

Burnout Among Residents: A Current Perspective

Burnout nos Médicos Internos: Uma Perspetiva Atual

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ABSTRACT

Burnout is increasingly prevalent among medical residents, with reported rates ranging from 17% to 75% in certain studies, highlighting methodological heterogeneity and the need for further research and understanding. This literature review aims to contribute to a better understanding of this topic by examining the prevalence, assessment instruments, associated factors, consequences, and interventions related to burnout among resident physicians. To achieve this, a literature search of scientific publications from 2000 to 2024 was conducted, resulting in a total of 22 articles that met the inclusion criteria. Burnout has serious psychiatric consequences for the physician but also affects patients, since a doctor who is not able to perform effectively at work offers lower quality healthcare delivery and risks medical errors. Based on the evidence synthesized in the article, burnout among medical residents is highly prevalent, multifactorial, and strongly driven by organizational conditions, with rates frequently exceeding 50% and reaching particularly high levels in the first year of residency and in certain specialties. The findings also show that organizational and integrated institutional interventions are more effective than individual strategies alone, leading to meaningful reductions in emotional exhaustion, depersonalization, and downstream consequences for patient care and workforce retention. To address this growing issue, integrated approaches are needed, both at the institutional and personal levels.

Keywords: Burnout, Professional; Depersonalization; Internship and Residency; Mental Health; Portugal; Stress, Psychological

RESUMO

O *burnout* é cada vez mais prevalente entre médicos internos, com uma taxa de prevalência que varia entre 17% a 75% em certos estudos, o que evidencia a heterogeneidade metodológica e a necessidade de maior investigação e compreensão. Esta revisão bibliográfica pretende contribuir para a melhor compreensão deste tema, explorando a prevalência, instrumentos de avaliação, fatores associados, consequências e intervenções relativas ao *burnout* entre médicos internos. Para tal, realizou-se uma pesquisa na literatura científica publicada entre 2000 e 2024, com um total de 22 artigos que atenderam aos critérios de inclusão. O *burnout* acarreta consequências graves para o médico a nível psiquiátrico, mas também afeta os doentes, já que um médico incapaz de alcançar um bom desempenho no trabalho oferece uma prestação de cuidados de saúde com qualidade inferior e propicia o erro médico. Com base nos resultados apresentados, o *burnout* entre médicos internos é prevalente, multifatorial e influenciado por fatores organizacionais, com taxas frequentemente superiores a 50%, em particular no primeiro ano de internato e em determinadas especialidades. Os dados mostram ainda que intervenções institucionais e integradas são mais eficazes do que estratégias exclusivamente individuais, uma vez que promovem a redução significativa da exaustão emocional, da despersonalização e do impacto negativo na qualidade dos cuidados aos doentes e na retenção profissional. Para enfrentar este problema crescente, é necessário desenvolver abordagens integradas, tanto a nível institucional quanto pessoal.

Palavras-chave: Despersonalização; Esgotamento Profissional; Internato e Residência; Portugal; Saúde Mental; Stress Psicológico

INTRODUCTION

The term 'burnout' or 'burn-out' (also referred to as occupational stress) means "to burn until exhaustion." It is a syndrome that mainly affects professionals who maintain high levels of contact with people and are subject to emotional strain, such as physicians. 'Burnout' lies at the opposite end of the spectrum from 'engagement', which refers to a positive state of involvement and full dedication to work.¹

Burnout is a psychosocial condition first described by Freudenberg² and widely studied in the medical context by Maslach *et al.*³

Since 2019, 'burnout' has been included in the list of diseases, a measure implemented by the World Health Organization (WHO) and based on the conclusions of health experts worldwide. It is now part of the section on "problems associated with employment and unemployment", in the International Classification of Diseases – ICD-11, under the code QD85.

The burnout syndrome is defined as a state of physical, emotional, and mental exhaustion resulting from the intensive exercise of professional activity, leading to an accumulation of chronic stress that is not effectively managed.¹ According to the WHO, burnout is characterized by "a feeling of exhaustion, cynicism or negative feelings related to work, and reduced professional efficacy."

