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Original Research Article

Health problems among IT professionals in Chennai city, Tamil Nadu

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ABSTRACT

Background: Increasing technological advantage lead to the higher health disadvantages to IT professionals who spent most of the time working in front of the computer. They are experiencing many neural, visual and musculoskeletal ailments. The present study was done with the aim to limelight the health issues among IT employees in IT Park, Chennai.
Methods: This cross-sectional quantitative survey related to health issues among IT professionals was done on 417 employees of Chennai IT Park during the period from January 2018 to May 2018. The predesigned questionnaire included socio-demographic and health related issues. It was sent to the employees through various media including Facebook messenger, LinkedIn private messaging and email. The data was analyzed and presented in number and percentages and the related associations were analysed by Chi square test.
Results: The prevalence of pain in eye was the major visual problem noticed in 157 (38%) patients and the rate of incidence was similar in both males and females. About 50% of the participants had pain/stiffness in lower back. Feeling nervous ness is the related stress condition experienced by the respondents (49%). Other health correlated issues noticed among the participants was headache (40%). The prevalence rate of these factors was higher in males compared to females.
Conclusions: The study concluded that IT professionals face several health issues in terms of visual, musculoskeletal and stress problems in Chennai IT Park.

Keywords: IT professionals, Chennai city, Health problems

INTRODUCTION

With the increasing technological advancement and dependency on IT, the use of computers in various sectors is prevailing. According to the report of Ihemedu et al, 75% of daily activities of all jobs related to computer.[1] Specifically, employees working in IT industry are more prone to develop a lot of health problems due to their continuous physical and mental stress in their work. Diseases are induced, sustained, or exacerbated by stress. From the literature, it is noticed that long hours working of IT professionals will boost the symptoms of musculoskeletal and visual deficiencies.[2]

The visual symptoms consist of a set of symptoms like tired eyes, eyestrain, burning sensation and irritation in the eyes, double vision, and blurred vision.[3] Musculo skeletal problems were greater in IT professionals due to their sedentary life style. In addition to this, the researchers have found that prolonged sitting posture (more than 20 minutes) will create high levels of insulin during the fasting period itself and also higher chances for the people to get type 2 diabetes.[4] Overall, it is clear that job nature of IT professionals creates various health problems.

There are numerous studies have focused the research on the health problems of employees in general and in specific to IT professionals.[2,5] But the perspective in case of IT professionals of Chennai IT Park was unclear. Hence the present study was conducted with the objective to determine the prevalence of health problems and their

association with socio-demographic and computer work related factors among IT professionals of Chennai IT Park.

METHODS

The present cross sectional study was done among IT professionals in Chennai city, Tamil Nadu from January 2018 to May 2018. After getting approval from the Institutional Ethics Committee and getting consent from the employees in IT industry a total of 417 employees were included in the study. Inclusion criteria were as follows: the respondents included people who are computer professionals working on personal computers for more than 4-6hrs/day and who is working from at least 6 months in the company. Persons who are not willing to participate in the study and had submitted incomplete questionnaires were excluded from the study.

The study participants were described the purpose of study and were assured about the confidentiality and secrecy of the information so obtained. Data was collected by a self-administered pre-structured, pre-tested questionnaire that included socio-demographic details such as age, gender, working hours and environment, marital status, annual income, details of the working environment, and detailed information about experiencing of various visual or musculoskeletal problems. The questionnaire was sent to participants through various media including Facebook messenger, LinkedIn private messaging and email. The data thus collected from primary research was converted into a computer-based spreadsheet and analyzed by studying the proportions and associations by applying Chi-square test. The p-values lesser than 0.05 indicates a positive correlation between the variables.

RESULTS

The present study included 417 IT professionals. Majorities (54.9%) of the respondents were male and remaining (45.1%) are females. About 50.8% of the participants were having the age less than 25 years, 42% were between 26–35 years, 5.8% were 36–45 years and remaining 1.4% was 45 years above. The education level of the majority of respondents (51.6%) was UG. Among the participants 50.8% of respondents were married, 46% were unmarried, 2.9% was divorced and remaining 0.2% are widowers. The annual income of the majority of respondents (48.4%) was between 2–5 lakhs.

