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Burnout among Physicians: Prevalence, Contributing Factors and Solutions: A Review of Literature

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ABSTRACT

The state of burnout is a nuanced condition primarily connected to enduring occupational stress, defined by emotional drain, disconnection from others, and a lesser feeling of personal competence. Identified by the World Health Organization as a critical concern within workplace, burnout is particularly widespread among healthcare professionals, attributed to rigorous workloads, bureaucratic obstacles, and inadequate support systems. This paper examines the underlying factors contributing to burnout- occupational, institutional, and individual aspects, and highlights the consequences for both healthcare providers and patient care. The analysis suggests that burnout adversely impacts both the psychological and physical health of medical workers and reduces the quality of patient care, consequently heightening systemic inefficiencies in the healthcare system. Furthermore, this research intends to delve into various individual, organizational, and systemic methods crafted to mitigate burnout, stressing the need for integrated interventions that cultivate resilience and advance well-being for healthcare practitioners. By examining the intricate aspects of burnout, this study aspires to impact policy and practice, consequently improving the standard of care and cultivating a healthier work environment in medical sector.

Keywords: burnout among physicians, prevalence of burnout, risk factors and causes of burnout, solutions to combat burnout, emotional exhaustion, depersonalization, sense of personal accomplishment, healthcare system challenges

1. Introduction:

Burnout epitomizes a complicated and multifaceted phenomenon predominantly associated with chronic occupational stress that has not been adequately addressed. This phenomenon is characterized by considerable emotional distress, a sense of disconnection, and a diminished perception of personal achievement. Even though it is not officially acknowledged as medical condition, burnout is perceived by the World Health Organization as significant workplace issue, classified in the International Classification of Diseases (ICD-11) as a determinant of health and healthcare accessibility and quality[1,2]. The notion of burnout has progressed since its introduction by Herbert Freudenberger in 1974, and it remains a subject of extensive inquiry, discourse[3], and a substantial concern across various professions. Nowadays this phenomenon is becoming progressively widespread among workers, especially in fields associated with caregiving, high pressure and high responsibility, most of all- healthcare, which will be the primary focus of this article. In our changing world medicine is becoming increasingly bureaucratic. Computers and machines, even though they're facilitating treatment process, are also forming an obstacle in human contact. Time and attention given to patients is limited by tedious medical documentation, various procedures, as well as shortages of medical staff. Due to these factors, work in medical facilities often resembles an assembly line- the objective is to do as much as you can in limited amount of time, irrespective of the quality. Moreover, medicine, which once was perceived as a "calling", is being nowadays reduced simply to service industry. Contemporary medical practitioners often face significant obstacles concerning the availability of therapeutic options due to inadequate funding. The extensive pressure of the job, responsibility for people's health and life, and long working hours, combined with sleep deprivation, put a high strain on healthcare professionals. This, in turn, affects the healthcare

system- increasing the number of medical errors, lowering the quality of work and taking away patients' satisfaction. Furthermore, this problem harms our economy. Burned out employees are often seeking treatment for both somatic and mental conditions; depression levels are on the rise; career changes are made. Despite substantial amount of evidence, this problem is still ignored and overlooked. The objective of this paper is to highlight the importance of this phenomenon and show its detrimental role in healthcare system. It aims to find root causes of burnout and solutions to combat it.

2. Root causes:

Occupational and Institutional Factors:

