



## ABSTRACT

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| <b>Title of Abstract</b>     | : Refractive Errors and Sociodemographic Characteristics of Malaysian Children from Low-Income Families: V4E 2023 Findings  |
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**Background** : Refractive errors are a leading cause of childhood visual impairment, with children from low-income families facing substantial barriers to eye care that often result in delayed diagnosis and correction. The Vision for Education (V4E) Program was established to improve refractive error management by providing free corrective glasses to underprivileged Malaysian children.

**Objective** : To describe sociodemographic characteristics and types of refractive errors among children and adolescents from low-income families participating in the V4E program.

**Research Methods / Implementation Methods** : This retrospective observational study analyzed data from 1,418 participants aged 0–17 years collected through the V4E database. Screenings were conducted across 66 centres—including schools, public hospitals, and university hospitals—in 14 Malaysian states. Demographic variables included age, gender, number of dependents, and household income. Refractive errors were categorized as mild, moderate, or severe.

**Results** : The mean age was  $10.0 \pm 3.8$  years, with balanced gender distribution (51% male; 49% female). The mean household income was RM2,713, with primary and secondary incomes averaging RM1,300 each. Most participants were from Kuala Lumpur (21%), Negeri Sembilan (21%), and Sabah (14%). Mild refractive error was the most common diagnosis (34%), followed by moderate (11%) and severe (<2%). Astigmatism was the most prevalent condition (64%), followed by myopia (38.4%) and hyperopia (24.6%).

**Conclusion / Lesson Learned** : The V4E program successfully reached underserved children across Malaysia and identified a considerable burden of correctable refractive errors. These findings highlight the need for sustained, equitable vision screening and subsidized optical correction to support educational access among socioeconomically disadvantaged children.

**Keywords** : Refractive error; Vision screening; Lower socioeconomic status.