



## Full Length Research Paper

# Survey of self-reported Stress among Iranian and UAE general and specialist dentists

Sara Afsharinia<sup>1</sup>, Ayad I. Ismail<sup>2</sup>, Sara Seyed Naseri<sup>3</sup> and Jalaeddin Hamissi<sup>4\*</sup>

<sup>1</sup>Dentist

<sup>2</sup>Associate Professor, Department of Restorative Dentistry, Ajman University of Science and Technology, Ajman, UAE.

<sup>3</sup>Dentist

<sup>4</sup>Associate Professor in Periodontics and Dental Caries Prevention Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.

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Since working as a dentist is a stressful job by itself and it requires working at a possibly stressful environment as well, some stress is normal and even useful. It can help if you need to work hard or react quickly, in other hand stress in some level lead to decrease in effectiveness of work. The objective of this study was to assess the stress level among Iranian and UAE dentists and to evaluate their stress manifestations and stress management. Through this prospective study, data was collected by preparing self-administered questionnaire regarding stress among dentists and factors contributing to the matter among them such as professional practice factors, dental procedure factors, patient factors, clinical management factors and some management protocols also have been discussed. The questionnaires were distributed between 508 dentists 48% were male and 52% female including oral maxillofacial surgeons, general dental practitioners, periodontics, endodontics, orthodontics, pedodontics, restorative and cosmetic dentists, doctors of Ajman University of Science and Technology and other clinics (private & public) in Iran, Sharjah, Ajman and Dubai (United Arab Emirates). This aspect of data collection gave an idea of the problem that missed dental appointments posed in financial terms. The most common reasons for missing dental appointments according to patients were fear of pain and having an emergency or circumstance. The most significant factors involved were patient age, patient income, patient education, presence of pain, and patient psychology. Results showed that missed dental appointments cause an average loss of AED 800 (USD 220) per day for a dental clinic. It was concluded that this rate of missed dental appointments was unacceptable because of its negative impact on all involved parties. Dentists who take steps to reduce stress in their practices are positioned to increase productivity among their staff, create a sense of relaxation and easement for their patients and improve the quality of their work. "Improving the working environment at the office" and "Learning how to better handle patient anxiety and hostility" are among the good steps towards creating a stress free environment for the clinic personnel and patients.

**Keywords:** Dentists, occupational stress, Epidemiology, Iran, UAE.

## INTRODUCTION

In 1930's, Hans Selye, produced a new concept of stress

that included anything unpleasant, harmful, or excessively demanding (Roth et al., 2003; Radillo et al., 2008). And also stress is defined as "pressure or worry caused by problems in somebody's life" (Mas et al., 2011). Stress is a physical, mental, or emotional response to events that causes bodily or mental tension.

\*Corresponding Author E-mail: [jhamissi@qums.ac.ir](mailto:jhamissi@qums.ac.ir);  
[jhamissi@gmail.com](mailto:jhamissi@gmail.com); Contact Cell: +989121812543

In small amounts, stress is normal and can help us be more active and productive. However, very high levels of stress experienced over a prolonged period can cause significant mental and physical problems (Kadayam et al., 2012). A group of experts believe that stress at work is caused by high demands on the person (huge workload), and person's lack of organization and inability to control the situation (ZareJahromi et al., 2012).

Among various professions, dentistry has the reputation of being as a stressful occupation (Azad et al., 2013; Pozos-Radillo et al., 2010) and the high level of occupational stress in dentistry has been widely reported. Stressors identified in dental practice include: time and scheduling pressures, managing nervous patients, financial and business issues, patients' unfavorable perception of dentists, staff and equipment problems, and the extremely fine and exacting nature of the work (Rahul et al., 2002). Generally, level of stress experienced by the dentists depends on the patient-dentist and dentist nurse relationships, and on the level of job satisfaction (Roth et al., 2003; Haifa and Azizah, 2011; Veersangappa et al., 2007).

