



An Evaluation of Stress Levels in Professionals Performing Work from Home in IT Industry during COVID-19 Pandemic

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Stress is a feeling that comes from emotional and physical tension. Stress can come from any thought that makes you feel sad, angry or nervous. It is a natural feeling of not being able to cope with specific demands and events. Stress is your body's reaction to a challenge or demand. Negative responses to challenges can have an adverse effect on the health and happiness of the person who is undergoing stress. IT industry is a field that poses lot of stress on the workers due to the peer pressures, working hours and work stress.

Aim: The aim of this study is to evaluate the stress among IT professionals who are working from home.

Materials and Methods: The study design involves a cross-sectional study was done among IT professionals to evaluate the stress among IT professionals who are undergoing work from home amidst the COVID- 19 Pandemic situation (6 months duration). A study involved a self-developed questionnaire consisting of 27 questions to assess the stress level of IT people working in IT industry for more than 2 years. This questionnaire was circulated in Google forms and 137 people responded for the survey, out of which 123 participants were undergoing work from home.

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Results: Out of 137 study participants, 18.25% of them were female and 81.75% of them were male. 25.55% participants were of age group 18 - 35 and 74.45% participants were of age group 35 -50. 90.51% participants are IT professionals and out of those 86.86% of participants are doing work from home. 72.26% of the participants feel that they are stressed too much due to work from home, and 27.47% of the participants feel that they are not that much stressed due to work from home. 45.99% of participants are more stressed, 28.47% of them are moderately stressed, 13.14% of them are lightly stressed and 12.41% of them are not stressed.

Conclusion: Thus, the study concluded an innovative finding that IT professionals experienced severe stress due to high peer pressures, home environments and were more prone to psychosomatic disorders.

Keywords: Stress; IT profession; work from home; health; innovative.

1. INTRODUCTION

Stress is a feeling that comes from emotional and physical tension. Stress can come from any thought that makes you feel sad, angry or nervous. It is a natural feeling of not being able to cope with specific demands and events. Stress is the body's natural defense mechanism. It causes the body to flood with hormones [1]. Researchers describe the stress response as a fight-or-flight mechanism during which the body produces large quantities of chemicals cortisol, epinephrine and nor epinephrine. The hormones activate the body to overcome the stress situation. This stress response within a considerable limit (Eustress) is good and beneficial to the body. But if this stress response continues for a longer duration, it becomes a stressor. Stressors can be of any origin and it takes up physical, emotional and environmental factors to trigger this reaction. When a person undergoes a long-term stress, there is continued activation of the stress response leading to wear and tear on the body and physical, emotional and behavioral symptoms develop. Only the person experiencing it can determine whether it is present and how severe it feels [1,2].

Stress is your body's reaction to a challenge or demand. Stress in some cases can be positive. The stress responses include physical thought responses to your perception of various situations. The hypothalamic pituitary adrenal axis is the centre which controls stress in our body and regulates various body processes like digestion, immune system and mood [3,4]. People adopt many stress management techniques that can help them to avoid most physical, emotional and behavioral symptoms of stress. It is natural and normal to be stressed sometimes [3–8] Negative responses to challenges can have an adverse effect on the health and happiness of the person who is

undergoing stress. However, being more alert to the effects of stress may help a person manage it more effectively and cope better [9-16]. Nowadays IT people who are working from home are stressed. And due to covid workload has been increased among IT people and also responsibilities at home, this has left people exhausted [17][18][4]. Our team has extensive knowledge and research experience that has translate into high quality publications [19–23]. So, the aim of this study is to evaluate the stress among IT professionals who are working from home during COVID Pandemic situation.

