TRENDS IN RATES OF OCULAR DIAGNOSES AMONG OUTPATIENTS AT THE UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL EYE CLINIC: 2006 – 2016

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ABSTRACT

Objective:

To identify the types of ophthalmological diagnoses among outpatients at the Eye Clinic of University of Port Harcourt Teaching Hospital (UPTH) and determine the trends in rates of these disorders from 2006 to 2016.

Methodology:

A retrospective review of clinical records from the eye clinic of UPTH from 2006 till 2016.

Data extraction:

Data on ocular pathologies seen from 2006 to 2016 were obtained from the eye clinic out-patient register and entered into Microsoft Excel sheet using a template comprising of the ophthalmological diagnosis and year of diagnosis.

Data analysis:

Data from Microsoft Excel sheet were exported to Epi-Info version 7.1.4 for statistical analysis. Line graph was used to express rates of the ocular diseases diagnosed from 2006 to 2016. The absolute number of patients across the time period was presented in tabular form. Trend analysis was performed using Chi square for trend statistics and statistical significance set at $p<0.05$.

Results

Ophthalmic diseases most commonly diagnosed during the period under review were allergic conjunctivitis, refractive error, glaucoma, cataract and bacterial conjunctivitis. Disorders of the eyelids and orbit, disorders of retina, neuro-ophthalmic disorders, ocular foreign bodies and trauma were less common. The trend in the rate of ocular disorders was undulating with peaks in different months and years.

Conclusion

The trend of ocular disorders through a period of eleven years was undulating. The rate of ocular disorders increased with years. Improvement in our eye care service is desirable.

Keywords: *Ocular morbidity, Trends, University of Port Harcourt Teaching Hospital*

INTRODUCTION

Ocular diseases can affect an individual's quality of life, economic productivity and may result in untimely death.[1] The pattern of ocular diseases varies in different parts of the world and is influenced by racial, geographic, socioeconomic, age, gender and cultural factors[1-4]. The common ocular diseases worldwide are cataract, glaucoma, conjunctivitis, corneal ulcers, uveitis, refractive error and pterygium.[2] Other eye diseases include xerophthalmia, trachoma, onchocerciasis and ocular malignancies [5-10]. The World Health Organization (WHO) estimates that 89% of people living with various degrees of visual impairment are from low- and middle-income countries[11]. In Nigeria, cataract, refractive error, conjunctivitis are the three most common causes of ocular morbidity although diseases like trachoma, onchocerciasis, vitamin A deficiency and other causes of childhood blindness are still prevalent in some geopolitical zones in Nigeria [7,10,12-15]. Majority of ocular morbidities which can lead to blindness are either potentially preventable or curable.[10]

The profile and rate of ocular disorders and causes of blindness in developing countries like ours will help in the planning and execution of healthcare policies that will ensure the reduction of ocular morbidity and consequently improve socioeconomic well-being of the citizens. A preliminary report of the pattern of eye diseases seen at the Centre for Disease Control (CDC) in Benin City, Nigeria showed that, the most common ocular morbidities were refractive errors, cataract, glaucoma and allergic conjunctivitis[16].

This study sets out to report the trend of eye disorders seen at the Eye Clinic of University of Port Harcourt Teaching Hospital with a view to proffering scientifically-sound ways of reducing the burden of blindness in our locality. This result will certainly help in planning towards the prevention of blindness and visual impairment in the Niger Delta Region

MATERIALS AND METHODS

This study is a retrospective review of clinical records from the eye clinic of UPTH from 2006 to 2016 (11 years). Data on eye disorders were retrieved from the Ophthalmology out-patient hospital register and entered into Microsoft Excel sheet using a template comprising of the ophthalmological diagnosis and year of diagnosis. Double entry check was performed to avoid errors in computer entry. Data from Microsoft Excel sheet were exported to Epi-Info version 7.1.4 for statistical analysis. Line graph was used to express rates of the different ophthalmological diagnosis by time period of 2006 to 2016. The absolute number of patients across the time period was presented in tabular form. Trend analysis was performed using Chi square for trend statistics and statistical significance set at $p<0.05$.

