

PREVALENCE OF STRESS AND BURNOUT AMONG DENTISTS OF RAWALPINDI & ISLAMABAD

(See Editorial)

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ABSTRACT

This study was conducted to determine the prevalence of stress and burnout among dental practitioners of Rawalpindi and Islamabad.

It was a cross-sectional study and was conducted in six dental institutes of Rawalpindi and Islamabad from February to March 2012. A self-administered questionnaire, containing 10 item version of Perceived Stress Scale (PSS), 22 item Maslach Burnout Inventory Survey (MBI) and socio-demographic data were used to determine the prevalence of stress and burnout among dentists.

Out of 150 dentists 129 completed their questionnaire with a response rate of 86%. Among them 24 (18.6%) dentists were specialists while 105 (81.4%) did not have any post-graduation qualification. Fifty dentists (38.8%) were found to be severely stressed, 53 (41.1%) were moderately stressed while 26 (20.2%) were not stressed at all. Mean PSS score reported was higher than average (17.8 + 6.2). On MBI, 61 dentists showed moderate or high emotional exhaustion (18.6%), 56 showed moderate or high depersonalization (43.4%) and 41 showed low personal accomplishment (31.8%). Mean scores of emotional exhaustion (17.8+11.2), depersonalization (6.1+5.9) and reduced personal accomplishment (34.2 + 9.7) were in moderate ranges. Female dentists and dentists working less than 40 hours per week had lower levels of burnout (lesser depersonalization score, $p < 0.05$).

Dental practitioners working in institutes of Rawalpindi and Islamabad were subjected to various levels of stress and burnout. Future research needs to focus on its underlying reasons and on stress coping strategies.

INTRODUCTION

Dentistry has the reputation of being a stressful profession. 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.¹⁻²

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”.³ Stress results in the release of catecholamines 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.⁴ 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.⁵

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Burn out is the negative consequence of chronic work stress. It is defined as a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment.⁶ Schaufeli and Enzmann defined burnout as 'a persistent, negative, work related state of mind in "normal" individuals which is primarily characterized by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviors at work. This psychological condition develops gradually and may remain unnoticed for a long time by the individual involved. It results from a misfit between intentions and the reality of the job.' Often burnout is self-perpetuating due to inadequate coping strategies that are associated with the syndrome.⁷

Burn out and stress may have devastating effects on personality of an individual and may lead to mental and physical illness and deterioration of relationship with friends and family. Alcohol and drug abuse is also a grim consequence of these two elements. At professional level, burnout may lead to poor work concentration, poor time management, irritability, agitation, tendency to make mistakes and difficulty in grasping new techniques.⁸⁻⁹

Dentists have a very stressful life being subjected to physical, emotional and mental strain. Stress in dentists can be due to several factors that can be related to work place, health or family. Dentists are more prone to stress in workplace due to nature and working conditions of dental surgery.¹⁰⁻¹² Statistics on dentistry and other stress markers like cardiovascular disease, alcoholism, drug abuse, divorce, elevated rate of suicide suggest that the typical life of a dental practitioner is quite stressful.¹³⁻¹⁶ A research conducted in Saudi Arabia highlighted the fact that life of the dentists is very stressful. The dentists responded to stress by symptoms of nervousness (95%), musculoskeletal fatigue and exhaustion (72%), anger and frustration (58%), and tiredness and headache (48%).¹⁷

Previous studies have shown that Oral and Maxillofacial Surgeons and General Dental Practitioners are more stressed as compared to specialists like Orthodontists.¹⁸ Research on stress and burnout in health profession has mainly focused on doctors and nursing staff. Few studies are carried out on dentists throughout the world and even fewer in Pakistan. A study of prevalence of stress and associated factors was carried out at Islamic International Dental Hospital, Islamabad.⁴ It covered the dentists of only one institution including the house officers. No study has been carried out in Pakistan on prevalence of burnout among dentists. On the other hand considerable number of studies at undergraduate and post graduate

level have been carried out in Yemen¹⁹, Saudi Arabia²⁰ and few studies have been carried out on burnout in Western Countries which showed that quite a considerable number of dentists were emotionally exhausted (moderate to severe) and moderate number of dentists were experiencing depersonalization and very less suffered from low personal accomplishment.

The aim of this study was to check the prevalence of stress and burnout in Dental Practitioners of Rawalpindi and Islamabad. The degree and prevalence of burnout subscales i.e. emotional exhaustion, depersonalization, personal accomplishment using MBI-HSS (Maslach burnout inventory-Human Services Survey) were also investigated.²¹

METHODOLOGY

Cross-sectional questionnaire based study of two months duration (February to March 2012) was conducted in six dental institutes of Rawalpindi and Islamabad. Non-probability convenience sampling technique was used. A total of 150 questionnaires were distributed by hand and 129 were received by hand. The response rate was 86%.

