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Original Research Article

Posterior segment eye diseases in Ijebu, Southwestern Nigeria

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ABSTRACT

Background: To review cases of posterior segment eye diseases (PSEDs) seen at the Eye Foundation Centre Ijebu, Nigeria in a 5 year period for planning purposes.
Methods: Data was collected from patients' case notes from January 2006 to December 2011. A systematic sampling of 468 patients from 1173 case notes of patient with (PSEDs) was done. Information retrieved was: age, sex, state of residence and diagnosis. All patients were examined by the glaucoma and the vitroretinal specialist as the case may be. They had visual acuity, refraction, slit lamp examination (including intraocular pressure (IOP) with Goldman applanation tonometer), and dilated fundoscopy with (bilateral indirect ophthalmoscopy) BIO, slit lamp using 20 D, 78 D and 90 D respectively. The glaucoma patients in addition had central visual field (CVF), Central cornea thickness (CCT), fundus photograph and in some cases optical coherence tomography (OCT) done in addition to the above.
Results: The mean age was 59.98 years (SD 17.67) and the age range is 5-95 years. Males outnumbered females by 63% to 37%. The diseases were more common in age group 61 to 80. Patients' attendances were mostly from Ijebu division of Ogun state (57%). Glaucoma is the commonest cause of attendance 262 (56%) followed by diabetic retinopathy 29 (6.2%) and age-related macular degeneration (ARMD) 28 (6.0%).
Conclusions: Glaucoma, diabetic retinopathy and ARMD were noted as the commonest PSEDs in Ijebu division in Southwestern Nigeria.

Keywords: Glaucoma, Diabetic retinopathy, Posterior segment eye diseases, Age-related macular degeneration, Blindness, Visual impairment

INTRODUCTION

According to recent estimates, the major global causes of moderate to severe vision impairment are: age-related macular degeneration 4%, glaucoma 2%, and diabetic retinopathy 1% after uncorrected refractive error (53%) and un-operated cataract (25%).[1] The first three diseases are posterior segment in location. They are diseases of the retina, choroid and optic nerve and primarily include: glaucoma, age-related macular degeneration (AMD) and diabetic retinopathy (DR).[2] With an increasing population of older people, more people will be at risk of vision impairment due to chronic eye diseases.

In totality, the prevalence of vision impairment worldwide has decreased since early estimates in the 1990s. This decrease is associated with: massive socioeconomic development; increased public health action; availability of eye care services more than before; awareness of the general population about solutions to the problems related to vision impairment.[1]

However it is estimated that the number of people with vision impairment could triple due to population growth and ageing. For example, by 2050 there could be 115 million people who are blind, up from 38.5 million in 2020.[3]

Posterior segment eye diseases (PSEDs) and the individual diseases they are made of are a major cause of blindness in sub-Saharan Africa (SSA).[2] Grouped together, it is the second commonest cause of blindness after cataract ranging from13% to 37%.[2] In the Nigeria national blindness and visual impairment survey, PSED is the second largest cause of bilateral blindness.[4] Presently many centres have the facilities and personnel to treat PSEDs unlike in the past in Nigeria and other developing countries.[5-8]

In Ijebu-Imushin, Ogun state, Eye Foundation Community Hospital has these facilities and manpower and it is a major referral center.[9]

Ijebu division in Ogun state of Nigeria is made up of 6 local governments namely: Ijebu North, Ijebu Northeast, Ijebu East, Ijebu-Ode, Odogbolu and Ogun waterside. It is located in the southwest zone of Nigeria with population of 815,281 according to 2006 census (Estimated 2016: 1,134,600). Ijebu division headquarter is Ijebu-Ode. 45% of the population is urban and 55%, rural.[9-12]

