

Original Research Article

Pattern of Eye Diseases in a Tertiary Hospital in Osogbo, Southwestern Nigeria.

Abstract

The aim of the study was to determine the pattern of eye diseases in patients attending the eye clinic of a teaching hospital in Osogbo, South-Western Nigeria between March 2018 and February 2019.

Methodology:

A retrospective study of 2420 consecutive new patients that attended the eye clinic between the period was included in the study. Patients' records as contained in the individual case note were accessed for relevant information. Data obtained included the age, sex, religion, tribe and diagnoses on first appointment. Data were analyzed using SPSS version 21 (SPSS Inc., Chicago, IL). Descriptive statistics were used in summarizing the data and chi-square statistical method was used to determine statistical significance of association between categorical variables at 5% level.

Results:

Cataract, refractive errors and glaucoma were the common types of eye diseases seen. Of the refractive errors, females predominate and myopia was the commonest type encountered.

Furthermore, myopia was commonest in age group 10-19 years and above 30 years of age (P=

0.001) Vitreoretinal diseases were also encountered which needed to be referred out to other centers.

Conclusion:

Cataract and glaucoma still occurred commonly but refractive errors have become commoner than glaucoma in this environment. This calls for more intensified efforts in glasses distribution, cataract surgical outreaches and glaucoma awareness programs. The occurrence of vitreo-retinal diseases in substantial proportions also calls for purchase of vitreo-retinal equipment and recruitment of vitreo-retinal specialists.

Key words: Eye diseases, pattern, Osogbo, Nigeria.

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Introduction

Osogbo is the capital of Osun state which is one of the states located in the South-western part of Nigeria. Osun state has a population of 3,423,535¹ accounting for 2.445% of the population of Nigeria according to the 2006 population census. Osun state is landlocked and occupies 9,251 square kilometres.

It shares borders with Kwara State in the North, Oyo State in the West, Ogun State in the South and Ondo and Ekiti States in the East

Osogbo, the capital of Osun state has a population of 156,694 and It lies on coordinates 7°46' North 4°34' East with an area of 47kmsq. It shares boundary with Ikirun, Ilesa, Ede, Egbedore and Iragbiji and is easily accessible from any part of the state because of its central nature.

Osogbo is a commercial and industrial centre. It has only one tertiary hospital which provides health services to all the people in its 3 local governments, other local government areas (LGA) in Osun state and Nigeria at large.

This tertiary hospital has two full time consultant Ophthalmologists, a visiting consultant Ophthalmologist and many doctors in training caring for eye diseases. It metamorphosed from a state hospital offering secondary level care to a tertiary hospital which has been in existence for about 20 years. The two full Consultants are subspecialists in glaucoma and oculoplasty.

Ocular morbidity and blindness vary from one country to the other; even within countries, there are variations. These have been attributed to level of development, race, socioeconomic factors and culture.²

Worldwide, common diseases include cataract, glaucoma, refractive errors, conjunctivitis, pterygium, corneal ulcers and uveitis.³

Studies in African countries in children revealed refractive errors, allergic, and infective conjunctivitis to be the most common causes of ocular morbidity.^{4.5}

Cataract, conjunctivitis, refractive errors and glaucoma were the most common causes of ocular morbidity in Sudan.³

In Nigeria, Edema et al. reported refractive errors, conjunctivitis, cataract, and glaucoma to be common eye diseases.⁶

There has been no data on the pattern of eye diseases in Osogbo, Nigeria. It is therefore difficult to plan and accurately justify the needs for the various subspecialties in this hospital.

This study will therefore examine the pattern of eye diseases seen in the eye clinic in order to plan and adequately justify the needs for subsequent years.

Methodology

All consecutive new patients seen in the clinic between March 2018 and February 2019 were included in the study. In our hospital, new patients were seen by consultants after the ophthalmic Nurses had documented the visual acuities and blood pressure. All new patients had comprehensive examination of the anterior and posterior segments. Visual acuity was assessed by Snellen's chart, IOP with Goldmann applanation tonometer and Perkin's tonometer. Anterior segment examination was done using pen torch and Haag streit 900 Slit lamp biomicroscopy. Gonioscopy was done using 3-mirror and 4 mirror lenses while fundoscopy was done using direct and indirect ophthalmoscopes. Visual field was done with automated visual field analyzers when necessary. Retinoscopy was done using Keeler retinoscope and Potec autokeratorefractometer when available.

