A Study to Assess the Knowledge regarding Computer Vision Syndrome among the Faculty Members of SGT University, Gurugram Haryana with a View to Develop an Informational Pamphlet

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1. Introduction

Computer Vision Syndrome, also known as Digital Eye Strain, is a collection of eye and vision disorders induced by prolonged use of computers and digital gadgets. It is a transient condition caused by inappropriate positioning and prolonged use of digital devices. Computer Vision Syndrome is commonly caused by glare from the screen, bad lighting, poor seated posture, inappropriate monitor positioning, and uncorrected vision disorders. Almost everyone who spends more than two hours each day using computers or digital devices such as tablets, iPads, or mobile phones is at risk of developing Computer Vision Syndrome. [1],

Computer and mobile computing devices have been the most common tools used daily by most institutional workers, recreational facilities, academics and homes Maintaining a single posture for an extended period of time may result in muscular and ocular disorders.[1]

Today, 5 billion people worldwide utilize the internet, which is equivalent to 63 percent of the world's entire population. According to the most recent figures, the world's connected population increased by about 200 million in the year leading up to April 2022. [2]

According to a recent report published in April 2021, there are currently 4.72 billion active internet users worldwide, accountings for more than 60% of the global population. According to the same research, an internet user between the ages of 16 and 64 spends about 7 hours every day online. This means that the average person spends more than 40% of their waking hours online. [2]

A study conducted in Taiwan in 2019 discovered that adults (aged 20-35 years) exposed to a glare-free environment had less symptoms of weary eyes and better results when completing eye-related tasks than those in a high glare setting. [3]

P. Ichhpujani et al (2019) did a study on children aged 11 to 17 years in India and discovered that one in every five children had signs of DES, with more than 40% of those with DES spending 2 to 4 hours per day on a digital device. [4]

It is one of the world's biggest public health issues, reducing productivity at work, increasing error rates, decreasing job satisfaction, and impairing visual ability. CVS affects roughly 60 million people worldwide, with 1 million new instances diagnosed every year. [5]

2. Need of the study

All technological devices, such as mobile phones, tablets, and computers, play an important part in many aspects of life. The computer age has dominated the twenty-first century. Machines rely on digital devices in everything from grocery stores to public transportation, corporate sectors, offices, and organizations. Because of the increasing reliance on computers, every small and large firm has begun computer-based services that encourage workers to work from home by working and connecting from their digital screens. [6]

Prolonged exposure to digital screens can pose a number of health risks. Long periods of computer use put individuals at greater risk of developing computer vision syndrome (CVS). The leading occupational health problem of the twenty-first century is computer vision syndrome. CVS affects over 70% of computer users. Aside from health issues, CVS promotes workplace inefficiencies and degrades work quality. Eye strain, headache, blurred vision, and neck or shoulder pain are common CVS symptoms that often worsen with the amount of video display terminal (VDT) use. CVS prevalence among computer users ranges from 64% to 90%., Nearly 60 million people suffer from CVS globally: A million new cases of CVS occur each year. [7]

Objectives of the study

To assess the knowledge regarding computer vision syndrome among faculty members of SGT university, Gurugram Haryana.

To find out the association between knowledge score with selected demographic variables.

3. Research Methodology

Quantitative research approach and descriptive survey research design with pretest group design was used to assess

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the knowledge regarding computer vision syndrome. The study was conducted at SGT University, Gurugram Haryana The sample of the present study comprises faculty members of SGT university, Gurugram Haryana. The sampling technique used in the study was non probability purposive technique.

Inclusion Criteria:
- Faculty working in SGT university, Gurugram Haryana
- Faculty present during the time of data collection.
- Faculty who has conducted online teaching for more than one year.

Exclusion Criteria:
- Faculty who are not willing to participate in stud

Development and Description of the Tools
The structure knowledge question consists of two parts:

Part A- Demographic profile will be used for the assessment of demographic variables such as age, gender, religion, educational status, sources of information, previous knowledge about the topic.

Part B - Structured questionnaire will be used to assess the knowledge on Computer Vision Syndrome among faculty members of SGT University, Gurugram Haryana

4. Results

Section 1 Findings Related to the Knowledge of Computer Vision Syndrome among the Faculty members of SGT University, Gurugram Haryana
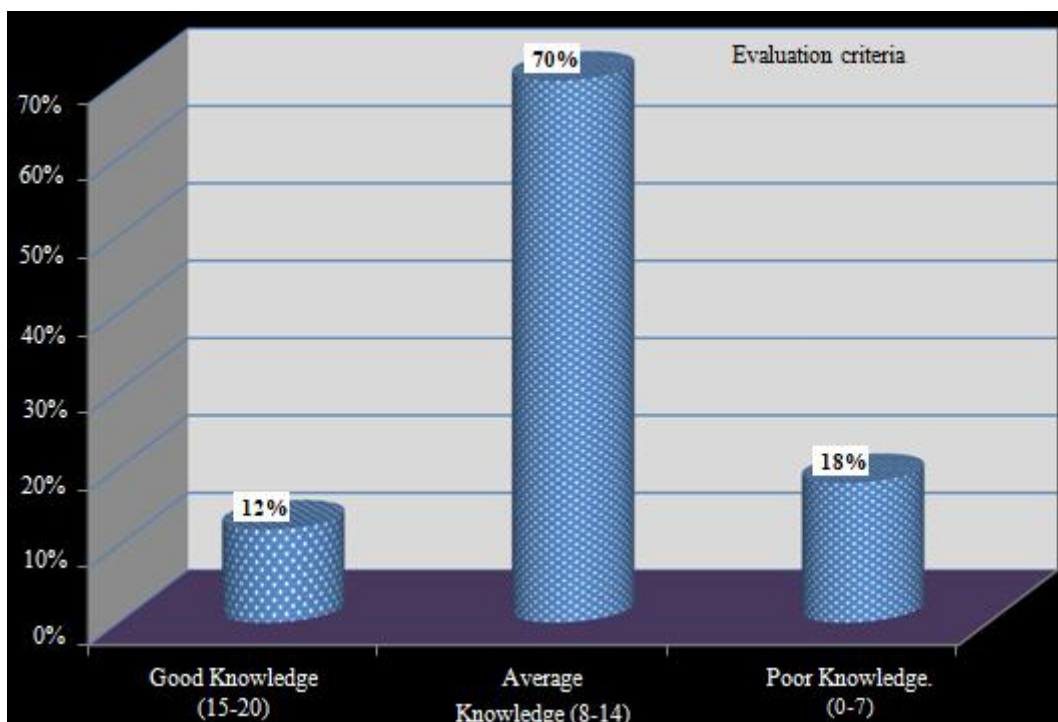
Figure 1: Cylindrical diagram showing the knowledge of study subjects

