RESEARCH ARTICLE

MOST COMMON AGE-RELATED OCULAR DISEASES AMONG RESIDENTS OF OWERRI METROPOLIS, IMO STATE NIGERIA

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ABSTRACT

Two hundred individuals whose ages ranged from forty years to eighty years, and above were used for the study. The aim of the study was to examine the eye-condition of the subjects with a view to finding out definitely, which of the age-related ocular diseases were most commonly suffered by residents of Owerri Metropolis. The One hundred and Ten (110) men and ninety (90) women that constituted the population probed responded with maximum co-operation while under investigation for both internal and external examinations carried out on them. The study revealed that the most common age-related ocular diseases suffered by the subjects who are residents of Owerri metropolis were glaucoma, cataract, diabetic retinopathy, hypertensive retinopathy, retinitis pigmentosa, age-related macular degeneration (ARMD), and senile ectropion. Every individual subject aged seventy one (71) years and above was found to be living with one ocular disease or the other and some were even living with many of such diseases. Glaucoma was found to be most prevalent, being suffered by as high as 33% of the individuals investigated; while age-related macular degeneration was the least, affecting only 1.5% of individuals examined. Cataract, however, was found to be second major threat to normal vision among the subjects investigated, having affected about 24% of the subjects. It also sounds surprising to note that among the subjects investigated, the number of females affected by the most common age-related ocular diseases was more than that of the males affected. 69% of males, as opposed to 90% of females were affected.

INTRODUCTION

Owerri Metropolis is a considerably large, busy city in Imo State of Nigeria. Apart from its strategic centrical location, the epicurean life style of its indigens and long lived residents may have constituted a major force that played a fair role in the attraction of hundreds of thousands of settlers resident in the town. Some large percentage of the residents is engaged in white collar jobs. Artisans, tricycle operators, traders, etc and a fewer those in some special businesses form a larger population of the residents. The residents are prone to both universal ageing (age changes that all people share) and probabilistic ageing (age changes attributable to only some people due to perhaps some disease conditions). Ageing generally, is an essential part of life as it occurs at the chromosomal, cellular, structural and organic levels leading to deterioration in activity of all body organs, the eye inclusive (**Harding, 2002**). As a people age, their body organs change in many ways that affect their functions (**Harman, 1991 and Gray, 1995**). These cellular and organic changes occur little by little and cause degenerative changes that increasingly become noticeable over a time (**Bosco, Dominick, 1980**). As a matter of fact, there is our chronological age, which involves the celebrating of birthdays and passing of years, and our biological age, which reflects the rate at which we are getting older (**McFarland, 2003**). Everybody ages at the same chronological rate, but people do not age at the same biological rate (**Ames, Bruce, 1993**). The goal of everybody is to reduce the rate at which they are biologically, which in turn, reduces the rate at which they encounter and suffer some common age-related ocular diseases (**Fredrick, Carlton, 1983**), such as glaucoma, age-related macular degeneration, diabetic retinopathy, cataract, retinal vein occlusion retinitis pigmentosa, hypertensive retinopathy, senile cataract etc. This work is meant to decipher the most common age related ocular diseases among residents of Owerri metropolis (since some ocular diseases apart from being age-related, also vary from place to place and may depend on sex and occupation), a public enlightenment exercise for everybody aged forty years and above.

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MATERIALS AND METHODS

A total number of two hundred subjects aged forty years and above were randomly selected for the work. Ophthalmoscope, pen torch, stethoscope, local anesthesia, tonometer, sphygnomanometer, snellen chart (distance and near) were among the research instruments used to actualize the objectives of the study. The subjects who were of both sexes (110 men and 90 women) were subjected to various internal and external examinations for purposes of exact conformity to the reality of their conditions. The external examination involved the cautious observation of the external adnexia of the subjects; their eyelids were checked for dropping, swelling, with careful observation of the directions of the lashes. The pupils were examined for size and papillary response to light (direct and consensual). With the aid of the pen torch, the iris, conjunctiva and cornea were carefully examined. The subjects' blood pressure and intra-ocular pressure were also observed.

The internal examination involved the use of the Ophthalmoscope to investigate the integrity of the fundus oculus, the vitreous and the lens. The disc, vessels, macular and fundus field of the fondus were particularly checked. The disc was examined for size and shape, cupping and clarity of the margin. The gundus field was examined for exudates, haemorrhage and pigmentation. The ratio diameter of the vein to artery was also determined while the macular was examined for macular reflex, avascularity and exudates. The presence of floaters, or detachments was checked by examining the vitreous. Possible abnormalities that could likely bring about reduction in an individual's vision were also checked by examining the lens for opacities. As a rule, a detailed medical history of each subject was taken with a view to noting which of the abnormal conditions was familial. Past ocular history, medications and systemic diseases (if any) of the subjects were noted. In addition, the visual acuity of each of the individual subjects was investigated both at distance and near using literate chart for the literate subjects and illiterate chart for the illiterates. The test was done monocularly and binocularly. All examinations, observations and tests were done in the department of Optometry clinic, Imo State University, Owerri.

