

A Pre- Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge and Prevention of Computer Vision Syndrome among the Long Term Computer Users

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Abstract:

Background: Eyes are the jewels of the body. We can see this beautiful world through it, but in modern lifestyle computer became the important part of human's life. Seeing the digital screen for a long period of time gives a harmful impact on the eyes and some other body part also. Therefore adequate knowledge is necessary for every computer users and to be aware regarding the harming effects of digital screen called computer vision syndrome.

Materials and Methods: For the present study quantitative approach is used. A pre experimental one group pre and post test design was adopted in this study. Structured knowledge questionnaire was developed to collect the data. Pilot study was conducted among 10 computer worker in A.L.C. Campus, Sri Ganganagar. The main study was conducted in H.C.C. complete ITI education, Sri Ganganagar among 60 computer users.

Results: The results shows that in pretest 18.33%(11) got inadequate marks, 63.33% (38) got average marks, 18.33%(11) adequate marks, and in post test the 70% (42) got adequate marks, 30% (18) got average marks on posttest and the data on table 7 reveals that the overall pretest knowledge score Mean is (15.48) and SD is(4.93) and post test knowledge score Mean (22.8) and SD (4.35).The obtained “t” value is 2.73 which is greater than the table value t(59) 2.0010. So the structured teaching programme on knowledge and prevention regarding computer vision syndrome is effective in increasing knowledge of participants.

Conclusion: The present study attempted to assess the effectiveness of structured teaching programme on knowledge and prevention regarding computer vision syndrome among the long term computer users and found that the structured teaching programme was effective in improving the knowledge of computer users.

Keywords: Knowledge; Prevention; Effectiveness; Structured Teaching; Programme; Computer users

Introduction

In the modern world, the viewing of electronic displays has become a huge part of daily living .At home, at work during leisure of time the use of computers, laptops, mobiles and electronic reading devices has become ubiquitous. Viewing of digital screens for both vocational and a vocational activities is virtually universal .Digital electronic devices displays differ significantly from printed materials in terms of within task symptoms .Computer vision syndrome also known as digital eye strain, is the combination of eye and vision problem associated with use of computers , laptops ,tablets , smart phones and electronic reading devices Digital device usage has increased substantially in recent years across all age groups, so that extensive daily use for both social and professional purposes is now normal. Digital eye strain (DES), also known as computer vision syndrome, encompasses a range of ocular and visual symptoms, and estimates suggest its prevalence may be 50% or more among computer users. Symptoms fall into two main categories: those linked to accommodative or binocular vision stress and external symptoms linked to dry eye. Although symptoms are typically transient, they may be

frequent and persistent, and have an economic impact when vocational computer users are affected.

DES may be identified and measured using one of several available questionnaires, or objective evaluations of parameters such as critical flicker–fusion frequency, blink rate and completeness, accommodative function and pupil characteristics may be used to provide indices of visual fatigue. Correlations between objective and subjective measures are not always apparent. A range of management approaches exist for DES including correction of refractive error and/or presbyopia, management of dry eye, incorporating regular screen breaks and consideration of vergence and accommodative problems. Recently, several authors have explored the putative role of blue light-filtering spectacle lenses on treating DES, with mixed results.

Objectives of the study

- To assess the pre-test level of knowledge and prevention of digital knowledge and prevention of digital eye strain/computer vision syndrome among the long term computer users in selected area of Sri Ganganagar.
- To administer structured teaching programme regarding knowledge and prevention of digital eye strain/computer vision syndrome among the long term computer users in selected area of Sri Ganganagar.
- To assess the post test level of knowledge and prevention of digital eye strain/computer vision syndrome among the long term computer users in selected area of Sri Ganganagar.
- To compare the pre- test and post-test level of knowledge regarding computer vision syndrome among the computer/mobile users in the selected area of Sri Ganganagar.
- To assess the effectiveness of the structured teaching programme on the knowledge and prevention of computer vision syndrome among the long term computer To users of selected areas of Sri Ganganagar.
- To determine the association between pre-test knowledge score with selected demographic variables among the long term computer users in selected area of Sri Ganganagar, Rajasthan.

