

## Prevalence of Burnout Syndrome and Its Three Dimensions in Dental Faculty Members of Azad Dental University in 2008

N. Roghanizad<sup>1</sup>, M. Vatanpoor<sup>1</sup>, SN. Seddigh Oraee<sup>2</sup>, V. Sharifi<sup>3</sup>, M. Abbasi<sup>4</sup>✉

<sup>1</sup>Assistant Professor, Department of Endodontics, School of Dentistry, Islamic Azad University, Tehran, Iran

<sup>2</sup>Dentist

<sup>3</sup>Assistant Professor, Department of Psychology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

<sup>4</sup>Assistant Professor, Department of Restorative Dentistry, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

### Abstract

**Background and Aim:** There is some evidence suggesting that dentists suffer a high level of occupational stress that can lead to burnout syndrome. The aim of this study was to evaluate the prevalence of burnout syndrome and its three dimensions in dental faculty members of Azad Dental University in 2008.

**Materials and Methods:** In this descriptive cross – sectional study, 99 dental faculty members of Azad Dental University in Tehran were evaluated using a questionnaire consisting of 10 questions regarding demographic characteristics and 22 questions adapted from Maslach Burnout Inventory (MBI). Burnout was assessed with MBI in three dimensions of emotional exhaustion, depersonalization and personal accomplishment. The final scores were categorized as high, moderate and low based on standard test scores. Data were analyzed using linear regression test with Enter method.

**Results:** The prevalence of reduced personal accomplishment, depersonalization and emotional exhaustion was 19.1%, 7% and 4% among subjects, respectively. Work experience and weekly work hours did not have a significant association with occupational burnout ( $p>0.05$ ).

**Conclusion:** The mean overall score gained by dental faculty members of Tehran Azad Dental University showed a low prevalence of occupational burnout in comparison to national statistics.

**Key Words:** Burnout, depersonalization, dentists

✉ Corresponding author:  
M. Abbasi, Assistant Professor,  
Department of Restorative  
Dentistry, School of Dentistry,  
Tehran University of Medical  
Sciences, Tehran, Iran  
Abbasi\_m@tums.ac.ir

Received: 11 Oct 2011

Accepted: 9 Oct 2012

Journal of Islamic Dental Association of IRAN (JIDAI) Spring 2013 ;25, (2)

### Introduction

A great part of every person's daily life is dedicated to work. Work is an important aspect of mental health. Numerous stressors are always present in the work environment including physical and environmental factors such as noise, crowd and inappropriate lighting, human factors such as conflicts with other people and organizational factors such as high load of work, inappropriate policies, injustice and etc. If a person cannot cope

effectively with such stressors, he/she may develop numerous physical, mental, or behavioral problems. Prolonged stress and mental pressure may reduce job satisfaction and lead to occupational burnout, which results in consequences such as malaise, apathy, indifference, reduced productivity, fatigue, exhaustion, disappointment and discouragement. Occupational burnout syndrome is defined as a state of emotional, mental and physical exhaustion associated with the develop-

ment of negative attitudes towards work and cynical attitudes toward clientele [1]. Occupational burnout is a common term that has been suggested to replace job burnout, career burnout, staff burnout and work burnout. Occupational burnout is a delayed response to stressors and intense emotions at work. Occupational burnout is not caused directly by occupational stress; it is the result of not controlling the occupational stress [2]. According to Maslach and Jackson (1982) who offered the most comprehensive and the most commonly used definition for occupational burnout, it is a psychological syndrome consisting of three dimensions:

1. Emotional exhaustion: is similar to mental pressure and is characterized by a sense of exhaustion, lack of enthusiasm, absence of motivation and feeling drained [3].

2. Depersonalization: is defined as giving a negative, insensitive or indifferent response by care givers to care seekers and indicates the person's negative perception about care seekers [4]. The subject develops a sense of negativity, indifference and suspicion towards his/her clientele and colleagues.

3. Reduced Personal Accomplishment: is characterized by loss of sense of competence, a sense of reduced personal efficacy, lack of satisfaction with expectations and a negative self-assessment of performance [5].

