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SCIENTIFIC ARTICLE

Prevalence of burnout syndrome among anesthesiologists in the Federal District☆

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Burnout/epidemiology;
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Abstract
Background: Burnout syndrome is a result of chronic stress, characterized by emotional exhaustion, depersonalization, and a sense of low professional accomplishment. It affects workers under extreme responsibility or those who care for individuals at risk, including anesthesiologists who distanced themselves from the work, patients and colleagues because they feel safer in maintaining indifference.
Objective: To evaluate the prevalence of burnout syndrome and the intensity of its components and identify the characteristics of those with the syndrome among anesthesiologists in the Federal District.
Method: A cross-sectional study was carried out with 241 anesthesiologists enrolled in the Society of Anesthesiology of the Federal District. A self-administered questionnaire was used, which included the Maslach Burnout Inventory, demographic, professional, and leisure data.
Results: Of the 134 completed questionnaires (55.8%), there was a predominance of male (65.6%), aged 30–50 years (67.9%). Significant lower levels of job satisfaction (47.7%), depersonalization (28.3%), and emotional exhaustion (23.1%) were found. Burnout syndrome showed a prevalence of 10.4%, occurring mainly in men (64.2%), aged 30–50 years (64.2%), with over 10 years of experience (64.2%), working in night shifts (71.4%), sedentary (57.1%), and not taking courses unrelated to medicine (78.5%). Of the participants, 50.7% had at least one of the three criteria to develop the syndrome and only 8.2% have a low risk to manifest it.

☆ Study conducted at Centro de Anestesiologia of Faculdade de Medicina da Universidade de Brasília (UnB).

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Conclusion: The prevalence of burnout is relevant among anesthesiologists in the Federal District. It is advisable to seek strategies for labor restructuring to reduce stress factors and loss of motivation and increase job satisfaction.

PALAVRAS-CHAVE
Esgotamento profissional/epidemiologia;
Satisfação no emprego;
Saúde do trabalhador/estatística e dados numéricos;
Anestesiologia

Prevalência de síndrome de *burnout* entre os anestesiologistas do Distrito Federal

Resumo
Justificativa: A síndrome de *burnout* (queimar até a exaustão), consequência do estresse crônico, caracteriza-se por exaustão emocional, despersonalização e sentimento de baixa realização profissional. Acomete trabalhadores sob extrema responsabilidade ou que assistem indivíduos sob risco, incluindo anestesiologistas. Podem apresentar distanciamento em relação ao trabalho, pacientes e colegas, por sentirem-se mais seguros ao manter a indiferença.
Objetivo: Avaliar a prevalência da síndrome do esgotamento profissional, a intensidade de seus componentes e identificar características dos seus portadores entre anestesiologistas do Distrito Federal.
Método: Estudo transversal, com 241 anestesiologistas inscritos na Sociedade de Anestesiologia do Distrito Federal. Usou-se questionário autoaplicável que incluiu o Inventário de *Burnout* de Maslach, dados sociodemográficos, profissionais e de lazer.
Resultados: Dos 134 questionários respondidos (55,8%), foram predominantes os preenchidos por homens (65,6%), com faixa de 30 a 50 anos (67,9%). Foram encontrados níveis significativos de baixa realização profissional (47,7%), despersonalização (28,3%) e exaustão emocional (23,1%). A síndrome de *burnout* apresentou prevalência de 10,4%, ocorreu principalmente em homens (64,2%), na faixa de 30 a 50 anos (64,2%), com mais de dez anos de profissão (64,2%), com atuação em plantões noturnos (71,4%), sedentários (57,1%) e que não fazem cursos não relacionados à medicina (78,5%). Dos participantes, 50,7% apresentaram pelo menos um de três critérios para desenvolver a síndrome e apenas 8,2% têm baixo risco para sua manifestação.
Conclusão: A prevalência da síndrome de *burnout* é relevante entre os anestesiologistas do Distrito Federal. É aconselhável buscar estratégias de reorganização laboral para diminuir fatores de estresse e perda da motivação e aumentar a satisfação no emprego.

