



Contents lists available at ScienceDirect

Asian Pacific Journal of Tropical Disease

journal homepage: www.elsevier.com/locate/apjtd

Document heading

doi:

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Pattern of ocular morbidity in Nigeria

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To the editor,

The pattern of ocular diseases vary in different parts of the world and is influenced by racial, geographic, socioeconomic and cultural factors^[1–4]. The common ocular diseases world wide are cataract, glaucoma, conjunctivitis, corneal ulcers, uveitis, refractive errors, pterygium. Other eye diseases include trachoma, onchocerciasis, xerophthalmia and ocular malignancies^[3–5].

Five conditions: cataract, refractive errors/low vision, trachoma, onchocerciasis, and vitamin A deficiency/other causes of childhood blindness were determined to be responsible for 75% of all blindness worldwide^[7]. These are treatable and preventable causes of blindness. Effective and cost efficient intervention strategies are available for each of these diseases. A joint initiative VISION 2020: the right to sight by the World Health Organisation and International Agency for Prevention of Blindness and its constituent members in collaboration with countries and international agencies involved in eye care have put in place strategies to facilitate the implementation of effective and efficient eye care services in all districts^[5]. If this strategy is successfully implemented, blindness due to cataract, refractive errors, trachoma, Vitamin A deficiency, onchocerciasis and some due to diabetic retinopathy and glaucoma would be eliminated. The projected increase in global blindness to above 75 million by year 2020 could be reduced to approximately 24 million.

The commonest eye diseases seen among patients attending ophthalmic outreach services in a rural area in Ethiopia were conjunctivitis, cataract, presbyopia, refractive errors and blepharitis. Edema *et al.* from Benin

City reported refractive errors^[1], conjunctivitis, cataract and glaucoma to be the common eye diseases seen in Benin.

The aim of this study is to determine the pattern of eye diseases at the University of Benin Teaching Hospital, Benin City and to compare the findings with previous studies in the same environment. It is hoped that this study will show the trend of ocular morbidities in our environment and help to provide basic data for planning and provision of adequate eye care services, appropriate treatment and intervention for these diseases.

The case records of all consecutive patients seen at the eye clinic of the University of Benin Teaching Hospital, between July 2004 and June 2008 were retrieved. The demographic data such as age, sex, occupation of the patients were noted. The visual acuity and diagnosis of the patients were also retrieved from the case notes. The examination of the patients included visual acuity using Snellen's chart, pen torch and slit lamp examination, intraocular pressure measurement using applanation tonometer or the puls air tonometer. Fundoscopy with or without dilatation was also carried out. Refraction was done when indicated. The data was analysed using SPSS. The study was approved by the ethics committee of the University of Benin Teaching Hospital.

The total number of new patients seen during the study period was 7220. There were 3583 (49.6%) males and 3637 (50.4%) females giving a male to female ratio of 1:1. The age range of the patients was 5 d to 96 years. Twenty two point six percent (22.6%) of the patients were below 20 years of age, 28% were aged between 20 and 40 years and 50.4% were above 41 years. The commonest eye disease was refractive

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Article history:
Received 5 Jan 2013
Received in revised form 11 Jan, 2nd revised form 18 Jan, 3rd revised form 19 Jan 2013
Accepted 10 Mar 2013
Available online 28 Apr 2013

error in 1671 (23.1%) patients followed by conjunctivitis in 1555 (21.5%) and cataract in 1471 (15.9%). The other diseases seen were glaucoma in 857 (11.9%) patients, trauma in 351 (4.9%) and uveitis in 245 (3.4%).

Allergic conjunctivitis including vernal keratoconjunctivitis was the commonest type of conjunctival diseases seen in 1440 (19.9%) patients, followed by bacterial conjunctivitis in 82 (1.1%) patients and viral conjunctivitis in 33 (0.5%) patients. Pterygium was present in 282 (3.9%) patients. Maculopathy was present in 315 (4.4%) patients with age related macula degeneration in 213 (3%) of the patients.

The other diseases seen were corneal ulcer, orbital diseases, retinitis pigmentosa, chalazion, pseudophakia/aphakia, diabetic retinopathy, congenital ptosis, optic neuropathy, strabismus, sixth cranial nerve paresis, staphyloma and choroidal melanoma. There was no abnormality in 104 (1.4%) patients.

The male to female ratio of patients in this study was equal and this is in contrast to similar studies in the same environment and in southern Nigeria where there was a higher proportion of males to females^[1,4,6]. This difference may be a reflection of increased awareness among females about their ocular health status in recent times compared to the past. This change may be due to the efforts of the government to improve the social status of women in Nigeria by providing jobs and better facilities, through the ministry of women affairs. A study from Nepal on pattern of eye diseases reported that more women than men attended their hospital satellite clinic^[3].