According to previous studies, physicians and dentists bear high levels of mental and emotional stress [6].

Evidence suggests that about 13% of dentists suffer high levels of occupational burnout [7,8].

It has been confirmed that dentists are exposed to higher levels of stress due to the nature of their job and work conditions compared to other occupations and stress has been found to be a major factor responsible for development of occupational burnout [6].

The average stress level is 18% among ordinary people and 19% to 47% among dentists [9].

In a study conducted by Ansari in 2005 on general dentists, 18.8% and 2.4% of them showed

moderate and high levels of occupational burnout, respectively [10].

Gorter also reported high degrees of occupational burnout in 13% and severe occupational burnout in 2.5% of Dutch dentists. Furthermore, 21% were at risk of this condition [7].

The aim of this study was to investigate the prevalence of occupational burnout syndrome and its dimensions in dental faculty members of Azad Dental University in Tehran in 2008.

## Methods and Materials

In this descriptive analytical study sampling was consensus and data were collected via a questionnaire administered among 99 dental faculty members who had their own private practice outside the university. The questionnaire used in this study was adapted from MBI-HSS (Maslach Burnout Inventory- Human Services Survey). The MBI-HSS questionnaire has been designed for health care personnel and includes 22 items [11].

This questionnaire has two parts of demographic information and psychological questions. The forms were filled out anonymously and collected. Form 1 of the questionnaire consisted of 10 questions regarding demographic characteristics and occupational information of subjects and form 2 included 22 questions adapted from MBI questionnaire. Of all questions, 9 were about emotional exhaustion, 5 about depersonalization and 8 about reduced personal accomplishment. The frequency of these feelings was measured with scores of zero (never) to 6 (every day) (based on the Likert scale). The scores were added up and the final score for each dimension of occupational burnout was categorized as low, moderate or high according to the standard reference scores (Maslach and Jackson, 1993) [10, 12, 13].

High scores of emotional exhaustion and depersonalization and low score of personal accomplishment are indicative of occupational burnout.

The frequency of three dimensions of occupational burnout syndrome is demonstrated in Table 1 [14].

**Table 1.** Standard scores for the three dimensions of occupational burnout syndrome

| OBS dimension           | Low score | Moderate score | High score |
|-------------------------|-----------|----------------|------------|
| Personal accomplishment | $\geq 40$ | 39-34          | $\leq 33$  |
| Depersonalization       | $\leq 5$  | 11-6           | $\geq 12$  |
| Emotional exhaustion    | $\leq 17$ | 29-18          | $\geq 30$  |

The maximum score was 48 for personal accomplishment, 30 for depersonalization, and 54 for emotional exhaustion. Reliability and validity of the questionnaire has been evaluated and confirmed in several studies [10, 11, 15-17]. Data were collected and analyzed using linear regression model with Enter method.

## Results

This study assessed the correlation of work experience, non-academic weekly work hours and field of specialty with occupational burnout.

Table 2 shows the mean prevalence of occupational burnout among dental faculty members based on their dental work experience.

**Table 2.** The mean score of occupational burnout gained by faculty members based on their work experience

| Variable                | Work experience (Years) | Frequency |      |
|-------------------------|-------------------------|-----------|------|
|                         |                         | Mean      | SD   |
| Personal accomplishment | 1-10                    | 38/00     | 7/68 |
|                         | 11-20                   | 39/89     | 6/36 |
|                         | 21-30                   | 37/64     | 8/99 |
| Depersonalization       | 1-10                    | 5/70      | 3/83 |
|                         | 11-20                   | 3/71      | 3/47 |
|                         | 21-30                   | 4/04      | 4/30 |
| Emotional exhaustion    | 1-10                    | 13/94     | 7/01 |
|                         | 11-20                   | 14/50     | 7/68 |
|                         | 21-30                   | 11/48     | 8/36 |

Individuals with a dental work experience of 11 to 20 years had the lowest prevalence of depersonalization. Subjects with 21 to 30 years of employment showed the lowest prevalence of emotional exhaustion and those with 1 to 10 years of work experience had the highest prevalence of depersonalization.

