ORIGINAL ARTICLE

The Relationship between Burnout and Spiritual Intelligence among Dental Residents in Shiraz, Iran

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Abstract

Background: Burnout, as the consequence of uncontrolled chronic stress, can lead to less efficient clinical performance. Spiritual intelligence enables the individuals to manage their carrier more efficiently. The aim of this study was to explore the relationship between spiritual intelligence and burnout among dental residents.

Methods: This analytic cross-sectional study included all dental residents in Shiraz Dental School during 2019, except for those who were no willing to participate in the study. Of 72 dental residents, 57 participated in the study and filled out the questionnaires. Maslach Burnout Inventory and King's Spiritual Intelligence Questionnaires were used to collect the data. The Maslach's Questionnaire consists of three domains: emotional exhaustion, depersonalization, and personal accomplishment.

Results: The results showed that 91.2% of the participants experienced a high degree of reduced personal accomplishment. Reduced personal accomplishment had a significant correlation with almost all spiritual intelligence dimensions: personal meaning (r=-0.345, P=0.009), transcendental awareness (r=-0.280, P=0.035), and conscious state expansion (r=-0.268, P=0.044). Moreover, personal meaning was inversely correlated with emotional exhaustion (r=-0.411, P=0.002). The scores of spiritual intelligence and burnout dimensions had no significant differences based on marital status, gender, and academic year, except for gender in critical thinking domain(P=0.020).

Conclusion: The participants experienced high degrees of burnout in reduced personal accomplishment domain. The level of spiritual intelligence was moderate among the participants. In general, the higher scores of spiritual intelligence dimensions were correlated to higher personal accomplishment as a main dimension of burnout. Policy- makers should adopt methods to reduce burnout and improve spiritual dimensions.

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Introduction

Dentistry is considered as one of the most stressful jobs among health professions.[1] Burnout, as the consequence of uncontrolled chronic stress, can lead to less efficient clinical performance.[2] Burnout first affects the individuals' emotions, so that they feel emotionally exhausted. Then, negative attitude might appear towards the patients or colleagues. It can be called depersonalization. Afterwards, it could lead to

the feeling of reduced work efficiency and personal accomplishment.[3] Maslach et al.[3] described burnout as the development of emotional exhaustion, depersonalization, and reduced personal accomplishment.

Spiritual intelligence can be beneficial in order to reduce the burnout consequences. Spiritual intelligence, as one of the multiple types of intelligence, helps the individuals have more psychological well-being and improves the individuals' performance.[4]

Burnout has been considered as an important issue in dentistry. Therefore, several studies have assessed the level of burnout worldwide.[5-9] The level of burnout was also determined among the dentists or undergraduate students.[10-12] Jin et al.[13] conducted a survey on Korean dentists. They revealed that young male dentists mostly suffer from burnout which seems to be a common issue among Korean dentists.[1] Saatchi et al.[14] reported high levels of burnout among 90 postgraduate dental students in Isfahan Dental School . Divaris et al.[15] measured burnout among 99 post-graduate students in Athens University School of Dentistry. They revealed higher levels of stress and burnout in residents with clinical programs in comparison with residents with non-clinical programs.[15]

As dental residents have several clinical, research and educational courses, they tolerate more stressful situations. Moreover, they are mostly young and they might have financial issues.[16] Therefore, burnout could have impacts on their clinical and educational performance, health, and well-being. The efficiency of dental schools might be reduced due to the residents' burnout.[14, 17]

Burnout can have negative impacts on organizations. Therefore, detecting more empirical evidence on preventive and supportive factors seems essential. Spiritual intelligence that might have impacts on burnout was assessed among university students,[18] nurses,[19, 20] and employees.[5, 21] Sunaryo et al. revealed spiritual intelligence as a predictor of burnout among nurses.[19] However, most studies in dentistry merely investigated the prevalence of burnout without assessing the impact of possible protective factors such as spiritual intelligence.[14, 15, 22] To the best of our knowledge, although few studies have been done on burnout among dental residents in Iran, no study has yet considered the impact of spiritual intelligence on burnout in residents.[14] Moreover, burnout should be assessed in each dental school to provide sufficient information for modifying the educational structure. However, burnout and its determinants have not been investigated among Shiraz dental residents yet.