Chi square test showing association of knowledge score of faculties regarding computer vision syndrome with their selected demographic variables, n=50

Demographic Data		Levels of Knowledge (N=50)			Association with Knowledge Score				
Variables	Options	Good	Average	Poor	Chi Test	P Value	df	Table Value	Result
Age (in years).	25-35 Years	2	15	4	1.232				Not Significant
	36-45 Years	4	18	4		0.873	4	9.488	
	46-55 Years	0	2	1					
Gender.	Male	4	21	5	0.185	0.912	2	5.991	Not Significant
	Female	2	14	4					
Marital status.	Single	1	4	1	0.141	0.932	2	5.991	Not Significant
	Married	5	31	8					
	Graduate	0	1	0					
	Postgraduate	1	6	3					
	Doctorate and above	5	28	6					
Average number of hours spent on computer screen.	Upto 4 hours	0	2	1	7.547	0.273	6	12.592	Not Significant
	Upto 6 hours	1	11	2					
	Upto 8 hours	1	16	3					
	More than 10 hours	4	6	3					
Do you have any previous knowledge regarding computer vision syndrome	Yes	2	9	5	2.935	0.230	2	5.991	Not Significant
	No	4	26	4					
If yes Source of information:	Formal education/ in –				5.113	0.529			Not

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	service Education	1	3	3			6	12.592	Significant
	Peer group/ family	0	2	2					
	Social media	1	2	0					
	Others	0	2	0					
Do you use Glasses or contact lenses while using digital screens	Yes	4	20	3	2.074	0.354	2	5.991	Not Significant
	No	2	15	6					
Can blinking of eyes help in moisturizing the eyes in natural way	Yes	5	32	7	1.404	0.496	2	5.991	Not Significant
	No	1	3	2					
Presence of any refractive errors.	No	1	11	4	3.060	0.931	8	15.507	Not Significant
	Myopia	2	9	2					
	Astigmatismn	0	1	0					
	Hypermetropia	0	2	1					
	Others	3	12	2					
Presence of any other systemic disease conditions.	Thyroid disorders	0	4	0	6.346	0.175	4	9.488	Not Significant
	Diabetes Mellitus	0	0	1					
	Cardiac disorders	0	0	0					
	No,	6	31	8					

Data in table no 1 depicts no any significant association between the score and selected demographic variables

5. Discussion

Significant findings of the study were 70% subjects had average knowledge regarding computer vision syndrome. Only 6% subjects had good knowledge score. 54% subjects wear glasses and contact lenses while using digital screens. Maximum number of hours spent on computer screen was up to 8hours (40%). Majority of subjects counted to 68% who had no previous knowledge regarding computer vision syndrome.

The current study refers to the study done by BS Kumar at VMKVMCH on March 13, 2020. The awareness of Computer Vision Syndrome was surveyed among 60 medical professionals (30 males and 30 females), and it was discovered that 20% were aware of it, while 80% were not. The medical students were unaware of computer vision syndrome, as well as the effects of prolonged computer use on the eyes and the factors that influence it. [8]

6. Conclusion

The following conclusion was drawn on the basis of the study. It was found that Majority of the faculty have average knowledge regarding the computer vision syndrome. Significant findings of the study were 70% subjects had average knowledge regarding computer vision syndrome. Only 6% subjects had good knowledge score. 54% subjects wear glasses and contact lenses while using digital screens. Maximum number of hours spent on computer screen was up to 8hours (40%). Majority of subjects counted to 68% who had no previous knowledge regarding computer vision syndrome

7. Implications

- Nursing faculty should be given in-service education to update their knowledge regarding computer vision syndrome in people and further skills and abilities in identifying the learning need of nurses and planning for appropriate intervention

- Knowledge on Computer vision syndrome can be imparted and put into practice by the recruiting and training nurses to serve as mentors and role-models for co-nurses and the other health team members
- Findings of the study will act as a catalyst to carry out more extensive research on larger population sample and in other settings
- Further research can be conducted regarding the attitude and practices of faculties on large scale on Computer vision syndrome.

8. Recommendation

Further studies can be conducted on large scale to provide better picture of knowledge related to computer vision syndrome

Similar study can be replicated using different teaching strategies viz. computer simulation, video films, information booklet, pamphlet etc

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