Table 3 shows the mean occupational burnout score in faculty members based on weekly work hours. The mean emotional exhaustion and depersonalization scores was lower in subjects working less than 15 hours weekly.

**Table 3.** The mean occupational burnout score in faculty members based on weekly work hours

| Variable                | work hours Weekly | Frequency |      |
|-------------------------|-------------------|-----------|------|
|                         |                   | Mean      | SD   |
| Personal accomplishment | $\leq 15$         | 37/57     | 7/80 |
|                         | 15-20             | 39/59     | 7/74 |
|                         | $\geq 20$         | 39/53     | 6/65 |
| Depersonalization       | $\leq 15$         | 3/00      | 3/07 |
|                         | 15-20             | 4/31      | 3/55 |
|                         | $\geq 20$         | 4/83      | 4/30 |
| Emotional exhaustion    | $\leq 15$         | 11/60     | 6/14 |
|                         | 15-20             | 13/90     | 7/54 |
|                         | $\geq 20$         | 14/89     | 8/84 |

Table 4 shows the mean scores of occupational burnout dimensions based on the field of specialty. The highest and lowest scores of personal accomplishment belonged to the department of radiology and oral health, respectively.

After the elimination of oral health department due to the small number of subjects, the highest and lowest scores of depersonalization belonged to the department of oral medicine and dental anatomy, and department of radiology and maxillofacial surgery, respectively. Department of maxillofacial surgery gained the lowest score in all dimensions of occupational burnout and the department of oral

**Table 3:** The mean scores of occupational burnout dimensions based on the field of specialty

| Variable<br>Department,<br>Number of subjects | Personal<br>accomplishment |       | Depersonalization |      | Emotional<br>exhaustion |      |
|-----------------------------------------------|----------------------------|-------|-------------------|------|-------------------------|------|
|                                               | Mean                       | SD    | Mean              | SD   | Mean                    | SD   |
| Endodontics (14)                              | 38/93                      | 4/82  | 3/85              | 3/13 | 15/50                   | 6/23 |
| Restorative dentistry (14)                    | 38/21                      | 7/27  | 4/64              | 3/67 | 15/71                   | 7/23 |
| Fixed prosthodontics (12)                     | 40/83                      | 7/43  | 3/08              | 4/29 | 12/16                   | 7/66 |
| Pediatric dentistry (9)                       | 37/11                      | 10/92 | 5/44              | 5/27 | 17/22                   | 9/57 |
| Periodontics (8)                              | 41/25                      | 6/27  | 2/62              | 5/47 | 11/50                   | 9/68 |
| Orthodontics (7)                              | 36/86                      | 7/51  | 3/57              | 2/22 | 11/14                   | 6/51 |
| Surgery (9)                                   | 43/33                      | 4/63  | 1/88              | 1/90 | 6/66                    | 2/00 |
| Removable prosthodontics (12)                 | 37/75                      | 9/93  | 5/75              | 3/84 | 14/58                   | 8/79 |
| Oral medicine (6)                             | 37/33                      | 6/56  | 6/50              | 2/07 | 18/83                   | 8/79 |
| Pathology (2)                                 | 35/50                      | 3/53  | 5/00              | 4/24 | 12/50                   | 4/95 |
| Dental anatomy (2)                            | 37/50                      | 0/70  | 6/50              | 3/53 | 15/50                   | 9/19 |
| Radiology (2)                                 | 46/00                      | 2/82  | 1/00              | 1/41 | 8/00                    | 2/82 |
| Oral health (1)                               | 29/00                      | 0/00  | 5/00              | 0/00 | 13/00                   | 0/00 |
| Preclinical prosthodontics (1)                | 35/00                      | 0/00  | 4/00              | 0/00 | 10/00                   | 0/00 |
| Mean overall score                            | 39/01                      | 7/32  | 4/14              | 3/79 | 13/64                   | 7/78 |

medicine gained the highest score in depersonalization and emotional exhaustion.

