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Research Article

Demographics and Pattern of Referral of Participants at a One-Week Long Free Glaucoma Screening Event

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Abstract

Aim: The aim was to elucidate the demographic characteristics of the participants who presented at a week-long free eye screening programme to mark the World Glaucoma Week 2019 at the Ophthalmology department, University of Port Harcourt Teaching Hospital and their sources of referral.

Methodology: Members of the public were invited for free eye screening at the department of Ophthalmology, University of Port Harcourt Teaching Hospital using several channels of information dissemination including electronic media (Radio), Posters /Banners and Social media. Each had a comprehensive ocular examination done. Those identified with glaucoma were referred for follow-up in the glaucoma clinic. Data obtained was analyzed using SPSS version 21. The age groups gender, other demographic distribution of the subjects amongst other were presented using frequency tables and charts.

Results: A total of 133 participants (266 eyes) responded to the invitation for free eye screening. 39.1% were male and 60.9% female with a mean age of 42.26 years ±14.58. 48.2% were in the age group of 31-50years. 45.9% of the participants were civil servants with 63.9% of them having a tertiary form of education. 54.5% of participants presented for the screening after listening to radio announcement. The Prevalence of glaucoma in this study was 4.13%.

Conclusion: Women accessed free eye screening more than men in our study and the mass media (Radio announcement) resulted in the most means of referral. The prevalence of glaucoma from our study was 4.13%.

Keywords: Demographics; Glaucoma screening; Pattern of referral

Introduction

Primary Open Angle Glaucoma (POAG) is a chronic condition characterized by loss of retinal ganglion cells. Increased intraocular pressure, positive family history, older age and African descent place an individual at an increased risk for glaucoma [1].

The prevalence of POAG ranges from 1.1% to 3.0% in Western populations, and from 4.2% to 8.8% in populations of African descent [2]. Subgroups of population at risk for developing glaucoma have insufficient knowledge and need to be identified and targeted [3]. In developing countries detecting glaucoma access to care is further limited by poor access to health facilities [4].

In an effort to reverse the trend the World Glaucoma Association and World Glaucoma Patient Association through a joint initiative put together the 'World Glaucoma Week' which encourages annual week-long intensive advocacy and mass enlightenment programs to increase awareness of the disease as well as screening to improve case finding [5].

This annual event has been celebrated yearly by the department of Ophthalmology, University of Port Harcourt and this year 2019 a study was undertaken to elucidate the demographics of the population as well as the best means of information dissemination which resulted in access of care with the aim of planning future glaucoma screening activities and improving case finding.

Materials and Methods

Members of the public were invited for free eye screening at the department of Ophthalmology, University of Port Harcourt Teaching Hospital using several channels of information dissemination. A total of 133 persons participated and each had a comprehensive ocular examination done including a visual acuity examination

(unaided, Pinhole), Slit lamp examination of anterior segment, Dilated Slit lamp biomicroscopy with +78D lens, Non-contact tonometry, Pachymetry and perimetry. Those identified with glaucoma were referred for follow-up in the glaucoma clinic. Data obtained was analyzed using SPSS version 21. Mean and standard deviations were determined for age. The age groups gender, other demographic distribution of the subjects amongst other were presented using frequency tables and charts Statistical significance was put at $p \leq 0.05$. A diagnosis of glaucoma was made following dilated slit lamp biomicroscope with VCDR >0.7, demonstrable perimetric changes and elevated intraocular pressures above 21mmHg

Results and Discussion

As the population increases in developing countries so also will the number of persons with glaucoma increase leading to worsening socioeconomic burden of the disease [6]. In Nigeria, the National Blindness and Visual Impairment Survey had a prevalence of glaucoma related blindness in above 40years was 5.02-6.9% [7]. The World Glaucoma Week is a joint initiative between the World Glaucoma Association and the World Glaucoma Patient Association. It has been celebrated over 9 years all over the world including Nigeria with a total of 626 events were recorded during the week March 10th-16th 2019 [5]. Most of the events are geared towards improving public awareness of the disease. The World Glaucoma week has also been used to gather data on causes of visual impairment as was seen in the World Glaucoma screening in 2016, 449 persons were screened during the week [8].

