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Prevalence of Eye Diseases in Agbor, Ika L.G.A, Delta State

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ABSTRACT:

Diseases that cause visual impairment are known to significantly alter the quality of life of the individual but public awareness could help subjects seek intervention and prevent avoidable blindness.Prevalence estimates indicate the burden of visual impairment at a defined location at a point or period. Accurate prevalence estimates are needed to plan for availability of health care services, associated monetary costs, and quality of life connected with having the condition. This study aimed at determination of the prevalence of eye diseases in Agbor, Ika L.G.A, Delta State, Nigeria.The study was descriptive and simple random technique was used for selection while the sample size was one 940 patients. Patients who visited the Ophthalmology Department (including the Optometry Unit) within a period of one year, represented the study population while patients diagnosed of eye disease were recruited as sample size.Study showed the prevalent of the eye disease in the following order, Bacterial conjunctivitis (19.30%)> cataract (16.56%)> glaucoma (10.83%)> astigmatism (10.59%)> hypertensive retinopathy (10.59%)> allergic conjunctivitis (6.10%)> presbyopia (5.60%)> myopia (4.73%)> foreign body (4.23%)> uveitis (3.36%)> retinopathy (2.74%)> maculopathy (1.62%)> chorioretinitis (1.25%)> hyperopia (1.00%)> diabetic pterygium (0.62%)> corneal Abrasion (0.50%)> aphakia (0.37%). Furthermore,the percentage of occurrence calculated revealed that eye diseases were more prevalence in females (51.52%) when compared to males (48.44%) in present study. Conclusively, the awareness of the prevalent of eye diseases within Agbor community revealed that conjunctivitis is the most prevalent.

Keywords:

Prevalence, Eye Diseases, Visual Impairment, Agbor, Delta State, Conjunctivitis, Cataract.

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INTRODUCTION

The eye has been described by Charles Darwin as both perfect and complex. Eyes are like windows to the outside world, but their intricacies and functionalities are far more extensive than those of any given glass window (Zhu *et al* ., 2012). They can capture, adjust, and transform light into a chemical code that only the brain can decipher. Each structure of the eye works in accord with the next – refracting, constricting, dilating and chemically reacting to convert patterns of light. (Zhu *et al* ., 2012).

Prevalence estimates indicate the burden of a condition (e.g visual impairment) at a defined location at a point or period. Accurate prevalence estimates are needed to plan for availability of health care services, associated monetary costs, and quality of life connected with having the condition. Such data are also of importance in planning future studies(Ohwin, 2021), such as controlled clinical trials of prevention and treatment of the disease (Klien and Klien, 2013). Diseases that cause visual impairment are known to significantly alter the quality of life of the individual through the prolonged period of morbidity. The geographical, economic, social and political aspects of the susceptible population, environmental hazards and trauma have been established as the main causative factors for eye disorders. Within the population, several factors such as age and gender also modify the prevalence of the eye disorders (Reddy *et al*., 2018).

The most common causes of visual impairments are eye diseases which include Cataract (clouding of the lens, usually without any apparent cause, which leads to progressive, reversible loss of vision), Glaucoma (optic nerve damage, often associated with increased eye pressure, which leads to optic cupping and progressive, irreversible loss of visual field), Age-related macular degeneration (loss of photoreceptors in the macula (small area of the retina used for central vision, which results in gradual loss of central vision and eventually central blindness), Diabetic retinopathy (retinal vascular disorder resulting from complications of diabetes mellitus, which results in progressive loss of vision) (ARIF, 2006). Refractive errors (myopia, hypermetropia, astigmatism and presbyopia) also is a prevalent affect a large proportion of people of all ages and gender (Adegbehingbe *et al*., 2011).

Risk factors for, and causes of, eye conditions include ageing, genetics, lifestyle exposure and behaviours, infections, and various health conditions. Many eye conditions are multifactorial in origin. Many risk factors increase the likelihood of developing, or contributing to the progression of, an eye condition. These include ageing, lifestyle exposure and behaviours, infections, and a range of health conditions (WHO, 2019).