Based on the obtained results, regardless of the five departments of pathology, dental anatomy, radiology, oral health and preclinical prosthodontics with only one or two members, number of subjects suffering from reduced personal accomplishment was higher in departments of orthodontics and pediatric dentistry. Percentage of subjects with depersonalization was higher in department of pediatric dentistry. In departments of removable prosthodontics and periodontics, a higher percentage of people had emotional exhaustion. The mean overall score was  $39/01 \pm 7/32$  for personal accomplishment,  $4/14 \pm 3/79$  for depersonalization, and  $13/64 \pm 7/78$  for emotional exhaustion. Based on these rates, the overall score for occupational burnout was low which is favorable. Overall, 19.19%, 7% and 4% of subjects had high scores of reduced personal accomplishment, depersonalization and emotional exhaustion. Based on the statistical tests, occupational burnout was not signifi-

cantly correlated with work experience, weekly work hours, or field of specialty ( $p > 0.05$ ).

## Discussion

Occupational burnout is a state of mental and physical exhaustion caused by excessive and chronic stress. If prolonged, stress can lead to loss of motivation and thrive. Occupational burnout reduces one's energy, hope, strength and efficacy while increasing frustration, negative emotions and cynical behavior. Job dissatisfaction due to occupational burnout can lead to unemployment, loss of social relations and even health problems [18]. Occupational burnout in Iran has mostly been studied among nurses and counselors [11] and only Ansari in his study evaluated this condition among Iranian dentists [10]. Thus, the present study was conducted to evaluate the prevalence of this condition among dental faculty members.

Maslach Burnout Inventory has been used by international and Iranian researchers and its validity and reliability have been previously

confirmed. The internal consistency of the questionnaire with Cronbach's alpha from  $r=0.71$  to  $r=0.90$  was satisfactory in the original sample size of Maslach equal to 11,000 subjects [10, 15]. In 2002, Maslach's questionnaire was once again evaluated in Australia and its validity and reliability were confirmed [16]. Filian translated the Maslach questionnaire to Farsi and had its validity confirmed by Tehran University instructors. He administered the questionnaires among nurses who participated in the first phase of study every other week. By doing so, the internal consistency of scales was evaluated. The obtained results were indicative of the strong correlation between the responses given in the two phases of study. The correlation between variables was in the range of  $r=0.83$  to  $r=0.96$  and thus, the reliability of the questionnaire was confirmed [11, 17]. This finding has also been confirmed by Rafie and Payami [19, 20]. The present study showed that overall, 19.19%, 7% and 4% of subjects gained high scores for reduced personal accomplishment, depersonalization and emotional exhaustion. In general, 2% of all subjects had occupational burnout in all three dimensions. In some studies conducted in Iran, prevalence of occupational burnout was evaluated in nurses according to Maslach questionnaire. The frequency of severe emotional exhaustion, depersonalization and reduced personal accomplishment in this group was 20-35%, 4-23% and 28 to 51.9%, respectively [20-22]. Overall, 2.7% of Iranian counselors are suffering from severe occupational burnout in all dimensions [23]. In a study by Soleimani, it was reported that of all the staff of Roozbeh Psychiatric Hospital, 20.7% had severe emotional exhaustion, 9.3% had depersonalization and 55% had reduced personal accomplishment [22].

Deh Bozorgi in his study on the medical faculty members of Shiraz University reported the frequency of emotional exhaustion, reduced personal accomplishment and depersonalization as 5.2%, 41.6% and 6.5%, respectively [11].

In another study by Martinez on instructors and students in a dental school in Spain, it was

demonstrated that 2-3% of subjects had severe form of burnout in all its dimensions. Also, 6%, 3% and 1% had severe emotional exhaustion, depersonalization and reduced personal accomplishment, respectively. Overall, he reported the prevalence of occupational burnout in his understudy university as 10% [15].

Ansari in his study showed that 6.4%, 0.4% and 0.4% of dentists attending an annual dental congress in 2005 had high levels of emotional exhaustion, depersonalization and reduced personal accomplishment [10].

