

Original Article



Is Burnout Related to Spiritual Intelligence? Correlation Between Burnout and Spiritual Intelligence Among Residents of an Iranian Dental School

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Article history:

Received: May 26, 2021

Received: July 28, 2021

ePublished: September 8, 2022

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Abstract

Background: Burnout during stressful dental residency courses can adversely affect the personal abilities and competencies of residents. This study aimed to investigate burnout and its relationship with spiritual intelligence in Mashhad Dental School residents in 2019-2018.

Methods: In this cross-sectional descriptive-analytical study, approximately all the dental residents of Mashhad Dental School participated in the survey. Demographic information questionnaire, Maslach burnout questionnaire, and David B. King's (2008) Spiritual Intelligence Scale were used to collect data. Finally, SPSS software (version 20) was employed for data analysis.

Results: Overall, 53 women (52%) and 49 men (48%) with a mean age of 27.83 years participated in this study (a response rate of 97%). The mean score of burnout was 58.75. Residents also had a low reduced personal accomplishment, moderate emotional fatigue, and moderate depersonalization. The mean scores of spiritual intelligence and its sub-scales, including critical existential thinking, production of personal meaning, awareness transcendence, and consciousness expansion were 51.91, 15.66, 13.19, and 14.67, respectively. Personal accomplishment was significantly correlated with overall spiritual intelligence ($P < 0.001$, $r = 0.404$) and its sub-scales, including producing personal meaning ($P = 0.009$, $r = 0.26$), transcendental awareness ($P < 0.001$, $r = 0.382$) critical thinking ($P = 0.04$, $r = 0.2$), and conscious state expansion ($P < 0.001$, $r = 0.356$). Eventually, there was no significant difference between burnout and spiritual intelligence and their sub-scales regarding gender, marital status, and school year ($P < 0.05$).

Conclusions: Mashhad Dental residents showed moderate levels of emotional fatigue and spiritual intelligence. Accordingly, there is a need for planning strategies to reduce burnout.

Keywords: Burnout, Spiritual intelligence, Specialist assistants, Dentistry

Please cite this article as follows: Yaghoubi Z, Mousavi M. Is burnout related to spiritual intelligence? Correlation between burnout and spiritual intelligence among residents of an Iranian dental school. Avicenna J Dent Res. 2022; 14(3):102-106. doi:10.34172/ajdr.2022.16

Introduction

The term "burnout" was first introduced by Freudenberg. He attempted to examine the characteristics of health workers who were physically and mentally debilitated. Today, this term is one of the most common and widely used words in the field of work and organizational psychology (1). Burnout is a process of physical and mental fatigue caused by constant and successive emotional stresses resulting from long-term conflicts. In fact, it is an abnormal response to chronic emotional stress. High workload, lack of work environment, lack of rewards, poor communication between co-workers, injustice in payment of wages, a dichotomy between personal, and job values can be considered as the causes of burnout (2). Freudenberg defines burnout as the inability, exhaustion, and fatigue caused by the overuse of energy and personal power. He

also describes it as a syndrome that includes the symptoms of fatigue, forgetfulness of self-needs, commitment to an external factor, hard and long-term work, and a sense of pressure from the individual. Freudenberg's description of burnout is a one-dimensional approach that mainly focuses on the component of emotional burnout outside the social context. Some researchers believe that the nature of burnout is essentially multidimensional, and it is impossible to combine all the features of burnout in a one-dimensional model (1).

Moreover, burnout is one of the effective factors in the educational process and dental treatments, directly leading to weakness in training and treatments. The residency course is a stressful period. Increased professional responsibility, along with educational pressure can be associated with physical fatigue and lead to burnout,



which affects not only the dental residents but also the patients (3). Some studies imply high levels of anxiety and stress and feelings of burnout among medical and dental staff and students. The findings of studies by Akbari et al in Mashhad and Nafarzadeh et al in Babol showed a high level of stress among undergraduate dental students (1,4).

On the other hand, stress can lead to weakness in the educational process, learning, thinking power, and clinical performance (3). Burnout is known in three domains, including emotional fatigue, personal performance (reduced personal success), and depersonalization (5).