The professional experience of 44.4% respondents was less than 2 years, 42.2% respondents are having 3–5 years, and remaining 13.4% is split equally between respondent with 6–10 years' experience and more than 10 years. About 49.6% of the respondents spend their time in front of a computer between 7–8 hours. Majority of the respondent (54.2%) take break every 1 hour, 30.5% take break every 2 hour, 8.2% respondents take break every 30 minutes and remaining 7.2% take break once in every 4 hour. The sitting posture of majority (50.4%) of the respondents are leaning back, followed by 38.4% of the respondents prefer leaning front and remaining 11.3% prefer sitting straight.

Table 1: Socio-demographic characteristics among study participants (n=417).

Variables	Frequency (N)	%
Gender		
Male	229	54.9
Female	188	45.1
Age		
Less than 25 years	212	50.8
6 – 35 years	175	42.0
36 – 45 years	24	5.8
45 above	6	1.4
Education		
UG	215	51.6
PG	144	34.5
Others	58	13.9
Marital status		
Married	212	50.8
Unmarried	192	46.0
Divorced	12	2.9
Widow	1	0.2
Annual income		
Less than 2 lakhs	128	30.7
2–5 lakhs	202	48.4
5–10 lakhs	76	18.2
More than 10 lakhs	11	2.6

Continued

Variables	Frequency (N)	%
Experience		
Less than 2 years	185	44.4
3–5 years	176	42.2
6–10 years	28	6.7
More than 10 years	28	6.7
Hours in front of a computer		
Less than 6 hours	68	16.3
7–8 hours	207	49.6
9–10 hours	113	27.1
More than 10 hours	29	7.0
Frequency of breaks		
Every 30 minutes	34	8.2
Every 1 hour	226	54.2
Every 2 hour	127	30.5
Every 4 hour	30	7.2
Sitting posture		
Sitting straight	47	11.3
Leaning front	160	38.4
Leaning back	210	50.4

Table 2: Correlation of health issues with sex among study participants (n=417).

	N (%)	Male	Female
Visual problems			
Watering of eyes	30 (7)	14	16
Pain in eye	157 (38)	78	79
Irritation in eye	85 (20)	38	47
Redness of eye	57 (14)	28	29
Blurring of vision	30 (7)	14	16
Musculoskeletal problem			
Pain/stiffness in neck	173 (41)	97	76
Pain/stiffness in shoulder	187 (45)	103	84
Pain/stiffness in lower back	210 (50)	113	97
Pain/stiffness in wrist/hand/fingers	188 (45)	108	80
Stress related			
Moody	144 (35)	79	65
Short-temper	38 (9)	27	11
Accelerated speech	65 (16)	38	27
Nail-biting	162 (39)	91	71
Restlessness	163 (39)	92	71
Getting confused easily	102 (24)	59	43
Gain/Loss of weight	144 (35)	80	64
Nervousness	206 (49)	112	94
Other health issues			
Headache	166 (40)	94	72
High blood pressure	142 (34)	79	63
Stomach disorder and ulcer	30 (7)	14	16
Skin irritation and allergies	141 (34)	82	59
Diabetes	79 (19)	45	34
Fatigue	142 (34)	79	63
Sleep disturbances	29 (7)	20	9
Depression	142 (34)	79	63

Table 3: Correlation of health issues with age group among study participants (n=417).

	N (%)	Less than 25 years	26–35 years	36–45 years	45 above
Visual problems					
Watering of eyes	30 (7)	22	7	1	0
Pain in eye	157 (38)	87	58	10	2
Irritation in eye	85 (20)	47	34	4	0
Redness of eye	57 (14)	35	20	2	0
Blurring of vision	30 (7)	22	7	1	0
Musculoskeletal problem					
Pain/stiffness in neck	173 (41)	90	70	10	3
Pain/stiffness in shoulder	187 (45)	97	76	11	3
Pain/stiffness in lower back	210 (50)	108	87	13	2
Pain/stiffness in wrist/hand/fingers	188 (45)	96	79	9	4
Stress related					
Moody	144 (35)	76	56	12	0
Short- temper	38 (9)	15	20	3	0
Accelerated speech	65 (16)	34	28	3	0
Nail-biting	162 (39)	83	64	14	1
Restlessness	163 (39)	86	64	12	1
Getting confused easily	102 (24)	41	54	7	0
Gain/loss of weight	144 (35)	76	56	12	0
Nervousness	206 (49)	108	82	15	1
Other health issues					
Headache	166 (40)	84	68	11	3
High blood pressure	142 (34)	75	55	12	0
Stomach disorder and ulcer	30 (7)	22	7	1	0
Skin irritation and allergies	141 (34)	66	60	13	2
Diabetes	79 (19)	44	30	4	1
Fatigue	142 (34)	75	55	12	0
Sleep disturbances	29 (7)	13	14	2	0
Depression	142 (34)	75	55	12	0

Table 4: Correlation between age and health issues.

