



Original Research Article

To Study the Impact of World Glaucoma Week in Creating Awareness of Glaucoma in a Metropolitan City of Southern India

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ABSTRACT

Purpose: To study the impact of world glaucoma week in increasing the awareness about glaucoma in a metropolitan city (Bangalore) of southern India.

Design: Prospective observational study.

Materials and Methods: Four hundred subjects, 100 subjects in the preawareness campaign and 300 subjects in the post awareness campaign, who attended the general outpatient department and glaucoma clinic of Nethradhama Superspeciality Eye hospital between February 2014 and May 2014 were included in our study. The responses of subjects who completed a structured questionnaire regarding the awareness (heard of glaucoma) and knowledge (understanding of disease) of glaucoma was analysed.

Results: Four hundred subjects were recruited, among which 100 subjects were assessed for awareness in the preglaucoma campaign week (Group 1) and 300 subjects in the post glaucoma campaign month (Group 2). Methods employed to increase the awareness of glaucoma in our population were glaucoma week awareness programmes in TV, Newspapers radio and magazines. Females predominated in both the groups (group 1 -56% , group 2 -58%). Total no of patients attending glaucoma clinic for glaucoma check up significantly increased in group 2, compared to group 1 (33.3% and 12%, $P < 0.001$). The awareness of glaucoma was graded as limited, and good knowledge based on the response to the questionnaire. Of the subjects who were aware of glaucoma in group 2, 81(27%) of them had limited knowledge, 55(18.4%) of them had good knowledge. Knowledge about vision loss due to glaucoma being permanent was found to be higher in the post glaucoma awareness group ($n=72, 24%, P < 0.001$).

Conclusion: Awareness and knowledge about glaucoma was significantly greater in patients following the glaucoma awareness week campaign.

Key words: World glaucoma week, Glaucoma, Awareness, Knowledge

INTRODUCTION

Glaucoma is second only to cataract as the leading cause of preventable blindness in the world. It is estimated that over 65 million people throughout the world are affected by glaucoma. ⁽¹⁾ Glaucoma causes irreversible blindness and as many as (50%)

of the affected people are unaware of their condition. ⁽²⁾ Increased awareness about glaucoma will increase case detection and will thereby reduce blindness due to glaucoma. Governmental agencies and several non-governmental organizations should get actively involved to educate the

public regarding diseases like glaucoma which causes significant visual morbidity. ⁽³⁾

Published evidence indicates that late diagnosis of glaucoma is an important risk factor for subsequent blindness and is associated with poor knowledge about the condition. ⁽⁴⁾

Till date only two publications have reported the awareness status about glaucoma in India, their figures when compared to the West reflect the poor awareness levels in Indian population. ^(5,6) According to population based study by Dandona et al on level of awareness of eye disease in subjects aged 15yrs and above showed the awareness of glaucoma to be 2.3% ⁽⁵⁾ and other population based study by Krishnaih et al on awareness of glaucoma from the rural population of Andhra Pradesh in subjects older than 15yrs showed the awareness of glaucoma to be 0.32%. ⁽⁶⁾

Glaucoma commonly known as “SNEAK THIEF OF SIGHT” is amenable to effective management only with early detection .Hence community based health education programmes and glaucoma awareness campaigns are necessary to unravel more undetected cases and identify those at risk of developing glaucoma.

The aim of this study was to analyse the impact of world glaucoma week campaign in enhancing the awareness about glaucoma in urban population of Bangalore.

MATERIALS AND METHODS

We conducted a hospital based survey after obtaining Institutional ethics committee approval, among the patients aged between 17yrs – 80yrs attending the outpatient department of Nethradhama superspeciality eye hospital between February 2014 and May 2014. Glaucoma week awareness programmes organized by our institute during world glaucoma awareness week, March 9th -16th were vintage car rally and glaucoma walkathon in

the heart of the city. It was also enhanced using media services (radiocity 97.2 FM and News papers). A total of 400 subjects, 100 subjects in group 1 and 300 subjects in group 2 were included in the study. Awareness and knowledge was analysed by a questionnaire consisting of 8 questions which was easily understood by the patient population in their own vernacular language.

Awareness was considered as barely having heard of the disease by name glaucoma Knowledge was considered as having deeper understanding of the disease, its risk factors, therapeutic options and its consequence.

Limited knowledge was defined as high pressure in the eye or a disease where the nerve of the eye becomes weak. Subjects were considered to have good knowledge if they were aware of the investigative and therapeutic options of the disease.

Statistical Analysis:

The Statistical analysis was done using a software SAS 9.2 and Microsoft word and Excel were used to generate graphs, tables etc.

