

Pediatric Ocular Morbidity Profile in the Inpatient Department of a Tertiary Health Care Hospital in Goa

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Abstract

Background: Pediatric ophthalmic disorders are seen to occur because of events that occur during prenatal or postnatal period or childhood. Knowledge about causes and prevalence of ocular morbidity in children is vital for planning and evaluation of preventive and curative services for children. This study was undertaken to study the pediatric ocular morbidity profile in the inpatient department of a tertiary health care hospital in Goa.

Methods: A 6 months retrospective study was conducted from January 2017 to June 2017 on all inpatient pediatric population of ophthalmology department in a tertiary health care hospital in Goa. Data was collected from the clinical records which included detailed history and Comprehensive ophthalmic examination findings.

Results: 41 children were admitted during the study period in the Ophthalmology Department of Goa Medical College during the study period. High frequency group was 10-15 years which constituted 43.90%. There were 29 males (70.73%) and 12 females (29.26%). 15 patients had ocular injuries which accounts for 36.58% of all the study population. 14 patients had congenital cataracts which accounts for 34.14% of all the study subjects. Out of all ocular injuries, 10 (66.6%) were open globe injuries, 4 (26.66%) were Closed globe injuries, 1 (6.66%) was due to chemical injury.

Conclusion: Ocular injuries are one of the causes of avoidable blindness and these can be avoided by proper indoor, toy safety measures. The IEC activities should be carried out in schools, on social media, pediatric OPDs regarding availability of preventive and curative services for avoidable childhood blindness.

Keywords: Ocular injuries, Childhood blindness

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I. Introduction

Pediatric ophthalmic disorders are seen to occur because of events that occur during prenatal or postnatal period or childhood.¹ 30% of India's blind population lose their sight before the age of 20 years and this marks the importance of early detection and treatment of ocular morbidity and visual impairment in young children.² 1.4 Million are irreversibly blind for the rest of their lives and therefore need visual rehabilitation interventions for full psychological and personal development.³

Knowledge about causes and prevalence of ocular morbidity in children is vital for planning and evaluation of preventive and curative services for children.⁴ Very few hospital based studies are available on childhood ocular morbidity.

Goa Medical College and Hospital is the only tertiary health care hospital in Goa providing pediatric eye health care services for self reporting patients as well as referred patients from peripheral hospitals. This study was undertaken to study the pediatric ocular morbidity profile in the inpatient department of a tertiary health care hospital in Goa.

II. Methodology

A 6 months retrospective study was conducted from January 2017 to June 2017 on all inpatient pediatric population of ophthalmology department in a tertiary health care hospital in Goa. These patients either reported directly to Goa Medical College or were referred from other peripheral government or private hospitals.

Informed consent was taken from parents and guardians of all patients. All patients from 1 day old to 15 years who were admitted during the study period were included in the study. Data was collected from the clinical records which included following things:

1) Detailed history from parents regarding the time of onset of symptoms, duration and progress, mode of injury if any.

- 2) Comprehensive ophthalmic evaluation was done. Visual acuity using different methods according to the age and intellect was checked. Snellen's chart and logMAR chart were used for children more than 5 years. Kay picture chart was used for children in the age group of 2-5 years. Fixation and ability to follow torch light was used for children less than 1 year.
 - 3) Slit lamp biomicroscopy was used to examine anterior segment of eye.
 - 4) Intraocular pressure was examined using handheld Perkin's tonometer only in cases with suspected high intraocular pressure.
 - 5) Indirect ophthalmoscopy was used to examine the posterior segment of the eye.
- Data was entered and analysed using SPSS version 22.

RESULTS

41 children were admitted during the study period in the Ophthalmology Department of Goa Medical College during the study period. The age range was from 5 months to 15 years. High frequency group was 10-15 years which constituted 43.90%. There were 29 males (70.73%) and 12 females (29.26%). Male preponderance was noted. Childhood Ocular Morbidities among age groups are given in table 1. Sex distribution among different ocular morbidities is given in table 2.

Table 1: Distribution of Childhood Eye diseases among different age groups.

OCULAR DISEASES	0-5 years	5-10 years	10-15 years
OCULAR INJURIES	1	8	6
CONGENITAL CATARACTS	7	1	6
CORNEAL ULCER	-	3	2
OPTIC NEURITIS	1	1	2
TRAUMATIC OPTIC NEUROPATHY	-	-	2
UVEITIS	1	-	-

Table 2: Sex distribution of Childhood Diseases.

OCULAR DISEASES	MALES	FEMALES
OCULAR INJURIES	12	3
CONGENITAL CATARACTS	8	6
CORNEAL ULCER	5	0
OPTIC NEURITIS	1	3
TRAUMATIC OPTIC NEUROPATHY	2	0
UVEITIS	1	0

Ocular injuries were the most common cause of admission among the pediatric population during the study period. It was seen more in the age group 5-10 years followed by 10-15 years. 15 patients had ocular injuries which accounts for 36.58% of all the study population. Injuries were seen more in males than females.

Congenital cataract was the second cause of admission among the pediatric population. 14 patients had congenital cataracts which accounts for 34.14% of all the study subjects. This was common in 0-5 years age group. Slight male preponderance was seen.

Out of all ocular injuries, 10 (66.6%) were open globe injuries, 4 (26.66%) were Closed globe injuries, 1 (6.66%) was due to chemical injury. Among the patients with open globe injuries, 5 were caused by sharps like pen, pencil, 2 were due to stone, 1 was due to trauma with hen beak, 1 was because of injury with a glass piece and 1 was secondary to a dog bite. All 4 closed globe injuries were due to fire crackers.

III. Discussion

The results of our study are expected to provide knowledge about the present causes of visual disability and blindness among children attending at tertiary health care center. In our study ocular morbidities were seen more in males compared to females. The predominance of males in ocular morbidities is also seen in previous studies.⁵ The reason behind this may be that the boys are more involved in outdoor activities than girls.

Ocular injury accounted for 36.58% of all. These were seen commonly in males. The frequency of ocular injuries among children is very high and is a major cause of unilateral non congenital visual impairment and blindness worldwide.^{6,7} Incidence of ocular injuries is high among males in all countries.⁷ A community based study done in Botswana on childhood blindness found ocular injuries as a leading cause of unilateral blindness.⁸ Information, education and communication activities regarding school and home safety measures should be carried out. Children should not be allowed to handle sharp objects and dangerous sharp toys.

IV. Conclusion

Ocular injuries are one of the causes of avoidable blindness and these can be avoided by adopting various protective measures. Majority of ocular injuries are seen in children who are not responsible for their actions. It is recommended that parents and guardians should be educated regarding the preparation of safe

environment for their children. They should supervise their children whenever they are handling objects which are likely to cause dangerous eye injuries. Children less than 3 years should not be given sharp objects to handle. Age appropriate toys should be provided. The IEC activities should be carried out in schools, on social media, pediatric OPDs regarding availability of preventive and curative services for avoidable childhood blindness.

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