2. MATERIALS AND METHODS

A cross-sectional study was done among IT professionals to evaluate the stress among IT professionals who are undergoing work from home during COVID- 19 Pandemic situation for a duration of 6 months duration. A self-developed questionnaire was prepared consisting of 27 questions that contains demographic questions and questions related to assessment of stress levels in IT people. This questionnaire was circulated among IT professionals and 137 people responded for the survey, in which 123 participants were undergoing work from home. The questionnaire was circulated through google forms to all the participants. The collected responses were then converted to Microsoft excel. Then the output was generated from the responses with the help of SPSS software version 23. This output was converted to pie charts and crosstabs in SPSS software through descriptive analysis, frequency analysis and Chi square test.

3. RESULTS

In the present study, out of 137 study participants, 18.3% of them were female and 81.8% of them were male. 25.6% participants

were of age group 18 - 35 and 74.5% participants were of age group. 35 -50. 90.5% participants are IT professionals (Fig 1). 86.9% of participants are doing work from home. 72.26% of the participants feel that they are stressed too much due to work from home, and 27.5% of the participants feel that they are not that much stressed due to work from home. (Fig 2) 45.9% of participants are more stressed, 28.5% of them are moderately stressed, 13.1% of them are lightly stressed and 12.4% of them are not stressed. For 46.7% of participants the duration of their work from home was 1 year, for 11.7% of them it was 3 months, for 24.1% of them it was 6 months and for 16.8% of them it was more than 1 year. 37.2% of study participants responded that they are exposed to more than 10 hours to work from home per day, 5.1% of them are exposed to 6 hours of work from home per day, 23.4% of them are exposed to 10 hours of work from per day and 33.6% of them are exposed to 8 hours of work from home per day. 47.5% of participants think that the main reason for their stress is both personal reasons and professional reasons, 35.8% of them think that the main reason for their stress is due to professional reasons and 10.2% of them think that the main reason for their stress is due to personal reasons. 49.7% of them responded that they share their problems with friends, 17.5% of them share their problems with family and relatives and 32.1% of them do not share their problems with anyone. 26.3 % of participants follow exercise as a stress management technique, 23.4% of them follow meditation as a stress management technique, and 8% of them follow yoga as stress management technique. 34.3% of participants smoke to fight against stress, 12.4% of them take alcohol to fight against stress, 2.9% of them take anti depressant drugs to fight against stress. 62.8% of participants want a change in job and 36.5% of them do not want any change in job. (Fig 3) 36.5% participants experience sadness during stress, 5.8% of them experience acidity during stress, 18.9% of them experience loss of appetite during stress and 11.7% of them experience continuous headache. 43.1% of participants found themselves getting upset by trivial things and 18.3% of them found themselves getting more upset by trivial things. 32.1% of participants responded that they could not experience any positive feelings at all and 23.4% of them responded that they could not experience a positive feeling most of the time. 42.3% of participants responded that it was a

little bit difficult to relax for them and 35.8% of them responded that it is very difficult for them to relax. 37.2% of participants felt that they lost interest in everything and 36.50% of them thought that they totally lost interest in everything. 67.6% of the participants responded that they feel life wasn't worthwhile. 40.7% of participants responded that it was irritable, and 23.4% of them felt that they were very irritable. (Fig. 4) 9.5% of study participants found themselves agitated to a considerable degree, 26.3% of them themselves agitated to some degree and 35.8% of them found themselves agitated most of the time. 24.1% of participants responded that they could see nothing the future to be hopeful about to a considerable degree, 19.7% of them responded that they could see nothing in the future to be hopeful about to some degree and 21.9% of them responded that they could see nothing in the future to be hopeful about most of the time. 9.5% of study participants responded that they felt down-hearted and blue to a considerable degree, 19.7% of them responded that they felt down-hearted and blue to some degree and 24.8% of them responded that they felt down-hearted and blue most of the time.

3.1 Cross Tab Evaluation

The Association between gender of participants and do they feel that they are stressed too much. Majority of male participants were more stressed than compared to female participants. Pearson chi square test shows p value is 0.045, (p value < 0.05). Hence, it is statistically significant (Fig. 5).

