

EFFECTIVENESS OF OPHTHALMIC EXERCISES ON VISUAL DISCOMFORT AMONG COMPUTER WORKERS IN ADMINISTRATIVE DEPARTMENT OF SELECTED HOSPITALS : A QUASI EXPERIMENTAL STUDY

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ABSTRACT

Introduction: Vision disturbance is a silent enemy that only appears after long period of continued stress. In the world it has been nearly 60 million people experience vision problem. Computers have now become basic and essential desktop equipment in almost every establishment. In world it has been estimated that nearly 60 million people experience vision problems as a results computer use. The computer population in India is 20 million plus and 80% of them (16 million) have discomfort due to vision problem. **Aim Of the Study:** To assess the effectiveness of ophthalmic exercises on visual discomfort among the computer workers in administrative department of selected hospital. **Methodology:** A Quantitative approach was used with quasi experimental non randomized control group design at the selected hospitals. Total 60 computer workers were selected (30 in experimental group and 30 in control group) by using Non probability purposive sampling techniques. **Result:** Comparison of mean difference in visual discomfort scores of computer workers from administrative department in experimental and control group was done. Mean difference of experimental group is 40.20 and SD is 1.09. Mean difference of control group 0.06 and SD is 8.69. Mean difference values are compared and student's unpaired 't' test is applied at 5% level of significance. The tabulated value for $n=30+30-2$ i.e. 58 degrees of freedom was 2.00. The calculated 't' value is 25.09 are much higher than the tabulated value at 5% level of significance for overall visual discomfort score of computer workers which is statistically acceptable level of significance. The null hypothesis is rejected and H_1 is accepted. Hence it is statistically interpreted that the Ophthalmic Exercises on visual discomfort among computer workers was effective. **Conclusion:** The Ophthalmic Exercises on visual discomfort among computer workers of experimental groups was effective. The ophthalmic Exercises is helpful to reduce the visual discomfort.

Key words: Ophthalmic exercises, visual discomfort, computer workers, Administrative Department.

INTRODUCTION

The intricate network of organs that makes up the visual system comprises the eyes, the nerves, muscles, fat, and bones. The eye's auxiliary components, including its muscles, fat, and bone, are known as the ocular adnexa. Only a tiny piece of an eye is visible due to the bony orbit's (eye socket's) protection of the majority of the eye.¹ The frontal, lacrimal, ethmoid, maxillary, zygomaticus, sphenoid, & palatine bones all contribute to the formation of the orbit.² Visual

pain is a condition brought on by focussing the eyes for extended, uninterrupted lengths of time on a computer screen or other show device and the eye muscles were unable to relax from the continual tension needed for maintaining focus on a near object. Headaches, blurred vision, neck discomfort, dry eyes, inflamed eyes, fuzzy vision, vertigo/dizziness, polyopia, & trouble focussing the eyes are a few symptoms of computer vision syndrome. If the illumination isn't right, these symptoms could become worse.³ Screens are likely used for almost all activities, including working, unwinding, and maintaining daily routines. Spending too much time on digital gadgets may be to blame if your eyes are dry and fatigued, your vision becomes hazy towards the close of the period, or your shoulders, neck, and head hurt.⁴

NEED OF THE STUDY

Zenbaba, D., Sahiledengle, B., Bonsa, M., Tekalegn, Y., Azanaw, J., & Kumar Chattu, V. (2021). Conducted a study on Prevalence of Computer Vision Syndrome and Associated Factors among Instructors in Ethiopian Universities: A Web-Based Cross-Sectional Study. The aim of this study to assess the prevalence and associated factors of Computer Vision Syndrome (CVS) among instructors working in Ethiopian Universities. study was conducted among 422 university instructors in Ethiopia from February 02 to March 24, 2021. The researcher found the Results of the total 416 participants, about 293 (70.4%) were reported to have CVS (95% CI: 65.9-74.5%), of which 54.6% were aged 24-33 years. Blurred vision, pain in and around the eye, and eye redness were the main symptoms reported. Working in third- established universities (AOR = 8.44, 95% CI: 5.47-21.45), being female (AOR = 2.69, 95% CI: 1.28-5.64), being 44 years old and above (AOR = 2.73, 95% CI: 1.31- 5.70), frequently working on the computer (AOR = 5.51, 95% CI: 2.05- 14.81), and sitting in bent back position (AOR = 8.10, 95% CI: 2.42-23.45) were the factors associated with computer vision syndrome.⁵

By reviewing all the study, researcher found that visual discomfort is common problem among all age group who are operating computer and other digital device. Computer workers in administrative department of hospital is also suffer from visual discomfort as they are working on computer for longer duration. Many studies are conducted to assess prevalence of visual discomfort professionals and students, but very few studies are done effective of ophthalmic exercise to reduce visual discomfort. So, researcher is interested to find out the effectiveness of ophthalmic exercises to reduce visual discomfort among computer workers working in administrative department of selected hospitals.

