Original Research Article

Awareness of Glaucoma in Olorunda Local Government Area, Osogbo, Osun State, Nigeria.

Abstract

Purpose:

The commonest type of glaucoma called chronic open angle glaucoma is a silent disease and patients are usually diagnosed late in the disease. Public awareness programs must be actively done to enable a reduction of late detection of the disease and level of awareness must be assessed regularly to appraise the programs. The aim of this study was to assess the level of awareness of the people following the several annual glaucoma week programs we held in the state.

Methodology:

A descriptive cross-sectional study was done in Osogbo local Government Area (LGA) over six months to assess the awareness of glaucoma following a five-year screening and public health education on glaucoma during the annual World glaucoma week in the state. The interviewer-assisted questionnaire was administered to 279 participants. Obtained data included demography such as age, sex, level of education, occupation, religion, state of origin, knowledge of glaucoma and its treatment, family history of glaucoma and so on.

The data were entered and analyzed using SPSS version 21 (SPSS Inc., Chicago, IL). Descriptive statistics was used to analyze demographic data, and cross-tabulations with chi-square were used in comparing variables. Statistical significance was set at $P<0.05$.

Results:

Two hundred and seventy-nine people were involved in the study. Many, 192 (68.8%) were aware of glaucoma. Thirty-nine participants (14.0%) had a family history of glaucoma and 63 (22.6%) felt the cause of glaucoma is an act of God. Two hundred and one (72.0%) had tertiary education. Tertiary education was found to be a statistically significant factor associated with glaucoma. Thirty-three (84.6%) of the 39 participants that had a positive family history of glaucoma were aware of glaucoma blindness. Out of participants that claimed to know how to treat glaucoma, eight (5.3%) felt it should be conservatively managed and nothing should be used.

Conclusion:

The World glaucoma week has yielded results but more efforts must be put in place to increase awareness and knowledge of the populace on the nature of glaucoma. Tertiary education is an important factor in glaucoma awareness. The government must ensure everyone is educated up to tertiary level. Glaucoma patients and their acquaintances may be used in increasing awareness.

Keywords: chronic open angle glaucoma, awareness, treatment.

Introduction

Nigeria is the most populous country in Africa and it is located in West Africa. It has a population of about 205,710,189 which is 2.64% of the total world population. The population

density of Nigeria is about 226 per km^2 and the total land area is 910,770 km^2. The median age of Nigerians is about 17.9 years and about 52% of the population is urban.[1,2]

Osun State is one of the 36 states in Nigeria and it is located in its South-Western part. The population of Osun State is 4,705,589, according to the 2006 population census. The State has 30 LGA, three of which are in the capital of the State, namely, Osogbo, Olorunda and Egbedore.[3]

Olorunda LGA is one of the LGA in Osogbo, the capital of Osun state. It has a population of 131,761 and its land area of 97 km^2.

It is bordered on the North-East by Orolu local government (LG), North-West by Ifelodun LG, South by Osogbo LG, West by Irepodun LG and East by Boripe LG.[3] Olorunda LGA has eight electoral wards.[4]

Glaucoma is a group of diseases characterized by optic nerve damage. It is one of the commonest causes of ocular morbidity and is second to cataract as the commonest causes of blindness worldwide. It is, in fact, the commonest cause of untreatable blindness worldwide. The commonest type of glaucoma in blacks is the chronic open angle type, which is commonly called the 'silent thief of sight' because many patients are unaware of the problem until blindness sets in. It has been estimated that up to 1–2% of the population of those older than 40 years are affected and half of them do not know until problems are detected at routine eye examinations. Some studies have reported that up to 50% of cases of glaucoma in developed countries go unreported[5] and up to 90% of the retina nerve fibres are damaged beyond repairs by the time the patients become symptomatic.[6]

The prevalence of chronic open angle glaucoma has been estimated at 2.1% and it increases with age, from 0.9% in people of 43–54 years of age to 4.7% in people of 75 years of age or older.[7] It is reported to be four times higher in Africans than Caucasians.[8]

Blindness caused by glaucoma is presently not curable but it is preventable if glaucoma is diagnosed early and treated promptly. Some published evidence has indicated a late diagnosis of glaucoma as an important risk factor for subsequent blindness[9, 10] and is usually associated with poor knowledge about the condition.

About 10–33% of those who became blind due to glaucoma had become visually impaired even before they sought medical attention for their eyes.[11, 12]

Blindness from glaucoma can be prevented to a certain extent by influencing appropriate health behavior through awareness-increasing activities and education of the masses about the condition and thereby encouraging individuals to participate in regular ophthalmic care.

This necessitated the setting up of the World glaucoma week (WGW), which is a joint initiative between the World glaucoma Association (WGA) and the World glaucoma patient committee (WGPC), to raise awareness of glaucoma. During this week, the populace worldwide is educated and examined for glaucoma through activities that involve patients, health officials, eye care providers and the general public. It is a community program created mainly to increase awareness and educate the general populace and in particular at risk people to go for regular checks for early diagnosis of glaucoma. It takes place in March every year. Its main objective, therefore, is to create awareness among the people about the nature and dangers of glaucoma, and thus enable early diagnosis, timely treatment and adequate prevention of glaucoma blindness.