This syndrome encompasses symptoms across three dimensions: emotional exhaustion, depersonalization, and loss of professional accomplishment. These may appear with varying degrees of severity and, if not properly treated, can progress to cause serious psychiatric consequences for physicians (such as depression, anxiety, or addictive disorders

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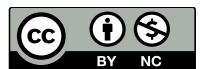
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involving the use of psychoactive substances, or even, in extreme cases, suicide).⁴

Among medical residents, prevalence has been shown to be particularly high, driven by long working hours, early clinical responsibility, and limited institutional support.⁵ As a consequence, medical residents show higher levels of burnout compared to medical students or specialist physicians.^{5,6}

Therefore, despite the scarce literature concerning this topic, understanding burnout among medical residents is essential to create more effective health policies and to optimize medical training programs that promote sustainable and safe working environments.

Review objectives

The main objective of this article is to deepen the understanding of burnout among medical residents, based on the critical analysis of several articles: assessing the prevalence rate of burnout; identifying the main risk and protective factors; and evidence-based prevention and intervention strategies. Finally, we aim to integrate methodological and conceptual advances from the scientific literature to explore prevention and intervention strategies grounded in scientific evidence.

METHODS

This narrative review analyzes 22 scientific publications obtained through systematic searches in the PubMed, Scopus, BIREME, PsycINFO, and SciELO databases. Descriptors such as “burnout,” “medical residents,” “well-being,” “intervention,” and “residency programs,” among others, were used. The inclusion criteria considered articles published between 2000 and 2024, in English, Portuguese, or Spanish, focusing on burnout among medical residents. Systematic reviews, cross-sectional studies, meta-analyses, longitudinal, and qualitative studies were included. Publications with mixed samples (non-residents) or those addressing only other types of occupational stress without distinguishing burnout were excluded. The articles were reviewed from January until August 2025.

Conceptualization of burnout

In this syndrome, symptoms are present across three dimensions: emotional exhaustion (a sense of depletion), depersonalization (detachment and cynicism towards patients), and reduced personal accomplishment (feelings of ineffectiveness).¹ This conceptual framework, although widely accepted, has been criticized for its subjectivity and reliance on self-reports.⁷

Some studies have proposed broader approaches, incorporating mental health indicators such as anxiety, depression, and suicidal ideation, as well as psychosocial factors such as sense of purpose or interpersonal connection.⁸ The most recent proposal argues that burnout should be assessed within the context of the institutional environment and the healthcare system as a whole, rather than merely as a result of individual vulnerability.⁹

Prevalence and distribution of burnout

The prevalence rate of burnout ranges from 17% to 75% in certain studies, which reveals the heterogeneity of methods that were used. This variation reflects not only contextual differences but also the diversity of instruments used for assessment.¹⁰

In their meta-analysis, which included more than 12 000 residents from 15 countries, Rodrigues *et al* (2018) reported a global average prevalence rate of 51.2%, with higher rates in Latin American countries (up to 63%) when compared to Europe (around 45%).⁶

In Portugal, Silva *et al* followed 134 medical residents over 12 months and found that 64% reported moderate to high levels of emotional exhaustion already in the first year of residency, while 41% presented symptoms of depersonalization and 28% reported reduced professional accomplishment.¹¹

Differences by medical specialty

The study by Low *et al*, involving 31 studies and around 9000 residents, found burnout prevalence rates of 48.3% among medical specialties and 57.1% among surgical specialties.¹⁰

In specialties with strong emotional component, such as psychiatry and pediatrics, longitudinal studies identified emotional exhaustion rates above 60%, often associated with prolonged contact with vulnerable patients and communication difficulties with family members.¹²

In obstetrics and gynecology, Martini *et al* reported burnout in over 70% of residents, attributing it to case unpredictability, the emotional burden associated with fetal loss, and a high frequency of night and emergency shifts.¹³

In diagnostic specialties, a recent systematic review and meta-analysis showed that 49.9% of radiology residents experienced significant emotional exhaustion, while 35% reported reduced professional accomplishment.¹⁴

In pathology, a survey conducted by the American Society for Clinical Pathology involving 350 residents found that 36.7% reported symptoms of burnout, with work overload and professional isolation emerging as key contributing factors.