RESULTS

Table 1. Distribution of ophthalmological diagnoses at UPTH Eye Clinic from 2006 to 2016

Diagnosis	Year											*Chi Square†*	*p-value*
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**		
Allergic conjunctivitis	940	325	1070	516	325	242	305	467	516	325	101	501.57	<0.0001*
Refractive error	902	949	1050	580	2001	3102	3295	1070	580	480	351	11.95	0.005*
Glaucoma	786	963	832	1778	1805	836	2503	1050	1778	1805	725	830.72	<0.0001*
Cataract	734	781	802	368	400	293	650	832	368	400	213	193.85	<0.0001*
Bacterial kerato-conjunctivitis**	267	357	396	299	446	70	81	970	299	446	34	27.03	<0.0001*
Pterygium	112	178	205	108	96	146	228	309	108	96	59	0.72	0.3953
Disorders of the eyelid and Orbit***	138	171	242	148	189	130	139	246	149	190	47	0.03	0.8516
Disorders of the vitreous and Retina****	92	137	235	95	59	152	146	260	95	153	78	13.206	0.0028*
Neuro-ophthalmic disorders*****	33	54	91	67	110	78	83	126	67	110	52	46.40	<0.0001*
Foreign body	68	63	82	21	62	39	19	87	21	62	5	16.72	0.0004*
Trauma (blunt/Penetrating ocular injury)	67	97	105	53	37	61	60	119	53	37	26	10.84	0.0099*
Total	**4819**	**4997**	**5392**	**4212**	**5987**	**5431**	**7798**	**5873**	**4212**	**4466**	**1922**		