Comparison of the above-mentioned statistics reveals that dental faculty members of Tehran Azad University had a much better position in terms of prevalence of occupational burnout and its dimensions in comparison to counselors, psychological therapists, nurses and staff of Rouzbeh Hospital and medical faculty members of Shiraz University. However, when compared with international statistics, dental faculty members in our study and Ansari's understudy population were in worse position.

Considering all the above, it should be noted that the statistics on the prevalence of occupational burnout in our country are scarce and further investigations are required in order to cast a judgment. The present study failed to find a significant association between occupational burnout and dental work experience; but, further scrutiny on the obtained mean scores revealed that subjects with 1-10 years of work experience had higher prevalence of depersonalization while those with 11-20 years of work experience had the lowest prevalence of depersonalization. Subjects with 21-30 years of experience had the lowest prevalence of emotional exhaustion. Ansari in his study could not find a significant association between prevalence of occupational burnout and work experience either but subjects with work experience less than 10 years showed higher levels of burnout [10]. Martinez in his study also demonstrated that all subjects suffering from occupational burnout had work experience less than 5 years and individuals at early years of

education or work were at higher risk of occupational burnout [15]. Roth in his study on orthodontists discussed that improved professional skills and increased experience decrease the level of stress in dentists which results in less occupational burnout [25]. Deh Bozorgy in his study could not find a significant difference in occupational burnout between medical faculty members with work history more and less than 7 years. However, those with less than 7 years of work experience had higher prevalence of depersonalization and those with work experience more than 7 years had lower prevalence of reduced personal accomplishment [11]. In the present study, subjects with work experience less than 10 years had higher prevalence of reduced personal accomplishment and depersonalization. Thus, our study results are in accord with those of Deh Bozorgy [11]. Weekly dental work hours in our study were not significantly correlated with occupational burnout but evaluation of gained mean scores revealed that subjects with weekly dental work hours less than 15 h had lower prevalence of depersonalization and emotional exhaustion while individuals with more than 20 hours of weekly work hours had higher prevalence of depersonalization and emotional exhaustion. This finding indicates that the lower the work hours, the smaller the risk of occupational burnout. Martinez stated that dentists with more than 30 hours of clinical and academic work per week are more susceptible to occupational burnout [15]. Ansari also demonstrated that dentists with more than 11 hours of dental clinical work per day had higher prevalence of depersonalization compared to other groups [10]. The present study failed to find a significant difference in occupational burnout between different fields of specialty. Department of maxillofacial surgery had the lowest prevalence of occupational burnout and its three dimensions. Department of removable prosthodontics and oral medicine had the highest incidence of occupational burnout. Department of oral medicine had the highest prevalence of emotional exhaustion, department of removable prosthodontics showed the

highest prevalence of depersonalization and the department of dental anatomy and health had the highest incidence of reduced personal accomplishment. Adib Rad in his study stated that the highest prevalence of burnout belonged to the department of maxillofacial surgery while the lowest prevalence was observed in department of orthodontics [4]. Martinez also reported the highest prevalence of burnout to be in department of oral surgery and implant [15] which is in contrast to our study results.

### Conclusions

Within the limitations of this study, it is concluded that dental faculty members of Tehran Azad University had lower prevalence of occupational burnout compared to available national statistics on other occupations. However, in comparison to the international prevalence rates and also the statistics offered by the only national study on dentists, our understudy subjects showed higher prevalence of occupational burnout. Dental work experience, weekly work hours and field of specialty were not significantly correlated with burnout in our study.

### References

- 1- Pines AM, Arbenson E, Kafry DB. From tedium to personal growth. Newyork: Free press; 1981.
- 2- Adib Rad N, Moradi A. The study on relationship between burnout and stress confronting methods among schools consultants in Kermanshah. [Thesis]. Tehran: Psychology faculty of Shahid Beheshti University; 2008. (Persian)
- 3- Maslach C. Burn out – the cost of caring. 3<sup>rd</sup> ed. New York: Prentice Hall press; 1982.
- 4- Rada E. Stress, Burnout, anxiety and depression among dentist. J Am Dent Assoc. 2004 Jun; 135 (6):788-794.
- 5- Schaufeli W, Bomasluch C, Mwkett T. Professional Burnout: recent developments in theory and research. 1<sup>st</sup>ed. Washington: Taylor & Framei; 1995.
- 6- Rutter H, Herzberg JE, paice E. Stress in doctors and dentist who teach. Med Educ. 2002 Jun; 36(6):543-9.

