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The Prevalence of Eye Disease in Asaba Specialist Hospital

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Abstract

The eye as organ of the visual system, mainly detect light and convert it into electro-chemical impulses in neurons. The aim of this study is to evaluate the prevalence of eye diseases in Asaba Specialist Hospital. A simple random sampling technique was used for selection of 700 sample sizes. Details of medical records of every patient that visited the ophthalmology unit of Asaba Specialist Hospital were used to obtain data for current study. The information of patients diagnosed with eye disease was retrieved and recorded in the data sheet; information collected includes gender, age, diagnosis, occupation and marital status. Data was analyzed with simple descriptive statistics and presented in frequency charts and tables using the Statistical Package for Social Sciences (SPSS). The results from this study showed that the prevalence of eye diseases in Asaba Specialist Hospital is in the following order: Allergic conjunctivitis (30%)> Refractive error (24.90%)> Bilateral cataract (11.43%) > Glaucoma (9.57%) > Bacterial Conjunctivitis (4.57%) > ocular allergy (4.29%) > corneal laceration (2.72%) > Pterygium (2.14%) > dry eye syndrome(1.71%) > diabetic ametropia (1.28%) > bilateral corneal opacity (1.14%). Study also determined prevalence of eye defects in sex and the average mean cases calculated revealed that eye diseases were had high prevalence in females (19.05±33.87) when compared to males (14.29±24.70). Conclusively, conjunctivitis had the highest index closely followed by refractive conditions with corneal opacity having the least occurrence.

Keywords

Prevalence, Eye Diseases, Gender/Sex., Male, Female

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INTRODUCTION

1.1. Background of study

Vision is the ability to see with a clear perception of detail, colour and contrast and to distinguish objects visually. Like any other sense, vision tends to deteriorate naturally with age (Minto and Imran, 2004). In most cases, reduction in visual capability can be corrected with glasses, medicine and surgery.

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, such as controlled clinical trials of prevention and treatment of the disease. Periodic estimates of prevalence enable the tracking of temporal trends (Ohwin et al., 2023); this is important especially in situations where new, costly interventions are being introduced. Prevalence estimates reflect disparities in vision loss and vision-threatening conditions among racial/ethnic groups as well as age, income and education groups, as well as between the sexes. In addition to these characteristics, nutritional and environmental exposures may affect prevalences or disparities among groups.

Eye diseases constitute one of the common health problems presenting to the general practice clinic and could have significant socioeconomic consequences. The purpose of this project is to diagnose and evaluate ocular and related tissues with various diseases such as conjunctival, corneal, uveal, vitreoretinal, scleral, optic nerve, and orbital disorders, ocular degenerative, inflammatory, metabolic or genetic diseases, and tumors. Ocular diseases affect every individual in this world, with the only difference being in the pattern of occurrence of disease depending on age, gender, region, and climatic conditions. The majority of these ocular conditions which can lead to blindness are either potentially preventable or curable. (Murad,2007).

There are many different conditions that can affect the eye. Some are minor and resolve by themselves quickly (e.g. viral conjunctivitis), but others could be serious and lead to serious visual impairment (e.g. glaucoma).

Problems affecting the eye can range from infections of the eye or the eyelid, genetically inherited eye problems, eye injuries or objects in the eye, and eye disorders that are the result of conditions that affect many organs (e.g. diabetes or hypertension).Many eye diseases have no early symptoms, and changes in vision only occur when the disease is advanced, making treatment more difficult. Many people experience a degree of age-related deterioration in their visual abilities. Blurred vision, some loss of peripheral vision, and a decrease in visual acuity can be some of the symptoms experienced later in life. (Viresh, 2018).

One of the most common symptoms is redness of the eyeball – a result of swollen or dilated blood vessels. This makes the eye look bloodshot, and can be caused by allergies (allergic conjunctivitis) or eye fatigue, to name but two possibilities. A painful red eye is a concerning

matter and should be investigated at all times. Genetic inheritance can increase your risk for certain eye problems (e.g. glaucoma and colour blindness).

Optometrists can examine your eyes to find out whether you might need glasses or medical treatment, while an ophthalmologist is a specialist in medical and surgical eye problems.

Disease patterns are in a state of constant flux, over a period of time. The pattern of eye diseases differs in developing and developed countries and often in communities (Agyemang,2017). The common ocular diseases worldwide are cataract, glaucoma, conjunctivitis, corneal ulcers, uveitis, refractive errors, and pterygium. Many of these ocular conditions which can lead to blindness are either potentially preventable or curable. Therefore, the current study aim is to determine the prevalence of eye diseases in Asaba Specialist Hospital Delta State.