The World Glaucoma Week was celebrated in our department by having free glaucoma screening. Using many channels of information dissemination members of the public were invited for a week-long free glaucoma screening. The demographic characteristics of the population are found in the table below (Table 1&2) (Figure 1).

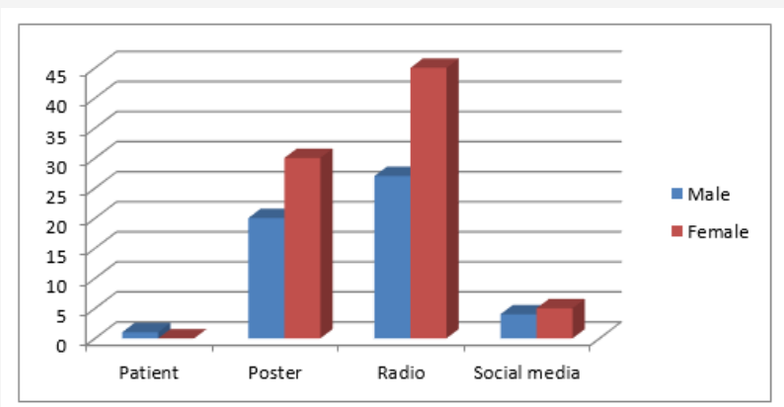

Figure 1: Pattern of referral according to sex.

Table 1: Demographic characteristics of study population.

Characteristics	Frequencies	Percentage
Sex		
Male	52	39.1
Female	81	60.9
Age		
<10 Years	2	1.5
10-20 Years	6	4.5
21-30 Years	24	18
31-40 Years	30	22.6
41-50 Years	34	25.6
51-60 Years	22	16.5
61-70 Years	13	9.8
71 and above	2	1.5
Range	77	
Minimum	6	
Maximum	83	
Mean	42.2632	
Std. Deviation	14.5788	
Occupation		
Business	13	9.8

Civil servants	61	45.9
Doctors	2	1.5
Drivers	2	1.5
Lawyers	2	1.5
Maid	1	0.8
Nil	1	0.8
Nurses	7	5.3
Pharmacists	4	3
Retiree	3	2.3
Students	23	17.3
Teachers	6	4.5
Traders	7	5.3
Education		
Tertiary	85	63.9
Secondary	39	29.3
Primary	8	6

Table 2: Pattern of referral of patients presenting by Sex.

Sex	Patient	Poster	Radio	Social media	Total
Male	1	20	27	4	52
Female	0	30	45	5	81
Total	1	50	72	9	132

Gender

In a report by Janicijevic K, et al. [9] a review of 10 years of annual glaucoma screening activities showed a preponderance of females accessing the free screening which corroborates our study findings where women were more in number. A study in the South East of Nigeria by Kizor Akairaiwe [10] however found more men availing themselves for screening than women. There is gender inequality in accessing healthcare as most women do not have the finances required to do this, it's no wonder they may resort to free eye care activities such as outreaches.

Age

(Table 3) Several studies show most of the participants of free eye care programmers tend to be in the 5th to 6th decade of life [10-13]. Glaucoma typically is asymptomatic until late stages and is more likely to affect those of black race with positive family history and advancing age [14]. this was emphasized during various forms of information dissemination and is therefore not surprising that our study had a lot of people in the 5th and 6th decades of life presenting. This may also be postulated to be same in other studies aside from the fact that visual disorders increase with increasing age and therefore the elderly are more likely to access care since they would be symptomatic. Age group 21-30years had a significant use of print media (Figure 2).

