Occupational Burnout Among Healthcare Workers: Risk Factors, Consequences, and Prevention Strategies

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Abstract

Background: Occupational burnout among healthcare workers has become an increasingly prevalent problem worldwide, with significant consequences for individual well-being, quality of patient care, and the functioning of healthcare systems. According to the World Health Organization's ICD-11 classification, burnout is defined as a syndrome resulting from chronic workplace stress that has not been successfully managed and is characterized by

emotional exhaustion, mental distancing from work, and reduced professional efficacy. Healthcare professionals, particularly physicians and nurses, are consistently identified as groups at high risk of developing occupational burnout.

Objective: The aim of this narrative review was to summarize current evidence on occupational burnout among healthcare workers and to discuss its epidemiology, key risk factors, consequences, and effective prevention strategies, with particular emphasis on multilevel interventions at the individual, organizational, and system levels.

Methods: A narrative review of the literature was conducted using PubMed/MEDLINE, Scopus, Web of Science, and Google Scholar databases. Peer-reviewed articles published in English were included, focusing on burnout prevalence, determinants, consequences, and preventive interventions among healthcare workers. Systematic reviews, meta-analyses, observational studies, and relevant clinical and organizational reports were analyzed to synthesize current knowledge on the topic.

Results: The available evidence indicates a high and increasing prevalence of occupational burnout among healthcare workers globally, particularly in high-intensity clinical settings and during periods of increased system strain, such as the COVID-19 pandemic. Burnout arises from a complex interaction of systemic, organizational, professional, and individual factors, including excessive workload, administrative burden, insufficient staffing, and limited psychosocial support. The consequences of burnout extend beyond individual mental health impairment to include increased medical errors, reduced job satisfaction, staff turnover, and decreased organizational efficiency. Multilevel prevention strategies, combining individual-focused interventions with organizational and system-level changes, appear to be more effective than approaches targeting individual resilience alone.

Conclusions: Occupational burnout among healthcare workers represents a significant and growing challenge for modern healthcare systems. An evidence-based, comprehensive approach that addresses individual, organizational, and systemic determinants of burnout may improve healthcare workers' well-being, enhance patient safety, and contribute to the long-term sustainability of healthcare delivery.

Keywords: occupational burnout; healthcare workers; physicians; nurses; risk factors; prevention strategies

Introduction and Aim of the Study

Occupational burnout among healthcare workers constitutes a growing public health problem with significant consequences for quality of care, patient safety, and the stability of healthcare systems. In the ICD-11 classification of the World Health Organization (WHO), burnout is defined as a syndrome resulting from chronic workplace stress that has not been successfully managed and comprises three core dimensions: exhaustion, mental distance from one's job, and reduced professional efficacy [1]. The most commonly used diagnostic instrument is the Maslach Burnout Inventory, which conceptualizes burnout as a three-dimensional construct [2].

Numerous systematic reviews and population-based studies indicate that healthcare workers — particularly physicians and nurses — belong to professional groups at especially high risk of developing occupational burnout [3–6]. Meta-analyses confirm that this problem is global in nature and affects multiple healthcare sectors regardless of the level of economic development [7–10]. The COVID-19 pandemic significantly exacerbated burnout symptoms among healthcare workers. During this period, increased levels of stress, emotional burden, symptoms of secondary traumatic stress, and deterioration in quality of life among medical personnel were observed [11–16]. Associations between burnout and an increased incidence of medical errors as well as reduced job satisfaction have also been demonstrated [17,18].

In response to the growing scale of the problem, an increasing number of studies have focused on burnout prevention strategies. Individual-level interventions, including stress-reduction training, mindfulness programs, and well-being initiatives, demonstrate moderate effectiveness [3,19]. However, meta-analyses indicate that organizational and system-level interventions — such as improving workplace culture, reducing administrative burden, reorganizing job responsibilities, and promoting team well-being — have the greatest impact [20–23]. This highlights the need for a comprehensive preventive approach addressing individual, team, and institutional levels simultaneously.

Despite increasing interest in the topic, many aspects of occupational burnout remain insufficiently explored, particularly with regard to differences between professional groups and variations across healthcare systems.

The aim of this study is to present the current state of knowledge on occupational burnout among healthcare workers, with particular emphasis on risk factors and effective prevention strategies at the individual, organizational, and system levels.

