

Stress-related Orofacial Diseases in Information Technology Professionals

J Sreedevi¹, Hashmath Ara², Priya Ramani³, P S Gayathri⁴, M Vidyasri²

¹Senior Lecturer, Department of Oral Medicine and Radiology, Thai Moogambigai Dental College and Hospital, Dr. M.G.R. Educational and Research Institute, Chennai, Tamil Nadu, India, ²Post-graduate Student, Department of Oral Medicine and Radiology, Thai Moogambigai Dental College and Hospital, Dr. M.G.R. Educational and Research Institute, Chennai, Tamil Nadu, India, ³HOD and Professor, Department of Oral Medicine and Radiology, Thai Moogambigai Dental College and Hospital, Dr. M.G.R. Educational and Research Institute, Chennai, Tamil Nadu, India, ⁴Reader, Department of Oral Medicine and Radiology, Thai Moogambigai Dental College and Hospital, Dr. M.G.R. Educational and Research Institute, Chennai, Tamil Nadu, India

Abstract

Introduction: Stress is believed to have major impact on the physical well-being of the individual and it does not spare the oral cavity as well. These stress-induced orofacial disorders have various manifestations and are more prevalent in professionals working in information technology (IT) field due to prolonged working hours and unreasonable deadlines.

Aim: This study aims to determine the prevalence of stress and stress-related orofacial diseases among the IT professionals.

Materials and Methods: A cross-sectional study was carried among 109 IT professionals working in a private firm after obtaining clearance from the Institutional Ethical Committee and concerned authorities. It is performed by history taking using a questionnaire based on perceived stress scale that had 14 questions and clinical examination. The data collected were statistically evaluated.

Results: Among the 109 participants, 88 were male and 21 were female. This study revealed that they were stressed due to the job and that xerostomia and aphthous ulcer were more prevalent (22.9%) in IT professionals followed by bruxism, burning mouth syndrome, and temporomandibular joint disorders.

Key words: Aphthous ulcer, Bruxism, Burning mouth syndrome, Stress, Temporomandibular joint disorder, Xerostomia

INTRODUCTION

Stress is defined as a physical or psychological response to events that lead to somatic or emotional tension.^[1] Psychological stress has long been proved to have adverse reactions on physical and mental conditions of the body, due to which a group of oral manifestations is exhibited.^[2] The people working in information technology (IT) sector are more susceptible to stress due to their unreasonable deadlines, unfavorable working hours, negative work life balance, prolonged

period of sedentary activity, and job-related insecurities. Stress or emotional factors lead to the onset and development of various diseases of the oral cavity.^[3,4] The various oral manifestations exhibited due to stress are myofascial pain dysfunction syndrome (MPDS), temporomandibular joint disorders (TMDs), dryness of mouth, bruxism, aphthous ulcer, and burning mouth syndrome (BMS).^[5,6] These stress-induced oral health disorders largely affect the quality and quantity of the life lead by these professionals and hence this study was conducted to study the prevalence of stress-induced orofacial diseases in IT individuals.

Aim

The aim of the present study was to determine the prevalence of stress in people working in IT sector and to evaluate the correlation between stress and various orofacial conditions such as MPDS, TMDs, dryness of mouth, bruxism, aphthous ulcer, and BMS.

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Corresponding Author: Dr. Hashmath Ara, Department of Oral Medicine and Radiology, Thai Moogambigai Dental College and Hospital, Dr. M.G.R. Educational and Research Institute, Chennai, Tamil Nadu, India.

MATERIALS AND METHODS

A cross-sectional study was carried out among 109 IT professionals working in a private firm. Clearance was obtained from the Institutional Ethical Committee and concerned authorities. A questionnaire was prepared based on perceived stress scale^[7] to assess the prevalence of stress. The questionnaire totally had 14 questions [Figure 1] apart from demographic data, the first seven questions assessed stress and remaining seven assessed the prevalence of symptoms of various orofacial disorders. The study was performed by history taking and clinical examination, informed consent was taken. The data collected were statistically evaluated to determine the prevalence of stress-related orofacial diseases in IT professionals.

Inclusion Criteria

- Individuals of age 20 years–40 years were included in this study.

Exclusion Criteria

- People with systemic illness are excluded from this study

- Persons working in IT company but who are not IT personals such as stenographers, security guards, and housekeeping staffs were not included in this study.

RESULTS

The study population comprised 109 IT professionals, among which 88 (81%) were male and 21 (19%) were female. The marital status was 43 (39.5%) were married and 66 (60.5%) were single. The participants had a wide array of work experience, with 28 (26%) having less than a year, 38 (35%) <5 years, and 43 (39%) having more than 5 years [Figure 2].

The first four questions in the questionnaire were directly related to job and job environment, out of which 96% of participants gave positive response to three questions relating to satisfaction and working environment and only 4% gave negative responses. However, to the third question pertaining to job stress due to lack of job security, 94.5% gave negative responses and only 5.5% gave positive responses [Table 1].