The association between gender of participants and reasons for being stressed was analysed. Male participants were more stressed and the main reason for their stress is due to both personal reasons and professional reasons. Pearson chi square test shows p value is 0.006, (p value < 0.05). Hence, it is statistically significant (Fig. 6).

Fig. 1 represents the responses of participants whether they are doing work from home for office work. 86.9% of participants responded that they are doing work from home for office work and 13.1% of the participants responded that they are not doing work from home for office work.

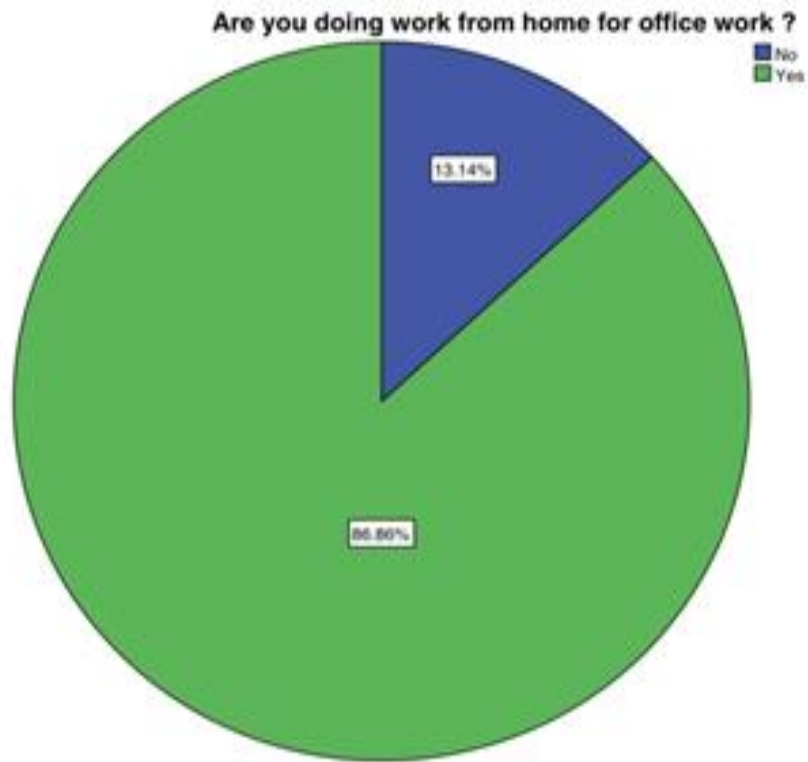


Fig. 1. Pie chart showing responses for the working status of the participant

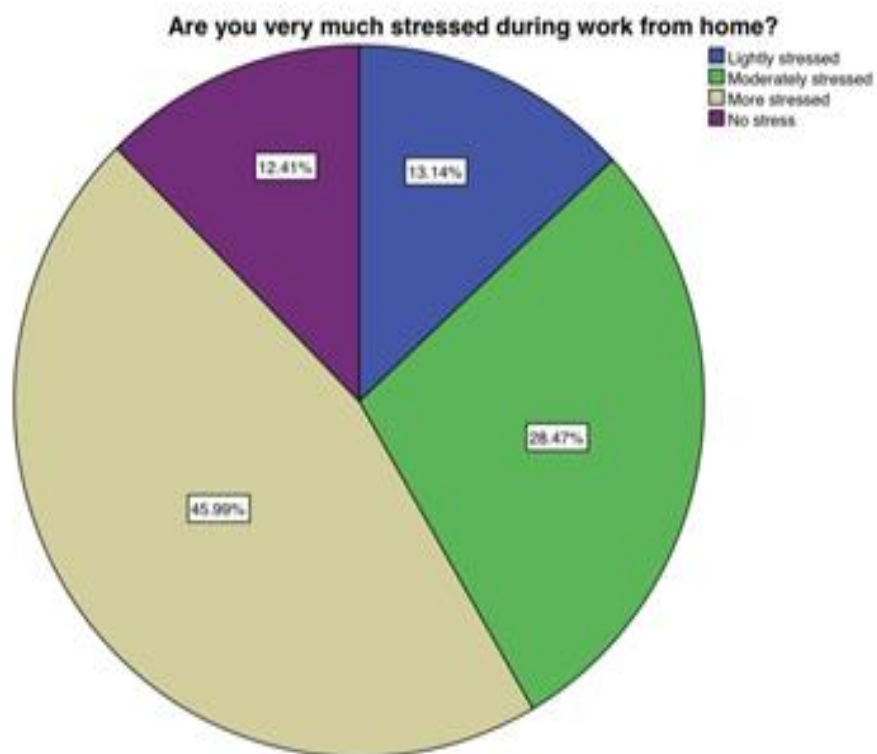


Fig. 2. Pie chart showing responses for how much they were stressed

Fig. 2 represents the responses of participants about how much stressed they are during work from home. 13,1% of participants responded that they are lightly stressed, 28.5% of them responded that they are moderately stressed, 45.9% of them are more stressed and 12.4% of them responded that they don't have any stress.

Fig. 3 represents the responses showing the symptoms experienced by the participants during stress. 5.9% participants experienced acidity during stress, 11.7% of them experienced continuous headache during stress, 18.9% of them experienced loss of appetite during stress, 13.9% of them experienced muscle aches during stress and 36.5% of them experienced sadness continuous negative thoughts during stress.

Fig 4 represents the response, showing who all participants found themselves agitated. 9.5% of participants responded that it applied to them to a considerable degree, 26.3% of them responded that it applied to them to a considerable degree, 35.8% of them responded that it applied to them very much and 28.5% of the responded that it did not apply to them at all.

Fig. 5 represents the association between gender of participants, and do they feel that they

are stressed too much for work from home. In the graph the X axis represents the sex of the participants and the Y axis represents the count of responses given by the participants. Male participants are more stressed than compared to female participants. 85% of male participants have responded that they feel stressed too much for work from home and only 27% of the female participants have responded that they feel too much stressed for work from home. Pearson chi square test shows p value is 0.045, (p value < 0.05). Hence, it is statistically significant.

Fig. 6 represents the association between gender of the participants and the main reason for their stress in daily life. In the given graph X axis represents the sex of the participants and Y axis represents the count of responses given by the participants. The above graph shows that comparatively male participants are more stressed than the female participants and the main reason for their stress is due to both personal reasons and professional reasons. 60% of the male participants have responded that the main reason for their stress is because of both personal and professional reasons. Pearson chi square test shows p value is 0.006, (p value < 0.05). Hence, it is statistically significant.