MATERIALS AND METHODS

Study Design

This was a cross-sectional study of 700 individuals diagnosed with eye diseases among patients in Asaba Specialist Delta State. Descriptive statistics including age, gender, marital status and occupation were calculated for the patients. Medical data were collected through case study method.

Study Area

The research study was carried out in Asaba Specialist Hospital, Delta State. Asaba is a city located at the western bank of the Niger River. It is the capital of Delta State, Nigeria and one of the 3 towns of Oshimili South Local Government Area, A fast developing urban area, Asaba had a population of 149,603 as at the 2006 census,and a metropolitan population of over half a million people. Coordinates: 6°11′N 6°44′E. Asaba is well known for social activities due to the presence of large people and social amenities such as hotels, clubs, cinemas, malls, event centre, etc.

Asaba Specialist Hospital is a health care solution provider with experience and trained eye health professionals and it is located at 6MMP + W9F,GRA phase 1, Asaba.

Study Population and Sample and Sampling Technique

The eye is a population-based, cross sectional study of eye diseases in Asaba Specialist Hospital, Delta State. The study population was every male and female that visited the ophthalmology unit between 2019 to 2021.And the patients datas diagnosed of ocular diseases were obtained through their medical records. The simple random technique was used for selection while the participants were 700 patients.

Data Collection

The medical records of every patient that visited the ophthalmology department of Asaba Specialist Hospital Delta State between 2021 and 2023 were obtained as data for this study.

The information collected includes gender, age, diagnosis, marital status and occupation. The inclusion criteria were confirmed cases with ocular disorders. Cases from other departments and non-ocular related files were excluded. Ethical approval was obtained from the Medical Research and Ethical Committee, Asaba Specialist Hospital Delta State. The Data collected from this study was analyzed using the Statistical Package for Social Sciences (SPSS) software. Statistical methods applied include means, standard deviation, frequency counts and percentages.

RESULTS

A total of seven hundred (700) case files of patients who visited the Asaba Specialist Hospital from January, 2021 – July, 2023 were 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 Distribution of Participants

Age (years)	**Frequency (n)**	**Percentage (%)**
0-9	101	14.42
10-19	73	10.43
20-29	56	8.00
30-31	90	12.86
40-49	122	17.43
50-59	111	15.86
60+	147	21.00
Total	**700**	**100.0**

Table 1 shows the age distribution of all the cases reviewed. 14.4% were between the ages of 0-9years, 10.4% were within the ages of 10-19 years, 8% of the study population was within the ages of 20-29years, 12.8% were within the ages of 30-39 years, while 17.4% were within the ages of 40-49 years and 15.8% were within the ages of 50-59 years. Meanwhile, 21% of patients within the ages of 60 years and above constituted the highest cases reviewed.

Table 2: Sex Distribution of Participants

Sex	**Frequency (n)**	**Percentage (%)**
Male	300	42.86
Female	400	57.14
Total	**700**	**100.0**

Table 2 shows the age and sex distribution of eye diseases seen. Data gathered revealed that eye diseases were more prevalent among the females, accounting for 300 (42.9%) while 400 (57.1%) were males.

Table 3: Marital Status of Participants

Marital Status	**Frequency (n)**	**Percentage (%)**
Single	245	35.00
Married	433	61.86
Widow/Widower	22	8.00
Total	**700**	**100.0**

Table 3 shows the marital status of all the cases reviewed. Information gathered shows that 35% were single patients, while majority of the cases were married accounting for 61.9% of the study population, while the remaining 8% were widows or widowers.

Table 4: Occupation of Participants

Occupation	**Frequency (n)**	**Percentage (%)**
Pupils/Students	139	19.86
Traders	280	40.00
Farmers	5	0.71
Civil Servants	147	21.00
Self-Employed	60	8.57
Unemployed	69	9.86
Total	**700**	**100.0**

Table 4 shows the occupation of participants sampled in the retrospective study. 280 (40%) observed cases of eye diseases were traders; these category were the highest. This was followed by 147 (21%) observed cases that were civil servants, 139 (19.9%) observed cases pupils / students, while 69 (9.9%) observed cases were unemployed. Finally, 60 (8.6%) observed cases were self-employed.