Questionnaire	
Name	:
Age	:
Sex	:
Marital status	:
Occupation	:
Experience	:
Monthly income:	
1) Do you enjoy what you do at your job:	yes <input type="checkbox"/> NO <input type="checkbox"/>
2) Are you satisfied with your current job	yes <input type="checkbox"/> NO <input type="checkbox"/>
3) Is your job stress because of lack of security	yes <input type="checkbox"/> NO <input type="checkbox"/>
4) What can you say about your working environment	Satisfactory <input type="checkbox"/> dissatisfactory <input type="checkbox"/>
5) Does your job affect your family life	yes <input type="checkbox"/> NO <input type="checkbox"/>
6) Does your job affect your social obligation	yes <input type="checkbox"/> NO <input type="checkbox"/>
7) Do you tend to have frequent arguments with co workers	Yes <input type="checkbox"/> NO <input type="checkbox"/>
8) Do you have dryness of mouth	Yes <input type="checkbox"/> NO <input type="checkbox"/>
9) Do you have burning sensation in mouth	Yes <input type="checkbox"/> NO <input type="checkbox"/>
10) Do you have frequent ulcers occurring in mouth	Yes <input type="checkbox"/> NO <input type="checkbox"/>
11) Do have habit of clenching teeth while working or getting stressed	Yes <input type="checkbox"/> NO <input type="checkbox"/>
12) Do you have long standing pain in face, ear, jaw or mouth	Yes <input type="checkbox"/> NO <input type="checkbox"/>
13) Do you have pain in the jaw joint	Yes <input type="checkbox"/> NO <input type="checkbox"/>
14) Do you have difficulty in opening the jaws	Yes <input type="checkbox"/> NO <input type="checkbox"/>

Figure 1: Questionnaire

Questions	Positive response to questions (%)	Negative response to questions (%)
Do you enjoy what you do in your job?	97.2	2.8
Are you satisfied with your current job?	95.4	4.6
Is your job stress due to lack of security?	5.5	94.5
What can you say about your working environment?	95.4	4.6
Do your job affect your family?	13.8	86.2
Does your job affect your social obligation?	17.4	82.6
Do you tend to have frequent arguments with co-workers?	17.4	82.6
Do you have dryness of mouth?	22.9	77.1
Do you have burning sensation in mouth?	9.2	90.8
Do you have frequent ulcers occurring in mouth?	22.9	77.1
Do you have habit of clenching teeth while working or getting stressed?	11	89
Do you have long standing pain in face, ear, jaw or mouth?	5.5	94.5
Do you have pain in jaw joint?	8.3	91.7
Do you have difficulty in opening the jaws?	3.7	96.3

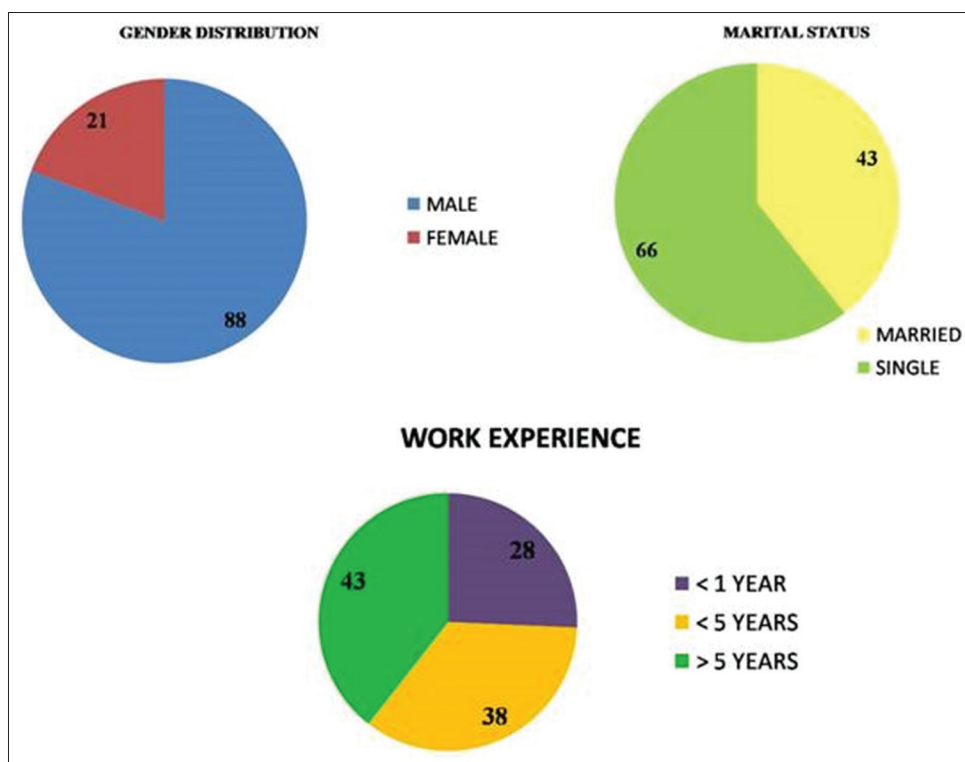


Figure 2: Distribution of gender, marital status and work experience of IT professionals screened in this study

The following next three questions were directed to evaluate the effect of the job on their personal life and positive responses were given by around 16.2% of the participants and 83.8% of participants gave negative responses [Table 1].

