Original Article

Pattern of Pediatric Eye Diseases

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Purpose: To assess the pattern of common eye diseases in pediatric population of Bahawalpur.

Material and Methods: Total 1000 children coming to outpatient Department of Ophthalmology, Bahawal Victoria Hospital Bahawalpur over a period of two months from 1st June 2014 to 31st July 2014, with age ≤ 16 years were included in this study.

Results: Mean age of the patients was 9.51 ± 4.8 years. Out of 1000 patients 483 (48.3%) patients were males and 517 (51.7%) patients were females. Most of the patients 455 (45.5%) belonged to age group 9-12 years. Most common disorder was refractive errors 322 (32.2%) followed by congenital cataract 231 (23.1%), VKC 219 (21.9%) and squint 124 (12.4%).

Conclusion: Male and female children were almost equally affected with ocular disorder and refractive error was the most common disorder in this study.

Key Words: Ophthalmology, consanguineous marriages, congenital, childhood blindness, refractive errors.

Ophthalmology is one of the important specialty in medical health services.[1] Ophthalmology unfortunately lags behind in this field of quality of life assessment even though our discipline and the organ with which we deal have a major impact on quality of life.[2] This includes a sense of well-being and other considerations, including whether people feel a burden to their families, have trouble getting up in the morning or performing daily duties.[1] It is a common problem in both rural and urban areas.[3] Also equally spread over developed and under developed countries.[1]

According to a concluded population census in 1998, Pakistan has an estimated population of 142 million in 2003. It is estimated that 40% of the population is below 16 years of age. The prevalence of blindness in children in Pakistan is estimated to be about 10 per 10,000 children, which means there are about 60,000 blind children. A further 100,000 to 80,000 children are estimated to have low vision.[4]

The high incidences of consanguineous marriages together with maternal infections and environmental factors are responsible for the significant proportion of congenital / developmental abnormalities in these children. Other causes of childhood blindness include nutritional factors and trauma. In poor countries of the world, corneal scarring due to vitamin A deficiency, ophthalmia neonatrum trachoma and use of harmful traditional practices (TP) predominates.[4,5]

Increasingly, refractive errors is being recognized as an important cause of visual impairment in both children and adults, the type and magnitude of refractive errors clearly changes with advancing age and also appears to be changing overtime , with recent cohort having higher prevalence than earlier one. Visual acuity is the most appropriate screening test to identify individual with visual impairment due to uncorrected refractive errors.[6]

MATERIAL AND METHODS

We have studied all children coming to outpatient Department of Ophthalmology, Bahawal Victoria Hospital Bahawalpur over a period of two months from 1st June 2014 to 31st July 2014. A standard performa was used. On anatomical basis the disorders were divided into disorders affecting conjunctiva,

whole globe, cornea, lens, uvea, retina, optic nerve, ocular muscles, nasolacrimal system and refractive system. Detailed ocular examination was done for decision making, teaching and training purposes. Refraction was performed routinely under cycloplegia. Anterior segment examination was done with slit lamp and torch. Posterior segment examination was performed after dilating pupil using direct and indirect ophthalmoscope and fundus contact lenses. Intraocular pressure was checked with Perkins tonometer. Squint assessment was done in detailed way using prisms and tests for steropsis. All the data was entered in SPSS version 16 and analyzed. Mean and standard deviation was calculated for numerical data and frequencies were calculated for categorical data.

RESULTS

Total 1000 children with ophthalmic disorder were included in this study. Mean age of the patients was 9.51 ± 4.8 years. Out of 1000 patients 483 (48.3%) patients were males and 517 (51.7%) patients were females (Fig. 1).

Out of 1000 patients 273 (27.3%) patients belong to age group 1-4 years, 272 (27.2%) patients belongs to age group 5-8 years and 455 (45.5%) patients belongs to age group 9-12 years (Table 1). As shown in table.2 refractive errors were present in 322 (32.2%) patients, VKC 219 (21.9%), squint 124 (12.4%), NLD Block in 58 (5.8%), retinitis pigmentosa was present in 29 (2.9%) patients, congenital abnormalities like congenital cataract 231 (23.1%) and congenital glaucoma in 17 (1.7%) patients.

DISCUSSION

In present study male was 48% and female was 52%. These findings are in agreement with the study of Fasih U el al,[7] where 59.50% patients were male and 40.5% were female. But our findings are in contrast with a study conducted at eye department Khyber Teaching Hospital Peshawar where male patients were 68.9% and female patients were only 31.1%.[8] This is due to many scio-economic factors of our society.

Uncorrected refractive errors have a direct effect on learning capabilities of the children and their education.[9] According to a study refractive errors are third largest cause of curable blindness in Pakistan.[7] Most frequently reported disease in our study was refractive errors 32%. Iqbal Y et al reported 62.9% children with refractive errors in his study. This is almost double than our finding.[10] In another study by

Table 1: Age distribution of study subjects.

