

Anisometropia in the 5th and 6th school years

A F Nunes^{1,2}, A S Nunes^{1,3}, P Monteiro^{1,2}, C R Martins⁴, H Forte⁴

¹Universidade da Beira Interior

²Centro de Investigação em Ciências da Saúde (CICS)

³Núcleo de Estudos em Ciências Empresariais (NECE)

⁴Unidade de Saúde Pública (USP)-Agrupamento de Centros de Saúde Cova da Beira (ACeS CB)

Email: amnunes@ubi.pt

Introduction

Anisometropia is characterized by a refractive inter ocular difference greater than 1.00 dioptre (D). It is the main cause of amblyopia and loss of binocular vision. Its prevalence depends on several factors, being different values in different geographical areas of the world and in different age groups.

Objectives

To estimate the frequency of anisometropia in children of the 2nd cycle of Basic Education.

Methodology

A total of 519 children attending the 5th and 6th school years, from Covilhã schools, from urban and rural areas, aged between 9 and 14 years (10.8 ± 0.8 years) were enrolled in the study. The refractive error was measured with a paediatric auto refractometer (Plusoptix), without cycloplegic and in binocular conditions. Anisometropia was defined as the inter ocular difference in spherical equivalent or cylindrical, greater than 1.00 D and a separate analysis for values greater than 2.00 D.

Results

The sample was symmetrically divided into genders (50.9% Male), between school grade (53% 5th year) and higher in urban areas (70.1%). The prevalence of anisometropia with cut-off points of 1.00 D and 2.00 D was 12.3% and 5.0%, respectively. There was a higher prevalence among males, in rural areas and in 6th grade. The Chi-square test (χ^2) shows that the difference is statistically significant only between years of schooling, with a higher prevalence in the 6th grade ($p=0.001$).

Conclusion

There was a slightly higher prevalence of spherical and cylindrical anisometropia (5% and 12.3%) than is reported in the literature (rates between 4.4% and 9.4%). The 6th school year presented rates significantly higher than the 5th year, which points out that anisometropia increases with age, as was also advocated by other authors. Visual screening programs in adolescence for the detection of anisometropia are fundamental, since their timely correction allows to safeguard the binocular vision.