	Age	Visual problems	Musculoskeletal problem	Stress	Health Problems
Age	1				
Visual problems	0.1002	1			
Musculoskeletal problem	0.01362*	0.07943	1		
Stress	0.0039**	-0.0711	-0.0141	1	
Health problems	0.01269*	0.116	-0.0355	0.88564	1

*p<0.05, significant.

Table 2 presents the problems related to visuality, musculoskeletal, stress and other health related issues among the study groups. The prevalence of pain in eye was the major visual problem noticed in about 157 (38%) patients and the rate of incidence was similar in both males and females. Pain/stiffness in lower back (n=210) was the major problem noted among all other musculoskeletal problems. 49% of the respondents experienced nervousness as the main stress condition. 40% of the participants were having headache as the major health problem and the prevalence rate of these factors was higher in males compared to females.

Table 3 describes the association of health issues with age group of study participants. The highest age group falls in visual problem, musculoskeletal problem, stress and other related health issues was the participants with age less than 25 years followed by respondents with age of 26–35 years, 36–45 years and 45 above.

The correlation of age and general health issues was also studied. The p value of musculoskeletal problem (0.01362), stress (0.0039) and health problems (0.01269) was lesser than 0.05, with a significant positive correlation between age and health issues

(musculoskeletal problem, stress and health problems) (Table 4).

The relationship between gender and general health issues was given in Table 5. The p value of musculoskeletal problem (0.02123), stress (0.02917) and health problems (0.03155) was lesser than 0.05, showing a significant positive correlation between age and health issues (musculoskeletal problem, stress and health problems).

Table 5: Correlation between gender and health issues.

	Gender	Visual problems	Musculoskeletal problem	Stress	Health problems
Gender	1	-	-	-	-
Visual problems	-0.0856	1	-	-	-
Musculoskeletal problems	0.02123*	0.07943	1	-	-
Stress	0.02917*	-0.0711	-0.0141	1	-
Health problems	0.03155*	0.116	-0.0355	0.88564	1

*p<0.05, significant.

DISCUSSION

We studied health issues related to visual problems, musculoskeletal problems, stress and other health problems among IT professionals in Chennai city. The present study findings observed that most of the IT professionals has the experience of less than 2 years and spend about 7-8 hours in front of the computer and; notably, they take only break at every 1 hour and most of them agreed their sitting posture is leaning back. It was clear sitting for a long time in front of computer leads to more health problems in IT professionals. It was also agreed by previous researcher in their finding.[2,6] Health problems such as visual, musculoskeletal and stress problems were observed. Related to visual problems pain, irritation, redness of eye and blurring of vision was seen in most of the patients. This was consistent with the reports of various authors.[7-10] In our study, musculoskeletal problems include are pain or stiffness in lower back, pain/stiffness in wrist/hand/fingers, pain/stiffness in shoulder and pain/stiffness in neck. Similar to this, the association between the level of computer usage (in a day) and musculoskeletal problems were investigated by Sharma et al and Ellahia et al.[3,11]

Stress is one of the major problems faced by IT professionals. Higher stress conditions of moody; short-temper; accelerated speech; nail-biting; restlessness; getting confused easily; gain/loss of weight and nervousness were noticed among respondents. This was in line with the finding of Padma et al.[6]

In order to gain the association of socio-demographic and computer work related factors, the findings noticed that visual problems were higher among female IT professionals than male. Ranasinghe et al also stated that females had higher visual problems than male.[13] Further, the findings show that in terms of gender perspective, there were higher stress conditions among male than female. Overall, the higher health problems were observed among male than female in Chennai IT Park. This was in line with the various study findings. Shantakumari et al showed that male encountered higher health problems than female students while using a computer for a long time.[14] Similarly, the study of Shrestha et al showed the higher health issues among male than female.[15] On contrary, the study of Blatter et al had identified that women using four hours of the computer in a day are more affected by musculoskeletal disorders.[16]

With respect to age group and computer related problems, the study specified people less than 25 years of age group confronted several health problems. This was consistent with findings of Shrivastava et al.[17] Deepa in her study observed that mean participants of age group 25-34 years showed various health problems.[18] In our study, correlation analysis further showed a significant positive correlation between age and gender and health issues (musculoskeletal problem, stress and health problems). The relation between age and gender regards to the visual problem is positive but not significant. Padma et al.[9] in their study noticed that health problems and stress factor is always related with age factor of working individuals.

