

# The Risk of Burnout Syndrome and Determining Factors in Dentists from Mureş County

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## ABSTRACT

**Introduction:** In our modern society, burnout syndrome develops over a long period of time because of constant stress and increased emotional pressure. Dentistry is known as one of the most stressful professions. The aim of this study was to determine the incidence of burnout syndrome among dentists in Mureş County, Romania, and to assess the determining factors associated with burnout. **Material and methods:** We conducted an online survey regarding burnout syndrome among dentists. **Results:** The most frequent complaint among respondents was the loss of personal accomplishment, followed by emotional exhaustion and depersonalization. Higher levels of emotional exhaustion and depersonalization were seen in non-married, male dentists between 51–60 years, who worked more than 8 hours a day without an assistant. **Conclusions:** Based on the presented data, the risk factors for burnout syndrome should be brought to the attention of dentists and various preventive programs should be implemented.

**Keywords:** burnout syndrome, dentists, occupational stress

## INTRODUCTION

Burnout is a condition similar to depression, appearing in individuals with increased strain and over-expectation. Research on burnout first appeared in the field of occupational psychology. The concept and syndrome of burnout were defined in 1974 by Herbert J. Freudenberger, a psychoanalyst, who described burnout as an emotional overload that arises because of stress, leading to physical, emotional, and mental exhaustion. There is also a sense of incompetence and loss of hope, goals, and ideals. All these lead to a negative attitude towards one's own person, work, and the people around.<sup>1</sup>

Maslach and Jackson extended this concept by adding the triad of symptoms that are included in burnout: emotional exhaustion, depersonalization, and diminished personal accomplishment.<sup>2</sup> Based on the three main symptoms, Maslach *et al.* created a widely used questionnaire for the quantification of burnout syndrome – the Maslach Burnout Inventory (MBI).<sup>3</sup> Kristensen *et al.* developed a new method to measure burnout in 2005, but most of the literature still uses the MBI questionnaire.<sup>4</sup>

There is growing evidence that the role of social relationships and work environment must be considered when burnout symptoms occur.<sup>5</sup>

Burnout is more common in helping professionals such as physicians, dentists, nurses, social workers, educators, priests, and justice practitioners. According to Shanafelt *et al.*, among all these categories, healthcare workers seem to be the most exposed professional category.<sup>6</sup> This might be due to the fact that most healthcare professionals are severely overworked and emotionally exhausted, with their private lives being affected too, therefore becoming very susceptible to burnout.<sup>7-9</sup> To recognize and treat burnout, it is very important to find out what are the factors that contribute to its development. Amofo *et al.* found that working time plays a significant role in this process, and not finding the right balance between work and private life is also a factor contributing to burnout.<sup>10</sup> Numerous studies have been published on burnout among dentists, who are affected in large numbers by the development of the syndrome.<sup>11-13</sup>

The aim of this study was to assess the risk of burnout syndrome among dentists in Mureş County, Romania, and to identify factors that may be associated with this condition.

## MATERIALS AND METHODS

Dentists in Mureş County were surveyed by means of a quantitative online questionnaire. The population was made up of dentists with a valid e-mail address in the database of the Mureş County Dental Chambers. The study was conducted between April 17 and October 1, 2018. In the first half of the questionnaire, we surveyed socio-demographic data: gender, age, and marital status of the dentist. Subjects were classified into five categories based on age: 25–30 years, 31–40 years, 41–50 years, 51–60 years, and over 61 years.

We surveyed the respondents' work environment, whether they work alone or with colleagues, whether they have an assistant or not, what their specialization is, how long they have been practicing, average hours worked per day at the main workplace and at the secondary workplace if applicable, the quality of their relationships at work,

and how much time do they need to travel to get to work. There were also questions about how often their professional activities are hampered by family duties, if they are suffering from any disease, if they are smoking or drinking alcohol, and how often do they exercise.

To assess burnout, we used the MBI questionnaire, which consists of 22 items.<sup>3</sup> The MBI measures burnout values on three subscales: emotional exhaustion (EE), depersonalization (D), and loss of personal accomplishment (PA). Respondents indicate on a seven-point Likert scale (0 to 6) how relevant each statement is to them.

Nine of the 22 statements of the MBI refer to emotional exhaustion (e.g., “I feel I have lost interest in my work”, “I'm tired of getting up in the morning and facing a new day's work”, “I find it too stressful to work with people”). Five statements measure depersonalization (e.g., “I feel I treat people as impersonal objects”, “I feel like my patients are blaming me for their own problems”, “I feel like my job is emotionally hardening”). Eight statements deal with loss of personal accomplishment (e.g., “I can cope effectively with the problems of people who come to me”, “As I work, I can handle emotional problems with a lot of patience”, “I'm full of energy”).