Age Group	Frequency n (%)
1 - 4	273 (27.3)
5 - 8	272 (27.2)
9 - 12	455 (45.5)
Total	1000 (100)

Table 2: Classification of ophthalmic disorders.

Disease	Frequency n (%)
Refractive errors	322 (32.2)
VKC	219 (21.9)
Squint	124 (12.4)
NLD Block	58 (5.8)
Retinitis Pigmentosa	29 (2.9)
Congenital Abnormalities	
Congenital cataract	231 (23.1)
Congenital Glaucoma	17 (1.7)
Total	1000 (100.0)

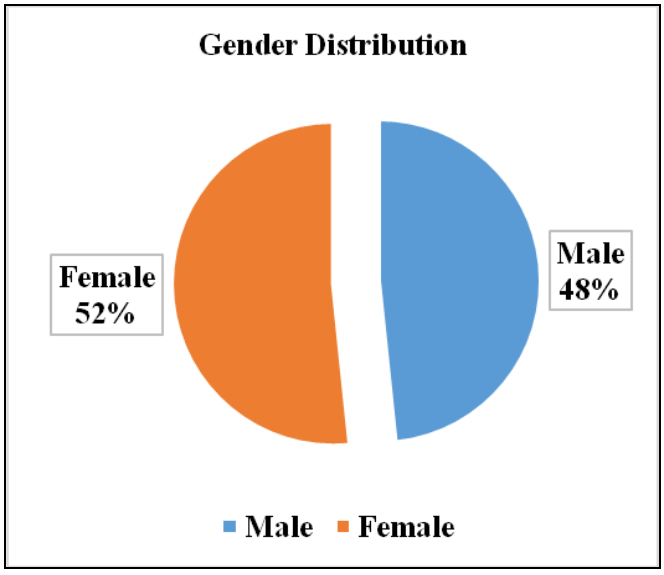

Fig. 1: Gender distribution

Fasih U et al refractive errors were found in 8.11% children. Studies by Sethi et al[8] and Khan et al[11] were also in contrast with our study. Refractive errors were the commonest in children and adolescents. They predominate but their number at OPD clinics varies from day to day.

Second most common ophthalmic disorder in our study was congenital cataract disorder found in 23.1% children. The cataract found in other studies nationally and internationally was not greater than 10%. This high percentage found in our study is due to many factors one of them is that patient's parents pay many visits to OPD clinic before taking decision of surgery. Moreover our society have high ratio of consoganity which is an important risk factor for it.[12]

VKC is a common, prevalent and clinically significant IgE mediated hypersensitivity response. VKC is an immunopathological disease in which the number of mast cells in substantia propria increases. Activation of mast cells by IgE bound receptor crosslinking by allergen promotes the release of several mediators such as histamine, prostaglandins and cytokinase, all of which contribute to the symptoms of VKC. The mast cell is considered to play a pivotal role in producing symptoms and signs of VKC.[13]

Vernal conjunctivitis which is an allergic form of conjunctivitis was very common 21.9% among the study population. Similar 21.1% results were reported by Hassan M et al.[14]

Ajayeoba et al[12] and Iqbal Y et al[10] were in contrast with our study. This disease usually results from allergic materials such as dust. Also chemical conjunctivitis could result from inappropriate instillation of eye drugs from self-medication. This is due to the fact that prescribed drugs are freely dispensed over the counter and the failure of government to control drug distribution. Also traditional eye remedy which had been found to be dangerous is usually on display in open market.[15] Several publications had documented the role of traditional healers and their medications in most African communities and had observed that harmful traditional eye medication could lead to blindness.[16]

Our study shows an alarmingly 12.4% number of patients who had strabismus. Sethi et al[17] found similar results 13.5% in North West Frontier Province. Onakpoya et al[18] found strabismus as 15.9% which is also comparable with our study.

This actually means that a high number of patients are threatened not only by the development of amblyopia and the non development of binocular single vision but also by social condemnation which may have damaging effects on the psychological development of the children that could be more harmful than the visual problem itself.

Congenital glaucoma was found in 1.7% children. Similar results 0.81% were found by Fasih U et al[7] in their study. Sethi et al[8] also found congenital glaucoma in 0.99% children.

The incidence of congenital glaucoma varies among different geographic locations and ethnic groups, with the highest recorded incidence found in the Gypsy population of Slovakia (1:1250), and followed by the general populations of the Middle East (1:2500) and the western nations (1:10,000).[8]

CONCLUSION

Male and female children were almost equally affected with ocular disorder and refractive error was the most common disorder in this study.

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