The nature of profession results in deterioration of physical and mental health of the dental practitioner that adversely affects the quality of health care services offered to the patients (Azad et al., 2013). Stress as defined by Lazarus "is a condition or feeling experienced when a person perceives that demands exceed the personal and social resources the individual is able to mobilize". Stress results in the release of catechol amines in circulation that takes a person to the state of "fight or flight". It leads to headache, increased blood pressure, lack of concentration, anxiety, depression and other sympathomimetic actions. A little day to day stress is affirmative as it enhances well being of the individual and helps in promoting work performance. The detrimental effects of stress on personality, mental and emotional state of the individual become obvious only when it gets overwhelming (Azad et al., 2013).

Stress is clearly a generalized phenomenon, and has a negative influence on health, cognitive deterioration and efficiency (Romero and Jaramillo, 2010; Blanca et al., 2010). In this investigation, dentists at public health institutions showed a major frequency of high chronic stress levels, which is considered to be an alarming situation that could put the health and employment security of dentists at risk (Blanca et al., 2010). Psychological and physical distress is squeal of stress, which affect the academic and clinical capability of individual (Yasir et al., 2015). Depression, anxiety, substance misuse, absenteeism; decreased work efficiency, and exhaustion are the squeal of stress (Yasir et al., 2015). Dentistry is considered to be a stressful profession due to different factors caused by work, representing a threat to dentists' health.

The objectives of this work were to identify and compare chronic stress in dentists among the different

health institutions and the association of stress with risk factors and conducting to investigate the background of stress, identify the factors associated with stress.

## MATERIALS AND METHODS

Through this prospective study, data was collected by preparing self-administered questionnaire regarding stress among dentists and factors contributing to the matter among them such as professional practice factors, dental procedure factors, patient factors, clinical management factors and some management protocols also have been discussed.

The questionnaire was developed by reviewing available questionnaires in the literature and to ensure its validity it was discussed with one of the best prosthodontics of faculty of dentistry in UAE and prepared under his supervision. The questionnaires were distributed between 508 dentists including maxillofacial surgeons, dental practitioners, periodontics, endodontic, orthodontics, pedodontics, restorative and cosmetic dentists, student doctors of Ajman University of Science and Technology (AUST) and other clinics (private and public) in, Sharjah, Ajman and Dubai (United Arab Emirates) and also in Iran. These questionnaires have been distributed among respondents. They have been told to respond according to their clinical experience.

Questionnaire has been distributed through direct contact with participants in private and public clinics, hospitals, AUST doctors. The study sample was drawn from the dentist's population in Iran and UAE. Total number of questionnaire was 508, two hundred forty four of those were distributed and collected in UAE and 264 of them were in Iran. An 18-item questionnaire was used. All statistical and data analysis was performed by using Microsoft Excel program. The data were entered and analyzed using Statistical Package for Social Sciences (SPSS-Version 20). Descriptive statistics (proportion, mean, standard deviation) and prepared as graphs and percentages. The comparison of stress levels among the two genders was analyzed using Mann-Whitney test whereas comparison of stress was done using Kruskal-Wallis test.

### Sociodemographic data

In the first part of the questionnaire, the participants were asked to report the following social demographic data: age, gender, marital status, type of employment, qualifications, and work-experience in years, duration of work in hours per week and income per month in UAE & Iran. Perceived Stress Scale PSS. Stress level among dentists was measured by Perceived Stress Scale PSS which measures a person's perception of stress over the last month and determines the likelihood stress induced physical and mental illness. The scale indicated the

frequency with which they experience the feeling (Never, Almost Never, Sometimes, Fairly Often, or Very Often). Higher Perceived Stress Scale Scores are associated higher levels of stress and indicate a greater likelihood for stress induced mental and physical illness. Scoring was done and they were graded as low (score 0-11), moderate (12-20) and high (>21).

