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### **Prevalence and Causes of Visual Impairment in Low-Income Urban School-Age Children of Sao Paulo, Brazil.**

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**Purpose:** To assess the prevalence and causes of visual impairment in low-income school-age children in Sao Paulo City by using an adapted protocol for refractive error study in children (RESC) developed by the World Health Organization/National Eye Institute.

**Methods:** The study population consisted of children from 5th to 8th grades from public schools from the districts of Ermelino Matarazzo, Vila Jacui and Sao Miguel. Random selection of schools from the four school grade levels was used to identify the study sample. Children from 9 schools were examined from April to November 2005. The examination included visual acuity (VA) testing; ocular motility for near and distance; examination of the external eye, anterior segment and media. Cycloplegic auto-refraction, cycloplegic subjective refraction and fundus examination were performed in children with uncorrected visual acuity 20/40 or less in either eye. An ophthalmologist assigned a principal cause of visual impairment for eyes with uncorrected visual acuity 20/40 or worse. Refractive error was assigned routinely if acuity improved to at least 20/32 with refractive correction or with pinhole testing.

**Results:** A total of 2,757 children were enumerated and 2,376 (86.2%) were examined. Prevalence of uncorrected, presenting, and best-corrected VA  $\leq$  20/40 in the better eye was 4.7%, 2.8%, and 0.4%, respectively. Cycloplegic auto-refraction and subjective refraction was performed in 213 (9.0%) children. Fifty-two percent of those who could achieve acuity  $\geq$ 20/32 in at least one eye with best correction were without the necessary spectacles. Refractive error was the cause in 79.8% of eyes with reduced vision; amblyopia, 6.9%; retinal disorders, 4.8%; other causes, 2.4%; and unexplained causes, 5.4%.

**Conclusions:** The prevalence of reduced vision is low in this sample of low-income urban school-age Brazilian children, most of it because of uncorrected refractive error. Cost-effective strategies are needed to eliminate this easily treated cause of vision impairment.