RESULTS

The tabular presentation of the results of the investigation on most common age –related ocular diseases among residents of Owerri Metropolis conducted on 200 subjects are as shown below.

Table 1. Age distribution of most common age-related ocular diseases

Age group (yrs)	No of subjects examined	No of subjects affected by ocular diseases	Percentage (%)
40-50	47	26	55.3
51-60	54	43	79.6
61-70	62	51	82.3
71-80	26	26	100
81 above	11	11	100

As shown by the table, 100% of individuals in age brackets of 71-80 and 81 years and above were affected by ocular disease

(s). 55.3%, 79% and 82.3% of individuals in age brackets of 40-50, 51-60 and 61-70 years respectively, had one form of ocular disease or the other.

Table 2. Prevalence of individual ocular diseases among the subjects examined

Ocular Disease	No of subjects affected	Percentage (%)
Glaucoma	65	33.0
Cataract	48	24.0
Diabetic retinopathy	14	7.0
Hypertensive retinopathy	9	4.5
Retinitis pigmentosa	6	3.0
Age-related macular degeneration (ARMD)	3	1.5
Senile ectropion	11	5.5
Total	157	78.5

The table unveils that 157 (78.5%) individuals out of the 200 subjects surveyed were affected by one form of ocular disease or the other.

Table 3. Sex distribution of observed ocular diseases among the subjects surveyed

Ocular disease	No of males affected	Percentage (%)	No. of females affected	Percentage
Glaucoma	35	31.8	31	34.5
Cataract	25	22.7	23	25.6
Diabetic retinopathy	5	4.6	9	10.0
Hypertensive retinopathy	3	2.7	6	6.7
Retinitis pigmentosa	4	3.6	2	2.2
Age-related macular degeneration (ARMD)	0	0.0	3	3.3
Senile ectropion	4	3.6	7	7.8

As shown in the table, only 76, out of the 110 men examined had one form of ocular disease or the other; while 81 out of 90 females examined were affected by the ocular disease(s) checked for.

DISCUSSION

Among the age-related ocular diseases which tend to cause reduction in visual efficiency or complete loss of vision, the most common among the residents of Owerri Metropolis as revealed by the study were glaucoma, cataract, diabetic retinopathy, hypertensive retinopathy, retinitis pigmentosa, age-related macular degeneration (ARMD), and senile ectropion. The prevalence of these ocular diseases was found to be age-dependent: individuals within the age bracket of 71 and 80 years lived with one ocular disease or the other; none was completely free of any ocular disease(s). Same condition also applied to individuals who have lived up to 81 years and above. One hundred percent (100%) of individuals in this population (71 years and above) therefore suffered from age-related ocular diseases. The younger people (40-50 years) however, had a lower prevalence (55.3%) of ocular diseases (see Table 1). Glaucoma, a disease of the optic nerve that leads to damage of the optic disc of the eye (**Stedman's Medical dictionary, 2006**), was found to be the most prevalent ocular disease suffered by the residents of Owerri metropolis.

It was discovered that not less than 33% of the individuals checked for different age-related ocular diseases had glaucoma. Senile glaucoma causes visual field loss due to lack of communication between the retina and the brain, which can lead to blindness (**Stedman's Medical dictionary, 2006**). It could therefore be deduced that high percentage of the visual challenges faced by most people might be caused by glaucoma. Another age-related ocular disease with also a high prevalence is cataract. As high as 24% of the individuals examined suffered from cataract. This ocular disease (cataract) causes the opacity of the eye and if not treated, can also lead to blindness. The fewest of the subjects examined had age-related macular degeneration (ARMD): only 1.5% of subjects had this disorder which was observed mainly in the most elderly persons 7.0%, 4.5%, 3.0% and 5.5% of individuals examined were living with diabetic retinopathy, hypertensive retinopathy, retinitis pigmentosa and senile ectropion respectively. An interesting revelation made by the study was that while 90% of females suffered from age-related ocular diseases, only 69% of males suffered same, and very similar to an earlier made observation, glaucoma was the most common age-related disease suffered by both males and females. Coincidentally, cataract still ranked second among the age-related ocular disease suffered by both males and females.

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