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Characteristics and Associated Factors of Burn-out among Moroccan Dentists

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ABSTRACT

Objective: Burnout is a real threat for healthcare professionals and is growing exponentially in our modern societies. Our study aims to determine the prevalence of burnout among dentists in Rabat, Sale, and Kenitra region and look for the associated factors.

Method: This is a descriptive and analytical cross-sectional epidemiological study carried out in 2019 with a group of 120 dentists using a self-administered questionnaire; burnout was assessed by the French version of the Maslash Burnout Inventory (MBI).

Results: A total of 100 dentists participated in the study (response rate of 83.33%) with a female predominance at 56% and an average age of 38 years. Severe burnout affected 25% of participants, and only 3% presented low burnout for all three dimensions (According to Maslach's Burnout Inventory). The percentages of the MBI sub-dimensions were as follows: 47% had high emotional exhaustion, 51% had high depersonalization, and 42% had low personal fulfillment. High depersonalization was associated with unmarried status ($p = 0.019$) and working alone ($p = 0.002$).

Conclusion: 25% of the dentists in our study were affected by severe burnout, which presents a worrying result proving that burnout is a reality in our country. The contributing factors were working alone in the office and being unmarried, and the essential protective element seemed to work in association.

Keywords: Burn-out, Dentist, Morocco, Emotional Exhaustion, Depersonalization, Personal Achievement.

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INTRODUCTION

In 1980, Herbert J. Freudenberger published a remarkable book dealing with burnout. At the beginning of his work, the author gives us his explanation of the term "Burnout," which he translates into French by the expression: "Internal burn" [1].

"Burnout," also called professional burnout, is a mental health impairment related to work and has three dimensions: emotional exhaustion, depersonalization, and reduced personal fulfillment. Emotional burnout is the depletion of one's emotional resources.

Depersonalization refers to a negative, cynical, and detached approach to those in care. Reduced self-realization evokes feelings of self-efficacy and negative emotions towards oneself [2-4].

The simultaneous presence of these three components differentiates burnout from stress and other psychological conditions with which it shares similar symptoms such as depression, fatigue, anxiety, or lack of motivation. Burnout is also different from stress in the prolonged symptoms. It arises from the stress associated with the social relationship between an assistant and a recipient of aid, typically found in asymmetric working relationships. The victim is the "giver" and the client or "recipients." This is generally the case with professionals such as doctors, nurses, teachers, or social workers [5-7].

Poor work-related mental health is associated with enormous economic costs. The European Agency for Safety and Health at Work estimated that the annual financial cost of work-related stress disorder in the EU was around € 20 billion (about USD 25 billion) in 2002. A Supportive psychological work environment is, therefore, in the best interests of both employers and employees. This has been recognized not only by health promotion policymakers as a way to reduce health inequalities but also by some institutions with varying degrees of success [8-11].

To better understand the elements involved in the burnout of Moroccan dentists in Rabat, Sale, and Kenitra region, we conducted a cross-sectional epidemiological study to improve the means to counter it.

METHODS

Objectives

Our study aimed to assess the prevalence of burnout among dentists in Rabat, Sale, and Kenitra region and find the factors associated with burnout in the same area. Our perspective is to extend the study, subsequently, to the other areas of Morocco or even of interest to the entire national territory: National study.

Inclusion and exclusion criteria

Included were general practitioners working in the private sector of the RABAT-SALE-KENITRA region and appearing on the official list of the order of dentists.

Dentists practicing an exclusive specialty were excluded to compare the dentists practicing the same general practices while having a significant sample (sufficient staff).

Sample

This is a descriptive and analytical cross-sectional epidemiological study carried out from 12/18/2018 to 03/20/2019 in the RABAT-SALE-KENITRA region on a sample of dentists from the private sector.

Study Size : 120 Patients.

t: Confidence level (the typical value of the 95% confidence level will be 1.96)

p = Expected Proportion = 8.5%

m = Marginal Error Rate = 0.05

$n = 1{,}96^2 \times 0{,}085 \times 0{,}915 / 0{,}05^2 = 119{,}51$

Estimated minimum sample size = 120.