For each of the three subscales (EE, D, PA), high, medium, and low score categories were identified, which were used to categorize respondents into different risk groups. There is a high risk of burnout if emotional exhaustion is greater than 27 points, depersonalization is greater than 13 points, and loss of personal accomplishment is less than 31 points. Low burnout risk is characterized by emotional exhaustion of less than 16 points, depersonalization of less than 6 points, and loss of personal accomplishment of more than 39 points. Respondents who show neither high nor low burnout risk values may be categorized as having a medium or normal risk.

Statistical analysis of the collected data was performed with GraphPad InStat software, using Pearson's correlation test and the Chi square test.

## RESULTS

The questionnaire was filled in by 206 dentists from Mureş County, of whom 67 were men (32.68%) and 138 were women (67.31%). Most participants were below the age of 40, the 31–40 years age group accounting for 31.7% of the respondents and the 25–30 years group for 30.73%.

More than half of the responding dentists were married (56.09%), and the proportion of single people was 32.68%. Almost 9 percent (8.78%) were divorced, 1.95% were in relationships, and only one person was a widow.

**TABLE 1.** Distribution of respondents by specialization

Specialization	n (%)
Oral surgeon	10 (4.85)
Orthodontist	10 (4.85)
Endodontist	9 (4.37)
Periodontist	12 (5.83)
Prosthodontist	14 (6.8)
General dentist	64 (31.07)
Without specialization	87 (42.23)

Approximately half (45.85%) of respondents had no children, 21.95% had one child, 28.78% had two children, and 3.41% had three children. The average number of children per dentist was 0.89.

The majority (76.58%) of respondents were working in an urban area, 14.14% in a rural area, and 9.26% in both. More than half (61.95%) of the responding dentists were working in teams, 37.56% alone, and one person was working alone in the main workplace and in a team in the secondary workplace. When asked whether they were working with an assistant or not, 61.95% answered 'yes' and 38.04% answered 'no'.

The distribution of respondents by specialization can be seen in Table 1. Two persons replied that they had two specializations.

More than one third (34.63%) of respondents have been in the profession for 1–5 years, 21.46% for 6–10 years, 22.92% for 11–20 years, 9.26% for 21–30 years, 6.34% for 31–40 years, and 5.36% for over 40 years.

More than half of the surveyed dentists worked 6–8 hours a day (53.17%), while 20.48% worked more than 8 hours; 20.97% of the respondents worked 4–5 hours a day, while 5.36% worked 2–3 hours a day.

Most (67.81%) of the surveyed dentists had only one job, while 32.19% worked in a part-time job too. Nearly half (46.96%) of dentists in a part-time job worked 1–2 hours at their second job, 31.84% 3–5 hours, and 21.21% 5–6 hours.

Almost one third (32.19%) of the respondents were employed, 10.24% worked in a public state-owned dental clinic, 12.19% were renting a private practice, 41.95% had their own private practice, and 3.41% were working in both the public and private sector.

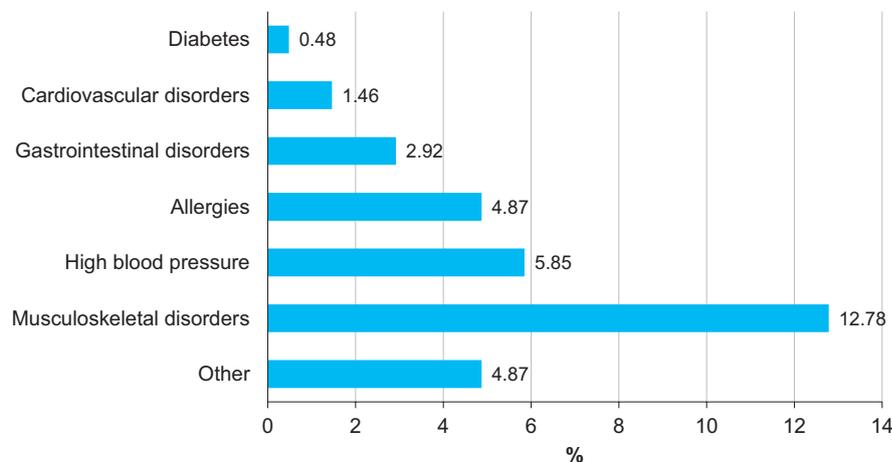
More than half (63.41%) of the dentists surveyed declared that they traveled less than 15 minutes to their workplace, 12.68% traveled 15–30 minutes, and 18.04% traveled 30–45 minutes. Only a small fraction (5.85%) spent more than 45 minutes traveling to work.