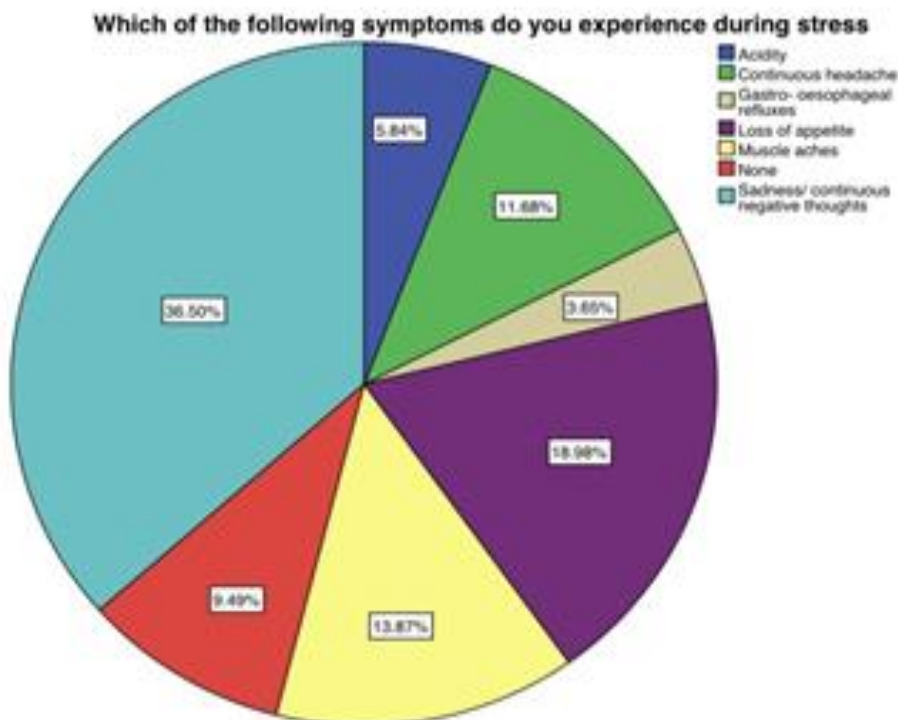


Fig. 3. Pie chart showing responses for the symptoms they experience during stress

