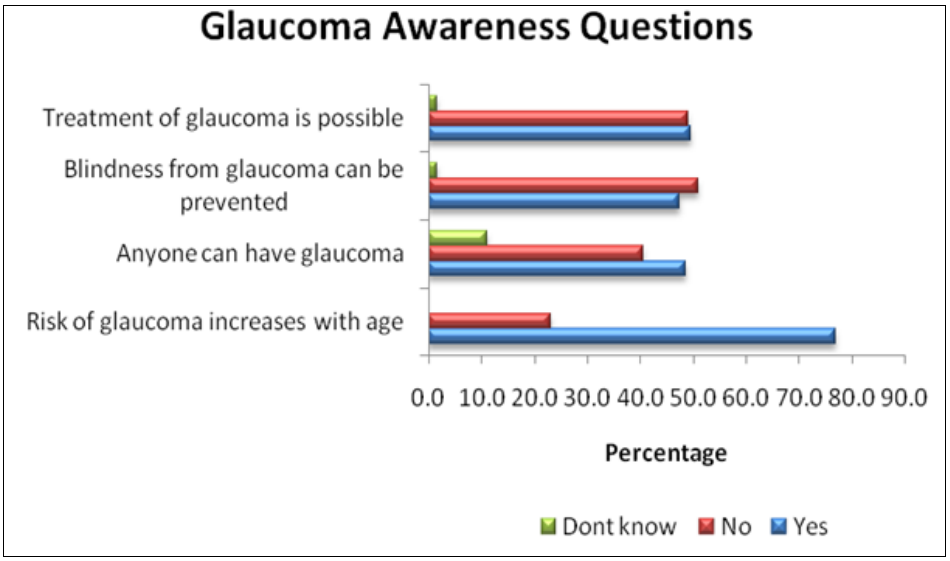
All patients and their relatives fulfilling inclusion and exclusion criteria were made to sign the informed consent. A brief structural open ended Questionnaire was given to collect information about the awareness, knowledge as well as treatment seeking behavior for glaucoma. Questionnaire had three parts regarding awareness and knowledge and about any past one year screening. The parameter for assessment was set with half of the correct answers for awareness and for knowledge at least 30% correct answers were needed and a scoring system for the responses was implemented.

Results and Observations

In the present study total sample size was 200 with Gender distribution of 35.0% Females, 65.0% were Males. Educational Qualification distribution was 65.0% Illiterate, 3.5% were 10th std, 31.5% were UG. Residence distribution was 68.5% Rural and 31.5% were Urban. Maximum patients were of age group 41-50 years. In comparison of Age categories Upto 40 years (21.9%), 41-50 years (41.1%) of them had no awareness. In comparison of Male category 81.0% of them had awareness whereas in Female category 63.0% of them had no awareness. (87.7%) illiterates had no awareness. 70.8% of males had knowledge whereas in the Female category 37.8% of them had no knowledge. In comparison to urban category 44.1% had awareness but 90.4% of rurals had no awareness whereas 86.2% of urbans had knowledge but 94.8% of rurals had no knowledge. 88.2% of rurals had screening in Male and 43.7% of them had no screening in Female and in urban areas 69.6% of them had screening in Male and 57.1% of them had no screening in Female.

Table 1: Glaucoma Awareness Questions

Glaucoma Awareness Questions	Yes		No		Don't know	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Risk of glaucoma increases with age	154	77.0	46	23.0	0	0.0
Anyone can have glaucoma	97	48.5	81	40.5	22	11.0
Blindness from glaucoma can be prevented	95	47.5	102	51.0	3	1.5
Treatment of glaucoma is possible	99	49.5	98	49.0	3	1.5

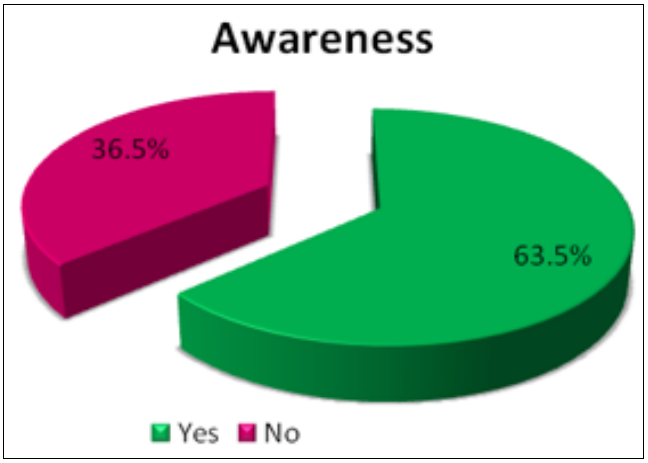


The above table shows the possibility of treatment of glaucoma is a question almost 77.0% of them answered (Yes).