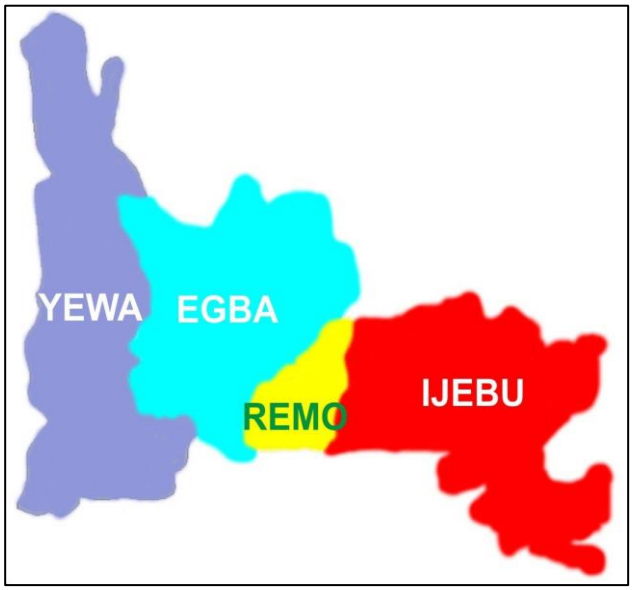

Figure 1: Map of Ogun state showing the 4 divisions. Source: Tayo Bogunjoko.[12]

The aim of this study is to review cases of posterior segment eye diseases (PSEDs) seen at the Eye Foundation Centre Ijebu, Nigeria in a 5 year period for planning purposes.

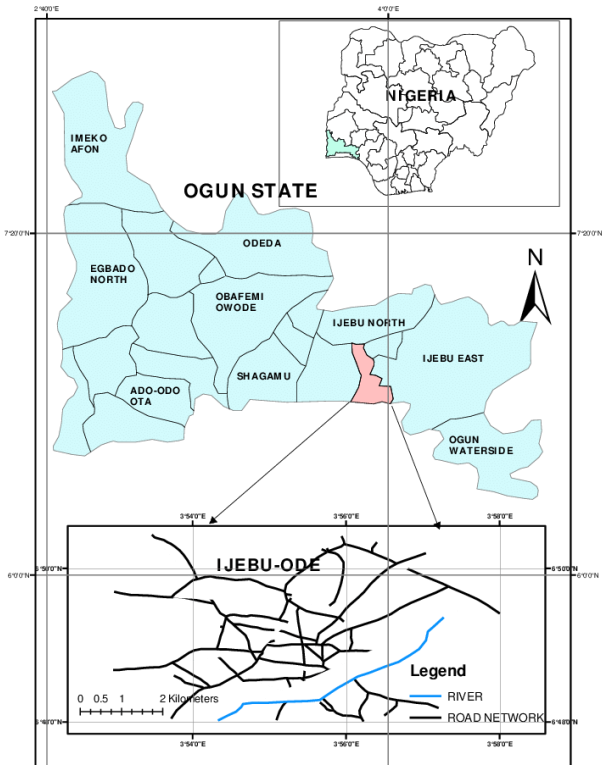

Figure 2: Map of Ogun state and Ijebu-Ode. Source: Murtala Oke.[13]

METHODS

Data was collected from patients' case notes of posterior segment eye diseases (PSEDs) seen at the Eye Foundation Centre Ijebu, Ogun state, southwestern Nigeria from January 2006 to December 2011. A systematic sampling of 468 patients from 1173 case notes of patient with (PSEDs) was done. Information retrieved was: age, sex, town of residence and diagnosis. All patients were examined by the Glaucoma and the vitroretinal specialist as the case may be. These are the only patients included in the study including paediatric and adult cases. One eye of the patients was used for diagnosis even when diagnosis is bilateral. Diagnoses not confirmed by qualified specialists were excluded. Inconclusive diagnoses were excluded. Patients who did not come for any follow-up were also excluded. They had visual acuity, refraction, slit lamp examination (including intraocular pressure (IOP) with goldman applanation tonometer), and dilated fundoscopy with (bilateral indirect ophthalmoscopy) BIO, slit lamp using 20 D, 78 D and 90 D respectively. The glaucoma patients in addition had central visual field, CCT, fundus photograph and in some cases OCT done in addition to the above. Statistical analysis: Results were analysed using stata version 14.1 (Texas, USA). It was reported as frequency distributions, percentages, and means ± standard deviation (SD). We can't apply any statistical test because there is no comparison.

