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OCULAR HEALTH STATUS OF PATIENTS SEEN AT THE SCREENING CENTRE OF THE UNIVERSITY OF BENIN TEACHING HOSPITAL, BENIN CITY, NIGERIA – A PRELIMINARY REPORT

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ABSTRACT

This study was undertaken to determine the ocular morbidity of subjects seen at the Centre for Disease Control (a screening centre) of the University of Benin Teaching Hospital, Nigeria. Structured questionnaires were administered and ocular examination was carried out on 452 subjects seen from August 2010 to May 2011. Patients with minor eye problems were treated while others were referred to the eye clinic of the Hospital. The mean age was 48.01years ±12.64, 19.5% were males while 80.5% were females. Ocular morbidity was seen in 71.2% of the subjects, of which refractive error (54.1%), glaucoma suspect(17.4%), cataract (10.3%) were the major causesThe visual impairment seen in 11.9% of the subjects comprised of refractive error 29.6%, glaucoma suspect 27.7% and cataract 25.9%.Six subjects (1.32%) were blind, with cataract and refractive error responsible for 50% each. Ocular screening is useful in the early detection of blinding eye diseases.

INTRODUCTION

The University of Benin Teaching Hospital (UBTH) is a tertiary institution located in Benin City, Edo State, Nigeria. It provides specialist medical services, including ophthalmic services. Its catchment area includes Edo and its neighbouring states such as Delta, Ondo, Kogi and Anambra. In the year 2008, the hospital management set up a disease screening programme at the centre for disease control (CDC) in the department of community health. Screening for ocular diseases started in August 2010 and it is done for cataract, glaucoma, refractive errors and other ocular diseases. Screening is also done for various diseases such as cancer of cervix, breast and prostate, diabetes mellitus, hypertension, human immunodeficiency virus, hepatitis B and A, and dyslipidaemia.

Barriers to the uptake of eye care services prevent patients from seeking medical intervention at a stage when the disease can be helped. These barriers include, treatment cost, fear that treatment would damage the eyes, lack of time, ignorance

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about where to get eye care services, patient unaware of eye problem, dissatisfaction with hospital services due to long waiting lists, and distance to the hospital.[1-3] Ocular screening helps to eliminate some of these barriers. Screening is testing for infection or disease in populations or in individuals who are not seeking health care.[4] Ocular screening aims at early detection and prompt treatment of ocular diseases in order to prevent visual impairment and blindness.

The aim of this study is to determine the ocular health status of patients seen at the eye screening program of the CDC, UBTH in order to plan adequate prevention programmes.

PATIENTS AND METHODS

All consecutive subjects who presented for ocular screening at the CDC, UBTH from August 2010 to May 2011 constitute the subjects of this study. Ethical approval was obtained from the ethics and research committee of the hospital. Free and informed consent was obtained from each participant.

The participants' biodata and relevant medical history were obtained using structured questionnaires, after which ocular examination was done. This included visual acuity using a Snellen's chart (unaided and aided visual acuity) and with pinhole, pen torch examination and fundoscopy with the direct ophthalmoscope. Participants with minor eye problems such as conjunctivitis were treated while others were referred to the eye clinic of the University of Benin Teaching Hospital for further management.

The data collected was analyzed using the Statistical Package for Social Sciences (SPSS) Version16 software.

For the purpose of this study, glaucoma suspect was defined as the presence of a pale pathologically cupped disc with a vertical cup to disc ratio of 0.6 or more. Refractive error was diagnosed when there was an improvement in visual acuity with the use of a pinhole in those with visual acuity less than 6/6. Cataract referred to the presence of lens opacity causing a reduction in visual acuity. Visual impairment was defined as best corrected visual acuity less than 6/18, while blindness was defined as best corrected visual acuity less than 3/60 in the better eye.

RESULTS

Four hundred and fifty-two subjects attended the CDC during the study period. There were 88 (19.5%) males and 364(80.5%) females which was statistically significant ($p<0.05$). The age range was from 20years to 86years with a mean age of 48.01(SD ±12.6). Most of the patients (32.3%) were in the 50-59years age group. The subjects were mainly civil servants (42%) and business people (29.4%) (Table 1). Three hundred and thirteen (69.3%) had a visual acuity of 6/9 or more in the better eye (Table 2).

Three hundred and twenty-two subjects (71.2%) had ocular diseases, out of which refractive error (54.1%), glaucoma suspect (17.4%), cataract (10.3%) and allergic conjunctivitis(8.4%) were the leading causes(Table 3).

Visual impairment was seen in 54(11.9%) of the subjects screened. Refractive error (29.6%), glaucoma suspect (27.7%) and cataract (25.9%) were the major causes of visual impairment (Table 4). Six subjects (1.32%) were blind, with cataract and refractive error responsible for 50% of the blindness respectively.

