A study on ocular morbidities in children aged between 7-18 years attending ophthalmology OPD

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Abstract: Background: Ocular morbidities in children involve a spectrum of diseases that critically impact the development, education and quality of life hence require prompt attention. This study was conducted with an objective to assess the prevalence of ocular morbidity. Method: A hospital based cross-sectional study was carried out from November 2020 to April 2021 among children in age group between 7 to 18 years. Data was collected using a semi-structured questionnaire. Detailed eye examination was done under Slit lamp and visual acuity assessment was done using Snellen’s chart. Children with vision less than 6/6p were subjected to refraction. Posterior segment evaluation was done under slit lamp with 90D and IDO. Results: A total of 120 children (7 to 18 years) were examined in this study. Majority of cases were between 14 to 18 years. 58.3% male and 41.6% female. Common presenting complaints were blurring of vision (28.3%) and headache (11.6%). The common ocular morbidity reported were refractive error (35.83%) followed by the allergic conjunctivitis (19.16%) and infections of the eye and adnexa (15.83%). Prevalence of refractive error was more in children aged between 14 to 18 years. Myopia was the most common refractive error. Conclusion: Most of the ocular morbidities are preventable or treatable. Ocular disorder can be easily identified with a regular eye screening. Moreover, health education for the prevention of ocular morbidity and early presentation to ophthalmology OPD for treatment is essential.

Keywords: Ocular Morbidity, Refractive Error, Myopia.

Introduction

Ocular morbidities in children involve a spectrum of diseases that critically impact the development, education and quality of life. Children are the most precious resource of families. Children represent the family future and their hopes. Blind child is a tragedy for their families. A child whose blindness could have been prevented or cured is an even greater disaster. 40% of childhood blindness is avoidable [1].

Childhood blindness is the second largest cause of blind-person years, following cataract. Globally, approximately 70 million blind person years are caused by childhood blindness. A child eye is not merely a smaller version of an adult eye, the cause of childhood blindness are equally different from adult blindness [2]. India has an estimated 320,000 blind children, more than any other country in the world [3]. In children of age range 5-15 years, the visual impairment is 6.4%, with refractive errors as the major cause [4].

Aim and Objective: Ocular morbidities in children involve a spectrum of diseases that critically impact the development, education and quality of life hence require prompt attention. This study was conducted with an objective to assess the prevalence of ocular morbidity.

Material and Methods

A hospital based cross-sectional study was carried out from November 2020 to April 2021 among children in age group between 7 to 18 years attending ophthalmology OPD in Al Ameen Medical College and Hospital Bijapur. All children in age group between 7-18years attending ophthalmology OPD were included in the study.

Verbal consent was taken from Guardian of study participants. Data was collected using a semi-structured questionnaires and questions were asked in their local vernacular language.
that was understood by children and their parents and the answers were recorded in English. Detailed anterior segment examination was done under Slit lamp and visual acuity assessment was done using Snellen's chart. Children with vision less than 6/6p were subjected to cycloplegic refraction with cyclopentolate 1%, 1 drop of 1% cyclopentolate was put 3 times at an interval of 10 minutes and retinoscopy and auto refraction was performed at 45 minutes. Posterior segment evaluation was done under slit lamp with 90D and Indirect ophthalmoscopy. Post mydriatic test was done after 3 days.

Results

A hospital based cross-sectional study was done in children aged between 7 to 18 years. In our study 58.3% were males and 41.6% females. Common presenting complaints were blurring of vision (28.33%) and headache (11.66%), other reported symptoms were itching (10%), watering (7.50%), discharge (6.66%), Foreign body sensation (5.84%), Pain (5.83%), asthenopia (5%), redness (4.16%), swelling (2.50%), trauma (2.50%), loss of vision (2.50%) (Figure 1).

The common ocular morbidity reported were refractive error (35.83%) followed by the allergic conjunctivitis (19.16%), infections of the eye and adnexa (15.83%), trauma / ocular foreign body (10%), chalazion (2.50%), squint (2.50%), amblyopia (2.50%), eyecheck-up (7.50%), and other rare disorders like retinal detachment, Retinitis pigmentosa, congenital cataract was found to be (4.16%) (Table-1).