Hypothesis

- **H₁:** There will be a significant difference between pre-test and post-test level of knowledge of computer/mobile users regarding knowledge and prevention of digital eye strains/computer vision syndrome.
- **H₂:** There will be significant association between the pre –test level of knowledge and selected demographic variables regarding computer vision syndrome.

Materials & Methods

Research approach: In the present study quantitative research approach was used.

Research design: In the present study research design adopted was the pre experimental research design”,

Variables under Study: In this study, there are two variables: Independent and Dependent variable.

Independent variable: In the study the independent variable was Structured teaching programme.

Dependent variable: In the study the dependent variable was knowledge regarding computer vision syndrome among the long term computer users in selected area of Sri Ganganagar.

Demographic variable: Age, gender, religion, marital status, income, residential area, educational qualification, educational stream, working hours, leisure time activity.

Research settings: Setting for pilot study:- A.L.C. Campus, Sri Ganganagar. Setting for Main study:- H.C.C. Complete ITI Education, Sri Ganganagar.

Population: In the present study the population include the long term computer users of the A.L.C. campus and H.C.C. complete ITI Education in the Sri Ganganagar.

Sample: The samples for study were selected computer users in the selected area of Sri Ganganagar.

Sample size: Total sample size for pilot study- 10 Total sample size for the main study- 60

Sampling technique: Purposive sampling technique was used to select the sample of the study.

Sampling criteria:

Inclusion criteria:

- A. Computer users who were present at the time of data collection.
- B. Computer users who were willing to participate in the study.
- C. Samples those were able to understand Hindi or English language.

Exclusion criteria:

- A) Samples those were not present at the time of data collection.
- B) Samples those were not willing to participate in the study.
- C) Samples those were not able to understand Hindi or English language.

Method of data collection

Data collection tools: In this study the researcher used structured knowledge questionnaire.

Preparation of blue print: A blue print was prepared prior to the construction of structured knowledge questionnaire. A blue print for knowledge questionnaire on legal and ethical responsibility was prepared.

Content validity: Content validity refers to the universe of contents or the domains of given construct. The universe of content provides the frame work and basis of formulating the items. Validity of the tool was assessed by obtaining opinion from 8 experts in which includes 2 medical officers, 1 ayurvedic medical officer, 5 experts (M.Sc. Nursing) in the field of Medical Surgical Nursing. Appropriate modifications and corrections were made and tool was finalized.

Pre testing and reliability of tool: Pre testing the procedure of measuring the effectiveness of an instrument or tool. Reliability of a research instrument is defined as the extent to which the instrument yields the same results on repeated measures. For pre test the tool was administered to 10 computer users studying in A.C.C. campus, Sri Ganganagar. Reliability was established by using Spearman brown Formula The reliability co efficient of the tool was ($r = 0.91$)

Results

The results shows that in pretest 18.33%(11) got inadequate marks, 63.33%(38) got average marks, 18.33%(11) adequate marks, and in post test the 70% (42) got adequate marks, 30% (18) got average marks on posttest and the data on table 7 reveals that the overall pretest knowledge score Mean is (15.48) and SD is(4.93) and post test knowledge score Mean (22.8) and SD (4.35).The obtained “t” value is 2.73 which is greater than the table value t(59) 2.0010. So the structured teaching programme on knowledge and prevention regarding computer vision syndrome is effective in increasing knowledge of participants.

Conclusions

The present study attempted to assess the effectiveness of structured teaching programme on knowledge and prevention regarding computer vision syndrome among the long term computer users and found that the structured teaching programme was effective in improving the knowledge of computer users.

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Conflict of Interest: There are no conflicts of interest

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