



Letters to the Editor

Computer related health problems among occupational computer users: A cross-sectional study

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Dear Editor,

Occupational computer users report discomfort related to the eyes called Computer Vision Syndrome (CVS) ¹. Beside the ocular morbidity, musculo-skeletal disorders, problems with peripheral nervous system and psychosocial stress are also seen among computer workers. A cross-sectional study was carried out from July 2009 to December 2009 among the 150 computer operators working in various departments of Rural Medical College (RMC) and Pravara Rural Hospital (PRH), Loni, Maharashtra, India to assess the magnitude of computer related health problems among computer using staff. Only those computer operators were selected for study that were in the job for more than 6 months. Beside, the employee must be working on the computer for at least 3 hours per day or 15 hours per week and had not shown a past history of musculoskeletal or ocular morbidity. A pre-designed and pre-tested questionnaire was used for the data collection. The approval for the study was obtained by the Institutional Ethical Committee. Data was analyzed in the form of percentages and proportions and chi-square test was applied. $p < 0.05$ was taken as statistically significant.

The demographic details of the study population are presented in the table 1.

Socio-demographic factors	Number (%)
Age	
20-30 yrs	43 (28.6)
30-40 yrs	71 (47.3)
40 yrs and above	36 (24.0)
Sex	
Male	95 (63.3)
Female	55 (36.6)
Socio- economic status	
Upper	0 (0)
Upper Middle	122 (81.3)
Middle	28 (18.6)
Lower Middle	0 (0)
Lower	0 (0)
Education	
Secondary school	40 (26.6)
Higher secondary school	77 (51.3)
Graduate	27 (18.0)
Postgraduate	06 (4.0)
Duration of service	
0-10 yrs	52 (34.6)
10-20 yrs	78 (52.0)
20 yrs and above	20 (13.3)

In the present study, 93.3% (140) of the study subjects reported one or more computer related health problem. The commonest complaint among computer workers were musculoskeletal (73.3%) followed by ocular (65.3%) and psychosocial (46.0%). The various manifestations of ocular, musculoskeletal and psychosocial morbidity is shown in table 2. Musculoskeletal symptoms were more widely prevalent among female (60.09%) than male (42.1%). However, 62% male and 43.6% female presented with visual symptoms. Similarly stress and related symptoms also had predilection for female workers (30.9%) as compared to male workers (24.2%). It is noteworthy that there was significant overlapping of the symptoms with many of the employees giving history of more than one group of computer related health problems. The prevalence of physical discomfort was higher among those who used computers for more than 8 hours/day ($p < 0.05$).



Table 2: Prevalence of various health problems among computer users (n=150)*	
Symptoms	No. of Persons (%)
Visual problems	98 (65.3)
Watering of eyes	94 (62.6)
Photosensitivity	56 (37.6)
Redness of eye	38 (25.3)
Double Vision	38 (25.3)
Itching	19 (12.6)
Blurring of vision	19 (12.6)
Dryness	19 (12.6)
Inability to concentrate	08 (5.3)
Musculo-skeletal problems	110 (73.3)
Neck pain	87 (58)
Backache	75 (50)
Postural abnormality	30 (20)
Tingling and numbness in hands	26 (17.3)
Psycho social problems	69 (46.0)
Headache	67 (44.6)
Tension / Stress	56 (37.3)
Depression	19 (12.6)
Fatigue	06 (0.04)
Irritability	03 (0.02)
*Multiple responses	

The study revealed coexistence of more than one form of discomfort among professional computer users. In the present study as many as 93.3% (140) of the study subjects reported one or more than one computer related health problem. This observation is in accordance with the results obtained by Shah et al² and Sjogren-Rouka et al³ who reported 93.5% and 91.8% among software professionals and computer operators respectively.

The computer operators and IT professionals faces a tough time tackling the occupational health problems. Ocular discomfort, musculo-skeletal disorders and psycho-social problems form the key category of health problems found among constant computer users. The problem requires a multidisciplinary action. Health education and training of personnel may form the back bone of the cure. Application of ergonomics and better technology are also required. There is an immediate need to sensitize the management of the organizations employing computer professionals about their problem and enforce suitable measures to prevent the burn out.

