

Ocular Morbidities In a Tertiary Hospital In Southwest Nigeria: Pattern and Visual Impact

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Abstract: Ocular morbidities cause vision impairment with varying impact on the vision and quality of life of patients. This study aims to determine the pattern of eye diseases and its visual implication in patients as a means to reduce the burden of visual impairment and blindness. A retrospective study of 700 participants with 259 (37.0%) males and 441 (63%) females. The age range of the participants was between 3 to 88 years [average = 40.21±23.78 years]. Participants within the 16-30 years age group were the most prevalent (30.2%).

Refractive errors were the most prevalent [49.7%] ocular morbidities, followed by Conjunctivitis (14.2%), Cataracts (10.2%), Glaucoma (8.7%) and Pseudophakia/Aphakia (4.2%). Of those with conjunctivitis, Allergy accounted for 69.5% (89 participants). There was a 69% improvement in vision after treatment amongst those with mild and moderate visual impairment, while those that were blind also improved by 16.9% after treatment. The most prevalent ocular morbidities seen in this study were similar to those reported in previous African studies and prompt treatment of these conditions remarkable reduced the prevalence of visual impairment and blindness.

Keywords: Ocular, Morbidities, Visual, Impact, Nigeria.

I. INTRODUCTION

Ocular morbidity is a frequent cause of hospital presentation worldwide and its global pattern is influenced by racial, geographic, socioeconomic, and cultural factors [1]. Nutritional factors and ocular infections are more prevalent in developing countries, while hereditary factors, developmental disease, and the consequences of prematurity are more prevalent causes in countries with better standards of living and health care services [1].

Ocular morbidities cause vision impairment (VI) and the World Health Organization (WHO) statistics conducted in 2020 noted that the global prevalence of VI (distant and near) was about 1 billion [2]. The global distant VI were mainly due to refractive error (123.7 million), Cataract (65.2 million), Glaucoma (6.9 million), Corneal opacity (4.2 million), Diabetic retinopathy (3 million), Trachoma (2 million) while near VI was caused by unaddressed Presbyopia (826 million)[2]. Eighty percent of these ocular morbidities were also noted to be either preventable, treatable or curable causes of VI[1]. Distant VI can be measured with the Snellen's chart and has been categorized into Mild (6/12-6/18), Moderate (6/18-6/60), Severe (6/60-3/60) and blindness (worse than 3/60) according to ICD 11[2].

In Africa, many cultural barriers to the uptake of ophthalmic services in orthodox hospital have been documented [3,4] and many patients are known to seek orthodox eye care only when traditional eye medications have failed [5-7]. The commonest causes of ocular morbidity in Nigerian hospitals have been Cataracts, Refractive errors, Glaucoma and Conjunctivitis [8-11]. These morbidities were also similar to those documented in some African Countries like Ethiopia[11] and Sudan[12]. Ocular morbidities have varying impact on the vision and quality of life of patients and its especially worse in those with severe VI and blindness[13,14].

This study aims to determine the pattern of eye diseases and its visual implication in patients at the Babcock University Teaching Hospital as a means to reduce the burden of visual impairment and blindness.

II. METHODS

It is a retrospective study, which looked at available consecutive case records of New patients who presented at the Ophthalmic Department of Babcock University Teaching Hospital [BUTH], Ilishan-Remo, Ogun State, Nigeria over a period of one year between January 2019 to December 2019. BUTH is located next to a University community and serve the University students and staff, neighbouring communities and states.

A total of 1450 new patients were found in the register and 700 were selected by systematic random sampling picking every third case in the register.

The demographic profile such as age, sex, occupation of the patients were noted. The presenting and best corrected visual acuity and definitive diagnosis documented after due examinations and investigations were also retrieved.

Statistical analysis was done using SPSS 21. Descriptive statistics were used in summarizing the data and Pearson's chi-square statistical method was used to determine statistical significance of association between categorical variables at 5% probability level.

III. RESULT

The total number of selected cases for the study period were 700; out of which 259 (37.0%) were males and 441 (63%) females giving a female to male ratio of 2:1. The age range of the patients was between 3 to 88 years, with an average of

40.21±23.78 years. Participants within the 16-30 years age group were the most prevalent (30.2%) [Table 1].

Table-1: Age and sex distribution of participants

Age [Years]	Male		Female		Total	
	NO.	(%)	NO.	(%)	NO.	%
≤15	17	2.4	85	12.1	102	14.3
16-30	74	10.6	137	19.6	211	30.2
31-45	36	5.1	67	9.6	103	14.7
46-60	42	6.0	73	10.4	115	16.4
>60	90	12.9	79	11.3	169	24.2
TOTAL	259		441		700	100

Table 2 shows a comparison between the presenting VA and the VA after correction with spectacles or equivalents.

Table 2: Presenting and best corrected visual acuity [VA] of participants

Visual Acuity [VA]	Presenting Va		Best Corrected Va	
	Number	%	Number	%
6/5	88	12.6	305	43.5
6/6	147	21.0	216	30.8
6/9	138	19.7	16	2.3
6/12	58	8.3	10	1.4
6/18	48	6.8	22	3.1
6/24	50	7.0	8	1.1
6/36	38	2.1	20	2.9
6/60	15	5.6	3	0.4
3/60	50	7.1	41	5.9
< 3/60	68	10.1	59	8.4
TOTAL	700		700	

Table 3: Occupation of participants

Occupation/Designation	Number	%
Students	265	37.9
Traders	104	14.8
Professionals	85	12.1
Civil servants	64	9.1
Retiree	60	8.6
Unemployed	46	6.6
Artisans	22	3.1
Not documented	54	7.7
TOTAL	700	100

The majority of the participants were students, accounting for 264 (37.7%),traders (14.8%) and professionals mainly nurses,doctors,engineers, lecturers (12.1%) [Table 3].