Sub-Saharan Africa has an estimated 5-6 million blind and 16-18 million persons with low vision. Around 60% of them live in twenty African countries including Botswana, Eritrea, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mauritius, Namibia, Nigeria, Seychelles, Sierra Leone, South Africa, Swaziland, Uganda, the United Republic of Tanzania, Zambia, and Zimbabwe.4 It is estimated that globally 153 million people over 5

years of age are visually impaired as a result of uncorrected refractive errors, of which 8 million are blind (Kello and Gilbert, 2013).

Eye Diseases in rural communities have become a matter of concern as they are often characterized by poor vision, low vision and visual impairment and if not well managed, can lead to permanent loss of vision (blindness) (Osuji *et al*., 2019).

Visual impairment secondary to eye disease in rural Nigeria has become a great health concern particularly because most eye diseases can be prevented or treated. Illiteracy of residents as well as lack of available statistics for public health professionals to formulate policies for government approval has also contributed to the prevalence of eye diseases in Ika local government. This study is imperative therefore, to provide statistical data for policy formation as well as adding to already existing data.

MATERIALS AND METHODS

Study Design

This is a descriptive study and the patients that visited Agbor central hospital ophthalmology department between June 2022 to June 2023 were the study population. While 940 patients diagnosed with eye disease were recruited as sample size.The information of patients diagnosed with eye disease was extracted and recorded in the data sheet; the information collected include: Gender, Age, and Diagnosis.Inclusion Criteria include all cases of eye diseases available at the ophthalmology department which were seen within 2022-2023.

Ethical clearance was processed and received from the, Faculty of Basic Medical Sciences, College of Health Sciences, Delta State University, Abraka. Ethical clearance was also processed and approved from the Ethical Clearance Committee, Agbor central hospital.

The data collected for the study was analysed with simple descriptive statistics presented in frequency charts and tables using the Statistical Package for Social Sciences (SPSS V22). Variation between eye diseases and age was evaluated using one sample t-test, and p-value was significant at ≤0.005.

RESULTS

This chapter presents data on the retrospective study of prevalence of eye diseases in Central Hospital Agbor, Delta State. Eight hundred and three (803) case files of patientswere retrieved and reviewed. Analysis of data was presented based on the age, sex, occupation, marital status and prevalence of diagnosis of eye diseases as shown in Table 1 to 5 below:

Table 1: Age and Sex Distribution of Eye Disease in Ika Agbor

Ages	**Males**		**Females**		**Total**
	f	**%**	***f***	**%**	
<10yrs	17	2.12	34	4.23	51(6.35%)
11-30yrs	114	14.20	143	17.81	257(32.0%)

31-50yrs	112	13.95	106	13.20	218(27.1%)
51-70yrs	89	11.08	113	14.07	202(25.2%)
>71yrs	37	4.61	38	4.73	75(9.3%)
Total	**369**	**45.95**	**434**	54.05	**803(100%)**

Table 1 shows the age and sex distribution of all the cases reviewed. Data obtained revealed that the highest number of patients that visited the health care facility were between the ages of 11-30years with a total of 257(32%), out of which females (143, 17.8%) were more than males (114, 14.2%). The second highest age group were between 31-50years with a total of 218(27.1%) out of which 112(14%) were male cases and the other 106(13.2%) were female cases. This was immediately followed by 202(25.2%) of the study population were within the ages of 51-70years, of which 113(14.1%) were females when compared to males that accounted for 89(11.1%). Meanwhile, 75(9.3%) of the patients falls within the ages of 70years and above, out of which 38(4.7%) were females and 37(4.6%) were male cases. Finally, 51(6.4%) of the total cases reviewed were patients below 10years, although, females also seems to be higher (34, 4.2%) than males (17, 2.1%), however, this category constituted the lowest cases reviewed.

Table 2: Marital Status of Participants in Ika Agbor

Marital Status	**Frequency (n)**	**Percentage (%)**
Single	308	38.36
Married	420	52.30
Widow/Widower	63	7.85
Divorced	12	1.49
Total	**803**	**100.0**

Table 2 above demonstrates the marital status of all the cases reviewed in Ika, Agbor. Data obtained shows that 420(52.3%) were married, this was followed by 308(38.4%) of the cases that were single, while 63(7.9%) of the cases were widows/widowers and the remaining 12(1.5%) reported that they were divorced.

