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Prevalence of Burnout Syndrome and depression in anesthesiologists of school hospital at the surgical center

Prevalência de depressão e Síndrome de Burnout em anestesiologistas do centro cirúrgico de hospital escola

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RESUMO | INTRODUÇÃO: A presença de Síndrome de Burnout (SB) e Depressão vêm aumentando devido às rotinas extenuantes vivenciadas pelos anestesiologistas. **OBJETIVO:** Identificar a prevalência de Depressão e Síndrome de Burnout em anestesiologistas e residentes desta especialidade médica do Centro Cirúrgico de um Hospital. **MÉTODO:** Estudo transversal, descritivo e exploratório. Participaram da pesquisa 51 profissionais, sendo utilizados dois questionários, ambos autoaplicáveis: os Inventários de Maslach Burnout (MBI) e Depressão de Beck, além de uma breve conversa a respeito da rotina de trabalho dos profissionais. **RESULTADOS:** Para a SB, verificou-se a presença desta em 3 médicos e 5 residentes. Já para a depressão; encontrou-se níveis de mínima (24 indivíduos), leve (4 indivíduos), moderada (4 indivíduos) e grave depressão (1 indivíduo). **CONCLUSÃO:** Embora obtido baixos valores para a SB e Depressão grave, é relevante destacar que sinais e sintomas iniciais destas patologias estão presentes em muitos profissionais, sendo que a persistência da rotina em que se encontram pode acentuar a aparição de ambas.

PALAVRAS-CHAVE: Anestesiologistas. Depressão. Burnout. Saúde do trabalhador.

ABSTRACT | INTRODUCTION: The presence of Burnout Syndrome (BS) and Depression have been increasing, due the strenuous routines experienced by anesthesiologists. **OBJECTIVE:** To identify the prevalence of Depression and BS in anesthesiologists and residents of this medical specialty of a School's Hospital. **METHOD:** Cross-sectional, descriptive and exploratory study. A total of 51 professionals participated in this study It was used two questionnaires, both self-applied: the Maslach Burnout Inventory (MBI) and Beck Depression Inventory, as well as a interview about the work routine of them. **RESULTS:** BS was detected in 3 physicians and 5 residents. Furthermore, for depression (24 individuals), mild (4 individuals), moderate (4 individuals) and severe depression (1 individual). **CONCLUSION:** Although low values are obtained for SB and severe depression, it is important to emphasize that initial signs and symptoms of these pathologies are present in many professionals. Besides that, if the strenuous routine persists it may accentuate or develop the symptons.

KEYWORDS: Anesthesiologists. Depression. Burnout. Occupational health.

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Introduction

The profession of an anesthesiologist is characterized by their work in situations of emergency, with patients that require intensive care, and/or that are suffering acute and chronic pain. These professionals are responsible for pre-anesthetic evaluation, anesthesia administration, and continuous monitoring of patients' vital functions before, during and after the procedure to which they underwent[8,25]. This profession is permeated by stressful situations that require quick decisions and an integral state of attention and readiness[3,24]. In addition to anticipating adverse events, it demands the ability of remaining alert for long periods of relative inactivity, and manifesting instant reactions to critical events[22].

Bearing in mind that it is a class marked by adversities during work periods, in addition to deprivations related to personal life, anesthesiologists are subjected to different sources of stress that may result in cases of depression and Burnout Syndrome[7,20].

Depression manifests itself in different ways for each individual, such as mood changes and/or loss of interest in daily activities. Also, people with depression may present symptoms such as irritability, changes in appetite and weight, sleep disorders, fatigue, loss of concentration and, in more severe cases, it can culminate in suicide[15]. Besides that, depression can be one of the consequences of the development of Burnout Syndrome[6,26].

When analyzing the incidence of depression among the general population, the anesthesiologists and the residents of this area, the percentages obtained are 11%, 31% and 40%, respectively. This higher numbers result from the combination of multiple factors to which this class is exposed, being: personal (requirements such as precision and punctuality, the accumulation of numerous tasks, excessive dedication to work, competitiveness, constant contact with frustrating situations); professional (intense physical and psychological load, exposure to physical, chemical and biological agents); environmental (ergonomic issues, noise, lighting); and institutional (hierarchy, difficulty in interacting with other professionals, inadequate infrastructure)[7,24].

