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Ocular disease amongst patients visiting ophthalmology department

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Abstract--Background: The presentation of eye diseases distribution varies globally. Specific ocular diseases are related to age, races and occupations. Early diagnosis is drawn in most eye morbidities to prevent diminution of sight and to have better prognosis. Eye sight is essential for daily activities and any visual impairment is serious and devastating disability. While some eye morbidities are easily cured and wells if not prevented or treated quickly can lead to diminution of vision and permanent blindness, therefore it is importance to determine the frequency of ocular diseases in patients. Objective: To determine the ocular disease amongst patient's visiting ophthalmology department. Methodology: This Descriptive cross-sectional study was conducted at department of ophthalmology DHQ hospital Bannu from April 2022 to November 2022 by accessing the patient's ocular diseases. All patients from 18 years to 80 years of age irrespective of their sex, suffering from some eye problem were included in the study while those who presented for follow-up, Immune- compromised patients, getting anti-cancer treatment were excluded from the study. The data was analyzed by SPSS version 24. Results: A total of 380 patients were examined. Out of 380 patients, 156 (41.1%) were Male and 224 (58.9%) were Female. Results showed that in age group 46-50 years, 45(11.8%) patients had clinically significant ocular disorders. Most common type of ocular disease was refractive errors 107 (28.2%). This was followed by cataract 84 (22.1%), Glaucoma in 38 (10.0%) patients, Corneal opacity in 15 (3.9%) and epiphora in 18 (4.7%). Squint was seen in 34(8.9%) patients, Vitamin A deficiency 14 (3.7%), eye trauma in 19 (5.0%) patients and remaining 26 (6.8%) have minor ocular diseases. Conclusion: Refractive errors was found to be the significant ocular morbidity found in all age groups. This

was followed by cataract, Glaucoma, Corneal opacity, epiphora, while Squint, Vitamin A deficiency, eye trauma and other ocular diseases were also reported in remarkable number of patients.

Keywords---Refractive Errors, Cataract, cornea, squint, eye trauma.

Introduction

The spectrum of ocular disorder is different in different geographic region. It depends upon about the geographical location according to location, its economic status, culture and ethnic integrity.¹Recent survey declared that approximately 624 million individuals have visual impairment (VI), in which 19 million population have age less than 15 years. Blindness is significant cause of financial problem on the society through desolate which cause economic burden. Blindness prevention is the challenge of world Health Organization (WHO) for nearly 20 years through its blindness prevention program with the collaboration of international agency of prevention of Blindness (IAPB). The basic indication behind this measure is that up to 80% of blindness is preventable if the services are available.² Cataract is the most common type of ocular disease and can be treated with a simple surgery.³ trachoma, which is caused by bacterial contamination and spread from one person to another person, causes mucopurulent discharge, swelling of eyelids, watering and itchy eyes. Raised IOP is called Glaucoma or optic neuropathy and it cause the progressive loss of peripheral vision. ⁴According to the World Health Organization's raised IOP is the indication of Glaucoma. Cataract is the opacification of natural lenses. Cataract is the cause of reversible blindness in old age globally. Corneal opacity is the opacification of the cornea in which scarring of cornea occurs due to trauma or postoperative infections.⁵ Opacification of the lens caused impaired transmission of light which does not reach the retina, resulting in image distortion and loss of vision. 70% of patients with cataracts are over 40 years of age. Refractive errors are also called ametropia. In Emetropia, the light parallel rays passes through the cornea and lens and fall on the retina, creating a focused and sharp image.⁶Refractive errors correction setups known as refraction clinics are available in urban and rural areas of Lahore. Conjunctivitis cases are mostly seen in spring season. Adenoviral conjunctivitis causes are allergic reactions due to pollens and dust particles.⁷ Adenoviral conjunctivitis begin in one eye and spread in other eye by hand contact then it spreads by person to person because it is a spreadable disease.⁸ It can be viral, bacterial or fungal. It usually causes pus in the eye and it can affect one or both eyes.⁹ The agent which causes allergic conjunctivitis include *Pseudomonas aeruginosa*, Hemophilic influenza, *Streptococcus pneumonia* and *Staphylococcus aureus* Viral conjunctivitis are also known as adenoviral conjunctivitis and it is infectious cause of conjunctivitis. The Symptoms of adenoviral conjunctivitis is mucopurulent discharge, itchy eyes and glare problem.¹⁰ The benign or non-cancerous growth known as pterygium observed in people living in torridity. In developing countries the most common disease in aged population is (age-related macular degeneration) ARMD is the most common retinal disorder are a low priority in preventing blindness programs.¹¹ The sixth most crowded country of the world is Pakistan with a population of more than 200 million provides healthcare services according to the

