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Glaucoma Awareness among Patients at Outpatient Department of Ophthalmology in Smt. Kashibai Navale Medical College and General Hospital, Narhe, Pune

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Abstract: ***The purpose of this study include exploring, describing and comparing level of awareness of glaucoma among the study sample which is the patients at outpatient department of Ophthalmology in Smt.Kashibai Navale Medical College and General Hospital, Narhe, Pune. It will also determine need for raising new strategies and information, education and communication (IEC) model for increasing awareness of disease and prevent glaucoma related visual impairment, which will help in reducing the disease burden and complications due to disease.***

Keywords: glaucoma, awareness, Narhe, Pune, India, cross-sectional study

1. Introduction

The magnitude of the global blindness is 45 million, out of which 9 million blind people are in India (1/5th of the total blind people in the world) [1]. As per the national survey on blindness (1999-2001, Government of India. Report 2002) [2], glaucoma is responsible for 5.8% cases of blindness in the 50+ population and as per the Rapid Assessment of Avoidable Blindness which was conducted in 2006-07, the corresponding figure is 4.4% [3]. Glaucoma is a chronic progressive optic neuropathy with a characteristic appearance of the optic disc and a specific pattern of the visual field defects, that is associated frequently but not invariably with the raised intra-ocular pressure[4]. This globally blinding condition usually is identified at a comparatively late stage, till which irreparable damage has already occurred, which is most of the times due to lack of awareness of this disease. Hence, there is a need to assess the level of awareness among people. Assessment of awareness will also help us in understanding the need for developing information, education and communication model and need for raising new strategies for glaucoma awareness. Also awareness of disease helps in enabling the individuals to get the treatment by early diagnosis. Awareness enables people to go for regular ophthalmic check-ups and also reduce the economic burden of the disease.[5].

2. Materials and methods

2.1 Type of study

Hospital based cross sectional survey.

2.2 Duration of study

It was conducted from 15 April, 2014 to 15 June, 2014.

2.3 Study Sample

All adult male and female patients attending outpatient department of Ophthalmology of Smt. Kashibai Navale Medical College and General Hospital, Narhe, Pune (Maharashtra, India) during the study period.

2.4 Inclusion Criteria:

- Those who were ready to give written informed consent.
- Those did not have glaucoma.
- Patients who were in adult age group.

2.5 Exclusion Criteria

- Those who were not ready to give written informed consent.
- Patients who were not in adult age group.

2.6 Methodology

After getting approval by Institutional Ethics Committee, data on demographics and awareness of glaucoma were collected through face to face interview using pretested semi-structured questionnaire in the vernacular language, which is marathi. The questionnaire was developed in English and was translated in Marathi, which is the local language of Pune. First the Biographic data was collected, then the subjects were asked whether they have heard of the disease. The subjects were said to be aware of glaucoma if they had heard about the disease. If the subjects had some understanding of the disease, they were said to have knowledge about the disease. If the participant was found to be aware of, then the person was asked further questions which included whether the participant had seen people with

glaucoma and was asked to describe the disease condition. The participant was further asked to describe disease and was also asked about the family history, knowledge about the blinding potential, signs, symptoms and risk factors of the disease. Data was collected about whether the participants have been previously screened and if they were screened, details of their screening were taken.

2.7 Statistical Analysis:

Data was collected and stored in microsoft excel sheet and the statistical analysis was done by using the open epi software. The Chi-square test was applied.

There were no statistically significant differences in the different age-groups regarding the awareness of glaucoma (p=0.997), (Chi-square=0.0394), (the test was not statistically significant at p<0.05).

Similarly, there were no statistically significant differences in the awareness of glaucoma between the males and females (p=0.776), (Chi-square=0.080),(the test was not significant at p<0.05).

There was no statistically significant difference with regards to the awareness of glaucoma and employment (p=0.778), (Chi-square=0.5001),(the test was not significant at p<0.05).

There was a statistically significant difference in the awareness of glaucoma with regards to the level of education, the people with a higher level of education being more aware as compared to those with a lower level of education or those attaining no education at all. (p=0.00001),(Chi-square=920.207), (the test is SIGNIFICANT at p<0.05).

3. Results

A total of 2500 subjects were interviewed during the two months study period. The age of participants ranged between 18 and 94 years with mean age of 55.5(SD 22.43) years. Majority of them were males (60%) and about 78% were illiterates (Table 1).
Only 55 (2.2%) of them had some understanding about Glaucoma and were aware about glaucoma (Table 2). The difference in awareness of glaucoma in relation to age, gender and employment status was not statistically significant (Table 3). Glaucoma awareness was positively associated with attaining higher educational level (p < 0.0001 (Table 3). The remaining 2445 (97.8%) participants were not aware of glaucoma.

