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SCIENCES

MASTER'S DEGREE DISSERTATION

Burnout in Psychiatry Residents

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Porto Alegre, January 2020.

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Burnout in Psychiatry Residents

Dissertation Published as a partial requirement to obtain a master's degree in Psychiatry from the Universidade Federal do Rio Grande do Sul, Graduate Program in Psychiatry and Behavioral Sciences.

Advisor: Professor Simone Hauck

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To you.

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ABBREVIATIONS

EE: Emotional exhaustion

DP: Depersonalization

PA: Low sense of personal accomplishment

HCPA: Hospital de Clínicas de Porto Alegre

AUDIT-C: Alcohol Use Disorders Identification Test - Concise

PHQ: Patient Health Questionnaire

WHO: World Health Organization

ICD-11: International Classification of Diseases 11

MBI: Maslach Burnout Inventory

WEEI: Work Environment Evaluation Instrument

ABSTRACT

Introduction: Many authors consider physician burnout an epidemic phenomenon. Studies have shown a prevalence of burnout in residents of 25-75%. In psychiatry residents, available studies have shown prevalence rates of 23-36%. The aim of this dissertation was to investigate the prevalence of the three burnout dimensions (i.e., Emotional Exhaustion, Depersonalization and Personal Accomplishment) in psychiatry residents; to develop an instrument to evaluate the work environment (i.e., the nature of the relationships with preceptors and colleagues and the nature of the relation to the institutions); and to evaluate the association between burnout and potential risk factors. **Method:** The dissertation comprised two cross-sectional studies and three papers. The pilot study was conducted in 2017, and the main study in the end of 2018 and beginning of 2019. All psychiatry residents from a city in the South of Brazil, were invited for the pilot study (n= 87), and 66 (76%) participated, resulting in the first paper of the dissertation. Then, all psychiatry residents of the Brazilian State Rio Grande do Sul (n=185) were invited through e-mail to answer an electronic questionnaire, and 115 (62%) participated in the main study. The online questionnaire included questions regarding sociodemographic data, personal information, work environment factors and mental health. The main outcomes were the three dimensions of burnout measured by the Portuguese version of the Maslach Burnout Inventory – Human Services Survey (MBI-HSS): Emotional Exhaustion (EE), Depersonalization (DP) and Personal Accomplishment (PA). The second and the third papers of the dissertation are related to this latter sample. **Result:** The first paper showed a high prevalence of burnout symptoms and a consistent association with environmental factors as measured by the instrument developed with this purpose: the Work Environment Evaluation Instrument (WEEI). The aim of the second study was to test WEEI's reliability. The WEEI final version included 11 items and showed high internal consistency (Cronbach's alpha=0.898). The WEEI results in a total score that measures the nature of the environment as whole, as well as in a specific score for each of the three dimensions. The Cronbach's Alpha coefficient (α) for each of the dimensions was 0.79 for "preceptors", 0.78 for "colleagues", and 0.87 for

“institutions” .The third paper focused on the prevalence of burnout and associated factors in Rio Grande do Sul psychiatry residents. Sixty-nine individuals (60%) met criteria for EE, 32 (27.8%) for DP and 23 (20%) for low sense of personal accomplishment (PA). Several factors were associated with burnout symptoms and entered the linear regression model. Institutional factors (i.e., the nature of the relationships with superiors and the nature of the relation to the institutions), the quality of the relationship with family, and age were among the most significant. **Conclusion:** Mental health in the medical population, especially in training periods, remains a challenging issue. This study showed a close connection between characteristics of the workplace environment and burnout in psychiatry residents. If these factors are addressed, there might be a potential reduction in the increasing burnout rates.

Key-words: burnout; psychiatry residents; work environment; medical training

RESUMO

Introdução: Diversos autores estão considerando burnout um fenômeno epidêmico. Estudos mostram que a prevalência em médicos residentes é de cerca de 25 a 75%. Em residentes de psiquiatria, os estudos mostram 23-36% de prevalência. O objetivo desta dissertação foi investigar a prevalência das três dimensões do burnout (ou seja, esgotamento emocional, despersonalização e realização pessoal) em residentes de psiquiatria; desenvolver um instrumento para avaliar o ambiente de trabalho (isto é, a natureza das relações com superiores, pares e com as instituições); e avaliar a associação entre burnout e potenciais fatores de risco. **Métodos:** A dissertação compreendeu dois estudos transversais e três artigos. O estudo piloto foi realizado em 2017 e o estudo principal no final de 2018 e início de 2019. Todos os residentes de psiquiatria de uma cidade do sul do Brasil, foram convidados para o estudo piloto (n = 87) e 66 (76%) participaram, resultando no primeiro artigo da dissertação. Após, todos os residentes de psiquiatria do estado do Rio Grande do Sul (n=185) foram convidados por e-mail para responder ao questionário eletrônico do estudo principal e 115 (62%) participaram. O questionário online incluiu perguntas sobre dados sociodemográficos, informações pessoais, fatores do ambiente de trabalho e saúde mental. Os principais desfechos foram as três dimensões do burnout medidas pela versão em português do Maslach Burnout Inventory - Human Services Survey (MBI-HSS): esgotamento emocional (EE), despersonalização (DP) e realização pessoal (PA). O segundo e o terceiro artigo estão relacionados a esta amostra. **Resultados:** O primeiro artigo mostrou alta prevalência de sintomas de burnout na amostra e associação consistente com fatores ambientais, medidos pelo instrumento desenvolvido com esse objetivo: Instrumento para Avaliação do Ambiente de Trabalho (WEEI). O objetivo do segundo estudo foi testar a confiabilidade do WEEI. A versão final do WEEI incluiu 11 itens e mostrou alta consistência interna (alfa de Cronbach = 0,898). O WEEI resulta em uma pontuação total que mede a natureza do ambiente como um todo, bem como em uma pontuação específica para cada uma das três dimensões. O coeficiente Alfa de Cronbach (α) para cada uma das dimensões foi de 0.79 para "preceptores", 0.78 para "colegas" e 0.87 para "instituições". O terceiro

artigo focou na prevalência de burnout e fatores associados nos residentes de psiquiatria do Rio Grande do Sul. Sessenta e nove indivíduos (60%) preencheram os critérios para EE, trinta e dois (27,8%) para DP e vinte e três (20%) para baixa realização pessoal (PA). Vários fatores foram associados aos sintomas de burnout e entraram no modelo de regressão linear. Fatores institucionais (isto é, a natureza das relações com os superiores e com as instituições), a qualidade da relação com a família e a idade estavam entre os mais significativos. **Conclusão:** A saúde mental na população médica, especialmente nos períodos de treinamento, continua sendo uma questão desafiadora. Este estudo mostrou uma estreita ligação entre características do ambiente de trabalho e burnout em residentes de psiquiatria. Se esses fatores forem abordados, existe o potencial de reduzir as taxas crescentes de burnout.

Palavras-chave: burnout; residentes de psiquiatria; ambiente de trabalho; treinamento médico

1. PRESENTATION

This work is entitled "Burnout in Psychiatry Residents" and it's a master's degree dissertation presented to the Graduate Program of the Federal University of Rio Grande do Sul. The work has three parts in the following order:

- Introduction, Objectives and Ethical Considerations;
- Articles;
- Conclusion.

Oral presentations and posters related to this work were presented in several congresses (Supplemental Materials). Besides that, during the master's degree I co-authored the article "Who attempts suicide among medical students?", now published in the journal *Acta Psychiatrica Scandinavica* (2019) and winner of the World Congress on Brain, Behavior and Emotions 2019 Award.

2. INTRODUCTION

The term burnout appeared in the literature for the first time in 1974, in a paper by the psychologist Herbert Freudenberger.¹ It was characterized as a set of symptoms that includes exhaustion resulting from work's excessive demands as well as physical symptoms, "quickness to anger," and closed thinking. He observed that the burned-out worker "looks, acts, and seems depressed". A few years later, Christina Maslach defined burnout as it is generally known today, i.e., a syndrome that includes emotional exhaustion, depersonalization, and reduced professional achievement.² Emotional exhaustion (EE) is described as lack of enthusiasm and energy, leading to a feeling of resource depletion. Depersonalization (DP) is defined as emotional insensitivity, characterized by a disillusionment with the service provided, culminating in dehumanization and impersonal treatment of patients and colleagues. Low sense of personal accomplishment (PA) at work refers to a sense of inadequacy and low self-esteem connected to a belief that professional goals have not been met. In 2018, the World Health Organization (WHO) recognized Burnout as an occupational phenomenon and included it in the 11th Revision of the International Classification of Diseases (ICD-11). Burnout was characterized by three dimensions: feelings of energy depletion or exhaustion; increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy.³

Some authors are referring to burnout as an epidemic phenomenon.^{4,5} Mental health in medical career, particularly in training years, is a growing issue. In 2019, 44-47% of US physicians described themselves as feeling burned out or at least reported symptoms of burnout.^{6,7} Studies have shown a prevalence of burnout in residents between 25-75%, according to specialty, country, and methods of measurement.^{8,9} In psychiatry residents, the available studies show a 23-36% prevalence of burnout¹⁰⁻¹², and an association with various demographic, learner and workplace factors.^{9,11-17} Moreover, the medical training can be associated with uncertainties about the future, feelings of insecurity, high-levels of responsibilities and high workload that could lead to, aggravate or perpetuate the syndrome.