*†Chi square for trend *Statistically significant*

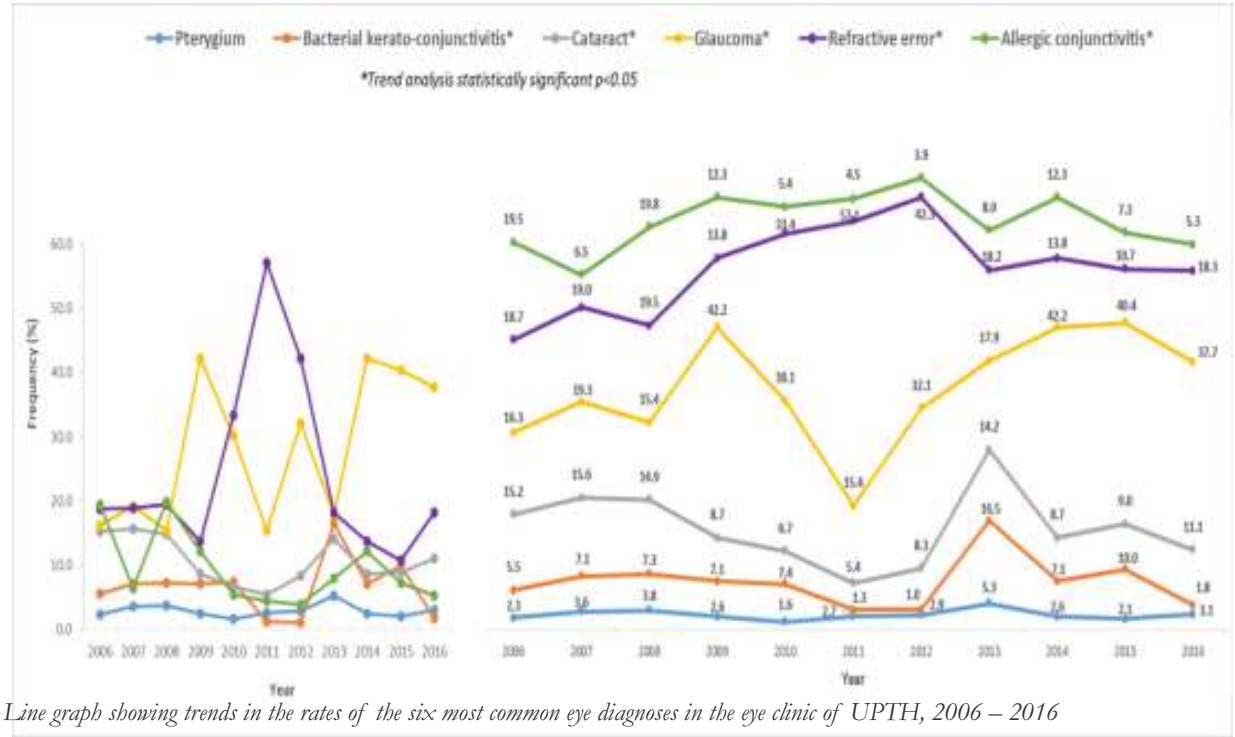

Fig. 1 Line graph showing trends in the rates of the six most common eye diagnoses in the eye clinic of UPTH, 2006 – 2016

***Bacterial kerato-conjunctivitis refers to bacterial conjunctivitis and microbial keratitis*

****Disorders of Eyelid and Orbit refers to chalazion, lid laceration, ptosis, trichiasis, HZO, painful blind eye, orbital cellulitis, preseptal cellutlitis*

*****Disorders of vitreous and Retina refers to retinitis pigmentosa, retinopathies, retinal detachment, maculopathy, posterior uveitis, panophthalmitis, posterior vitreous detachment, pan-uveitis*

******Neuro-ophthalmic disorders refers to proptosis, optic atrophy, strabismus, facial nerve palsy*

Allergic conjunctivitis, refractive error, glaucoma, cataract, bacterial conjunctivitis and pterygium were the most common ocular disorders and showed undulating trends with peaks in different years. However, the chi trend analyses of their occurrences in the different years were all statistically significant.

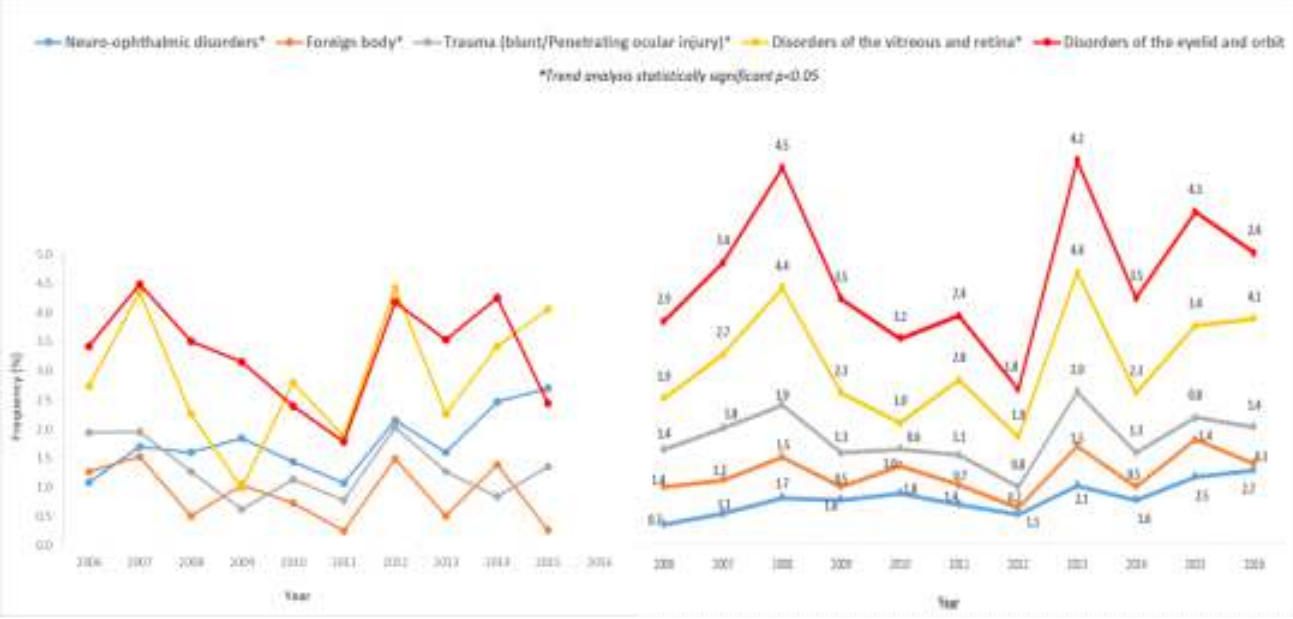

Fig. 2 Line graph showing trends in the rates of the five less common eye diagnoses in the eye clinic of UPTH, 2006 – 2016