150 dental practitioners were randomly selected from six dental institutes of Rawalpindi and Islamabad from military, public and private sector. Dental practitioners having greater than one year of experience were included in the study (Demonstrators, Post graduate trainees and Consultants). House surgeons were excluded from the study.

Self-administered questionnaire, containing a 10 item version of Perceived Stress Scale (PSS), 22 item Maslach Burnout Inventory Survey-Human Services Survey (MBI-HSS) and socio-demographic data, was used to determine the prevalence of stress and burnout among dentists.

A. 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, work-experience in years, duration of work in hours per week and income per month in Pakistani Rupees.

B. 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).

C. Maslach Burnout Inventory-Human Services Survey (MBI-HSS)

Burnout level among dentists was measured by Maslach Burnout Inventory-Human Services Survey (MBI-HSS) which is most widely used scale used for assessing the degree of burnout. It consisted of 22 statements related to three burnout categories i.e. Emotional Exhaustion (EE), Reduced Personal Accomplishment (PA) and Depersonalization (DP). The respondents were requested to report the frequency with which they experience the feeling from range of 0 (never) to 6 (everyday) on a seven point Likert scale. The scores of each item of the specific subscales were added to get the final score of each subscale.

EE consisted of nine items with a score ranging from 0 to 54. Statements such as 'I feel used up at the end of my day' were scored to determine the level of emotional exhaustion among dentists. DP consisted of five items with a score ranging from 0-30. Statements such as 'I don't really care what happens to some patients', were used to assess DP. PA consisted of eight items with a score ranging from 0-48 and included statements such as 'I deal very effectively with the problems of my patients.'

High scores of EE and DP and low scores of PA were indicative of a high degree of Burnout. Burnout levels were not calculated by summing up scores of these three variables. Instead, these three domains were considered quite significant to be measured separately. Burnout according to MBI-HSS should be considered as a continuous variable ranging from low to moderate to high level of experienced feeling.

Questionnaires were distributed by hand to the participants and later collected once the participants had completed them.

Statistical Analysis

Data were analyzed using Software Package for Social Sciences- Version 17.0. Parametric and Non-parametric tests both were applied. Frequencies, Percentages, Mean and standard deviations (SD) were also calculated.

Parametric tests (Independent samples t-test and ANOVA) were applied to compare PSS (Perceived Stress Scale) with socio-demographic data and work characteristics. Non parametric tests (Mann Whitney, Kruskal

Wallis and Jonckheera-Terpestra tests) were used to compare EE, PA and DP with socio-demographic data and work characteristics. Differences were calculated with an arbitrary significant level of 0.05.

Ethical Approval

Approval was taken from ethical committee of Armed Forces Institute of Dentistry, Rawalpindi. Permission was taken from the heads of all participating institutes before conducting the study. No harm to any individual or an organization was anticipated from this study.

Pilot study

For the pilot study, the questionnaires were given to ten dentists of the same institute. The participants were asked to calculate the time in which they complete the questionnaire and comment on whether the instructions and questions were clear and relevant to the objectives of the study. The relevant changes were made in the questionnaire in light of the results of the pilot study.

RESULTS

A total of 150 questionnaires were distributed by hand and 129 completed questionnaires were collected. The total response rate was 86% in which 54% were females and 46% were males. More than half of the dentist in our study were married (56% married, 44% single). Among them 24 dentists were specialists (18.6%) and 105 were non specialists (81.4%).

Perceived Stress Scale results

Fifty dentists (38.8%) were severely stressed, 53 moderately stressed (41.1%) while 26 dentists were not stressed out (20.2%). Mean PSS score of dentists in this study was reported higher than average range of PSS (17.8 ± 6.2).

MBI-HSS Scores

On MBI, 61 dentists showed moderate or high emotional exhaustion (18.6%), 56 showed moderate or high depersonalization (43.4%) and 41 showed low personal accomplishment (31.8%). Mean scores of emotional exhaustion (17.8 ± 11.2), depersonalization (6.1 ± 5.9) and reduced personal accomplishment (34.2 ± 9.7) were in moderate range. Female dentists and dentists working less than 40 hours per week had lower levels of burnout (lesser depersonalization score, $p < 0.05$).

