IMPACT OF COMPUTER VISION SYNDROME ON HEALTH OF COMPUTER USAGE BANK EMPLOYEE

SHAHID RAMZAN
Master of Computer Application

MOHAMMAD IRFAN
Associate Professor, Government College, Malerkotla

ABSTRACT

The computer has become a common item in today's society. Nearly 60 million people suffer from CVS globally and a million new cases occur each year. The aim to investigate the awareness and knowledge about Computer vision syndrome (CVS) among Bank employees. The sample of this study consisted 50 Bank employees. Both males and females bank employees from private and public sector were selected. The Sample was randomly selected. The ages of Employees were 26 to 48. Self Prepared Questionnaire, Expert Reviewed and Pilot were used to access the Objective. The results indicated that impact of Computer vision syndrome on the health of human being who used the prolonged computer usage. The investigator found a lot of the remedies and relieves from Computer vision syndrome were as ; Blink more often (12-18/minute),Take breaks frequently (20-20-20 rule) after every 20 minutes look at distant object at least 20 feet away for 20 seconds, Modify work place, Exercise & stretch eyes, Monitor display quality-choose a setting in which refresh rate and resolution both are high, Adjust the brightness of computer screen, Exercise even when sitting- stand up, move about or exercise arms, leg, back, neck, and shoulders frequently.

Keywords: Computer vision syndrome (CVS), computer Bank employees,

INTRODUCTION

Computer Vision Syndrome (CVS) is defined as a group of eye and vision-related problems that result from prolonged computer use (American Optometric Association, 2007). Many experiences eye discomfort and vision problems when viewing a video display terminal for extended periods and increases with the amount of video display terminal use. Symptoms related to computer use are divided into four categories which are asthenopic, ocular surface related-symptoms, visual and extra-ocular symptoms (Blehm et al., 2005).
Asthenopia (aesthenopia) from the Greek word "asthen-opia " or eye strain is an ophthalmological condition that manifests itself through nonspecific symptoms such as fatigue, pain in or around the eyes, blurred vision, headache and occasional double vision. Symptoms often occur after reading, computer work, or other close activities that involve tedious visual tasks. It can severely affect eyesight and quality of life. Symptoms may include blurry vision, discomfort or pain, redness and itching, and in severe cases, blindness due to corneal scarring.

Impact of computer vision syndrome (CVS) health of human being:-The computer has become a common item in today's society. Nearly 60 million people suffer from CVS globally and a million new cases occur each year (Sen et al., 2007). According to Izequardo (2010), the prevalence of CVS worldwide ranges from 25% to 93%. In Malaysia, a study done by the by

National Institute of Occupational Safety and Health (NIOSH) showed that 61.4% of workers who used computers in their workplace complained of lower back pain, shoulder and neck pain, while 70.6% of them complained of eyestrain which are all related to CVS (Loh et al., 2008).

There are several factors that lead to CVS. Visual symptoms increased with the increase in working hours on the computer (Ye et al., 2007). In studies of Subratty and Korumtolee (2005), symptoms of CVS were more in spectacle-wearers, compared to non-spectacle users. Computer users who viewed the computer screen below eye level has a significant reduction in symptoms of CVS compared with those who viewed the screen at or above the eye level (p=0.0001) (Reddy et al., 2013). Environmental factor such as poor lighting and imbalance between light of the computer screen and the surrounding, age, gender, and systemic diseases will also influence the risk to develop CVS (Rosenfield, 2011).

They were having ocular complaints in such as eye strain, headache , dryness , irritation , burning sensation , blurred vision, itching , watering , redness , light or glare sensitivity, contact lens discomfort, slowness in changing focus, changes in color perception, and neck, shoulder and backache and double vision etc.Prevention is the most important strategy in managing CVS. These include environment factor modification and proper eye care. Taking a short break between computer usages is crucial to prevent CVS. Dry eyes which are one of the symptoms of CVS can be easily relieved by applying lubricating eye drops or artificial tears. It is also important to use proper corrective glasses to prevent further deteriorating of the ocular symptoms (Loh et al., 2008).

When using a computer the lighting should be half that of normal room illumination. This can be done with dimmer switches, closing blinds or shades, use of 3 way bulbs, or use of low intensity bulbs. Glare and reflections on computer screens can also cause eye strain. Glare is an issue with all monitors. CRT monitors cause more glare and potential strain issues due to screen dynamics and the screen constantly being “redrawn” (Grand,1987). The best technique to minimize glare is to use an anti-glare cover over the screen and use of flat screens as and when possible.(Nilsen,2005)

It is advisable to take frequent breaks to reduce your risk of symptoms due to computer vision syndrome as well as for neck, back, and shoulder pain. One should make sure to stand up and move as well as look away from the computer and take frequent work break (at least once per hour) in order to prevent the eye strain associated by prolong eye work. (Izquierdo, 2010)To maximize comfort when working on computer, one should talk to optometrist about a customized prescription made especially for computer working distance. This study was conducted to assess the asthenopic symptoms occurring in computer workers & to reduce these symptoms after educational intervention.

