



# A Study on Psychosocial Health of Work from Home Information Technology (IT) Employees during the COVID-19 Pandemic in Chennai, Tamil Nadu

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## ABSTRACT

**Background:** In order to control the risk of COVID-19 many employees have been asked to work from home & generally away from their workplace. Working from home may cause negative impact on employees' mental health as it increases social isolation which is associated with high risk of psychological distress and depression.

**Aim:** The study was done with the aim to assess the effect of COVID-19 pandemic on psychosocial health and well-being of Information Technology (IT) employees who is working from home.

**Methodology:** This study is a cross-sectional descriptive study, conducted at Chennai district of Tamilnadu. Around 210 samples were collected based on convenient sampling method. A semi structured questionnaire was used to collect data and the data analyzed using SPSS 22 software.

**Results:** Out of the participants, 74% of the employees felt that their work time has been increased due to work from home. On multiple regression analysis, variables like gender, marital status, average working hours per day were found to have statistically significant.

**Conclusion:** Chennai is a metro city with high population of IT professionals. Individual workload has increased within a short deadline, which has led to increased stress, sleep deprivation that resulted in many psychosocial problems.

**Keywords:** Stress, sleep deprivation, IT professionals

## INTRODUCTION

The COVID-19 is an infectious disease caused by coronavirus SARS Cov-2, a novel coronavirus which is a new strain that has not been previously identified in humans. Coronaviruses are large family of viruses that causes illness ranging from common cold to more severe disease. Coronavirus is a new virus which has been discovered with its outbreak in Wuhan, China, in December 2019.<sup>2</sup> Now, it has spread at a lightning speed and affected several countries. As

of 22 march 2021, more than 124 million cases have been confirmed with more than 2.73 million deaths attributed to COVID -19.<sup>2</sup> The WHO declared COVID -19 as pandemic on March 11 2020. Many countries have implemented emergency measures to prevent the spread of infection. such as quarantine, travel restrictions, schools and colleges which have been closed.<sup>3</sup>

Due to the recent pandemic, work from home has become a phrase particularly in work sector of Infor-

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mation Technology. The work from home has become mainstream even in many research sectors.<sup>4</sup> During this pandemic many have been asked to work from home and generally away from their workplace. Now remote working has become mainstream in many working organizations. They somehow find activities that are to be completed away from office. Sometimes working from home has negative impact on employee's physical and mental health.<sup>5</sup> Employees may feel isolated when they work away from their workplace. It can cause employees to work more hours because the boundaries between private and professional life are not established. In addition, the level of stress may increase with the presence of children at home since schools are closed.<sup>4</sup>

Mental health problems affect many employees which is usually not seen during normal times and working during the COVID-19 pandemic added to fear of contracting the virus and significant changes are happening to our daily lives as our movements are restricted. In support of efforts to contain & slow down the spread of virus, work from home is advised for employees in this situation and they must take care of themselves, their families & also work to maintain their job position. It increases social isolation which is associated with high risk of psychological distress and depression.<sup>3</sup> Psychosocial factors at work refers to interaction between the work environment, organization condition and workers capacities, needs, cultural and personal consideration that influences health, workplace, and job satisfaction<sup>5</sup>

Based on the above background, the study was done with objectives to assess the psychosocial health and wellbeing of Information Technology (IT) employees who are working from home during COVID-19 pandemic and to find out an association between their psychosocial health and related variables.

## METHODOLOGY

This is a cross sectional descriptive study. The study was conducted in among IT employees working in Chennai district, Tamil Nadu between the period of April 2021 to July 2021.

In a study done by International Labour organization, 41% of the workers felt that they were suffering from stress and other related psychosocial problems<sup>6</sup>. The prevalence 41% was taken as P and applied in the formula  $4PQ/l^2$  with an allowable error of 7% and non-response rate of 10%. The sample size required was 186 which was rounded off to 210.

