

**A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING
COMPUTER VISION SYNDROME AND ITS PREVENTIVE MEASURES AMONG
COMPUTER OPERATORS WORKING IN SMS HOSPITAL JAIPUR WITH A VIEW
TO DEVELOP AN INFORMATION BOOKLET ON PREVENTION AND
MANAGEMENT OF COMPUTER VISION SYNDROME**

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ABSTRACT

Computer vision syndrome (CVS) is a growing concern for individuals who uses computers on a daily basis. The study aimed to assess the knowledge regarding computer vision syndrome and its preventive measures among computer operators. A quantitative research approach and descriptive research design was used to conduct this study. The sample consisted of 100 computer operators who worked on a computer for more than five hours per day and convenient sampling technique was used to select the samples. A structured knowledge questionnaire was used to collect data from samples after getting consent and analysed using descriptive and inferential statistics. The findings of the study showed that the majority of the participants (64%) had average knowledge regarding CVS, 23% of the participants had a good knowledge and only 13% of the participants had poor knowledge. The mean score of knowledge was 16.78, mean % was 67.12 and SD was 4.74. The result of association between knowledge and demographic variable revealed that the variable i.e. age (calculated χ^2 value = 23.16), education (calculated χ^2 value = 14.23) and total number of hours working on computer per day (calculated χ^2 value = 6.66) had significant association at 0.05 level of significance.

Keywords: Knowledge, Computer vision syndrome, Preventive measures, Computer operators, selected hospital, Information booklet.

INTRODUCTION

In the current era of technology and digitalization, the use of computers has become a crucial aspect of many workplaces, including healthcare facilities. The COVID-19 pandemic has also accelerated the trend of computer use, as many people have had to work, learn, and socialize from home. This has led to an increased reliance on technology and a greater need for digital skills.¹ However, prolonged usage of computer screens can lead to various health concerns, one of which is Computer Vision Syndrome (CVS).²

Computer Vision Syndrome (CVS) is a condition that affects people who spend a lot of time using computers, tablets, smartphones, and other digital devices. It is also known as digital eye strain or computer eyestrain. The symptoms of CVS can include eye fatigue, headaches, blurred vision, dry eyes, neck and shoulder pain, and difficulty focusing. These symptoms are caused by prolonged use of digital devices, which can lead to eye strain and muscle fatigue.³

The impact of Computer Vision Syndrome (CVS) on health can be significant. Prolonged use of digital screens can lead to a range of symptoms, and if left unaddressed, these symptoms can worsen and lead to more severe conditions such as myopia, astigmatism, and even vision loss. In addition to the physical symptoms, CVS can also have a negative impact on mental health.⁴

NEED OF THE STUDY

The prevalence of CVS has been reported in various studies across the globe. A study conducted in India reported that 85% of computer users had experienced at least one symptom of CVS. Another study conducted in Saudi Arabia reported a prevalence rate of 58.7% among computer users. In the United States, the prevalence of CVS is estimated to be as high as 50-90% among computer users.⁵ The high prevalence of CVS highlights the importance of raising awareness among computer operators about the risks associated with CVS and the measures to prevent it.

In this era of 21st century, computers, mobiles and other VDTs are increasingly becoming an integral part of human life whether it be at homes or at work places. Even in developing countries, a significant portion of working population is currently using VDTs at their job places. With the advent of VDTs, not only the quantity and quality of works and efficiency of workers have improved, but also the problems associated with their prolong use have been increasing day by day.

As incidence and severity of the CVS can be decreased by adopting proper preventive measures while using VDTs for which awareness is the key factor. So this study was conducted with an aim of assessing the knowledge about CVS and its preventive measures among the computer operators. By assessing the knowledge of computer operators about CVS and its preventive measures, this study can contribute to the development of targeted interventions and programs to promote the well-being of computer operators and prevent work-related health issues. The findings of this study can also aid in the development of policies and guidelines to ensure a safe and healthy work environment for computer operators.

OBJECTIVES OF THE STUDY

1. To assess the level of knowledge regarding computer vision syndrome and its preventive measures among computer operators working in SMS Hospital Jaipur.
2. To find out the association between the level of knowledge regarding computer vision syndrome and its preventive measures among computer operators and their selected socio demographic variables.
3. To develop an information booklet regarding prevention and management of computer vision syndrome.

HYPOTHESIS

H₁: There will be a significant association between the level of knowledge regarding computer vision syndrome and its preventive measures among computer operators and their selected socio demographic variables at the level of 0.05 significance.

METHODOLOGY

The present study was utilised quantitative research approach and a non-experimental descriptive research design to assess the knowledge regarding computer vision syndrome (CVS) and its preventive measures. The population of the study consists of computer operators working in SMS Hospital, Jaipur, and the sample size is 100. A self-administered structured questionnaire was developed to collect data on knowledge and preventive measures regarding computer vision syndrome. The questionnaire consists of demographic variables, including age, gender, general educational status, number of years of working on a computer, and hours of working on a computer per day.

The inclusion criteria for the study include computer operators who are working at SMS Hospital Jaipur and who work on a computer for more than five hours per day, while the exclusion criteria include those who are not willing to participate or not present at the time of data collection.

The tool consist of demographic data and structured knowledge questionnaire that was validated from experts of nursing fields and reliability of the tool was established using KR20, was found 0.75.

The data was collected after obtaining the formal permission from competent authority and informed consent was taken from the participants before administered the questionnaire. The collected data was analyzed using descriptive and inferential statistics.