### Statistical Analysis

All statistical and data analysis was performed by using Microsoft Excel program. The data were entered and analyzed using Statistical Package for Social Sciences (SPSS-Version 20). Descriptive statistics (proportion, mean, standard deviation) and prepared as graphs and percentages. The comparison of stress levels among the two genders was analyzed using Mann–Whitney test whereas comparison of stress was done using Kruskal–Wallis test.

### RESULTS

In our study two hundred forty four questioners were distributed in UAE, among those 48% were male and 52% female, 38% were under 30 years of age and 40% were between 30 to 39 years of age and 21% were above 40 (Table 1). 63% were general dentists and 6% were periodontist and 9% were endodontist and 6% were orthodontist and 3.6% were oral and maxillofacial surgeon and 12% were restorative and cosmetic dentist. 28% of which work at hospitals and 11.8% work at private clinics and 50.4% work at the university clinic (Table 2). 55.32% are satisfied with their carriers but 44.68% were not satisfied. The highest professional practice factor percentages contributing to the subject is time versus number of patients with the percentage of 38.52%. The highest patient factor percentage contributing to the subject is uncooperative patient with the percentage of 41.8% (Figure 1). The highest dental procedure factor percentage contributing to the subject is keeping up with new developments with the percentage of 29.5%. Most of them in UAE had below 10,000 Dhs per month with percentage of 47.95%; so the highest clinical management factor percentage contributing to the subject is increasing competition with a percentage of 37.7%.

In this investigation 264 questioners were distributed in Iran, among those 72.72% were male and 27.27% female, 17.4% were under 30 years of age and 38.6% were between 30 to 39 years of age and 43.9% were above 40. 56.43% were general dentists and 4.5% were periodontist and 7.19% were endodontist and 7.19% were orthodontist and 5.3% were oral and maxillofacial surgeon and 6.43% were pedodontists and 6.06% were restorative and cosmetic dentist and 6.8% were prosthodontists. 30.3% of which work at hospitals and

**Table 1:** Gender, marital status, dentists in the study, by percentage of total respondents.

Demographic Variable		Iran (%)	UAE (%)
Gender	Male	72.72	47.95
	Female	27.27	52.04
Age	Below 30	17.42	38.11
	30-40	38.63	40.16
	Above 40	43.93	21.72
Marital Status	Single	36.74	56.14
	Married	63.25	43.85

**Table 2.** Personal information of practitioner

		Iran (%)	UAE (%)
Described Practice	General Dentist	56.43	63.52
	Periodontics	4.54	5.73
	Endodontics	7.19	9.01
	Orthodontics	7.19	6.14
	Maxillofacial Surgeons	5.3	3.68
	Pedodontics	6.53	0
	Restorative	6.06	11.88
	Prosthodontics	6.81	0
Place of Practice	Hospital	30.30	28.68
	Private clinic	84.09	11.88
	University	26.89	59.42
Years of Experience	Less than 5 years	11.74	50
	5-10 years	37.12	28.68
	11-20 years	31.81	11.05
Working Hours per Day	4-8	32.95	70.90
	9-16	67.04	29.09
	Hours of Sleeping	4-6	34.46
Health Problem	7 and above	65.53	40.57
	Healthy	67.42	88.52
	Have diseases	32.57	11.47

	PSS (Iran)	PSS (UAE)
Low	12.2	28.7
Moderate	41.6	41.7
High	46.2	29.6

84.09% work at private clinics and 26.89% work at the university clinic (Table 2). 84.46% are satisfied with their carriers but 15.53% were not satisfied. The highest professional practice factor percentages contributing to the subject is low income with the percentage of 52.27%. The highest patient factor percentage contributing to the subject is demanding patient with the percentage of 45.45% (Figure 2). The highest dental procedure factor percentage contributing to the subject is interruption during work with the percentage of 21.21%. In Iran most

