

Common Ocular Problems in Aba Metropolis of Abia State, Eastern Nigeria

¹A.N. Amadi, ¹B.O. Nwankwo, ²A.I. Ibe, ¹U.M. Chukwuocha,

³K.S. Nwoga, ⁴N.C. Oguejiofor and ⁵G.U.P. Iloh

¹Department of Public Health Technology,

Federal University of Technology, Owerri, Imo State, Nigeria

²School of Post-Graduate Studies, Imo State University, Owerri, Nigeria

³Hands of Joy Health and Community Support Initiative Aladimma Owerri, Imo State, Nigeria

⁴HIV/TB Unit, ⁵Department of Family Medicine,

Federal Medical Center Owerri, Imo State, Nigeria

Abstract: To study the distribution of common ocular problems of patients who reported for eye care in 2 randomly selected hospitals in Aba, Nigeria. A retrospective study of clinical records of 949 patients comprising of 515 female (54.3%) and 434 males (45.7%) were reviewed. Information extracted includes age and sex of patients, their ocular health status and diagnosis made. Age of subjects ranges from 2 months to 90 years with peak age from 15-65 years. Two hundred and sixteen patients (27.5%) had presbyopia, 109 (11.5%) had various types of conjunctivitis (especially bacterial, allergic and vernal conjunctivitis), 121 (12.2%) were hyperopic, 45 (4.7%) had cataract, while 40 (4.2%) suffered from glaucoma either binocularly or monocularly, 39 patients (4.1%) were myopic. Other minor ocular problems such as ocular hypertension and retinitis pigmentosa (2.2%) were also recorded. Refractive errors like presbyopia and hyperopia were the common refractive (non-pathologic) ocular problems while conjunctivitis, cataract and glaucoma were common, non-refractive (pathologic) ocular problem observed in Aba metropolis. Therefore, intervention programmes to alleviate these public health problems are expedient in the state, mostly in the studied population.

Key words: Ocular, patients, eye care, eye problems, hospital, Aba, Nigeria

INTRODUCTION

The eye is the organ of sight located anatomically in 2 orbital cavities on the anterior part of the skull. The volume of the orbit is about 30 mL and the eyeball occupies only about one 5th the space, while fat and muscles make up the bulk of the space (Paul and John, 2004). The eye is also an optical device that refracts (bends) light rays through its various refractive surfaces and media like the cornea, aqueous fluid, the crystalline lens (natural human lens) and the vitreous. Light rays from objects passes through these media to form a focus on the retina where the image is formed. The optic nerve then conducts nerve impulses from the retina to the brain where the image of the object is interpreted. Any occlusion or interruption of light rays along the optical media of the eye may result in a blurred or poorly focused retinal image. Theodore (2007) stated that when the optical image of the eye is sharply focused on the retina, then the optical image and the retinal image will be

same and one. If otherwise the retinal image will form a blur circle, which the individual sees as a blurred image.

Anatomically, the eye may be subdivided into 3 main coats (layers) namely outer, middle and inner layer. The outer layer comprises of cornea, sclera and episclera; middle layer-iris, ciliary body and muscle, lens and choroids; inner layer-retina. The optic nerve connects the eyeball to the brain (occipital). There are external tissues like the conjunctival membrane, eye lids etc. These tissues of the eye can be affected by physical and chemical agents like wind, dust and other particles, chemicals, trauma; biological agents like bacteria, viruses and fungi; other pathogenic and or degenerative processes leading to ocular problem like conjunctivitis, Cataract, Pterygium, Uveitis, Glaucoma, Keratitis, Retinitis Pigmentosa etc. Systematic diseases like diabetes and hypertension can lead to retinopathies examples diabetic and hypertensive retinopathies. In some ocular problems, the etiology may not be satisfactorily elicited. Oluleye *et al.* (2005) opined that about 62% cases of optic atrophy, the etiology could

not be specified. Even some cases of glaucoma are of unknown etiology. All the above ocular problems could be classified as pathologic ocular problems.

Non-pathologic ocular problems include refractive errors like myopia, hyperopia, astigmatism and presbyopia. These errors of refraction are as a result of the optical image in the eye not being sharply focused on the retina thereby creating a disparity between the optical image and retinal image. These may be as a result of the axial length of the eye ball being too short or too long; presbyopia (old-age-sight) on the other hand is the recession of near point of accommodation to the point that it is difficult or impossible to do close work or reading. Refractive errors are usually corrected with lenses, which may be spherical or cylindrical lenses, bifocals, varifocals, contact lenses, low vision aids and other optical devices.

MATERIALS AND METHODS

A retrospective study through the use of a secondary data collection technique was conducted on 949 patients, who visited Abia State University Teaching Hospital and St. Anthony’s Hospital, all in Aba metropolis of Abia State from February 2004-2006. Information extracted from the health records includes external examination of the eyes, visual acuity, ophthalmoscopic findings, refractive status, ocular diagnosis, age and sex of the patients. Materials and equipments used in data collection met all the criteria of International standards and quality for use in data collection. These include among others, Standard pen-touch, Distant and near Snellen’s chart, Illiterate E charts, Schiotz tonometre and Microbiological assessment of purulent discharges from the eye. Other subjective eye assessments such as redness on rubbing the eye, bilateral severe itching, stringy discharges from the eye etc. were used for the clinical diagnosis of eye problems.

