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Research Paper:

Prevalence of Burnout Syndrome and Its Related Factors Among Dentists in Qom Province, Iran

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ABSTRACT

Background & Aims of the Study: Occupational burnout is a process of biopsychological fatigue caused by constant and continuous emotional stress due to long-term involvement in humans. Dentistry is one profession with extant biopsychological fatigue that can lead to burnout. This study aimed to determine the prevalence of burnout and related influential factors in dentists in Qom Province, Iran.

Materials and Methods: This cross-sectional descriptive-analytical study was conducted on 158 general and specialist dentists in Qom Province, Iran (2018-2019) who were randomly selected. The instrument for collecting data was Maslach's standard burnout questionnaire and questions about demographic information and occupational factors. The obtained data were analyzed in SPSS using Analysis of Variance (ANOVA), t-test, Chi-squared test, and Pearson correlation coefficient.

Results: This study suggested that the burnout score in all studied dentists was moderate in Qom (n=158). It is revealed that 9.1% of subjects had severe emotional exhaustion, 11.4% had severe depersonalization, and 8.2% had severe individual accomplishment loss. The lack of regular exercise, general dentistry, the lack of educational responsibility, job dissatisfaction, conflict in the role, ambiguity in the role, and work overload are the predictors of burnout in dentists in Qom Province, Iran.

Conclusion: The obtained data revealed that although burnout is not a common problem in dentists in Qom Province; however, strategies for coping with it should be evaluated and managed continuously. Further studies are recommended in this field.

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1. Introduction

Occupational burnout is a process of biopsychological fatigue caused by constant and sustained excitement with long-term involvement in humans [1]. We are witnessing special attention to the burnout issue worldwide [2]. Constant exposure to stressors and disability in coping with reality causes burnout syndrome [3]. For the first time in 1974, the German psychiatrist Friedenbergger in the United States introduced the word burnout as a behavioral subject [2]. The introduction of the Maslach Professional Burnout Questionnaire (1980) was critical in initiating research on burnout. Occupational burnout syndrome has three essential components: emotional exhaustion and deprivation and individual accomplishment failure [2]. Over the past 35 years, burnout has attracted the attention of researchers globally [4]. Moreover, they are trying to understand better what it is and why it occurs. Studies have been conducted in various groups in Iran, such as healthcare providers, medical residents, nurses, hospital staff, and dentists [2, 5-8].

Dentistry is one profession with extant biopsychological fatigue that can lead to burnout syndrome. As a result, this issue can effectively reduce the patient's scientific and practical quality of service [9]. Based on a previous study, approximately 13% of dentists reported a high level of burnout [8]. There are always several factors as the source of stress in the workplace, including environmental and physical factors such as noise, inappropriate light, and sound congestion; human factors, such as conflict with others; and organizational factors, such as congestion, mismanagement, non-compliance with justice, and more [10]. Also, other factors such as patient stress, the acceptance of treatment, stress, completeness, economic pressures, problems with colleagues, time management problems, patient and dentist relationships, how to sit during work, inadequate working environment, and inappropriate personal life affect the incidence of burnout [11].

Studies suggested that job burnout is related to diminished quality of medical care, depression, frequent absence, muscle problems, and cardiovascular diseases [12]. Additionally, job burnout is associated with increased medical errors, suicidal thoughts, difficulty with partner relationships, and substance abuse, including alcohol [13]. Burnout results can be more serious. Studies revealed that the medical errors of the last 3 months have been more pronounced in those burned out [14], which affects the health and wellbeing of healthcare workers [15-17]. High stress, feeling angry, sleepless, sad and angry, smoking, heart disease, high blood pressure, diabetes, and high levels of ability to develop other diseases can result from burnout [18]. Due to the inevitability of some stressors in the dental profession and the improper study on burnout in Qom, this study aimed to determine the prevalence of burnout and related factors in dentists in Qom Province, Iran