The final seven questions in the questionnaire focused on the presence of various symptoms of stress-induced orofacial disorders. Only 22.9% of the participants had mouth dryness, whereas 9.2% had burning sensation in their oral cavity, 22.9% reported frequent occurrence of ulcers in their mouth, 11% had the teeth clenching habit while working or stressed, 5.5% had chronic pain in the orofacial region, 8.3% had pain in their jaw joints, and 3.7% had difficulty in mouth opening [Table 1].

There was no statistically significant difference in the prevalence of oral manifestation based on gender or marital status but there was a statistically significant difference between married and unmarried persons in the response offered to questions concerning to job security and social obligations.

DISCUSSION [TABLE 2]

Xerostomia

It is the abnormal reduction of salivary flow, causing dryness of mouth and affecting the quality of life.^[8] In young adults, it is usually associated with stress, anxiety, depression, alcohol abuse, use of illicit drugs, and

Table 2: Stress related oral manifestations found in IT professionals

Oral manifestations	IT professionals (%)	Common population (%)
Xerostomia	22.9	3
Aphthous ulcer	22.9	20
Bruxism	11	8
BMS	9.2	4
TMJ disorder	8.3	10-15
MPDS	5.5	0.8

BMS: Burning mouth syndrome, MPDS: Myofascial pain dysfunction syndrome, TMJ: Temporomandibular joint, IT: Information technology

nutritional deficiencies.^[9] The prevalence of xerostomia was found to be only 3% in normal population^[9] whereas it was found to be increased (22.9%) in our study which can be contributed to stress.

Recurrent Aphthous Stomatitis (RAS)

RAS is characterized by occurrence of recurring ulcers in oral mucosa in apparently normal individuals and is classified as minor, major, and herpetiform based on appearance. The various predisposing factors are positive family history, nutritional, hematological, immunological abnormalities, local trauma, smoking, and local immune dysfunction.^[10] In case of aphthous ulcers, acute stressful conditions had proved to aggravate the incidence of the disease. Stress triggers release of cascade of pro-inflammatory cytokines directed against oral mucosa.^[11] RAS is present

approximately in 20% of the general population,^[12] whereas in our study, it is found to affect 22.9% of IT professionals suggesting the role of stress in these individuals.

Bruxism

Bruxism is excessive grinding of the teeth that usually occur during sleep causing mild-to-severe attrition of occlusal surfaces. Sleep disturbances and behavioral/psychiatric disorders and distress are common etiological factors for bruxism.^[9] This habit is seen only in 8% of the normal population,^[9] whereas 11% of IT professionals in our study had the habit of bruxism due to work pressure.

BMS

BMS is burning sensation of apparently healthy oral cavity. The most important etiology of BMS is psychological cause such as depression, anxiety, obsessive compulsive disorder, somatoform disorder, and psychosocial stressor. In a classification proposed by Lamey and Lewis, 55% of BMS is caused due to psychological disorder.^[13] Only 4% of the general population had BMS compared to 9.2% in our study population.

MPDS

Laskin psychophysiological theory states that MPDS is primarily a result of emotional rather than occlusal and mechanical factors. This theory states that stress can cause clenching and grinding, which, in turn, can lead to muscle fatigue and finally spasm.^[14] Patients with MPDS report psychological symptoms such as frustration, anxiety, depression, and maladaptive behavior such as pain, poor sleep, dietary habits, and clenching. Bruxism is seen when the problem becomes prolonged.^[15] The prevalence of MPDS in general population is found to be 0.8%, whereas in our study population, it was 5.5% due to stress and teeth clenching habits.

CONCLUSION

This study evaluated the manifestations of various stress-induced orofacial disorders in IT professionals. A significant

percentage of the study population felt that the job affected their personal life although they gave positive feedback for direct questions on job. Xerostomia and RAS were the most common stress-induced oral disorders followed by bruxism, BMS, and TMDs, respectively. These stress-induced oral manifestations were more prevalent in IT professionals than the normal population due to their work nature. Their dental health-care needs may be different from that of others, but a holistic approach must be adopted in delivering dental treatment to address their somatic and psychological problems which may not be apparent on routine examinations.

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