

A Study on Depression Experienced by Information Technology Professionals in a Private Company at Chennai, Tamil Nadu, India

Pricella Simaon¹, Anjugam Sugavanam², Charumathi Boominathan³, Gomathy Parasuraman⁴, Timsi Jain⁵

¹Associate Fellow of Industrial Health (AFIH) student, ²Postgraduate student, ³Senior Resident, ⁴Professor, Department of Community Medicine, Saveetha Medical College and Hospital, Thandalam, Chennai, Tamil Nadu, India.

⁵ Professor, Department of Community Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

Correspondence : Dr. Charumathi Boominathan, Email: jothicharu1995@gmail.com

Abstract:

Introduction : In the past 30 years, there had been more than 916 Information Technology (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. **Objective:** To assess the levels of depression and its associated factors among IT Professionals. **Method:** A cross sectional study, among 170 IT professionals in Chennai. Interview was conducted collecting socio demographic details and Patient Health Questionnaire (PHQ - 9) was used to assess the depression levels. Descriptive statistics were computed for background variables. Association between various factors and levels of depression were analyzed using chi square test. Multiple logistic regression was performed to identify independent risk factors. **Results:** Among the 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%). A total of 60 (35.3%) participants had mild and 46 (27%) participants had moderate depression level. These risk factors when compared with depression, it was found that age, gender and working years were found to be significant. (p<0.05). **Conclusion:** In present study, 2/3rd of the participants had mild to moderate depression levels. It is necessary to increase the active depression management counseling services.


Key Words : Depression, IT Professionals, Patient Health Questionnaire, Risk factors.

Introduction:

In the past 30 years, starting from the 1990s, there has been a consistent demand for Information Technology (IT) at the global level. India has been the biggest out sourcer of IT professionals to the developed countries. There are more than 916 IT providers registered with the National Association of Software and Service Companies (NASSCOM).^[1] There has been a significant improvement in the quality of life with the boom of information

technology as it has notably improved the employability environment of the country. On one hand, IT jobs provide a hefty salary, good quality of life, chance to travel and work outside of the country. However, on the flip side, IT professionals must deal with very demanding deadlines and update themselves on constantly changing technologies and methodologies.^[2]

Long working hours are unwritten mandates of professionals in the field of IT. This has a very

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negative impact on health as it leads to loss of sleep and cause fatigue reducing their workplace efficiency.^[3] Research has also shown that the work-family-conflict is higher among IT professionals when compared to employees of other professions. This fast paced, stressful profession can increase the overall depression that the person experiences.^[4]

Depression is a disorder of the mind that can affect the overall well-being of the individual. Though, even normal person experiences sadness and gloom, a person with depression will experience feelings that interfere with their performance of everyday activities. Depression is a common illness worldwide, with an estimated 3.8% of the population affected, including 5% among adult population.^[5]

The World Health Organization (WHO) states that an unfavorable work environment can result in physical and mental health issues, absenteeism, lost effectiveness, usage of substance abuse.^[5]

Career in the IT field warrants struggles with deadlines, pleasing multiple stakeholders, frequent modifications in the hierarchy, working at odd hours, working for long hours and poor inter-personal relationships at both the personal and professional front all leading to extreme depression which in turn is the root cause for many physical, mental, and emotional problems.^[6] The above-mentioned facts necessitate the need to measure the depression levels and its association with various study variables.

Method:

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 depression from a study done in India [P = 51.2%, Q = 100 - P; Q = 48.8%, Relative precision of 15%].^[7] 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.

The study participants received a thorough explanation of the study purpose and their informed consent was obtained. The interview schedule was administered by face-to-face interview and information was gathered using a semi-structured questionnaire. Questionnaire consisted of 2 sections.

Section 1: Socio demographic characteristics, working hours, shift of works.

Section 2: Patient Health Questionnaire -9 (PHQ-9).^[8,9] The pre-validated 9 item patient health questionnaire (PHQ-9) was used to estimate the levels of depression among the study participants. The questionnaire had nine questions on their feelings in the past 2 weeks and each question had 4 options which were "not at all" (0 points), "several days" (1 point), "more than half the days" (2 points), "nearly every day" (3 points). PHQ -9 ranging from 1 – 27. The recommended depression levels are:

Total Score	Depression Severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

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 with depression. 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:

The mean age of the participants was 32.59 ± 7.3 years, among them 114 (67.1%) were males, in the

Table 1: Socio-Demographic Profile of the Study Participants

Variable	Frequency (%) (N = 170)
Age	
21 – 30 years	83 (48.8%)
31 – 40 years	61 (35.9%)
41 – 50 years	22 (12.9%)
>50 years	4 (2.4%)
Gender	
Males	114 (67.1%)
Females	56 (32.9%)
Type of family	
Joint family	39 (22.9%)
Nuclear family	124 (73%)
Three generation family	7 (4.1%)
Place of residence	
Hostel	20 (11.8%)
Relative’s home	4 (2.4%)
Staying with family	146 (85.8%)
Marital status	
Married	111 (65.3%)
Separated	13 (7.6%)
Single	46 (27.1%)
Socio-economic status*	
Middle	4 (2.4%)
Upper middle	91 (53.5%)
Upper	75 (44.1%)
Personal Habits	
H/O smoking/ Alcoholism/ Tobacco chewing	66 (38.8%)
No habits	104 (61.2%)
Duration of sleep	
< 8 hours	72 (42.4%)
> 8 hours	98 (57.6%)

