

Evaluation of the Awareness on Glaucoma in A Rural Eye Camp in North Karnataka, India

CHAITRA PUJAR, LAXMAN DASAR, JAYSHREE MP, MADHURI G PATIL, PUNEET S SHIRBUR

ABSTRACT

Purpose: To assess the awareness on glaucoma in a rural eye camp in north Karnataka, India.

Materials and Methods: A total of 100 subjects who were >20 years old, who attended an eye camp at Anwal village, in the Bagalkot district, north Karnataka, India, were enrolled into the study. The responses of the subjects (N=100) who completed a structured questionnaire regarding the awareness (heard of glaucoma) and the knowledge (understanding glaucoma) on glaucoma, formed the basis of this study.

Results: The awareness on glaucoma was (n=13, 13%) poor in this rural eye camp.

No significant difference was noted between the different age-groups ($p=0.739$) and between males and females ($p=0.379$).

The awareness on glaucoma was significantly higher in the lit-

erates ($p= 0.0061$) and in the higher socio-economic groups ($p=0.00003$). A total of 5 subjects (n=5, 38.46%) knew that the visual loss due to glaucoma was permanent. The main sources of the awareness on glaucoma in this population were doctors for 5 patients (38.46%), TV/magazines/media for 4 (30.76%) patients, ophthalmologists for 2 (15.38%) patients and opticians for 1 (7.69%) patients, followed by the information from a friend who suffered from this disease for 1 (7.69 %) patient.

Conclusion: The awareness on glaucoma was poor in the rural area of the Anwal eye camp in Bagalkot district in north Karnataka, India. As compared to the previous studies, the awareness was better, due to improvement in the health care services over the years. Community based health education programmes go a long way in increasing the level of the awareness and the knowledge on glaucoma.

Key Words: Glaucoma prevalence, Awareness, Population based epidemiological study

INTRODUCTION

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 [1].

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) [2]. As per the national survey on blindness (1999-2001, Government of India.

Report 2002) [3], glaucoma is responsible for 5.8% cases of blindness in the 50+ population and as per the RAAB (Rapid Assessment of Avoidable Blindness) which was conducted in 2006-07, the corresponding figure is 4.4% [4]. Failure of the early detection of the disease poses a management problem towards controlling the glaucomatous blindness.

Glaucoma is considered as the "sneak thief of sight"; an early detection and treatment can prevent the progression of the disease. The implementation of health education programmes that encourage the people in the community to get an ocular examination may identify those who are otherwise unaware or not willing to seek an examination and treatment.

The aim of this article was to assess the level of awareness regarding glaucoma in the rural population/eye camp at the Anwal village of the Bagalkot district in north Karnataka, India.

MATERIALS AND METHODS

After obtaining the institutional ethical committee's clearance, a total of 100 subjects who were above the age of 20 years, who attended the Anwal eye camp, were enrolled into the study. Anwal is a village which is situated 25kms from Bagalkot, (North Karnataka, India), with a population of 2000. The questionnaire was initially developed in English and it was translated into the local language, Kannada for the target population. Its reliability was tested among the field investigators for its administration [5].

The subjects were asked whether they had heard of the eye disease, "glaucoma". Further questions were asked about the particular eye disease, only if the subject responded positively. The awareness was defined as "having heard of glaucoma". The knowledge was defined as "when the subject had some understanding of glaucoma", for example "it is an increase in the pressure in the eye", "it is a disease where the nerve of the eye becomes weak", "it is an age related process which leads to a loss of the vision" and so on.

STATISTICAL ANALYSIS

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 ($p=0.739$), ($\text{Chi-square}=1.257$), ($\text{degree of freedom}=3$).

Similarly, there were no statistically significant differences in the awareness of glaucoma between the males and females ($p=0.379$), (Chi-square=0.773),(degree of freedom =1).

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. ($p=0.0061$),(Chi-square=10.19), (degree of freedom=2) (highly significant)

Similarly, there was a statistically significant difference with regards to the awareness of glaucoma in the higher socioeconomic class of the population ($p=0.000038$), (Chi-square=25.58),(degree of freedom=4) (highly significant).

RESULTS

A total of 100 subjects from the Anwal eye camp (Bagalkot district, north Karnataka, India) participated in the study. The subjects who were older than 20 years responded to a structured questionnaire which was on the awareness of glaucoma. Among these, 58 were males and 42 were females. A total of 13 subjects were aware of glaucoma, there was no significant difference in the gender adjusted prevalence of the awareness of glaucoma ($p=0.379$) and similarly, in the different age-groups ($p=0.739$). The awareness on glaucoma was significantly higher in the literates (III) ($p= 0.0061$) and in the higher socio-economic groups ($p=0.00003$). The responses to the questionnaire on glaucoma have been presented in [Table/ Fig-2]. Of the 13 subjects who were aware of glaucoma, 2 felt that glaucoma was a high pressure in the eye, 3 felt that it was a weakening of the nerve of the eye, 3 felt that it was an ageing process which led to a loss of vision, and 5 had other opinions about it, like retinal disease, halos around the eye and pain in the eye.

