EVALUATION OF STRESS AMONG IT PROFESSIONALS UNDERGOING WORK FROM HOME

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.

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

MATERIALS AND METHOD : A cross-sectional study was done among IT professionals to evaluate the stress among IT professionals who are undergoing work from home. A basic questionnaire was prepared by the authors. 27 questions were prepared and demographic questions were also included in the questionnaire. This questionnaire was circulated among IT professionals and 137 people responded for the survey, in which 123 participants were undergoing work from home.

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 are under high peer pressures and are more stressed and more prone to psychosomatic disorders.

Keyworrds: stress, IT profession, work from home, health, innovative

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. It can become a chronic condition if a person does not take steps to manage stress . Stress is the body's natural defense mechanism. It causes the body to flood with hormones (1). People commonly refer to this as a fight-or-flight mechanism. The body produces large quantities of chemicals cortisol, epinephrine and norepinephrine. Stressors are the environmental factors that trigger this reaction. When a person has long-term stress, continued activation of the stress response causes wear and tear on the body. Physical, emotional and behavioural 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. When the stress response is turned on, your body may release adrenaline and cortisol. 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). Depending on the changes in your life stress can be a short-term problem or a long-term problem . Usually stress management techniques can help you avoid most physical, emotional and behavioural symptoms of stress. It is natural and normal to be stressed sometimes(3,5).(6–8)

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)((10–15). The National Institute of Medical Health recognized two types of stress, acute stress and chronic stress(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)). The aim of this study is to evaluate the stress among IT professionals who are working from home.

MATERIALS AND METHOD :

A cross-sectional study was done among IT professionals to evaluate the stress among IT professionals who are undergoing work from home. A basic questionnaire was prepared by the authors. 27 questions were prepared and demographic questions were also included in the questionnaire. 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.

RESULTS :

In the present study , 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. (Fig 1) 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. (Fig 2) 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. For 46.72% of participants the duration of their work from home was 1 year, for 11.68% of them it was 3 months, for 24.09% of them it was 6 months and for 16.79% of them it was more than 1 year. 37.23% of study participants responded that they are exposed to more than 10 hours to work from home per day, 5.11% of them are exposed to 6 hours of work from home per day, 23.36% of them are exposed to 10 hours of work from per day and 33.58% of them are exposed to 8 hours of work from home per day. 47.45% of participants think that the main reason for their stress is both personal reasons and professional reasons, 35.77% of them think that the main reason for their stress is due to professional reasons and 10.22% of them think that the main reason for their stress is due to personal reasons. 49.64% of them responded that they share their problems with friends, 17.52% of them share their problems with family and relatives and 32.12 % of them do not share their problems with any one. 26.28% of participants follow exercise as a

stress management technique, 23.36% of them follow meditation as a stress management technique, and 8.03% of them follow yoga as stress management technique. 34.31% of participants smoke to fight against stress, 12.41% of them take alcohol to fight against stress, 2.92% of them take anti depressant drugs to fight against stress. 62.77% of participants want a change in job and 36.50% of them do not want any change in job. (Fig 3) 36.50% participants experience sadness during stress, 5.84% of them experience acidity during stress, 18.98% of them experience loss of appetite during stress and 11.68% of them experience continuous headache. 43.07% of participants found themselves getting upset by trivial things and 18.25% of them found themselves getting more upset by trivial things. 32.12% of participants responded that they could not experience any positive feelings at all and 23.36% of them responded that they could not experience a positive feeling most of the time. 42.34% of participants responded that it was a little bit difficult to relax for them and 35.77% of them responded that it is very difficult for them to relax. 37.23% of participants felt that they lost interest in everything and 36.50% of them thought that they totally lost interest in everything. 67.61% of the participants responded that they feel life wasn't worthwhile. 40.74% of participants responded that it was irritable, and 23.36% of them felt that they were very irritable. (Fig 4) 9.49% of study participants found themselves agitated to a considerable degree, 26.28% of them themselves agitated to some degree and 35.77% of them found themselves agitated most of the time. 24.09% of participants responded that they could see nothing the future to be hopeful about to a considerable degree, 19.71% of them responded that they could see nothing in the future to be hopeful about to some degree and 21.90% of them responded that they could see nothing in the future to be hopeful about most of the time. 9.49% of study participants responded that they felt down-hearted and blue to a considerable degree, 19.71% of them responded that they felt down-hearted and blue to some degree and 24.82% of them responded that they felt down-hearted and blue most of the time.