The Burnout syndrome is characterized by the triad: 1) emotional exhaustion, related to physical exhaustion, fatigue; 2) depersonalization, associated to the lack of empathy and difficulty in relating with patients and professional colleagues; and, 3) lack of professional accomplishment, characterized by decreased self-esteem and productivity in relation to work[4,18,26]. This syndrome has proven to be recurrent in anesthesiologists due to the working conditions to which they are submitted to[4], being a physical and emotional response to occupational stress, directly affecting the quality of life and professional performance of these professionals. This is also related to the onset of mental disorders, such as anxiety and depression[20,23], and eating disorders, that may cause changes in weight[9].

According to Nanxi Zha, approximately half of the doctors experience aspects of exhaustion resulting from work. Studies show that the occurrence of Burnout Syndrome is significantly higher in the medical category when compared to other professions[4,19], affecting, thus, the different specialties[19,21]. This is mainly due to the long working hours, the limited number of professionals, the rigid schedules, the lack of autonomy and high turnover, the low pay and the difficulty to balance time between work, home and family - especially for women. Besides, most professionals work in more than one place and have only few hours of sleep, leisure and physical activities[3,7].

Therefore, it is important to emphasize that this context of occupational stress to which doctors and residents are subjected to results in situations of physical and mental fatigue. This fact leads to a decrease in the attention of professionals during procedures, increasing the risks and reducing the quality of the service offered to their patients, absenteeism, work accidents, apathy, and changes in social relationships[3,21,23].

Moreover, the high rates of suicide and violent deaths in the medical class - that are about four times higher when compared to the general population - stand out in this scenario. This fact occurs mainly due to the work stress to which they are submitted to, associated with the development of psychic disorders such as anxiety, anguish and depression throughout their career. Added to this, there is the ease of access to substances and their necessary doses and/or a greater technical skill in how to perform suicide in a

more effective way[17,23]. Suicide is the result of the sum of individual and behavioral health and environmental factors. It is related not only to physical and mental exhaustion, but also to depression and bipolarity[15], and it may be one of the consequences of Burnout Syndrome[26].

Another alternative often found by these professionals is the excessive use of substances such as caffeine, tobacco, alcohol, drugs, and other toxic substances. This becomes a common habit among doctors and residents, as it aims to minimize tensions and possible work frustrations, helping to withstand the periods of stress to which they are subjected[3,25].

Therefore, considering the general panorama regarding the reality faced by anesthesiologists, the objective of this study was to identify the prevalence of Burnout Syndrome and Depression in this population in a Teaching Hospital in Curitiba, Paraná.

Methodology

This is a cross-sectional, descriptive and exploratory study, approved by the Research Ethics Committee of the College of Health Sciences from the Federal University of Paraná. The objective was to identify the prevalence of Burnout Syndrome and Depression in anesthesiologists and residents of this medical specialty that were working at the Surgical Center (SC), considering the period from January to December of 2018.

The inclusion criteria established for the research consisted of: being an anesthesiologist or resident of the specialty in the analyzed SC, regardless their sex, voluntarily agreeing to participate in the study, signing an Informed Consent Form (ICF), as well as working at the Hospital for at least 6 months. Individuals who did not meet the criteria listed above or who were not available to participate (due to their work routine) on the days and periods of data collection were excluded. The selection occurred as indicated in Figure 1.

For the analysis of the participants' mental health risks, two questionnaires were used, both self-administered: the Maslach Burnout Inventory (MBI) and the Beck Depression Inventory.