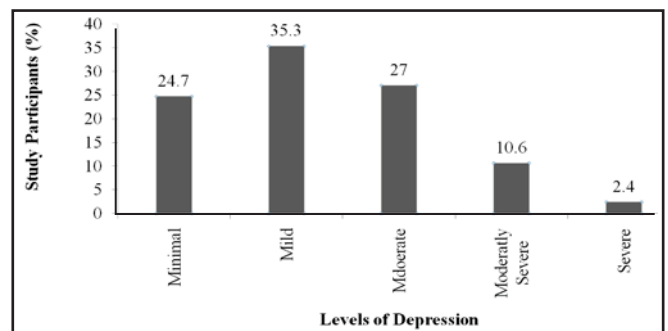
* Modified BG Prasad Classification 2021^[10]

age group 21-30 years (48.8%). Majority 111 (65.3%) of study participants were married. 66 (38.8%) of participants were found to have personal habits in the form of smoking, alcoholism and tobacco chewing. 72 (42.4%) participants had a sleep duration of below 8 hours (Table 1)

Around 95 (55.9%) study participants were having work experience of more than 5 years, and 75 (44.1%) had experience less than 5 years. 51 (30%) were working only in mixed shifts and 105 (61.8%) were working on day shifts alone.

Based on PHQ – 9, (35.3%) 60 participants had mild depression and 42 (24.7%) had minimal depression. (Figure 1)

Figure 1: Levels of Depression among Study Participants (N = 170)



Subjects with PHQ-9 score less than or equal to 4 were taken as subjects with no depression, and subjects with scores above 4 were taken as subjects with depression. There was statistically significant association between presence of depression and age above 35 years, female gender, work experience greater than 5 years. However, the other associations were not statistically significant. (Table 2)

The factors which were significant were taken for further analysis by multiple logistic regression with low-risk group as reference category. On analysis no variables were found to be independent risk factor associated with depression (p value < 0.05). (Table 3)

Discussion:

The study was done to estimate the levels of depression and to identify the factors associated with

Table 2: Association between Depression and its Risk Factors among Study Participants

Variables	Depression		Total (N = 170)	p value
	Present (n= 128)	Absent (n= 42)		
Age				
≤ 35 years	80 (70%)	36 (30%)	116	0.005*
> 35 years	48 (88.9%)	6 (11.1%)	54	
Gender				
Male	80 (70.2%)	34 (29.8%)	114	0.027*
Female	48 (85.7%)	8 (14.3%)	56	
Work years				
> 5 years	78 (82.1%)	17 (17.9%)	95	0.020*
≤ 5 years	50 (66.7%)	25 (33.3%)	75	
Hours of sleep				
≥ 8	70 (71.4%)	28 (28.6%)	98	0.173
< 8	58 (80.6%)	14 (19.4%)	72	
Socio-economic status (According to BG Prasad Scale)				
Middle & Upper middle class	72 (75.8%)	23 (24.2%)	95	0.866
Upper class	56 (74.7%)	19 (25.3%)	75	
Shift timing				
Day	75 (71.4%)	30 (28.6%)	105	0.139
Mixed & Night	53 (81.5%)	12 (18.5%)	65	
Residence				
At home	109 (74.7%)	37 (25.3%)	146	0.826
Away from home	19 (79.2%)	5 (20.8%)	24	
History of Substance Use				
Yes	52 (78.8%)	14 (21.2%)	66	0.402
No	76 (73.1%)	28 (26.9%)	104	
Type of family				
Nuclear	92 (74.2%)	32 (25.8%)	124	0.585
Joint/Three generation	36 (78.3%)	10 (21.7%)	46	
Marital status				
Married	88 (79.2%)	23 (20.8%)	111	0.098
Unmarried	40 (67.7%)	19 (32.3%)	59	

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

Table 3: Multiple Logistic Regression of Risk Factors and Depression

Variables	p value	OR	95% Confidence Interval
Age <35 years® >35 years	0.069	0.348	0.11 – 1.04
Gender Male® Female	0.05	0.421	0.17 – 1.00
Work years < 5 years® > 5 years	0.506	1.333	0.57 – 3.10

*p value<0.05 Statistically significant, ® Reference category

depression 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 the study done in IT company Bangalore by Ramesh et al.^[11] When compared to men 80 (70.2%), women 48 (85.7%) were more likely to experience depression; however, some studies questioned^[8] the results of the current study while others supported them.^[12,13] In a study done by Gandhi et al.^[14] 111 (35.8%) of IT professionals had mild and 11 (3.5 %) had severe depression which was not in line with current study. The difference was due to usage of different scales to assess the depression levels.

In the current study, there was statistically significant association between depression and age more than 35 years, female gender, work experience greater than 5 years. This was different from the results found from a study done on IT professionals in Delhi in which there was statistically significant association between depression and marital status, family type.^[14]

There was no association between depression and substance use which is contrary to other studies.^[15,16] Further comparisons could not be made

because of lack of similar studies on information technology employees.

An important wake-up call on the need for policies to address the issue is provided by the current poll, which showed significant levels of depression among Chennai's IT professionals. Poor depression management may have detrimental impacts on the IT employees physical and mental health. It is time to put depression management procedures into place.^[17]

Conclusion:

Mild levels of depression (35.3%) were found in employees in Chennai's IT sector. When comparing the risk factors and depression age, gender distribution and working of the study participants were found to be statistically significant. Mental health issues like depression should be given attention along with the notifiable diseases that the employees are routinely examined for as they would eventually have an impact on the person's general health.

Declaration:

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Conflict of Interest: Nil

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