The WGW started in Osun State, Nigeria, in 2013. The World glaucoma group in Osun State had carried out this activity through community lectures, screening exercises, radio and television talks on glaucoma every year. We organized screening and lectures in Osun state broadcasting corporation (OSBC), Ladoke Akintola University of technology, Ogbomoso, the High court, Osogbo, Ede town, Olorunda LG secretariat, Egbedore LGA, College of Health Sciences, Ladoke Akintola University of technology, Osogbo and Ladoke Akintola University of technology teaching hospital, Osogbo. OSBC is otherwise called "the voice of the West" because its coverage includes every part of the State as well as neighboring states. The importance of awareness programs on OSBC radio and television cannot be over-emphasized because of its wide-spread coverage.

It is therefore necessary to assess the level of awareness of glaucoma through this program to determine the way forward in subsequent annual glaucoma week.

This study was therefore aimed at determining the level of awareness of the people following the several annual glaucoma week programs we held in the state.

Methodology

The study was a descriptive cross-sectional study that was carried out in Osogbo LGA of Osun state. It involved 279 participants interviewed over a six months period (July to December 2018).

The Chairman of the LGA and community heads representing each of the chosen wards were met and their permission was obtained.

The study was approved by the ethical committee of the hospital (ID: JSH/EC/19/01) and informed consent for the participation was gotten from participants. Also, the tenets of the Helsinki Declaration were adhered to.[13]

A multistage sampling method was used to select participants for the study. Two out of the eight electoral wards were selected by simple random technique. Five streets were then selected by simple random technique from a list of streets from the two selected wards. In each street, the first house was selected at random from the existing PHC numbering system and all adults, 18 years of age and above, in every third house were included in the study.

A prepared questionnaire was administered to them by the authors. (See Appendix 1) The questionnaire had 2 major parts. The first part comprised of questions one to eight which was used to collect demographic data such as age, sex, level of education, occupation, religion, state of origin while the second comprising numbers nine to sixteen was used to collect data on awareness of glaucoma and its treatment, family history of glaucoma and so on.

The data were entered and analyzed using SPSS version 21 (SPSS Inc., Chicago, IL). Descriptive statistics was used to analyze demographic data, and cross-tabulations with chi-square were used in comparing variables. Statistical significance was set at $P<0.05$.

Results

Two hundred and seventy-nine participants were included in the study. The age range was from 18 to 88 years with a mean of 40.92 years (SD ± 13.33).

Table 1 shows the characteristics of participants. About half, 139 (49.8%) participants were 40 years of age and above. The male to female ratio was 1:1.6. Two hundred and forty-eight

(88.9%) participants were Yoruba and 230 (82.4%) were Christians. Two hundred and one (72.0%) participants had tertiary education. Thirty-nine (14.0%) participants had a positive family history of glaucoma. Out of 279 participants, 192 (68.8%) were aware of glaucoma and 36 (12.9%) had family members who were blind.

Table 2 shows factors associated with awareness of glaucoma. One hundred and two (72.9%) of those who were aware of glaucoma were below 40 years of age. One hundred and fifty (74.6%) participants had tertiary education and this was statistically significant (P=0.001). One hundred and sixty-seven (67.3%) participants were Yoruba and 161 (70.0%) were Christians. One hundred and thirty-two (47.3%), 63 (22.6%), 28 (10.0%) and 23 (8.2%) participants felt family disease, an act of God, food and drugs were the causes of glaucoma, respectively.

There were 152 (79.2%) participants who claimed to be aware of glaucoma treatment, 33 (21.7%) and 49 (32.2%) were aware of only medical and surgical treatments, respectively, while 62 (40.8%) were aware of both treatment modalities for glaucoma. However, it is important to note that, out of the participants that claimed to know how to treat glaucoma, eight (5.3%) felt nothing should be used.

Discussion

Glaucoma, being a silent disease in the majority of situations needs a high index of suspicion by the populace and all medical personnel to diagnose it early and prevent blindness. Many studies have revealed that many cases remain undiagnosed[14-17] due to its silent nature.

Many published articles have indicated a late diagnosis of glaucoma as an important risk factor for subsequent blindness[18,19] and it is usually associated with poor knowledge about the

condition.

This necessitated the World glaucoma week done annually to increase awareness so the people can seek help early. This program has been held for many years. It is therefore necessary to review the knowledge of the people and therefore suggest what is the way forward.

In this study, there were more females than males, possibly because men went out to work on farm during the period of the study, leaving women at home. This is similar to what was found in India.[20]

One hundred and ninety-two (68.8%) participants, were aware of glaucoma. This is good though not all of them had adequate knowledge of glaucoma. This is in contrast to the situation in some studies where awareness of glaucoma has been generally poor.[21-25] This difference may however be due to the different definitions used and the many glaucoma awareness programs being done in this environment. Some authors defined awareness as having heard about glaucoma which can be confused with other causes of blindness[21, 22] while our study used a series of questions to investigate awareness of glaucoma.