Sincerely,

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Current Healthcare Concerns: China and the U.S.

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Dear Editor,

I am a Chinese-American medical student who just spent half a year in China, and I could not help but notice the shocking number of similarities between current Chinese and U.S. healthcare concerns. Both countries are experiencing escalating healthcare costs and declining healthcare coverage and public satisfaction.

One major contributor to U.S. cost increases is the universal demand for the most advanced, highest standards of medical care that is simultaneously coupled with the inability to pay for these advances. American doctors and hospitals also aggressively order and administer expensive tests, which causes cost-shifting to other patients. Other contributors include low



reimbursement rates from federal health-management programs. These financial obstacles further shift the costs to private-paying citizens and health insurance premiums. As a result, 45 million U.S. citizens cannot afford health insurance and subsequently do not see a primary care doctor nor use preventive services. Public health prevention efforts are not prioritized, unhealthy lifestyle choices are rampant (e.g. obesity), and pharmaceuticals are too expensive. There are also vulnerable populations in the U.S. who are more adversely affected: certain ethnicities, individuals with lower education levels and socioeconomic statuses; immigrants; individuals with pre-existing conditions; and the unemployed.

Chinese citizens are experiencing very comparable problems. Healthcare providers tend to overcharge patients for tests and pharmaceuticals in order to earn higher profits. A 2005 report on the issue claimed that "health expenses are a leading cause of poverty in rural areas" [1]. As a result, many Chinese also do not practice preventive care because of the expense. Like in the U.S., China also has vulnerable populations, most notably in its poor rural areas where it is harder to get high quality medical care. The final similarity is that both countries have just passed major legislation to address these concerns and to create universal health coverage. To learn more about the new U.S. and Chinese health legislation, please visit: <http://www.healthcare.gov/law/about/index.html> and http://news.xinhuanet.com/english/2009-04/07/content_11141889.htm respectively.

Although similar, the healthcare problems that exist in China and the U.S. are understandably distinct. One difference is China's enormous population of 1.3 billion, which dwarfs America's 350 million. China is also only at an infantile stage of its managed care development, while the U.S. has been developing such infrastructure for 70 years. As of 2005, China's current health expenditure was 4.7% of its GDP, compared to the U.S.'s 15.2% [2]. Clearly, both China and the U.S. have individual healthcare concerns. As expected, there is also a great difference in how each country executes law.

China treats policy-making as a learning process. The Chinese government runs small, local test trials to determine a law's efficacy and potential problems before enacting it nationwide. This strategy is currently being utilized in China's new healthcare plan. Alternatively, the U.S. first implements country-wide law and then ascertains its consequences. Furthermore, China's one-party government is at times controversial, but it has the ability to enact policy at a remarkable rate. While the American two-party government seems to be persistently gridlocked, the Chinese government can see a problem, pass legislation, and enact huge structural changes in the time it takes the U.S. to get a bill to the Senate

floor. One major controversy in the U.S. has always been the role of government, whereas the centralized Chinese government always takes control. The results of these differences are clear. For example, the debate for a public healthcare system in the U.S. has lasted for 65 years. In contrast, from the time urban-rural health inequity became a recognizable concept in China to the government's enactment of a new, rural health insurance program took less than 5 years [3]. The Chinese government may be inexperienced with a market-oriented healthcare system, but their response time to new problems is admittedly inspiring.

China's current circumstance is also quite unique. It is a developing country, yet it has both the 2nd largest economy and a budget surplus. With China's powerful one-party government, it will be exciting to see what can be done for the country's healthcare in this situation of wealth and control.

China and the U.S. have just passed significant legislation attempting to address similar problems of cost, satisfaction, and access to care. Although the U.S. currently has an older foundation for managed healthcare, it remains to be seen which country will be able to address its respective healthcare challenges more efficiently and with better results. The implementation of the new legislations will be relevant for many decades. Maybe both countries can learn something from each other along the way.

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