Due to logistic limitation, a private IT company having 420 employees was selected based on the convenience of the research team. The list of all the employees were obtained and arranged in alphabetical order. By simple random sampling by computer generated numbers, 210 participants are selected randomly. Among which, 200 gave consent and another 10 were again selected by random numbers and included as study participants.

**Inclusion criteria:** Person working in IT sector for a minimum of 2 years and working from home during the ongoing pandemic for a minimum period of 3 months were included in the study.

**Exclusion criteria:** People with known psychiatry illness or any cognitive impairment were excluded.

**Data collection tools:** Data collected from eligible and willing participants were collected through self-administered, semi structured questionnaire. Using Questionnaire, data was collected on sociodemographic characteristics, information regarding lifestyle practices, social factors related to work from home. Psychosocial wellbeing was assessed through self-reporting questionnaire (SRQ) scale & WHO well-being scale.<sup>7,8</sup>

**Self-reporting Questionnaire (SRQ):** It is a designed screening tool for psychiatric morbidities & it consists of 20 questions. Each of the 20 items is scored 0 or 1. A score of 1 indicates that the symptoms were present during the past month, a score of 0 indicates that the symptoms were absent. The lowest score that can be obtained on the scale is 0 and highest score is 20. Higher scores indicate that the person may be suffering from mental health problems and needs further evaluation.<sup>7</sup>

**WHO well-being scale Index:** The WHO-5 is a short, self-administered measure of well-being over the last two weeks. It consists of five positively worded items that are rated on 6-point Likert scale, ranging from 0 (at no the time) to 5 (all of the time). The raw scores are transformed to a score from 0 to 100, with lower scores indicating worse well-being. A score of  $\leq 50$  indicates poor wellbeing and suggests further investigation into possible symptoms of depression. A score of 28 or below is indicative of depression.<sup>8</sup>

**Data analysis:** Data was entered in Microsoft excel and analysed by SPSS version 22. Descriptive statistics was used to tabulate data. Analytical statistics used were linear regression models to find the association between WHO well being index, SRQ scores and related variables.

## RESULTS

Majority of the study participants were within 28 years of age, 64% were males, around one-thirds did not have children in home and 70% belonged to nuclear families. (Table 1).

Table 2 shows the details related to work from home among the study participants. As a results of working from home for all of their professional works, 16% consumed less than 2 meals per week, 53% gained weight compared to pre-covid era, 74% felt that their working hours increased, only 75% were paid salary in full and around 65% felt that their existing private family time which they had was affected due to working from home.

**Table 1: Socio-demographic profile of the study participants**

Variable	Frequency (%)
<b>Age</b>	
<28 years	143 (68.1)
>28 years	67 (31.9)
<b>Gender</b>	
Female	75 (35.7)
Male	135 (64.3)
<b>Marital Status</b>	
Unmarried	123 (58.6)
Married	87 (41.4)
<b>Having children in home</b>	54 (25.7)
<b>Type of Family</b>	
Nuclear	147 (70)
Joint/Three Generation	63 (30)

**Table 2: Details related to work from home among the study participants**

Variable	Frequency (%)
Consumption of Tobacco	31 (14.8)
Consumption of alcoholic beverages	43 (20.5)
Less than 3 meals per day	34 (16.2)
Gained weight	113 (53.8)
Increase working hours	156 (74.3)
Paid full salary	159 (75.7)
Increased financial burden	81 (38.6)
Disturbance in sleep pattern	150 (71.4)
Private family time is affected	137 (65.2)
Meeting deadlines from clients	159 (75.7)
Work at home is hard compared to working from office	115 (54.8)
Lack of Support from family members	192 (91.4)
Impact of work from home on health	110 (52.4)

**Table 3: Descriptive statistics of SRQ and WHO Wellbeing scores among the study participants**

Variable	Mean	Median	IQR
SRQ Scores	7.47 ± 5.00	7	8.00
WHO Well-being scores	16.47 ± 5.10	17	7.00

