



Original Article

Pattern of Eye Diseases in Children Visiting Ophthalmology Outpatient Department in Government Medical College Jammu: An Observational Study

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Abstract

Background: Ocular morbidities in children can have a serious impact on development, education and quality of life in children hence require prompt attention. The aim of the present study is to identify the pattern and frequency of eye diseases in children ≤ 16 years of age visiting eye OPD at GMC Jammu.

Materials and Methods: We conducted an observational and retrospective study involving all the new cases presenting to the outpatient department over a 6-month period from 1st November 2018 to April 30th, 2019. 1310 children of ≤ 16 years of age who presented to Out Patient Department (OPD), Department of Ophthalmology, Government Medical College (GMC), Jammu were enrolled. The children were divided into three groups: 0-5 years, 6-12 years and 13-16 years for evaluating the various ocular diseases in different age groups. Routine ophthalmic examination including the Snellen's chart, refraction, tonometry, slit-lamp examination of the anterior segment and fundus examination was done. Data on age, sex, final diagnosis was recorded after taking the verbal consent and analysed in detailed.

Results: A total of 1310 patients were seen during this period, out of which 708 (54.04%) were males and 602 (45.95%) were females. Refractive error was most common ocular problem found in 422 (32.21%) children. It was followed by allergic conjunctivitis 318 (24.27%) children and infectious conjunctivitis 208 (15.88%). Other common cases of ocular morbidity were squint 107 (8.17%), adnexial diseases which include blepharitis, ptosis, stye and chlazion 81 (6.1%), nasolacrimal duct obstruction 73 (5.57%), ocular injuries 28 (2.14%), amblyopia 16 (1.22%) and congenital cataract 12 (0.91%). Also, optic atrophy 8 (0.61%), orbital cellulitis and preseptal cellulitis 4 (0.30%), coloboma 5 (0.38%), vitamin A deficiency 3 (0.23%) and infectious keratitis 3 (0.23%) were detected in children in our study. Case of congenital glaucoma and uveitis were reported in one patient each (0.08%).

Conclusion: The pattern of eye diseases varies according to the climatic conditions, state of nutrition, hygiene, immune state of the patient and early diagnosis and treatment. It was found that majority of the diseases were treatable and early intervention should be done. Our study will be helpful in planning, management, and prevention of blindness.

Keywords: Ocular morbidity, pattern, ocular morbidity, Refractive errors.

Introduction

Estimated 19 million children worldwide have visual impairment of whom 1.26 million are bilaterally blind. In terms of percentage, three percentage of the world's blind population are children. Childhood blindness is second cause of blind years after cataract.¹

Vision is important for a child's development during infancy and early childhood and later on for learning and communications. Visual impairment in early childhood can affect the normal growth and development of a child as almost three-fourth of a child's early learning is acquired through vision.¹

The causes of childhood eye diseases resulting in visual impairments is different from region to region and is also influenced by racial, geographic, socio-economic, and cultural factors.² In developing countries infections and malnutrition are the common causes of visual impairment which lead to corneal scarring and neonatal conjunctivitis/ophthalmia neonatorum in children whereas optic nerve lesions, retinal disorders and hereditary factors are the main causes in developed countries. Retinopathy of prematurity (ROP) is an important cause of ocular morbidity in children in middle-income countries. Children who are blind, two-third live in developing countries and about half of them die within 1–2 years of becoming blind.³⁻⁵

Many of the ocular diseases causing childhood blindness are avoidable, being either potentially preventable or treatable.⁶ Preventable causes can be treated at the primary level of health service delivery whereas treatable causes require specialised paediatric ophthalmology units which provides early diagnosis and treatment, referral and follow-up.

A study of the pattern and frequency of ocular diseases is therefore important because as some eye conditions are just cause the ocular morbidity while others may land up in blindness.⁷ In numerous studies, it has been shown that refractive errors, allergic and infective

conjunctivitis are the most common causes of ocular morbidity.^{8,9}

Various studies on the pattern of ocular conditions in developed countries have been conducted where as there is scanty data about the pattern and extend of ocular morbidity in developing countries, particularly for non-vision impairing conditions though these constitute the majority of eye consultations in clinics.¹⁰

Material and Methods

An observational and retrospective study was conducted at Government Medical College, Jammu. The study period was 6 months from 1st November 2018 to April 30th, 2019. All children ≤ 16 years of age, reporting to the Eye outpatient department (OPD) for the first time were included in the study. 1310 children of ≤ 16 years of age who presented to Out Patient Department (OPD), Department of Ophthalmology, Government Medical College (GMC), Jammu were enrolled. The children were divided into three groups: preschool (0-5 years), school going (6-12 years) and older (13-16 years) for evaluating the various ocular diseases in different age groups in whom routine ophthalmic examination including the Snellen's chart and refraction, was done. Detailed anterior segment examination was done by both torch - light and slit - lamp, specially keeping in mind the effects of ocular trauma, vitamin A deficiency, corneal ulcers, strabismus, and trachoma. Intraocular pressure was recorded. Dilated pupil examination was done to see for abnormalities of lens, vitreous, and retina. Ocular USG and laboratory investigations were done when indicated. Only the one main ocular complaints for which patient had come to OPD, was taken. Data on age, sex, final diagnosis was recorded after taking the verbal consent and analysed in detailed.