Remedy of Computer Vision Syndrome.

- Blink more often (12-18/minute)
- Take breaks frequently (20-20-20 rule) after every 20 minutes look at distant object at Least 20 feet away for 20 seconds.
- Modify work place.
- Exercise & stretch eyes.
- Monitor display quality-choose a setting in which refresh rate and resolution both are high
- Adjust the brightness of computer screen.
- Minimum glare – use anti glare screen to avoid eye strain if possible, paint white background with a darker, colour with a matte finish.
- Use proper lighting – avoid excessive or under lighting.
- Exercise even when sitting- stand up, move about or exercise arms, leg, back, neck, and

shoulders frequently

- Plenty of water intake and tear substitute as and when required.

After adopting above steps, pre and post intervention results in symptomatic patients were encouraging. Majority of symptoms like headache were relived, eye strain, watering eyes and dryness.

Objective: - The main Objectives of the study are as follows:

1 Discover the internet usage during in the year.
2 Discover the Awareness of Computer Vision Syndrome.
3 Discover the Knowledge of Computer Vision Syndrome.
4 Discover the Tiredness after usage of computer.
5 Discover the wearing glasses while using computer.
6 To investigate the combination of Headache, Eyestrain and blur vision that occurs as a Result of Prolonged computer use.
7 Identify eye related problem or pain away from computer.
8 Examine the history of eye check up.
9 Examine effects of eye related problem.
10 Discover the consultation of ophthalmologist/eye doctor.
11 Discover the source of Knowledge about Computer Vision Syndrome.
12 Examine the remedy about computer vision syndrome.

Method

Sample: The Sample consisted of fifty Bank employees of who were working in Malerkotla, District Sangrur, Punjab. Both males and females bank employees from private and public sector were selected. The Sample was randomly selected. The ages of Employees were 26 to 48.This population was taken for purposive sampling .All these employees used the computer in the Bank.

Tools: Self Prepared Questionnaire, Expert Reviewed and Pilot was used to access the Objective.

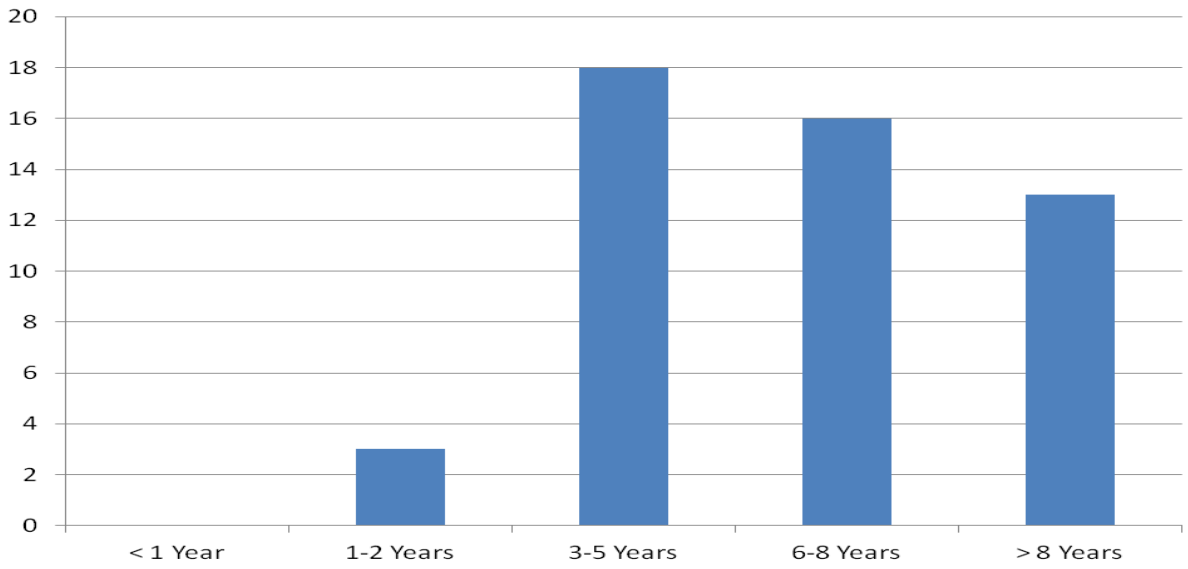
Results and Discussion

The collected data were analysed, classified and tabulated.

