

# Research Paper Surgeon Health

# Burnout syndrome in oral and maxillofacial surgeons: a critical analysis

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Abstract. The aim of this study was to determine the prevalence of burnout syndrome among Brazilian oral and maxillofacial surgeons and its relationship with sociodemographic, clinical, and habit variables. The sample of this study comprised 116 surgeons. The syndrome was quantified using the Maslach Burnout Inventory (General Survey), which defines burnout as the triad of high emotional exhaustion, high depersonalization, and low personal accomplishment. The criteria of Grunfeld et al. were used to evaluate the presence of the syndrome (17.2%). No significant differences between the surgeons diagnosed with and without the syndrome were observed according to age (P = 0.804), sex (P = 0.197), marital status (P = 0.238), number of children (P = 0.336), years of professional experience (P = 0.102), patients attended per day (P = 0.735), hours worked per week (P = 0.350), use of alcohol (P = 0.148), sports practice (P = 0.243), hobbies (P = 0.161), or vacation period per year (P = 0.215). Significant differences occurred in the variables sex in the emotional exhaustion subscale (P = 0.002) and use or not of alcohol in the personal accomplishment subscale (P = 0.035). Burnout syndrome among Brazilian surgeons is average, showing a low personal accomplishment.

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Stress is inherent to the practice of surgery, but the long-term consequences of stress on the surgeon are unknown. Chronic stress may have important effects on the quality of family relationships and the nature of the doctor-patient relationship, and could influence surgical performance as well.

Burnout syndrome is characterized by a mental and emotional state of tiredness, characterized by feelings of emptiness and negative attitudes to work and life. It appears particularly in health care professionals, associated with human interactions, and starts progressively, affecting the professional as well as their relationship with the patient. It is currently the most common cause of absence from work.<sup>1</sup>

This syndrome may be defined by the work-related triad of high emotional exhaustion, high depersonalization, and a low sense of personal accomplishment. Emotional exhaustion is the feeling of being emotionally overextended and exhausted by one's work. Depersonalization is the adoption of a callous or dehumanized perception of others. Low personal accomplishment is the feeling of

dissatisfaction with one's job-related achievements.<sup>2,3</sup>

Treating patients as objects rather than human beings and becoming emotionally depleted are common symptoms of burnout. Burnout can affect both the physician's satisfaction with their work and the quality of medical care they provide. Additional data suggest that surgeon distress may contribute to their plans to take early retirement or even to abandon their profession. Studies suggest that difficulty balancing personal and professional life, administrative tasks, lack of autonomy,

and patient volume are the greatest sources of surgeon stress.<sup>4</sup>

A limited amount of information exists on the relationship between specific demographic and practice characteristics and professional burnout among Brazilian oral and maxillofacial (OMF) surgeons. For this reason we conducted a survey among surgeons to determine the prevalence of burnout syndrome and to evaluate personal and professional characteristics associated with those surgeons diagnosed with the syndrome.

### Materials and methods

The study design was observational, crosssectional, and questionnaire-based, recruiting Brazilian OMF surgeons. During a meeting in 2010, 116 (out of a total 500) Brazilian OMF surgeons were interviewed. Approval to conduct this research was provided by the institutional ethics committee and all surgeons included in the sample signed an informed consent agreement.

The instrument used to assess burnout syndrome was an adaptation of the Maslach Burnout Inventory (General Survey) (MBI) translated into the Portuguese language, which is made up of 16 statements on attitudes and feelings that cover the syndrome's three basic dimensions, scored on three seven-point scales running from 0 to 6. In this manner, the scale describes each of the three dimensions characterizing professional burnout independently. Emotional exhaustion is assessed with six items, depersonalization with four, and personal accomplishment with six. The cutoff scores used were the same as those used by Maslach et al.<sup>2</sup>

Since there is no consensus in the literature on how to interpret the MBI, it was decided to describe the results according to the criteria used by Grunfeld et al. 6: the presence of any high scores in the emotional exhaustion or depersonalization subscales or a low score in the personal accomplishment subscale is a sign of the syndrome, irrespective of the dimension. 6

The relationship between burnout and socio-demographic (age, sex, marital status, and number of children), clinical (years of professional experience, number of patients attended per day, and number of hours worked per day), and habit (use of tobacco and alcohol, practicing sports, time for hobbies, and vacation period) variables were studied.