Burnout was assessed by the French version of the Maslash Burnout Inventory (MBI). Fig. 1-2 20 questionnaires were excluded because they did not meet the inclusion criteria. The final number of questionnaires used was 100, or 83% of all the practices visited.

The paper version of the questionnaire was completed from a direct interview or by the dentist himself. The computerized questionnaire was sent to the dentist by email or by various social networks.

Statistical analysis:

The results were analyzed using the Statistic package for social science (SPSS version 13.0) software for Windows.

The qualitative variables were expressed in number and percentage.

The comparison of qualitative variables was performed using the "chi-square" test or Fisher's exact test, and Student's t-test made that of the quantitative variables. The difference is considered statistically significant if the p-value is less than 0.05.

Multinomial logistic regression was used to find explanatory factors for burnout in its three dimensions: emotional exhaustion, depersonalization and personal fulfillment.

	ITEM	FREQUENCY						
1	I feel emotionally drained from my job	0	1	2	3	4	5	6
2	I feel exhausted at the end of my working day	0	1	2	3	4	5	6
3	I feel tired when I wake up in the morning and have to face another day of work	0	1	2	3	4	5	6
4	I can easily understand what my patients are feeling	0	1	2	3	4	5	6
5	I feel like I am taking care of some patients	0	1	2	3	4	5	6
6	Working with people throughout the day takes a lot of effort	0	1	2	3	4	5	6
7	I take care of my patients' problems very effectively	0	1	2	3	4	5	6
8	I feel like I'm cracking up because of my job	0	1	2	3	4	5	6
9	I feel, through my work, that I have a positive influence	0	1	2	3	4	5	6
10	I have become more insensitive to people since I started working	0	1	2	3	4	5	6
11	I'm afraid this job will harden me emotionally	0	1	2	3	4	5	6
12	I feel full of energy	0	1	2	3	4	5	6
13	I feel frustrated with my job	0	1	2	3	4	5	6
14	I feel that I am working "too hard" in my job	0	1	2	3	4	5	6
15	I don't really care what happens to some of my patients	0	1	2	3	4	5	6
16	Working in direct contact with people stresses me out too much	0	1	2	3	4	5	6
17	I easily manage to create a relaxed atmosphere with my patients	0	1	2	3	4	5	6
18	I feel refreshed when in my work I have been close to my patients	0	1	2	3	4	5	6
19	I did a lot of worthwhile things in this job	0	1	2	3	4	5	6
20	I feel at the end of my rope	0	1	2	3	4	5	6
21	In my work I deal with emotional issues very calmly	0	1	2	3	4	5	6
22	I feel my patients blame me for some of their problems	0	1	2	3	4	5	6

Figure 1: Maslach Burnout Inventory Test - MBI [2].

	Degree of burnout		
	Low	**Moderate**	**High**
Emotional exhaustion questions: 1.2.3.6.8.13.14.16.20	total < 17	total 18-29	total > 30
Depersonalization questions: 5.10.11.15.22.	total < 5	total 6-11	total > 12
Personal achievement questions: 4.7.9.12.17.18.19.21.	total > 40	total 34-39	total < 36

Figure 2 : Calculation of the MBI scale index [2].

RESULTS

Demographic and professional characteristics of dental surgeons (Table 1)

Clinical characteristics of dental surgeons

Twenty-five dentists (25%) presented complete high burnout: high emotional exhaustion, depersonalization, and low personal achievement. Three dentists (3%) showed common burnout. (Table 2)

Correlation between emotional exhaustion and the different variables

The comparison of qualitative variables was performed using the "chi-square" test or Fisher's exact test. Student's t-test made that of the quantitative variables. The difference is considered statistically significant if the p-value is less than 0.05.