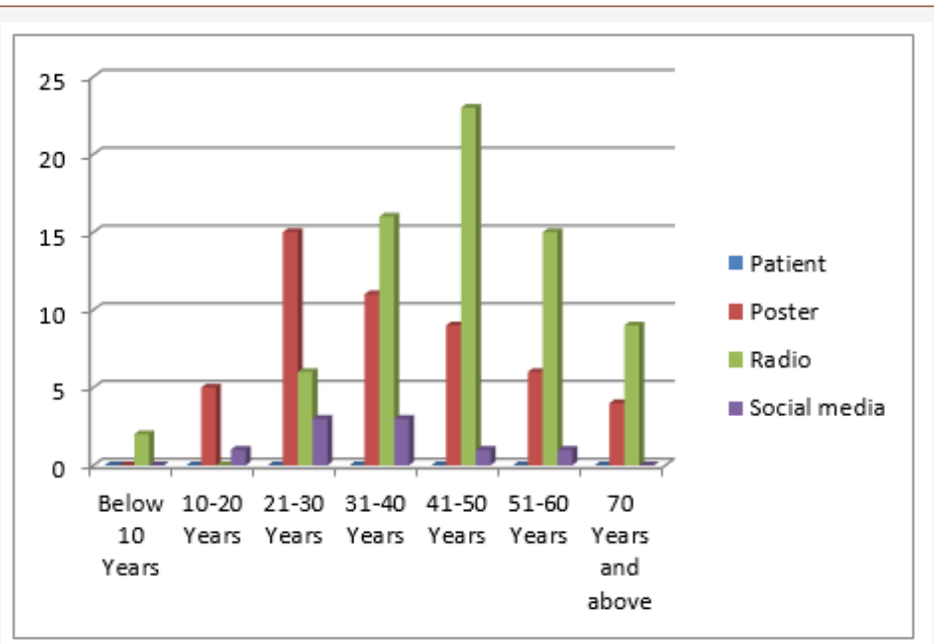

Figure 2: Age group and pattern of referral.

Table 3: Pattern of referral of patients presenting by Age.

Age	Patient	Poster	Radio	Social media	Total
Below 10 Years	0	0	2	0	2
10-20 Years	0	5	0	1	6
21-30 Years	0	15	6	3	24
31-40 Years	0	11	16	3	30
41-50 Years	0	9	23	1	34
51-60 Years	0	6	15	1	22
61-70 Years	0	4	9	0	13
70 Years and above	1	0	1	0	2
Total	1	50	72	9	132
Mean age	46 years				

Majority of the Figure 3participants in our study were civil servants. This maybe because Port Harcourt (South-South Nigeria) being an oil producing community has a lot of office workers. This is unlike that in Enugu [10] (South- East Nigeria) where majority were businessmen or Odukpani, Cross Rivers State and Ethiopia where farmers topped the number Majority of the population assessed screening because of radio announcement followed closely by information on posters [15,16] (Figure 3) (Table 4).

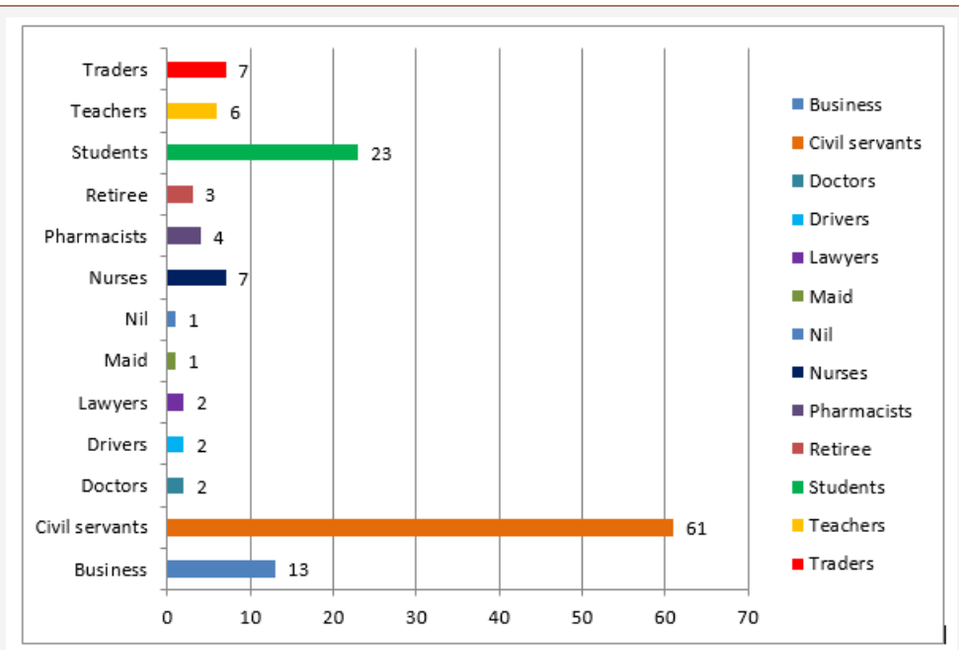

Figure 3: Pattern of presentation by occupation.