The trends of less common cases - disorders of the eyelids and orbit, disorders of vitreous and the retina, neuro-ophthalmic disorders, ocular foreign bodies and ocular trauma were statistically significance across the eleven years of review.

DISCUSSION

A total of 55,109 patients were attended to and a total of 41 eye disorders diagnosed. The absolute numbers of the ocular disorders and the respective periods are shown in table 1. The relative frequencies of the prevalence of the diseases are as follows: 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%) Pterygium/Pingueculum (0.07%), Painful Blind Eye (0.06%) and Orbital Cellulitis (0.05%). Glaucoma, Allergic Conjunctivitis, Refractive Error, Cataract and Bacterial Keratoconjunctivitis were observed to be the most common ocular disorders.

All the ocular disorders showed statistically significant undulating trends with peaks in different years. However, allergic conjunctivitis presented mostly between the months of May and August. The chi square trend analyses of their occurrences in our clinical practice all year-round were all statistically significant and showed no defined pattern or preference for any particular season or time (Figures 2 and 3). This makes it difficult to estimate at near-certainty level for definite ocular conditions that may present in the clinic at a particular season. This study reveals the trends in ocular morbidity in the outpatient ophthalmic clinic, university of Port Harcourt teaching Hospital for a period of eleven years (2006 to 2016).

The increasing trend of allergic conjunctivitis in the Niger Delta area of Southern Nigeria has been noted by several observers[17-19]. It has been postulated that increased activities in oil exploration with consequent possible environmental pollution could be a contributory factor [6,17]. Independent studies in Benin, Nigeria showed that refractive error, glaucoma, cataract and allergic conjunctivitis were the leading causes of ocular morbidities with refractive error accounting for more than 50% of the ocular morbidities[4,13,20-23]. Our study corroborates with reports of the pattern of eye disease seen at the Centre for Disease Control in Edo State, Nigeria where refractive error and cataract were observed to be the leading causes of ocular morbidity[3]. These findings also corroborate with the reports of the Nigerian National Blindness and Visual Impairment Survey of 2005-2007 and various parts of Nigeria and in Western Nepal[4-6,10,18,24,25]. Some of the possible reasons for the high prevalence of cataract and refractive error in our environment has been postulated to include inadequate awareness of eye diseases and subsequent poor uptake of eyecare services in Nigeria[26-30], inadequate screening tools and programs to include most other ocular disorders (for instance, some screening programs do not screen for dry eyes or diabetic retinopathy) or inherently high prevalence of these eye disorders in the population[3,31,32].

Glaucoma is known to be associated with increasing age, this was also the finding in previous studies on glaucoma in Benin City and its environs[16,33-35]. Our study still identifies with the trend of increasing cases of glaucoma with increasing age.

This study reveals the undulating trend in the presentation of ocular morbidity in the outpatient ophthalmic clinic, university of Port Harcourt teaching Hospital for a period of eleven years (2006 to 2016). The ophthalmologist and the other Eye Care Team personnel should therefore be ready at all times to accommodate and treat all forms of ocular disorders all the year round.

CONCLUSION

The trend of ocular disorders through a period of eleven years in University of Port Harcourt Teaching Hospital showed an undulating curve. The Chi Square trend analyses of their occurrences in our clinical practice all year-round were all statistically significant. Our Eye Care Service Systems should therefore be equipped and prepared to provide adequate medical treatment to the populace, all year-round. Efforts in the prevention of blindness and visual impairment should be intensified and channeled towards the more challenging disorders in order to fast-tract the Vision 2020 goals. The rate of ocular disorders

increased with years, therefore, improvement in our eye care service is therefore highly desirable.

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