59.1% of dental surgeons between the ages of 40 and 50 had a high emotional exhaustion level, which was statistically insignificant (p = 0.296). There is not a clear difference concerning sex (p = 0.955). The lowest emotional exhaustion occurs when the number of years of exercise increases (12.67 ± 11.54 years), which is statistically insignificant (p =

0.913). On the other hand, the highest emotional exhaustion was observed among dentists who do not work by appointment (54.3%), with an increased workload (45.7%) among surgeons, Married dentists (52.7%), as the number of children increases, and among dentists practicing alone (50%). All the differences are statistically insignificant. (Table 3)

Correlation between depersonalization and the different variables

The high depersonalization was statistically significant in 59.1% of Married dentists (p = 0.014) and in 54.5% of dentists exercising alone (p = 0.008). (Table 4)

Correlation between personal achievement with different variables

Dentists with low personal achievement had an average practice year of 10.31 years. As the number of years of exercise increases, so does personal achievement. This result is statistically significant (p = 0.025). (Table 5)

Factors associated with emotional exhaustion

No statistically significant correlation was found between the different parameters and emotional exhaustion. (Table 6)

Factors associated with depersonalization

By adjusting for age, sex, marital status, number of dependent children, number of years in practice, number of working hours, change in workload, type of exercise, and work by appointment, only marital status and type of work influence the onset of depersonalization. (Table 7)

Factors associated with personal achievement

No statistically significant correlation was found between the various parameters and personal achievement. (Table 8)

Table 1: Demographic and professional characteristics of the dental surgeons surveyed.

Characteristics	Values (N = 100)
Sex	
- Women	56 (56%)
- Men	44 (44%)
Age	
- 23- 40 years old	63 (63%)
- 40-50 years old	22 (22%)
- >50 years old	15 (15%)
Marital status	
- Single	22 (22%)
- Married	74 (74%)
- Divorced	4 (4%)
Number of dependent children	
- 0	37 (37%)
- 1	22 (22%)
- 2	29 (29%)
- 3	9 (9%)
- 4	3 (3%)
Number of years of practice (years): M +/- SD	12,09 +/- 9,883
Type of exercise	
- Exercise alone	88 (88%)
- Exercise in association	12 (12%)
Work by appointment	
- 23- 40 years	60,30 (60,30%)
- 40-50 years	68,20 (68,20%)
- >50 years	80 (80%)
Number of working hours per week (hours)	33,75 +/- 7,952
Number of working days per week	
- 4	2 (2%)
	44 (44%)

- 5 - 6	54 (54%)
Workload - Increased - Stable - Decreased	 35 (35%) 41 (41%) 24 (24%)
Increased workload by age group - 23- 40 years - 40-50 years - > 50 years	 44,40 (44,40%) 22,70 (22,70%) 13,30 (13,30%)

Table 2: Distribution of dental surgeons according to their level of burnout.

Dimensions	Emotional exhaustion	Depersonalization	Personal achievement
Low	27(27%)	17(17%)	42(42%)
Moderate	26(26%)	32(32%)	21(21%)
High	47(47%)	51(51%)	37(37%)

Table 3: Correlation between emotional exhaustion and the different variables.

	Emotional exhaustion (EE)			
	Low	**Moderate**	**High**	P
Age group (years)				
- 23-40	25,4%	27%	47,6%	0.296
- 40-50	27,3%	13,6%	59,1%	
- >50	33,3%	40%	26,7%	
Sex				
- Men	27,3%	27,3%	45,5%	0.955
- Women	26,8%	25%	48,2%	
Number of years of practice (years): M +/- SD	12,67±11,546	11.50±10.768	12.09±8.454	0,913
Work by appointment	30,8%	26,2%	43,1%	0.452
Workload - Increased	31,4%	22,9%	45,7%	0.873
Marital status - Married	23%	24,3%	52,7%	0,281
Number of dependent children - 4	0	0	100%	0,674
Type of exercise - Exercise alone	23,9%	26,1%	50%	0.148

M : mean SD : standard deviation

Table 4: Correlation between depersonalization and the different variables.