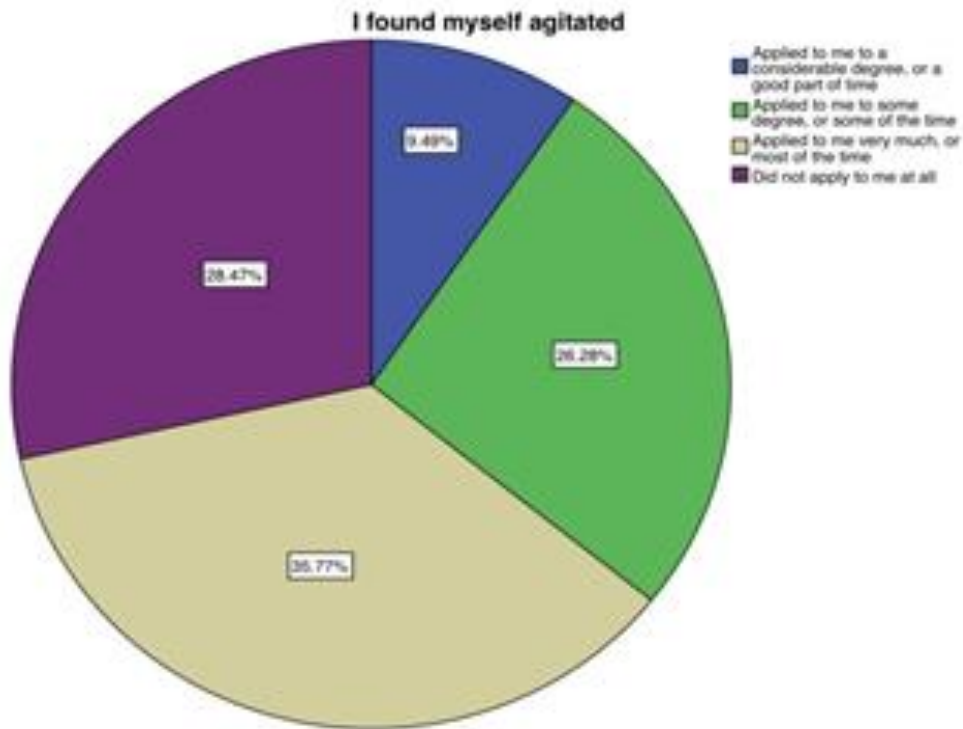


Fig. 4. Pie chart showing responses for the how they were agitated due to stress

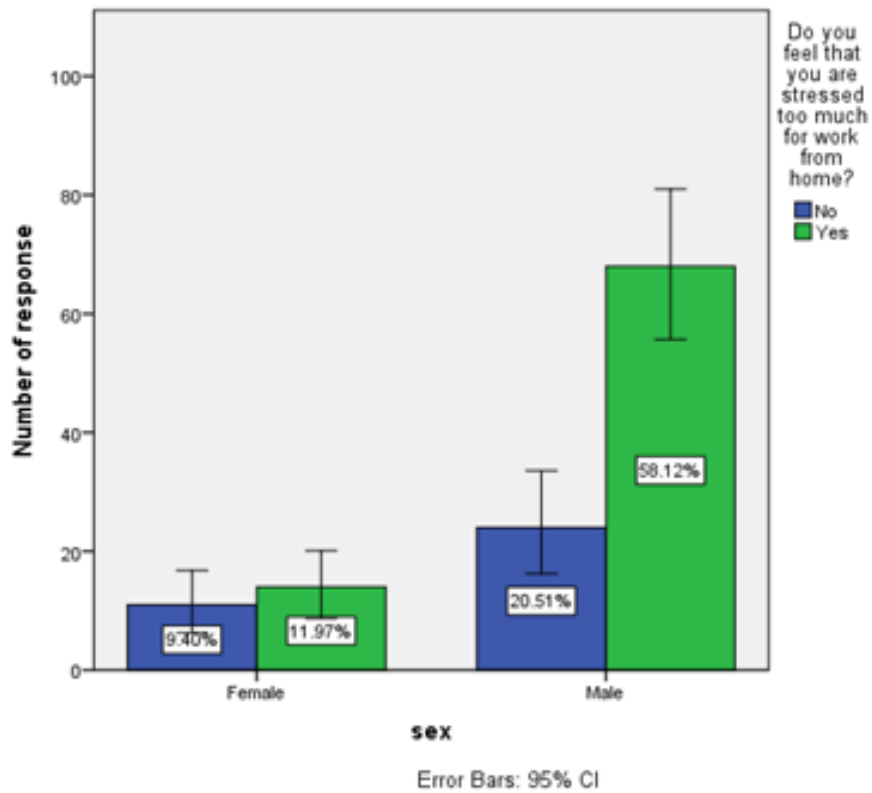


Fig. 5. Association graph between gender of participants, and do they feel that they are stressed too much for work from home.