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)

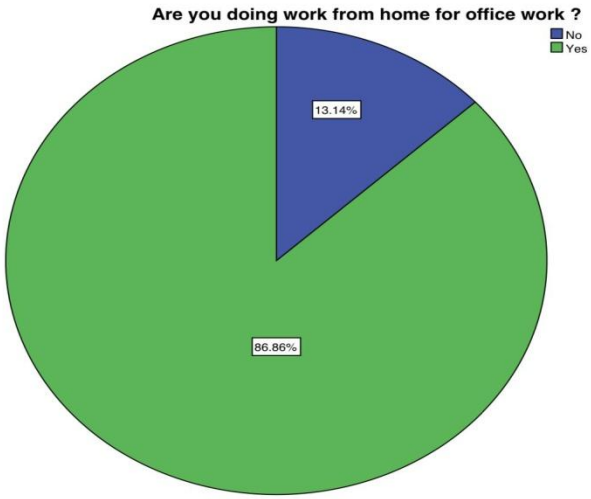

Figure 1 represents the responses of participants whether they are doing work from home for office work. Blue indicates no and green indicates yes. 86.86% of participants responded that they are doing work from home for office work and 13.14% of the participants responded that they are not doing work from home for office work.

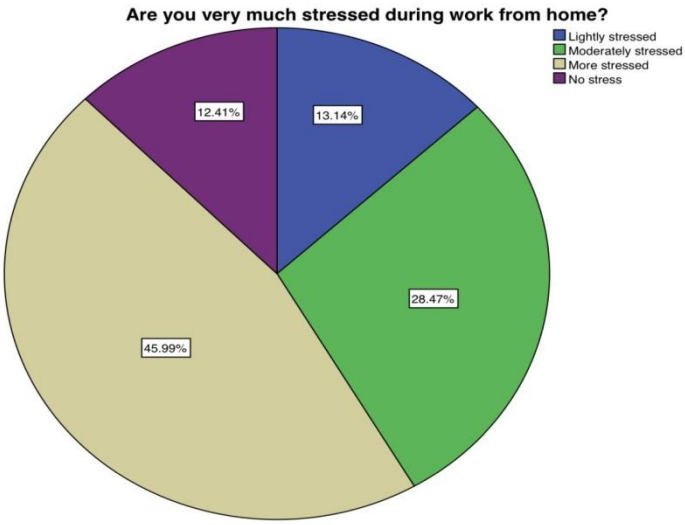

Figure 2 represents the responses of participants about how much stressed they are during work from home. Blue indicates lightly stressed, green indicates moderately stressed, brown indicates more stressed and violet indicates no stress. 13,14% of participants responded that they are lightly stressed, 28.47% of them responded that they are moderately stressed, 45.99% of them are more stressed and 12.41% of them responded that they don't have any stress.

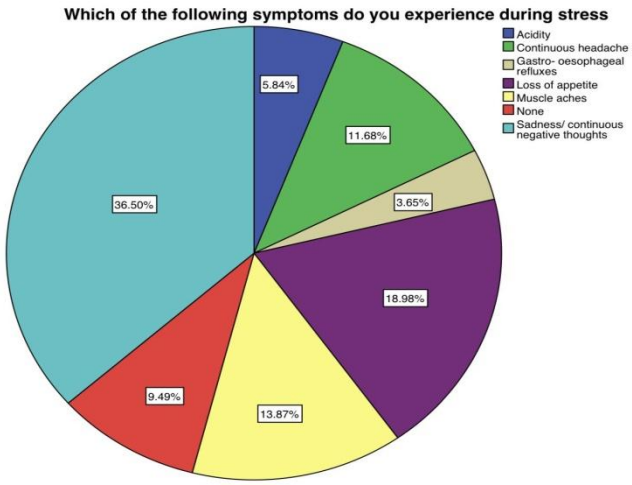

Figure 3 represents the responses showing the symptoms experienced by the participants during stress. Dark blue indicates acidity, green indicates continuous headache, brown indicates gastro-oesophageal refluxes, violet indicates loss of appetite, yellow indicates muscle aches, red indicates none and light blue indicates sadness/ continuous negative thoughts. 5.84% participants experienced acidity during stress, 11.68% of them experienced continuous headache during stress, 18.98% of them experienced loss of appetite during stress, 13.87% of them experienced muscle aches during stress and 36.50% of them experienced sadness/ continuous negative thoughts during stress.