	Depersonalization (D)			P
	Low	Moderate	High	
Age group (years)				
- 23-40	14,3%	34,9%	50,8%	0.797
- 40-50	18,2%	27,3%	54,5%	
- >50	26,7%	26,7%	46,7%	
Sex				
- Men	15,9%	25%	59,1%	0.322
- Women	17,9%	37.5%	44,6%	
Number of years of practice (years)	14,47±12,2	11,28±8.756	11,8±8,92	0.542
Work by appointment	16,9%	32.3%	50,8%	0.996
Workload - Increased	17,1%	31.4%	51,4%	0.89
Marital status - Married	12,2%	36.5%	51,4%	**0.014***
Number of dependent children - 4	0	66,7%	33,3%	0,507
Type of exercise - Exercise alone	12,5%	33%	54,5%	**0,008***

*: statistically significant difference

Table 5: Correlation between personal achievement and the different variables.

	Personal Achievement (PA)			P
	Low	Moderate	High	
Age group (years)				
- 23-40	47,6%	23,8%	28,6%	0.15
- 40-50	40,9%	13,6%	45,5%	
- >50	20%	20%	60%	
Sex				
- Men	40.9%	18,2%	40,9%	0.725
- Women	42,9%	23,2%	33,9%	
Number of years of practice (years)	10,31±8.666	9,57±8,286	15,54±9,883	**0.025***
Work by appointment	40%	15,4%	44,6%	0.053
Workload - Increased	37.5%	25%	37,5%	0.953
Marital status - Married	44,6%	21,6%	33,8%	0.4
Number of dependent children - 4	66,7%	0	33,3%	0,824
Type of exercise - Exercise alone	42%	21,6%	36,4%	0,904

Table 6: Factors associated with emotional exhaustion in univariate and multivariate analysis.

Associated factors	Univariate analysis			Multivariate analysis		
	OR	CI 95%	p	OR	CI 95%	P
Age (years)	0,001	[-0,33-0,35]	0,941			
Sex						
- Men	-0,79	[-0,817-0,658]	0,833			
Marital status						
- Single	0,463	[-1,537-2,463]	**0,129**	0,868	[-1,181-2,917]	0,406
- Married	1,228	[-0,673-3,130]		1,169	[-0,773-3,111]	0,238
Number of dependent children	**0,379**	**[0,034-0,724]**	**0,027***	0,220	[-0,215-0,654]	0,322
Number of years of practice (years)	-0,03	[-0,040-0,034]	0,874			
Number of working hours per week (hours)	-0,009	[-0,055-0,037]	0,699			
Evolution of the workload						
- Increases	0,054	[-0,909-1,017]	0,665			
- Stable	0,373	[-0,570-1,316]				
Type of exercise						
- Exercise alone	1,137	[-0,007-2,282]	**0,049***	0,883	[-0,336-2,103]	0,156
Work by appointment	-0,49	[-1,272-0,292]	0,215			

* p <0.05
OR: Odds-Ratio
CI: 95% confidence interval (lower limit - upper limit)
Significance threshold (univariate) p <0.2

Table 7: Factors associated with depersonalization in univariate and multivariate analysis.

Associated factors	Univariate analysis			Multivariate analysis		
	OR	CI 95%	p	OR	CI 95%	P
Age (years)	-0,006	[-0,041-0,028]	0,731			
Sexe						
- Men	0,478	[-0,284-1,239]	0,218			
Marital status						
- Single	**1,976**	**[-0,118-4,069]**	**0,093**	**2,586**	**[0,432-4,741]**	**0,019***
- Married	**1,999**	**[0,015-3,982]**		**2,244**	**[0,247-4,242]**	**0,028***
Number of dependent children	-0,004	[-0,337-0,328]	0,979			
Number of years of practice (years)	-0,013	[-0,051-0,025]	0,516			
Number of working hours per week (hours)	0,007	[-0,040-0,054]	0,763			
Evolution of the workload						
- Increases	0,034	[-0,953-1,021]	0,997			
- Stable	0,029	[-0,928-0,986]				
Type of exercise						
- Exercise alone	**1,687**	**[0,519-2,856]**	**0,005***	**1,971**	**[0,737-3,206]**	**0,002***
Work by appointment	-0,016	[-0,798-0,766]	0,968			

Table 8: Factors associated with personal achievement in univariate and multivariate analysis.

