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Research Article

EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING PREVENTIVE MEASURES OF VISUAL PROBLEMS AMONG SOFTWARE PROFESSIONALS

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ABSTRACT

Computers influence every sphere of human activity and bring many changes in education, industry and health care. Occasional computer users may notice no ill effects from poorly designed or badly adjusted work stations, but those who spend several hours a day for many years should pay careful attention to ergonomics. The present study based on evaluative approach aimed to assess the effectiveness of Self Instructional Module (SIM) on Knowledge regarding Preventive Measures of Visual Problems among Software Professionals working in selected software companies, Bangalore, India. Sixty software professionals were selected by using non - probability purposive convenient sampling technique and the Structured Knowledge Questionnaire on Preventive Measures of Computer related Visual Problems was utilized to collect the data. The study findings showed that there was a significant difference between the pre and post test knowledge score of the participants about knowledge on preventive measures of visual problems at $p<0.01$ after administration of SIM and concluded that the Self Instructional Module as one of the educational strategy was found to be effective in increasing the knowledge level of software professionals regarding preventive measures of visual problems.

INTRODUCTION

Computers have become the most indispensable piece of office equipment and an increased use of computers in the workplace has brought about a number of health concerns. There were two concerns emerged, while commerce and industry embarked on the process of exploiting the potential of computers to enhance productivity, namely VDUs (Visual Display Units) causing visual distress and the other one was the emission of radiation that could be harmful to eyesight and led other adverse health consequences.[1]

Computer, a hallmark of technological advancement has ushered in a new genre of occupational health problem i.e. of computer related health problems. However, India being the forerunner in the cyber world the occupational health personnel were slowly awakening to such group of modern occupational diseases which were slowly took their roots among the Information Technology (IT) Professionals. These problems, if ignored, could prove debilitating; cause crippling injuries and forcing one to change one's profession. There is an urgent need to understand the dynamics of these problems and prevent it from assuming epidemic proportions.[2]

Though modern lifestyle has given us a lot of comfort and good things, it has also brought in varieties of stress and strain. With the increase in computer use, a number of health and safety concerns related to vision and musculo-skeletal problems have arisen. Close range of focusing resulted in eyestrain, eye fatigue, blurred vision and headache, which also produced a lot of strain on eye muscles and overall well being. Yet people have become much dependent on computers at work and home for many purposes (e-mail, internet access and research etc).[3] Software professionals - the persons who work several hours a day in front of computers were more prone for computer related vision problems. Visually normal individuals and also who wear glasses reported that the constant use of computer cause strain on the eyes. Computers are more visually demanding than printed material because the image on a monitor is more dynamic and not stable like printed text in a book. Therefore, the eye muscles must constantly adjust to keep focus on the screen. Because of this intense visual demand, the eyes need to work harder to focus on the computer screen for prolonged periods; low amounts of uncorrected refractive errors can make the eye muscles work harder. Hence, the software professionals must be aware of these computer related vision problems and the preventive measures. Although computers have been used in health care since 1960's, the use

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of computer in the field of nursing has increased recently. Computer is useful tool in Education because it allows for an individual a self paced learning. Computer Assisted Instruction (CAI) is a method of teaching that involves interaction between the learner and the computer. Computers could perform a wide range of activities that save time and help nurses provide quality nursing care. Computerized documentation is legible and it can be programmed to identify the data and time of all entries as well as the initials or the name of the person making the entry. The computer helps nurse researcher to collect and analyze data, prepare research reports and disseminate research findings. Computer is also useful tool in nursing administration and a number of computer programs are designed to assist nurse administrators. Though computer is useful tool in all these aspects it has many ill effects on vision and health[4].

Many study findings showed that there are visual problems while working with the computer for limited duration and also the investigator came across the people who are working in software companies and suffering from visual problems like eye irritation, blurred vision, watering eyes etc. Due to technological advancement and modernization many individuals are adopted to computers including young children without aware of computer related health problems and necessary preventive measures. Hence, the present study aimed to benefit the software professionals regarding Preventive Measures for Computer related Visual Problems.