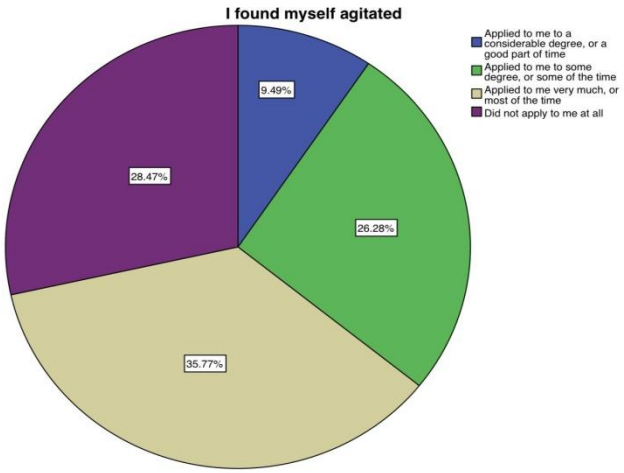

Figure 4 represents the response, showing who all participants found themselves agitated. Blue indicates applied to me to a considerable degree, green indicates applied to me to some degree, brown indicates applied to me very much and violet indicates did not apply to me at all. 9.49% of participants responded that it applied to them to a considerable degree, 26.28% of them responded that it applied to them to a considerable degree, 35.77% of them responded that it applied to them very much and 28.47% of the responded that it did not apply to them at all.