RESULTS

Table No. 1 Description of socio demographic characteristics (N=100)

S.N.	variables	Category	Frequency{f}	Percentage{%
1.	Age (In years)	≤30	35	35
		31-40	13	13
		41-50	40	40
		>50	12	12
2.	Gender	Male	80	80
		Female	20	20
3.	General education	SSC/ 10+2	15	15
		Certificate course in computer	31	31
		Diploma in computer science	40	40
		Degree in computer science	14	14
4.	Total number of years of working on computer	Up to 3 years	18	18
		4-6 years	9	9
		7-10 years	40	40
		More than 10 years	33	33

5.	Total number of hours working on computer per day	1-4 hrs	0	0
		5-8 hrs	61	61
		9-12 hrs	39	39
		More than 12 hrs	0	0

Table no.2 Level of knowledge regarding computer vision syndrome and its preventive measure

N=100

SNo	Level of Knowledge	Score	Frequency {f}	Percentage {%
1	Poor	0-10	13	13
2	Average	11-20	64	64
3	Good	21-25	23	23

Table no. 2 represented that the majority of computer operator (64) 64% were found to have average level of knowledge regarding computer vision syndrome and preventive measures, where as only (23) 23% had good level of knowledge and only (13) 13% were found to possess the poor level of knowledge.

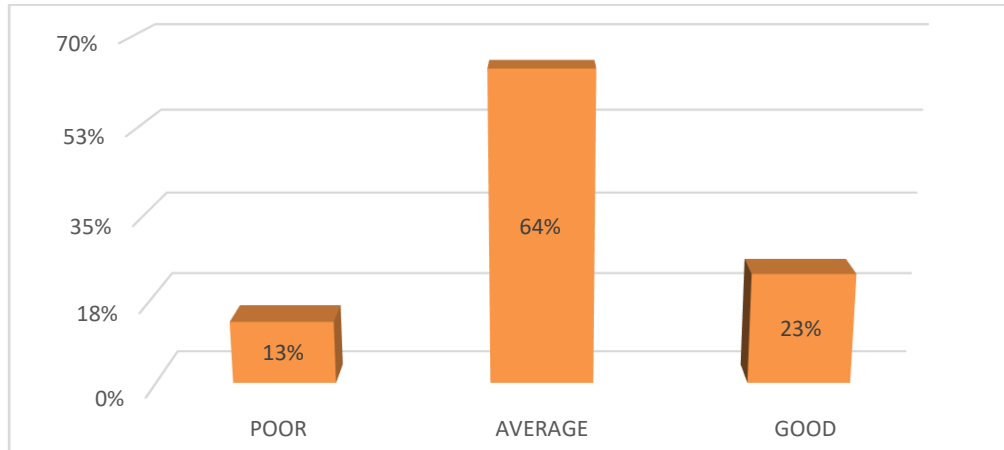


Figure 1: distribution of level of knowledge regarding computer vision syndrome and its prevention among computer operators.

Table No. 3: Overall knowledge regarding computer vision syndrome and its preventive measure among computer operators.

S. No.	Max score	Mean	Median	Mode	Mean %	SD
1	25	16.78	17.5	16	67.12%	4.738

Table no. 4: Association of knowledge score with selected demographic variables

N=100

S N	Variables	Categories	Knowledge score			χ^2	D F	Ta ble val ue	L O S
			Po or	Avera ge	Go od				
1	Age (In years)	≤30	9	17	9	23.16	6	12.59	S
		31-40	1	5	7				
		41-50	2	35	3				
		>50	1	7	4				
2	Gender	Male	11	53	16	2.05	2	5.99	NS
		Female	2	11	7				
3	General education	SSC/ 10+2	2	8	5	14.23	6	12.59	S
		Certificate course in computer	7	13	11				
		Diploma in computer science	2	33	5				
		Degree in computer science	2	10	2				
4	Total number of years of working on computer	Up to 3 years	4	9	5	8.84	6	12.59	NS
		4-6 years	1	6	2				
		7-10 years	3	32	5				
		More than 10 years	5	17	11				
5	Total number of hours working on computer per day	5-8 hrs	4	40	17	6.66	2	5.99	S
		9-12 hrs	9	24	6				

Table no 4 revealed that there was an association between level of knowledge with demographic variables such as age (χ^2 value = 23.16), education (χ^2 value = 14.23) and total number of hours working on computer per day (χ^2 value = 6.66) at 0.05 level of significance.

DISCUSSION

The results of the study showed that the majority (64%) of computer operators had an average level of knowledge regarding CVS and its preventive measures. Only 23% had a good level of knowledge, while 13% had poor knowledge. These findings suggest that there is a need for more education and awareness programs regarding CVS and its preventive measures among computer operators. This result is consistent with some previous studies that have also found moderate levels of knowledge among computer users regarding eye health and computer-related health issues.^{11,12}

The findings of overall knowledge revealed that the mean knowledge score of computer operators was 16.78, median and mode was 17.5 and 16 with mean % of 67.12 and their SD was 4.738.

The findings of association between level of knowledge with demographic variables revealed that the variables such as age (χ^2 value = 23.16), education (χ^2 value = 14.23) and total number of hours working on computer per day (χ^2 value = 6.66) were found significant at 0.05 level of significance.

CONCLUSION

In conclusion, the study provides valuable insights into the knowledge of computer vision syndrome and its preventive measures among computer operators. The findings suggest that age, general education, and the total number of hours working on the computer per day are significantly associated with knowledge levels. Therefore, interventions aimed at improving knowledge levels regarding CVS should focus on these demographic variables. By educating individuals about the causes, symptoms, and preventive measures of CVS, it may be possible to reduce the prevalence of this condition and improve the quality of life of computer operators.

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