Introduction

Burnout syndrome was first described by Freudenberger in 1974 as staff burnout.[1] Its occurrence becomes the way found by the individual to cope, although inappropriately, with the occupational stress chronicity. This chronic stress psychologically deranges the professional forcing him to use extra energy resources and inhibiting the actions necessary to deal with this setting.[2,3] The syndrome arises when other strategies fail to deal with stress.[4,5] Depending on the intensity and duration of this status, the individual may suffer serious consequences, both physical and psychological, if he can not restore the previous setting or develop adaptive mechanisms to restore the lost balance.

Currently, the most widely used definition is that proposed in 1986 by Maslach and Jackson, in that emotional exhaustion is referred to as a syndrome consisting of three dimensions: emotional exhaustion, dehumanization, and low personal accomplishment at work. The emotional exhaustion dimension is characterized by the sense of emotional and physical exhaustion. It is the realization that there is no energy left to carry out work activities. The daily life at work becomes arduous and painful.[2,3]

Depersonalization is revealed through attitudes of emotional detachment from people to whom the professional should care for and coworkers. The contacts become impersonal, devoid of affection, and inhuman. Sometimes, the individual begins to show harsh, cynical or ironic behaviors. This dimension is considered the defensive element of the syndrome.[2,3]

Personal achievement in occupational tasks decreases and the individual loses the satisfaction and efficiency at work. There is a feeling of personal dissatisfaction, work loses meaning and becomes a burden.[2,3]

Throughout the development process, the syndrome can be approached from four perspectives: clinical, sociopsychological, organizational, and socio-historical. The clinical perspective comprises the set of symptoms, including physical and mental fatigue, lack of enthusiasm for work and life, and feeling of helplessness and worthlessness.

Socio-psychological conception shows the existence of multidimensional factors, such as negative, cynical, cold, and impersonal interaction with service users, including the decline of idealism and indifference to what might happen to others. The organizational and socio-historical perspectives reflect the labor organization influence on the syndrome development.[6–9]

Several authors recognize the importance of the role played by labor, as well as the implications of social and relational dimension in the syndrome development. In general, any activity can trigger a process of emotional exhaustion. However, some occupations are more likely to have the peculiar characteristics of the syndrome. Occupations whose activities have emotional involvement are considered at higher risk for burnout syndrome, especially those who work directly with other people, assisting them or as responsible for their development and well being. Therefore, people who are dedicated to teaching, nursing, medicine, psychology, and policing are considered more predisposed to the syndrome.[4,5,10,11]

Maslach and Leiter report that ''according to the nature and functionality of the occupation, there are risk and high-risk occupations, with few being low risk for burnout syndrome''. Anesthesiology is considered a specialty that promotes high levels of stress and may result in negative consequences for those who practice it. Therefore, it is classified as high risk.[3,6,10]

The Federal District, whose current population is about 2.5 million, has 391 anesthesiologists registered at the local anesthesiology society (Sadif). There are no reports of the burnout syndrome prevalence among anesthesiologists in that region.

The aim of this study was to evaluate the prevalence of burnout syndrome among anesthesiologists of the Federal District and characterize the intensity of its components. As a secondary objective, we describe the specific characteristics, such as weekly working hours, age group, gender, and time of practice of the study sample.

Method

A quantitative descriptive cross-sectional study was approved by the Ethics Committee of the Faculdade de Medicina da Universidade de Brasília. The sample included 241 of the 391 anesthetists registered with the Society of Anesthesiology of the Federal District, evaluated from March to June, 2011.

For data collection, a standardized, self-administered questionnaire was used, consisting of two parts: the first part consisted of demographic data such as age, sex, marital status, presence of children in the family, and academic training. Professional data were also evaluated, as well as the number and type of employment contracts, weekly working hours, night shifts, job positions, and vacations, in addition to data on leisure and personal habits, such as physical activity, courses, smoking and drinking habits, and illicit drug use. The second part of the questionnaire included the Maslach Burnout Inventory (MBI), a standard tool for studying the syndrome. It is the most widely used questionnaire, already translated, adapted, and validated in Brazil, with 22 questions. The questions from 1 to 9 identify the level of emotional exhaustion, from 10 to 17 are related to job satisfaction, and from 18 to 22 are related to depersonalization.