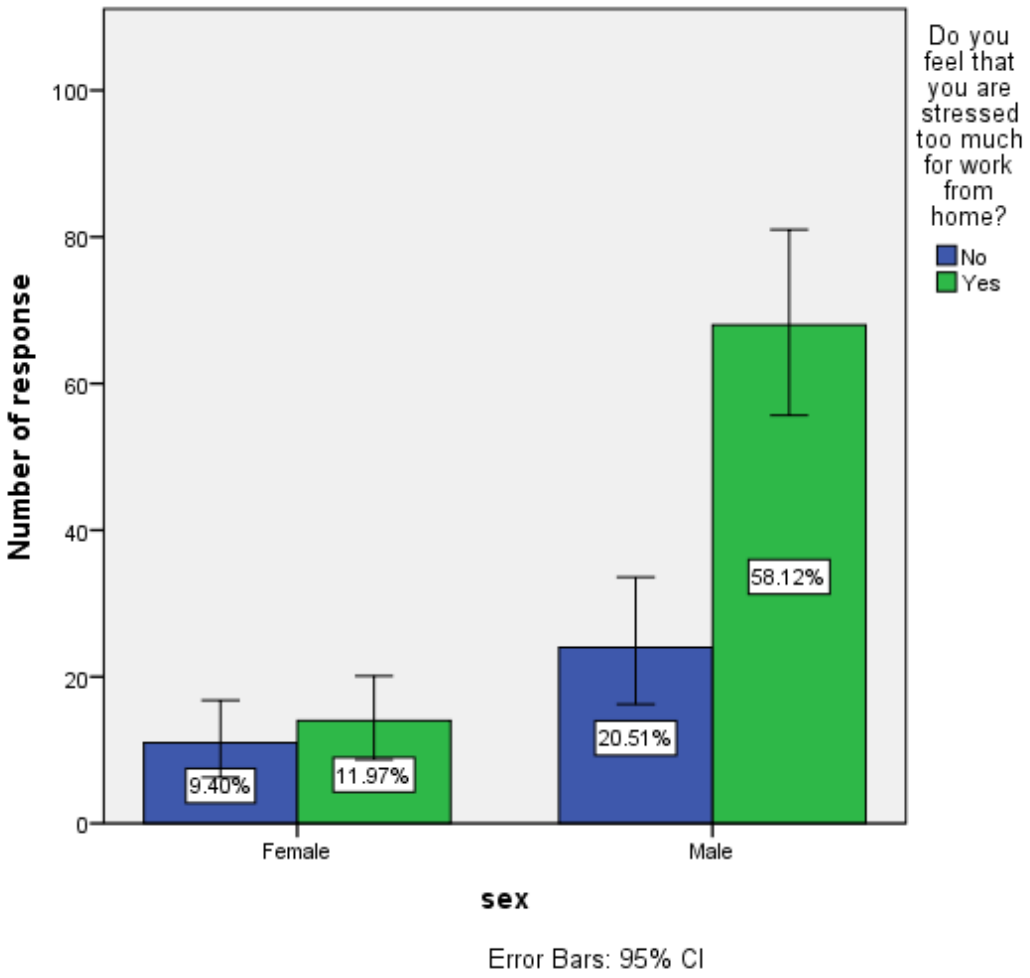

Figure 5 represents the association between gender of participants and do they feel that they are stressed too much for work from home. In the graph the X axis represents the sex of the participants and the Y axis represents the count of responses given by the participants. In the given graph Green colour indicates yes and blue colour indicates no. 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.

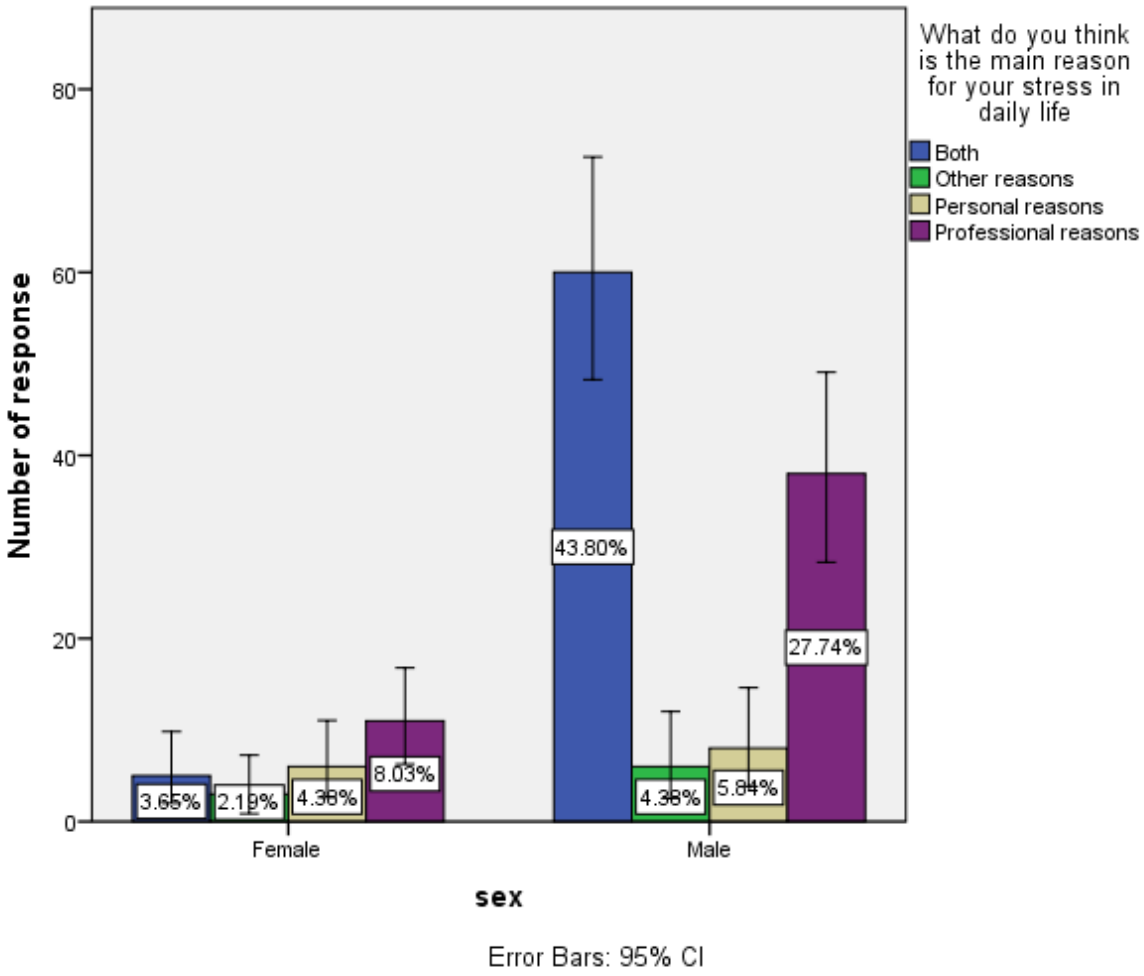

Figure 6 represents the association between gender of the participants and the main reason for their stress in daily life. In the given graph X axis represents the sex of the participants and Y axis represents the count of responses given by the participants. In the graph blue colour indicates both professional reasons and personal reasons, green colour indicates other reasons, brown colour indicates personal reasons and violet colour indicates professional reasons. 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.

