

Commentary: Behavioral changes in school-going children during the COVID-19 pandemic

In response to the COVID-19 outbreak, the Indian government had imposed an early and precautionary nationwide lockdown in March last year. This made the education of school-going children come to an abrupt standstill. After a few hiccups in the initial months, almost all government and private schools established online education as a norm. As children had to opt for electronic education, children got glued to digital devices. In addition, they consumed more digital media because of boredom and to seek COVID-19-related information. The downside of online learning and excessive screen time started showing its consequences in digital eye strain and adverse effects on children's mental health.^[1-3]

Even before the effects of the COVID-19 lockdown were published, the impact of health-related issues and isolation on children was well documented. Past experiences have told us that those who had been quarantined even for other illnesses such as the SARS have generally reported a high prevalence of symptoms of psychological distress, including emotional disturbance, depression, stress, low mood, irritability, insomnia, and post-traumatic stress symptoms.^[4] Quarantine also leads to obesity and worsening of sleep patterns, which in turn has a negative effect on the mental health of children and adolescents.^[5,6]

Like any other disease that necessitates isolation, the COVID-19 had a detrimental effect on children's lifestyles. An increase in indoor activity and a decrease in outdoor activity were understandable. In addition, the COVID-19 lockdown led to an increase in the use of digital devices.^[1-3] The availability, accessibility, necessity, and utility of these devices increased. A survey showed that 72.9% of study participants felt that getting through quarantine would have been more difficult if they had no electronic gadgets.^[3] For children and adolescents, the increase in digital device use is even more damaging. Often the use in children is unmonitored, and children are more vulnerable to negative screen time. Indian data has suggested that the average time spent in front of digital devices was 3.9 ± 1.9 hours, with 36.9% of children spending >5 hours on digital devices in the COVID-19 era compared to 1.8% of children before the COVID-19 era.^[2]

The study by Saxena *et al.*^[7] on the present issue raises awareness of how the COVID-19 pandemic has increased the screen time and hence increased myopiogenic risk factors in children aged 9–14 years.^[7] The guidelines about the optimum hours a child should be given access to these devices were disregarded during the pandemic. The only study from our country provides us evidence and certification of the lifestyle modifications caused by the pandemic in children. The increase in time spent on these devices measured as hours per week in comparison to the time spent outdoors is documented well in the study. The authors noted a 69% jump in the digital screentime with a decline in outdoor activity. The rural-urban divide and their asymmetric predisposition towards digital devices are much more apparent in the study.

However, some aspects of the study need our attention. The responses in the survey were compiled from a questionnaire by parents. There is a possibility that because parents were also confined to their homes during the COVID-19 pandemic, the parents' sense of their child's indoor confinement heightened. This could have introduced some bias in their answers. In a similar study from China, 95% of the parents were concerned and anxious about their children's eyesight due to online education.^[8] Parental practices with an affected family member with COVID-19 AND HOW that influenced the child's time spent outdoors can also be studied. Moore *et al.*^[9] added some questions about leisure versus educational screen time, sleep patterns, and family movement behaviors, which might guide us to mitigate the negative effects of quarantine. Another limitation of the study is the effect of the pandemic on children who are preschoolers. The impact of increased near work and increased screen time in the first few years of life can negatively affect intellectual and brain development. The effect of digitalization in the first three to four years of life and its impact on the eye is yet unknown. Moreover, we need comprehensive assessments in the younger age group (less than 6 years). These children might have been protected from the virus by staying indoors, but the effect on visual acuity later in life is yet to be known. Moreover, we are ignoring the collateral "psychological" side effects of the stress related to the disease and the quarantine itself.

Children have steeper growth curves, and they might get more affected by these myopic environmental triggers. The need is to educate the older children, give them as much information as possible, and teach them the ergonomics of screen usage. For younger children, screen time should be a minimum till we establish otherwise. Parental co-participation, encouragement, and support are invaluable.^[10] Digital detox is being propagated by medical professionals and should be kept in mind by policymakers. Public health officials can implement safe distances while families engage in outdoor activities. We do not yet know whether the digital detox will revert and negate the "quarantine myopia."^[11] Till the time we have clear answers with post confinement parameters, there should be restricted indoor and digital activities for children in all age groups. A balance between disease prevention and health promotion is essential.

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References

1. Ganne P, Najeeb S, Chaitanya G, Sharma A, Krishnappa NC. Digital eye strain epidemic amid COVID-19 pandemic-A cross-sectional survey. *Ophthalmic Epidemiol* 2021;28:285-92.
2. Mohan A, Sen P, Shah C, Jain E, Jain S. Prevalence and risk factor assessment of digital eye strain among children using online e-learning during the COVID-19 pandemic: Digital eye strain among kids (DESK study-1). *Indian J Ophthalmol* 2021;69:140-4.

3. Ali A, Siddiqui AA, Arshad MS, Iqbal F, Arif TB. Effects of COVID-19 pandemic and lockdown on lifestyle and mental health of students: A retrospective study from Karachi, Pakistan. *Ann Med Psychol (Paris)* 2021. doi: 10.1016/j.amp. 2021.02.004. Online ahead of print.
4. Chau SW, Wong OWH, Ramakrishnan R, Chan SS, Wong EK, Li PY, *et al.* History for some or lesson for all? A systematic review and meta-analysis on the immediate and long-term mental health impact of the 2002-2003 Severe acute respiratory syndrome (SARS) outbreak. *BMC Public Health* 2021;21:670.
5. Rundle AG, Park Y, Herbstman JB, Kinsey EW, Wang YC. COVID-19-Related school closings and risk of weight gain among children. *Obesity (Silver Spring)* 2020;28:1008-9.
6. Pietrobelli A, Pecoraro L, Ferruzzi A, Heo M, Faith M, Zoller T, *et al.* Effects of COVID-19 lockdown on lifestyle behaviors in children with obesity living in Verona, Italy: A longitudinal study. *Obesity (Silver Spring)* 2020;28:1382-5.
7. Saxena R, Gupta V, Rakheja V, Dhiman R, Bhardawaj A, Vashist P. Lifestyle modification in school-going children before and after COVID-19 lockdown. *Indian J Ophthalmol* 2021;69:3623-9.
8. Zhao Y, Guo Y, Xiao Y, Zhu R, Sun W, Huang W, *et al.* The effects of online homeschooling on children, parents, and teachers of grades 1-9 during the COVID-19 pandemic. *Med Sci Monit* 2020;26:e925591.
9. Moore SA, Faulkner G, Rhodes RE, Brussoni M, Chulak-Bozzer T, Ferguson LJ, *et al.* Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: A national survey. *Int J Behav Nutr Phys Act* 2020;17:85.
10. Ozturk Eyimaya A, Yalçın Irmak A. Relationship between parenting practices and children's screen time during the COVID-19 pandemic in Turkey. *J Pediatr Nurs* 2021;56:24-9.
11. Klaver CC, Polling JR, Enthoven CA. 2020 as the year of quarantine myopia. *JAMA Ophthalmol* 2021;139:300-1.

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