Associated factors	Univariate analysis			Multivariate analysis		
	OR	CI 95%	p	OR	CI 95%	P
Age (years)	**0,044**	**[0,008-0,079]**	**0,015***	0,049	[-0,102-0,200]	0,526
Sexe - Men	0,184	[-0,551-0,919]	0,625			
Marital status - Single - Married	0,306 -0,226	[-1,677-2,289] [-2,097-1,644]	0,514			
Number of dependent children	0,066	[-0,260-0,392]	0,698			
Number of years of practice (years)	**0,047**	**[0,007-0,086]**	**0,018***	-0,009	[-0,175-0,157]	0,917
Number of working hours per week (hours)	0,017	[-0,029-0,064]	0,447			
Evolution of the workload - Increases - Stable	-0,101 -0,186	[-1,038-0,836] [-1,153-0,782]	0,931			
Type of exercise - Exercise alone	-0,118	[-1,240-1,003]	0,839			
Work by appointment	**0,547**	**[-0,227-1,322]**	**0,156**	0,428	[-0,362-1,218]	0,289

DISCUSSION

Among the 120 people questioned, 100 (or 83.33%) completed the questionnaire. We noted a high prevalence of burnout among dentists (39%), which is an alarming result. 25% of them had a high burnout for all three dimensions, and only 3% had a low burnout. Regarding the three dimensions of burnout, the results were as follows: 47% had high emotional exhaustion, 26% moderate, and 27% had a low degree of emotional exhaustion. 51% of the dentists surveyed had a high degree of depersonalization, 32% medium, and 17% had a low level of depersonalization. 42% of practitioners experienced an intense loss of personal achievement, 21% an average loss of achievement, and 37% a slight decrease in individual achievement.

According to a French study launched in 2017 by the National Council with the collaboration of the National Academy of Dental Surgery (ANCD), 2,378 practitioners declared themselves to be in a situation of professional burnout out of the nearly 6,800 who responded to this survey. Or 35%. According to this study, 44% of practitioners had a high level of emotional exhaustion, 27% a moderate level, and 29% a low level. And 34% of respondents had a strong sense of depersonalization. While 32% had moderate depersonalization and 34% had intense depersonalization. 32% of practitioners experienced a substantial loss of self-achievement, 27% a medium loss of achievement, and 41% a slight decline in achievement [12]. We, therefore, note that despite the difference between the two studies, the results remain alarming with a higher prevalence in our study for the three parameters of burnout.

In 2014, a descriptive cross-sectional study on a sample of 300 doctors in training at the Ibn Rochd University Hospital in Casablanca presented a response rate of 63.7% with a female predominance (79.1%) and an average age of 26.7 years (SD = 3). Severe burnout affected 31.8% of participants [13].

Our study shows that women are less likely to depersonalize the helping relationship than men. According to a survey by Brake H et al., it was found that male dentists reported a higher score than female dentists for the depersonalization dimension of MBI [14]. Maslach believes that the different attitudes of men and women might play a role, with men having more instrumental attitudes and women having more emotional, empathetic attitudes [15]. Our study found that men worked longer hours than women, but this difference was very small. On the other hand, women work more in association than men. Women are therefore less isolated than men in their work and can talk more about their problems at work.

Married dentists were more emotionally exhausted (high degree of emotional exhaustion). This may be due to the mismanagement of time between private and professional life since

most married dentists worked an average of 5 and a half days per week. This goes against AA's studies. Martinez [16] and EJ. Kay [17] says marriage is a protective factor against burnout.