2. Materials and Methods

This cross-sectional, descriptive-analytical study was conducted in 2018-2019. The study subjects were 158 general and specialist dentists (N=290) that work in the private sector and clinics in Qom Province, Iran. The instrument for collecting data was Maslach Professional Burnout Questionnaire. This scale measures the severity of job burnout based on the score from zero (never) to 6 (very high). The questionnaire contains 22 propositions that contain 9 statements for measuring emotional exhaustion and 5 propositions for depersonalization, and 8 sentences to assess the lack of personal accomplishment. In the context of burnout components for questions relating to individual failure, a score <8 is high, 9-47 reflects moderate rate, and >48 is considered to be low; for questions relating to depersonalization, the score of <5 is low, 6-14 is moderate, and the score of >15 is high; for questions about emotional exhaustion scores below 9 are addressed as low, 10-44 are moderate, and scores >45 are high [19]. Excessive emotional exhaustion and depersonalization, and low personal accomplishment score indicate burnout. Total marks of <22 signs of extinction, 22-65 mild burns, 66-109 signs of moderate burns, and scores of 110-132 are severe burns. Maslach and Jackson have an internal coefficient of confidence for emotional exhaustion of 0.9, depersonalization of 0.7, and individual success has reported 0.71 [20]. The validity and reliability of this questionnaire were first confirmed in Iran by Fillian [21]. This questionnaire has been returned to Persian by Rasoulian et al. Its validity and reliability have been verified. The reliability of the test was obtained from the Cronbach alpha coefficient of 71-90%, and its validity was measured as 60%-80% [22].

The other part of the questionnaire includes the subjects' demographic information, including age, gender, marriage status, exercise, work experience, having a home, working hours per week, having a history in management, level of education, smoking behavior, and interest in the field. There are also questions about job factors, such as job satisfaction, based on a standard questionnaire (4 statement), presented by Allisey et al. [23], work overload, based on a standard questionnaire (3 statement), presented by Bersamin Dissertation, 2006

[24], conflict in the role (7 statement), and ambiguity in the role (6 statement), based on a standard questionnaire, presented by Rizzo and associates [25]. To carry out the research, Questionnaires were referred to the dentists' workplace in the individual, and voluntary participation in the plan, lack of inclusion of the individual's name in the questionnaire, and the confidentiality of the information were considered. Written consent was given to participants, and again to receive the completed form with the coordination of dentists, we went to their workplace. After collecting the questionnaires, the data were analyzed using SPSS software Version 21, independent t-test, Chi-square, Analysis of Variance (ANOVA), and Pearson correlation coefficient. The significance level was considered 0.05.

3. Results

Table 1 presents a qualitative description of demographic variables in studied subjects. In total, 82.9% of the study subjects were general dentists and other specialists based on the obtained results. Furthermore, quantitative descriptions of demographic variables in study subjects are presented in Table 2. The Mean±SD age of the study subjects was 33.58±5.78 years, their Mean±SD work experience equaled 7.95±5.7 years, and the working hours were calculated to be 37.22±12.23 hours per week. The Mean±SD total burnout score was measured as 76.2±5.91. The job-concerned factors scores are displayed in Table 2. The frequency distribution of severity of burnout according to its different dimensions in the studied dentists is presented in Table 3.

Table 4 provides a comparison of dentists' mean scores of occupational burnout dimensions concerning the demographic variables (the significance level was considered 0.05) has been shown. The personal accomplishment score concerning gender and marital status was also statistically significant. Burnout score in all studied dentists was moderate (n=158). Furthermore, 9.1% of the study subjects presented severe emotional exhaustion, 11.4% had severe depersonalization, and 8.2% demonstrated severe individual accomplishment loss. The lack of regular exercise, general dentistry, and the lack of educational responsibility are predictors of burnout in dentists. There was no significant difference between age (P=0.121), work experience (P=0.077), and weekly working hours (P=0.329). The Chi-squared test results suggested statistically significant differences in depersonalization score according to education; thus, depersonalization score was higher among general practitioners.

Table 1. The qualitative description of the demographic variables in the study subjects (n=158)

Characteristic	Measure	No. (%)
Educational level	General	131(82.9)
	Specialist	27(17.1)
Marital status	Married	110(69.6)
	Single	48(30.4)
Gender	Men	71(44.9)
	Women	87(55.1)
Smoking	Yes	24(15.2)
	No	134(84.8)
Exercise	Yes	88(55.7)
	No	70(44.3)
Manager	Yes	15(9.5)
	No	143(90.5)
Home-owner	Yes	113(71.5)
	No	45(28.5)
Interest in the field	Yes	150(94.9)
	No	8(5.1)

Table 2. The quantitative description of the demographic variables in the study subjects (n=158)

Characteristics	Min.	Max.	Mean±SD
Age	23	59	33.58±5.78
Work experience	1	35	7.95±5.70
Working hours/week	6	60	37.22±12.23
Emotional exhaustion	0	34	10.96±7.75
Depersonalization	0	16	5.28±4.11
Personal accomplishment	17	47	30.25±6.52
Burnout total score	59	89	76.20±5.91
Job Satisfaction	13	20	16.71±1.54
Work overload	7	18	12.26±2.20
Role conflict	12	30	20.63±3.33
Role ambiguity	17	36	26.58±4.16