- Workload and Work Environment: prolonged working hours and exhausting on-call responsibilities constitute significant factors contributing to occupational burnout. Medical practitioners frequently encounter stress stemming from frustrating administrative obligations, including documentation and compliance with procedures and regulations, which detract from their primary focus on patient care and increase stress levels[4,5]. Lengthy working hours, particularly those exceeding 80 hours per week, exhibit a strong correlation with burnout, especially among residents[6].
- Design of Healthcare System: inefficient workflows, inadequate and confusing electronic health records, and insufficient supervision in medical facilities represent institutional challenges that intensify feelings of burnout among healthcare professionals. The negative effects of these issues are further intensified by payment models that fail to provide adequate compensation for non-clinical activities, including e-messaging, prescriptions, and telemedicine[5].
- Trust and Leadership: The lack of trust in management compounded with weak leadership significantly exacerbates employee burnout and creates organizational problems among entire healthcare team in hospitals. Those are the key components influencing the effectiveness of an institution. It has been shown that building interpersonal relationships based on trust and effective leadership in workplace mitigates the incidence of burnout and increases employee satisfaction, and well-being[7,8].
- Academic Pressure: medical professionals working in clinical hospitals encounter unique challenges, such as inadequate reimbursement for teaching responsibilities, the requirement of frequent publication in scientific journals with stressful deadlines, public speaking at scientific conferences, and shrinking budget for research and clinical trials. These challenges are particularly burdening for younger physicians at the start of their medical career, female academics, and minorities[9].

- Reduction of Autonomy and Control: it has been found out that healthcare professionals encounter nowadays a profound loss of autonomy which can be attributed to the commercialization of the healthcare sector, as decision-making process is frequently governed by administrative procedures and financial limitations rather than by clinical knowledge[10,11]. The enforcement of tedious responsibilities that add no real value to the treatment process, including extensive documentation and bureaucratic regulations, further reduces professional autonomy and results in exasperation[12].

Personal and Sociodemographic Factors:

- Sociodemographic Aspects: It has been shown that younger group of physicians, along with medical residents, exhibits heightened vulnerability to burnout and distress. Contributing factors such as unsatisfactory salaries, use of stimulants including tobacco consumption, and abuse of psychotropic medications further increase the risk of burnout[13]. Various sociodemographic aspects additionally play a role in this issue, incorporating factors like gender, relationship status, and working conditions. Female physicians, employees working frequent night-shifts, and those established in institutions set in big city agglomerations, exhibit heightened risk[14,15]. The COVID-19 pandemic introduced supplementary stressors, including the threat of viral infection, extended work hours, and the necessity of utilizing personal protective equipment[15].
- Emotional and Psychological Stress: Emotional exhaustion and depersonalization are fundamental elements of burnout, frequently arising from repetitive occupational stressors. The COVID-19 pandemic has exacerbated existing stressors and introduced additional burdens, mentioned above[15,16].
- Empathy and Burnout Correlation- A negative correlation between empathy and burnout among healthcare practitioners and medical students has been established. It has been revealed that heightened levels of empathy, compounded with emotional intelligence (cognitive empathy), influence positively the feeling of personal accomplishment and satisfaction, thus lowering the risk of burnout. Cognitive empathy demonstrates a more pronounced correlation with lowering burnout levels than affective empathy, which is defined as resonance with another's emotional condition[17]. In another research conducted on Thai medical students, individuals exhibiting heightened levels of depersonalization achieved reduced empathy scores, suggesting that burnout can negatively affect empathic response[18]. Additionally, higher empathy levels have been shown to diminish stress, cynicism and burnout among healthcare workers, reducing dissatisfaction of employees and mitigating the incidence of malpractice complaints[19].
- Burnout and Specialty:

  Intensive Care Units (ICU): the prevalence of burnout among physicians working within ICU wards has been estimated at a notably high rate of approximately 40%. This occurrence is largely

associated to the fast pace and high workload of this specialty, the high-stakes nature of the job, and profound emotional challenges present in the practice of critical care medicine[20].

Radiology: Radiologists have been shown to be among the specialists which are adversely affected by burnout. This situation is driven by substantial volumes of imaging tasks and limited time resources, coupled with demanding night shifts. These issues were further intensified by stressors associated with the COVID-19 pandemic[16].