In the United States, burnout in physicians seems to be directly related to electronic medical record, instant messaging tools, and the raise demand of being always available.⁴ Physicians are expected to give high-quality care and also be updated with technology, economy, regulation and knowledge. They often show excessive devotion to work and perfectionism as well as dedication, responsibility, and motivation that may contribute to the problem.^{18,19,20} Besides, medical professionals tend to avoid asking for help, which can increase the impact of burnout on their health, their relationships, and their career.⁴

Among the consequences of burnout are the following: reduced empathy, suboptimal care of patients, increased reports of medical errors, as well as significant personal suffering, divorce, reduced quality of life, and the development of mental and physical disorders such as anxiety, substance abuse, depression, and even suicide.^{9,17,21–24} Moreover, some studies in psychiatry residents showed concerning levels of psychic distress among participants, namely symptoms of depression, anxiety, suicidal ideation and use of psychotropic medications.^{11,25} Currently, an important debate about the etiology and even about the definition of burnout is going on in the literature. Some authors believe that burnout is associated with a continuum related to stress, representing a pathologic response to the stressors in one's work environment that can progress to depression, and even suicide.¹⁹ Others, however, defend that burnout can be part of a depressive disorder, pointing the individual vulnerability as even more important than work related stress.^{26–28} Some of the latter even argue that the term "burnout" may be preferred by physicians because it is less stigmatizing and is regarded as an understandable reaction to phenomena outside oneself.²⁶ These are important aspects that need to be clarified, and studies evaluating the actual role of work environment in burnout are essential.

Nevertheless, although there is some evidence, the relation between work environment and burnout is yet poorly understood.^{4,29} Residents are in close contact with colleagues, assistants, professors, and the institutional culture, and, these factors may be of great importance. Indeed, problematic interpersonal relations can be highly harmful, such as, excess of competition, power abuse, lack of empathy and support. A systematic review showed some

work environment features as related to burnout; e.g., reduced help-seeking from supervisors, increased workload, reduced satisfaction with clinical faculty, insufficient rest, poorer perceived quality of supervision and lack of clinical supervision.¹¹ Moreover, one study showed a higher risk of developing burnout in residents without clinical supervision (63% higher than those with supervision).¹²

Although burnout remains a little-known phenomenon, especially regarding psychiatry residents and the role of the work environment, there is an increased interest in it. This dissertation aims to investigate the prevalence of burnout and other psychiatry symptoms in psychiatry residents, as well as potential risk factors for burnout dimensions. Moreover, an instrument to evaluate work environmental factors (i.e., relationship with superiors/supervisors, peers and the relation to the institutions themselves) was developed and tested in the studies that are part of this dissertation.

3. JUSTIFICATION

This dissertation aims to evaluate burnout dimensions in a population of psychiatry residents, as well as potential associated factors such as sociodemographic, personal and work related aspects.

Due to the devastating consequences associated to burnout like reduced empathy, suboptimal care of patients, increased reports of medical errors, along with significant personal suffering. It is crucial to develop studies to identify possible modifiable factors, ultimately looking for methods to reduce the prevalence of burnout and/or the symptoms.

OBJECTIVES

GENERAL:

- To evaluate the prevalence of burnout dimensions in psychiatry residents.

SPECIFICS:

- To develop and validate an instrument to evaluate work environment, specifically the relationships with superiors and peers and the relation to the institution itself;
- To evaluate psychiatric symptoms in psychiatry residents;
- To evaluate the association between the work environment and burnout dimensions in psychiatry residents;
- To evaluate the association between sociodemographic, personal and work related factors and burnout dimensions in psychiatry residents;
- To support future interventions to lessen the impact of burnout among psychiatry residents.

4. Ethical Considerations

Data collection was initiated after the HCPA Ethics Committee approved the project in Plataforma Brasil (CAAE: 70231617.6.0000.5327). Due to the fact that the acceptance and completion of the questionnaire occurred entirely online, without the participant's contact with the research team, it was not possible to sign the formal informed consent form. However, in the introduction of the questionnaire, it was explained that the data would only be analyzed altogether and that by answering the questionnaire the individual would agree to participate in the study. Besides, the questionnaire did not contain questions that could identify a particular individual.

In addition, it was explained that the questionnaire did not present potential harm to individuals and there was no potential problem in not participating. Still, when answering questions related to mental health, the participant could perceive symptoms and/or suffering, allowing a reflection in order to seek help. In this sense, at the end of the questionnaire, a screen was presented with the telephone number and electronic contact of a suicide prevention center and other support centers located in Brazil.

The MBI copyrights were paid for each questionnaire answered (Supplemental material).

5. ARTICLE 1

Burnout in Psychiatry Residents: the Role of Relations with Peers, Preceptors and the Institution

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ARTICLE

Burnout in psychiatry residents: the role of relations with peers, preceptors, and the institution

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ARTICLE

Burnout in psychiatry residents: the role of relations with peers, preceptors, and the institution

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Physicians have a higher prevalence of mental health problems compared to the general population. The prevalence of burnout in residents has been reported to range between 25 and 75%, and burnout has been associated with increased medical errors, suboptimal care of patients, and reduced empathy.^{1,2} Despite current knowledge about the problem and several interventions implemented to date, rates are still rising, with some authors now talking of a burnout epidemic.³

The aim of this cross-sectional study was to evaluate the association between burnout and perceived relations with preceptors, peers, and the institution. Approval was obtained from the local ethics committee (protocol 70231 617.6.0000.5327). All psychiatry residents from a city in the South of Brazil were invited (n=87), and 66 (76%) agreed to participate. A sociodemographic questionnaire was administered, burnout symptoms were evaluated by means of the Maslach Burnout Inventory (MBI), and relations by means of the Work Environment Evaluation Instrument (WEEI).^{4,5}

The mean age of the participants was 28.3±3.1 years, and 53% were male. According to the cutoff point most frequently used in the literature, 55 participants (83.3%) would be classified as meeting the burnout criteria: 47% were positive for emotional exhaustion (EE), 62.1% for depersonalization (DP), and 69.7% for personal accomplishment (PA). Relations with preceptors, the institution, and peers all correlated with EE and DP (Table 1). The items most correlated with EE were “I feel that I am always short of what the preceptors expect of me” ($r_s = 0.53$; $p < 0.001$), “I feel more pressured than helped by my preceptors” ($r_s = 0.43$; $p < 0.001$), and “I feel a collaborative climate in my institution” ($r_s = -0.39$; $p = 0.001$). DP correlated more with the items “I feel a collaborative

climate in my institution” ($r_s = -0.47$; $p < 0.001$), “I feel like I belong to my institution” ($r_s = -0.46$; $p < 0.001$), and “I feel more pressured than helped by my preceptors” ($r_s = 0.43$; $p < 0.001$). PA correlated with the relationship with peers and the institution (Table 1). The items most correlated with PA were “I feel like I belong to my institution” ($r_s = 0.33$; $p = 0.007$), “I feel a collaborative climate in my institution” ($r_s = 0.32$; $p = 0.008$), and “My colleagues are not my friends” ($r_s = -0.28$; $p = 0.024$).

These findings highlight potentially modifiable institutional factors as a way to face the rising rates of burnout among health professionals and emphasize the need for further investigations on the subject. Interventions aimed at improving the quality of relations within institutions may have great potential for reducing burnout rates and mental health problems in physicians and other health professionals, as well as improving their well-being.

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Disclosure

The authors report no conflicts of interest.

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Table 1 Correlations (Spearman’s rho) between WEEI and burnout dimensions

	WEEI peers	WEEI preceptors	WEEI institution
Emotional exhaustion total	0.337*	0.558*	-0.428*
Depersonalization total	0.327*	0.481*	-0.457*
Personal accomplishment total	-0.280 [†]	-0.180	0.351*

WEEI = Work Environment Evaluation Instrument.

* Significant at $p < 0.01$.

[†] Significant at $p < 0.05$.

ARTICLE 2

Brief Communication

Work Environment Evaluation Instrument (WEEI): development, validation and association with burnout.

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Running title: Work Environment Evaluation Instrument (WEEI)

Accepted for publication in the journal Trends in Psychiatry and Psychotherapy

Decision Letter (TRENDS-2019-0048)

From: ivescp1@gmail.com

To: hauck.simone@gmail.com

CC:

Subject: Trends in Psychiatry and Psychotherapy - Decision on Manuscript ID TRENDS-2019-0048

Body: 06-Jul-2019

Dear Dr. Hauck:

It is a pleasure to accept your manuscript entitled "Work Environment Evaluation Instrument (WEEI): development, validation and association with burnout." in its current form for publication in the Trends in Psychiatry and Psychotherapy. The comments of the reviewer(s) who reviewed your manuscript are included at the foot of this letter.

Thank you for your fine contribution. On behalf of the Editors of the Trends in Psychiatry and Psychotherapy, we look forward to your continued contributions to the Journal.

Sincerely,
Dr. Ives Passos
Associate Editor, Trends in Psychiatry and Psychotherapy
ivescp1@gmail.com

Abstract

Introduction: Physician burnout is considered an epidemic. In 2019, 44% of U.S. physicians reported feeling burned out. The work environment is a central risk factor for this. The aim of this study is to develop and test an instrument to evaluate work environment factors in medical training courses.

Method: After focus groups, an initial pool of 14 items was generated and tested in a pilot study (n = 66). Face validity was verified, and small adjustments were made. The resulting version was administered to a sample of 115 psychiatry residents. Eleven items were selected based on the correlations between them, principal component analysis, and theoretical reasons, and then tested for internal and construct validity.

Results: The final version had high reliability (Cronbach's alpha = 0.898) and comprised three dimensions: relations with the institution; with colleagues; and with preceptors. Both total scores and dimensions correlated significantly with burnout scores (p < 0.01). Cutoffs defining the environment as healthy (>32 points); risky (23-31 points); or toxic (<22 points) were suggested and related to the risk of burnout.

Conclusion: Several authors have emphasized the importance of approaching institutional factors as an effective strategy for coping with the increased prevalence of burnout. This instrument should contribute to these efforts.

Keywords: Burnout, medical education, validation studies, stress disorders, environment.

