Prevalence of Horizontal Strabismus in Pediatrics Patients at University Eye Hospital

Shir Mohammad Amirzada

Keywords: Strabismus, Esotropia, Exotropia

Introduction
Strabismus is a clinical condition in which the eyes are not aligned properly and are pointed in different directions when looking at an object. Strabismus is a type of illness that requires medical and surgical treatment. If left untreated, amblyopia will increase the eyes of patients.

Method and Material: The research design was cross-sectional study. The ophthalmology research site was university eye hospital. The total included cases were 1862 Strabismus patients the age was sixteen and under who were referred for examination and treatment of ocular diseases within the prescribed period. Age and sex information were collected from patients’ files were analyzed using Microsoft excel. Patients by age were into four groups (0–1) years, (2–5) years, (6–10) years and (11–16) years.

Result: This study were examined the numbers of (1862) children in the 25 March to 21 September 2019 at the university eye hospital. Including their number of strabismus patients during the study was 3.59%. The average age is 9 years. The number of boys 37 (55.2%) and the number of girls is 30 (44.77%). The most common type of strabismus is the esotropia form (73.1%), exotropia were (26.9%). Alternate strabismus (55.2%), unilateral strabismus (44.8%).

Conclusion: This study shows that the most common type of strabismus was esotropia boys were more affected than girls.

Materials and Methods
The study design is a hospital based descriptive cross-sectional study conducted over a period of six months. The sampling technique used was a consecutive sampling method in which all children with manifest squint attending the OPD-clinic university eye hospital from 25 March to 21 September 2019 were recruited consecutively into this study. The data collected included patients, demographics, age at onset of the strabismus, characteristics of the deviation.

Data Analysis
Examination forms were cross-checked for completeness of data. All data were entered and analyzed using SPSS 25 computer program. The prevalence of exotropia, esotropia, intermittent, strabismus, calculated in percentage and presented in tables and figures as descriptive statistics.

Results
This study were examined the numbers of (1862) children in the 25 March to 21 September 2019 at the university eye hospital. Including their number of strabismus patients during the study was (3.59) percent. The average age is 9 years. The number of boys 37 (55.2 %) and the number of girls was 30 (44.8%). The most common type of strabismus is the esotropia form (73.1%), exotropia were (26.9%). Alternate strabismus (55.2%), unilateral strabismus (44.8%). (Figure 1).
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<table>
<thead>
<tr>
<th>Sex</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>37</td>
<td>30</td>
<td>67</td>
</tr>
<tr>
<td>Percentage</td>
<td>55.2</td>
<td>44.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Figure 1:** Sex distribution at presentation (n=67)
Most of the patients (55.2%) were Male and (44.8%) were Female.

<table>
<thead>
<tr>
<th>Type of horizontal strabismus</th>
<th>Frequency</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Esotropia</td>
<td>49</td>
<td>73.1</td>
</tr>
<tr>
<td>Exotropia</td>
<td>18</td>
<td>26.9</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Figure 2:** Age distribution at presentation (n=67)
Most of the patients (43%) were between (11-16) years of age. The Mean age was 9.0388, Range 15.00, Std. Deviation 4.68165, Minimum 1.00, Maximum 16.00 years.

<table>
<thead>
<tr>
<th>Type of Fixation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unilateral</td>
<td>30</td>
<td>44.8</td>
</tr>
<tr>
<td>Alternate</td>
<td>37</td>
<td>55.2</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Figure 3:** Type of horizontal strabismus distribution at presentation (n=67)
Most of the patients (73.1%) were Esotropia, Exotropia (26.9%).

**Figure 4:** Type of fixation distribution at presentation (n=67)
Most of the patients were Alternate strabismus (55.2%), unilateral strabismus (44.8%).

**Discussion**
This was a cross sectional study conducted among 1865 children with strabismus attending the clinic of the University Eye Hospital. The aim of the study was prevalence strabismus among children in University Eye Hospital. The prevalence of strabismus in this study was 3.59 percent which was similar to the worldwide population based studies show a prevalence of 2-5% [1]. In a Hong Kong study involving (2704) strabismus patients, where males were 46.8% and females 53.2% it was different than that. Esotropia (63.2%) were twice as common as exotropias (34%) [2, 6,7]. In Nigeria and Sudan reported a lower prevalence range of 0.5% to 2.6% [4]. A study published in India found that 9678 children had cross-sectional studies. The prevalence of strabismus is 59 (0.6) percent the proportion of males (55.22%) and females (44.77%) was has been noted. Its similar than that [4]. A study in Nigeria, congenital esotropia and accommodative esotropia constituted 50.0% and 18.8% of cases respectively while, exotropia constituted 31.3% [3]. Although, studies in Cameroon, Hong Kong and Asia have reported more exotropias compared to esotropies [2, 5].

It is slightly less than that. A study in India for males (56.6%) and females (43.4%), it was similar to our study. A study in Nigeria found that exotropia 34 (24%) and esotropia 16 (27.1%).it was different. A study in Nigeria found that 63.3 percent esotropia and 24 percent exotropia were consistent with our study. A study in India and colleagues found that patients between the ages of 3 and 10 were slightly different [4]. It is consistent with our study, a study in Iran found that patients are between the ages of six and 16 years. It was 40 percent female and 53 percent male [8]. It is similar wht our study.

**Study limitations**
1- Information missing on medical records could not be obtained.
2- This study was limited to the one a small hospital

**Conclusion**
This study shows that the most common type of strabismus was esotropia, alternate strabismus were more than unilateral strabismus, boys were more affected than girls.

**Acknowledgements**
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**References**
1. www.slideshare.net/hmirzaee/review-of-strabismus.

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