Internal Medicine: It was found out that the practitioners of internal medicine report elevated levels of burnout attributed to emotional exhaustion, overcrowding of the wards, complicated cases, multimorbidity and high-mortality rate among elderly patients. This in turn causes a sense of disconnection and depersonalization. The rates of burnout among internists have been estimated between 30% and 60%[21,22,23].

Surgery: it has been established that general surgery residents tend to exhibit higher rates of burnout in comparison to some of their colleagues in different specialties like pediatrics and anesthesiology[24,25]. Some of the contributing factors seem to be impostor syndrome, heightened anxiety, and an intrinsic drive for perfectionism[26,27].

In study conducted in Canada approximately 58% of general surgery residents have been assessed as burnt out and have faced difficulty during transition from residency after graduation to independent practice [28].

3. Symptoms:

Emotional Exhaustion:

Emotional exhaustion constitutes one of key symptoms of burnout. It is characterized by deficiency of emotional reserves, impatience, high levels of frustration and incapacity to invest more effort into professional responsibilities. The root causes of this phenomenon are, among others, sustained exposure to stress. This in turn is characterized by a lack of enthusiasm for performing occupational duties, recurring feeling of helplessness, emptiness, entrapment and defeat[14,29].

Depersonalization:

The concept of depersonalization encompasses the idea of adopting a suspicious outlook towards both patients and work colleagues, by emotional disconnection from oneself and others, and the tendency to regard patients as mere objects or cases. This seems to be an adaptation response to the psychological weight of emotional fatigue[29]. During COVID- 19 pandemic, an important increase in depersonalization levels has been observed within the healthcare sector[30].

Reduced Sense of Personal Accomplishment:

Healthcare workers that experience burnout often report a lowered sense of personal achievement, feeling detached from their duties and observing less enjoyment stemming from their everyday work. This symptom is further exacerbated by factors such as lack of necessary support, excessive workload, and the pressure for results and perfection[31].

Physical Symptoms of Burnout:

- Chronic Fatigue and Exhaustion: Medical practitioners encountering burnout frequently report enduring fatigue coupled with a profound sense of physical exhaustion. This phenomenon is a prevalent symptom attributed to the rigorous demands and extended hours inherent to the field of medicine[32,33].
- Headaches: Recurrent headaches are documented as a somatic manifestation of burnout, likely stemming from the stress and tension linked to the high-pressure environment[34] .
- Gastrointestinal Disorders: Burnout may present itself through physical manifestations such as gastrointestinal disturbances, which can encompass symptoms like abdominal pain, nausea, and various digestive complications[33].
- Sleep Disturbances: Insomnia and similar sleep issues frequently affect medical professionals dealing with burnout. The psychological stress and emotional fatigue associated with their occupational roles can result in challenges related to both initiating and maintaining sleep[33] .
- Physical Exhaustion: In addition to general fatigue, physical exhaustion constitutes a significant aspect, wherein physicians may feel incapacitated to perform their responsibilities effectively. This condition can result in diminished concentration and impaired cognitive function, which further compromises their professional obligations[34].

4. Assessment scales and statistics:

Maslach Burnout Inventory (MBI):

The MBI is a standard resource used to identify burnout, measuring three key factors: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). These factors are being assessed separately, when participants answer questions about their emotional status and well-being, rating how often they experience the symptoms stated above. Elevated scores in EE and DP, coupled with diminished scores in PA, are indicative of heightened levels of burnout[35,36].

Burnout category	Low range	Moderate range	High range
Emotional exhaustion (EE)	0-16	17-26	≥27
Depersonalization (DP)	0-6	7-12	≥13
Personal Accomplishment (PA)*	≥39	32-38	0-31
*The value of PA is inversely related to burnout			

Table 1[37]

Copenhagen Burnout Inventory (CBI):

The Copenhagen Burnout Inventory (CBI) is an esteemed method for the assessment of burnout in multiple professional and educational spheres. It investigates burnout across three main dimensions: personal, work-related, and client-centered burnout. The CBI has undergone adaptation and validation in a multitude of contexts, thereby illustrating its adaptability and dependability as an instrument for burnout assessment[38,39].