A review of studies demonstrates high levels of stress and burnout among students and dental professionals (6). Saatchi et al reported moderate levels of stress and relatively high levels of burnout (7). The average total score of the Dental Faculty Members of Islamic Azad School of Tehran, in comparison with the standard means of burnout, represents a low rate of burnout (8). In addition to the effect of spiritual intelligence on reducing perceived anxiety, researchers highlighted the role of spiritual intelligence in flexibility, better functioning of emotional and intellectual intelligence, the ability to cope with problems in the workplace, and mental health in general (9).

Baloochi et al examined the level of spiritual intelligence and a tendency to violence among medical science students and found an inverse relationship between the level of spiritual intelligence and the tendency to violence (10). Further, people with higher levels of spiritual intelligence reported higher perceived happiness and general health (11).

Spiritual intelligence was considered as a possible protective factor against burnout. Saatchi et al evaluated 90 professional assistants of Isfahan Dental School aimed at determining the level of stress and burnout. The mean stress score of residents was in the moderate stress range (7).

Severe burnout in its three subsets included personal achievement of 27.8%, emotional exhaustion of 8.9%, and depersonalization of 40%. Thus, there was a linear relationship between stress levels and the three burnout parameters. Considering that the professional assistants of Isfahan Dental School demonstrated moderate levels of stress and relatively high levels of burnout, it seems that planning to reduce stress and burnout should be taken into consideration (7). Jin examined the rate of burnout and its related factors among dentists in South Korea and concluded that more than 40% of the participants experienced burnout in all three domains of depersonalization, emotional fatigue, and personal performance (12). Likewise, Eslamipour and Yazdchi investigated the prevalence and severity of burnout among 300 dentists in Isfahan using the Maslach burnout questionnaire. The severity of burnout was higher among men, single people, and younger individuals (3).

Few studies have so far examined the level of burnout among dental residents. Additionally, to the best of our knowledge, these studies have neglected the evaluation of spiritual intelligence as an important factor in behavioral

output, level of anxiety, and burnout. Therefore, the purpose of this study was to investigate spiritual intelligence and its relationship with burnout in dental students.

Methods

Study Population and Design

All dental residents of 1-3 academic years of Mashhad Dental School participated in this cross-sectional study.

Data Collection Tools

The self-administered questionnaire was used to collect demographic variables, including age, gender, dental spatiality, academic year, and marital status. The degree of burnout was assessed based on the Persian version of the Maslach Burnout Inventory Human Services Survey (MBI-HSS), the validity and reliability of which were confirmed in previous research (1). MBI-HSS is the most common tool for measuring burnout and consists of 22 items in three domains, including emotional fatigue, depersonalization, and personal accomplishment (a decrease in individual success). The scores for questions are rated by the Likert-type scale, and according to Table 1, high scores in all domains reflect high levels of burnout.

The validated Persian version of David B. King's (2008) Spiritual Intelligence Scale was administered to evaluate spiritual intelligence. This questionnaire consists of 24 questions on a Likert-type response scale in four sub-scales, including personal meaning production, critical thinking, transcendental awareness, and conscious state expansion.

Statistical Analysis

SPSS software (version 20) was used for data analysis. Independent *t* test, ANOVA was employed to investigate the relationship between the burnout level and spiritual intelligence with contextual variables based on data distribution. Further, the Pearson correlation coefficient was applied to test the relationship between the burnout level and spiritual intelligence. The significance level was considered 5%.

Results

In general, 102 dental residents, including 53 women

Table 1. Level of Burnout

Burnout	Level	Score
Emotional fatigue	Low	17 ≥
	Medium	29-18
	High	30 ≤
Depersonalization	Low	5 ≥
	Medium	11-6
	High	12 ≤
Reduced personal accomplishment	Low	33 ≥
	Medium	39-34
	High	40 ≤

(52%) and 49 men (48%) with a mean age of 27.83 years and an age range of 25 to 32 years, participated (a response rate of 97%) in this study. Based on the obtained data, 56 (54.9%) and 46 (45.1%) residents were married and single, respectively. Forty-four residents (43.1%) were in the third academic year. The highest number of students were studying surgery (17.6%), endodontics (15.7%), and prosthetics (12.7%). The sociodemographic distribution of participants is presented in Table 2.

The mean score of Maslach burnout (0-132) was 58.75 (SD=36), and that of personal accomplishment (0-48) was 29.61 (SD=13), emotional fatigue (range 0-54) 21.51(SD=9), and depersonalization (range 0 to 30) sub-scales was 7.92 (SD=6.53). Table 3 provides the distribution of the burnout level and its sub-scales among participants.