A pretested standard questionnaire was used in collection of data. Data obtained included demography such as age, sex, occupation, level of education state of origin and religion. Clinical data included visual acuity with or without pin hole or glasses, presenting complaint, diagnosis on presentation, mode of treatment and complications if any.

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

Results

A total of 2420 patients were included in the study. Table 1 shows the age-sex distribution of the patients. The majority of them (1564 (64.6%)) were adults 30 years and above (figure 1); mean age was 48.27 (SD \pm 22.14). There were 1275 (52.7%) males and 1145 (47.3%) females giving a male to female ratio of 1.11:1. The mean age for males was 49.27 years (SD \pm 22.58) while the mean age for females was 47.15 years (SD \pm 21.59)

The majority, 2394 (98.9%) of them were from Yoruba tribe and 1296 (53.6%) were Christians.

Figure 2 shows the commonest symptom which was poor vision (57.7%).

Cataract 659 (27.2%), refractive errors, 641 (26.5%) and glaucoma 442 (18.3%) were the most common type of ocular diseases encountered in this study. Refractive error was commoner in females 355 (55.4%) and this was statistically significant ($P = 0.001$) The commonest type of refractive error was myopia 452 (70.5%) figure 3, and it is commonly found in age group 10-19 years and above 30 years of age 233 (60.1%) ($P = 0.001$) figure 4. The remaining findings include allergic conjunctivitis 189 (7.8%), presbyopia 173 (7.1%), pterygium 147 (6.1%), corneal opacity 53 (2.2%), non-glaucomatous optic atrophy 49 (2.0%), infective conjunctivitis 44

(1.8%), trauma 29 (1.2%) age-related macular degeneration 26 (1.1%), retinal detachment 11(0.5%), retinoblastoma 11 (0.5%) and others. However, the commonest causes of blindness were cataract and glaucoma. Some patients had more than one pathology.

Discussion

The pattern of ocular diseases varies from place to place and time to time. Several programs such as cataract surgical outreaches and glaucoma awareness programs may influence changes in disease trend. It is therefore, necessary to review the pattern of eye diseases from time to time in order to provide changes in available data, make adequate provision for eye care and offer appropriate treatment.

Figure 1 shows the majority of the participants were adults over the age of 20 years. This is similar to other studies in South Western Nigeria.⁷ This may be due to the fact that pre-school eye examination is still not mandatory in most schools and children may not complain until the teachers or parents notice an abnormality such as moving close to television or class board in school.

A slight preponderance in males was noticed which is in keeping with some previous authors⁸ but differs from others who reported a preponderance of female^{3,9}

The most common ocular morbidity in this study was cataract 659 (27.2%). This was closely followed by refractive errors 641 (26.5%) which was more common than glaucoma 442

(18.3%). Cataract has long been reported as the most common cause of visual impairment worldwide^{3,7,9,10}

The prevalence of refractive errors is on the rise. This will affect education, quality of life and socio-economy of people involved.¹¹

This is shown in this study, where 641 (26.5%) participants had refractive errors and coming next after cataract. It is contrary to previous reports where it came third after glaucoma.^{12,13}

Glaucoma came third contrary to previous reports where it has been reported as the second most common cause of visual impairment and blindness after cataract.¹⁴ However, it is similar to the report in tropical Africa where it came third after cataract and aphakia.¹⁵ This however, was a community study of blindness.

Other findings include allergic conjunctivitis 189 (7.8%), presbyopia 173 (7.1%), pterygium 147 (6.1%), corneal opacity 53 (2.2%), non-glaucomatous optic atrophy 49 (2.0%), infective conjunctivitis 44 (1.8%), trauma 29 (1.2%) age-related macular degeneration 26 (1.1%), retinal detachment 11(0.5%), retinoblastoma 11 (0.5%) and so on. Vitreo-retinal diseases including retinal detachment 11(0.5%), non-glaucomatous optic atrophy 49(2.0%), vitreous haemorrhage 10(0.4%), retinitis pigmentosa 2(0.1%), retinoblastoma 11(0.5%), macular hole 2(0.1%) and age-related macular degeneration 26(1.1%) accounted for 111 (4.6%) of cases. This is comparable to what was found by other authors in South Eastern Nigeria (3.9%)¹⁶ but lower than what was found in Ethiopia¹⁷

In our hospital, we do not have a vitreo-retinal surgeon or equipment and these required the referral of these patients elsewhere in other towns. We hope the report of this study will make

them set up an equipped and staffed vitreo-retinal unit and improve on services for cataract and glaucoma management.