Table 1 Values of the Maslach Burnout Inventory (MBI) scale developed by the Center of Advanced Studies on Burnout Syndrome.[11]

Dimension (level)	Low	Medium	High
Emotional exhaustion	0–15	16–25	26–54
Personal accomplishment	0–33	34–42	43–48
Depersonalization	0–2	3–8	9–30

The score of the items surveyed by MBI follows the Likert scale, ranging from 0 to 6, that is, from ''never'' to ''every day''. For MBI data analysis, the sum of each dimension was performed (emotional exhaustion, depersonalization, and personal accomplishment). The values obtained were compared with the Center for Advanced Studies on Burnout Syndrome (Nepasb)[11] reference values (Table 1).

The risk for developing the syndrome was determined after analysis of all dimensions. According to MBI, the principle for the diagnosis of burnout is the classification of high scores for the emotional exhaustion and depersonalization dimensions and low scores for the professional achievement dimension. Therefore, the meeting of these three dimensional criteria by the professional indicates the burnout syndrome manifestation, and the presence of two criteria determine high risk for its development. The other items evaluated in the first part of the questionnaire were analyzed using percentages.

Results

The questionnaire was delivered to 241 professionals enrolled in the Society of Anesthesiology of the Federal District. The final sample consisted of 134 anesthesiologists, corresponding to 55.6% adherence, as 107 did not respond to the questionnaire. Analysis of demographic data showed that there was a predominance of male (65.6%), aged 30–50 years (67.9%), married (55.2%), with children (52.3%), and most with the title of specialist in anesthesiology (TEA) (55.9%). Medical specialists represented 16.1% (Table 2). Regarding the sample professional data, it was found that most had fewer than five years of experience in the specialty (41%), up to two centers of professional activity (52.2%), 61–84 h weekly working (44.1%), and night shift (83.5%). About 12% occupy a leading position and 88% had vacation in the previous year (Table 3). Data on leisure revealed regular physical activity in 61.1% and attendance of courses unrelated to medicine in only 17.1%. Low rates of smoking and alcohol consumption (5.9% and 18.6%, respectively) were found. There were no reports of illicit drug use (Table 4).

MBI psychological analysis highlighted that among the levels with the highest prevalence, 45.5% of subjects reported low levels of emotional exhaustion, low job satisfaction was found in 47.7%, and an average level of depersonalization in 48.5%. Regarding the limits established by Nepasb,[11] it was found that 23.1% of anesthesiologists

Table 2 Sample distribution of DF anesthesiologists according to socio-demographic data.

	n (134)	%
Sex		
Female	46	34.3
Male	88	65.6
Age (years)		
<30	29	21.6
30–50	91	67.9
>50	14	10.4
Marital status		
Single	44	32.8
Married	74	55.2
Divorced	5	3.7
Widowed	0	0
Other	11	8.2
Children		
Yes	70	52.2
No	64	47.7
Education		
Doctor in specialization course	22	16.4
Anesthesiology specialization	95	70.7
Anesthesiology superior title (TSA)	8	5.9
Incomplete master's degree	5	3.7
Master's degree	2	1.4
Incomplete PhD's degree	2	1.4
PhD	0	0

Table 3 Sample distribution of DF anesthesiologists according to professional data.

	n (134)	%
Time of practice (years)		
<5	55	41
5–10	23	17.2
11–15	18	13.4
16–20	14	10.4
>20	24	17.9
Number of jobs		
Up to 2	70	52.2
More than 2	64	47.7
Type of employment		
Private service	9	6.7
Statutory public	24	17.9
Temporary public	23	17.1
More than one type	78	58.2
Weekly workload		
Up to 60 h	47	35.1
60–80 h	59	44
Over 80 h	28	20.9
Night shift		
Yes	112	83.5
No	22	16.4
Management position		
Yes	16	11.9
No	118	88
Vacation in the previous year		
Yes	118	88
No	16	11.9

had high levels of emotional exhaustion; there was a low rating of professional achievement in 47.7%, and high level of depersonalization in 28.3%, characteristics that set the diagnosis for the burnout syndrome manifestation or high risk for its development (Table 5).