MATERIALS AND METHODS

The modified conceptual framework based on ImogeneKing's Goal Attainment Theory[5] served as a base at evaluating the effectiveness of Self Instructional Module on Preventive Measures of Visual Problems among Software Professionals. An evaluative approach utilizingone group pre test-post test design was adopted to attain the aim of the present study. 60 study participants from I-link software ltd, Patni solutions, and Valtech India ltd were selected by using non probability purposive convenient sampling technique, a Structured Knowledge Questionnaire on Preventive Measures of Computer related Visual Problems which included 42 knowledge items consisted two parts viz, demographic variables and knowledge items related to Structure and Functions of the Eye (8), General concept of Visual Problems (5), Visual Problems related to the use of Computer (6), Preventive measures of Visual Problems (17) and Treatment of Visual Problems (6)**.** The 'r' value of the tool was estimated as 0.88 through split half technique and found to be reliable. The SIM named ***"Self Instructional Module on Preventive Measures of Visual Problems among Software Professionals"*** was developed based on the objectives of knowledge variables which consisted of general guidelines for the use, objectives, contents (Structure and Functions of the eye, General concept of Visual Problems, Visual Problems related to the use of Computer, Preventive Measures of Visual Problems and Treatment of Visual Problems), glossary, key answers and references.

RESULTS

The demographic data indicated that majority of the subjects 27 (45%) belong to the age group of 26-30yrs and only 3 (5%) subjects belong to the age group of above 36yrs and most of the subjects 48 (80%) were males. Majority of the subjects 22 (36.7%) were qualified with B.E and only 2 (3.3%) subjects were qualified with B.Com. Pertaining to designation most of the subjects 24 (40%) were Junior Software Engineers and only 5 (8.3%) subjects were Trainees. Most of the subjects 33 (55%) got information through electronic media, whereas, the maximum number of the subjects 42 (70%) had 1 – 5 years of technical experience and only 2 (3.3%) subjects had below one year of experience. Regarding use of computer (hrs) majority of the subjects 42 (70%) were using computer for 8-10hrs and only 6 (10%) subjects were using computer for 14-16hrs, also 46 (76.6%) participants were not suffering from any visual problems and 49 (81.6%) were not using any protective measures.

Table 1 Frequency and Percentage distribution of level of Knowledge among Software Professionals regarding preventive measures of visual problems in pre test

N = 60

Sl. No	Knowledge Variables	< 50		50 – 74		> 75	
		F	%	F	%	F	%
1	Structure and Functions of the eye	28	46.67	31	51.67	1	1.66
2	General concept of visual problems	35	58.34	20	33.33	5	8.33
3	Visual problems related to the use of computer	16	26.66	36	60	8	13.34
4	Preventive measures of visual problems	38	63.34	21	35	1	1.66
5	Treatment of visual problems	26	43.33	32	53.33	2	3.34
6	Over all knowledge	32	53.33	28	46.67	-	-

Table 2 Frequency and Percentage distribution of level of knowledge among Software Professionals regarding preventive measures of visual problems in post test

N = 60

Sl. No	Knowledge Variables	< 50		50 – 74		> 75	
		F	%	F	%	F	%
1	Structure and Functions of the eye	-	-	3	5	57	95
2	General concept of visual problems	-	-	5	8.34	55	91.66
3	Visual problems related to the use of computer	-	-	3	5	57	95
4	Preventive measures of visual problems	-	-	-	-	60	100
5	Treatment of visual problems	-	-	4	6.66	56	93.34
6	Over all knowledge	-	-	-	-	60	100

Table 3 Comparison of pre and post-test knowledge scores among Software Professionals regarding preventive measures of visual problems

N = 60

Sl. No	Knowledge Variables	Pre-test Mean	Post-test Mean	't' value
1	Structure and Functions of the eye	3.93	7.3	17.31**
2	General concept of visual problems	2.42	4.38	14.09**
3	Visual problems related to the use of computer	3.25	5.55	16.70**
4	Preventive measures of visual problems	7.71	15.62	31.27**
5	Treatment of visual problems	2.76	5.52	23.58**
6	Over all knowledge	20.08	38.37	43.25**