Table 4: Pattern of referral of patients presenting by Occupation.

Occupation	Patient	Poster	Radio	Social media	Total
Business	0	0	13	0	13
Civil service	0	22	38	1	61
Doctors	0	0	0	2	2
Drivers	0	0	0	2	2
Lawyers	0	0	2	0	2
Maid	0	1	0	0	1
Nil	1	6	0	1	7
Nurse	0	6	0	1	7
Pharmacy	0	4	0	0	4
Retiree	0	0	3	0	3
Student	0	17	2	4	23
Teacher	0	0	5	1	6
Traders	0	0	7	0	7
Total	1	50	72	9	132

Sources of referral /means of information dissemination

Electronic Media (Radio) was the highest means of information dissemination in our study Most of the referrals were by electronic media, Posters (print media) featured in age group 21-30years while social media (Digital media) didn't play a significant role across all age groups. This was same as that of Akaraiwe, et al. [10]. In the study by Adekoya, et al. [12] most patients were self-referred. Electronic media did not however feature significantly in the study at Ethiopia by Tenkir, et al. [15]. This can be explained by the fact that most rural areas in Nigeria have access to the radio unlike in Ethiopia where radio services were sparse at the time of the study.

Educational level

Most of the participants in our study had tertiary level of education same as the study in the South East Nigeria [10] while in Ethiopia [15] mainly secondary school educational graduates accessed the outreach. This is in sharp contrast to Amoomo A [17]. in Namibia where 64.8% of the respondents were unemployed and 44.5% had not completed primary school education.

Prevalence of glaucoma

(Figure 4) The population-based survey of the prevalence and types of glaucoma in Nigeria: results from the Nigerian National Blindness and Visual impairment survey have put the overall prevalence of Glaucoma in above 40years at 5.02%. Risk factors for increased prevalence were illiteracy, increasing age, males and Igbo ethnic group [18]. The prevalence of glaucoma of glaucoma in our study (South-South Nigeria) was 4.13%, 14.5% in the South-East Nigeria [10], and 7.3% in South-Western Nigeria [19].

Case finding for glaucoma is a continuous process though it may not be economically viable, in spite of this; screening is a great challenge in low economies such as Nigeria. [20] The World Glaucoma Week is a good opportunity to improve public awareness of Glaucoma as well as improve case finding in Nigeria.

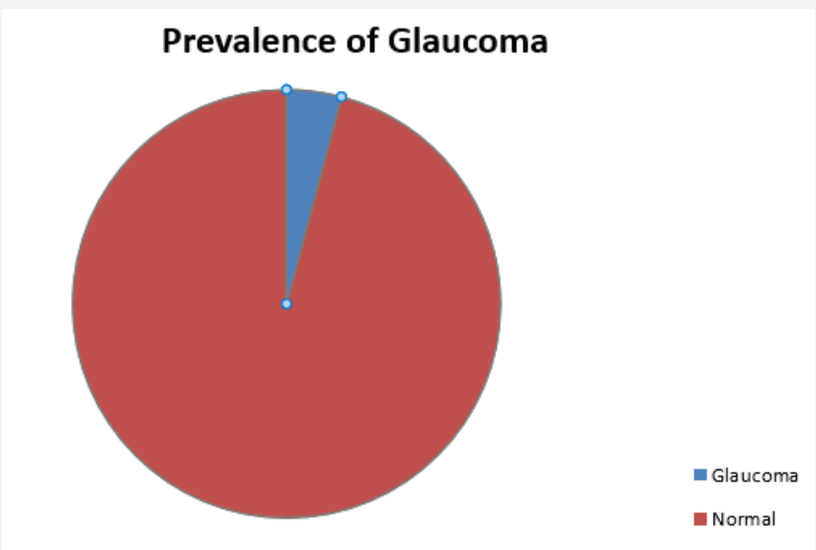

Figure 4: Prevalence of Glaucoma (4.13%).

Conclusion

Women accessed free eye screening more than men in our study and the mass media (Radio announcement) resulted in the most means of referral. The prevalence of glaucoma from our study was 4.13%.

Acknowledgement

None.

Conflict of Interest

No Conflict of interest.

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