Resumo

Introdução: O burnout em médicos é considerado um fenômeno epidêmico. Em 2019, 44% dos médicos dos EUA relataram burnout. O ambiente de trabalho é um fator de risco central. O objetivo deste estudo foi desenvolver e testar um instrumento para avaliar o ambiente ao longo da formação médica.

Método: A partir de grupos focais, 14 itens foram gerados e testados no estudo piloto (n = 66). A validade da face foi verificada, sendo feitos pequenos ajustes. A versão resultante foi aplicada em 115 residentes de psiquiatria. Onze itens foram selecionados com base nas correlações, análise de componentes

principais e razões teóricas, sendo testados quanto à validade interna e de construto.

Resultados: A versão final apresentou alta confiabilidade (alfa de Cronbach = 0,898), sendo composta por três dimensões: relação com a instituição, colegas e preceptores. O escore total e das dimensões correlacionaram-se significativamente com os escores de burnout ($p < 0,01$). Pontos de corte definindo o ambiente como saudável (> 32 pontos); de risco (23-31 pontos); ou tóxico (<22 pontos) foram sugeridos e relacionados ao risco de burnout.

Conclusão: A importância de abordar fatores institucionais como uma estratégia para enfrentar o burnout vem sendo enfatizada. Este instrumento pode contribuir significativamente nesse sentido.

Palavras-chave: Burnout, educação médica, estudos de validação, transtornos de estresse, meio ambiente.

Introduction

Burnout rates are increasing, and many authors are describing the phenomenon as an epidemic. Medical doctors and students are a special concern. In 2014, 54.4% of U.S. physicians reported at least one symptom of burnout, compared with 45.5% in 2011.^{1,2} In 2019, 44% of physicians reported feeling burned out.³ Rates of burnout are rising, despite greater recognition of the problem. Some authors argue that this may be because efforts to reduce burnout are typically focused on increasing resilience and wellness, rather than combating problematic changes in how medicine is practiced by physicians in the current era, or the roots of the problem that involve institutional factors and culture.^{2,4,5}

With respect to medical education, many studies report rates of burnout and other mental diseases that are much higher than those in the general population.^{6,7} The prevalence of burnout in residents is generally about 25-75%, varying by specialty, country, and measurement method.^{8,9} These findings point to the fact that the training process and environment may impact on the health of physicians in training.¹⁰

Some risk factors are known, such as heavy workload, female gender, presence of physical illness and or mental disorders, medication use,

dissatisfaction with career, high demand for perfection, and others. Nevertheless, institutional factors are as yet poorly investigated and understood.^{4,11} Medical students and residents spend a great proportion of their time immersed in the institutional environment and are in constant contact with professors, assistants, colleagues, patients, and the institutional staff and culture. The nature of this contact and also the beliefs and values common to the members of the institution may play a fundamental role in development of burnout, especially if they are not compatible with one's own beliefs. Moreover, problematic interpersonal relations can be highly harmful, for instance, conflict with colleagues and preceptors, competition, abuse of power by superiors, lack of empathy, and lack of support. Furthermore, contemporary physicians are faced with the challenge of delivering an increasingly patient-centered, at the same time that they are continually exposed to ongoing changes in the economy, technology, and regulatory areas, posing unrealistic expectations of physician availability.⁴

The consequences of burnout can be devastating, for both personal and professional life, leading to increased reports of medical errors, suboptimal patient care, reduced empathy in general, reduced quality of life, and development of mental disorders like depression.^{8,12,13} It is both crucial and urgent to elucidate the role played by the work environment in this phenomenon. There is an extreme need for reliable instruments to evaluate the different elements that may be involved. The aim of this study was therefore to develop and test an instrument to evaluate the work environment that encompasses the subject's relations with the institution, with professors/preceptors, and with peers.

Method

This is an instrument validation study. The objective was to create an instrument to evaluate work environment factors that can be related to development of burnout during medical training. The study comprised two phases – the first consisted of compiling the initial item pool and testing it in a pilot study and the second consisted of final selection of items and validation. The study was approved by the ethics committee at the Hospital de Clínicas de Porto Alegre (CAAE 70231617.6.0000.5327).

Development of the instrument and pilot study

Several focus groups were held with experts, professors, medical students, and residents during the first semester of 2017 to identify and define items that could be related to development of burnout symptoms. Fourteen items were defined and tested in a pilot study that was conducted in July 2017. For this step, all psychiatry residents in the city of Porto Alegre (n = 87) were invited by e-mail to answer the questionnaire and 75% (n = 66) of them participated in the study.¹⁴ Item comprehensibility and face validity were evaluated and discussed, and small adjustments were made. Additionally, three items were reformulated as negative sentences to detect unreliable answers.

Selection of the final items and validation

Participants

The sample comprised 115 adult Brazilian participants (56 males) aged from 24 to 42 years (mean = 29.34, standard deviation [SD] = 3.50) who were recruited online via e-mail. All psychiatry residents on the 10 different residency programs in the state of Rio Grande do Sul were invited (n = 186), 131 of whom used the instruments. The questionnaire was made available on an online platform widely used for research purposes, since it guarantees the anonymity of the subjects involved (Survey Monkey™). Subjects were assessed with the Work Environment Evaluation Instrument – preliminary version (WEEI-P) and the Maslach Burnout Inventory (MBI). Subjects whose questionnaires were incomplete or missing were excluded. All individuals consented to voluntary participation when they agreed to answer the questionnaire after receiving a full explanation of the study.

Materials

Level of burnout was measured using the Portuguese version of the Maslach Burnout Inventory – Human Services Survey (MBI-HSS).¹⁵ The MBI-HSS measures burnout on three subscales: emotional exhaustion (EE), depersonalization (DP), and low sense of personal accomplishment (PA). It is a self-administered questionnaire answered on a five-point Likert scale on which 0 = never; 1 = annually; 2 = once a month; 3 = a few times a month; 4 = once a

week; 5 = a few times a week; and 6 = every day. The scale has 22 items, 9 related to emotional exhaustion, 5 to depersonalization, and 8 to sense of personal accomplishment. We followed the MBI-HSS recommendations on defining whether a subject meets the criteria for one of the three dimensions.

The preliminary version of the WEEI was a 14 item self-report questionnaire with a Likert response scale on which 0 corresponded to “totally false” and 4 corresponded to “totally true.” Six items evaluated relations with teachers/preceptors, 5 with colleagues/peers, and 3 with the institution (online-only supplementary material S1).

Data analysis

The Statistical Package for the Social Sciences (SPSS) version 23.0 was used for analysis. The Shapiro-Wilk test was used to test normality. Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s test of sphericity were used to evaluate if the data was suitable for factorial analysis. Correlations between the items were calculated to evaluate their adequacy/fitness, both in relation to the whole instrument as a single construct and within each of the three dimensions. Principal Component Analysis (PCA) was conducted to explore the scale’s underlying structure. These data were used together with a reappraisal of item content to select items that would be retained in the final version (WEEI).

The final version of the WEEI was tested for internal validity using Cronbach’s alpha coefficient (α) and its construct validity was verified by testing correlations between WEEI scores and burnout dimensions. T-tests for independent samples were used to compare means. Cutoff points were suggested for the WEEI, and risk estimation tests were performed. Additionally, the Cronbach’s alpha coefficient was also estimated for each of the dimensions to verify the reliability of using the scores of the three dimensions in separate.

Results

Selection of the final items

The appropriateness of items and the possibility of redundant questions were assessed using the bivariate correlations between them. The PCA revealed three factors (online-only supplementary material S2) and all items loaded above 0.4 in the first factor, pointing to a consistent common construct.

Factor loadings, correlations with other items, and the content of the sentences were further analyzed in conjunction to select the items for the final version.

The items “I am ashamed to show my preceptor that I do not know something,” “My colleagues can do me harm at any time,” and “I feel that I have friends in the college/residency on whom I can count, even for matters that have nothing directly to do with the medical school/residency” were excluded from the final version due to their weaker psychometric performance and for theoretical reasons. The first item could reflect phobic traits, the second, paranoid traits, and the last, matters that do not directly relate to the work environment.

Finally, we ran the factor analysis for the new version that comprised 11 items. The KMO measure of sampling adequacy indicated that the strength of the relations among variables was high (KMO = .88) and Bartlett’s test of sphericity, which tests the overall significance of all the correlations within the correlation matrix, was significant ($p < 0.001$). Although the PCA yielded 2 factors with eigenvalues > 1 , explaining 63% of the variance, due to the fact that all items loaded > 0.54 in the first factor we decided for a one-factor solution. The WEEI measures three dimensions as part of the work environment: relation to the institution (RI - items 2, 4 and 6), relationships with colleagues/peers (RC - items 5, 8 and 10), and relationships with preceptors/superiors (RP - items 1, 3, 7, 9 and 11), generating a total score (TS) as well as dimension scores.

Evaluation of internal consistency and construct validity

According to Burns, at least 10 subjects for each item on a scale are required for proper validation.¹⁶ There were 115 subjects in our sample. Cronbach’s alpha coefficient (α) for the WEEI was 0.898, showing high internal consistency without reaching excessively high values (i.e. > 0.95) that could indicate redundant items (online-only supplementary material S3). The Cronbach’s Alpha coefficient (α) for each of the dimensions was 0.79 for “institution”, 0.78 for “colleagues”, and 0.87 for “preceptors”.

Based on the assumption that, in accordance with our conceptualization, work environment factors would be related to burnout, we evaluated associations between WEEI scores and burnout scores to analyze construct validity. Both total WEEI score and its dimension scores (RI, RC, and RP) were

correlated with Burnout scores (EE, DP, and PA) ($p < 0.01$) in our sample (Table 1).

Table 1. Correlations between WEEI scores and burnout scores.