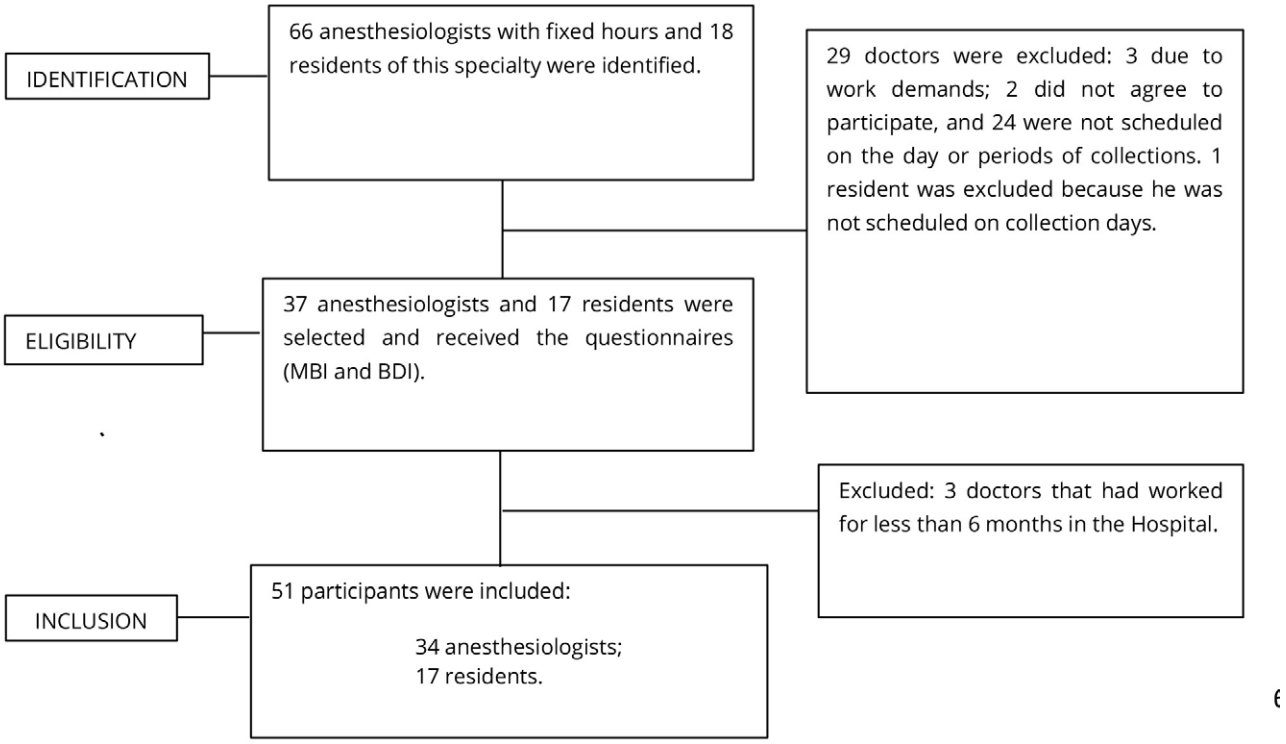
The MBI was used to evaluate Burnout Syndrome (BS). This instrument was created by Christine Maslach and validated in Brazil by Benevides (2001), and in this study the model followed was in accordance with Jodas and Haddad (2009). This is one of the most reliable instruments to evaluate BS, as it evaluates different sub-items. The questionnaire consists of a total of 22 questions addressing emotional aspects in relation to work and the recurrence of these symptoms on a daily basis. They are divided into 9 questions on emotional exhaustion; 5 on depersonalization and 8 on professional achievement. Each of these sub-items can be classified as low, medium and high risk, so that the results can be established (MOREIRA, 2018). In other words, the presence of Burnout Syndrome can be determined when the score is high for items of emotional exhaustion and depersonalization and low for professional achievement[24].

The Beck Depression Inventory, consisting of a self-report scale composed of 21 items, was also used to survey the intensity of depressive symptoms[11].

The participants were 34 anesthesiologists and 17 residents of this specialty who worked in the hospital in which the study was conducted. They had a weekly workload of 30 to 40 hours, according to information provided by the management staff. The average duration of the application of the questionnaires was 20 to 30 minutes. A brief conversation about working time in the hospital, weekly workload and places where they worked concomitantly was included during this period. Some socio-demographic data were also collected from the hospital administration in order to characterize the research sample. The recruitment was based on the daily work schedules, depending on the availability of each doctor/resident, with the approach happening between surgeries or during rest intervals. The participants were invited to the research in the corridors of the Surgical Center or in the Anesthesiologists' Room - a space that is destined exclusively for resting.

A statistician from the Federal University of Paraná used the software R Core Team (2018), version 3.4.4, to test the correlations of the obtained data and to generate the results. The $p<0.005$ shows significant values. Both questionnaires were correlated, as well as each one separately, along with the variables age, sex, employment relationship, and time in function.

Figure 1. Steps in selecting participants for the survey



Results and discussion

51 professionals participated in the study: 34 doctors anaesthesiologists and 17 residents of the specialty, 22 male and 29 female subjects (Chart 1). According to the teaching hospital, a total of 66 doctors and 18 residents were part of its staff, however, some professionals did not adhere to the survey due to time difference between collection and their established schedule (25 participants), high work demand (three participants), and sole refusal to participate (two participants). The mean age of the participants was 36 years, ranging from 25 to 66 years; the mean time the anesthesiologists had been working in their profession was 3 years, ranging from 11 months to 21 years.