Evaluation tools

The Maslach Burnout Inventory (MBI) is a scale originally developed by Maslach and Jackson in 1981, and remains to this day the most widely used instrument for assessing burnout, based on its three classic subscales: emotional exhaustion, depersonalization, and reduced personal accomplishment.³

However, subsequent studies, including reviews on medical residents, have discussed the application of the scale in the current clinical context (raising questions about the validity and relevance of the scale in this population group),¹³ while other studies highlight the need to contextualize and culturally adapt the instruments.^{1,4}

Other scales are used, including the General Health Questionnaire (GHQ-12) for general mental health; the PHQ-9 for depressive symptoms; the Perceived Stress Scale (PSS) for perceived stress; and the WHO-5 for psychological well-being.

A review on assessment tools proposed combining scales to ensure greater ecological and longitudinal validity.⁴

Burnout associated factors

Four categories of factors associated with burnout stand out: organizational, individual, interpersonal, and training related.⁷

Studies support this categorization, showing that burnout among residents results from a complex and multifactorial set of interacting variables.⁹ Evidence also shows that interventions targeting these four domains can significantly reduce burnout levels among medical residents.¹⁵

Organizational factors

Excessive working hours, prolonged night shifts, and insufficient rest breaks have been identified as the main risk factors. In addition, pressures for productivity, administrative bureaucracy, and failures in institutional communication contribute to the perceived chronic stress.

Recent studies in Portugal show that 84.8% of medical residents exceed the legal limit of 48 weekly working hours, reaching an average of 52.8 hours per week.¹⁶

Night shifts longer than 24 hours are associated with a 36% increase in the risk of emotional exhaustion.⁵

Furthermore, a high prevalence of residents report experiencing organizational injustice, which is linked to higher levels of depersonalization, approximately 45%. Organizational injustices in medical internship can show up in everyday situations, such as interns being assigned heavier workloads or more night shifts than colleagues without a clear reason, or evaluations being influenced by subjective opinions rather than consistent criteria. They may also experience decisions about rotations or opportunities being made without transparency or input, leaving them feeling excluded. On an interpersonal level, this can include dismissive attitudes from supervisors, lack of respect for personal time, or feedback delivered in a harsh or demeaning way.¹⁶

Individual factors

A narrative review identified that residents with traits of perfectionism and high self-criticism had twice the risk of burnout compared to their peers without these characteristics.¹⁵

Similarly, residents with a prior history of mental disorders showed a burnout prevalence rate above 60%, compared to approximately 40% among those without such a history.¹

The lack of coping skills, low emotional resilience, poor time-management abilities, a predisposition to anxiety and neuroticism, and difficulties adapting to hospital culture have also been identified as factors predisposing individuals to burnout.

Furthermore, the interaction between environmental factors and individual characteristics generates cumulative effects over time, increasing emotional exhaustion and a loss of professional purpose.⁹

Interpersonal factors

The type of relationship with advisors, colleagues, and patients plays a fundamental role — a lack of constructive feedback, abuse of power, and excessive rivalry increase depersonalization and isolation.

Hierarchical environments considered 'toxic' were mentioned by 27% of Portuguese residents and are cited as a factor in psychological distress.¹⁶

On the other hand, the presence of social support networks in the workplace reduced the incidence of burnout by up to 25% in multicenter surveys.¹⁷

Training factors

Curricular disorganization, a discrepancy between theory and practice, and lack of structured pedagogical mentoring, are factors that generate demotivation.¹⁶

Regarding the training process, 53% of residents reported feeling that they spent more time on bureaucratic tasks than on training-related activities.¹⁶

This overload with non-pedagogical tasks was identified as a factor in demotivation (and increased feelings of uselessness and ineffectiveness) in almost half of the study sample, being particularly relevant in the first 12 months of residency.¹⁸

Gender, diversity, and discrimination

The literature shows that female residents are at higher risk of burnout, particularly due to balancing family responsibilities with professional demands.¹²

Women also tend to receive less institutional support, face more resistance in leadership positions, and are more frequently the target of discriminatory comments.¹⁸

Intersectionality – the combination of gender, race, sexual orientation, and social class – increases the risk of burnout in specific subgroups, requiring inclusive policies of protection, listening, and empowerment within healthcare services and training institutions.

