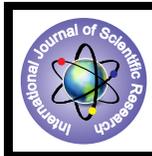


Visual and Musculoskeletal Health problems among Information Technology Professionals in Ahmedabad city



Medical Science

KEYWORDS : Musculoskeletal and visual problems, IT Professionals, Computer Use

Dr Jatin Chhaya	Resident , Community Medicine Department, B J Medical College, Ahmedabad
Dr Tejas Shah	Resident , Community Medicine Department, B J Medical College, Ahmedabad
Dr Jaimin Patel	Resident , Community Medicine Department, B J Medical College, Ahmedabad
Dr Janmesh Shah	Resident , Community Medicine Department, B J Medical College, Ahmedabad
Dr Kirti Rahul	Resident , Community Medicine Department, B J Medical College, Ahmedabad
Dr K N Sonaliya	Professor & Head, Community Medicine Department, GCS Medical College, Ahmedabad

ABSTRACT

Summary: Work related problems are very common among all the professions. Information Technology Professionals (IT) are particularly susceptible to visual and musculo-skeletal problems. Present study is carried out to find out the prevalence of health disorders among computer professionals. Materials and Methods: 152 computer professionals from Ahmedabad city were interviewed using pre tested questionnaire. Result: In present study visual problems were found in 67.1% professional whereas musculoskeletal problems were seen among 61.8% of workers It was found that there was a gradual increase in visual as well as musculoskeletal problems as the number of hours spent for working on computers daily increased. Conclusion: A significant proportion of the computer professionals were found to be affected with musculoskeletal and visual problems. The findings of study suggest that the occupational health of the people working in the computer field needs to be monitored and the professional should be educated regarding the correct postures and ergonomics related to working environment.

INTRODUCTION:

Technological advances, particularly, invention of computers, have revolutionized our way of working. Computer has become an integral part of our life. India has been in the forefront in cyber world with IT industry developing into a major service provider. However, questions have arisen concerning the links that may exist between the use of computers and the health and safety of those who use them. Some health effects -- such as joint pain and eye strain following an extended period of huddled typing at a screen and keyboard -- are recognized as an actuality by many and also as new genre of occupational health problems. There is an urgent need to understand dynamics of these problems.

OBJECTIVES:

- ❖ To study the prevalence of computer related health problems (visual and musculoskeletal) among information technology professionals.
- ❖ To correlate the problems with time (in hours and in years) that they spent in this organizations.

METHODOLOGY:

The present study was a cross-sectional analysis done among Information Technology Professionals working in Ahmedabad, during September 2012-December 2012. Based on various study the sample size of 152 was taken. Computer Software-based organization's office were selected from randomly selected zones of Ahmedabad. Study subject were selected using random number table. The inclusion criteria for subject to be considered for the study were, subject should be working in current job for past 6 month and he/she should be working on the computer for at least 4hours/day. Study subjects were explained about the purpose of study and were assured about the confidentiality of information shared. Predesigned and pre-tested structured questionnaire is used. Data was entered in & analysed using EXCEL & Epi Info 7.

RESULT:

Total 152 professionals working in Information and Technology were surveyed. Detail study of musculoskeletal and visual problems encountered among the workers was carried out. Females were more commonly affected than males.

Out of 152 IT Professional, 102 (67.1%) were having visual

problems whereas Musculoskeletal problems were found among 94 (61.8%). (Figure 1)

Those who were having eye problems, 50% were complaining of Eye pain, 35.5% were having Headache and Burning in the eye was there in 27.6 % of study population. (Figure 2)

Various Musculoskeletal problems found among the workers were, Pain in Neck (34.86%), Pain in Lower back (15.78%) and Pain in Fingers (26.31%). (Figure 3)

Time spent in front of computers was inquired. 59.8% mentioned that they spent 7-9 hours in front of computers, whereas 17.7% were spending more than 10 hours in front of computers.

FIGURE 1: DISTRIBUTION OF COMPUTER RELATED HEALTH PROBLEMS AMONG STUDY SUBJECTS (N=152)

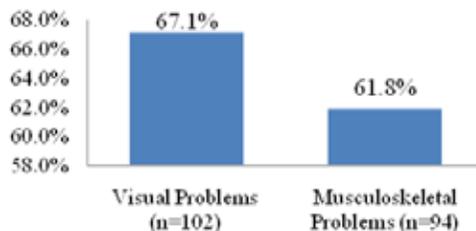


FIGURE 2: VARIOUS MANIFESTATION OF VISUAL PROBLEMS AMONG THE STUDY SUBJECTS (N=152)

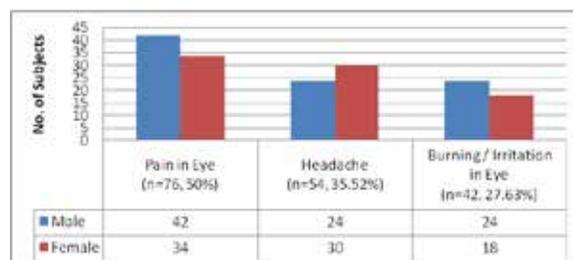


FIGURE 3: VARIOUS MANIFESTATIONS OF MUSCULOSKELETAL PROBLEMS AMONG THE STUDY SUBJECT (152)