The sources of information for the awareness on glaucoma were:

Doctors - 5 (38.46%)

Ophthalmologists- 2 (15.38%)

Opticians-1 (7.69%)

Age group (Years)	Aware of glaucoma	Not Aware of glaucoma	Total	p value
20-29	1	15	16	
30-39	4	18	22	
40-49	2	11	13	0.7394
5 and above	6	43	49	
Sex				
Male	9	49	58	
Female	4	38	42	0.3791
Education				
I	1	40	41	
II	10	45	55	
III	2	2	4	0.006125
Socio-economic status				
I	7	8	15	
II	4	10	14	
III	0	7	7	0.00003840
IV	2	21	23	
V	0	41	41	

[Table/Fig-1]: Association of Awareness of Glaucoma with Age, Sex, Education and Socioeconomic Status

Response	No of responses
What is glaucoma?	
High pressure in eye	2 (15.38%)
A disease where nerve of the eye becomes weak	0
Damage to the nerve of eye due to high pressure	3 (23.07%)
An age related process leading to decrease in peripheral pressure	3 (23.07%)
Others	5 (38.46%)
How did you come to know about glaucoma?	
Doctors	5 (38.46%)
Ophthalmologists	2 (15.38%)
Optometrist	0
Opticians	1 (7.69%)
Eye camps	0
Family members/ relatives/friends suffering from it	1 (7.69%)
TV /magazines/ other media	44 (30.76%)
Is visual loss due to glaucoma, permanent or reversible?	
Permanent	5 (38.46%)
Reversible	2 (15.38%)
Don't know	6 (46.15%)

[Table/Fig-2]: Response of 13 Subjects who were Aware of Glaucoma

Author (year)	Country	Study Population	Awareness of Glaucoma
1. Present study (2012)	Anwal village , bagalkot district, Karnataka, India	Rural community >20 yrs of age	13%
2. Krishniah et al., (2005) [6]	India	Rural community > 15 yrs of age	0.27%
3. Saw et al., (2003) [7]	Singapore	Tertiary eye care hospital patients, adults above 35 yrs	23%
4. Dandona et al., (2001) [8]	India	136	2.3%
5. Gasch et al., (2000) [9]	United States	0.8	72%

[Table/Fig-3]: Comparison of Current Study with Previous Studies

TV/Magazines/Mass media - 4 (30.76%)

Family members, relatives and friends who suffered from the disease- 1 (7.69 %) A total of 5 subjects said that the visual loss which was caused by glaucoma was permanent. A total of 2 subjects said that the visual loss was reversible. A total of 6 subjects said that they did not know whether the visual loss which was caused by glaucoma was permanent or reversible. [Table/Fig-3] compares the present study and the past studies which were done on glaucoma awareness.

DISCUSSION

Glaucoma is a sight threatening disease of the eye; it is one of the leading causes of irreversible blindness in the developing and the developed countries. Approximately 15% of all the blindness is due to glaucoma and it has been estimated that around

6, 00,000 people per year go blind due to glaucoma worldwide. The awareness on glaucoma in our study population was poor. This situation is significantly worse in India as compared to that in other countries [Table/Fig-3]. Even among the rural people who were aware of glaucoma, the knowledge about it was poor. Adequate access to and the proper utilization of the eye care services can create a greater awareness and an exposure to the information about the various eye diseases, which include glaucoma.

Education and the socio-economic status were found to play a significant role in the level of awareness on glaucoma in this rural population.

While many complicated eye diseases can be treated in hospitals, the public awareness on the eye care issues remain low. An effective eye health education may influence individuals to consider eye screening and eye care. This may lead to an early detection of glaucoma and it may prevent blindness. Educating the rural community on the consequences of a delayed treatment of glaucoma will be an important component in the promotion of the preventive ophthalmic care. The mass media and word of mouth can be effective tools for generating an awareness on regular and timely eye check ups, particularly for those who are above 40 years of age and those who are the blood relatives of glaucoma patients. The strategy should be to increase the awareness on glaucoma in the selected high-risk target audience in the rural community.

CONCLUSION

Diabetic patients have a decreased cognition as compared to the non-diabetics. There is no correlation of age, sex, the duration of diabetes and the HbA1C values with the cognition impairment among the diabetics. The routine assessment of the diabetic complications should include the evaluation of the cognition status. By an early implementation of MMSE, we can detect even

a mild cognitive impairment, so that the adequate treatment can be given, to prevent dementia.

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AUTHOR(S):

1. Dr. Chaitra Pujar
2. Dr. Laxman Dasar
3. Dr. Jayshree MP
4. Dr. Madhuri G Patil
5. Dr. Puneet S Shirbur

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Ophthalmology,
2. Associate Professor, Department of Ophthalmology,
3. Assistant Professor, Department of Ophthalmology,
4. Junior Resident, Department of Ophthalmology,
5. Junior Resident, Department of Ophthalmology, H S K Hospital and Medical research centre , S Nijalingappa Medical College, Navnagar, Bagalkot, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Chaitra Pujar,
Assistant Professor, Department of Ophthalmology,
S Nijalingappa Medical college, Navnagar,
Bagalkot, 587102, India.
Phone: 09980394289
E-mail: chaitrapujar@rediffmail.com

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