		EE	DP	PA	Total WEEI	WEEI Colleagues	WEEI Preceptors	WEEI Institution
EE	Spearman's rho Correlation	1	.510**	-.255**	-.562**	-.268**	-.535**	-.573**
	Sig. (2-tailed)		<.001	.006	<.001	.004	<.001	<.001
DP	Spearman's rho Correlation	.510**	1	-.393**	-.486**	-.278**	-.502**	-.451**
	Sig. (2-tailed)	<.001		<.001	<.001	.003	<.001	<.001
PA	Spearman's rho Correlation	-.255**	-.393**	1	.320**	.194†	.310**	.274**
	Sig. (2-tailed)	.006	<.001		<.001	.038	.001	.003
Total WEEI	Spearman's rho Correlation	-.562**	-.486**	.320**	1	.685**	.916**	.895**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	<.001	<.001
WEEI Colleagues	Spearman's rho Correlation	-.268**	-.278**	.194**	.685**	1	.439**	.514**
	Sig. (2-tailed)	.004	.003	.038	<.001		<.001	<.001
WEEI Preceptors	Spearman's rho Correlation	-.535**	-.502**	.310**	.916**	.439**	1	.760**
	Sig. (2-tailed)	<.001	<.001	.001	<.001	<.001		<.001
WEEI Institution	Spearman's rho Correlation	-.573**	-.451**	.274**	.895**	.514**	.760**	1
	Sig. (2-tailed)	<.001	<.001	.003	<.001	<.001	<.001	

EE = Emotional exhaustion; DP = depersonalization; PA = personal accomplishment; WEEI = Work Environment Evaluation Instrument.

* Correlation is significant at the 0.01 level (2-tailed).

† Correlation is significant at the 0.05 level (2-tailed).

There was a difference in mean WEEI TS between subjects who were positive for EE according to the MBI-HSS and those who were not (22.69 ± 10 versus 31.29 ± 8.4 ; $p < 0.001$). Considering that EE is the most consistent

dimension of burnout, to the extent that some authors even use it as the only diagnostic criterion, we defined proposed WEEI cutoff points based on mean and SD WEEI scores for these groups (positive and negative for EE), and performed risk evaluations tests.

The cutoff points tested classified the environment as healthy (> 32 points), risky (between 23 and 31 points), or toxic (< 22 points). In a toxic environment, the odds ratio (OR) for being positive for EE was 6.2 (95%CI: 2.6-15; $p < 0.001$) and OR for DP was 14.4 (95%CI: 4.2-48.6; $p < 0.001$). In a healthy environment, the OR for being positive for EE was 0.25 (95%CI 0.11-0.6; $p = 0.001$) and OR for DP was 0.74 (95%CI 0.64-0.85; $p < 0.001$). As expected, the results regarding risky environments were not significant, suggesting environments that are nor protective nor consistently associated to burnout risk.

We suggest that the scores should be used as a continuous variable. The cutoff points for toxic and/or healthy environment can be used when appropriate to the objective of the study (online-only supplementary material S4). Nevertheless, the robust association between characterization of the environment as healthy or toxic with EE and DP burnout dimensions is also indicative of the validity of the construct measured by the instrument.

Discussion

We were able to develop a rapid, self-administered instrument that adequately evaluates three work environment dimensions (institution, preceptors, and peers) with high reliability (Cronbach's alpha = 0.898). This version of the instrument was developed specifically for the medical training community. To our knowledge there is no other instrument like this reported in the literature to date.

Burnout has a huge impact on personal life, work capacity, and the economy and efforts that have been implemented to cope with the problem have not been effective in mitigating the phenomenon. It is also worth noting that other psychiatric conditions for which burnout can be an important risk factor are also more prevalent among doctors, specifically, depression and suicide. As pointed out by several authors, institutional factors must be

addressed and the instrument developed in this study can contribute to further research investigating these factors.^{2,4,5}

Limitations of this study include the fact that it was conducted in a specific population (psychiatry residents from Rio Grande do Sul, Brazil). Therefore, studies with different populations and in different settings are needed to confirm our findings and the instrument's performance. Nevertheless, a more homogenous sample favors internal validity, while the 115 residents in our sample came from 10 different residency programs, representing a range of different institutions. We believe this is an important contribution to the literature that can foster an important and urgent research field.

Disclosure

No conflicts of interest declared concerning publication of this article.

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Supplementary material 1. WEEI – Preliminary version (Portuguese/English versions)

About your interpersonal and institutional relationships during your training period in..... / med school , answer:

ICOD	ITEMS
C1	Sinto que tenho amigos na faculdade /residência com quem posso contar, inclusive para assuntos que não tem a ver diretamente com a residência médica. I feel that I have friends in the college /residence with whom I can count, even for matters that have nothing to do directly with the medical school/ residency.
P1	Sinto-me mais cobrado que ajudado pelos meus preceptores I feel more pressured than helped by my teachers / preceptors.
I1	Eu me sinto pertencente à minha instituição. I feel like I belong to my institution.
C2	Meus colegas podem me prejudicar a qualquer momento My colleagues can harm me at any time.
P2	Não tenho receio em pedir ajuda para o meu preceptor. I am not afraid to ask for help from my teacher / preceptor.
I2	Sinto um clima colaborativo na minha instituição I feel a collaborative climate in my institution.
C3	Eu desabafo com meus colegas sobre problemas com a residência médica, e isto me ajuda a lidar com os problemas do dia a dia I talk to my classmates / colleagues about problems with residency / college, and this helps me deal with everyday problems.
P3	Tenho vergonha de transparecer que não sei sobre algo diante de meu professor / preceptor I am ashamed to show that I do not know about something for my preceptor
I3	Acho que os valores da minha instituição estão de acordo com os meus próprios valores I think the values of my institution are in accordance with my own values.
P4	Sinto-me ajudado pelos meus preceptores I feel helped by my teachers / preceptors.
C4	Sinto que os colegas são apenas colegas e não se envolvem com meus problemas pessoais I feel that colleagues are just colleagues and do not get involved with my problems.
P5	Meus preceptores compreendem e escutam quando tenho queixas My teachers / preceptors understand and listen when I have complaints.
C5	Meus colegas não são meus amigos My colleagues are not my friends.
P6	Sinto que estou sempre aquém do que a preceptoría espera de mim I feel that I am always short of what the teachers / preceptors expect of me.

ICOD: Código do item / Item code; C: Colegas / Colleagues /Peers; P: Preceptores / Professores / Teachers / Preceptors; I: Instituição / Institution

NOTE: It is important to note that only the items in Portuguese were validated in this study – the items in English are a suggested translation that should be validated in English speakers populations.

Supplementary material 2. Principal Component Analysis – preliminary version

Component Matrix^a

	Component		
	1	2	3
I feel that I have friends in the college /residence on whom I can count, even for matters that have nothing to do directly with the medical school/ residency.	.489	-.657	.179
I feel more pressured than helped by my teachers / preceptors.	-.785	-.296	.034
I feel like I belong to my institution.	.773	-.060	.203
My colleagues can harm me at any time.	-.643	.193	.336
I am not afraid to ask for help from my teacher / preceptor.	.652	.300	.133
I feel a collaborative climate in my institution.	.763	.189	-.121
I talk to my classmates / colleagues about problems with residency / college, and this helps me deal with everyday problems.	.574	-.460	.245
I am ashamed to show to my preceptor that I do not know something.	-.441	-.279	.530
I think the values of my institution are in accordance with my own values.	.705	.098	.478
I feel helped by my teachers / preceptors.	.747	.250	.343
I feel that colleagues are just colleagues and do not get involved with my problems.	-.655	.487	.296
My teachers / preceptors understand and listen when I have complaints.	.702	.459	-.044
My colleagues are not my friends.	-.596	.610	.183
I feel that I am always short of what the teachers / preceptors expect of me.	-.729	-.225	.222

Extraction Method: Principal Component Analysis; a. 3 components extracted.

Supplementary material 3. Rotated Component Matrix

Rotated Component Matrix^a

	Component	
	1	2
WEEI1	.798	
WEEI2	.611	.500
WEEI3	.739	
WEEI4	.717	
WEEI5		.724
WEEI6	.673	
WEEI7	.785	
WEEI8		.821
WEEI9	.841	
WEEI10		.854
WEEI11	.694	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser

Normalization.

Supplementary material 4. Reliability tests

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.898	.897	11

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
WEEI1	26.10	78.164	.738	.643	.882
WEEI2	25.50	79.603	.714	.565	.883
WEEI3	25.42	83.351	.586	.472	.891
WEEI4	25.77	80.778	.691	.550	.885
WEEI5	24.93	87.504	.481	.381	.896
WEEI6	25.90	83.210	.656	.550	.887
WEEI7	25.36	83.038	.707	.626	.885
WEEI8	25.43	85.808	.545	.537	.893
WEEI9	25.77	81.672	.650	.585	.887
WEEI10	25.30	85.898	.477	.511	.897
WEEI11	26.01	79.728	.672	.551	.886

Supplementary material 5. Instrumento para Avaliação do Ambiente de Trabalho

Gabarito

Sobre as suas relações interpessoais e institucionais durante, responda: (use o termo apropriado de acordo com a população em estudo; p.ex. faculdade de medicina, residência... etc)					
	Totalmente falso	Parcialmente falso	Nem falso, nem verdadeiro	Parcialmente verdadeiro	Totalmente verdadeiro
1. Sinto-me mais cobrado do que ajudado por meus professores/preceptores.	4	3	2	1	0
2. Eu me sinto pertencente a minha instituição.	0	1	2	3	4
3. Não tenho receio em pedir ajuda para meu professor/preceptor.	0	1	2	3	4
4. Sinto um clima colaborativo em minha instituição.	0	1	2	3	4
5. Eu desabafo com meus colegas sobre problemas com a residência/faculdade, e isso me ajuda a lidar com os problemas do dia a dia.	0	1	2	3	4
6. Acho que os valores da minha instituição estão de acordo com meus próprios valores.	0	1	2	3	4
7. Sinto-me ajudado pelos meus professores/preceptores.	0	1	2	3	4
8. Sinto que os colegas são apenas colegas e não se envolvem com meus problemas.	4	3	2	1	0
9. Meus professores/preceptores compreendem e escutam quando tenho queixas.	0	1	2	3	4
10. Meus colegas não são meus amigos.	4	3	2	1	0
11. Sinto que estou sempre aquém do que os professores/preceptores esperam de mim.	4	3	2	1	0