- 7- Gorter RC, Albercht G, Hoogstraten J, Eijkman MA. Measuring work stress among Dutch dentists. *Int Dent J*. 1999 Jun;49(3):144-52.
- 8- Cooper CL, Watts Y, Baglim AJ Jr, Kellym. Occupational stress among general practice dentists. *J Occup Psych*. 1988 Jun;61(2):163-174.
- 9- Rasoolian M, Elahi F, Ebrahimi AA. The relationship between burnout and personal characteristics in nurse. *Iranian J Psych Clin Psychol*. 2004 Spring;9(4):18-24. (Persian)
- 10- Ansari Lari H, Alizade Gharaei M. Evaluation of burnout and related factors in participant dentists in international Iranian dentistry congress in year 2005. [Thesis]. Tehran: Dent Faculty Azad Univ; 2006. (Persian)
- 11- Deh Bozorgi G, Hadaegh R. Hidden whirlpool of burnout (prevention factors, treatment). 1<sup>st</sup> ed. Shiraz: Navid Shiraz Co; 2006. (Persian)
- 12- Freuden Berger HJ. Staff Burnout. *J Soc Issues*. 1974 Winter; 30(1):159-65.
- 13- Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory manual. 3<sup>rd</sup> ed. CA: Consulting Psychologist press; 1996.
- 14- Te Brake H, Bloemendal E, Hoogstraten J. Gender difference in burnout among Dutch dentist. *Com Dent Oral Epidemiol*. 2003 Oct; 31(5):321-7.
- 15- Martinz AA, Aytes LB, Escoda CG. The burn out syndrome and associated personality disturbances: the study in three graduate programs in dentistry at the university of Barcelona. *Oral Med Oral Patol Oral Cir Buccal*. 2008 Jul 1;13(7):E444-50.
- 16- Yaman H, Soler JK. The job related burnout questionnaire: A multinational pilot study. *Aust Fam Physician*. 2002 Nov;31(11):155-6.
- 17- Te Brake H, Bouman AM, Gorter RC, Hoogstraten J, Eijkman M. Professional burn out and work engagement among dentists. *Eur J Oral Sci*. 2007 Jun; 115(3):180-5.
- 18- Hutman S, Jaffe J, Segal R, Kemp G, Dumke L. Burnout: Signs, Symptoms and Prevention. 2011; [1-9]. Available: <http://www.cdrcp.com/pdf/Burnout.pdf>. August 27, 2011.
- 19- Rafiei F. The study on burnout and its relationship with confronting methods among nurses working at burn injuries hospitals in Tehran. [Thesis]. Tehran: Tehran University of Medical Sciences; 1991. (Persian)
- 20- Payami Boosari M. Burnout syndrome in nurses working at educational hospitals. *Iranian J Nurs*. 2002 Winter & Spring; 15(32):26-30. (Persian)
- 21- Filian E. Evaluation of burnout and its relationship with confronting methods among nurses working at educational hospitals. [Thesis]. Tehran: Tehran Teacher Training University; 1991. (Persian)
- 22- Soleimani K, Sharifi V, Tehrani Doost M. Evaluation of burnout in staff of roozbeh hospital. *Adv Cogn Sci*. 2006 Winter;7(4):36-42. (Persian)
- 23- Birashk B, Khakpoor R. Evaluation of burnout in consultants and psychotherapists. *Iranian J Psych Clin Psychol* 1998 Fall; 4(3):14-22. (Persian)
- 24- Ahola K, Hakanen J. Job strain, burnout and depressive symptoms: A prospective study among dentist. *J Affect Disord*. 2007 Dec;104(1-3):103-10.
- 25- Roth SF, Heo G, Varnhagen C, Glover KE, Major PW. Occupational stress among Canadian orthodontist. *Angle Orthod*. 2003 Feb;73(1):43-50.