RESULTS

468 patients were included in the study. One eye of the patients was used for diagnosis even when diagnosis is bilateral. Mean age was 59.98 (17.66) standard deviation years. Age range was 5-95 years. Males were 295 (63%) and females 173 (37%). Patients that presented were mostly employed 39%, previously in paid job 28% and businessmen and women 22%, totalling 90%. Most of the patients reviewed are from Ijebu division in Ogun state 268 (57%), followed by patients from Lagos state 72 (15%) and patients from Ogun state excluding Ijebu and Oyo state 59 (12%) and 35 (8%) respectively. Glaucoma is the commonest cause of attendance 262 (56%) followed by diabetic retinopathy 29 (6.2%), ARMD 28 (6.0%), retinal detachment 21 (4.5%), macula hole 16 (3.45%) and retinitis pigmentosa 13 (2.80%).

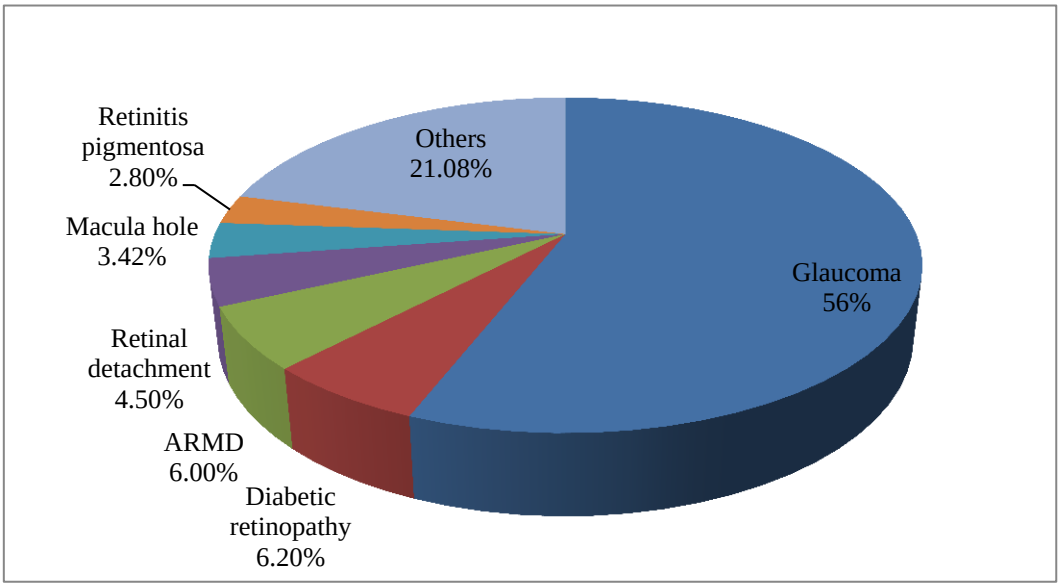

Figure 3: Percentage of PSEDs in Ijebu, Southwestern Nigeria.