Table 3. The frequency distribution of severity of burnout according to its different dimensions in the studied dentists) n=158)

Distribution	No. (%)		
Burnout subscale	Low	Medium	High
Emotional exhaustion	124(78.5)	31(19.6)	3(1.9)
Depersonalization	83(58.5)	57(36.1)	18(11.4)
Personal accomplishment	108(68.4)	37(23.4)	13(8.2)

The Pearson correlation coefficient test results to examine the relationship between job variables and burnout are displayed in Table 5. The lack of job dissatisfaction, conflict in the role, ambiguity in the role, and work overload are the predictors of burnout in dentists (the significance level was considered 0.05).

4. Discussion

This study indicated that the burnout score in all dentists in Qom Province was moderate. Of the various occupational burnout areas in this study, 0.9% had severe emotional exhaustion, 11.4% presented severe depersonalization, and 8.2% reported a high degree of lack of individual success. Compared to the studies of Parizi [2], Hosseini [19], Jin [26], and Čubrilo-Turek [27], the present study suggested a lower percentage of emotional exhaustion and depersonalization and individual failure. Furthermore, the rate of individual failure and emotional exhaustion in this study is lower than the values obtained in the study of Roughanizad [8]. The dentists in Qom seem to be in a suitable position concerning burnout (moderate). Differences in the prevalence of severe cases of this syndrome in different articles can be due to other personality characteristics, different social culture and working environment conditions, and technology levels in the offices. Occupational burnout syndrome is directly related to coping with stressors, leading to increased risk or security against this situation.

The perception of stress and how to respond to it and manage it in any individual is unique and depends on the degree of satisfaction and social support; thus, it is natural that different results from different studies. As a result of the relationship between job burnout and gender, the overall score of job burnout was higher in women than in men. In studies, controversial results are obtained concerning the relationship between sex and burnout. Similar to the results of our research, Divaris [28] and Ashkar [29] reported a higher prevalence of burnout in women. While some researchers, such as Parizi [2], Hosseini [19], Toubaei [11], and Čubrilo-Turek [30] did not

Table 4. Comparing the explored dentists' mean scores of occupational burnout dimensions respecting the demographic variables

Characteristic		Mean±SD			
		Total Score	Depersonalization	Personal Accomplishment	Emotional Exhaustion
Gender	Female	5.09±77.48	5.45±30.05	4.03±4.97	7.84±11.03
	Male	6.48±74.63	7.66±30.49	4.22±5.66	7.69±10.87
P		0.002	0.678	0.300	0.897
Marriage status	Single	6.72±76.31	5.98±30.62	4.28±5.37	8.03±11.12
	Married	5.55±76.15	6.76±30.09	4.06±5.24	7.66±10.89
P		0.878	0.878	0.856	0.862
Smoking	Yes	5.13±73.62	6.86±30.04	4.95±5.83	6.57±10.29
	No	5.94±76.66	6.48±30.29	3.96±5.18	7.96±11.08
P		0.020	0.864	0.480	0.647
Exercise	Yes	5.72±75.84	6.54±30.44	3.67±4.64	6.69±9.22
	No	6.08±76.48	6.54±30.1	4.39±5.79	8.28±12.34
P		0.497	0.746	0.081	0.012
Home-owner	yY	6.35±76.26	4.37±30.74	4.18±5.5	7.98±11.03
	No	4.7±76.04	6.79±29.02	3.94±4.73	7.21±10.77
P		0.833	0.135	0.290	0.851
Interest in the field	yY	76.22±5.91	6.5±30.44	4.1±5.29	7.64±10.89
	No	4.82±75.87	6.13±26.62	4.7±5.12	10.2±12.25
P		0.873	0.107	0.911	0.631
Level of Education	General	5.9±75.88	6.93±30.11	4.2±5.48	7.86±11.01
	specialist	5.84±77.74	4.03±30.92	3.56±4.29	7.33±10.7
P		0.138	0.588	0.172	0.850
Manager	Yes	7.51±87.06	5.37±32.13	2.62±3.2	8.61±10.66
	No	5.72±76	6.62±30	4.19±5.5	7.69±10.99
P		0.201	0.242	0.039	0.877

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report a significant relationship, in a systematic review article [31] as well as Alemany Martínez [32] and 33. Robertson [33] described a higher prevalence of burnout in men. A large body of literature on occupational stress highlighted that occupational stress and stress-related outcomes are more common in women than men. The odds of job burnout, thinking of leaving a job, and frequent experience of diseases associated with emotional stress in women are higher [23].

