



Research Article

Role of Environmental Factor and Other Preventive Measures in Managing Symptoms of Computer Vision Syndrome

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Abstract AIM: To analyze the effects of environmental modification and other preventive measures in managing the symptoms of computer vision syndrome.

Objective: The main objective of this study is to evaluate the prevalence of computer vision syndrome (CVS) among computer users and to identify the environmental factors that contribute to the development of CVS.

Effect of environmental modifications in management of computer vision syndrome.

Result and conclusion: the study highlights that environmental modifications—such as adjusting workstation lighting, , reducing screen glare, maintaining proper ergonomics, and taking regular breaks,- play a significant role in reducing the severity of Computer Vision Syndrome (CVS) symptoms among digital device users. Implementing these simple preventive measures can drastically improve visual comfort and occupational health.

Keywords: computer vision syndrome (CVS), computer vision syndrome, preventive measures

1. Introduction

Computer vision syndrome is prevalent condition that effects individual who spend long hours using digital devices like computer, smartphones and tablets. The symptoms of CVS include eyestrain, dryness, and neck and shoulders pain. It is estimated that a significant percentage of global population is susceptible to CVS due to widespread use of digital devices.

There is no specific treatment for CVS but there are several environmental modifications that can help reduce the risk of developing CVS or alleviate its symptoms:

- 1-Adjust the lighting
- 2-Reduce screen glare
- 3-Take regular breaks
- 4-Adjust screen settings
- 5-Use proper ergonomics

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2. Review of Literature

Previous literature indicates that CVS clinical manifestations typically stem from a combination of surface-level eye irritation, focusing difficulties (accommodative fatigue), and physical strain caused by poor posture and setup.

3. Methodology

Study design: -Prospective observational study.

Study duration: - 10 month

Type of data: - Qualitative

Sample size: - 100 subjects (Optometry students)

Sample method: - Online questionnaire based

Inclusion criterion- Optometrist, ophthalmologist and other medical staff having screen time of more than 3 hours during working hours.

Regular screen time of subjects will also be considered (screen time apart from the working hours).

Exclusion criterion – Subjects having any ocular disorder or pathology.

First part of the study

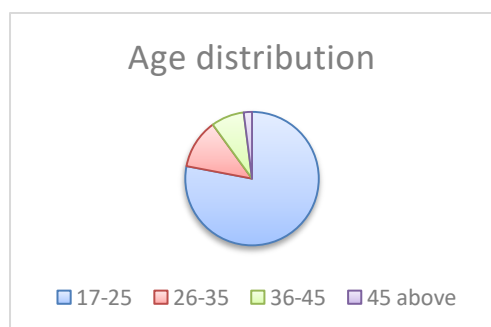
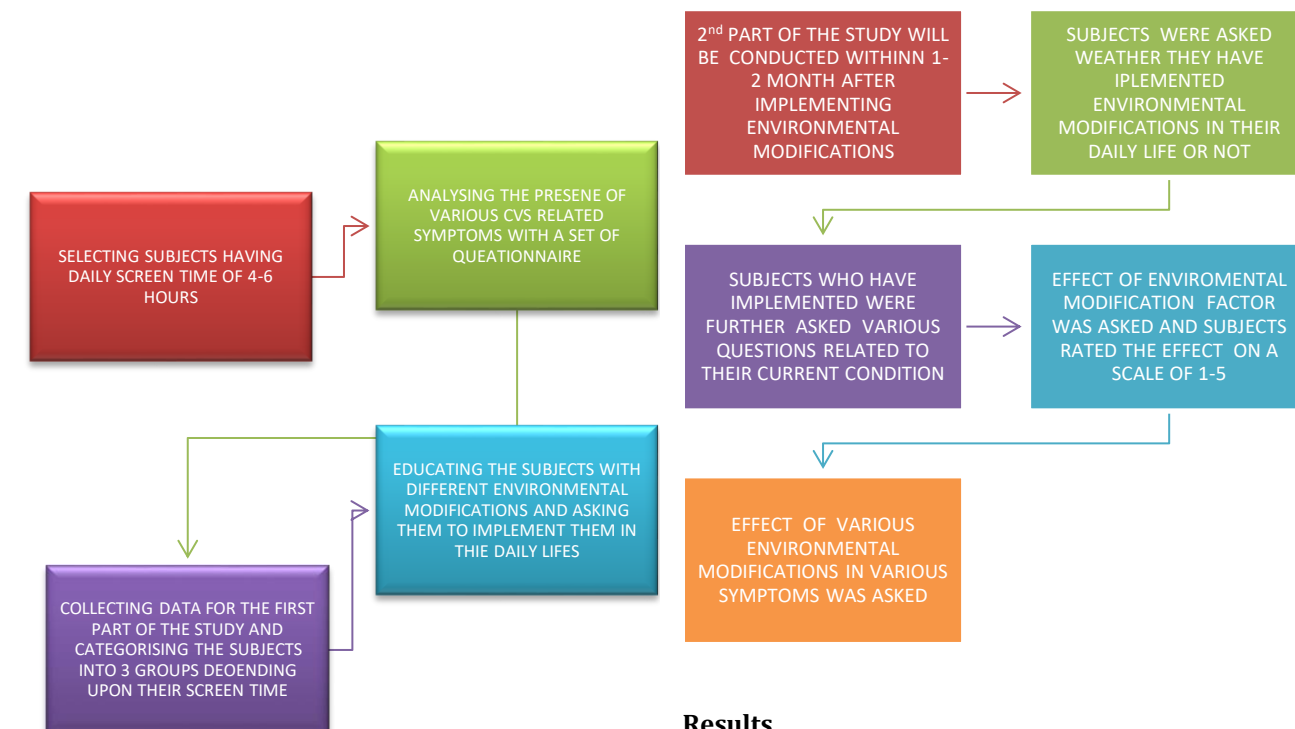


