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RESEARCH ARTICLE

AWARENESS AND KNOWLEDGE ABOUT GLAUCOMA IN PATIENTS OF A TERTIARY CARE HOSPITAL

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ABSTRACT

Purpose: To study the awareness and knowledge about glaucoma in patients presenting to ophthalmology outpatient department of at tertiary care hospital.
Methods: A hospital based cross-sectional study was conducted on 300 patients attending ophthalmology outpatient department. A questionnaire was provided to the patients after a written informed consent to assess their awareness and knowledge levels of glaucoma On the basis of response, the answers were categorized in to three groups for awareness as fully aware, partially aware and not aware and for knowledge as good knowledge, fair knowledge and poor knowledge.
Results: In present study, out of 300 patients, 147 were male and 153 were females. Two hundred and thirteen patients (71.0%) were from urban area and 87(29.0%) were from rural area. Most of the patients were literate (83.3%). Among literate patients, 68(27.2%) were aware about glaucoma, 98(39.2%) were partial aware and 84(33.0%) were not aware. Only 0.4% had good knowledge regarding glaucoma, 17.6% had fair and 82.0% had poor knowledge. Among illiterate patients, only 8% were aware of glaucoma.
Conclusion: Thus, present study showed that there is poor awareness and knowledge about glaucoma among large population. Lack of education is the major factor. Urban patients were more aware as compare to rural. Literate male patients were more aware then illiterate patients.

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INTRODUCTION

Glaucoma is one of the major causes of irreversible blindness. It has been considered as the second most common cause for blindness. Estimated population for glaucoma in India is around 11 million (George, 2010). It has been predicted that India can be the second largest home of glaucoma cases by 2020 (Quigley, 2006). Early diagnosis in glaucoma cannot be underestimated as it affects the effective management and prevention of blindness. According to various studies the maximum numbers of cases of the glaucoma remain undiagnosed, and a large number of cases are diagnosed at end stage of the disease (Kwon, 2001). Poor awareness about glaucoma is an important factor for its late presentation, which significantly increases the risk of blindness.

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It is a known fact that patients will strive for a screening procedure only if they are aware of the risk factors and consequences of glaucoma. This study was conducted to assess the level of awareness and knowledge of glaucoma in undiagnosed cases according to the literacy level.

MATERIALS AND METHODS

A cross-sectional study was conducted in 300 patients presenting to ophthalmology outpatient department at tertiary care hospital. Their demographic details and literacy levels were recorded. The study was conducted over a period of 2 months. Random systematic sampling method was used to recruit patients. Every tenth patient was taken for the study. After taking informed consent in local language a questionnaire was provided to patients and asked to answer the question. To illiterate patients, the questions were explained verbally. Questionnaire was provided both in Hindi and

English. Subjects without any formal education were considered as "illiterates".

The questionnaire was divided into two parts; first part consists of two questions on awareness. The second part of questionnaire consists of six questions on knowledge of glaucoma. A subject was considered to be aware about glaucoma if he/she answered both the question of awareness, if he/she answered one question than considered to be partially aware and not aware if he/she did not answered any question.

The criteria set for judging the knowledge of the patients was-

- Good- if answered all 6 questions correctly;
- Fair- if answered 3-5 questions correctly out of 6;
- Poor- if answered 2 or less than 2 questions correctly out of 6.
- We excluded the patients those are-
  - Age<18yrs,
  - Diagnosed Glaucoma patients,
  - Mentally unstable patients

The electronic form of the data was stored in a MS excel database; analysis was performed using SPSS statistical software.

RESULTS

Out of 300 patients who answered the questionnaire, 147 (49%) were male and 153(51%) were female. Maximum patients were from urban area 213 (71.0%). Out of 147 males, 16 (10.8%) were illiterate and 131 (89.1) were literate, and out of 153 females, 34 (22.2%) were illiterate and 119 (77.7%) were literate. In our study out of 300 patients, total 83.3% were literate (Table 1). According to literacy levels, out of 250 literate patients, 68 (27.2%) were fully aware about glaucoma, 98 (39.2%) were partially aware and 84 (33.6%) were not aware about glaucoma. Among illiterate, only 4 (8%) were aware of glaucoma. Statistically it was highly significant (P value = 0.001) (Table 2). Out of 213 urban patients 57 (26.7%) were fully aware, 68 (31.9%) patients was partially aware and 88 (41.3%) were not aware of glaucoma. Urban patients were more aware as compare to rural. It was statistically significant (P value is 0.15). According to gender, 48 (32.6%) male were aware of glaucoma as compare to 24 (15.6%) female patients, which was highly significant (P value is 0.001) (Table 2). Thus out of total 300 patients, only 72 (24%) were aware about the glaucoma. Regarding knowledge of glaucoma, out of 250 literate patients, only 1 (0.4%) had good knowledge, 44 (17.6%) had fair and 205 (82%) had poor knowledge.

