

Pattern of Eye Disorders at the Ophthalmology Clinic of a Tertiary Health Facility in the Niger-delta Region: The Implications for Preventive Ophthalmology

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Authors' contributions

This work was carried out in collaboration among all authors. Author CNPE designed the study and approved the final manuscript. Author CSE wrote the protocol and first draft of the manuscript. All authors performed and managed the analyses of the study. Authors IOC, SAHC, AAO and DEB managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/OR/2019/v10i130097

Editor(s):

(1) Dr. Tatsuya Mimura, Department of Ophthalmology, Tokyo Women's Medical University Medical Center East, Japan.

Reviewers:

(1) Tayo Julius Bogunjoko, Eye Foundation Hospital Group, Nigeria.

(2) Gabor Nemeth, Borsod-Abaúj-Zemplén County Hospital and University Teaching Hospital, Miskolc, Hungary.

Complete Peer review History: <http://www.sdiarticle3.com/review-history/47107>

Received 17 November 2018

Accepted 04 February 2019

Published 12 March 2019

Original Research Article

ABSTRACT

Objective: To determine the pattern of eye disorders among Nigerian Niger Delta region residents as a basis for preventive ophthalmology.

Methodology: This study was a retrospective study involving an eleven-year cumulative review of clinical records from the Ophthalmology Clinic of University of Port Harcourt Teaching Hospital. Data on eye disorders were retrieved from the Ophthalmology Clinic records and manually entered into a computer-spread sheet. Double entry check was performed to avoid errors in computer entry. The respective eye disorders from the records were summed to obtain the absolute and relative cumulative frequencies and appropriately presented using horizontal bar chart. Data analyzed with United States Centers for Disease Control and Prevention (CDC) Epi-Info version 7 software.

Results: The cumulative total record from the Ophthalmology Clinic was 55,109 from a total of 41

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eye disorders. The absolute and relative frequencies of the identified eye disorders from the clinic are presented in horizontal bar chart. The top five ocular disorders were glaucoma (26.97%), refractive error (26.06%), cataract (10.60%), allergic conjunctivitis (9.31%) and bacterial conjunctivitis (5.02%) while the least common cases seen include pan uveitis (0.08%), herpes zoster ophthalmicus (0.07%) pingueculum (0.07%), painful blind eye (0.06%) and orbital cellulitis (0.05%). The anterior segment subspecialty (34.76%) accounted for majority of cases seen followed by glaucoma subspecialty (26.97%), oculoplasty (4.04%), vitreo-retinal (2.4%), paediatric (0.74%), neuro-ophthalmology (0.7%). Cases which cut-across more than one subspecialty group accounted for 28.19%.

Conclusion: The commonest eye disorders identified in this study are among the major causes of avoidable blindness in developing countries including Nigeria. To reduce the burden of blindness and visual impairment would involve a concerted effort to tackle these disorders especially by developing the various ophthalmic subspecialties.

Keywords: Pattern of eye disorders; Niger delta region; preventive ophthalmology.

1. INTRODUCTION

Patterns of eye disorders vary in different parts of the world being influenced by racial, geographic, socioeconomic and cultural factors. A prospective study at Ahmadu Bello University Sike, Northern Nigeria reported the common eye diseases as infective conjunctivitis (40.3%), allergic conjunctivitis (32.7%), refractive error (17.3%), glaucoma (1.9%) and cataract (1.8%). [1] Adenuga et al. in a study at the Nigerian Airforce Hospital Jos, Northern Nigeria reported the commonest eye disorders as allergic conjunctivitis (42%), refractive error and presbyopia (33%) and degenerative conjunctival diseases (5%), cataract (3.75%), and glaucoma (2.65%). [2] Similarly, a study by Hassan et al. in South-West Nigeria noted that vernal conjunctivitis (21.1%) was the commonest disorder seen; this was followed by cataract (14%), glaucoma (11.1%), and refractive error (20.7%) [3]. In an outreach in North-west Nigeria, Monsudi et al. reported the predominant ocular diseases to be cataract (32.3%), glaucoma (18.3%), and refractive error (17.9%) [4].

Ogwurike in the same vein found senile cataracts (22.9%) to be the main ocular morbidity in the Outpatient Eye Clinic, followed by anterior segment eye infection (19.1%) and trachoma eye infection (1.8%) [5]. Ajaiyeoba et al. in a study on pattern of eye diseases presenting to the General Outpatient Clinic at the University College Hospital, Ibadan south-western Nigeria reported their findings as follows: Conjunctivitis (32.9%), cataract (14.7%), ocular injuries (12.8%), refractive error (9.9%) and glaucoma (5.3%). Diseases of ocular adnexa, scleritis, aphakia and orbital tumours were rare in their study [6].