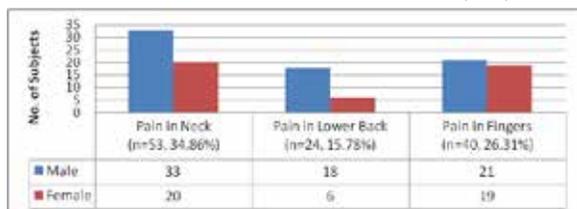


Table 1: Distribution of computer related problems by average time spent daily working on computer

Using Computer (Hours / Day)	Total no of Subject	Visual problems*	Musculoskeletal Problems**
4-6h	27	3 (11.11%)	15 (55.55%)
7-9h	91	69 (75.82%)	53 (58.24%)
≥ 10	34	30 (88.23%)	26 (76.47%)
Total	152	102 (67.10%)	94 (61.84%)

* $\chi^2=48.36$, $df=2$, $p\text{-value} < 0.01$, ** $\chi^2=4.035$, $df=2$, $p\text{-value}=0.132$

Those who were spending more than 10 hours in front of computers were more commonly suffered from visual and musculo skeletal problems. The difference in Visual problem was statically highly significant with $p\text{-value} < 0.01$. But the same is not true for musculo-skeletal problems with $p\text{-value} > 0.05$. (Table 1)

Table 2: Distribution of computer related problems by average time in years spent working on computer

Computer usage (in years)	Total no of Subjects	Visual problems*	Musculo-skeletal Problems**
< 5 years	106	60 (56.60%)	54 (50.94%)
> 5 years	46	42 (91.30%)	40 (86.95%)
Total	152	102 (67.10%)	94 (61.84%)

* $\chi^2=17.49$, $df=1$, $p\text{-value} < 0.01$, ** $\chi^2=17.63$, $df=1$, $p\text{-value} < 0.01$

Those who were using computers since more than 5 yrs were having more complaints of Visual and musculo-skeletal pain as compared to those using it for less than 5 yrs. The difference was statically highly significant with $p\text{-value} < 0.01$ in both cases. (Table 2)

DISCUSSION:

Present study was carried out to find out the visual and musculoskeletal problems among professionals working in computer-related fields. More than half of participants were having complains related to musculoskeletal and visual problems. There were more complains of such kind of problems among females in our study. Talwar et al mentioned in their study that nearly three-fourths of the respondents had visual problems as well as musculoskeletal problems.

In present study it was found that those who were spending more than 10 hours in front of computers were more commonly suffered from visual and musculo skeletal problems. Magnitudes of visual and musculo skeletal problems were found to be directly proportional to average hours of use of computer. Also we found that those who were using computers for more than 5 yrs were having more complains as compared to those using it for less than 5 yrs. Similar finding were observed by Talwar et al¹ in their study. They mentioned that there was a gradual increase in visual complaints as the number of hours spent for working on computers daily increased and the same relation was found to be true for musculoskeletal problems as well as per them.

In present study visual problems were found in 67.1% professional whereas musculoskeletal problems were seen among 61.8% of workers. Srivastava et al² mentioned that the proportion of visual and musculoskeletal was found to be 67% and 63%, respectively in their study. Headache was present in 35.5% of study participants in our study. Talwar et al¹ mentioned that 29.2% were suffering from headache in their study. Findings of our study were concordant with an earlier study by Bhatt³ Various Musculoskeletal problems found among the workers in our study were, Pain in Neck (34.86%), Pain in Lower back (15.78%) and Pain in Fingers (26.31%). The results regarding musculoskeletal problems were also largely similar to those found by Sharma et al.⁴

CONCLUSION:

More than half of IT Professionals mentioned to have some kind of computer related health problems. Time spent and years spent in this profession is significantly correlate with various computer related problems among them and denotes that the occupational health of the people working in the computer field needs to be emphasized.

RECOMMENDATIONS:

Efforts have to be made through Behaviour Change Communication to modify working environment comfortable to computer workers. Health education and training of personnel may form the back bone of the cure.

REFERENCE

1. Talwar R, Kapoor R, Puri K, Bansal K, Singh S. A study of visual and musculoskeletal health disorders among computer professionals in NCR Delhi. Indian J Community Med. 2009 October; 34(4): 326–328. | 2. S.R. Shrivastava. Computer Related Health Problems among Software Professionals in Mumbai - A Cross sectional Study. Safety Science Monitor 2012; 16(1):1-6 | 3. Bhatt JV. Study of computer stress among computer professionals: special reference to dry eye. Available from: <http://openmed.nic.in/view/year/2006.html> [last accessed on Jul 23, 2013] | 4. Sharma AK, Kherra S, Khandekar J. Occupational health problems and role of ergonomics in information technology professionals in national capital region. Indian J Community Med 2006; 31: 36-8.