Review Methods

The literature search was conducted using the PubMed/MEDLINE, Scopus, Web of Science, and Google Scholar databases, employing combinations of keywords related to occupational burnout and healthcare work, such as “burnout,” “healthcare workers,” “physicians,” “nurses,” “occupational stress,” “secondary traumatic stress,” “prevention,” and “COVID-19.” The review included peer-reviewed publications available in full text, published in English, focusing on healthcare workers and addressing the prevalence of burnout, risk factors, occupational consequences, or preventive interventions. Studies not available in full text, non–peer-reviewed publications, and those concerning populations unrelated to healthcare were excluded. The final selection of publications was based on relevance to the study topic, the timeliness of the data, and overall scientific merit.

State of the Art

Epidemiology of Occupational Burnout

Occupational burnout among healthcare workers is a globally recognized public health problem, reflected both in WHO classifications and in numerous meta-analyses [1,3–5]. According to studies conducted across multiple continents, the prevalence of burnout among medical personnel remains high and has continued to increase in recent years. Meta-analyses including countries with diverse healthcare systems confirm that burnout affects both highly developed and developing nations [7–10].

The COVID-19 pandemic played a particularly significant role, leading to a sharp increase in workload among healthcare workers and an exacerbation of burnout symptoms. Systematic reviews have shown that the proportion of staff reporting high levels of exhaustion and professional disengagement increased during the pandemic, in some cases severalfold,

especially among workers in settings with high exposure to stress and emotional overload [11–16,24]. In many countries, the pandemic also exposed structural weaknesses in healthcare systems — such as insufficient staffing relative to demand and excessive organizational pressure — which further intensified the risk of burnout [8,20].

In Europe, the scale of the phenomenon is well documented in studies conducted both in large populations and in groups particularly vulnerable to work overload. European research indicates that burnout is more prevalent among hospital-based healthcare workers, especially those employed in intensive care units, emergency medical services, and psychiatric care [25,26]. Analyses across various European countries have shown that the proportion of healthcare workers meeting criteria for burnout exceeds 40%, and among staff in the most highly burdened settings — such as emergency departments and intensive care units — may exceed 60% [25].

The highest risk of occupational burnout is observed in medical specialties characterized by high work intensity, substantial clinical responsibility, and frequent exposure to stressful situations. Particularly vulnerable areas include intensive care units, emergency departments, emergency medical teams, prehospital care, and psychiatric services, where high exposure to patient suffering and significant emotional demands contribute to escalating occupational stress and deterioration of psychological well-being, thereby increasing the risk of burnout [9,13,21,28,29]. The literature also indicates an elevated risk among primary care physicians and internal medicine specialists, which has been associated with large patient volumes, time pressure, and substantial administrative burden [5,17,30].

Global data clearly demonstrate that occupational burnout is a large-scale phenomenon present at all levels of healthcare systems. Although its prevalence varies depending on region, specialty, and workload, the overall upward trend observed in many countries suggests a pressing need for systemic preventive measures and organizational changes in healthcare delivery [3,8,20,23,31].

Risk Factors for Occupational Burnout

Risk factors for occupational burnout in healthcare are multilevel in nature and arise from the interplay of systemic, organizational, professional, and individual influences that mutually reinforce one another. The literature emphasizes that it is not a single factor but rather the

accumulation of multiple stressors and an imbalance between job demands and protective resources that is of key importance. This perspective is consistent with frameworks based on analyses of psychosocial job demands and resources in the workplace [32–34]. An imbalance between professional demands and available work resources promotes the development of emotional exhaustion and symptoms of secondary traumatic stress, constituting an important mechanism leading to occupational burnout among healthcare workers [35].

The system level includes factors related to the functioning of healthcare systems, workforce policies, and healthcare financing. Studies indicate that structural constraints — such as insufficient staffing relative to population needs, pressure resulting from service overload, financial limitations, and the organization of healthcare delivery — significantly increase the risk of burnout [8,20]. System-level inefficiencies may also limit the effectiveness of interventions implemented at lower organizational levels [23].

