

Study of Prevalence of Heterophorias in School Children

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Normally the axes of the two eyes remain parallel to each other in all directions of gaze. Disturbances of this parallelism may occur, resulting in squints. Manifest squints are termed heterotropias. Heterophorias are mal-alignments of the visual axes which are kept latent by fusion mechanisms. The effort to maintain the parallelism in the presence of latent squints causes a strain on the extraocular muscles leading to aesthenopic symptoms such as heaviness of eyes, frontal or occipital headaches, diplopia, and, pain in and around eyes. Visual problems occur during the critical period of visual development. Heterophorias can have long term effects on visual acuity, scholastic performance and quality of life of the child. Various studies have reported a prevalence of heterophorias in children to be between 2.8% to 14.6%. Of these children, the incidence of poor scholastic performance has been reported to be approximately. Timely detection and treatment of heterophorias and associated refractive errors has been shown to ameliorate symptoms of aesthenopia.

Objectives

To estimate the prevalence of heterophorias in school children.

To determine the correlation between refractive errors and heterophorias.

Methodology

Study design Prospective, cross sectional, observational study
Material and methods Sample size - 1000 students.

Inclusion criteria

Primary school children between the ages of 6 yrs to 10 yrs.

Exclusion criteria

1. Children with known paralytic / restrictive squints.
2. Children with other ocular congenital abnormalities such as congenital glaucoma, ocular malformations etc.

Methods

A written informed consent of the parents of students will be obtained. The demographic data will be recorded on a prevalidated proforma. History regarding ocular complaints such as eye strain, diminution of vision, frequent lid infections, intolerance to bright light and any other complaint will be noted. History about present and past ocular disorders, any medical or surgical disorders and their treatment, and any family history of refractive error in the siblings will also be noted. All participants will undergo a detailed ophthalmological examination consisting of the following:

1. Distant visual acuity recorded by Snellen's chart.
2. Hirschberg's test to determine the presence or absence of any manifest strabismus.
3. A cover-uncover and alternate cover tests will be performed to determine the presence of strabismus.
4. Ocular movements will be tested in all cardinal directions of gaze. Implications: Timely detection and treatment of heterophorias and associated refractive errors will help in preventing asthenopia and improvement of scholastic performance of school children.