On the other hand, having children does not seem to be a protective factor against burnout. More than half of the dentists included in the study with children experienced high emotional exhaustion. In addition, emotional exhaustion seems to increase as the number of children increases which remains statistically insignificant.

On the other hand, working alone is significantly correlated with depersonalization ($p = 0.005$). The degree of depersonalization increases if you work alone and decreases if you work in association. This may be due to the increased workload if you work alone. Even if collaborators or employees are additional responsibilities for the healthcare professional, they protect him against isolation and decrease professional stress if relations are good. In addition, they can decrease the number of patients seen per day and therefore spend more time per patient [18-21].

According to our study, the age group most affected by emotional exhaustion was 40 to 50 years old, with 59.1% of dentists in this age group experienced high emotional exhaustion. However, as in the literature, we do not find a significant correlation between burnout and the age of practitioners [22-24].

Regarding personal achievement in our study, it increases as age increases. It was described in Puriene A. et al's study of satisfaction among dental surgeons that increasing age had a significant positive impact on the overall job satisfaction of dentists [25]. In contrast, age was not significantly related to job satisfaction in a South Korean study [26]. In addition, according to our research, we found that personal accomplishment also increased according to the number of years of exercise, which is statistically significant. We can say that the experience plays an essential role in the prevention of Burnout.

However, we have not found a link between Burnout and changes in workload, unlike other studies [15,27]. It is indeed known that a heavy workload can lead to emotional exhaustion. Freeman and Main [26] have established a series of preventive strategies that ensure mental health when applied to clinical activity. The first step is to assess the sources of stress and then put a specific method to combat them. Ideally, professional help should be sought from the assessment phase.

Many techniques exist to release stress and are recommended by specialists: doing activities that are not related to our work, such as reading or joining a sports team, having leisure activities that will constitute an escape, to discern between things for those on whom we should be stressed and for those whom we should not, are between patients, to try to look for the early signs of problems and not to self-treat when there is a problem and maintaining a mode healthy living, including adequate sleep [28-30].

At the collective level, we must insist on the importance of the reorganization, the allocation of the equipment necessary for quality work, essential premises (staff room in the department, relaxation rooms near the operating room, guard room far from the constant alarms of the intensive care unit or the telephones of the service, correct office, etc.), of the balance between clinical work and transversal activities, research or continuing education [31-33].

Limitations of the study

We wanted to collect our data only by phone to have specific contact with each practitioner. However, we were afraid of the problem of sincerity, despite the guarantee of anonymity and confidentiality. The survey could be marred by a more or less significant response bias: practitioners' honesty for specific responses can sometimes be called into question, especially since health professionals tend to deny some of their problems.

The absence of similar studies on dental surgeons in Morocco made it impossible to compare our results with those of previous studies.

On the other hand, burnout is a complex process or condition whose origins and mechanisms are multiple and mutually dependent. We have seen that there are many definitions of burnout. The MBI (Maslach Burnout Inventory) scale only assesses scores (low, medium, or high) in each dimension and does not offer a score that divides between absence or presence of burnout.

CONCLUSION

We carried out this study to find out if dentists in Rabat, Sale and Kenitra region are affected by burnout. We also tried to find the factors associated with it.

25% of the dentists in our study were affected by severe burnout, which remains a worrying result, showing that burnout is a reality in our country.

The favoring factors are working alone in the office and unmarried status, and the essential protective element seems to work in association.

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None.

Authors' contributions

The participation of each author corresponds to the criteria of authorship and contributorship emphasized in the Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals of the International Committee of Medical Journal Editors. Indeed, all the authors have actively participated in the redaction, the revision of the manuscript, and provided approval for this final revised version.

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Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

REFERENCES

[1] Maslach C, Jackson S. The measurement of experienced burnout. J occup Behav. 1981 Apr; 2: 99-113. Doi: 10.1002/job.4030020205

[2] Maslach C, Jackson S, Leiter M. The Maslach Burnout Inventory Manual. The Scarecrow Press. 1997. Zalaquett, R. J. Wood: 191-21.