According to Chart 1, were predominant married participants (16), employed under the Consolidation of Labor Laws (CLT) regimen, although the presence of other forms of employment contracts, such as Cooperative Agreements and Single Legal Regimes (RJU).

Chart 1. Profile of the sample

Age	Minimum: 25 years old Maximum: 66 years old Average: 36 years old Standard Deviation: 9.72
Sex	Female: 29 individuals Male: 22 individuals
Time working in a determined position at the teachinghospital studied	Minimum: 11 months Maximum: 21 years Average: 3 years
Employment contracts (considering only doctors)	CLT: 19 individuals COOPERATIVE: 8 individuals RJU: 6 individuals
Marital status	Married: 16 individuals Single: 13 individuals

As shown in Chart 1, when considering the prevalence of Burnout Syndrome in health professionals (especially in those from Medicine), its possible consequences, and the population analyzed, a heterogeneous sample was obtained. The work schedules of 30 to 40 hours a week stand out; as well as labor ties from different institutions - implying differences in benefits received, rules to be followed, schedules and remuneration, which may be sources of conflicts and discomfort among professionals. In addition, it is relevant to note that the study participants also work in other sectors of the analyzed hospital, as well as in other hospitals in the city, which increases their workload.

The study showed a higher prevalence of Burnout Syndrome in residents of the anesthesiology area (5), and, consequently, in younger individuals when compared to doctors of the same specialty (3), which corroborate the findings in the literature[12,13]. This is mainly due to the pressure they feel from their superiors, from themselves and from society. In addition, they must comply with strenuous working hours and mandatory activities[28]. This fact may also be associated with the age difference between both groups, since professionals with more experience and mastery of their work present lower rates of the syndrome[1,19].

When comparing the presence of Burnout Syndrome in the two sexes, the results revealed 4 females and 4 males with the Syndrome. The literature is still contradictory. Authors such as Sousa (2018) and França (2012) demonstrate a higher occurrence of the syndrome in women, due to the higher level of stress and the imbalance between family and work activities. Maslach (2001), however, obtained no significant difference between the two sexes after a comparative study[16,25,27].

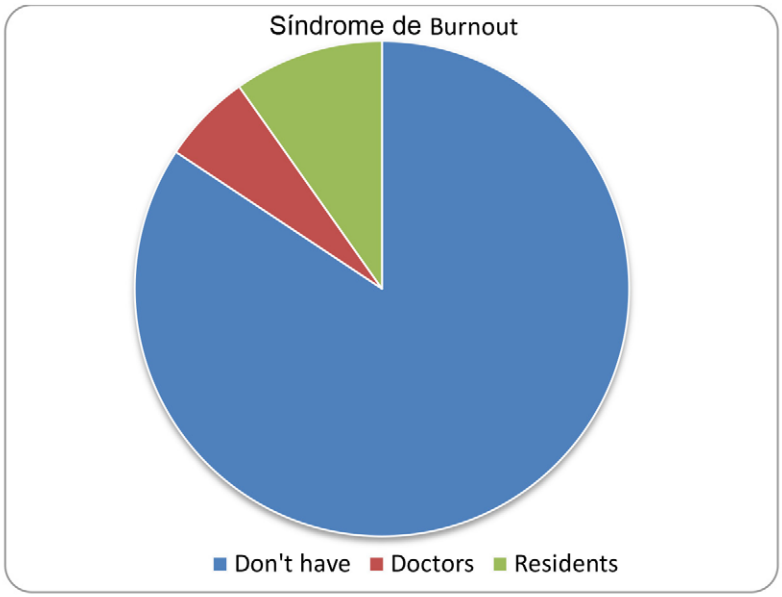
Regarding marital status, the literature shows a higher prevalence of BS in single people, which corroborates the findings of this study: 4 of the 5 residents who presented BS are single. Ferreira et al. (2015) affirm that stable affective relationships represent a form of 'protection' against the syndrome. In addition, having children is also a protective factor. This is explained by the development of greater responsibility, maturity, and stability in individuals who undergo paternity/maternity.

