# Computer Vision Syndrome Survey among the Medical Students at Santhiram Medical College and General hospital

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# INTRODUCTION

- Computer vision syndrome(cvs) is defined as a complex of eye and vision problems resulting from the activities which stress the near vision during the use of the computers and digital screens.

- It is also called Digital eye strain(DES).

- The daily use of personal computers and digital screens for 3 hours or more makes person high risk of developing CVS, Occupational Overuse syndrome(OOS), headache and psychosocial stress.

- In modern life everyone is accustomed to use the digital screens and computers for very long hours.

- What makes things more worse are the new habit of school and college students study their subjects using the computers instead of the classic book studies.

- The possible pathophysiological mechanism are extraocular, accommodative and ocular surface mechanism

- The main symptoms of CVS are eyestrains, headache, dry eyes sensation, blurred vision, burning of eyes,watering of eye, photophobia, red eyes, itching, neck and shoulder pain and contact lens troubles.

- Risk factors for developing of CVS are infrequent blinking, uncomfortable siting position, prolonged continues looking at the digital screens,improper lightening conditions, ammetropia, glare and incorrect distance between the eye and the computer.

# AIM OF THE STUDY

- The Aim of the study is to perform a survey to detect the prevalence and severity of the computer vision syndrome among a sample of 100 medical students.

# Materials and Methods

- **<span style="color:red">Type of study</span>** -Prospective non-comparative cross-sectional study

- **<span style="color:red">Inclusion criteria</span>**

- Students who are willing to participate in the study

- Students who accepted to fill the questionair

- **<span style="color:red">Exclusion criteria</span>**

- Students who are not willing to participate in the study.

# Questionair Form

- The questionair form includes 20 questions

- These questions are designed in such a way to relate to the personal data and habit of the medical students

- These questions include age,gender,hours students using screen,hours student use screen in dark,continous or interrupted use.

# Computre Vision Syndrome (CVS) Survey Form

**Please Mark your answers (√):**                     Date:     /     /

*(Note that you may choose 1 or more answers for each question)*

- Age:   18 ☐   19 ☐   20 ☐   21 ☐   22 ☐   23 ☐   24 ☐
- Gender:     Male ☐     Female ☐
- The frequent computer digital screen you use:

| Ordinary Computer Screen | | Laptop | | Tablet/iPad/Note | |
|---|---|---|---|---|---|
| Android Mobile (eg. Samsung) | | Apple Mobile (iPhone) | | | |

- How many hours do you spend on your digital screen ?

| < 1 h | | 1-2 h | | 2-3 h | | 3-4 h | | 4-6 h | | > 6 h | |
|---|---|---|---|---|---|---|---|---|---|---|---|

- How many hours you spend watching your screen in dark room ?

| < 1 h | | 1-2 h | | 2-3 h | | 3-4 h | | 4-6 h | | > 6 h | |
|---|---|---|---|---|---|---|---|---|---|---|---|

- The hours you spend on your digital screen are:     Continuous ☐     Interrupted ☐

- To what level you illuminate your digital screen (brightness) in room light ?

| ≤ 10 % | | 11%-25% | | 26%-50% | | 51%-75% | | 76%-100% | |
|---|---|---|---|---|---|---|---|---|---|

- Are you spending most of your screen time during the day or during the night ?

   The day ☐     The night ☐

- Do you have any of the following symptoms ?

| Headaches | | Blurred vision | | Neck/shoulder/back pains | |
|---|---|---|---|---|---|
| Fatigue | | Eye strain | | Eye redness and irritation | |
| Dry eyes | | Double vision | | Difficulty refocusing the eyes | |

- Do you have a previously diagnosed Dry Eye Diseas ?     Yes ☐     No ☐

- Are you using any topical eye drops for this dry eye ?     Yes ☐     No ☐
- Do you have any refractive errors ?

| Yes | | No | | I don't know | |
|---|---|---|---|---|---|

- Are you wearing glasses or contact lenses ?     Yes ☐     No ☐

- Describe the details of objects you see after prolonged hours on your digital screen:

| Clear | | Blurred | | Hazy | |
|---|---|---|---|---|---|

- After using my smart phone for prolonged hours, I am complaining of:

| Joint pain in my fingers and wrists | | Inability to hold objects well | | |
|---|---|---|---|---|
| Difficulty to write using the pen | | Shoulders pain | | None | |

- How many years did you spent this way on the screen:

| Nearly 1 y | | Nearly 2 y | | Nearly 3 y | | Nearly 4 y | | ≥ 5 years | |
|---|---|---|---|---|---|---|---|---|---|

- I am frequently using:

| Touch Screen | | Touchpad | | Note Pen | | Mouse and keyboard | |
|---|---|---|---|---|---|---|---|

- Are you usually studying MEDICINE using:   Screens ☐   Books ☐   Both ☐
- Do you feel that the digital screens affects your life style and eye health ?   Yes ☐   No ☐
- Are you willing to decrease your screen hours to guard against CVS ?   Yes ☐   No ☐

# RESULTS

- Surprisingly 86% of the students were accustomed to use digital screen 3 hours or more daily,that made them very liable to suffer from one or more manifestations

- 34% of students were spending these prolonged hours continuously on their digital screen.

- 28% of students are complaining of dry eye

- 13% of students were using topical eye drops to treat dry eye.

- 31% of students were complaining of blurred vision

- 24% of the students were complaining of neck, shoulders and back pain

- 16% of the students were complaining of eye strains

- Headache and fatigue were recorded in 26% and 21% of the students respectively

- This study recorded that smart phones were mostly the main cause of CVS in students.

- 88% of the students are using smart phones and 92% of them are using the touch screens.

# CONCLUSION

- The study proved that CVS is a common syndrome that is simply misdiagnosed.

- Based on the survey, 86% of the students were complaining of one or more CVS manifestations

- The study recorded that dry eye,blurring of vision,eye strains and headache are the most common CVS symptoms

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# THANK YOU