

Original research article

PERCEIVED PROFESSIONAL STRESS LEVELS AMONG IT PROFESSIONALS IN A PRIVATE COMPANY IN CHENNAI, TAMIL NADU, INDIA – A CROSS SECTIONAL STUDY

Precilla Simon¹, Pooja Mary Vaishali L², Anjugam Sugavanam³, Charumathi B⁴

¹General Physician, Department of general Medicine, SIMS Hospital,²Post graduate, Department of Community Medicine, Saveetha Medical College and Hospital, Thandalam, Tamilnadu, ³Senior Resident, Department of Community Medicine, PESIMSR, Kuppam,⁴Assistant Professor, Department of Community Medicine, Saveetha Medical College and Hospital, Thandalam, Tamilnadu.

Corresponding Author

Dr. Charumathi B

Department of Community medicine,
Saveetha Medical College and Hospital,
Thandalam,
Tamil Nadu
Email – jothicharu1995@gmail.com

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Abstract

Introduction: In the past 30 years, there had been more than 916 IT providers registered with National Association of Software and Service companies. Career in the IT field warrants struggles with deadlines, working at odd and long hours and poor inter-personal relationships all affecting the mental wellbeing of workers. Hence this study aimed to assess the levels of stress and its association factors.

Material and methods: A cross sectional study was conducted among 170 IT professionals in Chennai. Survey was conducted collecting socio demographic details. Perceived stress scale (PSS) was used to assess the stress levels. Descriptive statistics was computed for background variables. Association between various factors and levels of stress were analyzed using chi – square test. Multiple logistic regression was performed to identify independent risk factors.

Results: Among the study participants, majority 83 (48.8%) were between 21 – 30 years and 95 (55.9%) had work experience > 5 years. Most of them worked on day shifts 105(61.8%). 133 (78.2%) had moderate to high stress level. Workers with less hours of sleep, doing mixed shift of work, substance usage and belonging to middle class were found to be having high perceived stress. ($P < 0.05$).

Conclusion: In our study, 2/3rd of the participants had moderate-high level of stress. It is necessary to increase the active stress management policies and counseling services to be given priority.

Keywords: IT Professionals, Levels of stress, Perceived Stress Scale

Introduction

Information Technology (IT) has been in high demand on a global scale for the past 30 years, starting in the 1990s. India has been the largest exporter of IT specialists to industrialized nations. The National Association of Software and Service Companies (NASSCOM)¹ lists more than 916 IT service providers as members. The growth of

information technology has greatly enhanced the country's employment environment, which has resulted in a major improvement in quality of life. On the one hand, IT positions offer a big pay, a high standard of living, and the opportunity to work abroad. On the other hand, IT professionals must manage extremely strict timelines and keep up with rapidly evolving technologies. Additionally, research has found that when compared to workers

in other occupations, IT professionals experience more work-family conflict. The person may feel more stress overall as a result of their fast-paced, demanding job.^{3,4}

The word "stress" also connotes strain, which can result from exposure to a stressor over an extended period of time.⁵

Stress can lead to a lot of dire consequences such as increase in the incidence of life-style dependent diseases like chronic diseases and mental health issues like depression and anxiety.^{2,6}

Career in information technology is becoming more and more characterized by struggles with deadlines, rapid project mobility, and frequently divergent reporting relationships, collapsing interpersonal relationships at work, the shock style of conflict management, temporal dissociation, the "night here, morning there" syndrome (since most Indian software companies are clients of US-based concerns, they must work at night in India while it is day in the US), misuse of free time, and growing stress.⁷

The percentage of Indian IT workers who reported experiencing work stress ranged from 44 to 85 percent. Studies among IT professionals in other nations have also shown the same percentage of occurrence of work stress.

Due to inadequate recording procedures and a lack of acknowledgment of the associated results, developing countries are currently "in transition," and frequently no precise data on work-related stress are readily available. There is a paucity of knowledge about workplace stress and a lack of resources to manage it.⁸ The above-mentioned facts necessitate the need to measure the stress levels and its association with various background variables.