Table 1. Demographic distribution of patients according to gender, education level and locality

Education Level	Male n=147	Female n-153	Total N=300	Chi Square Value	P Value
Illiterate	16 (10.8%)	34 (22.2%)	50(16.7%)	6.939	0.008
Literate	131 (89.1%)	119 (77.7%)	250(83.3%)		
Locality					
Rural	39 (26.5%)	48 (31.3%)	87(29.0%)	0.854	0.356
Urban	108 (73.4%)	105 (68.6%)	213(71.0%)		

Table 2. Awareness of Glaucoma among patients according to education level, locality and gender

Education Level	Aware n=72	Partial Aware n=111	Not Aware n=117	Total n= 300	Chi Square Value	P Value
Illiterate	4 (8.0%)	13 (26.0%)	33 (66.0%)	50	19.578	0.001
Literate	68 (27.2%)	98 (39.2%)	84 (33.6%)	250		
Locality						
Rural	15 (17.2%)	43 (49.4%)	29 (33.3%)	87	8.454	0.015
Urban	57 (26.7%)	68 (31.9%)	88 (41.3%)	213		
Gender						
Male	48 (32.6%)	53 (36.0%)	46 (31.2%)	147	13.452	0.001
Female	24 (15.6%)	58 (37.9%)	71 (46.4%)	153		

Table 3. Knowledge of Glaucoma among patients according to education level, locality and gender

Education Level	Good Knowledge n=1	Fair Knowledge n=48	Poor Knowledge n=251	Chi Square Value	P Value
Illiterate	0(0.0%)	4 (8.0%)	46 (92.0%)	3.098	0.212
Literate	1 (0.4%)	44 (17.6%)	205 (82%)		
Locality					
Rural	0(0.0%)	12 (13.7%)	75 (86.2%)	3.405	0.182
Urban	1(0.4%)	36 (16.9%)	176(82.6%)		
Gender					
Male	1 (0.6%)	23 (15%)	123(83.6%)	1.063	0.588
Female	0(0.0%)	25 (16.3%)	128(83.6%)		

The Chi Square test was used to look for significant variations in knowledge and awareness about glaucoma with other studied variables. The influence of age, gender, literacy levels and locality, on the subject's knowledge and awareness of glaucoma was accessed using multiple logistic regression analysis. *P* value less than 0.05 were considered statistically significant.

Among illiterates 92% had very poor knowledge of the disease. It was statistically not significant (P value = 0.212). Urban patients were had more knowledge than rural but was not statistically significant (P value = 0.182) (Table 3). According to education level, out of 300 patients, 173(57.7%) were aware about glaucoma out of which 157 were literates and rest 16 were illiterate and 81(27.0%) were aware about

Table 4. Awareness of Glaucoma among patients according to Education Level

Awareness	Option	Illiterate n=50	Literate n=250	Total n=300	Chi Square Value	P Value
Q1: Have you heard about the glaucoma?	Yes	16(32%)	157(62.8%)	173(57.7%)	20.585	0.001(HS)
	No	21(42%)	72(28.8%)	93(31.0%)		
	Don't Know	13(26%)	21(8.4%)	34(11.3%)		
Q2: Is there any difference between cataract and glaucoma?	Yes	5(10%)	76(30.4%)	81(27.0%)	9.946	0.007(S)
	No	13(26.0%)	64(25.6%)	77(25.7%)		
	Don't Know	32(64.0%)	110(44.0%)	142(47.3%)		