Almost a quarter (23.41%) of the dentists who completed the questionnaire declared that family activities never interfered with work, 62.43% were rarely hampered by such activities, 9.26% often, and 4.87% very often.

More than half (63.9%) of responding dentists did not suffer from any disease, while the rest were affected by at least one disease, most often (12.78%) some form of musculoskeletal disorder (Figure 1). Significantly more women were affected than men ( $p = 0.04$ ).

In terms of addictive habits, 77.07% of the surveyed dentists did not smoke. More than a quarter (28.35%) of men and 20.14% of women smoked cigarettes. Regarding alcohol consumption, 35.82% of men and 11.5% of women drank alcohol weekly. Only 11.7% did not drink alcohol at all, 68.78% did so a few times a year, and 13.65% weekly. Only 8.29% reported drinking alcohol several times a week or daily.

Less than a quarter (22.43%) of respondents declared that they never do any kind of sports, 9.26% exercise less

**FIGURE 1.** Distribution of associated diseases by percentage among respondents

**TABLE 2.** Distribution of respondent dentists by age, based on the values of the three subscales of burnout

Burnout subscale	Value of burnout scale	Distribution by age (n)			
		25–30 yrs	31–40 yrs	41–50 yrs	Above 51 yrs
Emotional exhaustion	Low	34	24	15	18
	Medium	19	27	12	16
	High	10	14	11	6
Depersonalization	Low	45	48	24	29
	Medium	15	10	9	5
	High	3	7	5	6
Loss of personal accomplishment	Low	23	24	22	15
	Medium	22	16	5	9
	High	18	25	11	16

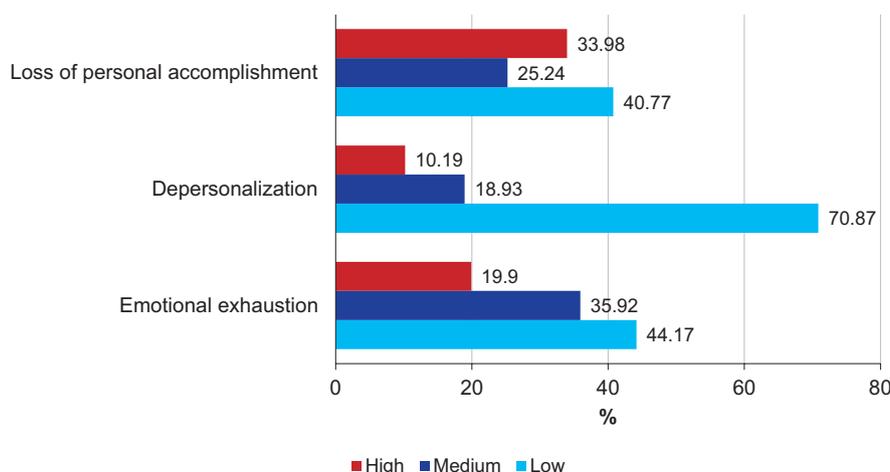
than once a week, 35.12% once a week, 25.36% multiple times a week, and 7.8% daily or almost daily.

The mean score of the emotional exhaustion subscale was 19.12 (SD = 10.19), the depersonalization subscale had a mean score of 4.85 (SD = 4.93), and the loss of personal accomplishment subscale had a mean score of 32.46 (SD = 10.65). The distribution of respondents by burnout subscale is shown in Figure 2, while the analysis by age group is summarized in Table 2.

To sum up the subscales, 39 of the responding dentists (18.94%) had a low risk of burnout, 158 (76.7%) had a medium risk, and 9 (4.36%) showed a high risk. Of the 9 dentists with a high risk of burnout, 7 were male and 2 were female. Of them, 5 were in the 51–60 years age group, 2 were in the 41–50 years age group, and 2 were in the 31–40 years age group; 89% of high-risk dentists worked in an urban area, 77.8% without the help of an assistant, and 88.88% had some type of over-specialization. In total, 88.88% of dentists in the

high-risk group worked more than 8 hours a day. Most of the dentists in this group traveled 15–30 minutes to their workplace and suffered from some form of illness.