The responses of those study participants who were aware of glaucoma are presented in Table 5. Out of those who were aware of glaucoma, 10 participants mentioned that one could have glaucoma without having any symptoms, 36 were not sure and 9 said that it is not possible to have glaucoma without symptoms. Out of those who were aware, 24 said people can go blind with glaucoma, 23 said people cannot go blind with glaucoma and 8 were not sure. Out of those who were aware, only 37 had seen people with glaucoma, 6 had family history of glaucoma, 8 were not sure about family history (Table 5). T of those who were aware, six participants responded that glaucoma was high eye pressure, Six respondents said it is big eyes, one said it was loss of peripheral vision and seven said it was diminished visual acuity. Various other responses by the participants who were aware of glaucoma are enlisted in table5. The source of knowledge about glaucoma in 8-9 respondents who were aware of glaucoma was information from friends or close acquaintances who had history of glaucoma or friends or family members with glaucoma. 1-2 respondents got the information from an eye doctor in a hospital. Only one of the respondents who were aware was screened by an optometrist. Different responses by the participants who were aware of glaucoma when they were asked about risk factors of glaucoma are shown in table5. Results show that awareness of glaucoma is very low in the study sample (2.2% only) and awareness is related to higher education level.

Table 1: Biographic data of respondents

	[N = 2500]
Age Group (Years)	
40-44	834
45-49	692
50-54	464
55 and above	510
Gender	
Male	1500
Female	1000
Employment Status	
Employed	710
Unemployed	1698
Retired	92
Educational Background	
Above Tertiary	21
Tertiary	64
Secondary	89
Primary	376
None	1950

Table 2: Awareness of glaucoma in relation to biographic data of the respondents.

	Aware	Not aware
Age Group (Years)		
40-44	19	814
45-49	15	676
50-54	10	452
55 and above	11	503
Gender		
Male	32	1469
Female	23	976
Employment Status		
Employed	15	683
Unemployed	37	1673
Retired	03	89
Educational Background		
Above Tertiary	12	09
Tertiary	28	36
Secondary	13	76
Primary	01	375
None	01	1949

Table 3: Predictors of awareness of glaucoma among people the study sample

[N = 2500]	Aware [n =55]	Not aware [n = 2445]	p-value
Gender			
Male	5	232	0 .776
female	3	100	
Employed	15	683	0.778
Unemployed	37	1673	
Retired	03	89	
Education			
Above tertiary	12	09	0.00001
Tertiary	28	36	
Secondary	13	76	
Primary	01	375	
None	01	1949	

Table 4: Comparison of present study with previous studies

Chaitra pujar et al., (2012)	Anwal village, karnataka	Rural Community >20 years of age	13% awareness of glaucoma
Krishniah et al., (2005) [8]	India	Rural Community >15 years of age	0.27%
Saw et al., (2003) [22]	Singapore	Tertiary Eye care Hospital patients adults above 35 years	23%
Dandona et al., (2001) [6]	India	136 participants	2.3%
Gasch et al., (2000) [12]	United States	0.8	72%
Present Study (2014)	Smt. Kashibai Navale Medical College and General Hospital, Narhe , Pune, India	2500 adults above 18 year age group	2.2%

Table 5: Answers of respondents who were aware of glaucoma related to their knowledge of the disease.

RESPONSE	n=55
1. Have you ever seen people with glaucoma?	
Yes	37
No	18
2. Do you have family members with glaucoma?	
YES,	06
NO,	41
NOT SURE	08
3. Can people go blind from glaucoma?	
YES	24
NO,	08
NOT SURE	23
4. Can one have glaucoma without having the symptoms	
Yes	10
No	09
Not sure	36
5. How many of the following do you know to be the signs and symptoms of glaucoma?	
(a) Big eyes	
(b) Increased intra ocular pressure	
(c) Loss of peripheral vision	
(d) Diminished visual acuity	
(a) 06, (a) + (b) =10, (a) + (c)= 0, (a)+(d)=03	
(b) 06, (b)+(c)=0, (b)+(d)=01	
(c) 01, (c)+(d)=0, (b)+(c)+(d)=00, (a)+(b)+(d)=06	
(d) 07, (a)+(c)+(d)=01 (a)+(b)+(c)=00 (a)+(b)+(c)+(d)=14	
6. How many of the following do you know to be risk factors for glaucoma?	
(a) Age over 40	06
(b) Family history of glaucoma	05
(c) High eye pressure	04
(d) Trauma	02
(e) I'm not sure	09
(a)+(b)=07, (b)+(c)=06, (c)+(d)=01, (a)+(d)=00	
(a)+(b)+(c)=07, (a)+(c)+(d)=01, (b)+(c)+(d)=03	
(a)+(b)+(c)+(d)=04	
7. Have you ever been screened for glaucoma?	
YES	01
NO	54
8. Who screened you?	
Optometrist	01
Ophthalmologist	00
OMA	00