Table 5: Prevalence of Eye Diseases in Asaba Specialist Hospital

Category of Eye disease	**Male Cases**		**Female Cases**		**Total Cases**	
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**
Advanced glaucoma/ Bilateral advanced glaucoma	30	4.29	37	5.29	67	9.57
Allergic conjunctivitis/ Infective conjunctivitis	62	8.86	148	21.14	210	30.0
Refractive error	115	16.37	62	9.86	177	25.29
Allergy	3	0.43	1	0.14	4	0.57
Anterior uveitis	4	0.57	7	1.00	11	1.57
Aphakia	2	0.29	5	0.71	7	1.00
Bacterial conjunctivitis	11	1.57	21	3.00	32	4.57
Bilateral cataract/Post cataract surgery	24	3.43	56	8.00	80	11.43
Pterygium	6	0.85	9	1.29	15	2.14

Bilateral corneal opacity	6	0.85	2	0.29	8	1.14
Episcleritis/ Esotropia	0	0.00	3	0.43	3	0.43
Bilateral keratopathy/ Nistagmus	0	0.00	2	0.29	2	0.29
Left traumatic iritis	5	0.71	5	0.71	10	1.43
Ocular allergy/ Poor vision	17	2.43	13	1.86	30	4.29
Cyclophegic refraction	2	0.29	1	0.14	3	0.43
Dry eye syndrome	4	0.57	8	1.14	12	1.71
Corneal laceration / Corneal ulcer	5	0.71	14	2.00	19	2.72
Brownish discoloration fissal palpate	1	0.14	0	0.00	1	0.14
Diabetic ametropia	3	0.43	6	0.85	9	1.28
Grand Total	**300**	**42.86**	**400**	**57.14**	**700**	100
Average Mean Difference (Mean±SD)	**14.29±24.70**		**19.05±33.87**			

Table 5 above shows the prevalence of Eye Diseases in Asaba Specialist Hospital in Delta State.

Discussion

Personal hygiene is premium in management of ocular surface disorders. The prevalence of bacterial conjunctivitis in current study was found to occur mostly in females that accounted for 21(3%) when compared to the male cases that observed to be 11(1.6%). Incidence of ocular allergy and poor vision are relatively higher in male cases accounting for 17 (2.4%) when compared to the female cases that were 13 (1.9%). Conjunctivitis had the highest prevalence with Allergic conjunctivitis and infective conjunctivitis recording 62(8.9%) for male and female cases being 148 (21.4%). Therefore, the knowledge of its prevalence should create room for advocacy by practitioners in collaboration with government and non-governmental organizations alike. Akinsola and Majekodunmi (1995) reported conjunctivitis as the third highest eye disorder for a Lagos community. However, refractive error which was reported as the second most prevalent eye disease in the current study, with a record of 115 (16.37%) male cases and 62 (9.86%) female cases respectively, was reported by different studies as most prevalent(Nwosu, 1994;Akinsola and Majekodunmi, 1995; Ezepue, 1997; Ukponwan, 2013)

Current study showed that bilateral cataract and post cataract surgery were the third most prevalent eye disease recorded with a frequency of 24(3.4%) male cases and 56(8%) female cases recorded and Edema *et al*.,1997 study in Benin Citygave similar report. This was immediately followed by advanced glaucoma/ bilateral advanced glaucoma which were found to occur most prevalently in females at a frequency of 37(5.3%) than the prevalence in male 30(4.3%) cases in current study.

Additionally, present study reported cases of corneal laceration and corneal ulcer recorded higher prevalent in female cases (14, 2%) than males (5, 0.7%). This may imply that the rate of domestic violence against female in Asaba and environ is high because female rarely get themselves involved in event or games that result in trauma to the eye. Trauma resulting in

corneal disorders is often the cause of unilateral loss of vision in developing countries and 5% of all bilateral blindness is a direct result of trauma. (Budenz *et al*.,2012)

Other cases of eye diseases that were observed in the current study were pterygium accounting for 15(2.1%), dry eye syndrome representing 12(1.7%), anterior uveitis which recorded 11(1.57%) cases, Left traumatic iritis showing 10(1.43%), bilateral corneal opacity which was 8(1.14%), and diabetic ametropia that recorded 9(1.28%) cases. Incidence of Episcleritis / Esotropia having 3(0.43%), cyclophegic refraction 3(0.43%), and bilateral keratopathy/ Nistagmus 2(0.29%) cases were recorded respectively. Conclusively, the average mean cases calculated revealed that eye disease was more prevalence in females (19.05±33.87) when compared to males (14.29±24.70). The leading cause of visual impairment in this study population was allergic conjunctivitis/infective conjunctivitis and patients within the ages of 60 years and above, constituted the highest cases reviewed with a percentage of 21%. Therefore, awareness policy involving all works of life including teachers who can identify common eye diseases will find this study useful.

The current study recommends the need for collaboration between the Ministry of Health Services and Ministry of Public Health and Sanitation and eye care development partners to provide subsidized treatment and create advocacy for improved self-care because hygiene is the first line of treatment to avoid introducing germs into the eyes. Adovocy should be The eye health education to pupils, teachers and parents on major blinding and visually disabling conditions in order to enhance early detection and take appropriate actions. There is need for the Ministry of Public Health and Sanitation to carry out a National visual impairment and blindness survey to provide empirical data for planning eye care service delivery.

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