Prevalence Rates:

- General Prevalence: The incidence of burnout among medical practitioners is significantly elevated, with research indicating prevalence rates that fluctuate between 25% and surpass 80%, dependent upon the specific medical specialty and geographical location. As an illustration, a research study performed in Poland demonstrated that 74.9% of oncologists manifested symptoms representative of burnout, with emotional exhaustion acknowledged as the most prevalent subdomain at a frequency of 64.5%[40]. Similarly, research in Port Said disclosed a burnout prevalence of 65.8% among primary healthcare providers[14].
- Specialty-Specific Prevalence: Various medical specialties display varying rates of burnout. Radiologists and individuals in radiology training exhibit a notably high prevalence, with 82.9% reporting the presence of at least one positive subscale on the Maslach Burnout Inventory[41]. Conversely, an investigation focusing on anesthesiologists in Mexico City noted a comparatively lower burnout prevalence of 18.8%[42].
- Regional Variations: The rates of burnout also exhibit considerable variation across different regions. For instance, a systematic review identified that studies employing the Maslach Burnout Inventory in Europe reported lower rates of burnout in contrast to those observed in Saudi Arabia and various other Arab nations[43].

5. Consequences:

Impact on Physicians' Health:

- Physical and Mental Health: The phenomenon of burnout has been empirically demonstrated to induce a plethora of health-related complications, including but not limited to headaches, disturbances in sleep patterns, muscular tension, and cognitive deficits related to memory. Furthermore, it significantly heightens the susceptibility to mood disorders such as depression and anxiety, thus adversely affecting overall health[34,33].
- Professional Satisfaction and Career Longevity: The occurrence of burnout is associated with a marked reduction in job satisfaction and escalates the probability of physicians disengaging from their professional roles. This trend is particularly alarming within medical specialties characterized by elevated rates of burnout, including emergency medicine and family medicine[9,34].

Effects on Patient Care:

- Quality of Care: The issue of burnout is linked to a rise in medical mistakes and a decline in the standards of patient care. Medical practitioners who are experiencing burnout may exhibit depersonalization, engaging with patients as if they were mere objects rather than unique individuals, which can significantly compromise the patient-physician rapport[4,11].
- Patient Outcomes: The psychological strain and fatigue associated with burnout can adversely affect patient outcomes, as physicians may demonstrate diminished attention and an increased likelihood of making errors[44].

Organizational and Systemic Consequences:

- Healthcare System Strain: The phenomenon of burnout significantly diminishes occupational engagement and amplifies the likelihood to exit the profession, thereby intensifying workforce deficiencies and imposing additional pressures on the remaining personnel[9].
- Economic Impact: The financial ramifications of burnout encompass elevated rates of absenteeism, diminished productivity, and premature retirement, all of which may culminate in substantial economic detriments for healthcare institutions[45].

6. Solutions:

Individual Strategies:

- Mindfulness and Resilience Training: Mindfulness methodologies, including meditation, have demonstrated efficiency in increasing individual resilience and lowering stress levels. Such methodologies are being integrated into mainstream practices and are readily available, equipping medical professionals with strategies for effective stress management[46].
- Healthy Lifestyle and Positive Psychology: Promoting a healthy lifestyle alongside the integration of positive psychology frameworks can substantially enhance the well-being of physicians and alleviate symptoms associated with burnout[47].
- Coping Skills Development: Strategies such as cognitive restructuring, conflict resolution, and effective time management are instrumental in assisting physicians in managing stress more adeptly and enhancing their work-life balance[48].