On the other hand, a study in Benin found the commonest eye disorders to be refractive error (23.1%) followed by conjunctivitis (21.5%) and cataract (15.9%); others were glaucoma (11.9%), trauma (4.9%) and uveitis (3.4%). In the Benin study, there was equal representation of males and females and most of their patients were older than 40 years [7]. A study in Sudan carried reported the most common eye diseases as cataract, allergic conjunctivitis, infective conjunctivitis, refractive disorders, and glaucoma [8]. In the same vein, Agyemang-Mireku in Ghana found the commonest eye disorders seen to be conjunctivitis (39.70%), cataract (24.40%), glaucoma (9.70%) and refractive error (8.90%) [9]. In western Nepal, refractive error was the most common ocular morbidity accounting for 26.8% of cases; followed by conjunctivitis (20.6%), cataract (11.8%), pterygium (6%), chalazion/stye (4%), ectropion/entropion (3.9%), keratitis (3.8%), dry eyes syndrome (2.8%), and corneal opacities (2.3%) [10]. Similarly, a retrospective study in India showed that conjunctivitis was the commonest ocular disorder at 21.94%; others were cataract - 9.2%, refractive error -15.2%, dacryocystitis - 6.51% and blepharitis - 3.2% [11]. This is corroborated by studies in Uganda [12,13].

The aim of this study is to report the pattern of eye disorders seen at the Eye Clinic of University of Port Harcourt Teaching Hospital with a view to advancing the best approach to reduce the burden of blindness.

2. METHODOLOGY

This study was a retrospective study involving an eleven-year cumulative review of clinical records from the Ophthalmology Clinic of University of

Port Harcourt Teaching Hospital, Nigeria. Data on eye disorders were retrieved from the Ophthalmology Clinic records and manually entered into a computer-spread sheet. Double entry check was performed to avoid errors in computer entry. The respective eye disorders from the records were summed to obtain the absolute and relative cumulative frequency and appropriately presented using horizontal bar chart. A p-value <0.05 was regarded as statistically significant. Data analyzed with United

States Centers for Disease Control and Prevention (CDC) Epi-Info version 7 software.

3. RESULTS

The cumulative total record from the Ophthalmology Clinic was 55,109 from a total of 41 eye disorders. The absolute and relative frequencies of the identified eye disorders from the clinic are presented in horizontal bar chart displayed in Fig. 1.