Our study was created to assess how many people had some idea of glaucoma in our area, especially following the glaucoma week programs we have held in the state. It was not done to assess adequate knowledge of glaucoma.

Thirty-three (84.6%) out of 39 participants that had a positive family history of glaucoma were aware of glaucoma blindness. Although this was not statistically significant, it may be an indication that glaucoma patients and their family members can help increase awareness in their neighborhood. This has been noted by many other authors.[21,26-28]

Two hundred and one (72.0%) participants had tertiary education. This may account for the high level of awareness of glaucoma in this study and it was statistically significant (P=0.001). It was the only factor examined that was statistically significant. Similar observations have been noticed by others.[21,25,26,28] High level of education has been noted to be associated with high level of awareness of glaucoma and its risk factors.[23] Also, illiteracy has been noted as a determinant of glaucoma blindness.[23, 29] It is therefore pertinent to increase advocacy to governments to make education affordable for all.

Of importance in this study is the finding that 63 people (22.6%) felt that the cause of glaucoma is an act of God. Also worthy of note is the finding that eight people (5.3%) felt there is no need to treat glaucoma. These are serious risk factors for glaucoma blindness as these people will not seek treatment early and they can give bad advice to others. Future programs will have to health educate the populace about these notions in particular

This study has limitations as it has no preceding publication in this area before the onset of glaucoma awareness programs that could have served as a comparison to the results of this study. Nevertheless, this study will serve as a comparison to future studies. Also, interviewer bias cannot be completely eliminated as the authors try to administer the questionnaires.

Conclusion:

This study has shown a high prevalence of glaucoma awareness possibly resulting from the annual world glaucoma week but more efforts still need to be put in place to increase awareness and knowledge of the populace on the nature of glaucoma. It also showed the importance of tertiary education in glaucoma awareness. The government must ensure everyone is educated up to tertiary level. Glaucoma patients and their acquaintances may also be of help in increasing

awareness.

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Table 1. Characteristics of the participants

Parameter		Frequency	
		n	%
Age (Years)	< 40	140	50.2
	≥ 40	139	49.8
Educational Level	Below Tertiary	78	28.0
	Tertiary	201	72.0
Ethnicity	Yoruba	248	88.9
	Others	31	11.1
Religion	Christianity	230	82.4
	Others	49	17.6
Family History of Glaucoma	Present	39	14.0
	Absent	240	86.0

Table 2. Factors associated with participants' awareness of glaucoma

Parameter		Awareness of Glaucoma		Comment[#]	
		Yes (%)	No (%)	X^2	p
Age (Years)	< 40	102 (72.9)	38 (27.1)	2.137	0.144
	≥ 40	90 (64.7)	49 (35.3)		
Educational Level	Below Tertiary	42 (53.8)	36 (46.2)	11.305	0.001*
	Tertiary	150 (74.6)	51 (25.4)		
Ethnicity	Yoruba	167 (67.3)	81 (32.1)	2.274	0.132
	Others	25 (80.6)	6 (19.4)		
Religion	Christianity	161 (70.0)	69 (30.0)	0.854	0.355
	Others	31 (63.3)	18 (36.7)		
Family History of Glaucoma	Present	33 (84.6)	6 (15.4)	3. 428	0. 064
	Absent	141 (70.1)	60 (29.9)		

NB One hundred and forty-one (70.1%) participants who had no family history of glaucoma were aware of glaucoma.

APPENDIX 1

AWARENESS OF GLAUCOMA

THIS STUDY IS AIMED AT LOOKING AT THE LEVEL OF AWARENESS OF GLAUCOMA IN THE POPULATION. ALL INFORMATION WILL

BE STRICTLY CONFIDENTIAL.

1. AGE (YEARS)
2. NAME: HOSPITAL NO:
3. SEX: MALE FEMALE
4. TRIBE: YORUBA IGBO HAUSA OTHERS
5. RELIGION: CHRISTIANITY ISLAM TRADITIONAL OTHERS
6. LEVEL OF EDUCATION: PRIMARY SECONDARY TERTIARY NONE
7. OCCUPATION: CIVIL SERVICE TRADING FARMING ARTISAN STUDYING OTHERS (SPECIFY).....

8. ADDRESS/STATE OF ORIGIN:

9. KNOWLEDGE OF GLAUCO☐ YES ☐ NO

10. IF YES, WHAT CAUSES IT?

11. IS GLAUCOMA CURABLE? YES NO

12. DO YOU KNOW THE TREATMENT OF GLAUCOMA? YES NO

13. IF YES, WHICH ONE A) MEDICAL B) SURGERY C) BOTH
D) NOTHING

14. DO YOU HAVE ANY FAMILY MEMBER WHO CANNOT SEE YES NO
DON'T KNOW

15. DO YOU HAVE ANY FAMILY MEMBER WHO HAS GLAUCOMA YES NO
DON'T KNOW

16. IF YES, HOW MANY OF YOUR FAMILY MEMBERS HAVE THE DISEASE