Of the 39 dentists with low risk of burnout, 11 were male (28.2%) and 28 were female (71.79%). In terms of age, 28.2% were in the 25–30 years age group, 28.2% in the 31–40 years age group, 15.38% in the 41–50 years age group, and 28.2% were over 50 years old. In this group, 18 dentists were single, without a relationship (46.15%). In the low-risk group, 32 dentists (82.05%) responded that they work in an urban area, and 26 (66.66%) worked with the help of an assistant. There were 15 dentists (38.46%) stating that they did not have any specialization, 14 (35.89%) were general dentists, and 5 (12.82%) were prosthodontists. Six dentists (15.38%) said they work more than 8 hours a day and 30 (76.92%) were spending 15–30 minutes traveling to their workplace. Seven dentists (17.94%) from the low-risk group had musculoskeletal disorders.



**FIGURE 2.** Distribution of responders by each burnout subscale

Significantly more women showed a lower risk of burnout than men ( $p = 0.005$ ). Regarding the marital status of the interviewed dentists, our results showed that significantly more single respondents had a higher risk of burnout than married respondents ( $p = 0.02$ ).

There was no significant difference between respondents who were working in rural versus urban areas regarding the risk of burnout ( $p > 0.5$ ). Significantly more dentists who were working without an assistant showed high burnout risk values ( $p = 0.01$ ).

No significant difference was found between the low- and high-risk groups ( $p = 0.11$ ) regarding the specialization of dentists. However, almost all respondents with a high risk had a specialization (88.88%), while among dentists with a low risk of burnout only 61.53% had a specialization. Areas of specialization for high-risk groups included endodontics, periodontology, and prosthetics.

We found a correlation between working time and burnout. Respondents working more than 8 hours per day were significantly more likely to be in the high-risk group than their peers working less than 8 hours ( $p < 0.001$ ). Also, significantly more dentists working in their own private clinic belonged to the lower risk group ( $p = 0.001$ ).

Regarding sports, we found no significant difference between the low- and high-risk groups. Despite this, 92% of dentists in the low-risk group were practicing sports, compared to only 55.55% of respondents from the high-risk group. However, significantly more female dentists practiced sports compared to men ( $p = 0.003$ ). A very weak correlation was found between burnout risk and practicing sports ( $R = 0.01$ ).

## DISCUSSIONS

Dentistry is recognized as a stressful occupation in the literature, with a higher incidence of various diseases (especially cardiovascular and skeletal muscle disorders), alcoholism, and suicidal tendencies compared to other professions.<sup>14,15</sup>

For dentists, it can be stressful to perform a large amount of work in a small period of time, ... increased number of patients, less time per patient, and longer daily working hours. Older studies also point to the overloading of dentists and the great sense of responsibility that comes with it. In many cases, stress is detrimental to the quality of work and, together with long working hours, has a negative impact on the dentist's mental well-being and family life.<sup>16,17</sup>

The sources of stress can be monotony, lack of novelty, the use of poor-quality materials and tools, and the dis-

satisfaction of patients when they do not appreciate the dentist's work. This can be exacerbated by workplace conflicts and the administrative work involved in the practice. All these factors can contribute to a dentist's low self-esteem.<sup>18</sup> The dentist is expected to be in control of the situation and hide his personal weakness.<sup>19</sup> In today's modern, performance-oriented society, failure is unacceptable, and so there is a denial of burnout, which complicates the research in this area.

In our study, we examined the incidence of burnout and its contributing factors among dentists from Mureş County. The high-risk burnout group included dentists with very high emotional exhaustion and depersonalization values and very low values of personal accomplishment. The low-risk group included dentists with very low emotional exhaustion and depersonalization values, but very high levels of personal accomplishment. Dentists who did not fall into either category were considered to have normal or average risk.<sup>20</sup> Among respondents, we found the subscale of loss of personal accomplishment to be the most problematic, followed by the subset of emotional exhaustion and then depersonalization.