Table.1: The internet Usage though computer during the Year of bank employees

Sr.no	No of Computer usage Bank Employee	Response
1	<1 year	0
2	1-2 Years	3
3	3-5 Years	18
4	6-8 Years	16
5	>8 Years	13

Fig : 1



This table showed that 18 employees used the Internet from 3-5 years. It means 36% Employees used the internet from 3-5 years.16 employees used the internet from 6-8 years. It means 32% employees used the internet 6-8 years. From more than 8 years, only 13 employees were used Internet through internet, it means 26 % employees were used the internet from more than 8 years And very less employees used the internet from 1-2 years and less than 1 year. So it has been found that maximum percentages of employees were connected with internet from 3-5 years.

Table.2: The Awareness of Computer Vision Syndrome (CVS) among bank employees.

Sr.no	No of Bank Employees	Response
1	37	Yes
2	13	No

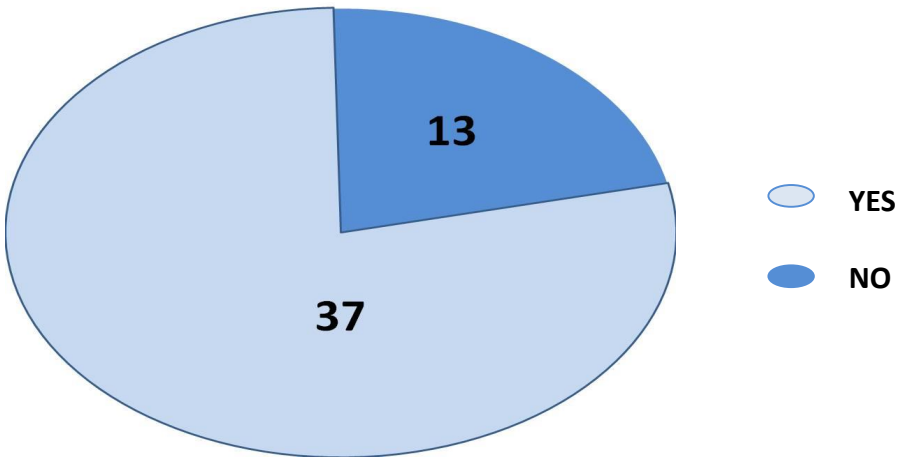


Figure: 2

This table depicted that majority of employees were aware of Computer vision Syndrome. Among the out 50 Employees of banks, 74% employees were admitted to aware of Computer vision Syndrome and Over 26% employees did not aware of Computer vision Syndrome.

Table: 3 The Knowledge of computer Vision Syndrome (CVS) among bank employees.

Sr.no	No of Bank Employees	Response
1	37	Yes
2	13	No

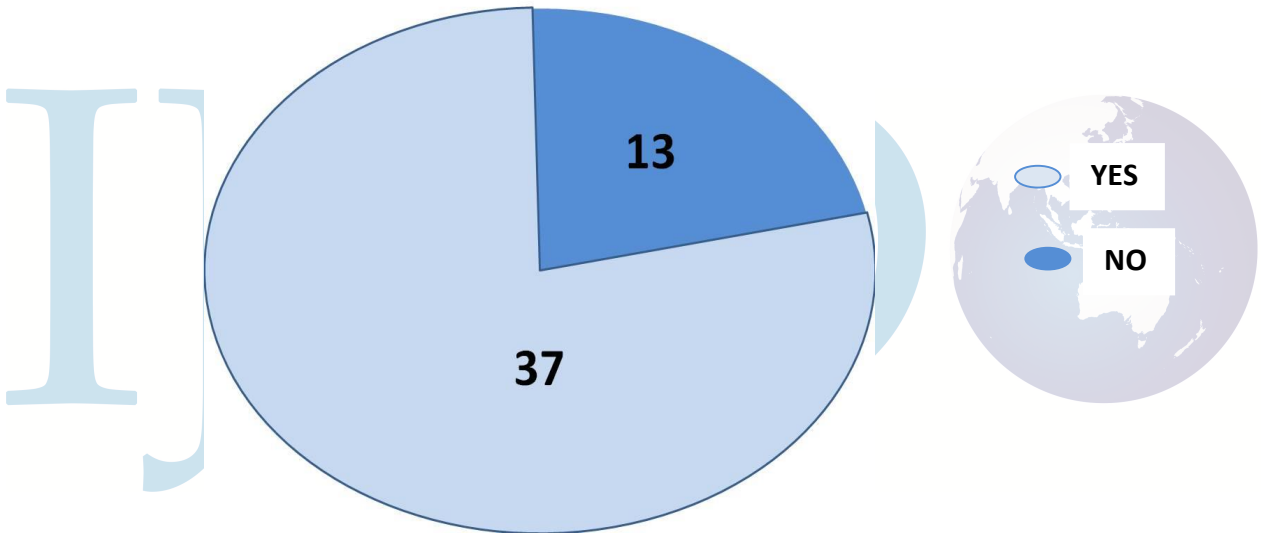


Figure: 3

This table clearly showed that majority of bank employees have knowledge of computer vision Syndrome. Among out of 50 Employees banks, 37 employees have knowledge of computer vision Syndrome and 13 employees have not knowledge of computer vision Syndrome**.**

Table 4: Tiredness during Computer Usage (CVS) among bank employees.