P value: $P \leq 0.01$ was significant

RESULTS

Four hundred subjects , 100 in group 1 /preglaucoma awareness week campaign and 300 in group 2 / post awareness campaign month were enrolled in the study. Females predominated in both the groups (group 1 – 56% , group 2 – 58%). Number of subjects who walked in for glaucoma evaluation was significantly more in group 2 (n=100, 33.3%), when compared to group 1 (n=12 , 12%, $P < 0.001$) (Table 1). Awareness of glaucoma was found to be significantly more in group 2 (n=220, 73.3%) compared to the group 1 (n=58, 58%) with $P < 0.001$ (Table 2).

Treatment knowledge about glaucoma was found to be significantly more in post glaucoma awareness group, $P < 0.001$, with

27% of them having limited knowledge, 18.4% of them having good knowledge, about glaucoma (Table 4). Subjects in group 2 were more aware of vision loss due to glaucoma being permanent (24%) when compared to group 1 (10%) (Table 5). Increased IOP was one of the statistically significant risk factor, $P < 0.001$ for glaucoma noted in both the groups.

Methods employed to increase the awareness and knowledge of glaucoma in our study was glaucoma week awareness programmes in television, newspaper and radio (Table 3).

Table 1: Reason for visit ?

Reason for visit?	Pre-Awareness campaign	Post Awareness campaign	Total
General eye check up	88(88.0%)	200(66.7%)	288(72.0%)
Glaucoma check up	12(12%)	100(33.3%)	112(28.0%)
Total	100(100%)	300(100%)	400(100%)

Table 2: Awareness of glaucoma – Having heard of Glaucoma

Having heard of glaucoma	Pre-Awareness campaign	Post Awareness campaign	Total
No	42(42%)	80(26.7%)	122(30.5%)
Yes	58(58%)	220(73.3%)	278(69.5%)
Total	100(100%)	300(100%)	400(100%)

Table 3: Source of information

Source of information	Pre-Awareness Campaign	Post Awareness Campaign	Total
1. No response	52(52.0%)	147(49%)	189(47.3%)
2. Old PT of glaucoma	10(10%)	10(3.3%)	20(5%)
3. Was suspected to have glaucoma after coming to the hospital	11(11%)	21(7%)	32(8%)
4. Family history of glaucoma	5(5%)	16(5.3%)	21(5.3%)
5. Glaucoma week awareness programmes in TV, newspaper, radio, magazines, health shows	19(19.0%)	88(29.3%)	117(29.3%)
6. Friends	2(2%)	14(4.7%)	16(4.0%)
7. Eye camps	1(1%)	5(1.7%)	6(1.5%)
Total	100(100%)	300(100%)	400(100%)

Table 4: Knowledge of Glaucoma

Knowledge of Glaucoma	Pre-Awareness campaign	Post Awareness campaign	Total
1. No response	45(45%)	149(49.7%)	194(48.5%)
2. High pressure in the eye/disease where the nerve of the eye becomes weak (Limited Knowledge)	34(34%)	81(27%)	115(61%)
3. Damage to the nerve of the eye due to high pressure/Age related process leading to decrease in peripheral vision (Good Knowledge)	17(17%)	55(18.4%)	72(35.4%)
4. Don't know	4(4%)	15(5%)	19(4.8%)
Total	100(100%)	300(100%)	400(100%)

Table 5: Vision loss

Vision loss	Pre-Awareness campaign	Post Awareness campaign	Total
No response	65(65.0%)	158(52.7%)	203(50.8%)
Permanent	10(10.0%)	72(24%)	102(25.5%)
Reversible	12(12%)	29(9.7%)	41(10.3%)
Don't know	13(13%)	41(13.7%)	54(13.5%)
Total	100(100%)	300(100%)	400(100%)

Table 6: Treatment of glaucoma

Treatment	Pre-Awareness campaign	Post Awareness campaign	Total
No response	49(49%)	77(25.7%)	126(31.5%)
No treatment (Poor knowledge)	6(6%)	4(1.3%)	10(2.5%)
Eye drops (Limited knowledge)	27(27%)	120(40.0%)	147(36.7%)
Laser treatment & Surgery (Good knowledge)	18(18%)	99(33.1%)	117(51.1%)
Total	100(100%)	300(100%)	400(100.0%)

