

ABSTRACT

Visual Status and Prevalence of Refractive Error among Preschool Children from Amblyopia and Vision Impairment Screening (AVIS) Programme in Kota Kinabalu

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Introduction: Vision is an important requirement for learning and plays a critical role in the development of a child during the first three years of life. Little is known regarding the extent of visual impairment amongst preschool children in Sabah. **Objective:** To determine visual status among preschool children in Kota Kinabalu and to determine prevalence of refractive error among children who were referred by the programme. **Methodology:** A retrospective cohort study of clinical records was conducted at Department of Ophthalmology, Hospital Queen Elizabeth, Kota Kinabalu, Sabah from May to September 2017. Criteria for failed vision were VA 6/12 (0.3 LogMar) or worse. All records of referred children were selected for prevalence of refractive error. Data collected include basic demographic data, visual acuity and refractive error. Myopia was defined as spherical equivalent (SE) ≥ -1.00 DS, hyperopia SE $\geq +3.00$ DS and astigmatism ≥ -1.50 DC. **Results:** A total of 192 children age 4 to 6 years old were screened, comprised of 102 (53.1%) male and 90 (46.9%) female (mean age: 5.81 ± 0.41 years). Of the 192 students, 39 (20.3%) of them failed vision screening. Among the 39 children, only 17 children came for further eye assessment. Twelve (70.6%) of them had a binocular visual impairment (VI) while 5 (29.4%) children had monocular VI. Six years old children were found to have VI more compared to other age groups ($n= 14$, 82.4%) and majority of this age group having binocular VI ($n = 10$, 83.3%). Mean SE was -0.60 ± 0.94 . Astigmatism is the

commonest type of refractive error found with a prevalence of 41.4% followed by myopia, 27.6%. **Conclusion:** This study was the first attempt to investigate the visual status among

preschool in Kota Kinabalu. As most children were found with astigmatism, early detection of significant refractive error could help to minimize the effect of VI.