RESULTS

From the result of this study, the following findings were made of the 949 patients (515 female and 434 males), 216 (27.5%) had presbyopia, 109 (11.5%) had various types of conjunctivitis (especially bacterial, allergic and vernal conjunctivitis), 121 patients (12.8%) were hyperopic. Forty five cases (4.7%) presented with cataract, 40 (4.2%) had glaucoma while 39 patients (4.1%) were myopic, 11 patients (1.2%) suffered from ocular hypertension, 13 (1.4%) had pterygium, 10 cases had (1.05%) had retinitis pigmentosa and 9 (1.0%) had uveitis. Vitreous floaters and pinguecular were observed in 6

Table 1: Frequency of ocular problems in Aba metropolis

Ocular eye problems	Frequency	(%)
Presbyopia	261	27.50
Conjunctivitis	109	11.49
Hyperopia	121	12.15
Cataract	45	4.74
Glaucoma	40	4.21
Myopia	39	4.11
Retinitis pigmentosa	10	1.05
Uveitis	9	0.95
Ocular hypertension	11	1.16
Vitreous floaters	6	0.63
Keratitis	3	0.32
Pterygium	13	1.37
Pinguecular	6	0.63
Optic atrophy	3	0.32
Blepharitis	3	0.32
Total	681	

patients (0.6%) each while keratitis, optic atrophy and blepharitis had a frequency of 3 patients (0.3%) each (Table 1).

DISCUSSION

For clarity of discussion and comparison, classified as the common ocular problems into non-pathological (Refractive) and pathologic (Non-refractive) ocular problems. From the study presbyopia had the highest prevalence of 27.5%. This is in line with global trends of presbyopia in India, Brazil etc. where a prevalence rate of over 50% of adults between 30 years and above have been reported (Nwosu, 1998; Iiesha and Sheila, 2007). The lower presbyopia prevalence observed in this study may be due to the following reasons: Poor reporting of presbyopic patients to eye clinic for appropriate eye examination and refraction. Ignorance of the onset of presbyopia in the subjects. Adoption of concept of spiritualism or mysticism about the cause and progression of presbyopia as some patients believe that poor near vision is a spiritual attack, a spell cast on them or some kind of voodoo practice against them by an enemy or sorcerer.

Hyperopia has a prevalence of 12.8%, this high prevalence of hyperopia may be justified by the fact that most emmetropic (normal sighted) and hyperopic presbyopes tend to experience an upward shift in the degree of hyperopia (Theodore, 2007). Myopia on the other hand has a prevalence of 4.1%. This may be due to the fact that most low or middle grade myopes (<3.00 D) may not report early to the clinic since they can read tiny prints very well even at the presbyopic ages of 40 and above and they may also be squinting, converting the pupil into a slit to achieve clearer images of distant objects. High myopes on the other hand, may report earlier to the clinic due to blurring of distant objects.

Among the pathologic (non-refractive) ocular problems, conjunctivitis (mainly, allergic, vernal and bacterial) had a high prevalence of 11.5%. This is followed by cataract (4.7%) and Glaucoma (4.2%). This agrees with the study of Scott and Ajaiyeoba (2003) conducted in a general out-patient clinic of the University College Hospital (UCH), Ibadan, Nigeria, where 32.9% of patients presented with conjunctivitis while 14.7% had cataract. Also, Adio (2006) in a study on adults in an old people's home in Port Harcourt, Nigeria and Omoti (2005) in the out-patient clinic of University of Benin Teaching Hospital had asserted that cataract and glaucoma respectively are common causes of ocular morbidity worldwide. In addition, Adegbehingbe and Majengbasan (2007), Adegbehingbe *et al.* (2006) and Agbeja *et al.* (2003), in separate studies in Obokun LGA of Osun State, Ife-ijesha Osun State and UCH Ibadan respectively also observed cataract and glaucoma as leading cause of blindness. Ten cases (1.05%) of retinitis pigmentosa were recorded. Ukponmwan and Atamah (2004) had in their 3 years prospective study on patients attending the University of Benin Teaching Hospital, opined that the degree of visual loss among Nigerians with retinitis pigmentosa is severe and may be related to the long duration of the disease and age at which the patient presents the disease.

Furthermore, Ashaye and Asuzu (2005), observed that ocular problems, mostly unrecognized, reduce worker's productivity. It may also lead to life time visual disabilities which will inevitably affect the Quality of Life (QOL) of patients (Forsman *et al.*, 2007). Effective refractive error intervention programmes should be put in place at all government hospitals and by extension private clinics in the state to meet eye health needs of pathologic and non pathologic cases. Provision of accessible, acceptable and affordable corrective spectacles to the patients at subsidized rates were suggested as intervention measures (Raheen *et al.*, 2007; Kovin and Dhivya, 2007). For pathologic (i.e., non-refractive) cases, early detection and appropriate referrals at the primary health care levels should be encouraged.