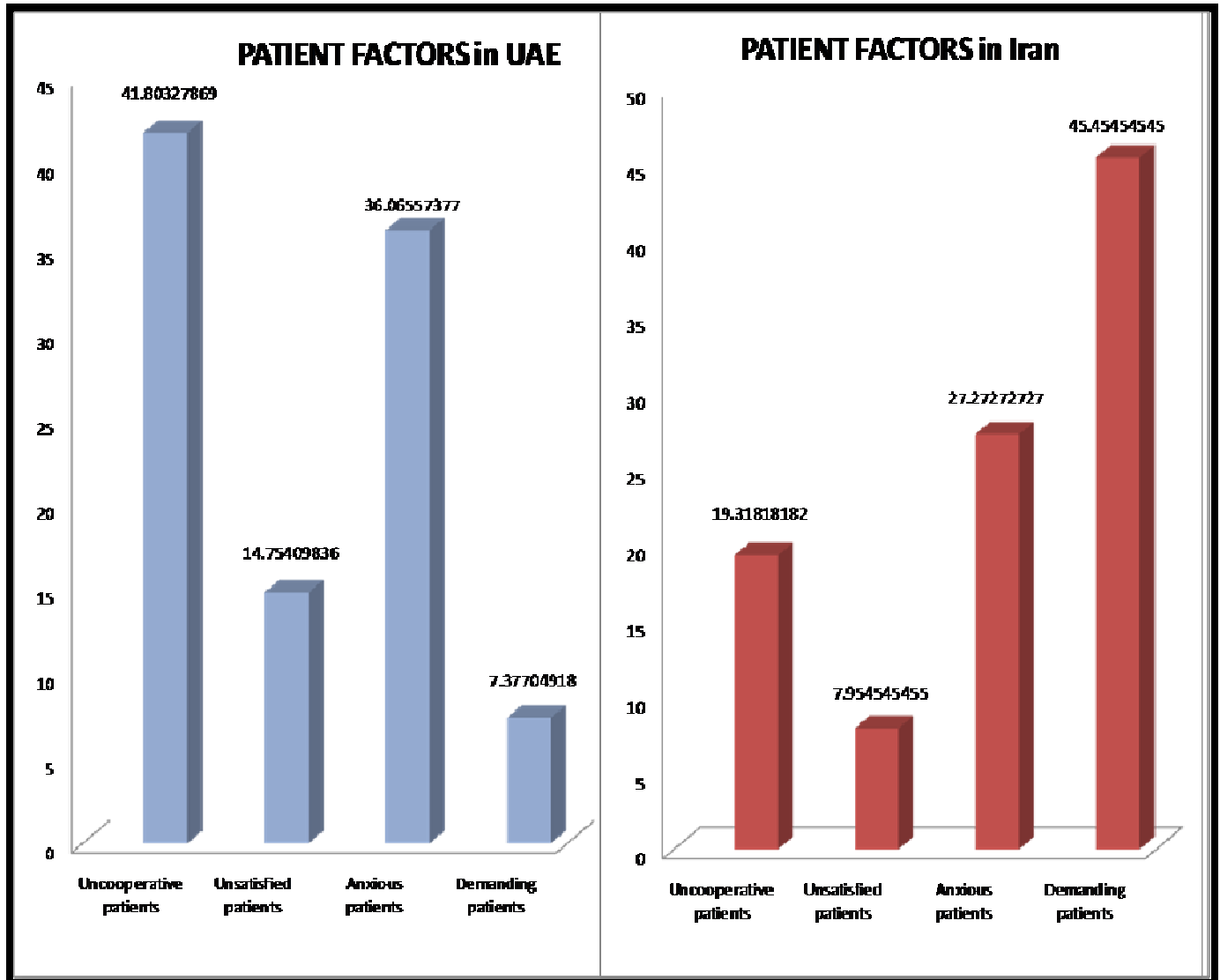


Figure 1. Influences of patient factor percentage contributing to the subject is uncooperative patient.