Sr.no	No of Bank Employees	Response
1	30	Yes
2	20	No

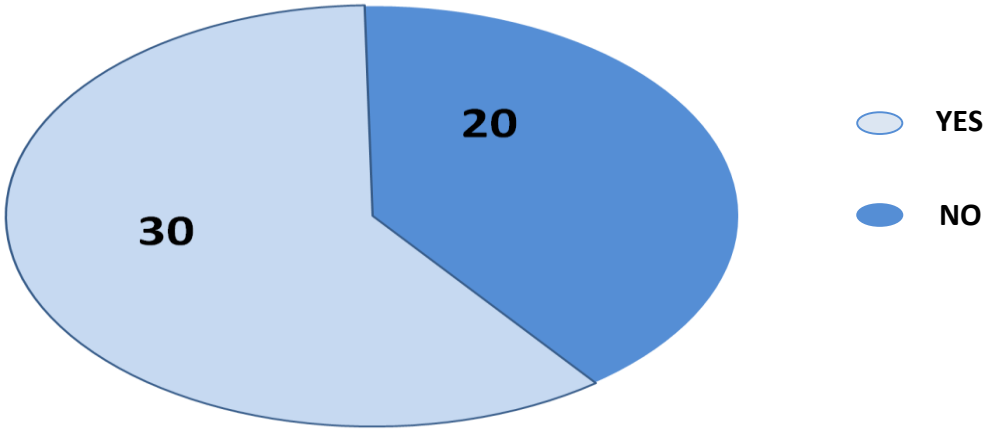


Figure: 4

This table depicted that the 60% employees were Tired from computer usage. Among the out of 50 bank employees, 30 employees admitted that we have tired from computer usage in the office whole day and 20 employees were not felt tire during computer usage in the office whole day.

Table 5: The Wearing Glasses While Usage of Computer in the Banks.

Sr.no	No of Bank Employees	Response
1	12	Yes
2	38	No

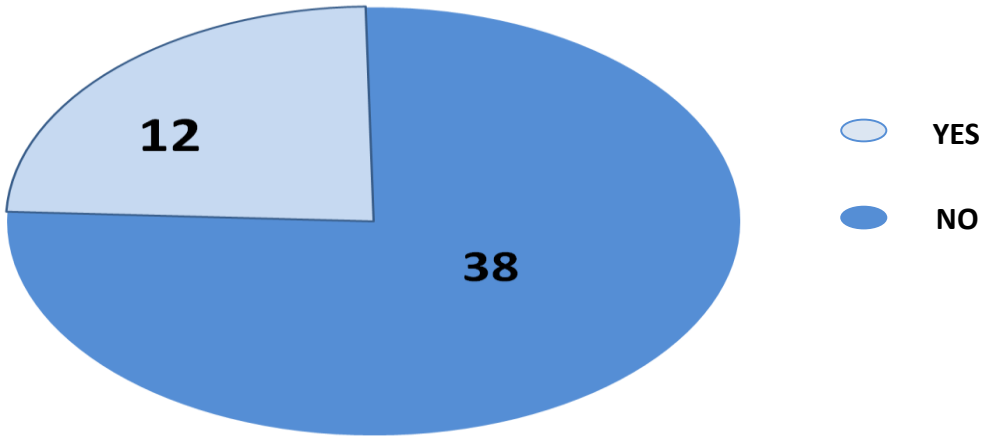


Figure: 5

The investigator found that majority of bank employees were not wearing glasses during computer usage. Among out of 50 bank employees, 38 employees were not wearing glasses

during computer usage and 12 bank employees were used the wearing glasses during computer usage. It means 76% bank employees were not wearing glasses and 24% bank employees were used the glasses during computer usage.

Table 6: To investigate the Combination of Headache, Eyestrain and blur Vision that Occur as a Result of Prolonged Computer Use.