Over forty two different diagnosis were recovered from the records and a few had more than one diagnosis, hence a total of 901 ocular morbidities were recorded and classified under 11 headings[Figure 1]. This showed that Refractive errors were the most prevalent accounting for 49.7% , followed by Conjunctivitis (14.2%), Cataracts (10.2%), Glaucoma (8.7%) and Pseudophakia/Aphakia (4.2%). Of those with conjunctivitis, those with Allergy accounted for 69.5% (89 participants). Retinal related disease included diabetic retinopathy, retinal detachment, retinitis pigmentosa, vascular occlusions, macular degenerations and macular scars.

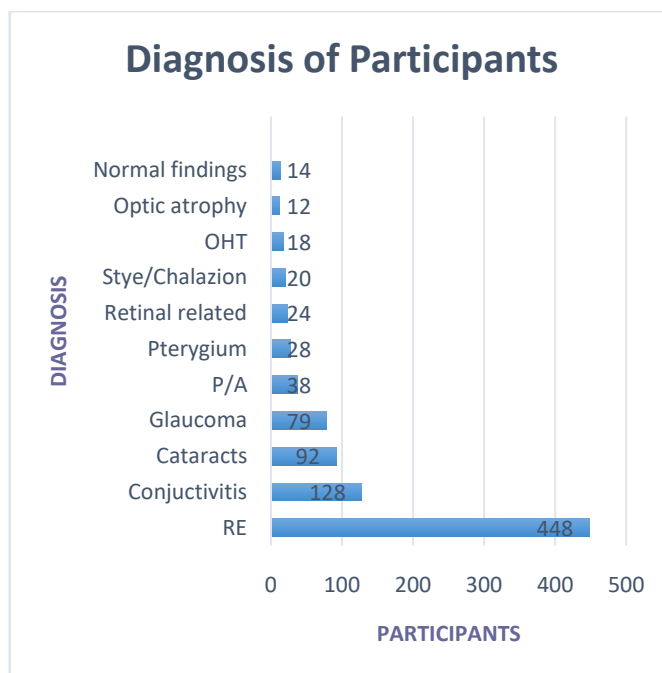


Figure 1: Pattern of Ocular morbidities amongst participants. OHT=Ocular Hypertension, P/A= Pseudophakia/Aphakia, RE=Refractive errors.

IV. DISCUSSION

The most prevalent ocular morbidities recorded in this study were refractive errors, conjunctivitis, cataracts and Glaucoma which was similar to previous studies in southern and northern Nigeria[8-11]. This was also similar to the findings in studies carried out in other African countries like Ethiopia[12], Sudan[13] and South Africa[16]. However, according to the global causes of ocular morbidities, conjunctivitis especially the allergic variant which seems to be common in Africa is not listed as a prevalent condition by the WHO[1]. This high prevalence may be because allergic conjunctivitis is said to be more prevalent in warm climates and amongst Afro-carribeans[17]. Cornea scarring from measles, trachoma, Vit A deficiency, eye injuries etc which is the fourth commonest global cause of ocular morbidity[1,18] was not

found to be significant in our study. The prevalence of Pseudophakia (4.2%) in our study was very low and this may be because those recording the diagnosis in our register only documented the most prominent morbidity the patients had and it could also be because nearly 60% of the participants were less than 46 years, and cataract surgery rate is expected to be rare or very low before this age.

The age group 16-30 years had the highest representation (30.2%) in this study and these were mainly students (37.9%) which also accounted for the highest group of participants seen as shown in Table 3. This is due to the location of the teaching hospital within a University

setting. Even though the hospital is a tertiary centre, the prevalence of Refractive errors and Conjunctivitis were still very high due to the poor Primary eye care structure in the State and Country, which makes all patients even with minor complains present at the tertiary eye centers.

There was a significant improvement in vision after treatment of these ocular morbidities as participants who presented with mild VI [6/12-6/18] showed a remarkable improvement of 69% by reducing from 106 to 33 participants [Table 2]. Those with moderate VI [6/18-6/60] also improved by about 69% by reducing from 106 to 31 participants, those with severe VI [6/60-3/60] were also noted to improve by 18% from 50 to 41 participants and those that were blind [worse than 3/60] also improved by about 16.9% by decreasing from 71 to 59 participants. Those with normal vision of 6/5,6/6 also increased by 40.7% from 235 to 521 participants [Table 2]. This is in keeping with findings by Oladigbolu et al that prompt presentation and treatment of ocular morbidities leads to reduction in VI and blindness[11] with eventual improvement in the quality of life of the participants[14]. Delayed presentation and treatment would however lead to worsen vision and blindness[18].

V. CONCLUSION

The most prevalent ocular morbidities seen in this study were similar to those reported in previous African studies but Allergic conjunctivitis which was the second most prevalent in this study was not documented as a common global cause of ocular morbidity. This study also implies that prompt treatment of these eye conditions remarkable reduces the prevalence of visual impairment and blindness.

CONFLICT OF INTEREST

None.

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