AIM OF THE STUDY

Aim of the study was to assess the effectiveness of ophthalmic exercises on visual discomfort among the computer workers in administrative department of selected hospital.

METHODOLOGY

The objective of the study was to assess the effectiveness of ophthalmic exercises on visual discomfort among the computer workers in administrative department of selected hospital. A Quantitative approach was used with quasi experimental non randomized control group design at the selected hospitals. By Nonprobability purposive sampling techniques total 60 computer workers were selected (30 in experimental group and 30 in control group). A tool was including section A: semi structure questionnaire on demographic data and clinical data. Section B: five point rating scale to assess the level of visual discomfort. The contain validity was done by 19 subject expert. The reliability of the tool was done by Guttman split half method (Parallel

method) for five point rating scale. the correlation coefficient ‘r’ of rating scale was 0.9418 which is higher than 0.80. Hence tool was found to be reliable. The pilot study was conducted on 10 computer workers (experimental group 5 participants and control group 5 participants) were selected for pilot study by Non-Probability purposive sampling technique. Pilot study was feasible in term of time, money, material, and resources.

RESULT

Table :1 Table showing the frequency Percentage wise distribution of Computer Workers according to their clinical data of Do you use any of the following treatment for visual discomfort?

n=60 (Exp group =30 +Control group =30)

Clinical Data	Experimental Group		Control Group	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Years of experience				
Less than 1 yr	0	0%	0	0%
1-5 yrs	11	36.7%	10	33.3%
6-10 yrs	16	53.3%	14	46.7%
More than 10 yrs	3	10%	6	20%
Average use of computer per day				
2-4 hrs	0	0%	0	0%
5-7 hrs	0	0%	0	0%
8-10 hrs	3	10%	4	13.3%
More than10 hrs	27	90%	26	86.7%
Working Shift				
Day	30	100%	29	96.7%
Evening	0	0%	0	0%
Night	0	0%	0	0%
Split	0	0%	1	3.3%
How do you take break during working on computer				
After 1-2 hrs	19	63.3%	6	20%
After 3-4 hrs	10	33.3%	23	76.7%
After 5-6 hrs	1	3.3%	1	3.3%
After 6-7 hrs	0	0%	0	0%
Duration of break during working on computer				
5-10 min	28	93.3%	29	96.7%
11-15 mi	1	3.3%	1	3.3%
16-20 min	1	3.3%	0	0%
More than 20 min	0	0%	0	0%
How did you use break time to refresh your eyes				

Walking within the office	19	63.3%	21	70%
Looking nearly objects away from the monitor site	2	6.7%	3	10%
Blinking activity	1	3.3%	1	3.3%
Relax and keeping the eyes closed	3	10%	3	10%
Other measures	5	16.7%	2	6.7%
How well is your working room illuminated				
Very Poor	0	0%	0	0%
Very High	0	0%	1	3.3%
Good	30	100%	29	96.7%
What is the brightness of your computer screen				
No Glare	0	0%	0	0%
Too Dull	0	0%	0	0%
Too Bright	30	100%	30	100%
State the distance in inches between seat and computer screen				
10-15 inches	2	6.7%	6	20%
16-20 inches	20	66.7%	20	66.7%
21-25 inches	8	26.7%	4	13.3%
More than 25 inches	0	0%	0	0%
At what level your computer screen is placed				
Above the eye level	3	10%	5	16.7%
At the eye level	1	3.3%	1	3.3%
Below the eye level	26	86.7%	24	80%
Do you use any of the following treatment for visual discomfort				
Lubricating ointment	0	0%	0	0%
Warm compresses	1	3.3%	0	0%
Cold compresses	0	0%	0	0%
None	29	96.7%	30	100%
Other measure	0	0%	0	0%
Are you wearing corrective spectacles				
Yes	9	30%	12	40%
No	21	70%	18	60%
Are you using antiglare spectacles				

Yes	0	0%	0	0%
No	30	100%	30	100%
Are you using antiglare computer screens				
Yes	1	3.3%	0	0%
No	29	96.7%	30	100%

Table: II. Table Showing the Comparison of mean difference and standard deviation (SD) in Visual Discomfort score of Computer Workers in experimental and control group.