WHO protocol through a proper channels i.e primary health care, secondary health care and tertiary health care services. The eye care team includes: ophthalmologist, Optometrists, Ophthalmic technicians / General medical Practitioners (including those who have some systemic disease which effects on eye like Diabetes Mellitus cause Diabetic retinopathy), Pharmacists, Orthoptists and Ophthalmic Nurses. Public health workers in the Basic Health Unit and Rural Health should be trained to deal with the screening of ocular diseases (such as refractive errors, cataract, glaucoma, Bitot spots) and Conjunctivitis, eye trauma and squint.¹² National Committee of eye health have strategies in Pakistan, to provide complete eye care services at primary health care, secondary health care and tertiary health care level. In order to provide the awareness about the prevention and control of eye diseases at the provincial and national levels, no data is available regarding the frequency of ocular diseases at urban and rural areas¹³. This study will help to find out the frequency of ocular disease at the DHQ hospital bannu.

Materials and Methods

This Descriptive cross-sectional study was conducted at department of ophthalmology DHQ hospital Bannu from April 2022 to November 2022 by accessing the patient's ocular diseases. All patients from 18 years to 80 years of age irrespective of their sex, suffering from some eye problem were included in the study while those who presented for follow-up, Immune-compromised patients, getting anti-cancer treatment were excluded from the study. Visual examination including visual acuity & pinhole testing was done monocular at six meter distance using snellen chart. An improvement of visual acuity with pinhole was considered refractive error and visual acuity of $\leq 6/12$ was regarded as reduced vision. Patient's visual assessment data was recorded on well-defined proforma. The data was analyzed by SPSS version 24.

Results

A total of 380 respondents were assessed for ocular diseases as shown in Table 1. Out of this, 41 were 16-20 years old, while 22 (5.80%) have ages between 21-25 years. There were 27 (7.10%) respondent who 26-30 years old. while 31-35 years were 31 (8.20%) and 44 have ages between 36-40 years. 41-45 years were 44 (11.60%) and there were 45 respondents who have ages 46-50 years, while 39 (10.30%) respondents were 51-55 years old. There were 29 (7.60%) respondents (7.60%) who have ages 56-60 years, while those with ages 61-65 years were 33 (8.8%). There were 14 (3.70%) respondents who have ages 66-70 years, 16 (4.2 %) were between 71-75 years, while only 11 (2.90%) 76-80 years old.

Table 1: Age Distribution of Respondent

Age	Frequency	Percent	Valid Percent	Cumulative Percent
16-20 YEARS	41	10.8	10.8	10.8
21-25 YEARS	22	5.8	5.8	16.6
26-30 YEARS	18	4.7	4.7	21.3
31-35 YEARS	31	8.2	8.2	29.5
36-40 YEARS	37	9.7	9.7	39.2
41-45 YEARS	44	11.6	11.6	50.8
46-50 YEARS	45	11.8	11.8	62.6
51-55 YEARS	39	10.3	10.3	72.9
56-60 YEARS	29	7.6	7.6	80.5
61-65 YEARS	33	8.7	8.7	89.2
66-70 YEARS	14	3.7	3.7	92.9
71-75 YEARS	16	4.2	4.2	97.1
76-80 YEARS	11	2.9	2.9	100.0
Total	380	100.0	100.0	

Among 380 respondent the 156 (41.1%) were Male and 224 (58.9%) were Female as shown in Table 2.

Table 2: Gender distribution of Ocular Diseases among respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
MALE	156	41.1	41.1	41.1
FEMALE	224	58.9	58.9	100.0
Total	380	100.0	100.0	

Out of the total study population, the level of education ranged from Masters to Matric (Grade 10) as shown in Figure 1. According to this 23 (6.4%) had Master qualification, 87 (24.3%) were Bachelors, 179 (50.0%) were Intermediate (grade 12) and 69 (19.3%) were Matric (grade 10).

