Introduction
India is a densely populated country with various economic and social disparities and thus, possesses great challenge in this era of the COVID-19 pandemic. In order to confine the spread of this infection and to reduce the pressure on healthcare systems, India went into a lockdown on 25th March 2020. Accordingly, people were confined to their homes with limited access to many services, which are temporarily closed, thus producing huge complications.

The COVID-19 has sent humanity indoors, thus replacing human contact with an electronic connection such as mobile phones, tablets, laptops, television, etc. According to the UNESCO, approximately 1.37 billion students (80% of the world's student population) from >130 countries globally are affected by these lockdown measures, with digital or e-learning approaches replacing face to face, classroom-based learning. One of the major health concerns of the increased use of electronic devices (e-devices) is Digital eye syndrome (DES) or Computer Vision Syndrome. Based on the pathophysiology and symptoms, DES can be categorized into two types: Internal and External DES. Internal DES mainly affects the user's visual system of accommodation, convergence and refraction. Users of e-devices will complain of blurring of distance and/or near vision, difficulty in re-focusing and headaches. External DES manifests with users complaining of tired red eyes, sensitivity to light and general ocular discomfort due to extended screen time. These symptoms are attributable to drying of the anterior surface of the eye, especially the cornea, due to a reduced blink rate.

Another major concern is global rise in the number of children becoming myopic. The combination of more screen time and less outdoor time actually harms children's vision and puts them at a higher risk of developing myopia, that can lead to serious eye problems in the future. The prevalence of myopia among children ages 6-10 years is estimated at round 40% in Europe, North America and even higher in Asia. The Generation R study which involved 5074 children in Rotterdam found an association between increased computer use and myopia at 9 years of age. The combined effect of near work including computer use, reading time and reading distance, increased the odds of myopia. McCrann et al, also found that device recorded smartphone data usage, an objective surrogate for time spent using the smartphone, was independently associated with myopia in a study of 418 students. There is a possibility that a prolonged battle against the COVID-19 virus may lead to an increase in the incidence of myopia by causing long term behavioral changes favorable for the onset and progression of myopia.

Not only eyes are affected by increased exposure to screen but behavioural changes also may arise in children such as lack of sleep, anxiety, stress, anger, loss of social skills, etc. Although school closures may be short-lived, increased access and adoption of such platforms may accelerate the widespread acceptance of digital tools in the longer term. Behavioural
changes that arise from the growing dependence on digital devices may persist even after the COVID-19 pandemic, and it is a possibility that cannot be under-estimated.

**Preventive Measures**

Though we cannot totally avoid screen exposure as online mode of teaching and working from home has become the 'new normal' in this COVID era, but we can definitely ensure ourselves and our children to adopt some safe screen practices and preventive measures.

- **Frequent breaks**: Follow the simple 20-20-20 rule which means taking a 20-second screen break every 20 minutes to look at objects 20 feet away from you.
- **Frequent blinking**: Staring at a screen makes us blink less often, which dries out the eyes. Blinking moistens the eyes, reducing dryness and irritation.
- **Increasing the font size**: This will help in maintaining a proper distance, and also avoid squinting the eyes while reading long reports.
- **Screen etiquette**: Learning the basic screen etiquette like adjusting brightness, resolution, and contrast for better clarity and comfort. Avoid using devices in bright sunlight. Also wipe your screen at least once every day to improve visibility.
- **Regularly checking device settings**: In order to minimize glare as much as possible. Aligning your monitor to the eye level and working in ergonomic settings will also reduce the amount the eyes have to strain while focusing.
- **Screen distancing**: The distance between the eyes and screen should not be less than 50cm.
- **Cutting reflection**: Keep monitors away from windows – and never face a window when using a computer or a laptop. Anti-reflection lenses with blue coating are also helpful.
- **A healthy diet**: To curb the effects of digital eye strain, keep the eyes healthy by eating foods rich in vitamins and minerals, stay well-hydrated and get plenty of sleep each night. Leafy vegetables, carrots, papaya, dates are a great source of vitamin A.
- **Hydrating the eyes**: Omega 3 oils naturally lubricate the eyes and are found in flaxseed oil and some fish like salmon and sardines. Supplements are also available in the form of capsules. In symptomatic patients, lubricating eye drops may be advised.

**Conclusion**

This global pandemic has pushed the world to embrace digital technology at an unprecedented pace and scale. While digital technology comes with its benefits in a time like this, it is also important to acknowledge the long-term impact it can have in the form of various health problems. Healthy device habits must be encouraged and more awareness should be created about the effects of prolonged screen exposure among parents and schools. Thus, preventive measures must be followed as the issue of prolonged screen time is here to stay.

**References**


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