Refractive error, conjunctivitis and cataract which were the most common eye diseases in this study have been reported to be the most common eye diseases in various studies^[1,3,6–8]. Akinsola *et al.* in a study of the pattern of eye diseases in adults aged 16 years and above found that 61.6% of the patients had refractive error, followed by cataract in 8% of the patients and conjunctivitis in 7.5%^[6]. Edema *et al.* also reported a similar pattern in Benin City with refractive error accounting for 31.7%, followed by conjunctivitis 27.7%, cataract 16.7% and glaucoma 8.7%^[1]. Osahon *et al.* reported on the pattern of eye diseases following an outreach in Edo and Delta states of Nigeria with uncorrected refractive error being the commonest eye diseases followed by cataract^[7], glaucoma and conjunctivitis.

Ogwurike from northern Nigeria reported that cataract and anterior segment diseases were the commonest type of eye diseases^[4], onchocerciasis and trachoma were also common in contrast to studies from southern Nigeria where there was absence of onchocerciasis and trachoma^[1,6,7]. Onchocerciasis or trachoma was not seen in this study.

Uncorrected refractive error which was the commonest cause of ocular morbidity in this study has been reported as the commonest cause of ocular morbidity in many studies^[1,6,8]. It was the commonest cause of mild and moderate visual impairment in the Nigerian national blindness and visual impairment survey accounting for

77.9% and 57.1% respectively^[9]. Uncorrected refractive error is responsible for an estimated 18% (8 million people) of global blindness^[10,11].

Cataract was the third commonest cause of ocular morbidity accounting for 15.9% of all cases which is similar to that of 16.7% reported from the same environment^[1]. Cataract is a major cause of blindness world wide and is one of the diseases included in VISION 2020^[5,11]. The Nigerian national blindness and visual impairment survey reported that cataract was the commonest cause of blindness and severe visual impairment accounting for 45.3% and 43% respectively^[11].

Cataract was responsible for more than half the cases of ocular morbidity and was the commonest cause of visual disability in the study on causes of visual impairment and blindness in Kwara State of Nigeria by Mahmoud *et al.*^[2]. This finding has also been reported in many other studies from Nigeria and worldwide^[3,4,6,12].

Allergic conjunctivitis and pterygium were the most common conjunctival diseases seen in this study and this is similar to earlier reports from southern Nigeria^[1,7,13]. Vernal conjunctivitis was the commonest type of allergic conjunctivitis seen in this study. It is a disease of children and young adults. A population based study of primary school children in Rwanda (Central Africa) reported a prevalence of vernal keratoconjunctivitis of 4%^[14]. Allergic conjunctivitis and ocular trauma were the most common causes of eye diseases in children in south western Nigeria^[15]. Blepharconjunctivitis followed by refractive error was the commonest cause of ocular morbidity amongst school children in a school eye survey in a rural population in India^[16].

Glaucoma which was seen in 11.9% of patients in this study has been reported to be the second most common cause of blindness or visual impairment worldwide^[5,11]. It is the leading cause of irreversible blindness in West Africa and it has been estimated that 20% of people older than age 40 in West Africa may be at risk from the disease^[17]. Glaucoma was the commonest cause of blindness in the study by Mahmoud *et al.*^[4], and the second cause of blindness in Nigeria^[11]. It was also found to be a common disease in other studies from Nigeria and Nepal^[1,3,6,7].

Trauma, which was responsible for 4.9% of eye diseases in this study is an important cause of blindness. Trauma is often the most important cause of unilateral loss of vision in developing countries and 5% of all bilateral blindness is a direct result of trauma^[20].

Age related macula degeneration and diabetic retinopathy which were seen in 3% and 0.7% of patients in this study are important causes of blindness and visual impairment in developed countries^[11]. Age related macula degeneration is also becoming an important cause of visual impairment and blindness in middle income and low income countries as the population ages^[9,19]. It was reported to be the second most common cause of blindness in patients aged above

50 years in a community based study in Anambra state of Nigeria[19].

Uncorrected refractive error, followed by cataract, glaucoma and corneal disease was a major cause of blindness and visual impairment in an urban West African population in the Tema eye survey[20].

The common causes of ocular morbidity in this study were refractive errors, cataract, allergic conjunctivitis and glaucoma. One of the priorities of Vision 2020 is to reduce the number of people with uncorrected refractive error world wide[5]. There is a need for provision and implementation of programmes by the government following the guidelines and strategies of Vision 2020 to provide good refraction services, low cost and good quality frames and lenses to people. Increasing the awareness of people in the communities through health education about the need to correct their refractive error will help in reducing the burden of blindness or visual impairment from this disorder.

Cataract is the most important cause of blindness world wide and reducing the burden of blindness from cataract is one of the priorities of Vision 2020, thus implementation of the recommendations and strategies of Vision 2020 will help. The cataract surgical rates can be increased by organizing high volume, good quality cataract outreach programmes to help reducing the back log of cataract.

Blindness from glaucoma can be reduced by putting in place screening programmes for people age 40 years and above.

The common ocular disorders seen in this study are similar to the findings from Nigeria and other parts of the world. Programmes should be put in place following the guidelines and strategies of Vision 2020 to help in reducing the burden of visual impairment and blindness from these disorders.

Conflict of interest statement

We declare that we have no conflict of interest.

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