Chart 2. Presence of Burnout Syndrome in doctors and residents according to sex, age and MBI score

Doctor	Age	Emotional Exhaustion	Achievement	Depersonalization
Female	55 years old	54	25	18
		High	Low	High
Female	30 years old	49	22	14
		High	Low	High
Male	30 years old	26	22	09
		High	Low	High
Resident	Age	Emotional Exhaustion	Achievement	Depersonalization
Male	26 years old	28	26	11
		High	Low	High
Male	29 years old	26	19	14
		High	Low	High
Male	26 years old	36	31	17
		High	Low	High
Female	28 years old	26	32	15
		High	Low	High
Female	29 years old	26	21	18
		High	Low	High

Chart 2 shows the results regarding the presence of Burnout Syndrome in doctors and residents according to sex, age, and detailed score obtained in MBI.

Graph 1. Presence of Burnout Syndrome in doctors and residents

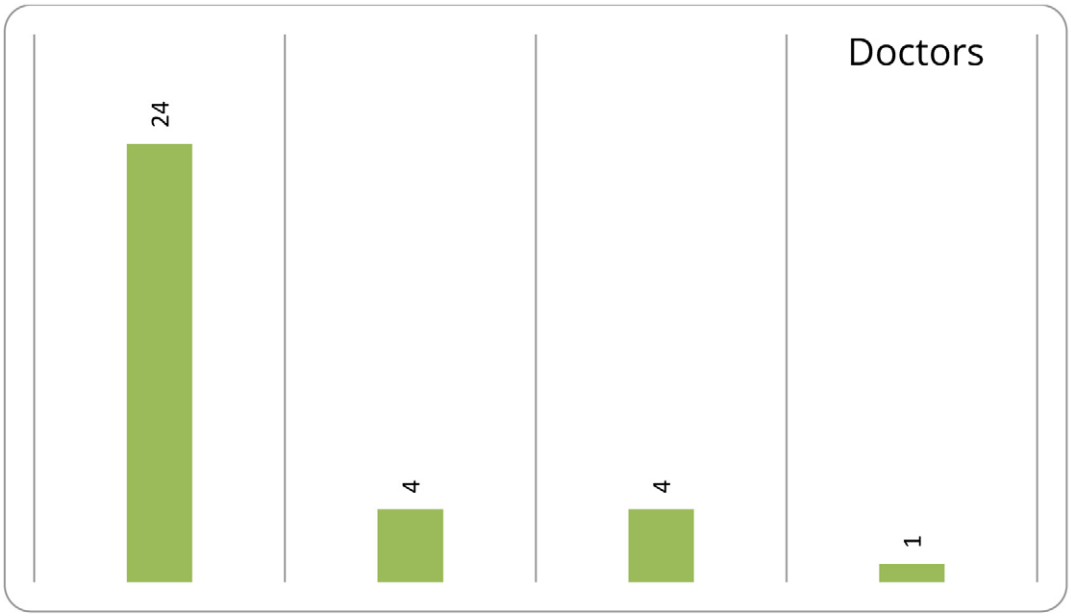


In relation to depression, 1 doctor presented severe level depression, 4 moderate level, 4 light level, and 24 minimum level depression. Regarding the residents, 4 presented light level depression and 13 presented minimum level depression. Thus, it was observed that even with a minimal presence of severe depression among the sample, the signs were still present in lower rates. Studies show a high incidence of depression or its signs in doctors and residents, a number that has been increasing mainly due to tensions and demands from the work environment, together with personal problems. This negatively affects patients' safety and care, increasing the rate of possible medical errors[15,17,29].

The doctor who had a severe level of depression also had the Burnout Syndrome. Moreover, moderate and mild levels of depression have been associated with individuals who also presented BS, which supports a direct correlation between both conditions, as studies demonstrate[6,17,29].