Conclusion

This study has highlighted the various ocular diseases in this hospital which is necessary in order to make recommendations for the needs of the hospital and make provision for needed equipment and personnel. It is necessary to evaluate the prevailing ocular disease from time to time in order to improve services and training. It will also assist in reviewing the effect of efforts put in place to increase awareness of glaucoma and reduce cataract blindness. This study has shown that we still need to increase cataract outreach programs and intensify glaucoma awareness programs.

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Table 1: Age-Sex distribution of participants

Age group (years)	Male (%)	Female (%)	Total (%)
0-9	53 (52.5)	48 (47.5)	101 (100)
10-19	77 (42.1)	106 (57.9)	183 (100)
20-29	97 (64.2)	54 (35.8)	151 (100)
30-39	104 (51.7)	97 (48.3)	201 (100)
40-49	140 (47.8)	153 (52.2)	293 (100)
50-59	165 (52.4)	150 (47.6)	315 (100)
60-69	186 (53.9)	159 (46.1)	345 (100)
70-79	152 (56.1)	119 (43.9)	271 (100)
80 and above	81 (58.3)	58 (41.7)	139 (100)
Total (%)	1055 (52.8)	944 (47.2)	1999 (100)

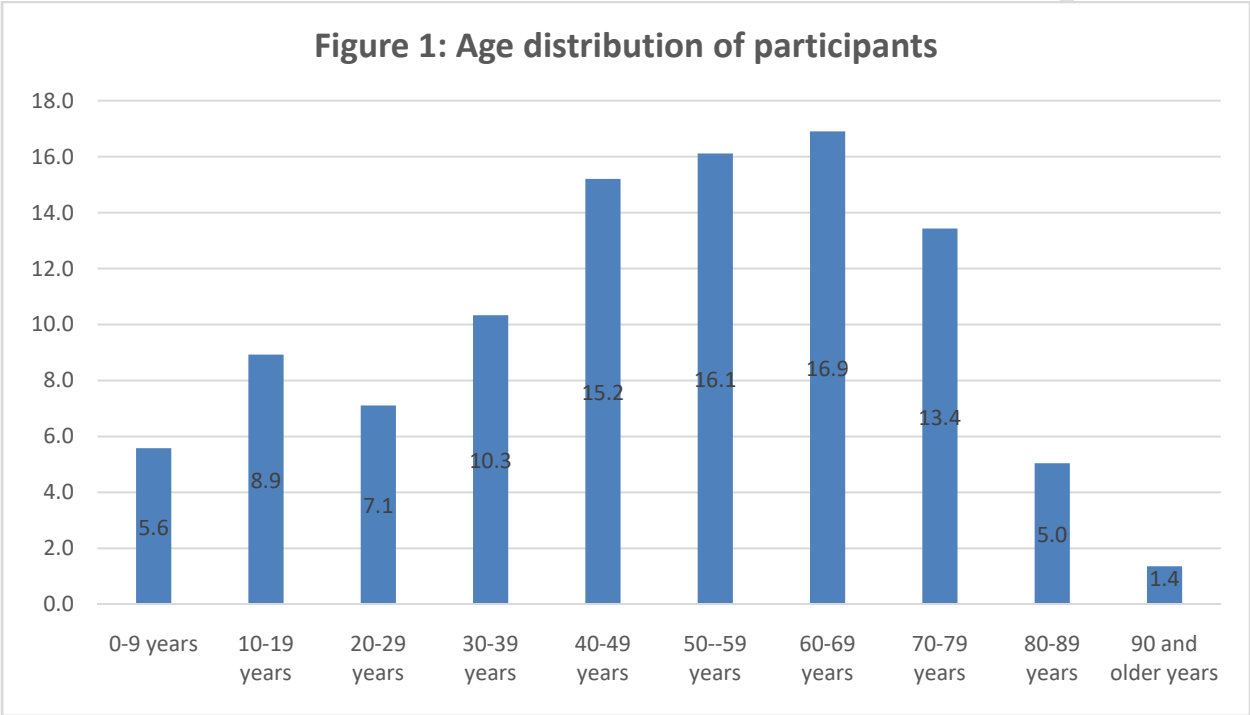
This shows the predominance of males with a M:F ratio of 1.1:1