CONCLUSION

In conclusion, IT professionals sitting a long time in front of computer leads to more health problems which include visual, musculoskeletal and stress problems. In terms of visual problem, study concluded that pain, irritation, redness of eye and blurring of vision, while musculoskeletal problems include pain or stiffness in lower back, pain/stiffness in wrist/hand/fingers, pain/stiffness in shoulder and pain/stiffness in neck and higher stress conditions of moody; short-temper; accelerated speech; nail-biting; restlessness; getting confused easily; gain/loss of weight and nervousness were more common. With respect to age and gender, male and age of fewer than 25 years were predominantly affected by various health problems due to use of the computer in a long time. Hence the establishments hiring them, as well as the IT professionals themselves need to be alerted regarding the significance of the regular health check-ups and proper working environments.

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REFERENCES

1. Ihemedu C, Omolase C. The Level of Awareness and Utilization of Computer Shields among Computer users in a Nigerian Community. Asian J Med Sci. 2012;1(2):49-52.
2. 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;34(4):326-8.
3. Sharma A, Khera S, Khandekar J. Computer related health problems among information technology professionals in Delhi. Indian J Community Med. 2006;31(1):36.
4. Grontved A, Hu FB. Television Viewing and Risk of Type 2 Diabetes, Cardiovascular Disease, and All-Cause Mortality. JAMA. 2011;305(23):2448-55.
5. Taylor J. Are computer screens damaging your eyes? Available at: https://edition.cnn.com/2013/11/12/health/upwave-computer-eyes/index.html. Accessed 19 June 2018.
6. Padma V, Anand N, Gurukul SMGS, Javid SMASM, Prasad A, Arun S. Health problems and stress in Information Technology and Business Process Outsourcing employees. J Pharm Bioallied Sci. 2015;7(5):9.
7. Rinalducci EJ, Bertinuson J, Caplan RD, Guion RM, King VM, Sliney DH, et al. Video Displays, Work, and Vision. Washington, D.C., United States: 1983.
8. American medical association. Health Effects of Video Display Terminals. JAMA. 1987;257(11):1508.
9. Cole BL, Maddocks JD, Sharpe K. Effect of VDUs on the Eyes: Report of a 6-Year Epidemiological Study. Optom Vis Sci. 1996;73(8):512–28.
10. Mutti DO, Zadnik K. Is computer use a risk factor for myopia? J Am Optom Assoc. 1996;67(9):521–30.
11. Ellahia A, Khalilb MS, Akrama F. Computer users at risk: Health disorders associated with prolonged computer use. J Bus Manag Econ. 2011;2(4):171–81.
12. Smith M, Cohen B, Stammerjohn L, Happ A. An Investigation of Health Complaints and Job Stress in Video Display Operations. Hum Factors J Hum Factors Ergon Soc. 1981;23(4):387–400.
13. Ranasinghe P, Wathurapatha WS, Perera YS, Lamabadusuriya DA, Kulatunga S, Jayawardana N, et al. Computer vision syndrome among computer office workers in a developing country: an evaluation of prevalence and risk factors. BMC Res Notes. 2016;9(1):150.
14. Shantakumari N, Eldeeb R, Sreedharan J, Gopal K. Computer use and vision-related problems among university students in Ajman, United Arab Emirate. Ann Med Health Sci Res. 2014;4(2):258.
15. Shrestha GS, Mohamed FN, Shah DN. Visual problems among video display terminal (VDT) users in Nepal. J Optom. 2011;4(2):56–62.
16. Blatter B, Bongers P. Duration of computer use and mouse use in relation to musculoskeletal disorders of neck or upper limb. Int J Ind Ergon. 2002;30(4–5):295–306.
17. Shrivastava S, Bobhate P. Computer related health problems among software professionals in Mumbai: A cross-sectional study. Int J Health Allied Sci. 2012;1(2):74.
18. Deepa S. Computer-Related Health Problems among White-Collar Employees: Communicating a Blueprint. Indian J Sci Technol. 2016;9(32):1-10.

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