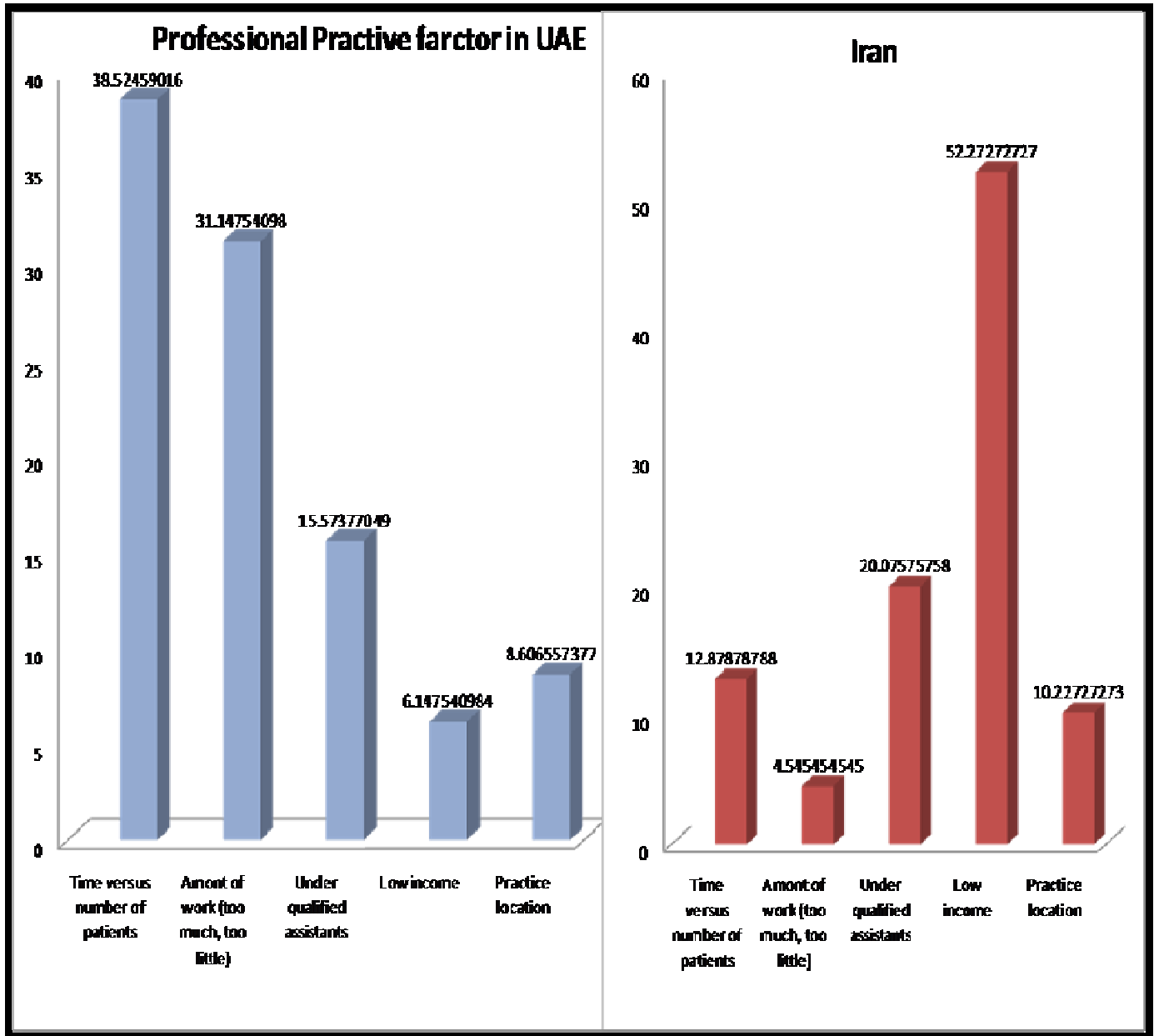


Figure 2. Influences of the patients' factor percentage contributing to the subject is demanding patient.

of them had income below 10,000 Dhs with percentage of 79.92%; so the highest clinical management factor percentage contributing to the subject is financial pressure with a percentage of 68.18%.