IQR=Interquartile range

**Table 4: Association between self-reported scores on SRQ 20 and related variables:**

Variable	Beta coefficient	T value	P value
Age	-1.85	1.90	0.059
Male sex	-1.55	-2.64	0.09*
Marital Status- Unmarried	1.87	2.83	0.005*
Having children in home	-.101	-.117	0.907
Type of family	-.031	-.051	0.960
Consumption of Tobacco	0.999	0.961	0.338
Consumption of alcoholic beverages	0.322	0.332	0.740
Less than 3 meals per day	2.194	3.118	0.002*
Gained weight	1.420	2.536	0.012*
Average working hours per day	0.367	2.651	0.009*
Increase working hours	-0.770	-0.989	0.324
Paid full salary	1.035	1.42	0.15
Increased financial burden	2.32	3.50	0.001*
Disturbance in sleep pattern	0.620	0.82	0.41
Private family time is affected	2.59	3.73	0.00*
Meeting deadlines from clients	-0.764	-1.12	0.26
Work at home is hard compared to working from office	1.088	1.60	0.111
Lack of Support from family members	2.48	2.63	0.009*
Impact of work from home on health	1.553	2.37	0.018*

R<sup>2</sup> = 0.571, F = 13.05. \*P < 0.05, statistically significant at 95% Confidence Interval.

The mean SRQ score among the study participants was found to be 7.47±5.0 and of WHO well-being score was found to be 16.47±5.10. (Table 3)

On multiple regression analysis, variables like gender, marital status, having less than 3 meals per day, weight gain, average working hours per day, having their private family time affected, those who had support from family members and those having impact on their health were found to have statistically significant association with SRQ scores. Based on R<sup>2</sup> values, 57% of the variance in the SRQ scores can be explained by these predictor variables. (Table 4)

On multiple regression analysis, variables like gender, marital status, those who are paid full salary and those having their private family time affected were found to have statistically significant association with WHO wellbeing scores. Based on R<sup>2</sup> values, 27% of the variance in the WHO well-being scores can be explained by these predictor variables. (Table 5)

## DISCUSSION

Work from home policy which was now being made a norm in many of the IT companies has several negative effects on the individual which further needs to be evaluated in different work sectors and scenarios. The studies done among IT employees in Chennai district are discussed below.

In this study, participants who had their family time affected due to work from home had a statistically significant association with SRQ scores with a Beta coefficient of 2.59. Similar results were obtained in a study done by Gulanti et al where work and family conflict were correlated with stress<sup>9</sup>. In the present study, the level of pressure from being overloaded, and mental health pressure from work life balance were present which is like results on the study done by Rao JV et al.<sup>2</sup>

**Table 5: Association between WHO Well Being score and related variables:**

Variable	Beta coefficient	T value	P value
Age	0.163	1.966	0.049*
Male sex	1.724	2.203	0.029*
Marital Status- Unmarried	-3.26	-3.69	0.000*
Having children in home	-0.68	-0.60	0.549
Type of family	1.133	1.39	0.163
Consumption of Tobacco	-0.06	-0.48	0.962
Consumption of alcoholic beverages	-1.05	-0.819	0.414
Less than 3 meals per day	0.014	0.015	0.988
Gained weight	0.616	0.821	0.413
Average working hours per day	0.077	0.41	0.67
Increase working hours	-1.36	-1.32	0.188
Paid full salary	-2.44	-2.49	0.013*
Increased financial burden	0.96	1.07	0.28
Disturbance in sleep pattern	-0.47	-0.47	0.63
Private family time is affected	-1.94	-2.11	0.036*
Meeting deadlines from clients	0.96	1.064	0.29
Work at home is hard compared to working from office	-1.04	-1.16	0.24
Lack of Support from family members	-0.63	-0.51	0.61
Impact of work from home on health	-0.46	-0.52	0.59

R<sup>2</sup> - 0.276, F - 3.712. \*P < 0.05, statistically significant at 95% Confidence Interval

The relationship between between SRQ scores and younger age group as indicated by the negative beta coefficient was statistically significant in this study which was similar to the study done by Prasad KDV et al<sup>3</sup>. This maybe because still younger age group are learning to cope up with stress.