Variables	N (n = 129)	Percentage
Gender		
Male	59	45.7
Female	70	54.3
Age group		
≤ 29	86	66.7
30 – 39	35	27.1
≥ 40	8	6.2
Marital status		
Single	57	44.2
Married	72	55.8
Divorce or widow	0	0
Residence		
House owner	52	40.3
Qualification		
Specialist	24	18.6
Non-specialist	105	81.4
Designation		
Demonstrator	38	29.5
PG trainee	69	53.5
Consultant	22	17.1
Type of Employment		
Government	45	34.9
Govt. & Private	12	9.3
Private	72	55.8

Variables	Mean Score	Range
Perceived stress scale (PSS)	17.8±6.2	Higher than average
Emotional exhaustion (EE)	17.8±11.2	Moderate
Depersonalization (DP)	6.1±5.9	Moderate
Personal Accomplishment (PA)	34.2±9.7	Moderate

	PSS	EE	PA	DP
Low	20.2	52.7	34.1	56.6
Moderate	41.1	28.7	34.1	26.4
High	38.8	18.6	31.8	17.1

DISCUSSION

As the results of this study show, 80% of the dentists in Rawalpindi and Islamabad are either moderately stressed or severely stressed with a resultant “high” or “very high” health concern level (PSS-Perceived

Stress Scale). Overall 38.8% of the dental practitioners were severely stressed out with a score greater than 21 on PSS, which indicated high health concern level. A total of 41.1% of the participants were moderately stressed out with a score between 12 and 20 on PSS, having moderate health concern level. Only 20.2% of the dentists were not stressed out, scoring less than 12 on PSS. Mean PSS score reported was higher than average (17.8 ± 6.2). These results highlighted the stressful nature of dentistry and some worrying associations of socio-demographic data with degree of stress experienced by the dental practitioners working in institutes of Rawalpindi and Islamabad. A study conducted in one dental institute in Islamabad² highlighted that only 12% of the dentists working in that institute were moderately (10%) or severely stressed out (2%) as compared to our study having 80% dentists in range of moderate (41.1%) to severely (38.8%) stressed out.

Overall in our study, 18.6% of the dental practitioners showed moderate or high emotional exhaustion, 43.4% showed moderate or high depersonalization and 31.8% showed low personal accomplishments compared to study conducted in UK²² indicated 80.2% dentists were moderately to severely emotionally exhausted; 63.3% showed moderate to severe depersonalization and 31.9% of the dentists showed low personal accomplishment while studies conducted in Yemen¹⁶ showed 80.4% dentists having moderate to high emotional exhaustion; 44% having moderate to high depersonalization and 33% having low personal accomplishment.

The mean score of emotional exhaustion in this study was moderate (17.8 ± 11.2), which was similar to the study conducted in UK²² (25.1 ± 10.2) while it was higher in study of Yemen¹⁶ (31.3 ± 13). The mean scores of depersonalization (6.1 ± 5.9) and reduced personal accomplishment (34.2 ± 9.7) were consistent with the studies of UK (DP= 8.6 ± 4.9 ; PA= 33.9 ± 5.5) and Yemen (DP= 7.2 ± 6.7 ; PA= 35.7 ± 10.1) which were in moderate range. Female dental practitioners showed higher degree of burnout in our study than the male dentists working in institutes of Rawalpindi and Islamabad (lesser depersonalization score, $p < 0.05$) and this result of this study is in consistence with studies conducted in Finland²³, Saudi Arabia²⁴, Turkey²⁵, U.S.A²⁶ which have shown that females have higher scores of Depersonalization, Personal accomplishment and Emotional exhaustion than males. Dutch male dentists²⁷, Turkish male academics²⁸ and U.S male university faculty²⁹ have higher depersonalization levels like results of this study.

Previous studies of burnout conducted in Scotland³⁰ and Saudi Arabia²⁴ 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, dentists working less

than 40 hours per week had lower levels of burnout (less depersonalization score, $p < 0.05$).

There were some limitations of our study. Firstly, the data was collected by using self-administered questionnaires. The fact has been acknowledged that some individuals might have been overly positive while answering this questionnaire. However, in order to minimize this risk, in the present study, the survey was anonymised. This was done by omitting the names of the dentists on the questionnaires and randomly mixing the questionnaires before data entry. Another limitation of our study was the greater proportion of women dentists in the study (54% females and 46% males) but it is representative of the dentists' population in Pakistan [according to Pakistan Medical and Dental Council statistics³¹ upto September 2012 Punjab/Federal area (males=1970, females=2632); Sindh (males=1473, females=2642)]. The sample size was small which was limitation of our study. (Total number of dentists in Rawalpindi Islamabad =1200). This is the first study of burnout assessment among dentists being conducted and reported in Pakistan. These findings prove that dentistry is very stressful profession and future researches should be carried out to develop interventions to help these stressful dentists so that they may better provide the health care facilities to the patients.

CONCLUSION

These findings prove that dentistry is very stressful profession and dental practitioners working in institutes of Rawalpindi and Islamabad are subjected to moderate to severe stress while the level of burn out was found to be moderate. Future research needs to focus on its underlying reasons and stress coping strategies.

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