Table 7: Risk factors for Glaucoma

Risk factors	Pre-Awareness Campaign (n=100)	Post Awareness Campaign (n=300)	Total (n=400)	P value
1. Obesity	2(2%)	20(6.7%)	22(5.5%)	0.076+
2. Increased IOP	22(22%)	124(41.3%)	146(36.5%)	<0.001**
3. Steroids	7(7%)	28(9.3%)	35(8.8%)	0.475
4. Chronic smoking and Alcohol	6(6%)	29(9.7%)	35(8.8%)	0.282
5. Family history of glaucoma	27(27%)	90(30.0%)	117(29.3%)	0.123
6. Diabetics	24(24%)	59(19.7%)	83(20.7%)	0.355
7. None of the above	2(2%)	8(2.7%)	10(2.5%)	0.712

Table 8: Glaucoma awareness and knowledge levels across the globe

Author	Country	Study Population	Awareness of glaucoma %	Knowledge of glaucoma %
Dandona et al	India	Urban population –Above 15 yrs	2.3	Not reported
Krishnaih et al	India	Rural population –Above 15yrs	0.27	0.012
Ramesh et al	India	Urban population Above 40 yrs	13.3	8.7
Law et al	Honkong	Community –adults above 40yrs	78.4	10.2
Gasch et al	United States	General eye services –patients all ages	72	Not Reported

DISCUSSION

Early detection and treatment plays a pivotal role in control of blindness due to glaucoma. One third of the patients who had become blind from glaucoma had done so even before they had sought medical attention. ⁽⁷⁾ Awareness does not mean that subject knows everything about the disease, it just means that he/she has heard about the condition.

Previous studies have showed that even though most people claim to be aware of the condition less than a percent could describe its symptoms or patho-physiology correctly. ⁽⁸⁾ Knowledge about the disease would be more useful, as it is presumed to influence their ocular health-seeking pattern. The age and sex adjusted glaucoma awareness rate among the general population of Chennai was 13.3% and only 8.7% of the Chennai residents had some knowledge about glaucoma. Urban Chennai residents seemed to be more aware about glaucoma (13.3%) when compared to their counterparts in Hyderabad (2.4%). ⁽⁵⁾ This when compared to our study post awareness campaign was 73.3%. The observed

difference in glaucoma awareness could be explained by the different definitions used across the two studies, the difference in study methodology and tools, and also by the diversity of Indian culture. Knowledge level about glaucoma between the Hong Kong (10.2%) and Chennai (8.7%) populations were comparable. ⁽⁸⁾ Dissimilarities in awareness levels between the two countries could be largely due to easy access to health care and better utilization of eye care services for glaucoma in Hong Kong.

To the best of our knowledge, this is the first hospital -based data available on awareness of glaucoma following glaucoma awareness week campaign from the urban metropolitan city of Bangalore .Awareness rate post glaucoma awareness week campaign in our study was 73.3%. Study by Dandona et al on awareness of eye diseases in urban population of southern India showed the awareness of glaucoma to be 2.3%. ⁽⁵⁾

Variable awareness has been reported from different authors in different geographical locations. Public awareness of

vision care especially glaucoma is very low. Effective health education about eye care influences more case detection and treatment which in turn helps in restoring sight years and better quality of life. Communicating visual prognosis by primary health clinicians and primary eye care practitioners would help enhance the knowledge and compliance among glaucoma patients. The aims of education should focus not only on modifying individual's perception of risk of vision loss, but also on providing information regarding the benefits of early detection and treatment. In addition, education programs should also be oriented towards the involvement of friends and family members in supporting and seeking of eye care and alleviating the anxiety concerning blindness. ⁽³⁾ It is important to note that the benefits of eliminating barriers to access can be fully realized only when the issue of adequate utilization of preventive services is also addressed. Studies across the globe have clearly documented the potential cost savings associated with regular preventive eye care as compared to cost of vision loss. ⁽⁹⁾

In our study education and socioeconomic status played a significant role in increasing the level of awareness of glaucoma. Educating the community on the consequences of delayed treatment of glaucoma proves to be an important aspect in the promotion of preventive ophthalmic care. Mass media and word of mouth can be effective tools for generating awareness on regular and timely eye check up particularly for those who are above 40 years of age and blood relatives of glaucoma patients in both urban and rural population.

Limitations:

- As it is a hospital based study, results cannot be generalized to whole population.

- Questionnaire designed was as per the literacy level and understanding of general population, assessed by the glaucoma specialists at our hospital.
- Study conducted 2 weeks prior to world glaucoma awareness campaign and two months post campaign, does not indicate the ongoing awareness in the population.

Future Recommendations:

Creating awareness is not one time responsibility, but has to be continued on a regular basis to bring about a impact in the community about the disease.

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