The burnout syndrome prevalence was 10.4% and occurred mainly in men (64.2%), aged 30–50 years (64.2%), with children (57.1%), and the following other features: title of specialist (42.8%), over 10 years in the profession (64.2%), work in night shifts (71.4%), sedentary (57.1%), and not attending courses or activities unrelated to medicine (78.5%). They were characterized by the prevalence ratio (Table 6). There was no difference between married and unmarried (42.8% for both). No doctor in specialization course had burnout syndrome. Of the 134 participants, 50.7% had at least one of three criteria to develop the syndrome and only 8.2% have low risk for its manifestation.

Discussion

Burnout is a response to chronic labor stress, involves significant behavioral changes in addition to its aggravating sociodemographic, professional, leisure, and lifestyle habit variables. When the anesthesiologist is affected, he will take actions that affect patients, colleagues, and the work itself, because the coping methods become inadequate and flawed.[4,6] Therefore, it is necessary to clarify

Table 4 Sample distribution of DF anesthesiologists according to leisure and personal habit data.

	n (134)	%
Courses (outside the medical field)		
Yes	23	17.1
No	111	82.8
Physical activity		
Yes	82	61.1
No	52	38.8
Smoking habit		
Yes	8	5.9
No	126	94
Alcoholism		
Yes	25	18.6
No	109	81.3
Illicit drugs		
Yes	0	0
No	134	100

Table 5 Prevalence of the Maslach Burnout Inventory (MBI) dimensions.

Dimension (level)	Low	Medium	High
Emotional exhaustion	45.5%	31.3%	23.1%
Personal accomplishment	47.7%	38.8%	13.4%
Depersonalization	23.1%	48.5%	28.3%

the emotional exhaustion among anesthesiologists and its correlations.

The survey was conducted with 55.6% participation of anesthesiologists interviewed at the Anesthesiology Society of Federal District (Sadif), a significant number of respondents, which was 35% higher than the acceptable.[12] The profile of Sadif anesthesiologists is a young, predominantly male population, with less than 10 years of practice, and mostly with a title of specialist in anesthesiology.

Early research on the syndrome began focusing on related issues, such as the emotion that occurs in the workplace, and not as emotional exhaustion. The set of subsequent research was more systematic in evaluating psychological burnout, part of a research program to develop a psychometric tool of standardized measure. Thus, the MBI that evaluates all three dimensions of the syndrome and is considered the standard investigation tool was developed.[6,11]

The most affected dimension in the sample was professional achievement, which was low in 47.7%, similar to the Australian study by Kluger et al., in which the prevalence of low job satisfaction was 36%.[13] This may be due to the feeling of overload by the individual for performing activities that go beyond his ability. Sometimes the staff is reduced compared to the demand for activities and workload. This relationship may be influenced by the health care model adopted in surgical centers, which generates overhead movement and occupational stress. Considering that the need to take immediate and effective decisions is constant, this may leave anesthesiologists with the feeling that the work is not rewarding.[7,14]

Table 6 Association measured by the main variable prevalence ratio in anesthesiologists diagnosed with burnout.

		Prevalence ratio
Sex	Male/female	1.7
Age group (years)	30–50/>50	1.7
Marital status	Married/single	1.6
Children	Yes/no	1.6
Time of practice (years)	>10/up to 10	1.7
Physical activity	Sedentary/practicing	1.3
Management position	No/yes	3.6
Night shift	Yes/no	2.4
Taking courses	No/yes	3.6

In the present study, 10.4% of respondents in Federal District had burnout, a prevalence similar to other classes of professionals also considered at high risk, but with some differences between the evaluated variables. According to some authors, the lower tendency for burnout among physicians in intensive care and oncology is attributed to the marriage or stable union and the fact of having children.[12,15] In this sample, the syndrome was more prevalent in men (64.2%) with children (55.6%) and there was no difference between the marital statuses. We observed a higher prevalence (78.5%) in professionals who do not take courses outside the medical field, which suggests that the practice of this activity can promote stress relief.

Another feature seen in this study was the predominant age group for burnout syndrome, between 30 and 50 years (64.2%). This may suggest that the professionals with lower risk for burnout are those with professional maturity and greater control of their emotions in stressful situations.[14,16] The syndrome's higher prevalence in professionals who do not exercise management positions (78.5%) also draws attention. These elements suggest that authority, support from colleagues, and job satisfaction may be protective factors, which corroborates a study conducted in Austria.[17] Furthermore, the higher prevalence of the syndrome in professionals with exclusively statutory public employment (50%) may indicate the public service lack of working conditions as a potential risk factor.