In this study, no significant relationship was found between occupational burnout and variables such as age, work experience, and working hours per week, which may be since a significant number of participants were similar in age group and spent their time in clinics in the

Table 5. Pearson correlation coefficient test data to examine the relationship between job variables and burnout

Characteristic	Overall score		Emotional exhaustion		Depersonalization		Personal accomplishment	
	P	Cor.	P	Cor.	P	Cor.	P	Cor.
satisfaction Job	0.000	0.551	0.000	0.351	0.003	0.235	0.000	0.384
Work overload	0.000	0.375	0.464	0.059	0.636	0.038	0.452	0.060
Role conflict	0.000	0.355	0.006	0.217	0.000	0.305	0.000	0.326
Role ambiguity	0.000	0.733	0.000	0.380	0.000	0.447	0.000	0.295

The significance level was considered 0.05.

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city. The results of other studies on the variables listed are controversial. So, Roghanizad [8], Torabi Parizi [2] and Hosseini [19] (about working hours), Toubaei [11], and Mallar [34] (regarding age & work experience) did not find a significant relationship. However, according to Singh [31] and Alemany Martínez [32], the lower age and more work hours are risk factors for burnout. In contrast, various studies have suggested that the risk of burnout is reduced with an increase in work experience [19, 32]. This may have been due to increased work experience and better compliance with the conditions. In the beginning, individuals face more stressful issues, such as complex ambiguities, lack of plans to understand new complex experiences, inexperience, worries, and fears of doing work [35]. Suppose you have the opportunity to transfer the experience of dentists with age and high work experience through training courses. In that case, you may be able to reduce the impact of a low age and work experience on burnout.

Regarding the relationship between depersonalization and the variables studied, specialists had a lower depersonalization score than general dentists (7.4% versus 12.2%). According to our knowledge, no study had compared the relationship between individuals' depersonalization in general dentists and specialists. In this study, the severity of depersonalization in individuals with educational or managerial responsibilities was lower (0% vs. 12.5%). Some researchers reported that dentists who have academic and administrative responsibilities in addition to clinical work are less likely to experience job stress. Educational activities increase self-esteem, decrease loneliness and feel independent in the individual, reducing the adverse effects of this profession.

Concerning the lack of individual success with the factors studied, men (15.5% vs. 3.2%) and married individuals had less individual success (10% vs. 4.2%). This could be due to the heavy responsibilities of married individuals compared to the single population. Some studies revealed that men spend more hours per week; therefore, increased duration of work can be the cause of more severe burnout in men [36]. Furthermore, men's financial responsibility in the family and other issues, like different defense mechanisms against exhaustion in women and men, should be considered. Regarding job variables, the overall job burnout score was positively associated with job satisfaction, job density, conflict of role, and ambiguity. Concerning the dimensions of burnout, emotional exhaustion with job satisfaction and ambiguity in the role had a negative relationship, and conflict with the role played a positive role. Depersonalization with job satisfaction and ambiguity in the role had a negative relationship, and the conflict was positive. The feeling of an individual's failure with job satisfaction and ambiguity in the role had a positive relationship, and the conflict played a negative role. No significant association was found between occupational burnout subscales with workload density.

Job satisfaction presented the highest relationship with depersonalization [23]. The job satisfaction variable predicts emotional exhaustion and depersonalization in our study, consistent with previous research results. Concerning the positive relationship between job burnout and the subsequent failure of an individual and job satisfaction, it can be noted that other factors, like high income, have a significant impact on job satisfaction. Therefore, the relationship between job satisfaction and job burnout could be affected by other factors. Existing differences can be due to the differences in sample size, target group (students, general dentists, experts, & faculty members), cultural and social differences, and differences in the health system and educational programs in different studies. Moreover, the implementation of various studies at different times of the year due to particular circumstances (e.g., increasing the stress of individuals during exam periods or more workloads at specific times

of the year) may be effective in obtaining different results.

5. Conclusion

The obtained results indicated that burnout is not a common problem in dentists in Qom Province; however, strategies for coping with it should be evaluated and managed continuously, including regular exercise and relaxing activities such as yoga, creating a better and happier working environment for subjects, planning for the number of hours of work appropriate to each person's ability to have enough sleep and regular attention to personal wellbeing and proper nutrition and referring to a psychologist if it is revealed that symptoms of burnout and depression exist in the dentists.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles are considered in this article. The participants were informed of the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished, and if desired, the research results would be available to them.

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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