Pontos de corte:

- ≥ 32 Ambiente saudável
- 23-31 Ambiente de risco
- ≤ 22 Ambiente tóxico

Dimensões:

- Relação com a instituição: itens 2, 4 e 6
- Relação com professores/preceptores: itens 1, 3, 7, 9 e 11
- Relação com pares: itens 5, 8 e 10

Work Environment Evaluation Instrument (WEEI)
Suggested English Version
Score Sheet

About your interpersonal and institutional relationships duringmed school / your training in ... (use the appropriate term concerning the study population)					
	Totally false	Partially false	Neither false nor true	Partially true	Totally true
1. I feel more pressured than helped by my teachers / preceptors.	4	3	2	1	0
2. I feel like I belong to my institution.	0	1	2	3	4
3. I am not afraid to ask for help from my teacher / preceptor.	0	1	2	3	4
4. I feel a collaborative climate in my institution.	0	1	2	3	4
5. I talk to my classmates / colleagues about problems with residency / college, and this helps me deal with everyday problems.	0	1	2	3	4
6. I think the values of my institution are in accordance with my own values.	0	1	2	3	4
7. I feel helped by my teachers / preceptors.	0	1	2	3	4
8. I feel that colleagues are just colleagues and do not get involved with my problems.	4	3	2	1	0
9. My teachers / preceptors understand and listen when I have complaints.	0	1	2	3	4
10. My colleagues are not my friends.	4	3	2	1	0
11. I feel that I am always short of what the teachers / preceptors expect of me.	4	3	2	1	0

Cutoff points:

- ≥ 32 Healthy environment
- 23-31 Risk environment
- ≤ 22 Toxic environment

Dimensions:

- Relationship with institution: items 2, 4 e 6
- Relationship with teachers / preceptors: items 1, 3, 7, 9 e 11
- Relationship with colleagues: items 5, 8 e 10

It is important to note that only the Portuguese WEEI version was evaluated regarding internal and construct validity in this study, the suggested English WEEI version should be tested in further studies.

6. ARTICLE 3

Burnout in Psychiatry Residents

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Running title: Burnout in Psychiatry Residents

Abstract:

Introduction: Many authors consider physician burnout an epidemic phenomenon. Studies have shown a prevalence of burnout in residents between 25-75%. In psychiatry residents, available studies have shown 23-36% of prevalence. The aim of this study was to investigate the prevalence of burnout dimensions in this specific population, and its association with the work environment and other potential factors.

Method: This was a cross-sectional study. The data were collected in the end of 2018 and beginning of 2019. All psychiatry residents of a Brazilian State, Rio Grande do Sul, (n=185) were invited through e-mail to answer an electronic questionnaire, and 115 (62%) participated in the study. The online questionnaire included questions regarding sociodemographic data, personal information, work related factors and mental health. The main outcomes were the three dimensions of burnout measured by the Portuguese version of the Maslach Burnout Inventory – Human Services Survey (MBI-HSS): Emotional Exhaustion (EE), Depersonalization (DP) and Personal Accomplishment (PA). **Result:** Sixty-nine individuals (60%) met criteria for EE, thirty-two (27.8%) for DP and twenty-three (20%) for PA. Several factors were associated with burnout symptoms and entered a linear regression model. Institutional factors (i.e., the nature of the relationships with superiors and the nature of the relation to the institutions), the quality of the relationship with family, and age were among the most significant. **Conclusion:** Mental health in the medical population, especially in training periods, remains a challenging issue. This study showed a close connection between characteristics of the workplace environment and burnout in psychiatry residents. If these factors are addressed, there might be a potential reduction in the increasing burnout rates.

Key words – burnout, medical education, psychiatry residents and work environment

Introduction

Burnout is a syndrome that includes emotional exhaustion, depersonalization, and low sense of personal accomplishment.^{1,2} Emotional exhaustion (EE) is described as lack of enthusiasm and energy, leading to a feeling of resource depletion. Depersonalization (DP) is defined as emotional insensitivity, characterized by a disillusionment with the service provided, culminating in dehumanization and impersonal treatment of patients and colleagues. Low sense of personal accomplishment (PA) at work refers to a sense of inadequacy and low self-esteem connected to a belief that professional goals have not been met. In 2018, the World Health Organization (WHO) recognized Burnout as an occupational phenomenon and included it in the 11th Revision of the International Classification of Diseases (ICD-11), characterized as a three dimensions syndrome: feelings of energy depletion or exhaustion; increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy.³

Mental health in physicians is an emergent issue nowadays and the occurrence of burnout among residents is a growing concern, being called in the literature as an epidemic phenomenon.^{4,5} In 2019, 44-47% of US physicians described themselves as feeling burned out or at least reported symptoms of burnout.^{6,7} Particularly, the medical training can be associated with uncertainties about the future, feelings of insecurity, high-levels of responsibilities and high workload.

Current studies show that the prevalence of burnout in residents is about 25-75% according to specialty, country, and methods of measurement.^{8,9} In psychiatry residents the studies show 23-36% of prevalence of burnout¹⁰⁻¹² and association with various demographic, learner and workplace factors. Such as non-parental status, be married, increased workload, insufficient rest, lack of supervision in work, junior years of training, lower priority of psychiatry as career choice, decreased empathic capacity, poor coping skills, increase in medical errors, more stressors and low self-efficacy.^{9,11-17} Some studies in psychiatry residents showed alerts of psychic distress among participants, namely symptoms of depression, anxiety, suicidal ideation and use of psychotropic medications.^{11,18}

Despite the increased interest in burnout, it remains a little-known phenomenon. Furthermore, there is a lack of studies investigating this syndrome in psychiatry residents and the importance of the work environment. The aim of this study was to investigate the prevalence of burnout in this specific population, the role of the work environment in the levels of burnout and other associated factors.

Methods

This is a cross-sectional study of burnout in psychiatry residents. All psychiatry residents in training of a Brazilian State, Rio Grande do Sul, (n=185) were invited to participate over the period of one month in the end of 2018 and, after, for one week in January 2019. The data were collected through an online questionnaire sent by e-mail. We chose an electronic questionnaire because it is easier to respond and it has the potential advantage of enhancing reliability by augmenting the perception of anonymity. The subject would only access the questionnaire if agreed with the online Informed Consent Form that was shown before. After completion, the questionnaire provided telephone and electronic contact information for suicide prevention and support centers located in Brazil. The study was approved by the Hospital de Clínicas de Porto Alegre ethic committee (Porto Alegre, Brazil) (CAAE 70231617.6.0000.5327).

Survey Instruments

The online questionnaire included questions regarding sociodemographic data, personal information, career status, workload, mental health variables including current psychiatric treatment, harassment, discrimination and abuse at workplace, alcohol and drugs use, sleep patterns, quality of relationship with family and friends.

Level of burnout was measured by means of the Portuguese version of the Maslach Burnout Inventory – Human Services Survey (MBI-HSS). The MBI-HSS measures burnout on three subscales: emotional exhaustion, depersonalization, and low sense of personal accomplishment. It is a self-completion questionnaire answered by a Likert scale of six points with 0: never, 1: annually; 2: once a month; 3: sometimes in a month; 4: once a week; 5: sometimes in a week and 6: daily. The scale presents 22 items, nine related to

EE, five to DP and eight to PA. These three dimensions are related to each other, but independent.¹ We used the most common cutoffs in the literature nowadays ($EE \geq 27$, $DP \geq 13$, $PA \leq 31$).¹⁹

The Work Environment Evaluation Instrument (WEEI) measured relationships with superiors, peers and relation to the institution. The WEEI was developed and validated by Monteiro et al.²⁰ It's a Likert scale of four points where 0 corresponds to "Totally false" and 4 corresponds to "Totally true". Five items evaluate the relationship with superiors/supervisors, three with colleagues/peers and three the relation to the institution. The items evaluate aspects such as feeling comfortable asking for help, feeling heard and helped versus feeling pressured by superiors/supervisors, the feeling of belonging and the presence of a collaborative atmosphere in the institution, and the perception of support by peers. Cutoffs were suggested by the authors in the validation study, defining the environment as healthy (>32 points), risky (23-31 points) or toxic (<22 points). Both WEEI's total and dimension scores, as well as the environment category (i.e., healthy, risky or toxic), were related to burnout symptoms.

DSM-5 Adult Self-Applying Level 1 Symptom Cross-sectional Scale accessed the presence of psychiatric symptoms, it is a general screening measure for the main categories of diagnosis in DSM 5.²¹

The Patient Health Questionnaire-2 (PHQ-2) was used to access depressive symptoms. The PHQ-2 consists of two questions related to symptoms of depression during the past two weeks.²² Scores on the PHQ-2 range from 0 to 6, in which 0 indicates no cardinal depressive symptoms and 6 indicates feeling depressed and anhedonic essentially every day. A score equal to or greater than three on the PHQ-2 is considered a positive screening result for depression. PHQ-2 has a sensitivity of 83% and specificity of 92% to diagnosis a depressive episode.