Fig-1: Showing Age distribution
Second part of the study

Results

AGE GROUP	NUMBER OF INDIVIDUALS
17-25 YEARS	78
26-35 YEARS	12
36-45 YEARS	8
40 ABOVE	2

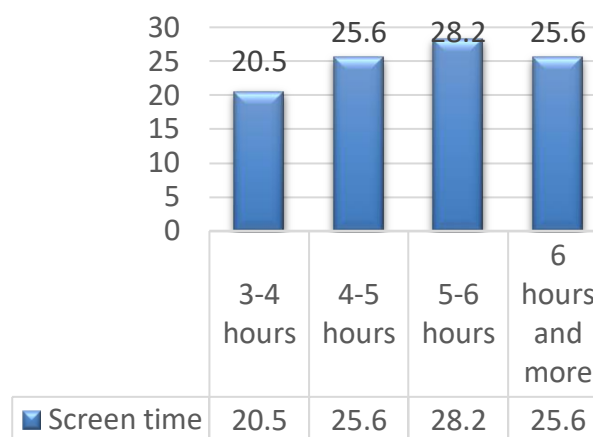
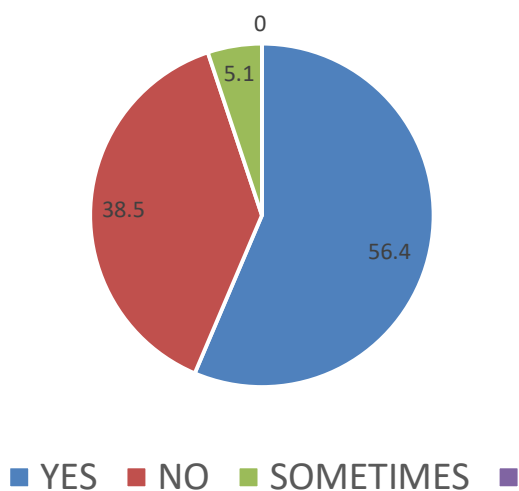


Fig-2: showing screen time in

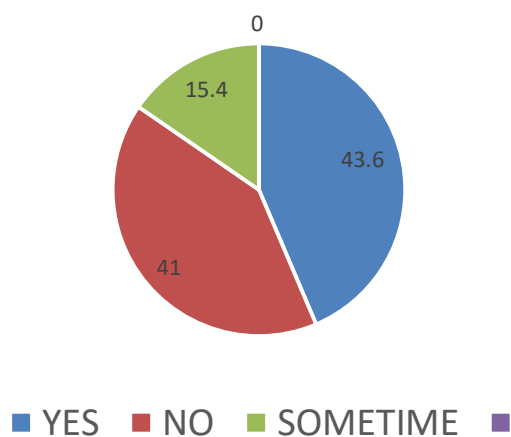
Screen time (in hours)	Percentage of participants
3-4 hours	20.5%
4-5 hours	25.6%
5-6 hours	28.2%
6 hours and more	25.6%

Symptom- Dryness in morning



a.

