

Visual Health and Its Relationship with Screen Time Among School Children

A Cross-Sectional Study in Sarawak, Malaysia

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Abstract—This study intended to determine visual health of the school children and investigate its relationship with screen time. This was a school-based cross-sectional study using multistage cluster sampling. A self-reported and interviewer-administered questionnaire were used to compile screen time information. Children presenting visual acuity was evaluated with Snellen chart and non-cycloplegic refraction was performed to those acuities worse than 6/12. Data analysis was performed using SPSS version 22. A p-value ≤ 0.05 with 95% CI was considered as statistically significant. About 87% children had normal or near normal visual acuity and 13% had visual impairment. The prevalence of refractive error was 22.8%. Astigmatism was the most prevailing type of refractive error, 10%. The children spent on average of 13.82 hours per week on screen time. Television is the most popular electronic devices. Boy spent more time on gaming consoles than girl. There was no statistically significant relationship between refractive error and screen time ($p=0.581$). The prevalence of refractive error among school children was 23%. The children spent nearly 14 hours per week on screen time. There was no statistically significant relationship between refractive error and screen time. Periodical children vision screening is paramount for early detection of vision impairment and provide possible intervention.

Keywords—screen time, refractive error, visual impairment

1 Introduction

The evolution of digital electronic devices had invaded into our daily life. Millions of children use screen-based devices on a daily basis for recreation and education purpose, either at home or school. Today's children growth is immersed in screen-based electronic devices due to the advancement of technology. Excessive use of electronic devices could hinder the children's eyes growth, bones development and interpersonal skills as well as leading to a sedentary lifestyle [1].