CONCLUSION

Study implications: Most of the studies reported in Nigeria were either conducted in rural settings or in well established Institutions. This is a boost for private practitioners, who with limited equipments and facilities could come up with outstanding and corroborative results comparable to others in well established centers. No such base line study conducted in this part of the country (considered business nerve center), which could warrant or stimulate further empirical, longitudinal and population-based study in this area. However, this study

suggested an intervention program/study as results corroborates with other findings but in varying proportions. Again, replicating studies in different parts of any country is a welcome development in research as this would enable a quasi cause-effect relationship to be drawn and also for a reliable conclusion of the phenomenon to be ascertained. To this end therefore, the following recommendations were advanced.

Trained eye care workers (ophthalmic community health workers and nurses, optometrists and ophthalmologist) should be employed at various level of the health care system for early detection and proper management of ocular problems. Appropriate budgetary allocation should be made by all tiers of government towards the provision of qualitative eye care services to the citizenry.

Non governmental organization should also assist the government in the provision of quality eye care services to the populace in order to reduce the burden of ocular morbidity and visual impairment especially in this studied population. Finally, religious leaders should be incorporated into the community based health care team or committee.

REFERENCES

- Adegbehingbe, B.O. and T.O. Majengbasan, 2007. Ocular Health status of rural dwellers in South-Western Nigeria. *Aust. J. Rural Health*, 15 (4): 269-272. DOI: 10.1111/j.1440-1584.2007.00906x.
- Adegbehingbe, B.O., B.R. Fajemilehin, E.E. Ojofeitimi and L.A. Bisiriyu, 2006. Blindness and Visual impairment among the elderly in Ife-Ijesha zone of Osun State, Nigeria. *Indian J. Ophthalmol.*, 54 (1): 59-62. <http://www.ijo.in/text.asp?2006/54/1/59/21620>.
- Adio, A.O., 2006. Ophthalmic Survey of an old people's home in Nigeria. *Niger. J. Med.*, 15 (3): 288-290.
- Agbeja, B.A.M., C.O. Bekibele, E.O. Bamgboye, F. Omokhodion and T.S. Ohileye, 2003. The Ibadan Glaucoma Study. *Afr. J. Med. Med. Sci.*, 32 (4): 371-376.
- Ashaye, A.O. and M.C. Asuzu, 2005. Ocular findings seen among the staff of an Institution in Lagos, Nigeria. *West Afr. J. Med.*, 24 (2): 96-99.
- Forsman, E., T. Kivela and E. Vesti, 2007. Lifetime visual disability in Open-angle Glaucoma and ocular hypertension. *J. Glaucoma.*, 16 (3): 313 -319. PMID: 17438426.
- Iiesh, P. and K.W. Sheila, 2007. Presbyopia: Prevalence, impact and interventions. *Commun. Eye Health J.*, 20 (63): 40-41.
- Kovin, N. and R. Dhivya, 2007. Delivering refractive error service; Primary eye care centres and outreach. *Commun. Eye Health J.*, 20 (63): 42-44.

- Nwosu, S.N., 1998. Ocular problems of young adults in rural Nigeria. *Int. Ophthalmol.*, 22 (5): 259-263. PMID: 10826540.
- Oluleye, T.S., A.I. Ajaiyeoba, O.F. Fafowora and B.A. Olusanya, 2005. The aetiology of Optic atrophy in Nigerians: A general hospital clinic study. *Int. J. Clin. Pract.*, 59 (8): 950-952. DOI: 10.1111/j.1742-1241.2005.00541.x.
- Omoti, A.E., 2005. Glaucoma in Benin City Nigeria. *Niger Postgrad. Med. J.*, 12 (3): 189-92. PMID: 16160721.
- Paul, R. and P. John, 2004. *Vaughan and Asbury's General Ophthalmology* 16th Edn. McGraw-Hill Co. USA., pp: 474. ISBN: 10: 0-07-144314-2.
- Raheen, J., B. John and M.S. Victoria, 2007. Making refractive eye care error services sustainable: The international Eye Foundation Model. *Commun. Eye Health J.*, 20 (63): 45-46.
- Scott, S.C. and A.I. Ajaiyeoba, 2006. Eye disease in General Out patient clinic in Ibadan. *Niger J. Med.*, 12 (2): 76-80. PMID: 12956012.
- Theodore, P.G., 2007. *Primary Care Optometry*. 5th Edn. Butterworth Heinemann, USA., pp: 510. ISBN: 10:0750675756, 13:9780750675758.
- Ukponmwan, C.U. and A. Atamah, 2004. Rinitis pigmentosa in Benin, Nigeria. *East Afr. Med. J.*, 81 (5): 254-257. PMID: 15508340.