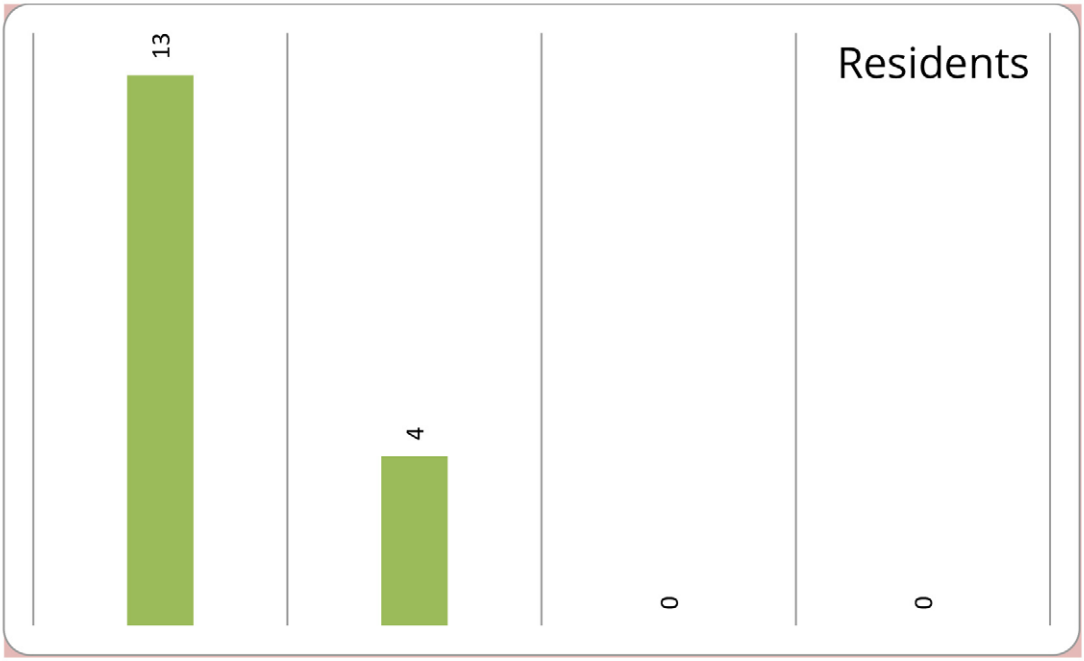
Regarding the results found for the presence of depression in anesthesiologists and residents of this specialty, through the use of the Beck Depression Inventory, minimal, mild, moderate, and severe levels of depression were found, which is represented in Graphs 2 and 3, respectively. The following graphs present significant differences since doctors, differently from residents, show expressive presence of moderate and severe levels of depression, in addition to a higher presence of mild depression.

Graph 2. Presence of Depression in doctors



*One of the participants did not answer this questionnaire.

Graph 3. Presence of Depression in residents



Regarding the correlations established from the data sought in this study, such as BS, age, sex, time working in a determined position, marital status, employment contracts, as well as depression and its previously mentioned variables, $p>0.05$ was obtained. This can be explained by the low n obtained, in view of the non-adherence to the research by the professionals, mainly doctors, due to their work routines, and for not being scheduled to work in the days or periods of data collection. In addition, the fact that data collection was conducted on only one day of the week may have contributed to a small sample. As for the weekly working hours of doctors and residents, no correlations were established between this aspect and the results found.

Among the main limitations found during the study, it is relevant to mention the lack of free time of professionals between one procedure and another, as they often needed to pack up the instruments for the next surgery, or move to another hospital. In addition, the apprehension of participating in the survey, since it could take time, the constant interruptions of other professionals, and the participants need to leave fast in order to follow the procedures in the operating room were some of the challenges faced during this research. New studies could be conducted considering new data such as income, weekly workload, and larger sample.

Final Considerations

The data obtained indicate that, even though the results of Burnout Syndrome and Depression in the analyzed sample are low, the signs of both diseases are present among the professionals, whether doctors or residents, due not only to chronic occupational stress, but also to personal privations such as short periods of sleep, short leisure time, and lack of physical exercise. These professionals may not reach the score set by the questionnaires, but many have been advancing in depression levels and are close to develop the syndrome. Therefore, it is essential to review some aspects that involve the training of these professionals, as well as the process of residence leading to their professional activity, in order to avoid expressive increases of these rates, considering that they can directly affect personal and professional aspects of an individual.

Author contributions

Hartman BC participated in the elaboration of this study, as well as in the collection and interpretation of data, and in the writing of this paper. Furlan L participated in the data collection. Petterle RR participated in the statistical analysis of the data and assisted in the interpretation of the results. Motter AA participated in the elaboration of this research project and assisted during data collection, as well as during the writing of this paper.

Competing interests

No financial, legal, or political conflicts involving third parties (government, corporations, private foundations, etc.) have been declared for any aspect of the study submitted (including, but not limited to, grants and funding, participation in advisory board, study design, preparation of manuscript, statistical analysis, etc.).

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