[3] Weber A, Jaekel-Reinhard A. Burnout Syndrome: A Disease of Modern Societies? Occup Med (Lond). 2000 Sep; 50 (7): 512–517. Doi: 10.1093/occmed/50.7.512

[4] Awa WL, Plaumann M, Walter U. Burnout prevention: A review of intervention programs. Patient Educ Couns. 2010 Feb; 78(2): 184-90. Doi: 10.1016/j.pec.2009.04.008

[5] Zawieja P, Guarnieri F. Épuisement professionnel : Approches innovantes et pluridisciplinaires, Armand Colin, 11-34 - Chapitre 1, 2013, Armand Colin/Recherches, 978-2- 200-28772-6.

[6] Canouï P, Mauranges A. Le burn out à l'hôpital (4e édition). Paris: Elsevier Masson; 2008.

[7] Truchot D. Épuisement professionnel et Burnout: concepts, modèles et interventions. Paris: Dunod, 2004.

[8] Tadeusz M, Schaufeli Wilmar B, Maslach C. Professional burnout: Recent developments in theory and research. (1st Edition). London: Routledge; 2017. Doi: 10.4324/9781315227979

[9] Larouche L. Manifestations cliniques du "burn out" chez les médecins. Santé mentale au Québec. 1985; 10(2): 145–150. Doi: 10.7202/030302ar

[10] Toker S, Biron M. Job burnout and depression: Unraveling their temporal relationship and Considering the role of physical activity. J Appl Psychol. 2012 May; 97(3): 699-710. Doi: 10.1037/a0026914

[11] Leiter M P, Durup J. The discriminant validity of burnout and depression: A confirmatory factor analytic study. Anxiety Stress Coping. 1994 May; 7(4):357-373. Doi: 10.1080/10615809408249357

[12] Bauernhofer K, Bassa D, Canazei M, Jiménez P, Paechter M, Papousek I, et al. Subtypes in clinical burnout patients enrolled in an employee rehabilitation program: differences in burnout profiles, depression, and recovery/resources-stress balance. BMC Psychiatry. 2018 Jan 17; 18(1): 10. Doi: 10.1186/s12888-018-1589-y

[13] El Kettani A, Serhier Z, Othmani MB, Agoub M, Battas O. [Evaluation of burnout syndrome among doctors in training at the Ibn Rochd University Hospital, Casablanca]. Pan Afr Med J. 2017 Aug; 27: 243. Doi: 10.11604/pamj.2017.27.243.6257

[14] Brake HT, Bloemendal E, Hoogstraten J. Gender differences in burnout among Dutch dentists. Community Dent Oral Epidemiol. 2003 Oct; 31(5):321-7.