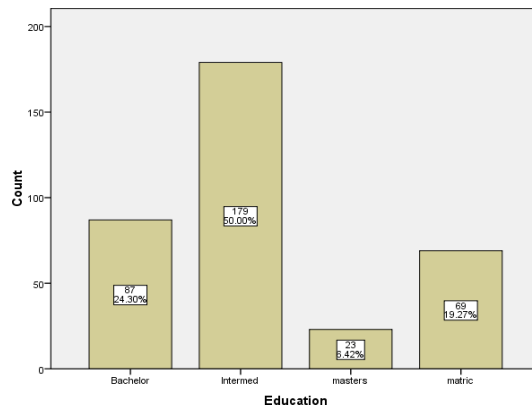


Figure 1: Education of Respondents

Ocular Diseases distribution is shown in given below table 3. According to this table, among total number of respondents, the most common type of ocular disease were refractive errors 107 (28.2%) followed by cataract 84 (22.1%), Glaucoma 38 (10.0%) patients, Corneal opacity 15 (3.9%), Epiphora 18 (4.7%).

Type of ocular diseases in respondents:

Type of Ocular Disease	Frequency	Percent	Valid Percent	Cumulative Percent
Refractive errors	107	28.2	28.2	28.2
Cataract	84	22.1	22.1	50.3
Glaucoma	38	10.0	10.0	60.3
Red eye	25	6.6	6.6	66.8
Corneal opacity	15	3.9	3.9	70.8
Epiphora	18	4.7	4.7	75.5
Squint	34	8.9	8.9	84.5
Vitamin a deficiency	14	3.7	3.7	88.2
Eye trauma	19	5.0	5.0	93.2
Any other eye disease	26	6.8	6.8	100.0
Total	380	100.0	100.0	

While squint was seen in 34 (8.9%) patients, Vitamin A deficiency was present in 14 (3.7%), Eye trauma was detected in 19 (5.0%) in respondents while the remaining 26 (6.8%) respondents had other type of ocular diseases. Figure 2 indicated that the high cases of Ocular Diseases were found in males of 51-55 years of age followed by female who were 46-50 years old. Highest number of ocular diseases were observed in both males and females who were between 31-65 years of age. However, larger number 41 (10.8%) of ocular diseases were also observed in younger age group i.e 16-20 years.

