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Prevalence of refractive error among Indian school children in Kuala Lumpur

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Refractive error is one the universal causes of visual impairment among children that affect a large percentage of the population worldwide. It is also known that uncorrected refractive error can lead to problem in learning to read which might eventually affects the academic performance in later stage of life. Hence, understanding the prevalence of refractive error is important to prevent academic problems. However, studies on prevalence of refractive error in Malaysia are scarce. Therefore, this study is believed to provide useful data on current refractive error among primary school Indian children in Kuala Lumpur. A total of 2275 Indian schoolchildren 7-11 years of age were selected for this cross-sectional study out of which 1462 children were examined, which gave a participation rate of 64.3 %. The subjects consisted of 733 (50.1%) boys and 729 (49.9%) girls. Non-cycloplegic autorefraction was used to determine refractive error. Myopia was defined as a spherical equivalent (SE) of 1.00 dioptre (D) or worse, hyperopia as a SE of +0.50 D or more, and astigmatism as cylindrical power equal to or worse than 0.75 DC. The prevalence rates of myopia, hyperopia and astigmatism were 31.0%, 7.8% and 46.8% respectively and were all not related to gender. The prevalence of anisometropia and antimetropia were 0.5% and 7.3%, respectively. Myopia was the most common type of refractive error found in this population. It is evident that Kuala Lumpur Indian school children have a substantially lower prevalence of hyperopia than do Western children, which could reflect trends for earlier development of myopia in them.

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