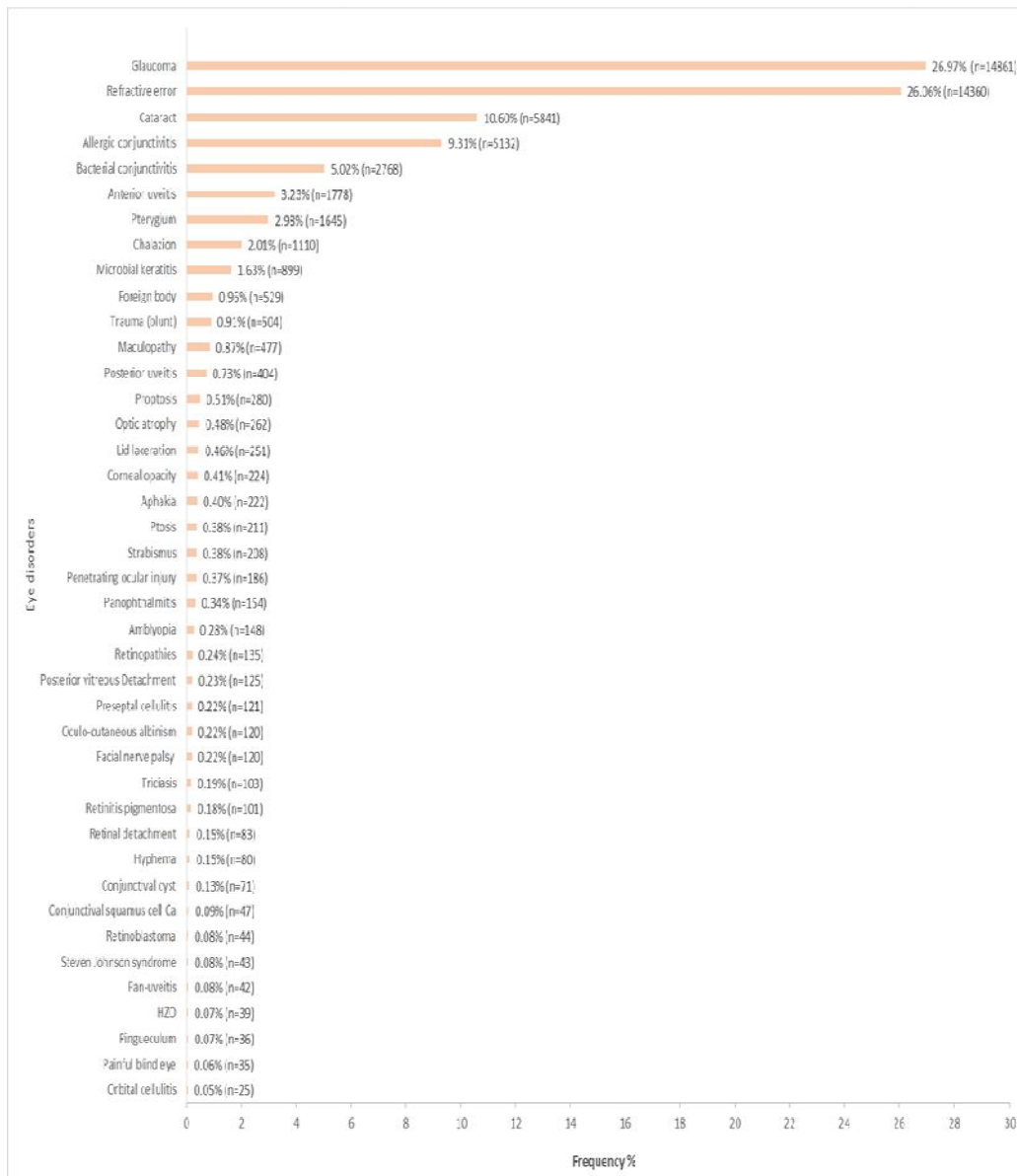


Fig. 1. Pattern of eye disorders seen in the eye clinic of UPTH showing relative & absolute frequencies in descending order

Anterior segment disorders (34.76%) such as cataract, allergic conjunctivitis, bacterial conjunctivitis, anterior uveitis, pterygium, microbial keratitis, corneal foreign body, corneal opacity, aphakia, hyphaema and pingueculum accounted for most of the cases seen. This is followed by glaucoma (26.97%), oculoplastic disorders (4.04%) such as proptosis, chalazion, lid laceration, ptosis, preseptal cellulitis, trichiasis, conjunctival cyst, orbital cellulitis and conjunctival squamous cell carcinoma. Others are vitreo-retinal cases (2.4%) such as maculopathy, posterior uveitis, retinopathies, posterior vitreous detachment, retinitis pigmentosa and retinal detachment; and paediatric ophthalmology cases (0.74%) such as strabismus, retinoblastoma and amblyopia. Neuro-ophthalmic cases constituted 0.7% of all cases seen and they include optic atrophy and facial nerve palsy. Disorders falling under more than one subspecialty accounted for 28.19% and they include refractive error, painful blind eye, blunt trauma, penetrating trauma, pan-ophthalmitis, oculo-cutaneous albinism, Stevens Johnsons' syndrome, pan-uveitis and herpes zoster ophthalmicus (HZO).

4. DISCUSSION

In this study, glaucoma accounted for majority of the cases seen in the study period, and this is closely followed by refractive error at 26.06%. Both accounted for more than 50% of all cases seen. This is comparable with the studies in Northern Nigeria [1] and Western Nepal [9] where refractive error was very common. Cataract, which is the commonest cause for blindness in the world, accounted for 10.6% of all cases. This is not unexpected as other studies have reported similar results – Ogwurike [6] and Sarita Tuladhar et al. [9]. This result will certainly help in planning towards the prevention of blindness and visual impairment in the Niger Delta Region of Nigeria.

The top five common cases seen in this study were glaucoma, refractive error, cataract, allergic conjunctivitis and bacterial conjunctivitis - they contributed about 77% of all cases seen. Conditions like pterygium and chalazion requiring minor surgeries accounted for about 5% of all cases. Ocular foreign body, trauma, maculopathy, posterior uveitis, and proptosis each accounted for less than 1% of the total cases seen. Efforts in the prevention of blindness and visual impairment will be properly channeled towards the more challenging disorders in order to achieve maximum results. The five least

common cases were pan-uveitis, HZO, pingueculum, painful blind eye and orbital cellulitis. This is in contrast with some studies in Nigeria with higher numbers probably because they were free outreach programmes with large turn outs [3,4,5].

The anterior segment subspecialty accounted for majority of cases seen at 34.76%. This is understandably due to the high prevalence of cataract, conjunctivitis, anterior uveitis and pterygium. This was followed by glaucoma subspecialty and attributable to the development of the unit by the consultant after acquiring more skills through additional subspecialty training. The patients seen in the oculoplastic and vitreo-retina specialties have been gaining prominence just because there are now consultants who have acquired additional skills in these subspecialties. Though the paediatric Ophthalmology Clinic is among the busiest, most of its cases fall under other subspecialties leaving only 0.74% as purely paediatric cases - retinoblastoma, strabismus and amblyopia. Paediatric refractive error, glaucoma and cataract were reported in their respective subspecialties. This accounts for the low number of cases reported under the paediatric subspecialty in our study. Neuro-ophthalmology cases accounted for only 0.7% for the same reason. Studies elsewhere attributes this to the paucity of paediatric and neuro ophthalmology speciality [10,11].

5. CONCLUSION

The various eye disorders seen in this study are comparable with those seen in other parts of Nigeria and developing countries. The commonest being glaucoma, refractive error, cataract and conjunctivitis. More attention should be paid to the management of these disorders through subspecialty development in order to reduce the burden of visual impairment and blindness in our environment and should be encouraged. The provision of equipment will also go a long way in strengthening the various subspecialty units.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

The peer review history for this paper can be accessed here:

<http://www.sdiarticle3.com/review-history/47107>