Table-1: Frequencies of the Ocular morbidity

<table>
<thead>
<tr>
<th>Ocular morbidity</th>
<th>Number of cases</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive error</td>
<td>43</td>
<td>35.83</td>
</tr>
<tr>
<td>Allergic conjunctivitis</td>
<td>23</td>
<td>19.16</td>
</tr>
<tr>
<td>Infections of eye and adnexa*</td>
<td>19</td>
<td>15.83</td>
</tr>
<tr>
<td>Trauma/ocular foreign body</td>
<td>12</td>
<td>10.00</td>
</tr>
<tr>
<td>Chalazion</td>
<td>3</td>
<td>2.50%</td>
</tr>
<tr>
<td>Strabismus</td>
<td>3</td>
<td>2.50%</td>
</tr>
<tr>
<td>Amblyopia</td>
<td>3</td>
<td>2.50%</td>
</tr>
<tr>
<td>Eye check up</td>
<td>9</td>
<td>7.50%</td>
</tr>
<tr>
<td>Others**</td>
<td>5</td>
<td>4.16%</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

*- Infections Of eye and adnexa include conjunctivitis, hordeolum Internum, hordeslumexternum, blepharitis, keratitis. **Others - Retinal detachment, retinitis pigmentosa, congenital cataract.
Discussion

In our study, males were 58.3% and females were 41.6%. Similar number in gender were also noted in ocular morbidity study conducted by Sahoo JR et al.[5] where 57% were males and 43% females and a study done by Sethi S et al.[6] at Khyber Teaching hospital, Peshawar where 60.6% were males and 39.4% were females. Study by Tuladhar S et al.[7] showed 57.8% male and 42.2% females. In our study, the prevalence of refractive errors was 35.83%. This result was comparable with Sahoo JR et al.[5] who found that refractive error is most common disorder with 34% prevalence. Das et al.[8] and Desai et al.[9] in Jodhpur also reported a similar prevalence of 25.11% and 20.8% respectively.

Allergic conjunctivitis was found to be 19.16%. Similar results were seen in study conducted by Onakpoya OH et al.[10] with prevalence of 17.8%. Whereas low prevalence is seen in study conducted by Singh et al.[11] with prevalence of 1.92% and in study by Lu et al.[12] in China 0.65%. Ntim Amponsah and Ofosu Amaah[13] reported low prevalence of 2 out of 997 children screened. Difference in prevalence of allergic conjunctivitis could be due to different region of study.

Infection of eye and adnexa was found in 15.83% of children. Similar results were found in study by Biswas J et al.[14] with prevalence of 15.13%. This could be due to lack of personal hygiene. Prevalence of trauma and ocular foreign body was 10%. Sahoo JR et al.[5] found that ocular trauma and foreign body was responsible for 9.9% of morbidity and 13.74% in study conducted by Biswas J et al.[14]. Chalazion prevalence was found to be 2.5%. Study by Sahoo JR et al.[5] showed 4.5% prevalence and lower prevalence was found in study by Singh et al.[11] 0.27%, 0.25% prevalence reported by Desai et al.[9] in their Jodhpur based study.

Strabismus was found to be 2.5%. Similar prevalence was seen by Lu et al.[12] (2.49%), Yekta et al.[15] (2.02%), Baltimore vision screening project.[16] (3.1%), Shrestha et al.[17] (3.5%), Gupta et al.[18] (2.5%), Pratap and Lal.[19] (2.87%). Higher prevalence was Chaturvedi and Aggarwal[20] (7.7%). Whereas lower prevalence was seen in studies conducted by Desai et al.[9] (0.21%), Kariapatti eye survey[21] (0.43%), Kalikivayi et al.[22] (0.7%), Ntim Amponsah and Ofosu Amaah[13] (0.2%), Wedner et al.[23] (0.5%), and Nepal et al.[24] (1.63%), Singh et al.[11] (0.27%). Prevalence of Amblyopia in our study was 2.5%. Similarly Prevalence in Study conducted by Preslan[16] Was (3.9%), Sapkota et al.[25] (1.8%), Kalikivayi et al.[22] (1.1%), Lu et al.[12] (1.02%), Singh et al.[11] (0.41%), Wedner et al.[23] (0.2%), Ntim Amponsah and Ofosu Amaah [13] (0.2%).

Conclusion

The children of today are the adults of tomorrow and future of our society. Children are the most important resource for future economic growth of the country. In our study most common cause of ocular morbidity was refractive error, since most of the ocular morbidities are preventable or treatable, Screening programmes should be conducted in schools for early diagnosis and management to prevent further progression and to prevent visual disability. Moreover, health education for the prevention of ocular morbidity and early presentation to ophthalmology OPD for treatment is essential.

Limitations:

- Small sample size.
- Shorter duration of study.
- Future directions: Screening programs should be conducted for early diagnosis and treatment.
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Conflicts of interest: There are no conflicts of interest.

References


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