Introduction

- In this pandemic, digital work has increased for each individual which was on the verge of happening as hybrid way of working has been taken up by a lot of workplaces.
- Eye strain is one of the important side effect of this new work culture. The use of computers for long periods of time is likely to lead to the development of a clinical syndrome called Computer Vision Syndrome (CVS)
- Computer Vision Syndrome or digital eye strain is a combination of eye and visual problems because of increased visual demands.

Objective

1. To establish the assumption that eye strain is one of the important side effect of this new work culture and it relates to other eye symptoms as well.
2. To propose strategies for mitigation via appropriate implementation of visual ergonomics and human factors.

Methods

1. Online Survey
2. 231 professionals Age range 23-61
3. CVSS Questionnaire
   3.1. Eye health
   3.2. Visual ergonomics and design
   3.3. Computer activity and environment
4. Statistical Tool Used: Pearson's correlation coefficient

Results and Conclusions

- The study indicates that there is a marked increase in the hours spent in front of a screen in the work from home scenarios.
- Increased mobile or tablet use has shown a correlation with squinting (r = 0.30)
- Squinting to see and eye strain are correlated (r = 0.45).
- Overall awareness about refresh rate is very low (21%).
- The people who face eye strain reported that the letters on the screen became blurry after continuous use (r = 0.56)
- Eye strain also correlates to increased light sensitivity (r = 0.54) and dry eyes (r = 0.54)
- The study has established a definite indication of onset of computer vision syndrome in the majority of the people who are now working from home on screens for extended hours.
- The understanding of visual ergonomics within the 'person to computer-screen' visual interaction is required

Mitigation Strategies

- Screen lighting should be within 5x of average room lighting
- Screen should be dust or smudge free. Use of anti-glare screen
- Glare from windows on the workstation should be avoided
- Higher refresh rate (>120 Hz) reduces the eye related symptoms and increases individual's functionality
- Screen should be 10-20 ° below the eye level
- It is recommended that the viewing distance should be of 30 to 40 inches

Digital work has increased and offices are adopting hybrid work cultures; applied visual ergonomics is thus going to be a compelling need within the ‘person to computer-screen’ interactions.

References