Material and methods

This cross-sectional study was conducted among IT professionals from a private company in Chennai, India from December 2021 to January 2022. A sample size of 170 was obtained by taking the prevalence of stress from a study done in India⁹,

Prevalence from the cited article is about 51.2% and allowable error around 15% and our sample size obtained to be 170, After obtaining permission from the Managing director, 170 participants were selected among 500 employees by simple random sampling method. IT professionals who were above 21 years and who gave consent were included in the study. Those who have been diagnosed to have chronic diseases and other mental illness were excluded.

Interview scheduled with a semi-structured questionnaire. Questionnaire consisted of 2 sections. **Section 1:** socio demographic characteristics, working hours, shift of works. **Section 2:** Perceived stress scale (PSS).^{10,11}

It has 10 questions based on five-point Likert scale ranging from 0 (never) to 4 (very often). Individual scores on PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

The recommended stress scores are:

Low stress	0 to 13
Moderate stress	14 to 26
High stress	27 to 40

The data obtained was analyzed using SPSS 22.0. Descriptive statistics were computed for background study variables. Chi – Square test was used to find the association between various study variables and stress. Multiple Logistic Regression (MLR) analysis was performed to identify independent risk factors. Institutional Ethical Committee approval was obtained from Private Medical College in Kancheepuram District (SMC/IEC/2022/01/025).

Results

Among the study participants 83 (48.8%) belonged to the 21-30 years age group. There were more males than females, 114 (67.1%) were males. Majority 111 (65.3%) of study participants were married. 66 (38.8%) of participants were found to

Table -1: Socio-Demographic Profile Of The Study Participants.

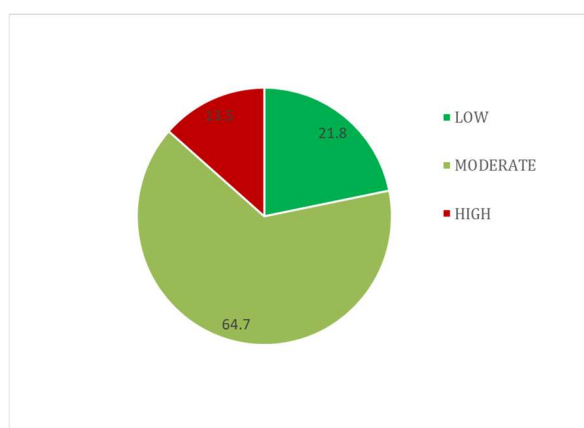
Sno	Variable	Frequency (n=170)	Percentage (%)
1	Age (in years)		
	21-30	83	48.8
	31-40	61	35.9
	41-50	22	12.9
	>50	4	2.4
2	Gender		
	Males	114	67.1
	Females	56	32.9
3	Type of family		
	Joint family	39	22.9
	Nuclear Family	124	73
	Three generation family	7	4.1
4	Place of residence		
	Hostel	20	11.8
	Relative's home	4	2.4
	Staying with family	146	85.8
5	Marital status		
	Married	111	65.3
	Seperated	13	7.6
	Single	46	27.1
6	Socio-economic status based on BG Prasad		
	Middle	4	2.4
	Upper middle	91	53.5
	Upper	75	44.1
7	Personal Habits		
	H/o smoking or alcohol use or tobacco chewing	66	38.8
	No habits	104	61.2
8	Duration of sleep		
	< 8 hours	72	42.4
	>8 hours	98	57.6
9	Working shift		
	Day shift	119	70
	Night shift	51	30

have personal habits in the form of smoking, alcohol use and tobacco chewing. Sleep below 8 hours was present in 72 (42.4%) participants.

Around 95 (55.9%) of study participants had work experience of more than 5 years, and 75 (44.1%) had experience less than 5 years.

