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Reduction of screen induced myopia by parental interventions

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Background: Excessive use of digital devices, including smartphones and tablets, has been shown to increase the risk of myopia in children. Gaps persist in understanding parental attitudes towards handheld screen use and effective interventions guiding eye health policies. This study examined the associations between parental behavior related to myopia and children's handheld screen use.

Methods: Data obtained from 395 parents of pre-adolescents (Mean age 10.63; SD 1.09) were used, collected from an online community panel. Parents reported on various behavioral determinants related to myopia and their child's screen time: knowledge, attitude, risk perception and self-efficacy. They reported on their child's frequency and amount of screen use. Logistic regression analysis was used to assess associations between variables, using parental efforts to reduce screens as outcome measure.

Results: Of the 395 participating 9-12 year-olds, 73.4% of the children spent up to two hours a day on recreational handheld screens, 26% more than two hours. Of the parents surveyed, 28.1% perceived the risk of screen-induced myopia as significant, prompting 62.6% of them to take active measures to minimize screen time. The more knowledge parents had on child myopia the more they attempted to reduce screen time (OR = 2.57; 95% CI [1.57-4.19], $p = <.001$). Moreover, a more negative attitude towards screens was significantly related to attempting to reduce screen time (OR = 1.26; 95% CI [1.17-1.35], $p = <.001$).

Key messages:

- These findings emphasize a need to address parental knowledge and attitude towards myopia and screen time reduction.
- We recommend increasing knowledge, influencing attitude and searching for alternatives as a part of behavioral change strategies.