Consequences of burnout on the personal and social levels

The consequences of burnout are extensive and multidimensional, affecting the personal, professional, and institutional spheres.

On a personal level, burnout is associated with symptoms of anxiety, depression, sleep disturbances, increased substance use, and even suicidal ideation.¹⁸

The existing literature suggests that residents with burnout have a higher risk of developing diagnosable mental disorders than specialist physicians, and are also more prone to prolonged absences and a lower quality of life.^{4,8}

Emotional exhaustion contributes to staff turnover, increased number of days of sick leave, and early abandonment of residency or even the medical profession.¹

Socially, there is also an indirect cost: financial investment in the training of specialist physicians can be wasted due to early attrition or reduced productivity. Burnout also contributes to the discrediting of training institutions and demotivates future generations of healthcare professionals.⁴

Impact on the doctor-patient relationship and the institution

At the institutional level, burnout negatively impacts hospital productivity, quality indicators, and patient safety.¹⁹ Work overload combined with the absence of preventive measures is directly associated with an increase in clinical errors and omissions, compromising care performance and raising the rates of complaints and legal actions in institutions with high levels of burnout among their residents.^{19,20}

At the individual level, residents with burnout show reduced capacity to make ethical decisions and face difficulties in managing complex clinical situations, which may lead to hasty or hesitant decisions, thereby increasing the occurrence of errors and omissions.²⁰

Depersonalization, one of the central dimensions of burnout, fosters the objectification of patients, weakening the therapeutic bond and the humanization of care. This distancing harms clinical outcomes and contributes to the emergence of conflicts, complaints, and litigation. Moreover, the deterioration of the physician-patient relationship acts as a factor that reinforces burnout, intensifying professional suffering and undermining the patient's experience.²⁰

Strategies to prevent or reduce burnout

Interventions to prevent or reduce burnout can be divided into three main categories: individual (such as mindfulness techniques, coaching, cognitive behavioral therapy), interpersonal (such as mentoring or support groups), and organizational (such as restructuring work schedules or improving supervision).²⁰

Organizational, individual, and interpersonal interventions can significantly reduce burnout levels among residents, with organizational interventions being more effective than isolated measures.²⁰

It has also been documented that multi-component wellness programs reduce burnout by up to 30%. The wellness programs described in the review include three main types of interventions: organizational changes (reducing workload, improving workflows, and increasing clinical autonomy), team interventions (peer support, mentoring, and improved communication), and individual interventions (mindfulness, stress management training, and cognitive-behavioral strategies).²¹

Some institutional policies have shown effectiveness in mitigating the impact of burnout, such as implementing psychological wellness programs, reorganizing work schedules to ensure minimum rest periods, and developing spaces for active listening and professional mentoring.^{20,21}

Such strategies have been associated with a significant reduction in emotional exhaustion rates and increased job satisfaction among residents.²¹

Low demand for mental health care among residents

It is known that, of a total of more than 10 000 Portuguese residents, 1737 of those surveyed, or about one in three, receive psychological or psychiatric support. Of these, 35.3% began some type of psychological or psychiatric support during their residency.¹⁶

But not everyone asks for help. There are issues related to stigma and confidentiality, which lead residents to postpone or even not seek mental health care.¹⁶ There are reports of breaches of medical confidentiality by other residents or clinical staff, leading to discrimination. Residents experiencing burnout fear losing privileges, having their fitness to practice questioned, securing fewer opportunities during their residency, or even having patients distrust them.¹⁶

Furthermore, taking care of their mental health also involves further investment in time management to accommodate eventual therapy sessions and the development of aspects in their identity that can strengthen their self-worth, as well as of relationships that can provide social support or activities that lead to a reduction in perceived stress.^{16,22}

Evidence in Portugal

One of the most important studies conducted in Portugal – the National Study of the Medical Residents' Council (2023), with 1737 responses from a universe of approximately 10 000 residents – showed that despite regulations on working hours, 84.8% of residents work overtime, with an average of 52.8 hours per week, which exceeds the 48-hour limit stipulated by European legislation.¹⁶

Sixty-one percent of the surveyed residents indicated that excessive workload was the main source of psychological distress; 46% reported feeling a lack of institutional support; 29% stated that they had experienced workplace harassment or abuse of power during residency; and 18% said they had considered leaving the training program due to exhaustion.¹⁶

Insecure employment was highlighted as an aggravating factor, with 37% of residents reporting professional uncertainty about the future.¹⁶

Despite legal regulations, the discrepancy between policy and practice directly contributes to high levels of burnout.