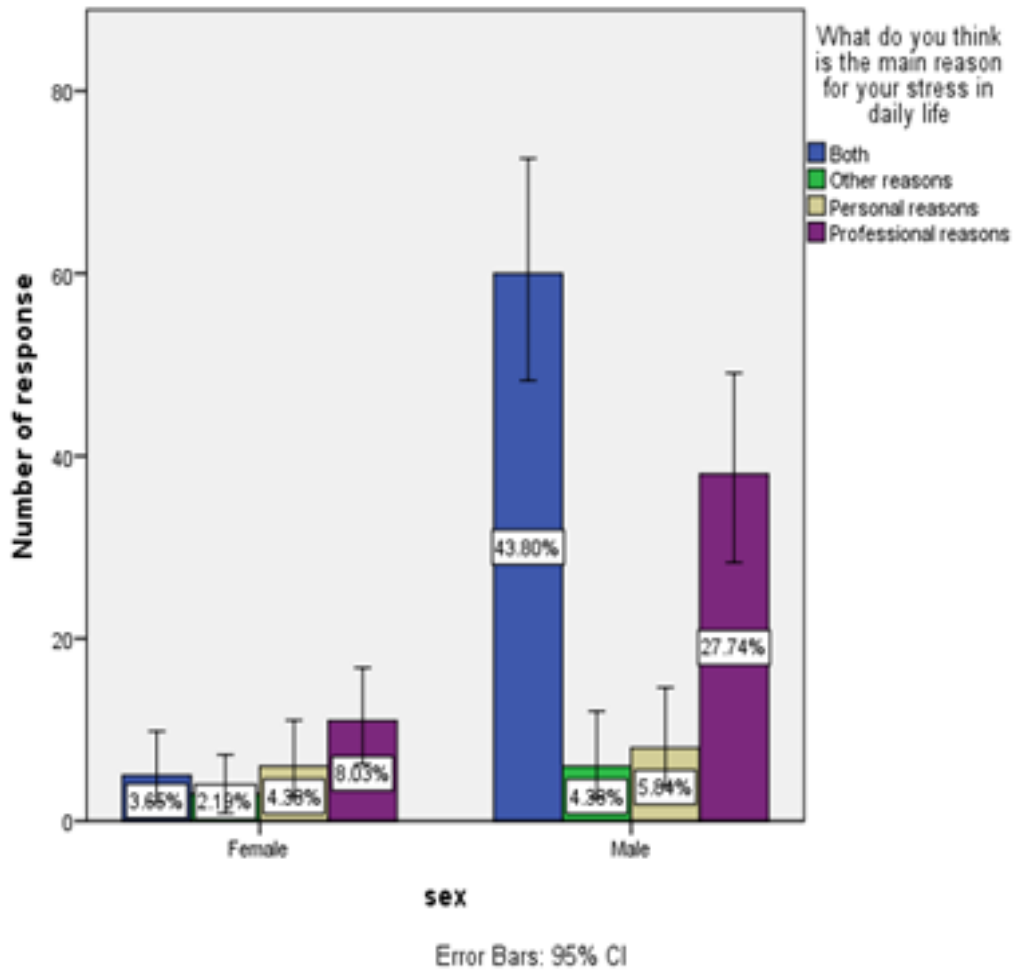


Fig. 6. Association graph association between gender of the participants and the main reason for their stress in daily life

4. DISCUSSION

The Information Technology industry in India has reached tremendous heights due to globalization of the Indian economy and also favorable government policies. But still, the IT professionals are under constant pressure to deliver their services efficiently. These employees are more prone to develop many health related problems like physical and mental ultimately landing up with alcoholism, diabetes, acid peptic disease, irritable bowel syndrome, fatigue, asthma, tension headache, hypertension, insomnia, , psychoneurosis, skin diseases like lichen planus, urticaria and sexual dysfunction etc [10–15,24].

Based on our research, it is found that the level of stress load of IT professionals working from home were severely stressed and their stress

was greatly associated with work stress personal and family related reasons. The subjects experienced symptoms like irritation, nervousness, and aggression, depression as well as mild stress in the form of headache or stress, which was observed for at least half of the researchers. This is consistent with the previous reports by [25]. Onwuegbuzie showed that all employees who were excessively burdened with occupational stress, didactics had an increased level of stress and a reduced level of job satisfaction. This study showed that more workload can cause excessive stress at work [18,4,26].

Previous research by [27], the Duration of work as software engineer: 40% of subjects with work duration less than 6 months were professionally stressed; 35% of subjects between 6 months to 2 years; 53% of subjects between 2-4 years;

65.7% of subjects between 4-6 years and 40.9% of subjects above 6 years of work duration as software engineers in IT profession were found much professionally stressed. This work stress was related to the problems with working hours, workload, and pace of work, Peer pressures in completion of the work in stipulated time and the degree of help and respect from management and colleagues etc [28–35].

Thus, the professional IT workers are severely stressed and must definitely involve themselves in different stress relaxing methods like yoga, which in the long course might lead to addictions and psychosomatic disorders.

5. CONCLUSION

Thus, the study concluded that IT professionals were severely stressed and more prone to psychosomatic disorders and they associate their stress with work pressures, personal reasons during working at home and family related reasons. Majority of subjects also experienced symptoms like irritation, nervousness, and aggression, depression as well as mild stress in the form of headache or stress. So, a comfortable working environment, concern and support from peers, modulation of stress relaxing methods can be for a better living irrespective in a work from home environment for IT professionals.

6. LIMITATIONS OF THE STUDY

The limitation of the present study is that the sample size is small. Further if the sample size is increased, it would add more statistical significance.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

We conducted our research after obtaining proper IEC approval.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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