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 (28) (10–15)

Based on our research, it is found that the level of stress load of IT professionals working from home is associated with work stress as well as 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 (29). 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),(19)

Previous research by (30), 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 (20,21)(22)(23–27)

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

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. .

CONCLUSION :

Thus the study concluded that IT professionals are under high peer pressures and were more stressed and more prone to psychosomatic disorders. 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

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

REFERENCES :

1. Oakman J, Kinsman N, Stuckey R, Graham M, Weale V. A rapid review of mental and physical health effects of working at home: how do we optimise health? BMC Public Health. 2020 Nov 30;20(1):1825.

2. Fan L-B, Blumenthal JA, Watkins LL, Sherwood A. Work and home stress: associations with anxiety and depression symptoms [Internet]. Vol. 65, Occupational Medicine. 2015. p. 110–6. Available from: http://dx.doi.org/10.1093/occmed/kqu181

3. Cox T. Organizational culture, stress, and stress management [Internet]. Vol. 5, Work & Stress. 1991. p. 1–4. Available from: http://dx.doi.org/10.1080/02678379108256997

4. Egbuna C, Mishra AP, Goyal MR. Preparation of Phytopharmaceuticals for the Management of Disorders: The Development of Nutraceuticals and Traditional Medicine. Academic Press; 2020. 574 p.

5. Hjemdahl P, Rosengren A, Steptoe A. Stress and Cardiovascular Disease. Springer; 2011. 390 p.

6. Saraswathi I, Saikarthik J, Senthil Kumar K, Madhan Srinivasan K, Ardhanaari M, Gunapriya R. Impact of COVID-19 outbreak on the mental health status of undergraduate medical students in a COVID-19 treating medical college: a prospective longitudinal study. PeerJ. 2020 Oct 16;8:e10164.

7. Santhakumar P, Roy A, Mohanraj KG, Jayaraman S, Durairaj R. Ethanolic Extract of Capparis decidua Fruit Ameliorates Methotrexate-Induced Hepatotoxicity by Activating Nrf2/HO-1 and PPARγ Mediated Pathways. Ind J Pharm Educ. 2021 Mar 19;55(1s):s265–74.

8. Nambi G, Kamal W, Es S, Joshi S, Trivedi P. Spinal manipulation plus laser therapy versus laser therapy alone in the treatment of chronic non-specific low back pain: a randomized controlled study. Eur J Phys Rehabil Med. 2018 Dec;54(6):880–9.

9. Farrell K. Working from home [Internet]. People, Care and Work in the Home. 2020. p. 235–50. Available from: http://dx.doi.org/10.4324/9780367823351-19

10. Rajakumari R, Volova T, Oluwafemi OS, Rajesh Kumar S, Thomas S, Kalarikkal N. Grape seed extract-soluplus dispersion and its antioxidant activity. Drug Dev Ind Pharm. 2020 Aug;46(8):1219–29.

11. Clarizia G, Bernardo P. Diverse Applications of Organic-Inorganic Nanocomposites: Emerging Research and Opportunities: Emerging Research and Opportunities. IGI Global; 2019. 237 p.

12. Prakash AKS, Devaraj E. Cytotoxic potentials of S. cumini methanolic seed kernel extract in human hepatoma HepG2 cells [Internet]. Vol. 34, Environmental Toxicology. 2019. p. 1313–9. Available from: http://dx.doi.org/10.1002/tox.22832

13. Tahmasebi S, Qasim MT, Krivenkova MV, Zekiy AO, Thangavelu L, Aravindhan S, et al. The effects of oxygen-ozone therapy on regulatory T-cell responses in multiple sclerosis patients. Cell Biol Int. 2021 Jul;45(7):1498–509.

14. Wadhwa R, Paudel KR, Chin LH, Hon CM, Madheswaran T, Gupta G, et al. Anti-inflammatory and anticancer activities of Naringenin-loaded liquid crystalline nanoparticles in vitro. J Food Biochem. 2021 Jan;45(1):e13572.