Table 5. Knowledge of Glaucoma among patients according to Education Level

Questions	Option	Illiterate n=50	Literate n=250	Total n=300	Chi Square Value	P Value
Q1: Does it have relation to Intraocular pressure?	Yes	5(10%)	75(30.0%)	80(26.7%)	8.582	0.014(S)
	No	11(22%)	40(16.0%)	51(17.0%)		
	Don't Know	34(68%)	135(54.0%)	169(56.3%)		
Q2: What do you know about its sign and symptoms?	Eye Pain	3(6.0%)	39(15.6%)	42(14.0%)	21.597	0.001(HS)
	Weakness in Eye	5(10.0%)	63(25.2%)	68(22.7%)		
	Colorful Circle on Bulb	1(2.0%)	13(5.2%)	14(4.7%)		
	Headache with vomiting	4(8.0%)	23(9.2%)	27(9.0%)		
	All Above	3(6.0%)	28(11.2%)	31(10.3%)		
	Don't Know	34(68.0%)	84(33.6%)	118(39.3%)		
Q3: What are the risk factors?	Age more than 40 yrs	5(10.0%)	47(18.8%)	52(17.3%)	16.275	0.003(HS)
	Family History	1(2.0%)	17(6.8%)	18(6.0%)		
	Diabetes	1(2.0%)	19(7.6%)	20(%)		
	All Above	3(6.0%)	44(17.6%)	47(15.7%)		
	Don't Know	40(80.0%)	123(49.2%)	163(54.3%)		
Q4: What is the effect of disease on vision?	Complete Blindness	7(14.0%)	114(45.6%)	121(40.3%)	17.796	0.001(HS)
	Decreased vision	7(14.0%)	28(11.2%)	35(11.7%)		
	Don't Know	36(72.0%)	108(43.2%)	144(48.0%)		
Q5: Can the lost vision be achieved back?	Yes	6(12.0%)	92(36.8%)	98(32.7%)	14.268	0.001(HS)
	No	7(14.0%)	42(16.8%)	49(16.3%)		
	Don't Know	37(74.0%)	116(46.4%)	153(51.0%)		
Q6: What are the treatment options?	Medicine	7(14.0%)	23(9.2%)	30(10.0%)	20.957	0.001(HS)
	Laser	0(0.0%)	21(8.4%)	21(7.0%)		
	Operation	4(8.0%)	69(27.6%)	73(24.3%)		
	All Above	3(6.0%)	31(12.4%)	34(11.3%)		
	Don't Know	36(72.0%)	106(42.4%)	142(47.3%0		

difference between cataract and glaucoma of which 76 were literates and 5 were illiterate (Table 4). Eighty patients (26.7%) had known that there is a relationship between glaucoma and pressure of eye, 31(10.3%) patients knew all clinical feature of glaucoma and 34 (11.3%) patients knew complete treatment of glaucoma (Table 5).

DISCUSSION

Glaucoma is described as a neurodegenerative disorder of the optic nerve with loss of retinal ganglion cells (Singapore:, 2011). In India, majority of the data published on the awareness of glaucoma are from Southern and Central India. Only few had been done in the Central Zone. In our study, the awareness and knowledge regarding glaucoma were assessed in patients keeping in mind the literacy level, locality and gender. We found that there is poor awareness and knowledge among the population presented to tertiary care hospital. A study by R.V. Sathyamangalam in Chennai and Dandona R in Hyderabad both have been conducted only among the urban population. The prevalence found regarding awareness of glaucoma was 13.3% (Sathyamangalam, 2009) and 2.3% (Dandona, 2001) respectively. Parveen et al (2004) assessed the awareness and knowledge of glaucoma in rural resident of North India. They found that awareness and knowledge were better among individuals with higher education and among close conversance of glaucoma patients (Rewri, 2014). A Study by Krishnaiah S was conducted among the rural population of South India in which they found that the awareness of glaucoma was very poor (0.32%) in rural population, and females were significantly less aware than males. There was also significantly less awareness among illiterate persons (Krishnaiah, 2005). In our study we found that the awareness was 26.7% in urban and 17.2% in rural population and among literate it was 27.2% and 8% in illiterates. Knowledge was more among the urban, literates and males. This signifies the importance of education for awareness about the disease, as educated people were more likely to approach the source of information (Derman, 1983)

The most important factors of public health policy are health promotion and communicating risk factors (Garber, 1990). Awareness of eye care and especially for glaucoma is very low among the patients that we analyzed. Effective health education for eye care may encourage the patients to have timely eye check-up. Communicating visual prognosis among the patients by primary eye care practitioners would help in augmentation of the knowledge and compliance of the patients. In addition, educational programs should also include the friends and family members in supporting the regular check up and needful eye care and to ease the patient's fear or anxiety concerning treatment.

There are various initiatives taken as part of the World Glaucoma Day in increasing awareness about glaucoma through various media and awareness groups and it would also be helpful to improve the awareness in the population.[11] Subjects with lower level of education and awareness were seen to be less aware and knew less about glaucoma in comparison with the educated subjects of the population. Thus, the findings of this project signify the needs for health

education to effectively deepen into the roots of Indian Medical structure in order to prevent blindness due to glaucoma.

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