Table 3: Occupation of Participants in Ika Agbor

Occupation	**Frequency (n)**	**Percentage (%)**
Pupils/Students	257	32.00
Traders	173	21.54

Farmers	52	6.48
Civil Servants	95	11.83
Self-Employed	182	22.67
Unemployed	44	5.48
Total	**803**	**100.0**

Table 3 shows the occupation of participants sampled in the retrospective study. 257(32%) observed cases of eye diseases were pupils and students; this category were the highest prevalent. This was followed by 182(22.7%) of the observed cases that were self-employed, 173(21.5%) of the observed cases traders, while 52(6.5%) of the observed cases were famers. Finally, 44(5.5%) of the least observed cases were unemployed.

Table 4: Prevalence of Eye Diseases in Ika Agbor

Types of Eye Disease	**Males**		**Females**		**Total**	
	F	**%**	***f***	**%**	***F***	**%**
Bacterial Conjunctivitis	68	8.47	87	10.83	**155**	**19.30**
Corneal keratitis	3	0.37	1	0.12	**4**	**0.50**
Aphakia	2	0.25	1	0.12	**3**	**0.37**
Astigmatism	40	4.98	45	5.60	**85**	**10.59**
Cataract	51	6.35	82	10.21	**133**	**16.56**
Chorioretinitis	8	1.00	2	0.23	**10**	**1.25**
Allergic conjunctivitis	32	3.99	17	2.12	**49**	**6.10**
Diabetic Retinopathy	10	1.25	12	1.49	**22**	**2.74**
Foreign Body	13	1.62	21	2.62	**34**	**4.23**
Glaucoma	48	5.98	39	4.86	**87**	**10.83**
Presbyopia	20	2.49	25	3.11	**45**	**5.60**
Hypertensive Retinopathy	57	7.098	28	3.49	**85**	**10.59**
Pterygium	1	0.12	4	0.50	**5**	**0.62**
Hyperopia	5	0.62	3	0.37	**8**	**1.00**

Uveitis	12	1.49	15	1.87	**27**	**3.36**
Maculopathy	8	1.00	5	0.62	**13**	**1.62**
myopia	11	1.37	27	3.36	**38**	**4.73**
Total	**389**	**48.44**	**414**	**51.52**	**803**	**100.0**

Table 4 above shows the prevalence of Eye Diseases in Ika, Agbor Delta State.

Results from this study showed that the percentage of occurrence calculated revealed that eye diseases were more prevalence in females (51.52%) when compared to males (48.44%).

DISCUSSION

Eyes are like windows to the outside world. The most common causes of visual impairments are eye diseases. These diseaes are known to significantly alter the quality of life of the individual through the prolonged period of morbidity.

This research sought to detect accurately the prevalence of eye diseases in Agbor, Ika L.G.A, Delta State and the results obtained showed the prevalent eye diseases in the following order: Bacterial conjunctivitis (19.30%)> cataract (16.56%)> glaucoma (10.83%)> astigmatism (10.59%)> hypertensive retinopathy (10.59%)> allergic conjunctivitis (6.10%)> presbyopia (5.60%)> myopia (4.73%)> foreign body (4.23%)> uveitis (3.36%)> retinopathy (2.74%)> maculopathy (1.62%)> chorioretinitis (1.25%)> hyperopia (1.00%)> diabetic pterygium (0.62%)> corneal Abrasion (0.50%)> aphakia (0.37%). The findings of this research agreed with Sutradhar et al., (2019) who reported that most prevalent eye diseases in Dhaka city, India were conjunctivitis, refractive error and cataract. The results also were in line with Adegbehingbe *et al*., (2011) who reported Catarat, Hypertensive retinopathy and Glaucoma to be the most prevlnt eye diseases in Obafemi Awolowo University Teaching Hoapital, Nigeria.Furthermore,the percentage of occurrence calculated revealed that eye diseases were more prevalence in females (51.52%) when compared to males (48.44%) in present study. Furthermore,the percentage of occurrence calculated revealed that eye diseases were more prevalence in females (51.52%) when compared to males (48.44%) in present study. The current study agrees with several studies (Ohwin*et al.,* 2022; Ohwin*et al.,* 2023).

Recommendation

Diseases that cause visual impairment are known to significantly alter the quality of life of individuals through the prolonged period of morbidity. Thus, adequate sensitization and early diagnosis/treatment by public health specialists should be promoted as this will greatly decline the prevalence of eye diseases in rural areas where health care facilities are not readily present.

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