Results

Our study was conducted in Eye OPD, Government Medical College, in Jammu district, of north India. A total of 1310 children were

included in the study. 708 (54.04%) were male and 602 (45.95%) were female. (Table 1). This showed slight preponderance of different ocular diseases in male as compared to female children. Table 2 demonstrates the distribution pattern of various ocular diseases in different age groups. There were 540 (41.18%) children < 5 years of age, 586 (44.71%) children 6-12 years of age and 184 (14.11%) children 13-16 years in the study group. Majority, that is, 586 (44.71%) of the patients were in the 6-12 years age group. Refractive error was the most common ocular problem (Table 3) detected in 422 (32.21%) children, followed by allergic conjunctivitis in 318 (24.27%) and infectious conjunctivitis in 208 (15.88%) children. 107 (8.17%) were found to be suffering from strabismus. Adnexial diseases including stye, chlamydia, blepharitis and ptosis were found in 81(6.1%) children. Nasolacrimal duct obstruction was found in 73 (5.57%) children. Ocular injuries were found in 28 (2.14%), amblyopia in 16 (1.22%), congenital cataract in 12 (0.9%), optic atrophy in 8 (0.61%), orbital cellulitis and preseptal cellulitis in 4 (0.30%), coloboma in 5 (0.38%), vitamin A deficiency in 3 (0.23%) and infectious keratitis were seen 3 (0.23%) children. Congenital glaucoma and uveitis were found in 1 (0.08%) case each.

Table 1: Sex distribution in the study group

Sex	Number	Percentage
Male	708	54.04
Female	602	45.95
Total	1310	100

Table 2: Age distribution in the study group

Age (years)	Number	Percentage
0-5	540	41.18
6-12	586	44.71
13-16	184	14.11
total	1310	

Table 3: Pattern of ocular disease in the study group

Disease	Number of cases	percentage
Refractive error	422	32.21
Allergic conjunctivitis	318	24.27
Infectious conjunctivitis	208	15.88
Squint	107	8.17

Eyelid diseases	81	6.1
Nasolacrimal duct obstruction	73	5.57
Ocular injuries	28	2.14
Amblyopia	16	1.22
Congenital cataract	12	0.91
Optic atrophy	8	0.61
Coloboma	5	0.38
Preseptal and orbital cellulitis	4	0.30
Vitamin A Deficiency	3	0.23
Infectious keratitis	3	0.23
Congenital glaucoma	1	0.08
uveitis	1	0.08

Discussion

Ocular morbidity in childhood is an important cause of medical consultation. If not treated, it can lead to varying degrees of visual impairment as more than 90% of visually impaired people live in the developing countries.¹¹

Our study found that the most common ocular disease occurring in children were between 6-12 years of age and the most common ocular comorbidity was uncorrected refractive error, as most of the children could tell their problems to the parents/care givers while there is lack of awareness among parents to detect them earlier. Similar results were found in other studies also.¹² However, lower prevalence of refractive errors (4.7-14.3%) have been observed in other studies.¹³⁻¹⁵

It was followed by conjunctival disorders (40.15%) which include both allergic and infectious cause mainly due to adverse climatic conditions and poor hygiene. Higher prevalence (3-17.5%) of allergic conjunctivitis has been reported by various other studies.^{16,17} Though allergic conjunctivitis rarely leads to blindness, but, even as trivial as allergic conjunctivitis, if improperly managed, can lead to blindness. It remains a leading cause of school absenteeism due to its discomfort, chronicity and recurrence.¹⁸

Cataract in children can be congenital or acquired. Children with congenital cataract may present with whitish pupillary reflex, loss of fixation, no response to visual stimuli, squinting or/and nystagmus. Surgical removal of visually significant congenital cataract in children is

recommended as soon as possible otherwise it could lead to amblyopia. Mothers of the children having congenital cataract had a history of malnourishment or infection during pregnancy.

Vitamin A deficiency is the single most common cause of visual impairment and blindness in children in the developing world. About 140 million children have vitamin A deficiency disorders and are at increased risk of blindness and mortality.¹⁹

Ocular trauma is responsible for 28 among 1310 cases in the present study. It is more commonly seen in boys. Worldwide, there is higher frequency of ocular trauma and the major cause of ocular trauma in children includes unsupervised play and use of dangerous objects.²⁰

Conclusion

Our study highlights the epidemiology of pediatric ocular morbidities in the children attending the medical college thereby emphasizing the fact that most of the ocular diseases in children are either treatable or avoidable. Present study provides useful baseline data for planning child health eye care services in a given region and helps in proper and efficient allocation of resources for preventive and control measures of childhood eye diseases.

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