15. Vivekanandhan K, Shanmugam P, Barabadi H, Arumugam V, Raj DDRD, Sivasubramanian M, et al. Emerging Therapeutic Approaches to Combat COVID-19: Present Status and Future Perspectives [Internet]. Vol. 8, Frontiers in Molecular Biosciences. 2021. Available from: http://dx.doi.org/10.3389/fmolb.2021.604447

16. Willert MV, Thulstrup AM, Bonde JP. Effects of a stress management intervention on absenteeism and return to work - Results from a randomized wait-list controlled trial [Internet]. PsycEXTRA Dataset. 2010. Available from: http://dx.doi.org/10.1037/e572992012-335

17. Bonde JP. Understanding work related musculoskeletal pain: does repetitive work cause stress symptoms? [Internet]. Vol. 62, Occupational and Environmental Medicine. 2005. p. 41–8. Available from: http://dx.doi.org/10.1136/oem.2003.011296

18. Ezhilarasan D. Critical role of estrogen in the progression of chronic liver diseases. Hepatobiliary Pancreat Dis Int. 2020 Oct;19(5):429–34.

19. Kamath SM, Manjunath Kamath S, Jaison D, Rao SK, Sridhar K, Kasthuri N, et al. In vitro augmentation of chondrogenesis by Epigallocatechin gallate in primary Human chondrocytes -

Sustained release model for cartilage regeneration [Internet]. Vol. 60, Journal of Drug Delivery Science and Technology. 2020. p. 101992. Available from: http://dx.doi.org/10.1016/j.jddst.2020.101992

20. Barabadi H, Mojab F, Vahidi H, Marashi B, Talank N, Hosseini O, et al. Green synthesis, characterization, antibacterial and biofilm inhibitory activity of silver nanoparticles compared to commercial silver nanoparticles [Internet]. Vol. 129, Inorganic Chemistry Communications. 2021. p. 108647. Available from: http://dx.doi.org/10.1016/j.inoche.2021.108647

21. Bharath B, Perinbam K, Devanesan S, AlSalhi MS, Saravanan M. Evaluation of the anticancer potential of Hexadecanoic acid from brown algae Turbinaria ornata on HT–29 colon cancer cells [Internet]. Vol. 1235, Journal of Molecular Structure. 2021. p. 130229. Available from: http://dx.doi.org/10.1016/j.molstruc.2021.130229

22. Gowhari Shabgah A, Ezzatifar F, Aravindhan S, Olegovna Zekiy A, Ahmadi M, Gheibihayat SM, et al. Shedding more light on the role of Midkine in hepatocellular carcinoma: New perspectives on diagnosis and therapy. IUBMB Life. 2021 Apr;73(4):659–69.

23. Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. J Oral Pathol Med. 2019 Apr;48(4):299–306.

24. R H, Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene [Internet]. Vol. 130, Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology. 2020. p. 306–12. Available from: http://dx.doi.org/10.1016/j.oooo.2020.06.021

25. J PC, Pradeep CJ, Marimuthu T, Krithika C, Devadoss P, Kumar SM. Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study [Internet]. Vol. 20, Clinical Implant Dentistry and Related Research. 2018. p. 531–4. Available from: http://dx.doi.org/10.1111/cid.12609

26. Wahab PUA, Abdul Wahab PU, Madhulaxmi M, Senthilnathan P, Muthusekhar MR, Vohra Y, et al. Scalpel Versus Diathermy in Wound Healing After Mucosal Incisions: A Split-Mouth Study [Internet]. Vol. 76, Journal of Oral and Maxillofacial Surgery. 2018. p. 1160–4. Available from: http://dx.doi.org/10.1016/j.joms.2017.12.020

27. Mudigonda SK, Murugan S, Velavan K, Thulasiraman S, Krishna Kumar Raja VB. Non-suturing microvascular anastomosis in maxillofacial reconstruction- a comparative study. Journal of Cranio-Maxillofacial Surgery. 2020 Jun 1;48(6):599–606.

28. Padma V, Anand NN, 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 Apr;7(Suppl 1):S9–13.

29. Liu S, Onwuegbuzie AJ. Chinese teachers' work stress and their turnover intention [Internet]. Vol. 53, International Journal of Educational Research. 2012. p. 160–70. Available from: http://dx.doi.org/10.1016/j.ijer.2012.03.006

30. Darshan MS, Raman R, Rao TSS, Ram D, Annigeri B. A study on professional stress, depression and alcohol use among Indian IT professionals. Indian J Psychiatry. 2013 Jan;55(1):63–9.