There was a significant correlation between spiritual intelligence and burnout ($P=0.005$, $r=0.275$). Furthermore, a significant relationship was found between burnout and spiritual intelligence sub-scales. Table 4 summarizes data on the relationship between burnout and spiritual intelligence domains among dental residents.

Based on the results, no significant difference was observed in burnout and its sub-scales with regard to

gender, marital status, and academic year. In terms of job status, students with work experience had a higher personal accomplishment sub-scale ($P=0.024$; Table 5).

Discussion

This study sought to investigate the feeling of burnout and its relationship with spiritual intelligence in the residents of Mashhad Dental School. The results of the present study showed that dental residents experience a medium level of burnout. They also had a low reduced personal accomplishment, moderate emotional fatigue, and moderate depersonalization. Among the three burnout domains, emotional fatigue is the primary key for measuring burnout. Depersonalization indicates the loss of human traits with a negative attitude towards patients and colleagues. Moreover reduced personal accomplishment implies negative feelings towards oneself, decreased self-confidence, and self-doubt.

In this study, 15% of residents experienced severe emotional fatigue, which is in conformity with the results of a study in Switzerland, indicating that the rate of severe emotional fatigue among dental assistants was 17%, and the rate of burnout was low (13).

The proportion of severe emotional exhaustion among Isfahan (8.9%) and Shiraz (7%) residents was about half of that of our study (7, 14). On the other hand, Divaris et al reported an extremely higher rate of severe emotional fatigue in dental assistants in Greece (13).

According to another study (6), the rate of emotional fatigue among Birjand undergraduate dental students was moderate (21.1%). These findings may be due to differences in educational curricula and the cultural context. The residency course of Mashhad Dental School is more stressful compared to other Iranian dental schools. On the other hand, in this study, the prevalence of high scores of other burnout domains was relatively low; the rate of severely reduced accomplishment was 22%, whereas 91.2% of dental residents experienced a high degree of reduced personal accomplishment in another study in Shiraz (14).

The prevalence of severe depersonalization in this study (20%) was lower than that of the study performed in Shiraz (35%) (14). It seems that the burden of burnout in the study period is not as severe as in the full-time occupational period. Given that the role of women in social activities has dramatically increased today, not surprisingly, no significant difference was observed between burnout and its sub-scales with gender in residents. This finding is in line with another study (7). Contrarily, female dental assistants in Switzerland had higher emotional fatigue (13).

No significant relationship was detected between the age of residents and job burnout and their sub-scales, which conforms to the finding of the study in Shiraz and Isfahan Dental Schools (7,14).

Contrary, Divaris et al concluded that younger residents had a higher level of burnout than older residents (13).

Based on the results of the current study, the mean

Table 2. Participant's Demographic Characteristics

Variables	No.	Percent	
Gender	Male	49	48
	Female	53	52
Marital status	Single	46	45.1
	Married	56	54.9
Occupational status	Having work experience	28	27.5
	Not having work experience	74	72.5
Academic year	1	28	27.5
	2	30	29.4
	3	44	43.1
Field of spatiality	Prosthodontics	13	12.7
	Pediatrics	10	9.8
	Pathology	2	2
	Orthodontics	9	8.8
	Restorative dentistry	9	8.8
	Oral and maxillofacial diseases	7	6.9
	Endodontics	16	15.7
	Surgery	18	17.6
	Periodontics	12	11.8
	Radiology	6	5.9

Table 3. Distribution of Burnout Levels and its Sub-scales Among Participants

	Low (%)	Medium (%)	High (%)
Burnout	45.1	42.2	12.7
Emotional fatigue	31.4	52.9	15.7
Depersonalization	41.2	38.2	20.6
Reduced personal accomplishment	59.8	17.6	22.5

Table 4. Determining the Relationship= Between Burnout and Sp=iritual Intelligence

	Conscious State Exp=ansion	P=ersonal Meaning P=roduction	Transcendental Awareness	Critical Thinking	Sp=iritual Intelligence
Burnout (n=102)	r= 0.304 P= 0.002	r= 0.161 P= 0.106	r= 0.212 P= 0.032	r= 0.129 P= 0.198	r= 0.275 P= 0.005
Transfiguration (n=102)	r= 0.116 P= 0.246	r= 0.111 P= 0.267	r= 0.032 P= 0.75	r= 0.041 P= 0.386	r= 0.075 P= 0.453
Emotional fatigue (n=102)	r=-0.019 P= 0.851	r=-0.088 P= 0.379	r= 0.017 P= 0.867	r= 0.04 P= 0.687	r= 0.013 P= 0.899
reduced p=ersonal accomp=ishment (n=102)	r= 0.356 P<0.0001	r= 0.258 P= 0.009	r= 0.382 P<0.0001	r= 0.022 P= 0.044	r= 0.404 P<0.0001