DISCUSSION

The study findings showed that 28 (46.67%) subjects had moderate knowledge and 32 (53.33%) subjects had inadequate knowledge in the pretest. Most of the subjects 8 (13.34%) had

adequate knowledge on 'Visual Problems related to the Computer' and only 5 (8.33%) subjects had adequate knowledge on 'General Concept of Visual Problems'(Tab 1). The mean percentage for overall knowledge was 47.81 which shows that the subjects had moderate knowledge regarding Visual Problems related to the Computer. The discrepancy could be due to insufficient information regarding preventive aspects of computer related visual problems. Therefore, the investigator felt the need to improve the subjects' knowledge by giving specific information on Preventive Measures of Computer related Visual Problems through administering SIM. Whereas, in the post test, it was clear that all subjects 60 (100%) had adequate knowledge on Preventive Measures of Computer related Visual Problems (Tab 2). The mean percentage obtained for overall knowledge was 91.36 which shows a gain in knowledge level of the subjects. These findings were consistent with the results of Asha Sharma (1998), who conducted a study on effectiveness of planned teaching program and self instructional module for developing self care ability of Non Insulin Dependent Diabetes Mellitus (NIDDM) patients revealed that the mean post test knowledge scores were significantly higher than the mean pre test knowledge scores and concluded that there was significantly higher knowledge, gain in skill and reduction in stress levels in the experimental group than the control group.[6]

The comparison of pre and post test knowledge regarding Preventive Measures of Visual Problems among Software Professionals showed that there was a positive improvement mean knowledge score of 18.29 with the 't' value 43.25 and found to be highly significant at the level of $p<0.01$ (Tab 3). The present findings were consistent with the study findings of Lalitha (2000), which evaluated the effectiveness of the module on knowledge of antenatal mothers about anemia, revealed that the computed 't' value 29 was found to be highly significant at $p\leq0.001$[7]. Hence the research hypothesis stated that there will be significant difference between the pre and post test level of knowledge among software professionals was accepted.

Although there was significant association found between qualification and source of information with pre test level of knowledge $p<0.05$, there was no significant association other demographic variables of the subjects. These findings were consistent with the findings of Shraddha Munjal (2003) on 'Straighten up While Clicking', revealed that using computer could cause a lot of health problems and all computer based workers may face professional hazards.

Even non-working categories like students who spend much time in browsing the net can come across these risks. Most of the problems arise due to improper working with the computer or overuse of body, work content and schedule.[8]Hence the research hypothesis stated that there will be significant association between pre test knowledge scores and selected demographic variables of software professionals was rejected. From the present study it was concluded that the Self Instructional Module was effective in increasing the knowledge of the subjects regarding Preventive Measures of computer related Visual Problems.

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References

1. Daniel A Updegrove, Kimberly H Updegrove. Computers and Health: Issues and Protective Measures. 1991 Feb. URL=http//pantheon.yale.edu/danu/ce91.html
2. Suparna K, Sharma AK, Khandekar J. Occupational health problems and role of ergonomics in information technology professionals in national capital region. *Indian Journal of Occupational and Environmental Medicine*. Medknow Publications. 2005 Dec; Vol 9, N 3. p.111-114.
3. Ruta.K.Valaitis. Computers and the internet: tools for youth empowerment. 2005. URL:http://www.jmir.org/2005/5/e51/
4. https://www.scribd.com/document/262477116/SEMINAR-on-Use-of-Computers
5. Rose Marie Nieswiadomy. Foundations of Nursing Research. 3rd ed. Appleton and Lange Prentice Hall international ltd; 1998.
6. Asha Sharma. Effectiveness of auto and agent-initiated strategies for developing self care ability of NIDDM patients. *The Indian Journal of Nursing and Midwifery*. 1998 May; Vol. 1, No. 1: 39
7. Lalitha. A study to find out the effectiveness of the Self Instructional Module on anemia among 30 antenatal mothers in Mangalore. Unpublished M.Sc.(N) thesis. Rajiv Gandhi Univerrsity of Health Sciences, Bangalore. 2000
8. Shraddha Munjal. Straighten up while clicking. http://www.tribuneindia.com/2003/20030113/login/index.htm

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