The AUDIT-C was used to evaluate alcohol use.²³ It is a 3-item screening that can help to identify persons who are high-risk drinkers or have active alcohol use disorder (including alcohol abuse or dependence). It is a modified version of the 10 questions AUDIT instrument.²⁴ The AUDIT-C has a sensitivity of 79% and specificity of 56% in men ($score \geq 4$) and a sensitivity of 80% and

specificity of 87% in women (score \geq 3) for identifying patients with active alcohol abuse or dependence.²⁴ For men, a score of 0 to 3 was considered low risk; between 4 and 5 points, moderate risk; between 6 and 7 points, high risk and 8 to 12 points, severe risk. For women, a score of 0 to 2 was considered low risk; between 3 to 5 points, moderate risk; between 6 and 7 points, high risk and 8 to 12 points, severe risk.²⁵

Outcome

Levels of EE, DP, and PA were used as dependent variables, in order to assess the risk factors for each burnout dimension.

Statistical Analysis

The Statistical Package for Social Sciences (SPSS) version 18 was used to analyze the data. The normality of the data was evaluated using the Kolmogorov-Smirnov test, besides graphical analysis. Descriptive analyses were reported as means and standard deviation (SD), median and interquartile range (IQR) or absolute and relative frequencies. According to the distribution of burnout dimension scores, the difference between groups was evaluated by means of the Mann-Whitney U test and Kruskal-Wallis One-way ANOVA. The post-hoc test used was the Dunn test with Bonferroni correction. Spearman correlation coefficients were calculated to estimate association among variables. A linear regression model for each of the three burnout dimensions (dependent variables) was performed, including all potential risk factors that were associated to each outcome ($p < 0.05$) in the univariate analysis. We performed risk estimative tests to evaluate environment and burnout dimensions. A significance level of 5% ($p \leq 0.05$) was considered for all statistical tests. All testes were two-tailed.

Results

185 psychiatry residents were invited to answer the questionnaire, 132 of them answered it and 115 (62%) were included in our sample, after excluding 17 individuals because they did not answered all the questions. Sociodemographic characteristics of participants are reported in **Table 1**, as well as information about exercise, relationship with family and friends, and

satisfaction with one's sexual life. **Table 1** also describes the work features and some clinical psychiatric characteristics. Sixty-nine individuals (60%) met criteria for EE, third-two (27.8%) for DP and twenty-three (20%) for PA, according to the cut-off points used.

Several sociodemographic, personal, clinical and work-related variables were associated with burnout symptom scores according to the MBI. Mann-Whitney U tests comparing groups are shown in **Table 2**. Spearman's rho correlations are shown in **Table 3**.

In the linear regression models (**Table 4**) the factors significantly correlated with EE ($p < 0.05$), in order of importance, were the nature of the relation to the institution, the nature of the relationship with superiors, and the quality of the relationship with family. Regarding DP, the factors that correlated the most were the nature of the relationship with superiors, the quality of the relationship with family, and age. Concerning PA, there were no significantly correlated factors in the linear regression model in this sample.

According to the Kruskal-Wallis one-way ANOVA (**Table 5**), there were differences in burnout dimensions across groups based on the nature of the work environment (i.e., healthy, risky, or toxic), year of residence, family income, quality of sleep, and whether or not participants were in mental health treatment. In relation to the work environment, a healthy environment was related to lower EE and DP, and higher PA scores than risky and toxic environments ($p < 0.001$). Concerning residence year, individuals in the first year had greater DP levels compared to those in the second year ($p < 0.05$). The residents that had a family income per month of \$387 – 775 showed greater DP levels than those with more than \$3875 monthly ($p < 0.05$). Those with regular sleep quality exhibited greater levels of EE compared to those who had a good quality of sleep ($p < 0.05$). Residents in regular psychiatric treatment or psychotherapy had greater EE compared to those not in treatment ($p = 0.001$).

Regarding the risk for burnout symptoms according to the environment category, in a toxic environment the Odds Ratio (OR) for being positive for EE was 7.61 (IC 2.45 – 23.60; $p < 0.001$) and for DP 5.82 (IC 2.38 – 14.25; $p < 0.001$). In a healthy environment the OR for being positive for EE was 0.17 (IC 0.07 – 0.39; $p = 0.001$) and for DP 0.05 (IC 0.01 – 0.25; $p < 0.001$).

Discussion

Our results show a sample of psychiatry residents with high levels of emotional exhaustion (60%) and a worrying prevalence of positive screening for anxiety (53%), somatization (35.7%), depression (16.5%) and suicide ideation (7%). Risk for alcohol abuse and dependence according to AUDIT-C is also alarming, especially in men: moderate risk (30.4%), high risk (14.3%) and severe risk (5.4%). Previous studies that evaluated burnout in psychiatry residents also show worrying rates of emotional distress among participants, namely symptoms of anxiety, depression, suicide ideation and use of psychotropic medications.^{11,18} In opposition to it, one fact that called our attention was that, despite the high rates of emotional distress in our sample, the level of satisfaction with the profession (85.3%) and the feeling of personal accomplishment (80%) are high.

To our knowledge, this is the first study that evaluates the role of interpersonal and institutional aspects as risk factors for burnout in psychiatry residents, and many aspects yielded are worth mentioning. 86.1% of the subjects referred they had at least one professor by whom they felt supported. Nevertheless, 57.4% claimed to have suffered abuse/harassment by at least one professor, and 42.6% of these declared it had a negative impact on their academic life. According to WEEI, the environment was evaluated as healthy in 40.9% of the cases, in 30.4% risky and in 28.7% toxic. Moreover, the ANOVA showed that a healthy environment was related to lower EE, DP and higher PA scores than risky and toxic environments ($p < 0.05$). In the linear regression models, the relation to the institution and the relationship with superiors were related to EE levels, and the relationship with superiors was also related to DP. The risk estimative tests equally support those results, showing a consistent impact of the nature of the environment.

Studies concerning psychiatry residents have shown that burnout in this population is related to reduced help-seeking from supervisors, reduced satisfaction with clinical faculty, lack of clinical supervision and poorer perceived quality of supervision.^{11,12,26-29} A very important point is that, along with our results, these findings call the attention to potentially modifiable factors in this population concerning the influence of positive relations (with superiors and to the institution). By addressing the nature of the relations within the institutions, it should be possible to foster well-being in opposition to emotional distress during psychiatry residence. Hence, encouraging these values in training institutions may be a way to reduce burnout in residents.

In our sample, a good quality of relationship with family is correlated to lower levels of EE and DP. There are studies showing that residents with children have lower burnout scores compared to those without^{12,30}, but we did not find in the literature studies analyzing burnout and the relationship with family specifically. According to our data, the quality of one's relationship with family outside the work environment appears as an important factor, apparently protecting from the impact of toxic workplace experiences. Whether this factor remains significant in later phases of the career and other populations is yet to be elucidated.

In relation to DP, residents in the first year (31.3%) show more symptoms in relation to those in the second year. We have found in the literature studies showing that being a resident in junior years of training is indeed related to greater levels of burnout.^{27,28} Particularly in psychiatry, where the first year is usually characterized by the contact with inpatients, and the comprehension of the human mind dynamics is still in the beginning, greater levels of depersonalization can be even an attempt to protect oneself from the impact of the contact with powerful feelings triggered by patients. In this sense, having in mind the importance of the role of relationships with superiors/supervisors in protecting residents from burnout symptoms, institutions should be even more active in facilitating the availability, quality and humanity of supervision and support. Moreover, depersonalization implies the losing of the ability to connect to patients, which is a major concern, even more in psychiatry.

Advanced age is correlated with less DP symptoms. This finding is in agreement with a large 2013 study conducted by Dyrbye et al,³¹ which found that mid-career physicians had much higher rates of burnout than older colleagues. Also, according to our sample, male residents may be at even more risk of suffering from depersonalization, even though it is not significant in the linear regression model. This finding points towards a possible different pattern of burnout symptoms in males and females, and further studies, using greater samples and different populations should explore it. Studies about burnout and sex are controversial, some have found that there are no association between sex and burnout, some that male residents had more symptoms, and others that female residents had higher levels of burnout.¹¹ According to our data, as we analyzed the three dimensions of burnout in separate; we believe that one hypothesis is that these controversies may in fact be caused by the existence of different patterns of burnout according to sex. Further studies should focus on evaluate the burnout dimensions in separate in both sexes to elucidate this matter.

The residents had a mean of 46.45 hours of practice per week, and 54.8% had another job besides the residency itself. The latter had about a mean of 8 additional hours of work per week. According to other studies, individuals with a workload above 40 hours per week had higher levels of DP in our sample ($p < 0.05$). This specific variable didn't enter the linear regression models, because we choose to use the number of work hours as a continuous variable. Hence more studies are necessary to better evaluate the impact of this specific factor. However, this finding is in agreement with the literature that shows that increased workload, long hours working and insufficient rest is associated with burnout.^{12,18,26,28}

One intriguing finding is that, despite the high prevalence of emotional exhaustion in our sample (60%), the satisfaction with the profession is also very high (85.3%) as well as the feeling of being personally accomplished (80%). To our knowledge, there are no studies discussing this apparent controversy yet. We believe that, despite the difficulties associated with the work, helping other people can be very satisfying. In addition, entering a medical career usually takes a huge effort and, being in the profession one has chosen and identifies

with, can be related to a consistent sense of purpose, regardless the presence of EE and other psychiatric symptoms.

On the one hand, this study has some strengths. Firstly, we could obtain information concerning 62% of the total population studied. Secondly, we could evaluate aspects not yet addressed in the literature concerning the work environment features. On the other hand, this study has limitations. Firstly, the number of participants limits some analysis. It's possible that future studies with larger populations of psychiatry residents find other associations. Secondly, this is a transversal study, so we cannot infer causality between factors and outcomes. Thirdly, we did not find factors significantly associated with PA in the linear regression model. We believe this can be due to the reduced number of participants and/or the difficult to evaluate PA in the beginning of one's career.

In conclusion, burnout in psychiatry residents is an important issue and was particularly related, in our sample to work environment aspects (i.e. the relationship with superiors and the relation to the institution), as well as to the quality of the relationship with family. It is important to emphasize that the institutional factors are modifiable, and institutions should develop strategies to enhance the healthy aspects of the environment, particularly the nature of the relations within their walls and the nature of the values fostered by the leaders. More studies are necessary to better understand these processes and to evaluate interventions developed to modify them.