Fig 1: Glaucoma Awareness Questions

Table 2: Awareness distribution

Awareness	Frequency	Percent
Yes	127	63.5
No	73	36.5
Total	200	100.0



The above table shows Awareness distribution were 63.5% is Yes, 36.5% is No

Fig 2: Awareness Distribution

Table 3: Glaucoma Knowledge Questions

Glaucoma Knowledge Questions	Yes		No		Don't know	
	Frequency	%	Frequency	%	Frequency	%
Vision is affected in early course?	66	33.0	119	59.5	15	7.5
Glaucoma has familial predisposition?	25	12.5	147	73.5	28	14.0
Glaucoma has an asymptomatic course?	57	28.5	125	62.5	18	9.0
Glaucoma is the same as cataract?	76	38.0	106	53.0	18	9.0
Mature cataract	57	28.5	137	68.5	6	3.0
Progressive increase in glass numbers	62	31.0	128	64.0	10	5.0
Pressure damage to nerve of vision	76	38.0	118	59.0	6	3.0
Slow, irreversible loss of vision	65	32.5	133	66.5	2	1.0
Eyes cannot be operated	67	33.5	130	65.0	3	1.5

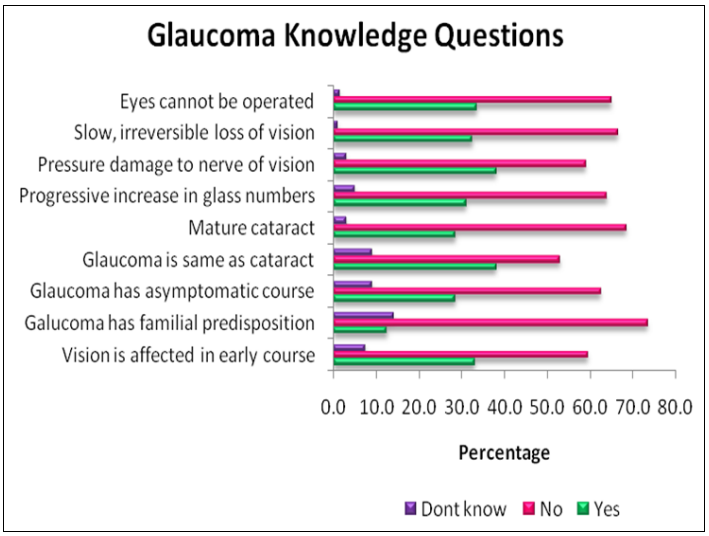
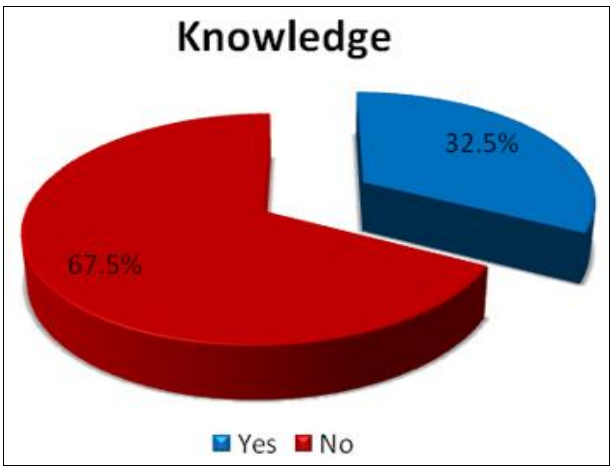


Fig 3: Glaucoma Knowledge Questions

Table 4: Knowledge distribution

Knowledge	Frequency	Percent
Yes	65	32.5
No	135	67.5
Total	200	100.0

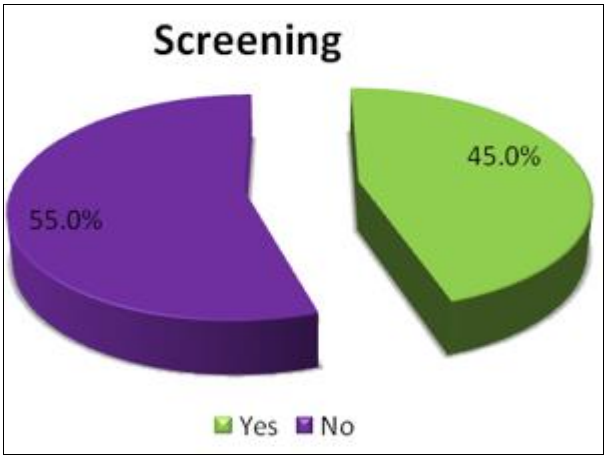


The above table shows Knowledge distribution were 32.5% is yes, 67.5% is No

Fig 4: Knowledge Distribution

Table 5: Screening distribution

Screening	Frequency	Percent
Yes	90	45.0
No	110	55.0
Total	200	100.0



The above table shows Screening distribution were 45.0% is Yes, 55.0% is No.