n=60

Group	Mean Difference	SD	df	Table value	Calculated t- value	p-value
Experimental Group	40.20	1.09	58	02	25.09	0.0001 S,p<0.05
Control Group	0.06	8.69				

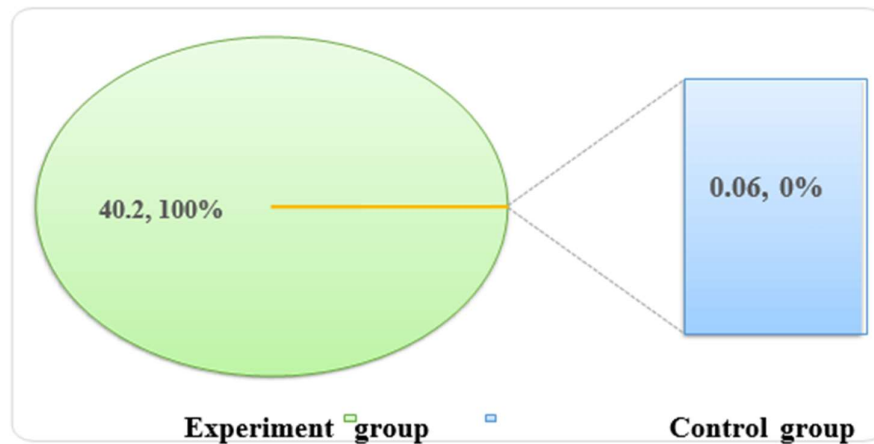


Figure II: Pie diagram representing Comparison of mean difference in Visual Discomfort score of Computer Workers in experimental and control group.

DISCUSSION

Other research that provided support for the current study's findings were addressed. The goal of the research was to evaluate the impact of ophthalmic workouts on computer employees' visual discomfort at a chosen firm in Chennai⁶. A quantitative, real-world experiment was undertaken with 50 computer professionals. To choose samples, the researcher employed a random sampling procedure. Demographic information was gathered and a visual discomfort scale was utilized to measure discomfort. The corporate employees were instructed in the ophthalmic exercises, and they were required to do them daily for a week. The visual pain was reevaluated a week later. The results of this research show that the post-test mean score for visual pain was 14.72 3.19, whereas the pre-test standard score was 35.10 14.59. At the P 0.001 level, the estimated paired "t"-test result of t = 9.823 was determined to be statistically

significant. This shows that there was a substantial drop in the level of discomfort in the eyes among computer employees in the post-test, clearly indicating that the ophthalmic exercise for visual discomfort given to computer workers was successful in lowering the level of apparent discomfort in the post-test.⁷ The sociological variable age has a statistically significant correlation (P 0.05) with the post-test degree of eye discomfort among computer employees, according to the study.⁶The aforementioned research demonstrated that ophthalmic exercises were successful in reducing ocular discomfort in computer workers. The current study's findings are similar in that the experimental group's mean variance was 40.20 1.09, whereas the control group's was 0.06 8.69. The estimated t value was 25.09, which was significantly greater than the tabular value; as a result⁸, Ho was rejected but H1 was approved, which statistically indicated that eye exercises were helpful in easing discomfort. The current research also demonstrates a statistically significant (p 0.05) correlation between post-test visual discomfort scores and age. which the research mentioned above supported.

CONCLUSION

In the world it has been nearly 60 million people experience vision problem. Computers have now become basic and essential desktop equipment in almost every establishment.⁷In world it has been estimated that nearly 60 million people experience vision problems as a results computer use.¹⁰ Different aspects of the study in terms of analysis and interpretation are discussed. The study reveals that, Mean difference of experimental group is 40.20 and SD is 1.09. Mean difference of control group 0.06 and SD is 8.69. Mean difference values are compared and student's unpaired "t" test is applied at 5% level of significance. The tabulated value for n=30+30-2 i.e. 58 degrees of freedom was 2.00. The calculated "t" value is 25.09 are much higher than the tabulated value at 5% level of significance for overall visual discomfort score of computer workers which is statistically acceptable level of significance. Thus, it is statistically interpreted that the Ophthalmic Exercises on visual discomfort among computer workers was effective. Analysis reveals that, in experimental group there is significant association of visual discomfort with age in years, education and monthly family income (Rs). In control group there is significant association of visual discomfort with education.

CONFLICT OF INTREST:

This statement is to certify that all authors have been and approved the manuscript being submitted. We warrant that the article has not received prior publication and is not under consideration for publication elsewhere. We have no conflict to declare.

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