The levels of stress among the participants in which (64.7%) 110 participants had moderate stress and (21.8%) 37 had low stress. (Figure - 1)

Fig 1: Levels Of Stress Among Study Participants (%)



Subjects with perceived stress scale (PSS) score less than or equal to 13 were taken as subjects with low stress and subjects with scores above 13 were taken as subjects with moderate and high perceived stress. We found significant association between moderate and high perceived stress and age above 35 years, duration of sleep less than 8 hours, upper class classification, people who worked in the night shift or mixed shift and people who had history of substance use. (Table 2)

The risk factors such as age, hours of sleep, socio economic status, shift works and h/o substance abuse was found to be significant by chi square test. On further analysis using multiple logistic regression, age, sleep duration and shift timings were found to be independent risk factors associated with stress. (P Value<0.05) (Table – 3)

Table 2: Association Between Stress Levels and Socio Demographic Profile

S.	Variable	Participants With	Participants With	Total	P-value
1	Age				
	≤ 35 years	84 (72.4%)	32 (27.6%)	116	0.013*
	> 35 years	49 (90.7%)	5 (9.3%)	54	
2	Gender				
	Male	87 (76.3%)	27 (23.7%)	114	0.387
	Female	46 (82.2%)	10 (17.8%)	56	
3	Work years				
	> 5 years	79 (83.2%)	16 (16.8%)	95	0.080
	≤ 5 years	54 (72%)	21 (28%)	75	
4	Hours of sleep				
	≥ 8 hours	68 (69.4%)	30 (30.6%)	98	0.001*
	< 8 hours	65 (90.3%)	7 (9.7%)	72	
5	Socio-economic status (According to BG Prasad Scale)				
	Middle & Upper	67 (70.5%)	28 (29.5%)	95	0.006*
	Upper class	66 (88%)	9 (12%)	75	
6	Shift timing				
	Day	73 (69.5%)	32 (30.5%)	105	0.000*
	Mixed & Night	60 (92.3%)	5 (7.7%)	65	
7	Residence				
	At home	114 (78.1%)	32 (21.9%)	146	0.905
	Away from home	19 (79.2%)	5 (20.8%)	24	
8	H/o Substance Use				
	Yes	57 (86.4%)	9 (13.6%)	66	0.041*
	No	76 (73.1%)	28 (26.9%)	104	
9	Type of family				
	Nuclear	93 (75%)	31 (25%)	124	0.093
	Joint/ Three	40 (87%)	6 (13%)	46	
10.	Marital status				
	Married	88 (79.2%)	23 (20.8%)	111	0.65
	Unmarried	45 (76.2%)	14(23.8%)	59	

* p value<0.05- Statistically significant; P Value obtained from Chi Square Test

Table 3: Multiple Logistic Regression: Factors Associated with Stress

S.No	Variables	P value	OR	95% Confidence Interval
1	Age	0.002*	0.345	0.086 – 0.858
	≤ 35 years			
	> 35 years			
2	Hours of sleep	0.000*	0.338	2.480 – 17.866
	≥ 8 hours			
	< 8 hours			
3	Socioeconomic status	0.196	1.307	0.208 – 1.380
	Middle & upper middle			
	Upper class			
4	Shift timings	0.001*	0.636	0.050 – 0.473
	Day			
	Mixed & night			
5	H/o substance abuse	0.230	0.225	0.675 – 5.141
	Yes			
	No			

* p value<0.05- Statistically significant

Discussion

The study was done to estimate the levels of stress and to identify the factors associated with stress among the information technology (IT) Professionals.

The results of the overall study showed that majority of the participants were found in the age group of 20 – 30 years (48.8%) which is similar to other studies.^{8,12,13,14} We conclude that women with IT professionals experience considerable stress, these findings were consistent with other study findings.^{10,12}

A study done among IT professionals in Chennai⁷ found that low, moderate and high levels of stress were seen in 15.2%, 55.2%, 29.6% respectively.

The work experience described in other studies^{8,14,16} was similar to the study findings. Stress was common among those who work for longer duration and with more work experience, Similar findings were reported in the study done in Chennai.⁷ In the present study married participants were found to have higher stress than the unmarried participants, which is contrary to the study done by Arasu et al¹⁷ and Mohan et al.¹⁸

The recent survey reveals significant levels of stress among Chennai's IT professionals and serves as a wake-up call regarding the need for policies to address the problem. Poor stress management could have disastrous effects. It is time to implement stress management policies.²⁰

Conclusions

High levels of stress were found in this study of software engineers employed in Chennai's IT sector, underscoring the necessity of strengthening the workplace's existing active stress management practices. Mental health problems like stress should be given attention along with the notifiable disorders relating to mental health issues that the employees are routinely examined for since they will eventually have an impact on the person's general health.

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Conflict of interest none

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