Sr.no	No of Bank Employees	Response
1	28	Yes
2	22	No

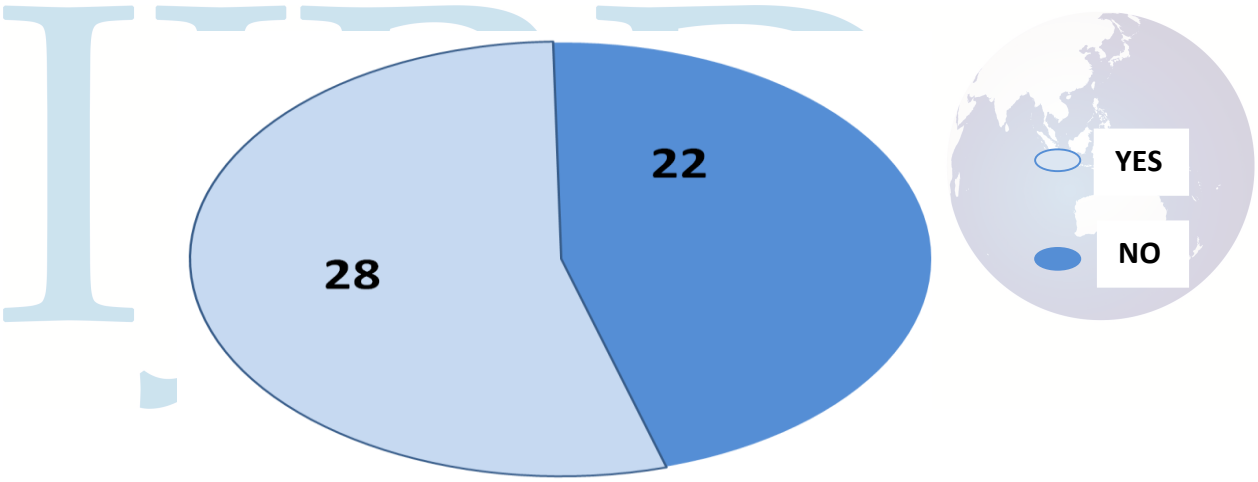


Figure: 6

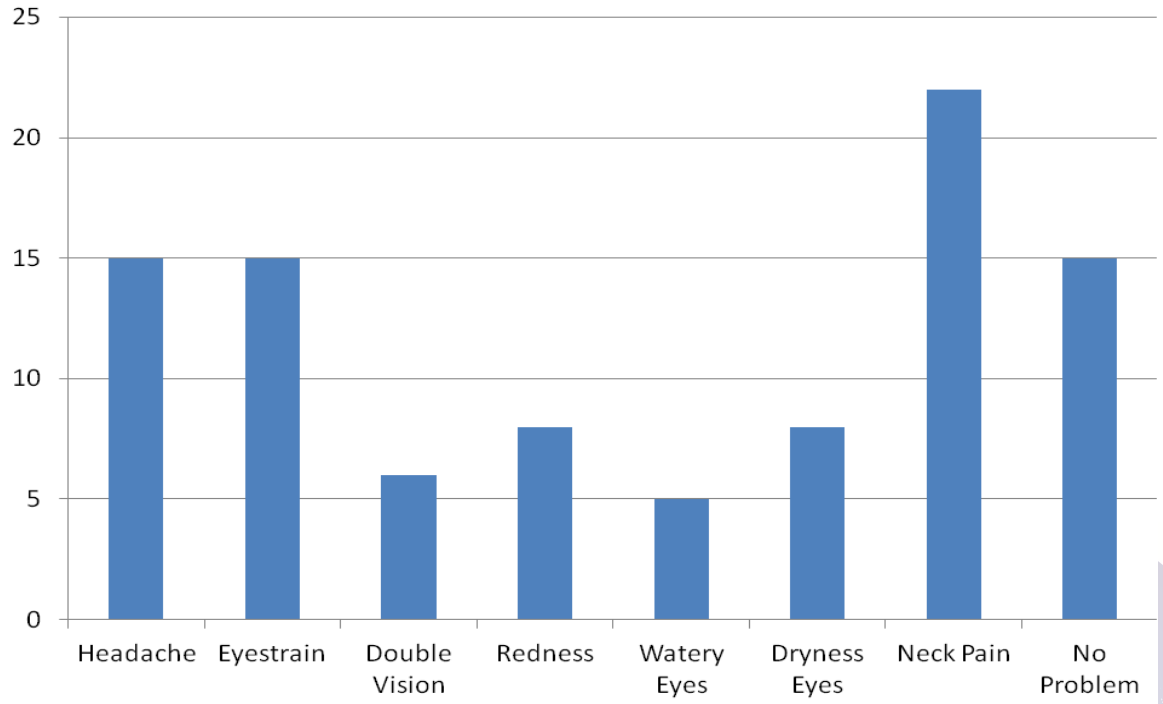
This table showed that out of 50 bank employees, 28 employees admitted that Combination of Headache, Eyestrain and blur Vision that Occur as a Result of Prolonged Computer usage and 22 employees did not admit that Combination of Headache, Eyestrain and blur Vision that Occur as a Result of Prolonged computer usage. It means 56% employees admitted and 44 % employees did not admit that they suffered asthenopia though usage of computer set.

Table 7: Experience of Health Problems when were not work on computer.