A peculiarity of the Federal District, not always found in other Brazilian regions, should be emphasized. Over 95% of anesthesiologists in the region work exclusively in anesthesiology, because of the large number of posts available for this specialty in regional public hospitals. Many professionals work in more than one hospital, but always in the same specialty. Thus, we can assume that in this sample, the elements related to other occupational activities did not affect the occurrence of symptoms related to burnout.

Among anesthesiologists, certain factors may be decisive in the development of burnout syndrome. Limitation of time is reported as one of the most common reasons for stress among anesthesiologists, due to the constant pressure to meet schedules, perform procedures quickly, and move between hospitals.[8,9] The factors that contribute to the specific stress of anesthesiologists are the proximity to suffering and death, the physical and emotional needs of patients, the pressure to always get good results even under varying conditions and expectations, and relationships within the work environment. Perhaps the most important among these factors is the relationship and interaction with surgeons, obstetricians, and other professionals in the surgery and post-anesthesia recovery rooms. This type of relationship may involve confusion about the responsibilities of each individual and, because of the hierarchical positions with poorly defined boundaries, there may be disagreements over the way to achieve the goals and select the elements that should be priorities. Sometimes, it even generates conflicts and disputes.[9,16] A certain devaluation of the

professional on the part of health plans may also contribute as a determinant.[18]

There is also the physical stress that results from exhausting factors of surgical environment, including noise pollution, exposure to anesthetic gases, radiation, latex, infections, excessive cold or heat, use of uncomfortable chairs, and even the limited space. Noise overload leads to sympathoadrenal activation in normal people and this response is increased in individuals with chronic anxiety and/or hypertension.[7] The noise in the operating rooms may be enough to cause hyperactivity of the sympathetic nervous system and cognitive and psychological effects. Another important factor is sleep deprivation, because anesthesiology is a specialty that has to provide continuous services to patients. There is also the need to be available 24 h a day throughout the year and the need to work in night shifts for appropriate coverage of scales on duty. All these factors result in fatigue and exhaustion.[7,13,16,19]

As in previous studies, the syndrome was more prevalent in professionals who work in night shifts, because the sleep and fatigue resulting from night work generate lack of agility and attention, slowness of cognitive function and reflexes, in addition to making the individual more impatient with everyday activities. Thus, adequate rest is an additional factor of safety and well being in anesthesiology, whose priority is safety. The personal characteristics mentioned above are not individual triggers of the phenomenon, but facilitators of the action of stressors.[4,14]

This study is the first to provide a profile of anesthesiologists in the Federal District and to assess the prevalence of burnout in this cohort. However, it has some limitations. It is a cross-sectional study that examines the exposure-disease relationship in a given population or sample at a particular moment. It provides a picture of how the variables are related in that particular moment, but without establishing a causal connection. Multivariate analyzes were also not carried out, which are important to reach definitive conclusions.[20] The characterization of alcoholism was flawed because the weekly frequency and the number of doses per day were not adequately detailed in the questionnaire. Furthermore, the use of a self-administered questionnaire can generate differences in interpretation of the questions.

Given the severity of burnout consequences, the health of anesthesiologists requires more attention. From the organizational standpoint, the work in the operating room generates an overload of movement and occupational stress. A periodic monitoring of these professionals' mental and physical health is recommended to reorganize the work process and reduce the stress sources. For this purpose, there are several strategies all with the same goal. The individual's response to stress should be improved through education, seeking to learn methods to deal with the triggering factors. The occupational context improvement with a focus on management strategies is also recommended. Finally, the interaction between the occupational context and the individual and the combination of educational and administrative changes through psychological counseling in multidisciplinary teams is also important.[5,17,19]

Conclusion

The high prevalence of burnout, as well as the high risk for its development among anesthesiologists of the Federal District was disclosed. The implementation of measures to modify these professionals' work conditions and motivation should be considered.

Conflicts of interest

The authors declare no conflicts of interest.

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