Table 5. Comparison of the Burnout Level in Residents According to Demographic Variables

Variable		Transfiguration (Mean ± SD)	Emotional Fatigue (Mean ± SD)	Individual Performance (Mean ± SD)	Burnout (Mean ± SD)
Gender	Male	8.82 ± 7.25	21.54 ± 9.56	72.67 ± 13.86	75.82 ± 19.77
	Female	7.05 ± 5.69	21.50 ± 9.14	31.40 ± 12.35	60.17 ± 16.97
	P-value	0.175	0.983	0.164	0.429
Marital status	Single	8.02 ± 6.48	21.19 ± 9.56	30.45 ± 12.46	58.86 ± 17.44
	Married	7.83 ± 6.63	21.78 ± 9.16	28.92 ± 13.81	58.66 ± 19.24
	P value	0.889	0.752	0.563	0.955
Occupational status	Having work experience	7.96 ± 5.56	19.85 ± 9.52	34.39 ± 11.07	62.53 ± 15.40
	No work experience	7.90 ± 6.90	22.14 ± 9.21	27.81 ± 13.52	57.32 ± 19.26
	P value	0.968	0.269	0.024	0.202
Academic year	1	8.50 ± 6.46	21.78 ± 11.17	32.46 ± 12.98	63.71 ± 20.67
	2	7.13 ± 7.16	24.40 ± 8.60	27.03 ± 14.27	57.23 ± 20.22
	3	8.09 ± 6.23	19.38 ± 8.03	29.56 ± 12.44	56.63 ± 15.01
	P value	0.714	0.073	0.295	0.244

Note. SD: Standard deviation.

score of the spiritual intelligence of dental assistants was at a moderate level given that we live in a religious society. Similar findings were reported in Shiraz and Tehran (14,15). Nouhi et al also reported moderate spiritual intelligence in nursing students (16).

In line with other studies there was no significant difference between spiritual intelligence and their sub-scales with respect to gender, marital status, and academic year (14-16). The findings revealed that the rate of burnout increases by increasing the level of spiritual intelligence. Conversely, other studies reported an inverse relationship between burnout and spiritual intelligence (17,18).

Hence, it is difficult to clearly explain the relationship between the two variables because a limited body of research exists in this regard. A potential pathway may result from a higher sense of responsibility among high-scored spiritual intelligence participants.

Limitations

It should be noticed that the available tools for burnout assessment are general and non-specific, thus they have low sensitivity. Moreover, they only measure the consequences of burnout while ignoring its underlying factor. Accordingly, it seems that there is a need for valid and indigenous tools that are appropriate to the Iranian culture for measuring spiritual intelligence.

Conclusion

Dental residents are future professors, specialists, and experts of society. During the training course, the feeling of burnout can adversely influence their success and future by weakening their academic and clinical performance. The results of the present study confirmed that residents had a medium burnout level, a low level of reduced personal accomplishment, moderate emotional fatigue, and moderate depersonalization. The level of spiritual intelligence was moderate. There was no relationship between burnout and spiritual intelligence and their sub-scales regarding gender, marital status, and school year. Based on the findings, the rate of burnout represented an increase by increasing spiritual intelligence. It seems that the burden of burnout during the residency period is not as severe as the full-time occupational period. Nonetheless, further studies are required for explaining the relationship between burnout and spiritual intelligence.

Acknowledgements

This project was supported by the Research Vice-chancellor of Mashhad Dental School.

Authors' Contributions

ZY proposed the idea, supervised the project, analyzed the data, and edited the manuscript. MM gathered the data and wrote the paper.

Availability of Data and Materials

The data will be provided by the corresponding author upon a reasonable request.

Conflict of Interest Disclosures

The authors declare that they have no conflict of interests.

Ethical Statement

This study received approval from the Ethics Committee of Mashhad University of Medical Sciences (IR.SUMS.DENTAL.REC.1398.027). Dental residents were assured that the data would be confidential.

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