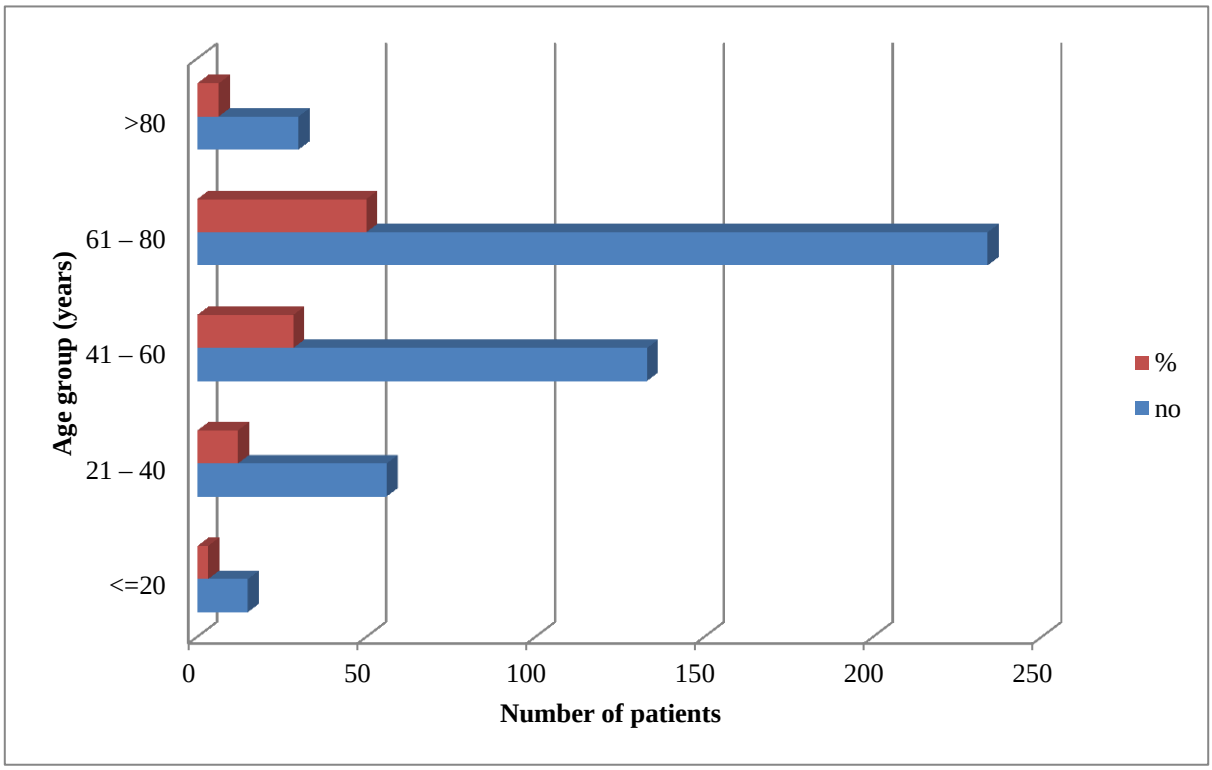

Figure 4: Bar chart of distribution by age category/number of patients.

Table 1: Frequency table for residence.

Residence/states	N (%)
Abia	1 (0.21)
Akwa Ibom	1 (0.21)
Anambra	3 (0.64)
Delta	5 (1.07)
Edo	8 (1.71)
Enugu	2 (0.43)
Ijebu	268 (57.26)
Imo	2 (0.43)
Kogi	1 (0.21)
Lagos	72 (15.38)
Ogun	59 (12.6)
Ondo	6 (1.28)
Osun	5 (1.07)
Oyo	35 (7.48)
Total	468 (100)

DISCUSSION

Glaucoma is the commonest cause of PSEDs, followed by diabetic retinopathy and ARMD. This is comparable in the absence of cataract to the review of population based studies of PSEDs in sub-Saharan Africa (SSA) and the causes of blindness and visual impairment in the Nigerian national survey.[2,4] This also shows that PSEDs led by glaucoma form a substantial cause of vision loss in developing countries like Nigeria. In the developed world like the United States of America, after cataract, ARMD leads, followed by diabetic retinopathy and glaucoma.[14]

Facilities like retinal laser treatment, intravitreal injections and vitreoretinal surgery are much more available now both in private and public hospitals in Nigeria to diagnose and treat PSEDs.[5-8] This is including laser treatment and glaucoma drainage devices for glaucoma. Same applies to personnel. Therefore more diagnosis of PSEDs is expected to increase unlike before. The result from the Eye Foundation Center in Ijebu is not comparable with results from most centres in Nigeria because most of the hospital-based studies done are on retinal diseases.[5-8] Not including glaucoma which in most cases is treated as a single entity. There is no waiting list.

This is a hospital based retrospective study with the attendant selection bias. It may not be representative enough but the Eye Foundation Centre is a major referral eye centre in the south western Nigeria with glaucoma and vitreoretinal consultants and latest equipments and facilities.

Even though this study further provides some knowledge about PSEDs in low resource country, there is need for more studies to be done especially on prevalence and incidence of PSED in population based studies to be able to compare more effectively with those studies done thus far in the developed world. Also, longitudinal studies are needed to investigate the natural history of disease which will help in fashioning out health policies at local, state and national levels.

CONCLUSION

Glaucoma, diabetic retinopathy and ARMD were noted as the commonest PSEDs in Ijebu division in south-western Nigeria. Population based cohort study is needed to be able to get a more representative data in Ogun state and Nigeria. This will help to plan services to prevent blindness that is avoidable.

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Ethical approval: Not required

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