

Frequency of Common Eye Diseases in Pediatric Outpatient Department of A Tertiary Care Hospital

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Purpose: To determine the frequency of common eye diseases in children attending outpatient department of a tertiary care hospital.

Material and Methods: A total of 186 patients with complaints of reduced vision, redness, itching and watering of eyes were included in this study. Detailed examination was done at Department of Ophthalmology, Abbasi Shaheed Hospital, Karachi. Six months from 1st August 2013 to 31st January 2014. Refraction was performed under cycloplegia. Anterior segment was examined with the help of direct ophthalmoscope and slit lamp. Posterior segment examination was performed after dilating pupil with mydriatic drops using direct and indirect ophthalmoscopes. Intraocular pressure was checked where needed. All information was entered in proforma. Data was analyzed on SPSS 10. Mean and standard deviation were computed for age. Frequency and percentages were computed for categorical variables like conjunctivitis, vernal keratoconjunctivitis, nasolacrimal duct blockage, hypermetropia and myopia.

Results: Frequency of commonest eye disease was conjunctivitis i.e. 41.3% followed by nasolacrimal duct blockage 25.8%, vernal keratoconjunctivitis 16.1%, hypermetropia 9.1% and myopia 7.5%.

Conclusion: The most common eye problem was conjunctivitis. Nasolacrimal duct blockage presented the second most common cause of pediatric ophthalmic disorder. Males were more affected than females.

Key Words: Eye diseases, conjunctivitis, nasolacrimal, keratoconjunctivitis.

Eye diseases are very common in every part of the world and in all age groups they affect quality of life. Frequency of ocular diseases not only varies country to country but also from region to region in the same country. It may be due to environmental, climatic, racial, socioeconomic and literacy factors.¹ The eye diseases that cause visual problems are different in different age groups. In adults most of the visual problems are caused by diabetes, hypertension, and age related cataract but in children congenital and infective problems are more common. Pediatric ophthalmic disorders are important because of their impact on child's development, education, future work and quality of life. Their early diagnosis and initiation of treatment

may reduce the incidence of blindness in later life. In infants and children common eye diseases include conjunctivitis, vernal keratoconjunctivitis, nasolacrimal duct blockage, refractive errors like hypermetropia and myopia. Prompt diagnosis and treatment of these problems is must as they can lead to permanent visual loss in later life.²

Global incidence of conjunctivitis is 42.5%,² vernal keratoconjunctivitis is 27%,³ nasolacrimal duct blockage is 30%,⁴ hypermetropia is 8.4%⁵ and myopia is 6.3%,⁶ An international survey revealed that among 45 million people who were blind in year 2000, 1.4 million were children and unfortunately majority would be living in poorest regions of Asia and Africa.⁶

In Pakistan childhood eye disease remains a significant public health issue as children under 12 years contribute 42% of total population.⁷ Clinically no published data is available on this very important health issue however it has frequently been reported from other regions of the world. This study will help to generate local data and will contribute to evaluate the burden of this problem in our society.

The objective of our study was to determine the frequency of common eye diseases in children attending outpatient department of a tertiary care hospital.

MATERIAL AND METHODS

This study was a Cross Sectional Descriptive Study. It was conducted in the department of ophthalmology, Abbasi Shaheed Hospital, Karachi from 1st August 2013 to 31st January 2014. Sample size calculated was 186⁶ with 3.5% margin of error, 95% confidence interval and proportion of myopia is taken as 6.35. Sampling technique was Non Probability Consecutive Sampling.

Children of 12 or less than 12 years of age, both gender coming to an out-patient department of ophthalmology, Abbasi Shaheed hospital, Karachi with any of these complains like reduce vision, redness, itching and watering of eyes were included. Children having visual impairment due to ocular trauma, history of ocular surgery, using topical or systemic steroid for at least 1 week were excluded from the study. As steroids can mask various diagnostic signs and raise intraocular pressure.

Patients fulfilling inclusion criteria were approached through outpatient eye department of Abbasi Shaheed hospital. Detail history was taken and detail examination was done after obtaining a full informed consent from parents. Refraction was performed under cycloplegia where required. Anterior segment was examined with the help of direct ophthalmoscope and slit lamp. Posterior segment examination was performed after dilating pupil with mydriatic drops using direct and indirect ophthalmoscopes and fundus contact lenses e.g. 90 diopter lens. Squint assessment was done using test for version and ductions, Hirschberg's test and cover-uncover test. Outcome variables like conjunctivitis, vernal keratoconjunctivitis, nasolacrimal duct blockage, hypermetropia and myopia were measured as per operational definitions. All information was entered in proforma.

The collected data was entered in SPSS (version

10) and analyzed. Male to female ratio was computed along with gender distribution. Mean and standard deviation was computed for age. Frequency and percentages were computed for categorical variables like conjunctivitis, vernal keratoconjunctivitis, nasolacrimal duct blockage, hypermetropia and myopia.

RESULT

A total of 186 patients were included in this study. There were 105 (56.45%) males and 81 (43.55%) females. Male to female ratio was 1.29:1. The average age of the children between 1 to 12 years of age was 7.17 ± 2.79 years (95%CI: 6.76 to 7.57) as shown in Table 1.

Twenty seven children (14.52%) were between 1 to 4.9 years, 97(52.15%) were between 5 to 8.9 years of age and 62 (33.33%) were 9 to 12 years of age as presented in Fig. 1.