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Table 1. Sociodemographic and clinical characteristics of participants

	N=115
Age (Mean, SD)	29.34 (3.509)
	N (%)
Sex, Male	56 (48.7)
Heterosexual	88 (76.5)
With partner	58 (50.4)
With children	9 (7.8)
Living alone	50 (43.5)
Monthly family income	
>\$3875	39 (33.9)
\$1917 – 3875	32 (27.8)
\$775 – 1937	33 (28.7)
\$387 – 775	11 (9.6)
Financial help	73 (63.5)
Exercise according OMS	45 (39.1)
Sexual life is satisfactory	67 (58.3)
Sleep hours (Mean, SD)	6.63 (0.986)
Sleep quality	
Bad	10 (8.7)
Regular	48 (41.7)
Good	39 (33.9)
Great	16 (13.9)
Excellent	2 (1.7)
Relationship with family	
Bad	1 (0.9)
Regular	21 (18.3)
Good	36 (31.3)
Great	39 (33.9)
Excellent	18 (15.7)
Relationship with friends	
Bad	2 (1.7)
Regular	14 (12.2)
Good	42 (36.5)
Great	37 (32.2)
Excellent	20 (17.4)
Residence year	
1	36 (31.3)
2	36 (31.3)
3	43 (37.4)
Other work	63 (54.8)
Works at night	31 (27)
Works weekends	38 (33)
Thought in giving up	34 (29.6)
Satisfied with the profession	
Very satisfied	21 (18.3)
Satisfied	77 (67)
Unsatisfied	13 (11.3)
Very unsatisfied	4 (3.5)
Support by a professor	99 (86.1)
Professor Abuse/harassment	66 (57.4)
Academic impact	49 (42.6)*
	(Mean, SD)
Years working as physician	3.67 (3.2)
Week practice in residency	46.45 (13.0)
Week study in residency	9 (5.7)
Week hours of leisure	15.37 (14.3)

Week work out residency	8 (10.35)
	N (%)
Psychotropic use	
Yes	66 (57.4)
With medical prescription	44 (38.3)*
Self-prescription, or friends	22 (19.1)*
Psychiatric or Psychotherapeutic treatment	
Yes, psychiatric and psychotherapeutic treatment	33 (28.7)
Yes, psychotherapeutic treatment	40 (34.8)
Yes, just psychiatric treatment	7 (6.1)
No	35 (42.4)
Screening Positive	
Anxiety	61 (53)
Somatization	41 (35.7)
PHQ 2	19 (16.5)
Personality functioning	36 (31.3)
Anger	31 (27)
Mania	14 (12.2)
Repetitive thoughts and behaviors	9 (7.8)
Dissociation	4 (3.5)
Suicide ideation	8 (7)
Tabaco use	20 (17.4)
Marihuana use 3 months	13 (11.3)
AUDIT-C for men	
Low risk	28 (50)
Moderate risk	17 (30.4)
High risk	8 (14.3)
Severe risk	3 (5.4)
AUDIT-C for women	
Low risk	49 (83.1)
Moderate risk	5 (8.5)
High risk	4 (6.8)
Severe risk	1 (1.7)
Burnout Prevalence	
Emotional Exhaustion	69 (60)
Depersonalization	32 (27.8)
Low personal accomplishment	23 (20)
WEEI	
Health	47 (40.9)
Risk	35 (30.4)
Toxic	33 (28.7)

SD: standard deviation; *: between those who referred professor abuse/harassment; PHQ: Patient Health Questionnaire; WEEI: Work Environment Evaluation Instrument; AUDIT-C: Alcohol Use Disorders Identification Test - Concise

Table 2. Independent samples, **Mann-Whitney U test – median (interquartile range)**

Variable	n	EE	DP	PA
Sex				
Female	59	30 (21)	8 (8)	37 (7)
Male	56	31 (19)	11 (6)	35.5 (8)
		P=0.428	P=0.002	P=0.232
Physical activity WHO				
yes	45	28 (22)	9 (8)	36 (7)
no	70	31 (18)	11 (7)	35 (7)
		P=0.017	P=0.034	P=0.164
Workload				
<40	53	30 (21)	9 (7)	38 (7)
>40	62	30 (18)	11 (10)	35 (6)
		P=0.160	P=0.033	P=0.072
Support by a professor				
yes	99	30 (17)	10 (6)	36 (7)
no	16	37 (11)	12.5 (6)	32 (9)
		P=0.025	P=0.059	P=0.002
Professor abuse/harassment				
yes	66	32.5 (16)	11 (10)	37 (8)
no	49	22 (18)	8 (8)	35.5 (6)
		P<0.001	P=0.001	P=0.516

Table 3. Correlations, Spearman's rho

	EE	DP	PA
Age	-.04	-.22*	-.06
Work hours per week	.19*	.25**	-.17
Years of medical experience	.02	-.25**	.06
Relationship with family	-.39***	-.36***	.29***
Relationship with friends	-.34***	-.22*	.31***
Relationship with superiors	-.53***	-.50***	.31***
Relationship with peers	-.26**	-.27**	.19*
Relation to institution	-.57***	-.45***	.27**
Total WEEI score	-.56***	-.48***	.32***

*p<0.05; ** p<0.01; ***p<0.001; EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment; WEEI = Work Environment Evaluation Instrument

Table 4. Linear Regression Models

Standardized Coefficients	EE		DP		PA	
	R ² = .457		R ² = .440		R ² = .122	
	beta	t	beta	t	beta	t
Age	-	-	-.18*	-2.3	-	-
Sex, male	-	-	.12	1.56	-	-
Physical activity (WHO)	-.13	-1.7	-.15	-1.87	-	-
Work hours/week	-.05	-.02	.07	.04	-	-
Relationship with family	-.26**	-2.93	-.28**	-3.04	.18	1.72
Relationship with friends	-.06	-.67	.09	.95	.06	.58
Harassment/ abuse by professor	.09	1.03	-	-	-	-
Support by a professor	-.07	-.84	-.07	-.83	-.17	-1.7
Relation to institution	-.29*	-2.38	-.09	-.71	.18	.85
Relationship with peers	.11	1.22	-.05	-.6	.09	.83
Relationship with superiors	-.27*	-2.25	-.38**	-3.13	.08	.59

* P<0.05; ** p<0.01; ***p<0.001; EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment

Table 5. Kruskal-Wallis One-way ANOVA

	n	EE	DP	PA
Year of residency				
1	36	30 (18)	11 (12)	35 (5)
2	36	29 (15)	10 (9)	36 (9)
3	43	31 (20)	10 (7)	36 (7)
			H(2)=2.86; p=0.009	
Family income				
>\$3875	39	23 (21)	8 (8)	36 (8)
\$1917 – 3875	32	31 (15)	9 (6)	38 (6)
\$775 – 1937	33	33 (20)	10 (7)	35 (6)
\$387 – 775	11	35 (15)	12 (9)	34 (5)
			H(3) = 12.36; p=0.006	
Environment				
Healthy	47	21 (17)	7 (7)	39 (7)
Risky	35	30 (11)	11 (6)	35 (6)
Toxic	33	40 (12)	14 (11)	35 (6)
		H(2)=31.90;p<0.001	H(2)=24.49;p<0.001	H(2)=13.74;p=0.001
Sleep Quality				
Bad	10	38 (28)	10 (10)	34 (7)
Regular	48	34 (17)	11 (8)	36 (8)
Good	39	28 (15)	9 (6)	37 (8)
Great	16	22 (19)	10 (12)	37 (5)
Excellent	2	15 (29)	12 (12)	39 (7)
		H(4)=15.96; p=0.003		
Mental Health Treatment				
Psychiatrist only	7	32 (11)	7 (2)	36 (7)
Psychiatrist and psychotherapy	33	37 (13)	10 (8)	36 (9)
Only psychotherapy	40	31 (17)	10 (9)	36 (8)
No treatment	35	22 (16)	10 (10)	36 (7)
		H(3)=17.51;p=0.001		

EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment

7. CONCLUSION

This dissertation has some strengths that are worth discussing. First, we can obtain information about more than a half of the two populations of psychiatry residents that constituted our samples. Second, we can show a high prevalence of positive screening for mental disorders and burnout symptoms, pointing to need of urgent actions to address this problem. Third, the anonymity related to the use of an online questionnaire reduced the chance of residents withholding their experiences. Fourth, we developed an instrument to evaluate work environment aspects yet poorly addressed in the literature: the Work Environment Evaluation Instrument (WEEI). This instrument and its dimensions presented high reliability, and should be tested in further studies to broaden our comprehension of the role of these institutional factors in burnout. Fifth, we can show an association between environmental factors as measured by the WEEI (i.e., relationships with superiors and relation to the institution) with burnout, presenting those factors as potential modifiable risk factors for burnout.

There are limitations as well. First, this is a transversal study and we cannot infer causality between factors and outcomes. Second, the reduced number of participants limits some analysis and it's possible that future researches with larger samples find other associations. Third, the studies were conducted in specific populations (psychiatry residents from Rio Grande do Sul). Therefore, studies with different populations and in different settings are needed to confirm our findings and the performance of our instrument. Fourth, we did not find factors significantly associated with PA in our sample.

In conclusion, our studies provided additional information about burnout in psychiatry residents, showing that it was related, in our sample, to sociodemographic factors, psychiatric symptoms and work environment aspects. Several authors have emphasized the importance of approaching institutional factors as an effective strategy for coping with the increased prevalence of burnout. The instrument we developed (WEEI) and the data showing an important association between environmental factors as measured by the WEEI (i.e., relationships with superiors and relation to the institution) with burnout symptoms may contribute in this matter. It is important to highlight that

the institutional factors are modifiable, and institutions should develop strategies to enhance the healthy aspects of the environment. Further studies are necessary to better understand all these processes and to evaluate interventions developed to modify them.