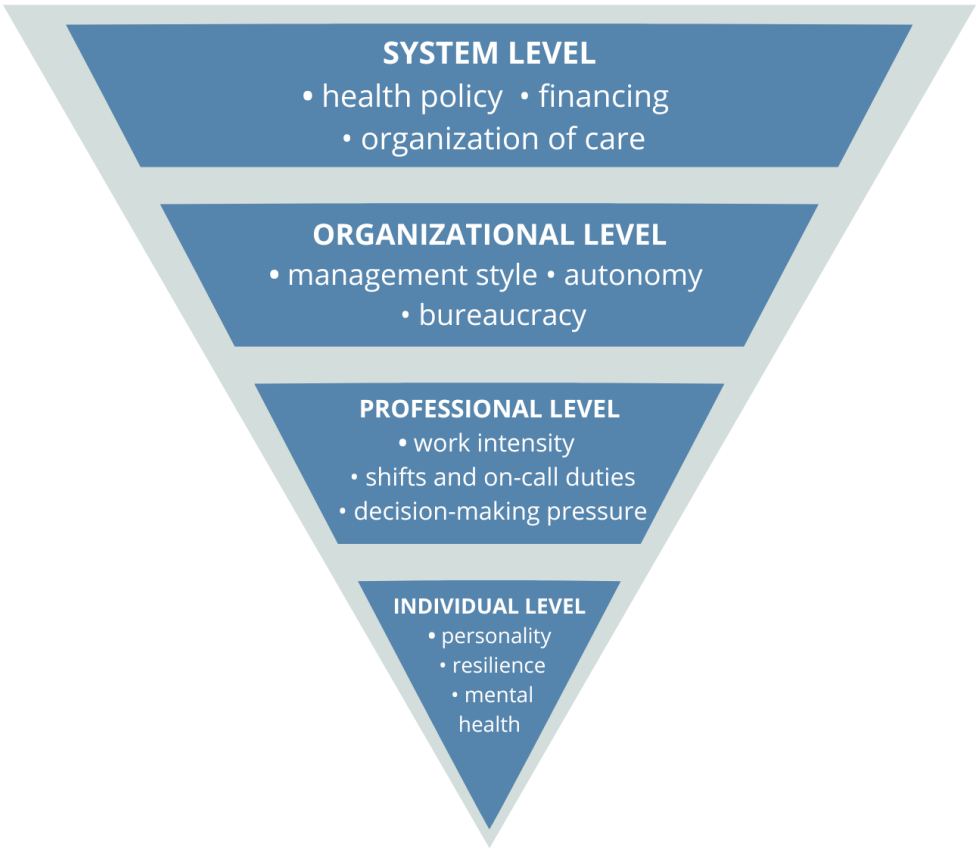
The organizational level pertains to the work environment within a given healthcare institution. It encompasses organizational culture, management style, degree of autonomy, quality of communication, and the availability of supervisory support. The literature highlights that organizational factors often exert a greater influence on burnout than individual predispositions, and that ineffective management, poor professional relationships, and excessive bureaucratic burden contribute to chronic work overload [32,33]. In recent years, electronic health record (EHR) systems have also emerged as a significant source of burden; meta-analyses have linked EHR use to higher levels of burnout, particularly among physicians [27].

The professional level is related to the specificity of clinical work and the nature of job responsibilities. Personnel working under conditions of high work intensity and frequent exposure to acute situations are particularly vulnerable [9,13,26,28,29]. In addition to physical and emotional demands, decision-making requirements, large patient volumes, and a fast-paced work environment play a substantial role.

The individual level includes personal characteristics, resources, and experiences that determine how an employee responds to occupational stress. Research emphasizes the protective role of psychological resilience, effective coping strategies, emotion regulation skills, and overall mental well-being [21,34,36,37]. Conversely, pre-existing psychological

burdens and emotional difficulties may increase susceptibility to the negative effects of chronic occupational stress, particularly in high-intensity work settings [13].

Figure 1. Multilevel model of risk factors for occupational burnout in healthcare.



Consequences of Occupational Burnout

Occupational burnout among healthcare workers is associated with numerous consequences encompassing individual, organizational, and system-level outcomes. Research confirms that chronic emotional strain, exhaustion, and disengagement from work lead to deterioration in the quality of care, an increased risk of medical errors, and reduced psychological well-being among healthcare personnel [5,17,18,27,32]. These consequences affect not only individual workers but also the stability of clinical teams and the overall effectiveness of healthcare systems.

At the individual level, occupational burnout is associated with an increased risk of depressive and anxiety disorders as well as psychosomatic symptoms, as demonstrated in numerous studies involving different groups of medical personnel [9,13,29,38]. High levels of

psychological burden also contribute to the development of secondary traumatic stress and reduced emotional resilience, particularly among professionals exposed to intense and prolonged contact with patient suffering [9,22,28,39]. Furthermore, burnout leads to decreased job satisfaction, diminished sense of professional efficacy, and lower work engagement, which may result in increased absenteeism and intentions to leave the profession [30,32].

At the organizational level, burnout results in reduced quality of care and a higher risk of medical errors. Studies indicate that healthcare workers with high levels of burnout report clinical errors significantly more often, posing a threat to patient safety and potentially leading to adverse treatment outcomes [17,18,27]. Burnout also affects team functioning by increasing interpersonal tensions, reducing collaboration efficiency, and contributing to higher staff turnover, which in turn disrupts continuity of care and lowers organizational effectiveness [26,32]. For healthcare institutions, this also translates into increased costs related to absenteeism, recruitment, and training of new personnel.