According to a study done by Marimuthu P et al 77% of the employees feel stressed during work from whereas here in this study 54.1% of employees have stress during work from home.<sup>4</sup> The results in this study indicating that overtime work affecting the employee mental health as we can see more number of working hours during work from home is associated with affecting the employees mental health and well-being this was similar to the study done by Grant et al<sup>10</sup>.

In the study done by Marimuthu P et al 84% of the study participants had sleep disturbance were as in this study 71% had sleep disturbance due to work from home. This is due to continuous work during the pandemic the employees sleeping pattern seem to be affected due to late night work calls and this may have significantly disturbed the sleep pattern of employees there by leading to several complications. Lesser duration of sleep has a negative impact on mental health and well-being as observed in this study, overall, nearly 52.4% had suffered various health problems due to work from home and around 31% had a complaints of eye strain this is mainly due to overuse of phone and laptops during the pandemic which was similar to the study done by Majumdar P et al.<sup>11</sup>

To work efficiently from home, it is important for employees to ensure that they have the technology that suit their work responsibility such as internet connectivity and separate workspace<sup>3</sup>. In this study only 50 % of the participants had their separate workspace whereas the study done by Xia Y et al concluded that only 33% had separate working

space Even before Covid-19 work from home was seemed to be easier for many employees prior to covid 19 lockdown. Many employees would have felt working from home acceptable at the initial stages of lockdown but as lockdown extended to months, most of them started finding it exhausting as observed in the present study.<sup>12</sup> In this study 54% of the participants in this study felt work from home was hard compared to working from office. According to a study done by Puruwanta et al<sup>13</sup> there are certain drawbacks of work from home such as employees have to pay for electricity and internet bills which may be higher than normal days which could lead to increased financial burden which was reported by 38.6% of participants in this study.

In a study done Khan R<sup>12</sup> et al 38% of the employees had difficulty in managing time their personal time was disturbed whereas in this study 62.5% reported their family time was disturbed due to work from home and was finding difficult in time management. During work from home employees found difficult to manage boundaries between working hours and non-working hours. However, the positive side of work from home amid the pandemic is that it reduces the spread of infection, flexible working hours saving the travel time and expenses to reach the office and using less office space expenses and avoiding unnecessary office politics from home.

Though 50% of the study participants felt that work from home is hard compared to working from office, it must be noted that working from home has its own set of perks like being with the family and spending more time with them etc. This was reported in a study done by Prasad KDV et al, which reported that working from home improved the psychological well being of the employees. Further research is needed to quantify these findings as different work sectors have different set of employees and problems.<sup>15</sup>

It is an ongoing debate whether work from home in-

creases productivity from the employees as many employers and employees even feel that work from home has to be stuck on even after the pandemic, but even then, increased working hours was reported in approximately 30 percent of the employees which could lead to burnout and other related problems which need to be worked upon.<sup>16,17</sup>

Generally Information technology employees having sleep disorders are common<sup>18</sup>. Even in our study many felt their sleeping pattern disturbed due to work from home. Though work family balance was affected in majority of the study participants, contradictory reports were found in a study done by Ipsen C et al, where work family balance was observed in most of the employees working from home.<sup>19,20</sup> But again, in the difference may have been due to difference in the sociodemographic characteristics of the study participants.

## CONCLUSION

The COVID 19 pandemic has caused many challenging issues has affected the mental health and well-being of work from home employees. As of November 2021, even when new strains of coronavirus are being reported, it is imperative to have streamlined approach by IT companies in having their Standard Operating Protocols for work from home employees which are developed after extensive research for the wellbeing of both the employers and the employees.

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