Table 2: Sex of participants with refractive errors

		Refractive error status		Total
		None	Yes	
SEX OF PARTICIPANTS	Count	989	286	1275
	MALE % within SEX OF RESPONDENT	77.6%	22.4%	100.0%
	Count	790	355	1145
	FEMALE % within SEX OF RESPONDENT	69.0%	31.0%	100.0%
Total	Count	1779	641	2420
	% within SEX OF RESPONDENT	73.5%	26.5%	100.0%

P=0.001

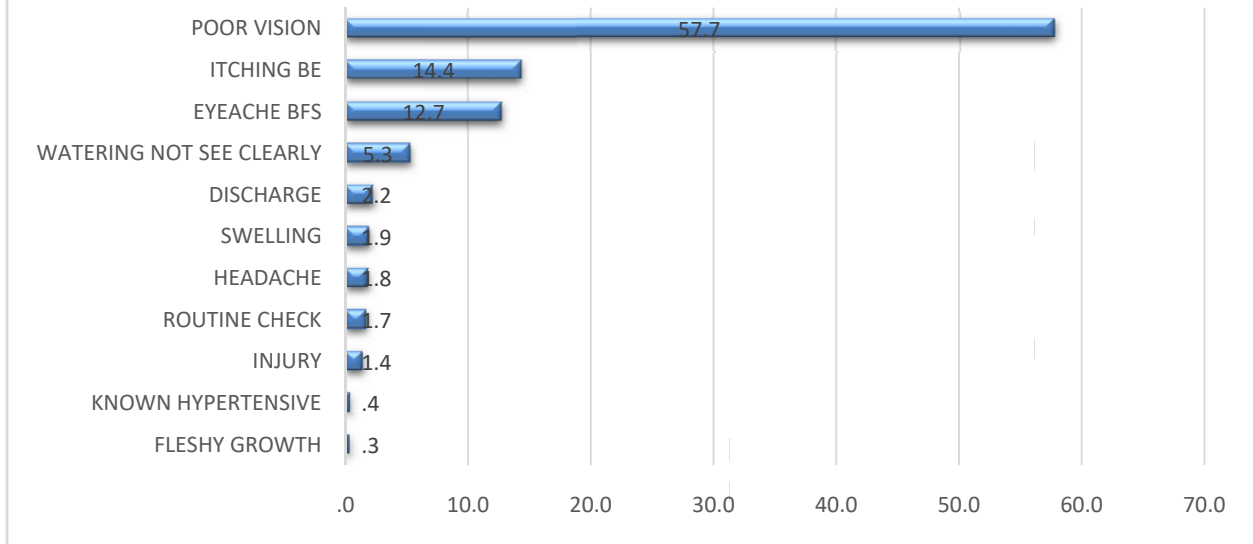
This shows a statistically significant predominance of females among cases of refractive errors



Most patients were aged 30 years and above

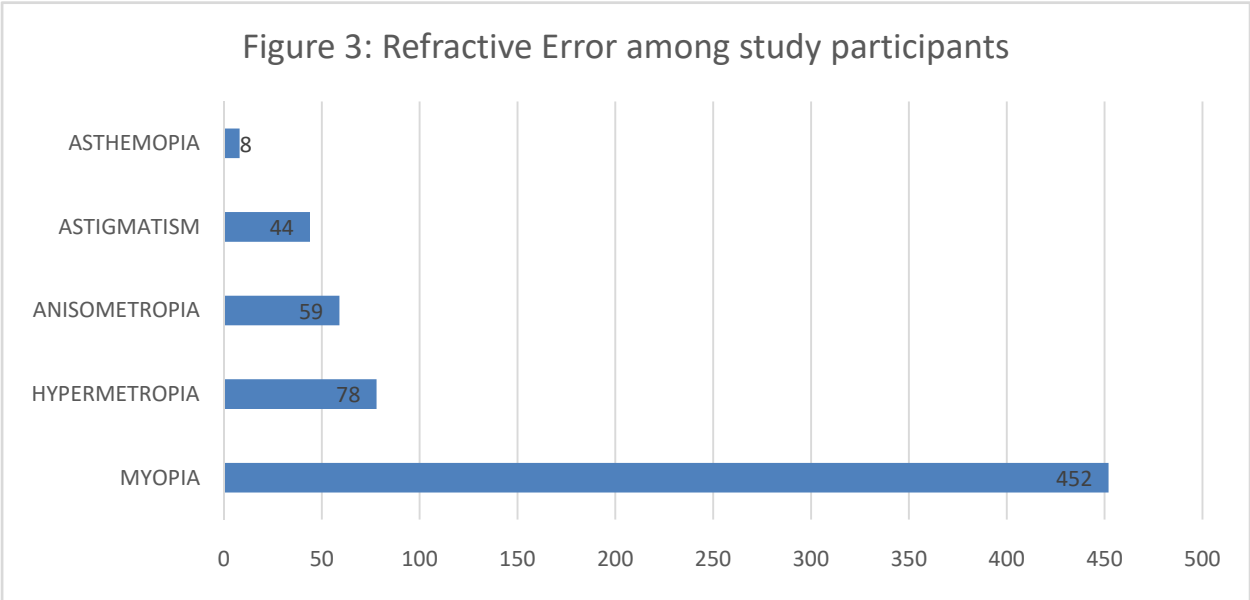
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Figure 2: Percent proportion of participants' ocular complaints/diagnosis