Doi: 10.1034/j.1600-0528.2003.t01-1-00010.x
[15] Maslach C, Schaufeli WB, Leiter M. Job Burnout. Annu Rev Psychol. 2001; 52:397–422.
Doi: 10.1146/annurev.psych.52.1.397
[16] Martinez AA, Aytes LB, Escoda CG. The burnout syndrome and associated personality disturbances. The study in three graduate programs in Dentistry at the University of Barcelona. Med Oral Patol Oral Cir Bucal. 2008 Jul 1; 13 (7):E444-450. [Accessed 2021 Sep 03]. Available from:
http://www.medicinaoral.com/pubmed/medoralv13_i7_pE444.pdf
[17] Kay EJ, Lowe JC. A survey of stress levels, self-perceived health and health-related Behaviours of UK dental practitioners in 2005. Br Dent J. 2008 Jun 14; 204(11): E19; discussion 622-623.
Doi:10.1038/sj.bdj.2008.490
[18] Ousset M. Prévention et prise en charge du burnout chez le chirurgien-dentiste. Chirurgie. 2015. [Accessed 2021 Sep 03]. Available from:
https://dumas.ccsd.cnrs.fr/dumas-01128525/document
[19] Sassi N, Neveu JP. Traduction et validation d'une nouvelle mesure dépuisement professionnel: Le shirom- melamed burnout measure. Rev Canadi Sci Comportm. 2010; 42(3):177-184. [Accessed 2021 Sep 03]. Available from:
https://psycnet.apa.org/doi/10.1037/a0017700
[20] Mathias S, Koerber A, Fadavi S, Punwani I. Specialty and sex as predictors of depression in dentists. J Am Dent Assoc. 2005 Oct; 136 (10):1388-95. Doi:10.14219/jada.archive.2005.0052
[21] Puriene A, Aleksejuniene J, Petrauskiene J, Balčiūnienė I, Janulytė V. Occupational effects on the family well-being of dentists in Lithuania: a survey of dentists. Medicina (Kaunas) 2011; 47(7):399-404.
Doi:10.3390/medicina47070057
[22] Puriene A, Petrauskiene J, Janulyte V, Balciuniene I. Factors related to job satisfaction among Lithuanian dentists. Stomatologija. 2007; 9(4):109-13. [Accessed 2021 Sept 03].Available From:
https://sbdmj.lsmuni.lt/074/074-03.pdf
[23] Murtomaa H, Haavio-Mannila E, Kandolin I. Burnout and its causes in Finnish dentists. Community Dent Oral Epidemiol. 1990 Aug; 18(4): 208-12. Doi: 10.1111/j.1600-0528.1990.tb00059.x
[24] Pöhlmann K, Jonas I, Ruf S, Harzer W. Stress, burnout and health in the clinical period of dental education. Eur J Dent Educ. 2005 May; 9(2):78-84. Doi: 10.1111/j.1600-0579.2004.00359.x
[25] Puriene A, Aleksejuniene J, Petrauskiene J, Balciuniene I, Janulyte V. Self-perceived mental health and job satisfaction among Lithuanian dentists. Ind Health. 2008 Jul; 46(3):247-52.
Doi:10.2486/indhealth.46.247
[26] Jeong SH, Chung JK, Choi YH, Sohn W, Song KB. Factors related to job satisfaction among South Korean dentists. Community Dent Oral Epidemiol. 2006 Dec; 34(6):460-6.
Doi:10.1111/j.1600-0528.2006.00297.x
[27] Rice CD, Hayden WJ, Glaros AG, Thein DJ. Career changers: dentists who choose to leave private practice. J Am Coll Dent. 1997; 64(1):20-6.
[28] Freeman R, Main J, Burke F. Occupational stress and dentistry: theory and practice. Part II. Assessment and control. Br Dent J. 1995 Mar 25; 178(6): 218-222. Doi:10.1038/sj.bdj.4808717
[29] Gorter RC, Storm MK, te Brake JH, Kersten HW, Eijkman M. Outcome of career Expectancies and early professional burnout among newly qualified dentists. Int Dent J. 2007 Aug; 57(4):279-85.
Doi: 10.1111/j.1875-595x.2007.tb00133.x
[30] Sancho FM, Ruiz CN. Risk of suicide amongst dentists: Myth or reality? Int Dent J. 2010 Dec; 60: 411-418.
Doi: 10.1922/IDJ_2575Sancho08
[31] Miona G, Doppia M-A. Prise en charge des professionnels souffrant de burnout (podcast). Elsevier Masson SAS. 2014 Jun; 18(3): 193-200. Doi: 10.1016/j.pratan.2014.04.002
[32] Brake HT, Bouman A-M, Gorter R, Hoogstraten J, Eijkman M. Professional burnout and work engagement among dentists. Eur J Oral Sci. 2007 Jun; 115(3):180-5. Doi:10.1111/j.1600-0722.2007.00439.x

[33] Gorter RC, Eijkman MA, Hoogstraten J. Burnout and health among Dutch dentists. Eur J Oral Sci .2000 Aug; 108(4):261-7.
Doi:10.1034/j.1600-0722.2000.108004261.x