Analyzing the distribution of responses based on gender, women presented a significantly lower risk of burnout. We found contradictory data in the literature regarding burnout and gender. In some countries where cultural habits attribute women a greater role in the household, they were at higher risk of burnout.<sup>21,22</sup> However, in a Danish study, both genders were equally affected.<sup>23</sup>

Our study found that three quarters of dentists with a high risk of burnout were over the age of 41. Similar results were found by Gorter *et al.*, who in their study of Danish dentists found that subjects aged 40–54 years showed a higher burnout rate compared to their younger colleagues. Both the emotional exhaustion and depersonalization subscales showed higher values among middle-aged dentists.<sup>23</sup> A study by Rahul *et al.* also shows that dentists over the age of 40 have a higher risk of burnout than their younger colleagues.<sup>24</sup> Nascimento *et al.* also found higher rates of burnout among respondents who have been in profession for at least 15 years.<sup>25</sup> At the same time, other studies indicate that young people in their early stages of professional development are more prone to develop the syndrome, as they are not yet aware of the causes of burnout, they are struggling harder to meet the high expectations, and they are less emotionally stable than older age groups.<sup>26,27</sup>

We also found that marital status can significantly influenced this risk of burnout, which was higher among dentists who were not married. This can be explained by the fact that people in relationships tend to handle conflicts

better than single people. However, research by Gyórfy *et al.* on Hungarian physicians found no correlation between marital status and burnout.<sup>28</sup>

The respondents' risk of burnout was not influenced by the location of their workplace (urban or rural area), or whether they worked alone or in teams. The literature, however, indicates that dental practitioners who work in teams may have lower levels of emotional exhaustion. According to some authors, discussing professional experiences with colleagues can prevent burnout.<sup>29</sup> Dentists who work alone in the dental office are not able to exchange professional experiences and are more exposed to burnout.<sup>20</sup> The tendency was similar in our study group, but statistically there was no significant correlation. Our study found that dentists working with assistants showed significantly lower levels of emotional exhaustion and depersonalization, and thus had a lower risk of burnout than those working without an assistant.

In our study group, there was no correlation between different dental specialties and the risk of burnout. However, Humphris *et al.* observed lower depersonalization values among orthodontists.<sup>30</sup> In our study, there were no orthodontists among those at a high risk of burnout.

As far as working time is concerned, respondents who worked more than eight hours at their main workplace and additionally at their secondary workplace showed significantly higher levels of emotional exhaustion and depersonalization, and thus had a higher risk of burnout compared to their colleagues who worked fewer hours per day. Numerous studies in the literature indicate that higher workloads entail a higher risk of burnout.<sup>26,28,31</sup> It has also been shown that the high number of repetitive tasks and the monotony of the activity reduces the quality of work and increases the risk of burnout.<sup>32</sup> Research also suggests that dental practitioners who work in public clinics attend more than 15 patients a day without rest and have a higher level of emotional exhaustion and depersonalization than those who work in private clinics.<sup>21,26,32</sup> This data is also supported by the present study.

The phenomenon of burnout is an important public health problem, the effects of which may extend to a physiological, psychological, and behavioral level. In addition, over time, burnout may also lead to the appearance of several other symptoms or conditions.<sup>33,34</sup> For example, some authors have shown a relationship between burnout and depressive symptoms.<sup>21,35</sup>

Gorter *et al.* pointed out that there is a close relationship between burnout and health status. They found that dentists with a high risk of burnout had more health complaints compared to their peers with a low risk, and also

exhibited more unhealthy behavior regarding physical exercise, alcohol consumption, and diet.<sup>36</sup> Other authors have also found associations between burnout and certain general conditions such as circulatory system disorders, high cholesterol, or type 2 diabetes.<sup>22</sup> In the present study, we did not find a significant association between burnout and various general illnesses, but more women were suffering from musculoskeletal disorders than men. In addition, we observed that more than three quarters of low-risk dentists were practicing sports, with significantly more women among them.

It is very important that dentists recognize the factors leading to burnout in a timely manner and avoid them. It is essential for them to participate in professional trainings and to be able to discuss professional experiences with other colleagues, which can contribute to reducing the risk of burnout. Several stress management and psychosocial skills training programs have been launched around the world to prevent burnout. The most popular prevention methods are meditation, relaxation, cognitive behavioral therapy, recognition of daily stressors, biofeedback training, and narrative counseling.<sup>37</sup> In Mureş County, some self-awareness and team building trainings have been launched to identify and manage burnout signs, but they are mainly targeted at educators. It would be important to introduce similar prevention training among doctors and dentists, which would reduce the risk of burnout.

## CONCLUSIONS

In the case of dentistry, several factors associated with a high risk of burnout syndrome have emerged. In our population, the most important factor was extended working hours. About three quarters of the dentists in our study belonged to the group with moderate risk of burnout. With this information in mind, dentists should be aware of the risk factors for burnout, and various prevention programs should be implemented.

## CONFLICT OF INTEREST

Nothing to declare.

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