Sr.no	Health Problems	Response of Bank Employees
1	Headache	15
2	Eyestrain	15
3	Double Vision	06
4	Redness	08

5	Watery Eyes	05
6	Dryness Eyes	08
7	Neck Pain	22
8	No Problem	15

Fig : 7

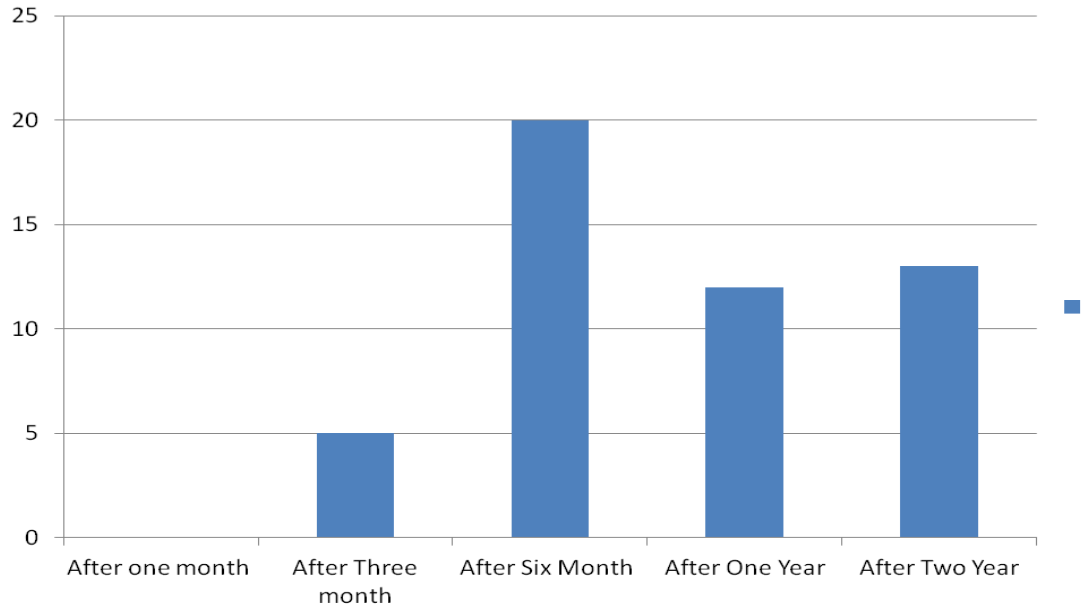


In the Table no.7, the investigator found that maximum the bank employees were affected from neck Pain. It means 44% bank employees were affected from neck plain.30% bank employees were affected from Headache and Eyestrain.16% bank employees were suffered from Redness and Dryness Eyes.12% bank employees were suffered from Double vision.10% bank employees were felt that their eyes suffered from Watery Eyes and 44% bank employees were not any Problem like as Headache, Eyestrain, Double vision, Redness, Watery Eyes and Neck pain.

Table 8: History of Eye Check up.

Sr.no	Period of Eye Check up	Response
1	After one month	00
2	After Three month	05
3	After Six month	20
4	After One Year	12
5	After Two year	13

Figure :8



In the table no. 8, the investigator found that maximum bank employees checked up the eyes after six month. 40% bank employees checked up the eyes after six month.26% bank employees checked up the eyes after two years.24% bank employees checked up the eyes after one year.10% bank employees checked up the eyes after three month. There were not any bank employee's checked up eyes after one month.

Table 9: Total number of employees in Eye Problem.

Sr.no	No. of Bank Employee's Eye Problem	Response
1	20	Yes
2	30	No

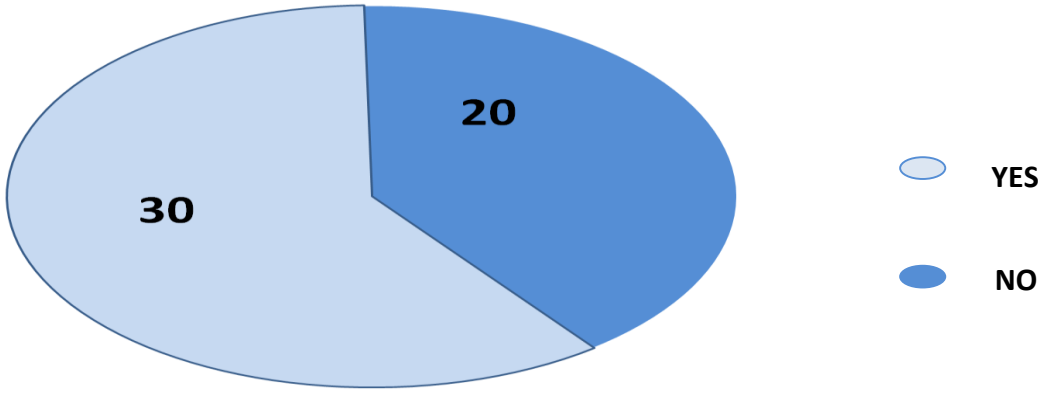


Figure: 9

This table depicted that 60% bank employees were affected from eye problem. The investigated was found eyes problem were found to experience more CVS (computer vision syndrome) symptoms. Among 50 bank employees, 30 bank employees were affected from eye problem. 20 bank employees were not affected from eye problem. It means 40% bank employees were not affected eye problem.