The current study was performed to assess the level of burnout and the impact of spiritual intelligence and demographic factors on developing burnout among dental residents in Shiraz Dental School.

Methods

This cross-sectional study included all dental residents in Shiraz Dental School, except for those who refused to participate in the study. 57 out of 72 dental residents participated in the study (participation rate=79.2%). Ethics committee approval was obtained from Shiraz University of Medical Sciences (IR.SUMS.DENTAl.REC.1398.027). Following explaining the study objectives to the participants, the researcher asked all the participants to fill out the consent forms for participating in the study.

A questionnaire including demographic characteristics of the residents (gender, age, marital status) and years of academic education was used to collect the data. The Maslach Burnout Inventory Human Services Survey (MBI-HSS) and King's Spiritual Intelligence Questionnaire were also administered. The MBI-HSS was used to measure the burnout among dental residents.[3] The validity and reliability of the Persian version of MBI-HSS have been previously confirmed (Cronbach's alpha was 0.75).[23] The MBI-HSS consists of 22 questions in three domains: emotional exhaustion (nine items), depersonalization (five items), and personal accomplishment (eight items). The scores for each item are 0=never, several times=1, once a month=2, several times a month=3, once a week or less=4, several times every week=5, and everyday=6. The higher scores in emotional exhaustion and depersonalization domains and lower scores in personal accomplishment domain indicate occupational burnout of the individuals. The scores were categorized into high burnout (emotional exhaustion≥30, depersonalization ≥12, and personal accomplishment ≤33), moderate burnout (18≤emotional exhaustion ≤29, 6≤depersonalization ≤11, and 34 ≤ personal accomplishment ≤39), or low burnout (emotional exhaustion≤17, depersonalization ≤5, and personal accomplishment ≥40).

To evaluate the spiritual intelligence, we used the King's questionnaire.[24] This questionnaire consists of four subscales and 24 questions. The subscales include personal meaning (five items), critical thinking (seven items), transcendental awareness (seven items), and conscious state expansion (five items). The scores for each item of this questionnaire are rated by Likert scale. The total score ranges from 0 to 96. The scores were categorized into high (score 72 to 96), moderate (score 48 to 72), lower than moderate (score 24 to 48) and low (score 0 to24). The validity and reliability of the Persian version of this questionnaire have been previously confirmed (Cronbach's alpha=0.91).[25]

In this study, IBM SPSS for Windows version 22.0 (Armonk, NY, IBM corp.) was used for data analysis.

Independent t-test was used to assess the differences in burnout and spiritual intelligence according to demographic variables. Pearson's correlation coefficient was performed to examine the correlation between burnout and spiritual intelligence.

Results

Descriptive indices of demographic data are shown in Table 1. The majority of residents were studying in orthodontics and a few of them in pathology field. In addition, the majority of the participants were in their second academic year or lower (72%). The results showed that 56.1% of the participants were single and 54.4% were female.

The mean scores of emotional exhaustion, personal accomplishment, and depersonalization were 17.00±8.68, 27.98±4.25, and 10.61±7.88. The mean score of total spiritual intelligence was 50.43±14.28, which was moderate. Also, the mean scores of critical thinking, personal meaning, transcendent awareness, and conscious state expansion were 15.49±5.17, 12.70±3.48, 14.91±4.33, and 7.33±3.92.

According to the categorization mentioned for burnout (high, moderate and low), 64.9% of the participants experienced low degrees of emotional exhaustion and 91.2% experienced high levels of burnout in reduced personal accomplishment domain (Table 2).

Pearson correlation coefficient showed that there was no significant correlation between burnout dimensions and age (all P>0.05). Moreover, there was no significant correlation between spiritual intelligence and age in dental residents (all P>0.05).

As shown in Table 3, there was no significant relationship between burnout dimensions and marital status in dental residents (P>0.05). Moreover, gender and educational year had no significant relationship with burnout dimensions (P>0.05). The scores of spiritual intelligence dimensions had no significant differences based on marital status, gender, and academic year in dental residents. Only in the subscale of critical thinking, there was a significant difference between men and women (P=0.020). The mean scores of critical thinking in women and men were 14.35±4.40 and 17.38±5.15.