TABLE OF RESULTS

Table1. Sociodemographic characteristics of participants.

Sociodemographic characteristics	n (%)
Gender	
Male	88(19.5)
Female	364(80.5)
Age group (in years)	
20-29	41(9.1)
30-39	72(15.9)
40-49	113(25)
50-59	146(32.3)
60-69	62(13.7)
70-79	13(2.9)
80-89	5(1.1)
Occupation	
Civil servant	190(42.0)
Business people	133(29.4)
Student	35(7.7)
Unemployed/housewife	34(7.5)
Artisan	33(7.3)
Retired	27(6.0)

Table2. Visual acuity in the better eye of participants

VA in better eye	n (%)
≤ 6/9	313 (69.3)
6/12 - 6/18	85 (18.8)
6/24 - 6/60	48 (10.6)
<6/60 – NLP	6 (1.3)
total	452 (100)

Table3. Causes of ocular morbidity in 322 subjects

Diagnosis	n (%)
Refractive error	174(54.1)
Glaucoma suspect	56(17.4)
Cataract	33(10.3)
Allergic conjunctivitis	27(8.4)
Pterygium	9(2.8)
ARMD	9(2.8)
Retinopathy	3(0.9)
Retinitis pigmentosa	2(1.8)
Maculopathy	2(1.8)
Optic atrophy	2(1.8)
Chalazion	1(0.3)
Papillitis	1(0.3)
Strabismus	1(0.3)
Vitreous degeneration	1(0.3)
Ocular albinism	1(0.3)
Total	322(100%)

Table 4. Causes of visual impairment

Diagnosis	n (%)
Refractive error	16(29.6)
Glaucoma suspect	15(27.7)
Cataract	14(25.9)
ARMD	3(5.5)
Optic atrophy	2(3.7)
Retinopathy	1(1.9)
Maculopathy	1(1.9)
Retinitis pigmentosa	1(1.9)
Ocular albinism	1(1.9)
Total	54(100)

DISCUSSION

There were more females than males in this study, which may be due to the fact that many of the patients were recruited by Faith- based female organizations as part of their empowerment programmes. A similar finding was seen in a community based study in Nepal in which the female preponderance was attributed to the closeness of the satellite clinic to their homes, which made them able to attend without relying on their family members.[5] This finding is unlike many studies in Nigeria (both community and hospital based) that have shown a male preponderance.[6-14]

This study identified refractive error, glaucoma suspect and cataract as the leading causes of ocular morbidity and visual impairment, with refractive error and cataract accounting for 50% of the blindness respectively. This is in keeping with findings in developing countries where the causes of visual impairment are curable or avoidable.[6-14]

In this study, refractive error was the leading cause of ocular morbidity(54.1%),and was responsible for 29.6% of visual impairment and 50% of the blindness. Tebepah[7] reported refractive error, cataract and allergic conjunctivitis as the leading eye diseases in Port Harcourt and Omoku, in the south - south region of Nigeria. Other studies in Nigeria also showed refractive error to be a prominent cause of ocular morbidity, accounting for 12.4% -61.6% of eye diseases.[6,8] In Bhaktapur, Nepal, refractive error and age related cataract

were identified as the common ocular diseases.[5] Refractive error is one of the five principally targeted eye conditions of vision 2020 as part of its goal to give sight to all by the year 2020.[15] According to the World Health Organization report, about five million people are blind from severe refractive errors.[15]

Cataract is the leading cause of blindness globally, responsible for 48% of world blindness.[16,17] It was seen in 10.3% of the ocular morbidity in this study, and was responsible for 25.9% of visual impairment and 50% of the blindness. Studies in the northern and southern parts of Nigeria identified cataract as the leading cause of blindness in Nigeria accounting for 36% to 57.69% of blindness[6,9-13]. In the Barbados eye study, age-related cataract was the leading cause (48.3%) of blindness,[18] while in Latin America, 43% to 88% of all blindness was caused by cataract and refractive errors.[19] cataract backlog can be reduced by increasing the cataract surgical rate, and with good surgical outcome will help to reduce cataract blindness.

Glaucoma suspect accounted for 12.4% of the ocular morbidity, and it was the second leading cause of visual impairment (27.7%) in this study. Glaucoma has been shown to be one of the leading causes of bilateral blindness in Nigeria responsible for 22%-42.31%.[6,9-11,13] In the Barbados eye study, open angle glaucoma was the second cause(14.3%) of incident blindness in the black population, and globally, it is the second leading cause of blindness.[16,18] Blindness from glaucoma is preventable by early diagnosis and prompt treatment. This further highlights the need for ocular screening.