Table 10: The consultation ophthalmologist/doctor of Bank Employees.

Sr.no	No of Bank Employees	Response
1	35	Yes
2	15	No

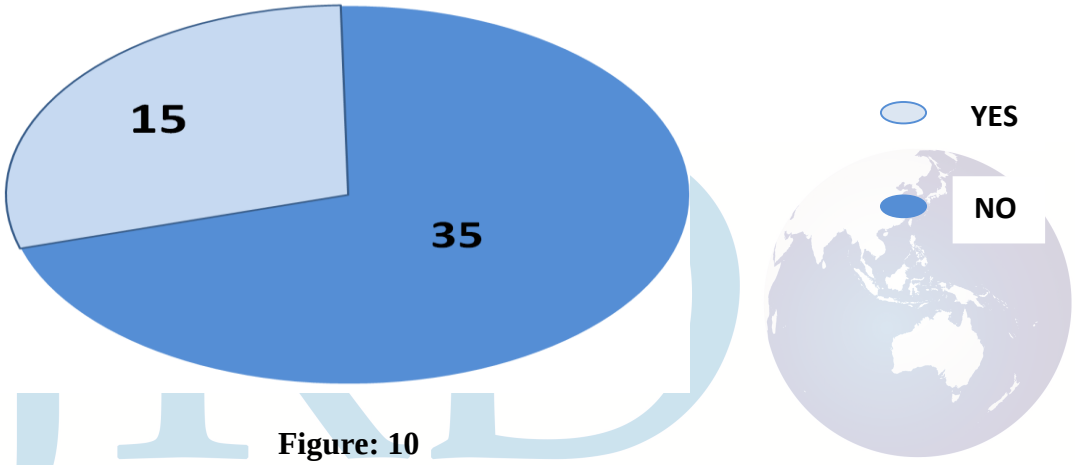


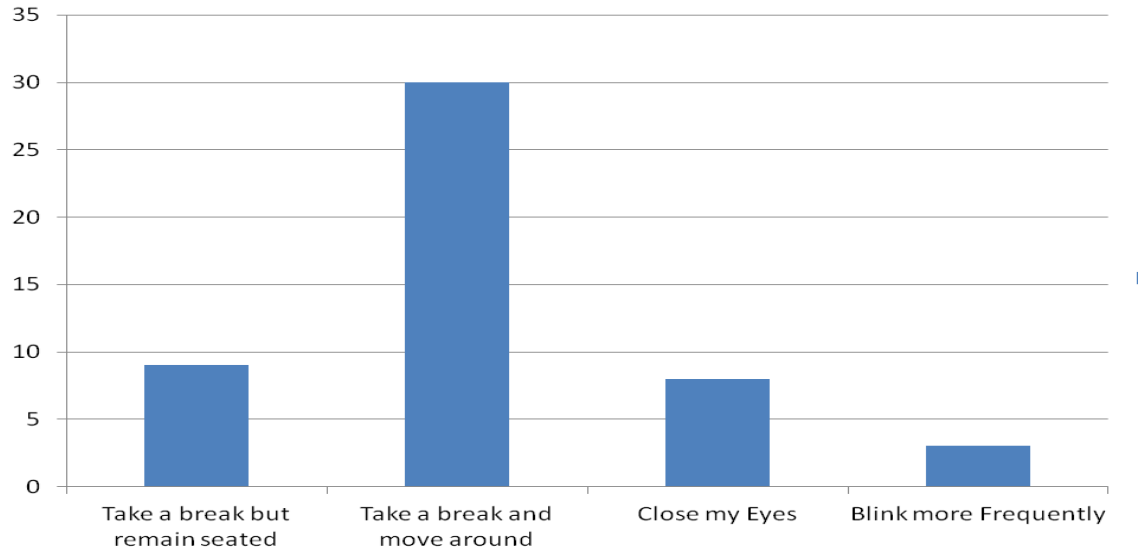
Figure: 10

This table depicted that majority of bank employees were consulted a doctor or eye Specialist for an eye Problem. Out of 50 bank employees, 35 bank employees were consulted a doctor or eye specialist for an eye problem and 15 bank employees were not consulted a doctor or eye specialist for an eye problem. It means 70% bank employees were consulted a doctor or eye specialist and 30 % were not consulted a doctor or eye specialist.