Frequency of commonest eye disease was conjunctivitis i.e.77 (41.3%) followed by nasolacrimal duct blockage 48 (25.8%), vernal keratoconjunctivitis 30 (16.1%), hypermetropia 17(9.1%) and myopia 14 (7.5%) as presented in Table 2.

All of these diseases were slightly more common in boys than girls Table 3.

Table 1: Descriptive statistics of age of the children.

Male	105 (56.45%)
Female	81 (43.55%)
Mean age	7.17 ± 2.79
Minimum age	1
Maximum age	12

DISCUSSION

Pediatric ophthalmic disorders are important because of their impact on child's development, education, future work, opportunities and quality of life. The global prevalence of blindness is 0.78/1000 and there are estimated 1.5 million blind children. Approximately 500,000 children becoming blind every year, one every minute and half of them die within one to two years of becoming blind. In Pakistan childhood eye disease remains a significant public health issue as children under 12 years contribute to 42% of total population.⁷ According to an international

survey among 4.5 million people who were blind in year 2000, 1.4 million were children. Unfortunately majority of them reside in poorest region of Asia and Africa.⁶

Table 2: Frequency of common eye diseases in children (N = 186).

Common Eye Disease	Frequency n (%)
Conjunctivitis	77 (41.3)
Nasolacrimal Duct Blockage	48 (25.8)
Vernal keratoconjunctivitis	30 (16.1)
Hypermetropia	17 (9.1)
Myopia	14 (7.5)

Table 3: Frequency of common eye diseases in children with respect to gender (n = 186).

Common Eye Disease	Male n = 105 n (%)	Female n = 81 n (%)	Total
Conjunctivitis	40 (38.1)	37 (45.7)	77
Nasolacrimal Duct Blockage	27 (25.7)	21 (25.9)	48
Vernal keratoconjunctivitis	19 (18.1)	11 (13.6)	30
Hypermetropia	9 (8.6)	8 (9.9)	17
Myopia	10 (9.5)	4 (4.9)	14

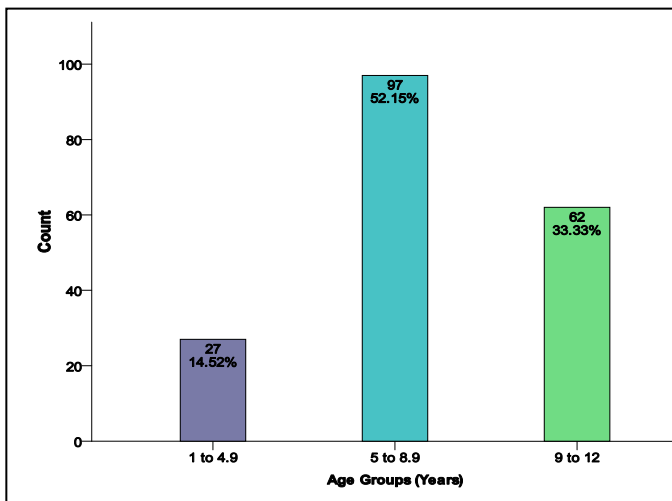


Fig. 1: Age distribution of the study children (N = 186).

In present study frequency of commonest eye disease was conjunctivitis i.e. 77 (41.3%) followed by nasolacrimal duct blockage 48 (25.8%), vernal keratoconjunctivitis 30 (16.1%), hypermetropia 17 (9.1%) and myopia 14 (7.5%). In Sethi et al study² Conjunctiva was involved in 42.5%, vernal keratoconjunctivitis was 35.6% children followed by refractive errors involving 12.8% children.

In a survey among school children aged 6-10 years in South Africa revealed a prevalence of vernal keratoconjunctivitis to be 11.8% in boys and 8.3% in girls.¹⁰ Corneal diseases accounted for 4.9% of pediatric ophthalmic disorders¹¹. Refractive errors which account mostly for low vision and visual handicap are the third largest cause of curable blindness in Pakistan¹². In one study it was found out that refractive errors account for 8% cases of uniocular blindness in North West Frontier Province¹³. Squints accounted for 11.8% of the pediatric ophthalmic disorders. There is variability in the prevalence of hypermetropia worldwide, from 0.7% in rural India¹⁴, 21 to 21.6% for 5-7-year olds in Chile.¹⁵

In this study myopia was high among boys. Ojaimi et al,¹⁶ also studied school children in Australia and found an overall myopia prevalence of 1.4%. They found a significant difference between white European children (0.79%) and those belonging to other ethnicities (2.73%). In another Polish study in semirural population of children, the prevalence of myopia was slightly higher: 11.3% in those aged 10 years to 14.4% in those aged 12 years.^{17,18}

The pattern of underlying causes of childhood blindness varies considerably between developed and developing countries. In industrialized countries the main cause of childhood blindness are cataract, glaucoma, retinopathy of prematurity, genetic diseases and congenital anomalies. In developing countries blindness in children is usually caused by conditions which cause scarring of the cornea such as vitamin A deficiency, measles, infection, conjunctivitis of newborn and harmful traditional eye practices. All of these are preventable causes of blindness. We need to work on elimination of those causes in collaboration with government and private sector, also by creating awareness among masses.

CONCLUSION

The leading causes of eye diseases in children coming to eye OPD were conjunctivitis followed by nasolacrimal duct blockage, vernal keratoconjunc-

tivitis, hypermetropia and myopia. Males were more commonly affected than females.

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