# Prevalence of reduced visual acuity and its association with usage of digital devices among A/L students in the Jaffna Educational Division

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**Background:** Visual impairment has become a global challenge especially in developing countries due to the changing patterns of visual input associated with the use of modern educational media and tools, urbanization, and sedentary life style. The present study was undertaken to determine the prevalence of reduced visual acuity and its association with the usage of digital devices among Advanced Level (A/L) students in Jaffna Educational Division, northern Sri Lanka.

**Methods:** A descriptive cross-sectional study was carried out among A/L students in Jaffna Educational Division. Single-stage cluster sampling was used for data collection. A self-administered questionnaire was used to assess digital eye strain and the Snellen chart was used to measure visual acuity. Data were analyzed using SPSS (Statistical Package for Social Sciences) v.21. Percentages and proportions were used to describe the data. Chi-square test was applied to assess the influence of digital eye strain on visual acuity. P value <0.05 was considered significant.

**Results:** The prevalence of reduced visual acuity (<6/6) was detected to be 19.6%. Reduced visual acuity was more prevalent among males (21.6%) than females (17.0%).With respect to daily usage of digital devices, 34.4% watched television,6.0% used a computer, and 47.9% used a laptop for more than 2 hours continuously. Among mobile device users, 36.6% participants used a mobile phone and7.4% participants used a tablet for more than 2 hours continuously. When considering weekly usage, 20.4% watched television, 6.9% used a computer, 7.0% used a laptop,18.6% used a mobile phone, and 5.9% used a tablet only on weekdays. Meanwhile, 43.9% watched television, 17.0% used a computer, 22.9% used a laptop, 19.7% used a mobile device, and 7.4% used a tablet on weekends. A substantial proportion used digital devices throughout the week with television use at 29.1%, computer useat 4.6%, laptop use at 33.1%, and tablet use at 6.9% throughout the week. There was a significant association between reduced visual acuity and digital eye strain (p<0.001).

**Conclusion:** About a fifth of the A/L student population were found to have reduced visual acuity, which was associated with digital eye strain. As the Snellen chart is a screening test with questionable validity and reliability, these findings merit further study. Meanwhile, parents should be made aware of the possible public health consequences of digital eye strain.

**Key words: adolescents**, reduced visual acuity, digital devices