4. Discussion

Initially biographic data was collected which included age, gender, employment status and level of education. Further knowledge of the person about glaucoma was tested. A participant was said to be aware of glaucoma, if that person had previously heard of glaucoma and was said to have knowledge about the disease, if he/she cold describe the disease. If the participant was found to be aware of, then the person was asked further questions which included whether the participant had seen people with glaucoma and was asked to describe the disease condition. The participant was further asked to describe disease and was also asked about the family history, knowledge about the blinding potential,

signs, symptoms and risk factors of the disease. Data was collected about whether the participants have been previously screened and if they were screened, details of their screening were taken. We found that only 2.2% (55/2500) were aware of glaucoma

Our finding of 2.4% (8/340) of people aware of glaucoma among those attending outpatient department of Smt. Kashibai Navale Medical College and General Hospital, Narhe, Pune (in India), which is similar to that found in a population based study in urban (2.3%) [6]

Southern India, it being a epidemiological survey, direct comparison may not be applicable. In studies from developed countries there was found to be lack of glaucoma awareness in male gender [7,9,10], while studies from a lesser developed country have found that male gender had more awareness than female gender [6,8]. While many other studies did not find any difference between male and female regarding awareness of the glaucoma [12-15]. In this study, we did not find an association between glaucoma awareness and gender. Few studies have previously documented relationship between older age and awareness of glaucoma [6,9,10]. In our study, there was no association found between age and awareness of glaucoma. Several studies reported that there was a strong association between glaucoma awareness and having family history of glaucoma [7,9,11,12,14]. Individuals having a family member or acquaintance with glaucoma have probability of having more information on glaucoma awareness. However in this study, no significant association was found between awareness of glaucoma and individuals with family members or family history of glaucoma. The only biographic factor associated with awareness of glaucoma found in this study was higher level of education. Subjects without any formal education were considered as "illiterates" and the other categories are those with primary (1-5 years of education), secondary (5-10 years of education) and tertiary levels of education (education levels from 10+2 to degree) and more than that. Similar finding was reported from a developing country [6,8]. This study, other than higher level of education, did not identify other factors or attributes associated with glaucoma awareness. Therefore, there is a need to develop new strategies and information, education and communication (IEC) model for increasing awareness of disease and prevent glaucoma related visual impairment. Health education must be targeted to at least all individuals at risk of developing the disease regardless of gender, age, employment or educational status. One study has documented that mass media were the main source of information in rural India [8].

Glaucoma patients presenting to eye clinics, may be an important means to spread information and thereby increase about glaucoma. Since glaucoma runs in family, encouraging known glaucoma patients to prompt their family members undergo screening can help in the early diagnosis of glaucoma in early stages. Nearly all of the respondents who were aware of glaucoma, had not ever undergone screening which indicates that having awareness about a disease does not necessarily put the knowledge into an appropriate practice. Restraints which hinder people from seeking screening for glaucoma need to be assessed with other more studies. Educating patients with glaucoma in o set-p is not feasible due to disparity in number of ophthalmologists and number of patients. It can be done by trained ophthalmic nurses or ophthalmic medical assistants. It might no be as effective as individual patient education, but such regular sessions are most feasible and cost-effective. Health education programmes have to be fored and conducted in the vernacular language of the target individual. Free screening services may have to be started for family members of glaucoma patients. The participants of this study, who they came to outpatient department of ophthalmology with eye condition, almost none of those who were aware of glaucoma got this information from a health facility

5. Conclusion

In the study done in Smt. Kashibai Navale Medical College and General Hospital, Narhe, Pune, we found that the awareness of glaucoma in the study sample is very low. An efficient information, education and communication(IEC) needs to be designed to increase knowledge of people about glaucoma so that early diagnosis and treatment of individuals with this condition may be possible. Also new strategies and programmes need to be developed to increase the awareness of disease. (Table 4 shows comparison of the awareness found in this study with previous studies)

Author Profile

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Tables and fFgures:
Table1, table2, table3, Table4 and Table5

Financial Or Other Competing Interests:
None