School from home turned out to be not so fun?!

Author: **Dr Margi Thakkar** (2nd Year Resident, C.H. Nagri Eye Hospital)

Co-authors: **Dr Nidhi Patel** (2nd Year Resident) , **Devanshi Dalal** (2nd Year M. Optom student), **Dr Reema Raval** (Associate Professor), **Dr Kintu Shah** (Assistant Professor), C.H. Nagri Eye Hospital

ABSTRACT

Purpose: To study the effect of increased screen time in children during the COVID-19 pandemic on onset and progression of refractory errors.

Method: A cross sectional study of 25 cases was made to see the onset and progression of refractory errors in school going children over a period of 6 months, taking into consideration their daily screen time during the lockdown period of COVID-19.

Results: The average screen time of 25 case students was found out to be 4.3hours/day. Out of them new onset myopia was seen in 5 cases, an average progression of myopia of 0.89D was seen in 16 cases, and 4 cases of hypermetropia were found to have a myopic shift. Out of these 25 cases, 7 cases were also found to have a progression of 0.69D of astigmatism along with myopia.

Conclusion: Excessive screen time as compared to the WHO guidelines for children, increased near work and reduced outdoor activities due to national school closure in the COVID-19 pandemic were found to have an effect on both onset and progression of myopia. Awareness regarding this issue must be raised amongst parents and teachers. Interventions aiming to foster appropriate screen time habits for children should be taken.

INTRODUCTION

Refractive errors are common among school children and are the second leading cause of treatable blindness.

The Coronavirus (COVID-19) pandemic has alarmed the world and led to laws and policies including national school closures, lockdown and social distancing recommendations. While dealing with the pandemic, the impact of increased digital screen time secondary to lockdown and virtual classes has largely been unnoticed.

In this study we have tried to see the effects of the COVID-19 pandemic lockdown measures on the learning environment of children.

AIM AND OBJECTIVE

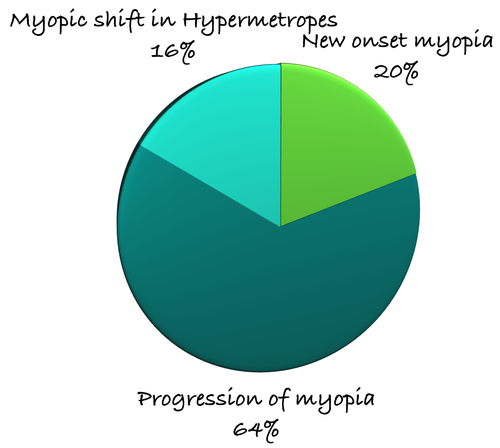
To study the effects of increased screen time in children during the COVID-19 pandemic on onset and progression of refractory errors.

METHOD

- Study Type : Cross Sectional
- Sample Size : 25
- Period of study : 6 months
- The daily screen time of school children was taken into consideration.
- Examination was carried out by studying the refractive errors in school aged children presented to our tertiary health centre in Ahmedabad.

RESULTS

- The average screen time of 25 case students was found out to be 4.3hours/day.
- Most common symptoms were found to be burning sensation, tired eyes, redness and itching.
- Out of the 25 cases, new onset myopia was seen in 5 cases, an average progression of myopia of 0.89D was seen in 16 cases, and 4 cases of hypermetropia were found to have a myopic shift.
- Out of these 25 cases, 7 cases were also found to have a progression of 0.69D of astigmatism along with myopia.
- Further it was also seen that new onset myopia was mainly seen in cases with screen time more than 4 hours.



DISCUSSION

- Following measures can be taken:
- Proper counselling of parents and teachers.
- Following the 20-20-20 rule: Every 20 minutes,look at something 20 feet away for 20 seconds.
- Screen lighting should be adequate.
- Computers should never be used in dark rooms.
- Minimizing digital usage for non educational purposes.
- Laptops/Smart television should be preferred over a mobile phone for online classes.
- Maintain a distance of 18 to 24 inches from the screen.

CONCLUSIONS

- Increased screen time in children during the COVID-19 pandemic has profound impact on onset and progression of refractive errors particularly myopia.

TAKE HOME MESSAGE

We got to prevent another
MYOPIA EPIDEMIC !

LIMITATIONS

- Small sample size
- Long term follow up awaited.

REFERENCES

- World Health Organization. Coronavirus disease 2019 (COVID-19). Situation Report - 81. URL: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200410-sitrep-81-covid-19.pdf?sfvrsn=ca96eb84_2 [Accessed on July 21
- Lanca C, Saw SM. The association between digital screen time and myopia: A systematic review. Ophthalmic Physiol Opt. 2020 Mar;40(2):216-229. doi: 10.1111/opo.12657. Epub 2020 Jan 13. PMID: 31943280.
- Chee Wai WONG, Andrew TSAI, Jost B. Jonas, Kyoko Ohno-Matsui, James CHEN, Marcus ANG, Daniel Shu Wei TING, Screen Time During COVID-19 Pandemic: Risk for a Further Myopia Boom?,American Journal of Ophthalmology,2020
- Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. www.who.int/publications/i/item/9789241550536.
- Screen use for Kids, American Academy of Ophthalmology, https://www.aao.org/eye-health/tips-prevention/screen-use-kid