Burnout syndrome was classified as present when the surgeon had at least one of the three criteria present (Grunfeld et al.<sup>6</sup>), and as absent if the surgeon had none of them.

Table 1. Burnout syndrome data for Brazilian oral and maxillofacial surgeons.

Burnout indices	Mean (SD)	Cronbach's alpha	n (%)
Emotional exhaustion (EE)	12.11 (8.26)	0.859	
Low score			83 (71.6)
Moderate score			27 (23.3)
High score			6 (5.2)
Depersonalization (DP)	2.16 (3.54)	0.790	
Low score			99 (85.3)
Moderate score			11 (9.5)
High score			6 (5.2)
Personal accomplishment (PA)	30.56 (5.83)	0.891	` ′
Low score	` ′		10 (8.6)
Moderate score			10 (8.6)
High score			96 (82.8)
Total		0.816	` ′
Burned out according to the criteri	a of Grunfeld et al.		
Yes			20 (17.2)
No			96 (82.8)

SD, standard deviation.

The level of internal consistency of the MBI total scale and subscales was verified using Cronbach's alpha. The Pearson  $\chi^2$ test was used to verify the association between two categorical variables, and Fisher's exact test was used when more than 20% of the cells had frequencies lower than five. The significance of differences between socio-demographic, clinical, and habit variables in relation to the subscales were assessed using non-parametric tests: Kruskal-Wallis and Mann-Whitney. Spearman's correlations (used when the distribution was not normal) were obtained between the subscale scores and the numerical variables in the study.

### Results

A total of 116 Brazilian OMF surgeons were interviewed. The MBI scores for each of the three dimensions (emotional exhaustion, depersonalization, and personal accomplishment), as well as the final diagnosis of the syndrome according to Grunfeld et al., are shown in Table 1. The sample showed high scores for emotional exhaustion and depersonalization in only 5%, and a low score was seen for only 8.6% in the personal accomplishment subscale. Cronbach's alpha values were high (0.790-0.891), showing the questionnaire to be reliable. According to the criteria of Grunfeld et al., around 17% of the surgeons had at least one sign of the syndrome.

In the evaluation of the diagnosis of burnout syndrome, there was no significant difference in any of the following variables when comparing the surgeons who were diagnosed with the syndrome to those who were not: age (P = 0.804), sex (P = 0.197), marital status (P = 0.238), and number of children (P = 0.336) (Table 2). There was

no difference whether the surgeon was male or female: 28.6% of the women and 14.7% of the men interviewed had at least one symptom of the syndrome. There was no difference by marital status or number of children: 22.0% of single surgeons and 13.6% of married surgeons had at least one symptom of the syndrome; 22.2% with the syndrome had no children and 11.8% had one or more children. Also, no significant differences were found according to of professional experience vears (P = 0.102), number of patients attended per day (P = 0.735), or number of hours worked per week (P = 0.350) (Table 2).

Table 3 shows the mean and standard deviation subscale scores according to socio-demographic (age, sex, marital status, and number of children), clinical (years of professional experience, number of patients attended per day, and number of hours worked per week), and habit (use of tobacco and alcohol, practicing sports, time for hobbies, and vacation period) variables. Significant differences occurred in the following two variables: sex in the emotional exhaustion subscale (P = 0.002), with a higher mean score for females than males (17.62 vs. 10.89); use or not of alcohol in the personal accomplishment subscale (P = 0.035), with a higher mean score in the personal accomplishment subscale among those who did not use alcohol (32.36 vs. 29.64).

Table 4 shows the Spearman's coefficients for each of the subscales vs. the numerical variables. No significant correlations were found (P > 0.05).

### **Discussion**

Burnout syndrome may affect the professional as well as their relationship with the patient. It is currently the most common

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