Organizational Strategies:

- Leadership and Support Structures: Competent leadership plays a pivotal role in addressing the phenomenon of burnout. Leaders are encouraged to advocate for initiatives aimed at fostering supportive workplace environments and tackling the underlying causes of burnout, including excessive workloads and insufficient autonomy over work procedures[49].
- Work Environment Improvements: Altering practice settings to diminish clerical responsibilities and optimize workflow efficiency can serve to alleviate stress. This encompasses the employment of medical scribes for documentation tasks and enhancing electronic medical records (EMR) systems to increase user-friendliness[50].
- Flexible Scheduling and Workload Management: Embracing of flexible schedule practices and the reduction of workloads can contribute to the mitigation of burnout symptoms. For example, shortening the length of rotations for attending physicians has been empirically shown to mitigate symptoms of burnout[51].

Systemic Strategies:

- Systems-Based Approaches: It is imperative to tackle systemic challenges such as administrative obligations and suboptimal healthcare procedures. This entails promoting

healthcare reforms that mitigate bureaucratic burdens and bolster physician autonomy[11].

- Frameworks for Quality of Life Enhancement: By adopting methodologies like the Quality of Life Improvement (QOLI) framework, which incorporates human-centered design alongside quality enhancement ideals, organizations can work towards closing the gap between well-being theories and their practical use[52].

7. Programmes and Interventions:

Multimodal Interventions:

- Hospitals have applied a variety of interventions to mitigate burnout, encompassing cognitive behavioral narrative writing, psychoeducational workshops, and integrative therapies such as mindfulness, yoga, and acupuncture. These methods focus on decreasing stress and boosting psychological wellness for healthcare workers[53].
- A preliminary initiative involving pharmacy trainees assuming responsibility for medication history tasks was launched to alleviate administrative pressures on clinicians, consequently reducing levels of burnout. This program underscores the significance of task redistribution in enhancing job satisfaction and mitigating stress [54].

Systematic Tracking and Assessment:

- A pioneering initiative was conceived to systematically monitor burnout among medical trainees through the utilization of surveys designed to evaluate burnout levels and ascertain its underlying factors. This program yielded pragmatic recommendations and resources, demonstrating efficacy in mitigating burnout and has the potential to serve as model for new institutional initiatives[55].
- The National Academy of Medicine has delineated a comprehensive national strategy aimed at enhancing the well-being of health care professionals, underscoring the imperative for systemic reforms to combat the burnout crisis[56].

Organizational and Systemic Approaches:

- Schwartz Rounds, an organizational intervention, have been introduced to enhance empathy and bolster the overall well-being of staff members. These rounds serve as a forum

for healthcare workers to articulate the emotional and social challenges of their occupational experiences, fostering a supportive atmosphere[57].

- In Japan, a comprehensive nationwide survey revealed that excessive work hours significantly contribute to the prevalence of burnout and suicidal thoughts among resident physicians. The findings of this investigation have shown the imperative for reforms in work practices to protect the health of physicians and ensure the safety of patients[58].

8. Conclusions:

Burnout among healthcare practitioners is a critical issue, characterized by emotional exhaustion, depersonalization and reduced personal achievement. Recognized by the World Health Organization as a systemic problem, burnout affects healthcare quality, patient outcomes and economic stability. It results from high job demands, institutional challenges, lack of support and diverse sociocultural factors. Despite increasing awareness, research often relies on subjective self- reports and lacks long-term studies, complicating the understanding of burnout's evolving nature. Additionally, marginalized groups, such as minority physicians, are often overlooked in studies, leaving gaps in knowledge.

To address burnout effectively, it is essential to develop inclusive, comprehensive strategies that promote transparent communication, mental health evaluations, stress management training and work-life balance. Organizational reforms ad tailored support systems can foster resilience improving both practitioners' well-being and healthcare quality.

9. Disclosure:

Author's contribution:

Conceptualization: MG; methodology: MG; software: MW; check: MG; formal analysis: MG; investigation: MG and MŁ; resources: AS; data curation: MŁ and AS; writing- rough preparation: MG; writing-review and editing: AS and MW, visualization: MŁ; supervision: MG; project administration: MG. All authors have read and agreed with the published versions of the manuscript.

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