Percentage of Respondent

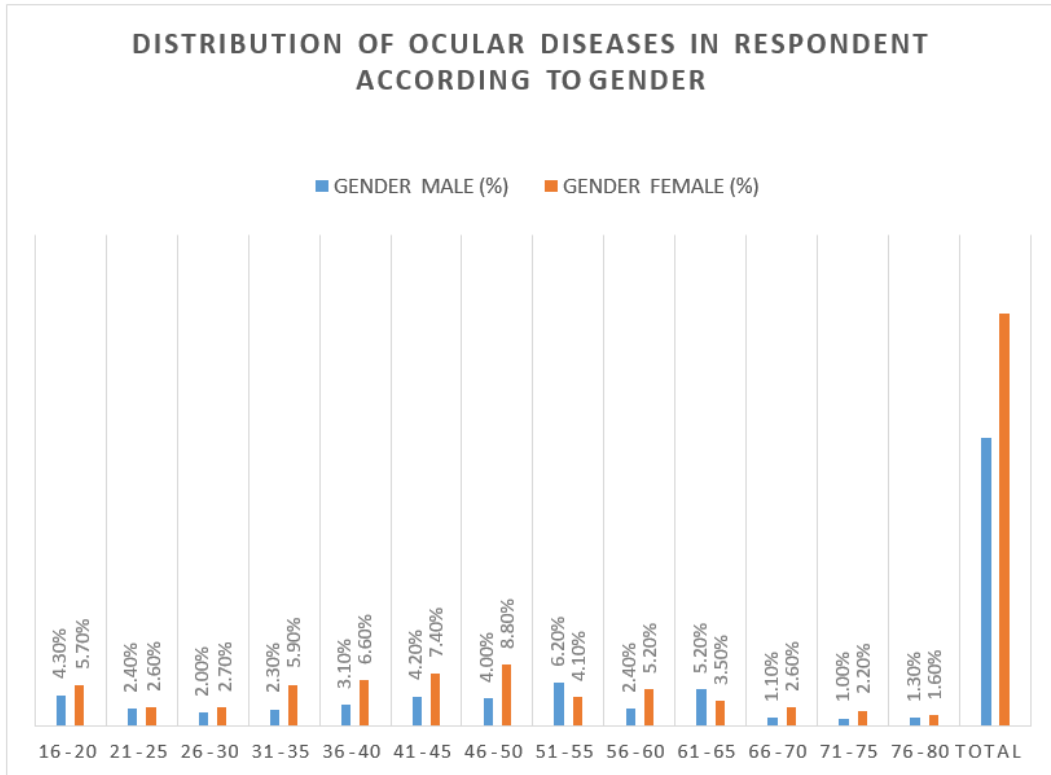


Figure 2: Distribution of ocular diseases in respondent according to gender

Discussion

Ocular diseases affect the eye health and vision in patients of all different ages. Present study was conducted in the city Bannu, Pakistan to find out frequency out of eye disorder in respondents attending ophthalmology patient department of DHQ hospital Bannu. Health center and clinic based researches do not show the exact prevalence of ocular disorder. However, in the absence of data on frequency of various ocular disorders, this study may provide some useful information on the frequency of ocular disorder in the DHQ hospital Bannu. The frequency of eye diseases in this study was similar to that reported by Herse and Gothwal¹⁴ from India, whose study was based over a 6 months period. Their study was also conducted in specialized eye hospital and the number of patients were also nearly same. In this study, the frequency of Cataract was 18.5% while in present study also showed comparable results (22.1%). Reddy et al¹⁵ in Selangor conducted research on urban populace of 159, described the frequency of opacification of the lens known as cataract as 20.1%, Raised IOP known as glaucoma as 4.4% and other ocular diseases as 1.3%. However, a much higher frequency of the same diseases (22.1%, 10.0% and 6.8%, respectively) were observed in this study. Probably such high figures could be due to the reason that the present study was done in a referral center. There are numerous abrupt and long term concerns

related with URE in young age individual and adults including lost educational and employment opportunities, financial problems and poor quality of life.¹⁶ Visual impairment due to uncorrected refractive errors is a major public health concern and their correction with spectacles is among the most cost effective interventions in eye care. According the results of Latif MA¹⁷ study, carried out in a community based survey at a public sector educational department, refractive errors was present in 20.07% of the population of Lahore. A much higher frequency of the refractive errors (28.2%) was also observed in this study. Similarly in the present study, 38 (10.0%) of population had glaucoma. while study conducted in Iran in Yazd reported much less frequency of glaucoma (4.4%).¹⁸In the present study, no association was found between age and the frequency of refractive error. In this respect, results of this study were similar with Ezinne¹⁹ who have reported that age and the frequency of refractive errors have no association. Uncorrected refractive errors are the leading cause for moderate to severe vision impairment worldwide, and the most common cause of vision loss. Among the worldwide population there were 216 million cases with moderate or severe vision impairment in 2015, the leading cause was uncorrected refractive error in 116 million cases. There are considerable differences in the incidence and prevalence of cataract in different areas regions of the world, it cannot be considered a normal feature of ageing. In present study, the cataract is the second most ocular diseases found in the study population.²⁰cornea is the transparent structure along the front of the eyeball. In Corneal opacity the cornea change into white. This stops rays of light from passing through the cornea to the retina. In this study the frequency of corneal opacity was 15 (3.9%), observed in different age groups. Similar results was reported by a study conducted in the Indian population, which reported the frequency of corneal opacity as 4.2% in different age groups.²⁴ According to WHO standards hypovitaminosis sign of health hazard when clinically 2% population have Bitot's spots with xerosis, 0.01% have corneal xerosis, corneal ulceration+ and Keratomalacia or 0.1% have corneal scars. Biochemically 15% or more of the Pakistani population presents subclinical low levels of vitamin A (McLaren, 1966; PAHO, 1976).²⁵This study revealed that Vitamin A deficiency in 14 (3.7%) subjects of different age groups. In Recent study in USA , it is assessed that 2.0 to 2.4 million cases of visual injury occurred each year, and about 1 million people had permanent visual loss due to trauma, with more than 75% had monocular vision loss.²⁶In this study eye trauma was observed 19 (5.0%) subjects.

Conclusion

Refractive errors were found to be the significant ocular morbidity found in all age groups. This was followed by cataract, Glaucoma, Corneal opacity, epiphora, while Squint, Vitamin A deficiency, eye trauma and other ocular diseases were was also reported in remarkable number of patients.

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