Frequency of anisometropia in children in the Médio Tejo

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Introduction:
Anisometropia is a difference in refractive error in the two eyes of an individual. It is often associated with amblyopia, both in the presence of and in the absence of strabismus. Its revalence depends on several factors, different values being found in different geographical areas of the world and in different age groups.

Objectives:
This study intends to estimate the frequency of anisometropia in 5-year-old children in the center of Portugal (Médio Tejo).

Methods:
A total of 2191 children were screened in the kindergartens of the 13 municipalities belonging to the Middle Tagus region between October 2016 and June 2018. Refractive measures were obtained with a portable pediatric auto refractometer PlusOptix under binocular conditions. Data was excluded from children where it was not possible to obtain measurement, either because of ametropia exceeding the measurement limit of the device or for other issues such as lack of cooperation of the child. The final sample had 2131 children, of which 51.71% were male. Anisometropia was identified when the difference between the eyes, the spherical equivalent and / or the cylinder for any axis, $\geq$ 1.00D.

Results:
A rate of 6.85% of anisometropia was found, with an identical distribution between genders. When the geographic space in which the school they attend was inserted, there was a correlation between urban space and anisometropia, with spherical equivalent anisometropia being more frequent in urban space.

Conclusions:
Given that anisometropia is a risk factor for amblyopia during early child development, early detection and appropriate intervention is critical to prevent permanent loss of binocular vision.