Table 11: The Remedy/Relief from computer vision syndrome among Bank Employees.

Sr.no	Remedy/ Get Relief	No of Bank Employees Response
1	Take a break but remain Seated	09
2	Take a break and move around	30
3	Close my Eyes	08
4	Blink more Frequently	03

Fig: 11

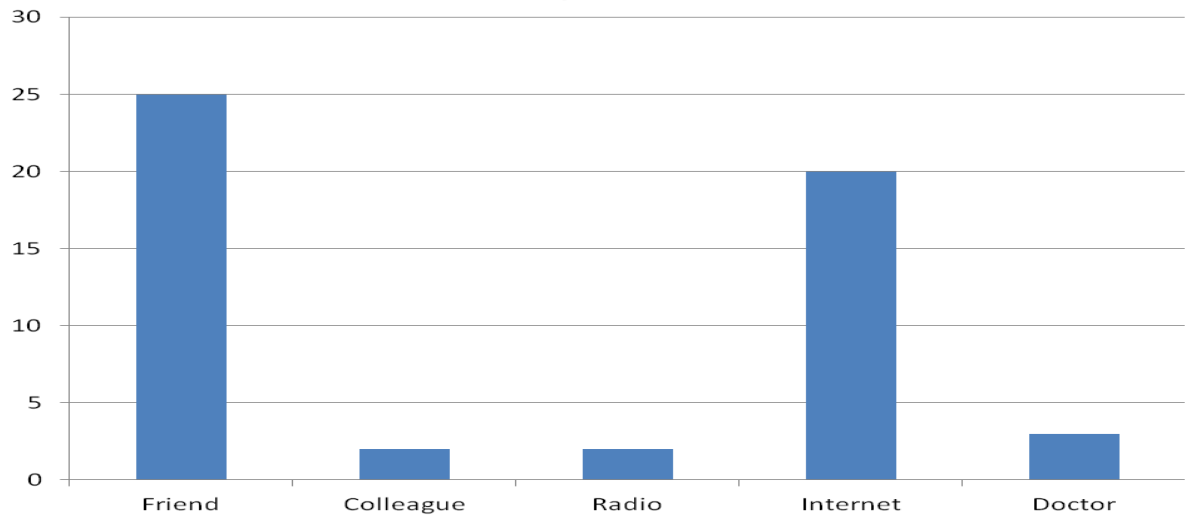


In the Table no.11 the investigator found that maximum bank employees want to get relief from computer vision syndrome. Out of 50 bank employees, 30 bank employees do get relief to take a break and move around from the computer system. It means 60% bank employees do get relief to take a break and move around from the computer system where as 18% bank employees do get relief to take a break but remain seated on computer system.16% bank employees take remedy from computer vision syndrome to close the eyes.6% bank employees to take exercise for getting relief to blink eye more frequently.

Table12: The source of knowledge about vision syndrome among Bank Employees.

Sr.no	Source of knowledge about CVS	No of Bank Employees
1	Friends	25
2	Colleague	02
3	Radio	02
4	Internet	20
5	Doctor	03

Fig : 12



In the table no.12, the resulted showed that the maximum bank employees were get to know about computer vision syndrome (CVS) from friends. Out of 50 bank employees, 25 bank employees were get to know about computer vision syndrome (CVS) from friends.20 bank employees were get to know about computer vision syndrome (CVS) from Internet and very less employees were get to know about computer vision syndrome (CVS) from Doctor, Radio and Colleague.

The 21st Century is characterised by rapid developments in information technology. With dependency on information technology, the computer has become a common tool in schools, colleges, universities and workplaces. According to the American Optometry Association, CVS is defined as "the complex of eye and vision problems related to near work which are experienced during or related computer use" (AOA, 1995). Currently CVS affects millions of people globally (Sen et al., 2007; Rathore et al., 2011; Chakrabarti, 2007) and is increasingly becoming a public health concern. This study focused on determining the prevalence of CVS and associated factors that bank employees felt suffer health problems after the retirement they occur a lot of ophthalmologic problem and they have suffered the combination of headache, Eye strain, Double vision, Redness, Watery eyes, Dryness eyes, Neck Pain, etc. as a result prolonged computer usages in their job.(Akinbinu and Mashalla, 2014; Bergqvist UO et al,1994; Bhanderi , Choudhary , Doshi,2008, Mvungi et al, 2008).

Conclusion

Sufficient knowledge about CVS and its preventive measures would help reduce the incidence in a population. Extensive literature search did not reveal any publication on knowledge of CVS, thus making comparison with other results difficult. It is recommended that further studies be carried out on a large scale to determine the extent of the CVS problem among employees at workplaces including schools, colleges, higher education institutions, government departments and the private sector in India.

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