Fig 5: Screening Distribution

Discussion

Nowadays Glaucoma accounts for the major cause of ocular morbidity which needs urgent attention [7]. In our study, the awareness regarding the glaucoma was 63.5% and knowledge was 32.5%. Awareness among the uban people of Chennai was 13.3%[8].This was quite similar to the study by *Kizor-Akaraiwe NN, et al.* [9] (61.3% awareness level). *Krishnan et al.* [10] concluded that the comparison of knowledge among study participants disclosed that most of the people (43.02%) did not know that glaucoma is widely prevalent, 78.37% considered glaucoma was due to rise in intraocular pressure, 83.31% knew that it affects people above the age of 40 and 42.65% knew it was hereditary, 81.33% knew about the glaucoma association with hypertension and diabetes mellitus. 86.40% were correct in understanding that glaucoma and cataract were two different disease entities, 18.91% subjects knew about its asymptomatic course, 24.6% were aware about its irreversible loss of vision and 89.49% believed that, blindness can be prevented by early diagnosis of the glaucoma. Most of them 92.83% thought the condition can be treated either medically or surgically.

Rewri and Kakkar [11] reported that "only a few subjects comprising 0.7% knew about the asymptomatic nature of glaucoma." It was noted in several studies that due to lack of awareness there is always late presentation of the cases [12] which further affects the seeking behavior for the regular eye checkups [13]. In current study, awareness and knowledge regarding glaucoma depicted an increasing trend with age. This coincided with the findings by *Sathyamangalam et al.*, [8] that stated that "awareness is not related to any age group but subjects between the ages of 60-79 were 2.7 to 3 times more aware than 40-49 year old age groups". De-Gaulle and Dako-Gyeke [14] stated that "subjects between the ages of 40-49 years were more aware of glaucoma". There was a low awareness level in the young population as they consider eye diseases as of old people only. Study conducted in the United Kingdom evaluated after collecting data on awareness themselves to be at the risk of glaucoma in older age.[15]With similarity to our study, overall knowledge and awareness had a relationship with gender but not with the screening of glaucoma. In the study by *Ogbonnaya et al.*, [16] men had more awareness (29.3%) than the women but women had better knowledge about glaucoma than men ie. 9.2%. Men (18.9%) were more regular for the routine eye examinations than women (10.9%). Rewri and Kakkar stated that glaucoma awareness and gender have no relation [11], but previously it was noted between awareness and a particular gender or age [17]. Social and cultural factors affect the disease norms in people and continuously it evolves with time. For glaucoma awareness, education plays a vital role [2]. In the present study, Graduate (44.1%) had significantly better awareness in comparison to Illiterate (12.3%). This was in similarity to the studies by Sathyamangalam *et al.*, [8] people with certain level of education (primary, secondary, tertiary) were more educated of glaucoma than the illiterate ones, *Ogbonnaya et al.*, [15] respondents who is educated above secondary education were more aware of the disease in comparison with those who has primary education and *Landers et al.*, [18] concluded that subjects with higher education were more aware than those with lower education status. *Kizor-Akaraiwe* [9] observed higher knowledge about glaucoma among participants with higher education. The more the education level perceived, the more is the percentage of individuals with good knowledge. These educated people have a good approach to relevant information from the media source [9]. De-Gaulle and Dako-Gyeke [13] stated that people who were well educated were more aware of glaucoma. In Ethiopia also, it was seen that people were more aware of glaucoma who had their proper school education [19].

In current study, people residing in the urban areas (44.1%) had significantly better awareness than rural areas (9.6%). In rural areas, poor people show low awareness levels [15]. The urban people as compared to rural ones had a better knowledge of glaucoma. One of the reasons for low awareness and knowledge about glaucoma is limited access to medical care. So proper utilisation of eye care programs helps in creating awareness regarding glaucoma [20].

Glaucoma awareness programs are very low as health care programs for spreading eye care knowledge are very less. In current study, the willingness for screening was 45.0%.

Ogbonnaya et al., [15] showed that there was an inconsistency in the attitude towards screening in people as very less number of people are going for screening actually.

Conclusion

This study concluded that there was a lack of awareness and knowledge of glaucoma in rural areas, especially rural females, as the majority of them were illiterate and lacked screening. Urban male and females had more awareness and knowledge than rural male and females.

It was also concluded that rural male had more knowledge than rural females. Graduates had more knowledge in comparison with illiterates as they had no knowledge. Male category had screening whereas in Female category most of them had no screening. Urban females and urban males had more screening than rural females and males.

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