According to Table 4, reduced personal accomplishment had a significant correlation with all spiritual intelligence dimensions, except for critical thinking: personal meaning (r=-0.345, P=0.009), transcendental awareness (r=-0.280, P=0.035), and conscious state expansion (r=-0.268, P=0.044). Moreover, personal meaning was inversely correlated with emotional exhaustion (r=-0.411, P=0.002). However, there was no significant relationship between other dimensions.

Discussion

The results of the present study showed that 64.9% of

Table 1: Distribution of descriptive variables for 57 dental residents

		Frequency (%)
Fields	Oral surgery	9 (15.8)
	Orthodontic	13 (22.8)
	Endodontic	5 (8.8)
	Periodontology	3 (5.3)
	Radiology	3 (5.3)
	Pediatric	5 (8.8)
	Prosthodontic	8 (14)
	Restorative	5 (8.8)
	Pathology	2 (3.5)
	Oral and maxiofacial science	4 (7)
Total		57 (100)
Marital status	Single	32 (56.1)
	Married	25 (43.9)
Gender	Male	26 (45.6)
	Female	31 (54.5)
Academic year	Two years and less	41 (72)
	Three years and more	16 (28)

Table 2: Levels of burnout dimensions among 57 dental residents

Burn out dimensions	Low Frequency (%)	Moderate Frequency (%)	High Frequency (%)
Emotional exhaustion	37 (64.9)	16 (28.1)	4 (7.0)
Reduced Personal Accomplishment	0 (0)	5 (8.8)	52 (91.2)
Depersonalization	13 (22.8)	24 (42.1)	20 (35.1)

Table 3: Burnout and spiritual intelligence dimensions' scores according to demographic characteristics and educational year

	Gender		Marital status		Educational year	
	Male	female	Single	Married	Less than 2	3 or more
	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)
Burn out						
Emotional exhaustion	17.65 (7.01)	16.45 (9.95)	16.18 (9.45)	18.04 (7.65)	16.07 (7.78)	19.00 (10.98)
P value	0.607		0.429		0.269	
PersonalAccomplishment	27.34 (4.08)	28.51(4.38)	28.53 (4.12)	27.28 (4.40)	28.02 (4.73)	27.93 (3.29)
P value	0.306		0.275		0.946	
Depersonalization	9.61 (3.84)	11.45 (10.10)	9.50 (3.71)	12.04 (11.11)	10/64 (9/20)	10/75 (4/13)
P value	0.386		0.231		0.964	
Spiritual intelligence						
Critical Thinking	17.38 (5.15)	14.35 (4.40)	15.65(4.09)	15/84 (5/97)	15.56 (4.81)	16.43 (5.39)
P value	0.020*		0.891		0.558	
Personal Meaning	12/80 (2/93)	12/22 (3/44)	12.71 (2.84)	12.20(3.66)	12.71 (3.06)	12.00 (3.68)
P value	0.500		0.549		0.461	
Transcendental Awareness	10.73 (3.24)	9.87 (3.09)	10.09 (2.26)	10.48 (4.08)	10.43 (3.30)	9.93 (3.02)
P value	0.311		0.652		0.605	
Conscious State Expansion	8.57 (3.80)	7.77 (3.61)	8/15 (3/34)	8/12 (4/16)	7.89 (3.80)	8.81 (3.29)
P value	0.418		0.971		0.404	

Table 4: The relationship between the dental residents' burnout dimensions and spiritual intelligence subscales

		Critical Thinking	Personal Meaning	Transcendental Awareness	Conscious State Expansion
Emotional exhaustion	Pearson correlation	-0.056	-0.411*	-0.126	-0.006
	P value	0.679	0.002	0.352	0.963
Reduced Personal Accomplishment	Pearson correlation	-0.240	-0.345*	-0.280*	-0.268*
	P value	0.072	0.009	0.035	0.044
Depersonalization	Pearson correlation	-0.051	-0.057	-0.089	-0.051
	P value	0.706	0.674	0.511	0.709

the participants experienced a low degree of emotional exhaustion and 91.2% experienced high levels of burnout in reduced personal accomplishment domain. Only those who had higher scores in three domains of spiritual intelligence, including personal meaning, transcendental awareness, and conscious state expansion had lower scores in the reduced personal accomplishment domain. In addition, personal meaning showed a reverse relationship with emotional exhaustion.