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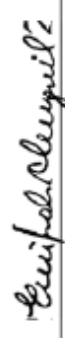


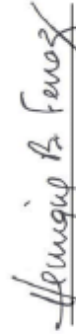
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BURNOUT IN PSYCHIATRY RESIDENTS: THE ROLE OF PSYCHIATRIC SYMPTOMS, INTERPERSONAL RELATIONS AND INSTITUTIONAL AMBIENCE

foi apresentado na modalidade Apresentação Oral, por Gabriela Massaro Carneiro Monteiro, no evento Congress on Brain, Behavior and Emotions 2019 ocorrido de 05 a 08 de junho de 2019 no Centro Internacional de Convenções do Brasil - CICB em Brasília/DF.

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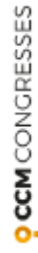

Dr. Euripedes Constantino Miguel
Presidente do Congresso


Dr. Henrique Ballalai Feres
Presidente do Congresso

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VENCEDORES PRÊMIO JOVEM PESQUISADOR 2019

DÉBORA CAIXETA AMÂNCIO	DESCRIÇÃO DA BATERIA BREVE DE RASTREIO COGNITIVO NA ATENÇÃO PRIMÁRIA À SAÚDE EM PATOS DE MINAS, MG
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GABRIELA MASSARO CARNEIRO MONTEIRO	BURNOUT IN PSYCHIATRY RESIDENTS: THE ROLE OF PSYCHIATRIC SYMPTOMS, INTERPERSONAL RELATIONS AND INSTITUTIONAL AMBIENCE
GABRIELE GOULART ZANIRATI	BONE MARROW MONONUCLEAR CELLS TRANSPLANTATION MODULATES BRAIN GLUCOSE METABOLISM AND METABOLIC NETWORK AND REDUCES DEPRESSIVE-LIKE BEHAVIOR IN CHRONIC EPILEPSY
GIOVANNA MELATO BONANÇA	ANÁLISE DO CHIRP DO RITMO ALFA AO FECHAR DOS OLHOS E EM ATIVIDADE DE CONCENTRAÇÃO
GIOVANNA VITÓRIA DO NASCIMENTO	RELAÇÃO ENTRE DIMENSÕES DE SINTOMAS DO TRANSTORNO OBSESSIVO-COMPULSIVO (TOC) E O DESEMPENHO EM TESTE DE ATENÇÃO VISUAL SUSTENTADA
GLÓRIA STEFANIA ALVES SIQUEIRA	FUNÇÕES MNEMÔNICAS E SINTOMAS DEPRESSIVOS PÓS-ACIDENTE VASOULAR ENCEFÁLICO ISQUÊMICO
GRASIELA MARCON	WHO ATTEMPTS SUICIDE AMONG MEDICAL STUDENTS?

**12TH GENEVA CONFERENCE
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**CORE CONFERENCE 25 – 27 MARCH 2019
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- 15:30 - 16:15 • Social scientist's perspectives: *Ottomar Babbs (Göttingen, Germany)*
Arts and Person Centered Medicine Session
Chairs: *H.R. Pfejfer (Zurich), Helen Millar (Scotland)*
Dance (*Maria Ammon*); Music (*Paul Tournier Association Representative*)
- 16:15 - 16:45 **Coffee Break and Interactive Poster Session 2: Person-centered Education**
Chairs: *Robert Cloninger (St. Louis, USA) and Tesfa Ghebremet (Alberta, Canada)*
 - The pathway from well-being to burnout and depression in college: a qualitative evaluation of medical students' perception - preliminary analysis: *Tamires Marins Bastos, Carolina Stopinsky Padoan, Cristina Pessi, Priscilla Braga Laskowski, Luciana Terra, Patricia Fabricio Lago, Ana Margareth Siqueira Bassoli, Simone Hauck (Porto Alegre, RS, Brazil)*
 - Coping with Disaster and Displacement: Medical Student Wellness in the Aftermath of a Category 5 Hurricane: *Kimberly Kirkland, Adrianna Gatt, Soubbi Alhozayek, Julie Taylor, (Pembroke Pines, FL, USA)*
 - Burnout in Psychiatry Residents: the role of psychiatric symptoms, interpersonal relations and institutional ambience: *Gabriela Carneiro Monteiro, Ives Cavalcante Passos, Fernanda Lucia Capikiano Baeza and Simone Hauck (Porto Alegre, RS, Brazil)*
- 16:45 - 18:00 **ICPCM General Assembly** (including 2019 Geneva Declaration discussion, report and development of PCM regional networks and national associations, and next steps)
- 18:00 - 19:00 **Cultural Group Walk around Geneva**
- 19:00 - 22:00 **Conference Dinner**



TUESDAY MARCH 26, 2019: CORE CONFERENCE SECOND DAY
Main Conference Hall, WCC-Council of International Organizations of Medical Science
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- 8:30 - 9:15 **Paul Tournier Prize Session**
Chairs: *Jon Snædal (Reykjavik), Frederic Von Orslé (Basel), Alain Tournier (Geneva), H.R. Pfejfer (Zurich)*
Laudatio: *Juan E. Mezzich (New York and Lima)*
2019 Paul Tournier Prize Lecture: *Alberto Perales (Lima)*
- 9:15 - 10:45 **Plenary Symposium 4: Major Contributors to Healthy Life Styles and Burn-out Management**
Chairs: *Norman Sartorius (Geneva), Imelda Medina (Miami)*
 - Nutrition: *Diana Estevez (WHO, Geneva)*
 - WHO perspectives on physical activity: *Temo Waqanivalu (WHO, Geneva)*
 - Coaching perspectives on physical activity: *Mike Gwörder (Zurich, Switzerland)*
 - Stress management: *Daniilo Garcia (Gothenburg, Sweden)*
 - Health promotion coaching: *Kevin Cloninger (Anthropedia, St. Louis)*
- 10:45 - 11:15 **Coffee Break and Interactive Poster Session 3: People-centered Public Health**
Chairs: *Jim Appleyard (London) and Salman Rawaf (London)*
 - Person-Centered Care and Human Trafficking Prevention – Training Healthcare Providers: *Imelda Medina, Abraham Salinas, Anthony J Mazys (Miami, USA)*
 - The global effort to eradicate polio – every child has a right to be protected: *Oliver Rosenbauer (WHO, Geneva)*
 - Interdisciplinary person centered assessment of refugee needs: *Thomas Wenzel, Rasm Alkairi, Maria Klutcha-Pulker, Boris Droschek (Vienna, Austria)*
- 11:15 - 12:45 **Plenary Symposium 5: Health professionals Training in Health Promotion and Burn-out Prevention.**
Chairs: *Alberto Perales (Lima), Helen Millar (Dundee, Scotland)*

JORNADA ∞
CELG

**Mente e Corpo:
diálogos contemporâneos**

30 de agosto a 1º de setembro de 2018 | Canela RS

CERTIFICADO

Certificamos que o trabalho: Burnout em Residentes de Psiquiatria: O papel dos sintomas psiquiátricos e das relações institucionais.

De autoria de: Gabriela Massaro Carneiro Monteiro, Ives Cavalcante Passos, Simone Hauck e Fernanda Lucia Capitaniao Baeza.

Foi apresentado na **Jornada CELG**, realizada no período de 30 de agosto a 01 de setembro de 2018, no Hotel Continental em Canela, RS, na forma de **PÓSTER**.




Dra. Simone Hauck
Presidente

Canela RS, 01 de setembro de 2018


Dra. Patricia Fabricio Lago
Diretora Científica



XIV Congresso
Gaúcho de Psiquiatria
Vínculos & Saúde Mental

CERTIFICADO

Conferimos o presente certificado a

**GABRIELA CARNEIRO MONTEIRO, IVES CAVALCANTI PASSOS, SIMONE HAUCK,
FERNANDA LUCIA CAPITANIO BAEZA**

pela sua participação na qualidade de autor(es) do trabalho “**BURNOUT EM RESIDENTES DE
PSIQUIATRIA: O PAPEL DOS SINTOMAS PSIQUIÁTRICOS E DAS RELAÇÕES
INSTITUCIONAIS E INTERPESSOAIS.**”, apresentado na modalidade **EXPOSIÇÃO DE PÔSTER**,
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Flavio Shansis
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SPRITZER, LUCIANA TERRA, SIMONE HAUCK**

pela sua participação na qualidade de autor(es) do trabalho “**INSTRUMENTO PARA
AVALIAÇÃO DO AMBIENTE DE TRABALHO**”, apresentado na modalidade **EXPOSIÇÃO DE
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Flavio Shansis
Presidente da Associação de
Psiquiatria do Rio Grande do Sul

Andrea Poyastro Pinheiro
Diretora Científica da Associação de
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WHO ATTEMPTS SUICIDE AMONG MEDICAL STUDENTS?

dos autores

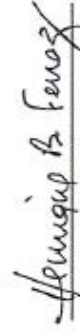
Grasiela Marcon, Gabriela Massaro Carneiro Monteiro, Pedro Ballester, Ryan M Cassidy, Aline Zimmerman, Lisia Von Diemen, Simone Hauck e Ives Cavalcante Passos,
o **Prêmio CCM de Incentivo à Pesquisa,**

pelo trabalho apresentado durante o

CONGRESS ON BRAIN, BEHAVIOR AND EMOTIONS 2019, ocorrido de 05 a 08 de junho,
no Centro Internacional de Convenções do Brasil, em Brasília/DF.

Brasília, 05 de junho de 2019.


Dr. Euripedes Constantino Miguel
Presidente do Congresso


Dr. Henrique Baltal Ferraz
Presidente do Congresso

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