At the system level, occupational burnout imposes substantial burdens on the healthcare system as a whole. High staff turnover and reduced professional retention exacerbate problems related to the availability of healthcare services, particularly in specialties already affected by workforce shortages [20,23]. The consequences of burnout also include decreased efficiency of healthcare delivery and increased costs resulting from absenteeism, medical errors, and the need for work reorganization [8,10]. Reviews emphasize that burnout among healthcare personnel has a “domino effect,” whereby negative individual outcomes lead to organizational strain, which subsequently translates into reduced performance of the entire healthcare system [10,15].

In light of the available evidence, occupational burnout represents a significant threat to the quality and safety of healthcare delivery. Its consequences affect both the health of workers and the stability of organizations and healthcare systems, underscoring the need to implement effective preventive strategies at all levels—individual, team-based, organizational, and systemic.

Prevention Strategies

Effective prevention of occupational burnout requires interventions targeted at multiple levels of the healthcare system. This is due to the fact that burnout arises from complex interactions between job demands and available resources, encompassing individual predispositions as well as professional, organizational, and systemic conditions [5,32–34]. Literature reviews emphasize that multilevel interventions are more effective than strategies limited solely to the individual level, as they enable the simultaneous reduction of demands and strengthening of resources [5,8,40]. An overview of the key preventive strategies is presented in Table 1.

Table 1. Types of preventive interventions, professional groups, and their effects on burnout levels.

Type of intervention	Professional group	Effect on burnout (according to studies)
Mindfulness-based stress reduction (MBSR) programs	Physicians, nurses, staff working under high workload conditions	• Reduction in emotional exhaustion and feelings of disengagement from work • Improved stress regulation [13,34,36]
Individual psychological interventions (resilience training, emotion regulation, stress coping skills)	All healthcare workers	• Strengthening of personal resources • Improved stress adaptation • Reduction of secondary traumatic stress symptoms [34,36]
Psychoeducation and professional education on stress management	Junior physicians, early-career medical professionals	• Increased sense of professional competence • Reduced tendency toward emotional distancing from work [34,36]
Mentoring and peer support	Medical residents, nurses, emergency medical teams	• Improved social support • Reduced sense of isolation • Lower levels of work disengagement [32,33]
Team meetings addressing difficult clinical situations	Psychiatric wards, intensive care units, emergency departments	• Better emotional regulation • Reduction of overload and post-traumatic stress symptoms • Lower risk of burnout [9,22]
Improvement of	Hospital teams, primary	• Reduced organizational pressure

management style, communication quality, and increased job autonomy	healthcare settings	• Greater work engagement • Lower burnout severity [32,33]
Reduction of administrative burden	Primary care physicians and internal medicine departments	• Decreased task overload • Reduced emotional exhaustion [35]
Reorganization of duty schedules	Intensive care units	• Reduced time pressure • Improved work–life balance • Lower risk of errors and overload [26,28]
Psychological support programs for medical staff	All healthcare personnel	• Reduction of stress and anxiety symptoms • Decreased burnout levels [13,22]
System-level interventions (workforce policy, healthcare financing, national programs)	National healthcare systems	• Sustained reduction in occupational overload • Increased system stability [8,10,20,23]

Summary

Occupational burnout represents a significant and growing problem among healthcare workers, negatively affecting their well-being, team functioning, and patient safety. Analysis of the current literature indicates that burnout is a multifactorial phenomenon resulting from the interaction of systemic, organizational, professional, and individual factors [5,8,32,34]. Studies conducted in various countries confirm a high prevalence of burnout, particularly in high-intensity work environments and among personnel exposed to chronic stress and emotional burden [13,17,26–29].

The consequences of burnout include both impaired mental health and reduced quality of life among healthcare workers, as well as an increased risk of medical errors, occupational absenteeism, and staff turnover, which in turn affect organizational performance and the stability of healthcare systems [10,15,18,32]. The findings underscore that burnout is not solely an individual problem but a phenomenon with broad systemic implications, requiring multilevel preventive actions [8,20,23].

The most effective burnout prevention strategies involve parallel actions at the individual, team, organizational, and healthcare system levels, aimed at both reducing demands and

strengthening available resources [5,32,33,40]. These interventions are most effective when implemented as part of a coherent, comprehensive support program that addresses the specific needs of particular professional groups and the realities of work within a given clinical setting.

In conclusion, addressing occupational burnout requires an integrated approach encompassing the entire healthcare system. The implementation of multilevel interventions may contribute to improved staff well-being, enhanced quality of patient care, and strengthened organizational stability in the long term.

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