Experimental initiatives with balanced schedules and structured supervision led to a 22% reduction in emotional exhaustion and an 18% decrease in depersonalization, along with a 25% improvement in professional satisfaction rates. There was also a reduction in anxiety and depressive symptoms, and an increase in perceived social support, particularly among family medicine residents.¹⁶

Practical implications

The results of this review are relevant as they demonstrate that burnout among medical residents is highly prevalent,⁶ multifactorial, and has a direct impact on the quality of care and patient safety,¹⁹ in addition to influencing a career change.⁴

Medical specialty emerges as a critical variable influencing both the etiology and the manifestation of burnout, thereby requiring preventive approaches tailored to each training context.

National data suggests that organizational measures are more effective than individual interventions, supporting the need to strengthen working-hour regulations, integrate institutional mental health programs, and establish safe reporting mechanisms.¹⁶ The implementation of structured mentorship, protected clinical supervision, and a reduction in residents' bureaucratic workload constitute strategies that are directly applicable in Portugal and have demonstrated effectiveness in reducing emotional exhaustion and depersonalization.¹⁶

Methodological limitations of the studies

A large part of the research on burnout in residents involves samples of fewer than 200 participants,¹ which limits representativeness. In the meta-analysis by Low *et al*, only six out of 31 studies (19%) included samples larger than 500 residents, which highlights the fragmentation of the literature.¹⁰

The predominance of cross-sectional studies (almost the majority of published work) restricts the ability to establish causal relationships. Only one out of the 22 articles included in this review (11%) was longitudinal, limiting the understanding of the temporal progression of burnout. In addition, six systematic reviews and meta-analyses contributed to the integration of multicenter data.

Another frequent issue is the almost exclusive reliance on the Maslach Burnout Inventory (MBI): in about 80% of the studies, this was the only tool applied, often without adequate cross-cultural validation.

The absence of standardized severity criteria and cutoff points makes international comparisons difficult: reported prevalence rates range from 17% to 75%, depending on the instruments used, reinforcing the need for uniform criteria of severity and definition.

Moreover, there is little representation of residents from less common specialties, peripheral regions, and non-English speaking healthcare systems. Studies carried out in Portugal, for example, point out limitations in the translation and interpretation of items related to 'depersonalization', hence leading to inconsistencies in cutoff points.¹⁶

CONCLUSION

The investment in the mental health of residents is not only an ethical issue but also a strategic one, since institutional well-being programs have already been shown to reduce burnout prevalence.^{20,21}

To advance in this area, it is recommended to increase the number of longitudinal studies — which currently account for only 11% of the literature — with multicenter samples of more than 500 residents, thus ensuring greater representativeness.

It is urgent to implement national policies that ensure the protection of the mental health of resident physicians, and to structure training programs that incorporate formal mechanisms for the prevention, monitoring, and response to burnout.

At the institutional level, protocols for mental health surveillance should be adopted to guarantee anonymity, provide formal reporting channels, and promote training of trainers.

Furthermore, it is essential that public policies formally recognize burnout as an occupational risk, integrating mental health into medical career plans.

Collaboration between national competent authorities, universities, and professional associations should be seen as a priority; otherwise, high burnout rates will persist, with negative consequences for the healthcare system.

This work makes an original contribution by critically integrating the international literature with data and specific characteristics of the Portuguese context, offering an up-to-date perspective that is applicable to the national reality of medical training.

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AUTHOR CONTRIBUTIONS

BA, GG: Conception, writing and critical review of the manuscript.

RC, MP: Writing and critical review of the manuscript.

All authors approved the final version to be published.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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