Emotional exhaustion is the most important domain among the three dimensions of burnout questionnaire. Emotional exhaustion was the least affected dimension in dental residents. 64.9% of the residents experienced low burnout in the emotional exhaustion domain. The finding was in line with a similar study conducted among dental residents in Isfahan.(16) It might occur due to similar educational programs for dental residents across the country. However, in other countries the results were not similar to those of the current study. Dental students at a university in Mexico experienced high burnout in the emotional exhaustion domain.[9] The higher burnout in other countries might be due to strict educational rules and different cultural contexts.

Among the burnout dimensions in the present study, reduced personal accomplishment was the most affected dimension. Most of the residents (91.2%) experienced high burnout in the reduced personal accomplishment dimension, while in Isfahan, only 27.8 % of the residents had a high level of reduced personal accomplishment [14]. Their residents were mostly older than those in this study. Since the Shiraz dental residents were mostly young and had little experience in dentistry, it seems reasonable that they felt more burnout in the personal accomplishment dimension.

Similar to our results, Harizanova et al. found that gender differences itself could not be responsible for differences in stress and burnout.[20] However, a study carried out by Islamipour et al.[6] in Isfahan found that emotional exhaustion and depersonalization were higher in men. Divaris et al.[22] showed that female dental residents in Switzerland had a higher levelof job burnout and stress than men.

The level of spiritual intelligence was moderate among the participants. Therefore, promoting spiritual intelligence can help the individuals to overcome the burnout syndrome such as reduced personal accomplishment.

Marital status, gender and educational year had no significant relationship with spiritual intelligence domains. Only, the mean score of critical thinking in men was significantly higher than women in this study. However, Ahangar et al.[18] reported significant

differences between genders in four dimensions of spiritual intelligence among university students. Men had higher scores than women in all dimensions of spiritual intelligence.

In the current study, residents with lower scores in three domains of spiritual intelligence, including personal meaning, transcendental awareness, and conscious state expansion had significantly higher levels of reduced personal accomplishment domain. It can be concluded that young dental residents without the ability to have mission in life had lower self-competency and personal accomplishment. Although there was no similar study in dentistry and the interpretation of the results is limited to some extent, the result was in line with those of previous studies performed among teachers,[7] and employees.[21] In addition, the mentioned researches[7, 21] reported a significant association between all burnout domains with spiritual intelligence.

Personal meaning was inversely related to emotional exhaustion. As personal meaning helps the individuals to have purpose in life,[4] individuals with higher personal meaning can manage their pressures at work and reduce emotional exhaustion. This finding was consistent with a similar study in rescue workers.[5]

As dental residents are being exposed to educational and clinical stressors, considering the burnout in this population seems essential. However, most studies on burnout have been performed previously among dentists worldwide.[6, 10, 13] The current study could demonstrate the profile of burnout among dental residents that could have benefits for implementing preventive or interventional plans in educational settings. Another advantage of the current study was to consider the impact of spiritual intelligence on burnout that has not been considered in previous studies among dental residents.

One of the limitations of this study was the low number of residents in each educational group; in addition, the poor cooperation of some participants resulted in the loss of 15 residents. Another problem was insufficient attention of the participants in completing the questionnaires. Similar studies should be performed in other dental schools across the country to provide sufficient evidence in burnout and spiritual intelligence for national interventional programs.

Conclusion

Dental residents in Shiraz Dental School experienced high degrees of burnout in the reduced personal accomplishment domain as well as low levels of burnout in the emotional exhaustion domain. The level of spiritual intelligence was moderate among the participants. In general, the higher scores of spiritual intelligence dimensions were connected to lower reduced personal accomplishment as a main dimension of burnout. Policy makers in educational settings are expected to adopt various methods to tackle burnout and improve spiritual intelligence, such as holding relevant and continuous training courses and workshops.

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