Itching and Watering



b

Fig-3: SHOWING PRESENCE OF DIFFERENT CVS SYMPTOMS IN SUBJECTS (a & b)

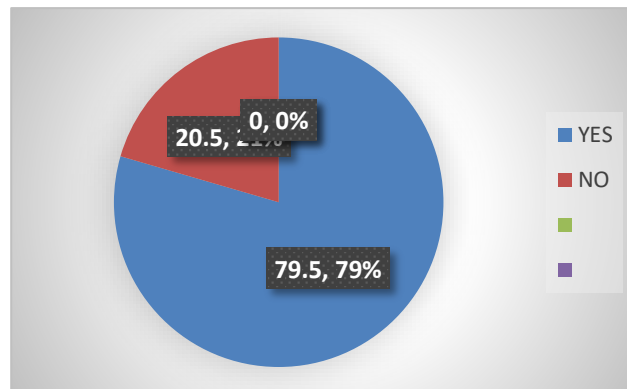


Fig: SHOWING POSTURE RELATED PROBLEMS

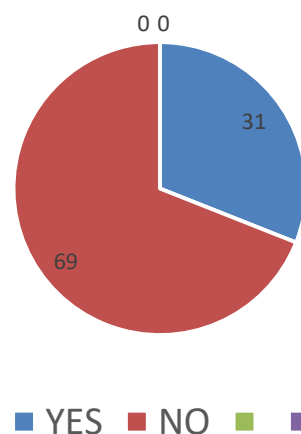


Fig-4: IMPLEMENTING PREVENTATIVE MEASURES TO REDUCE CVS SYMPTOMS

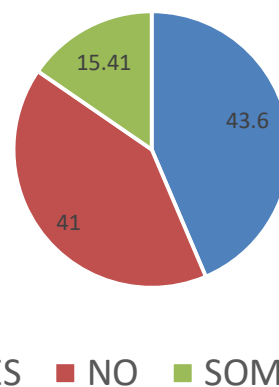


Fig-5: PRIOR INTERVENTION ENVIRONMENTAL MODIFICATION FACTORS IN DAILY LIFE

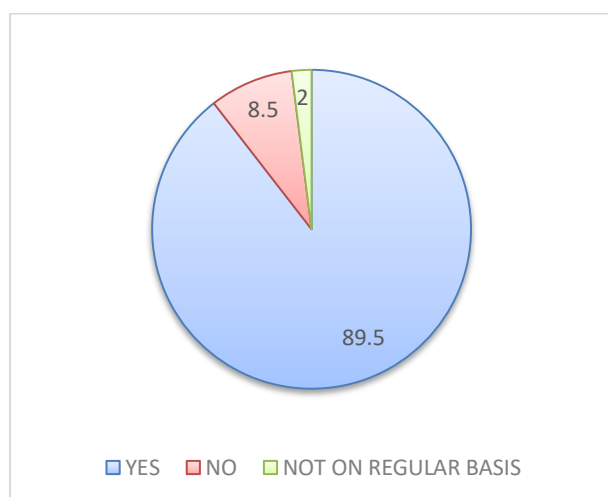


Fig-6: POST INTERVENTION ENVIRONMENTAL MODIFICATION FACTORS IN DAILY LIFE

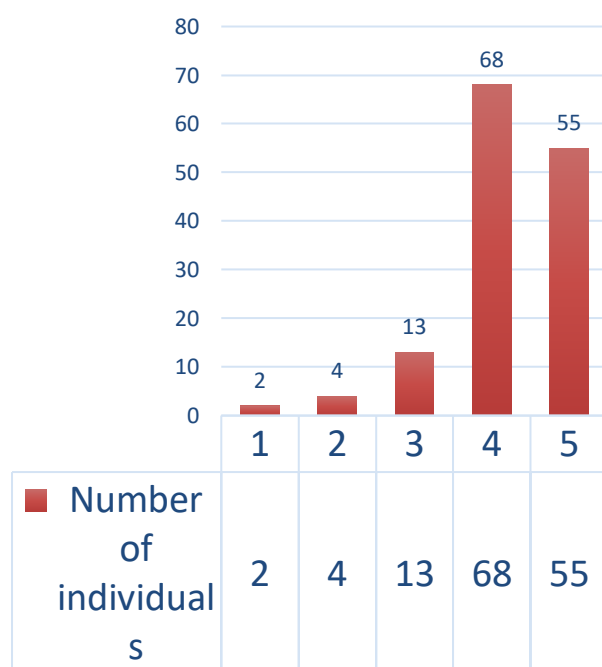


Fig-7: At the scale of 1-5 how effective the environmental modifications were in managing the symptoms of computer vision syndrome

Conclusion

Result and conclusion: the study highlights that environmental modifications—such as adjusting workstation lighting, , reducing screen glare, maintaining proper ergonomics, and taking regular breaks,- play a significant role in reducing the severity of Computer Vision Syndrome (CVS) symptoms among digital device users. Implementing these simple preventive measures can drastically improve visual comfort and occupational health.

1. Conflict of Interest

Authors declare no conflict of interest.

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