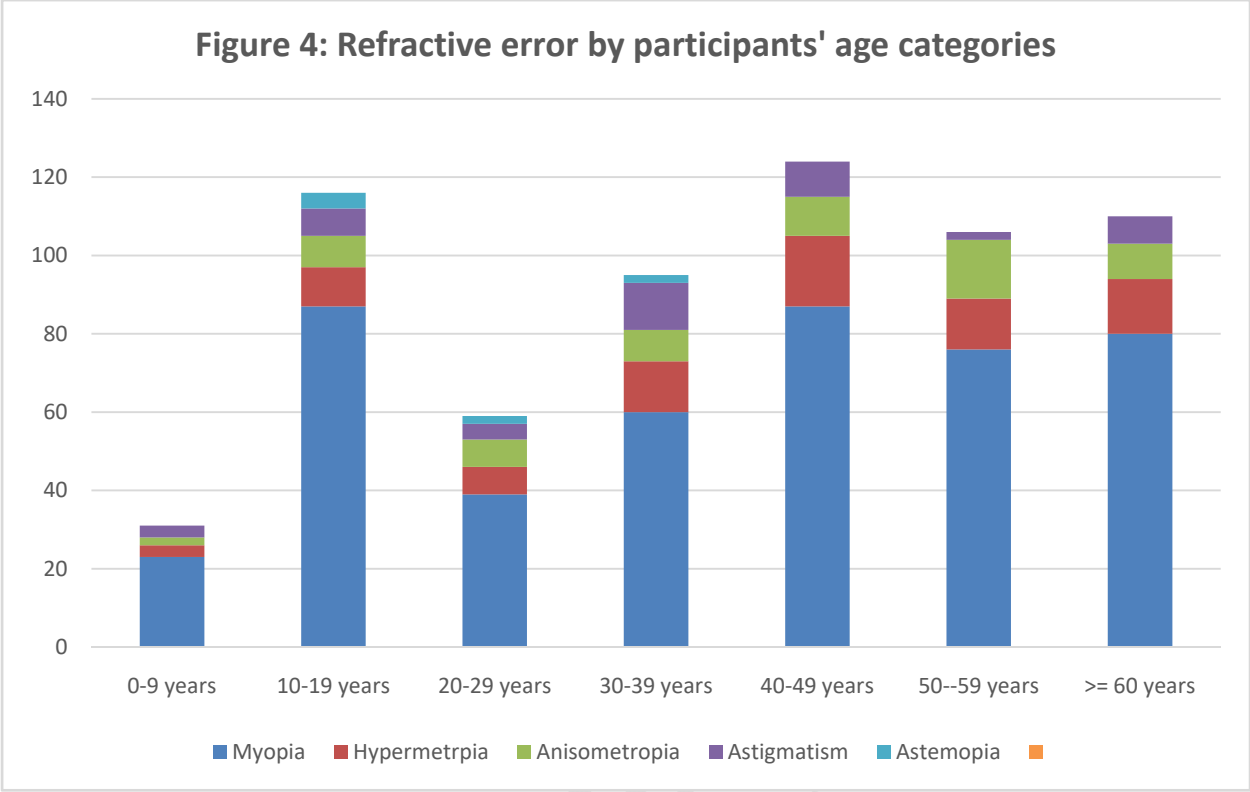
The commonest presentation was poor vision

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The commonest type of refractive error was myopia

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Refractive error is most common in age group 10-19 years and 30 years and above. Myopia predominates in all age groups.

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