**DISCUSSION**

Stress is defined as “pressure or worry caused by problems in somebody’s life” (Tangade et al., 2011). For the last many years dental professionals have been suggesting the presence of a relationship of psychosocial

stress. In our study the primary stressor was topmost stress factor, which was highly significant followed by need to find own patients, lack of time for relaxation, financial sources, and our results were similar to the study reported by Acharya (Syeda et al., 2015; Acharya, 2003).

Being exposed to these stressful work conditions (called causes of stress) can have a direct influence on the health and the safety of the worker. In the dentist’s professional performance during the normal working day, studies show that a major origin of stress is related to the time pressure factor at work, which is the main cause for

dissatisfaction associated with patient and doctor relationships which is similar to some other study (Blanca et al., 2010; Díaz et al., 2006; Vara, 2006).

Numerous studies suggest that dentists are submitted to higher levels of tension than many other professions; factors such as individual factors in the perception of the work atmosphere and the reaction to stressful situations, more thorough studies of personal and organizational variables are needed to facilitate associations to be drawn regarding the presence of the high chronic stress level. The precise identification of stress and the most common stressors which cause it could reduce it by means of an integrated strategy of health promotion and skills development, both professional and for dealing with stress, thus responding to the needs of the dentists and of the institutions affected, by designing steps directed towards minimizing or eliminating the causes generating stress (Blanca et al., 2010; Aparicio, 2002). The limitation of this study was that it was not possible to establish the causal relations (Aparicio, 2002).

Previous studies of burnout conducted in Scotland (Bilge, 2006) and Saudi Arabia (Haifa and Azizah, 2011) have indicated that age, higher qualification, increased income and less working hours are inversely related to degree of burnout. In our study too the results are quite similar to these studies. More than half of the dentists in our study were married in Iran and most of the dentists in our study in UAE were single. Among them 264 dentists in Iran were specialists (43.57%) and were non specialists (56.43%) and among them 244 dentists in UAE were specialists (36.48%) and were non specialists (63.52%) so According to our results, in both groups the high percentage of participates were general dentist and this result is similar to some other studies (Azad et al., 2013).

As the results of this study show in UAE high percentage of participates belong to those worked for less than 5 years, and in Iran high percentage belong to those worked between 5 to 10 years. In UAE most of participates worked at university (as a doctors, Internships, dental students) and in Iran most of them worked at private clinic (Table 2). In UAE most of participates had experience for 1-5 years with percentage of 50%, and in Iran had experience for 11 years and above. In UAE Most of participators worked for 4-8 hours with percentage of 70.9% and in Iran most of them worked for 9-16 hours/day with percentage of 67.04%. In UAE the highest factor belongs to uncooperative patients with percentage of 41.80%, and in Iran highest factor belongs to demanding patients with percentage of 45.45. According to our results most of participators had a job satisfaction in both groups, in UAE in percentage of 55.32% and in Iran with percentage of 84.46%.

## CONCLUSION

Stress is a costly problem in any profession, and dental practitioners are not immune neither. It affects how work gets done during the practice, and can even influence the ability of the office staff to be at their optimal level. Dentists who take steps to reduce stress in their practices are positioned to increase productivity among their staff, create a sense of relaxation and easement for their patients and improve the quality of their work. "Improving the working environment at the office" and "Learning how to better handle patient anxiety and hostility" are among the good steps towards creating a stress free environment for the clinic personnel and patients.

The precise identification of stress and the most common stressors which cause it could reduce it by means of an integrated strategy of health promotion and skills development, both professional and for dealing with stress, thus responding to the needs of the dentists and of the institutions affected, by designing steps directed towards minimizing or eliminating the causes generating stress.

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