The aim of screening is to detect ocular diseases early so that they can be promptly treated so as to prevent visual impairment and blindness. The burden of visual impairment is enormous. It is associated with a decrease in the function, well being and independence of the individual as well as direct and indirect cost from productivity losses, costs to informal care givers and premature deaths.[20-21] Interventions to prevent or delay loss of vision help in reducing the burden of visual impairment and blindness.[22]

CONCLUSION

This study and other studies in Nigeria and elsewhere have shown that preventable and treatable eye diseases such as cataract, glaucoma and refractive errors are amongst the most common causes of ocular morbidity, visual impairment and blindness. Blindness prevention programs based on health education and health promotion with screening, early detection and appropriate treatment will help to reduce the burden of vision loss.

REFERENCES

1. Patel D, Baker H, Murdoch I. Barriers to uptake of eye care services by the Indian population living in Ealing, West London. Health Education Journal 2006; 65: 267-276.

2. Fletcher AE et al. Low Uptake of Eye Services in Rural India .A Challenge for Programs of Blindness Prevention . Arch Ophthalmol 1999; 117:1393-1399.

3. Lewallen S, Courtright P.Recognising and Reducing Barriers to Cataract Surgery. J Comm Eye Health 2000;13(34): 20-21

4. Park K. Park's Textbook of preventive and Social Medicine. 20th Ed.M/s Banarsidas Bhanot Publishers, India. 2009. Pg 124.

5. Rizyal A, Shakya S, Shrestha RK, Shrestha S. A study of the ocular morbidity of patients attending a satellite clinic in Bhaktapur, Nepal. Nepal Med Coll J 2010; 12(2):87-89.

6. Adegbehingbe BO, Majengbasan TO.Ocular health status of rural dwellers in south-

western Nigeria..Aust J Rural Health. 2007; 15(4):269-272.

7. Tebepah T. Pattern of eye disease in Port Harcourt and an oil producing rural community. Nig J Ophth 1995; 3(2): 6-8

8. Akinsola FB et al. Pattern of eye disease in adults 16years and above in Ikeja and Alimoso local Government Area of Lagos State.Nig. Postgrad. Med. J. 1995; 2(2): 56-61.

9. Ajibode HA. The prevalence of blindness and visual impairment in Ikenne Local Government Area of Ogun State, Nigeria.Nig J Ophth 1999; 7(1): 23-27.

10. Olatunji FO, Kirupanathan S, Ayanniyi AA, Abuh S. Causes of Adult blindness at ECWA Eye Hospital, Kano.Nig J Ophth 2008; 16(2):51-54.

11. Richard AI. Causes of blindness and low vision in Bayelsa State, Nigeria: a clinic based study. Nig Q J Hosp Med. 2010; 20(3):125-128.

12. Adeoye A. Survey of blindness in rural communities of south-western Nigeria. Trop Med Int Health. 1996;1(5):672-676.

13. Oluleye TS, Ajaiyeoba AI, Akinwale MO, Olusanya BA. Causes of blindness in Southwestern Nigeria: a general hospital clinic study.EurJ Ophthalmol 2006;16(4):604-607.

14. Ogwurike S, Pam V. Pattern of eye disease in Kaduna State-A rural community outreach experience. Nig. J of Ophth. 2004; 12(1): 1-5.

15. World Health Organisation.Prevention of Blindness and Visual Impairment. Priority eye diseases.www.who.int/blindness/causes/priority/en/index5.html.

16. Resnikoff S et al. Global data on visual impartment in the year 2002. Bull World Health Organization 2004; 82(11): 844-851.

17. World Health Organisation. Prevention of Blindness and Visual Impairment.Priority eye diseases.www.who.int/blindness/causes/priority/en/index1.html.

18. Hennis AJ et al. Nine-year incidence of visual impairment in the Barbados Eye Studies.Ophthalmology. 2009; 116(8): 1461–1468.

19. Limburg H, Barria von-Bischhoffshausen F, Gomez P, Silva JC, Foster A. Review of recent surveys on blindness and visual impairment in Latin America. Br J Ophthalmol 2008; 92(3):315-319.

20. Chia E, Wang JJ, Rochtchina E, Smith W,Cumming RR, Mitchell P. Impact of Bilateral Visual Impairment on Health-Related Quality of Life: the Blue Mountains Eye Study Investigative Ophthalmology & Visual Science, 2004; 45(1): 71-76

21. Access Economics Pty Limited. The Global Economic Cost of Visual Impairment. Report by Access Economics Pty Limited for AMD Alliance International. 2010. pg 21- 56

22. Frick KD, Foster A. The Magnitude and Cost of Global Blindness: An Increasing Problem That Can Be Alleviated. Am J Ophthalmol 2003,135 (4): 471-476.