

Prevalence and Associated Risk Factors for Occupational Burnout Among Healthcare Personnel: A Systematic Review

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Abstract

Introduction: Burnout, a global syndrome affecting healthcare systems, is often referred to as the “disease of the 21st century.” This review examines the prevalence and contributing factors of this condition among healthcare personnel in Europe. The prevalence of burnout in European countries has been a subject of interest, and the factors contributing to it are being examined. This literature review aims to provide a comprehensive understanding of the scope of burnout and its implications, with a particular emphasis on its global impact.

Materials and Methods: A systematic search of databases (Web of Science, Scopus, PubMed, and others) identified 95 articles, nine of which met the inclusion criteria. Studies published in the last 20 years, particularly those from the past decade, were prioritized. The search strategy utilized keywords to identify titles, including “prevalence of boss” and “boss factors.” Most articles were published within the last 20 years, with a greater proportion of the most recent articles appearing in the past 10 years. Results: Burnout prevalence ranged from 16.8% (Montenegro) to 71.36% (Romania), with nursing staff and general practitioners most affected. Risk factors included age, gender, long working hours, high patient loads, and inadequate vacation time. A preponderance of burnout-related concerns was observed among the personnel, particularly those engaged in staff nursing and general practice.

Conclusions: Burnout is prevalent among healthcare professionals, highlighting the need for targeted interventions to mitigate its impact. Addressing risk factors is crucial for improving occupational health and well-being. This study’s findings demonstrate that burnout is prevalent among the examined population. The investigation revealed that a significant proportion of the subjects exhibited moderate levels of burnout. The analysis further elucidates that a substantial number of the subjects identified as “high-risk” were influenced by various factors, including, but not limited to, their immediate superiors.

Keywords: Burnout, prevalence, healthcare personnel, risk factors.

Introduction

Burnout has been recognized as a significant problem with major implications for society and public health. In the 21st century, this syndrome has gained global acknowledgment as a “disease of the century.” It has been observed among all high-achieving workers, but is most prevalent among healthcare professionals [1].

Freudenberg’s (1974) and Maslach’s (1976) seminal contributions in the mid-1970s marked the inception of the concept of burnout in the psychosocial literature [2]. Initially lacking a theoretical foundation, burnout rapidly became a metaphor for the significant psychosocial challenges faced by individuals in various contexts.

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The concept gained traction in the 1970s and significant recognition by the 1980s, leading to interventions and management strategies to address this issue [3]. The World Health Organization (WHO) conceptualizes burnout as a syndrome resulting from chronic workplace stress that is not effectively managed, emphasizing its professional rather than medical dimensions [4].

According to Liza & Lugazia (2022), the prevalence of burnout among healthcare professionals in developed countries is estimated to range from 40% to 55% [3].

According to a report by the WHO on the prevalence of burnout in different populations, the United Kingdom has a prevalence of 57%, the United States has 50%, Spain has 37%, Germany has 30%, and France has 30%. In African countries, the prevalence of burnout varies, ranging from 51% to 94% [5, 6]. In Nigeria, the prevalence was 23.6%; in Ghana, 20%; and in Ethiopia, 27.5% [7, 8]. A study conducted in India revealed a high prevalence of burnout, with 83% of nurses experiencing high levels of burnout, 3% experiencing low levels, and 14% experiencing moderate levels [9].

Characterizing a boss in three dimensions, as delineated by the symptoms of exhaustion, emotional detachment, depersonalization, and diminished professional effectiveness [4], is a subject of interest. Exhaustion, emotional in nature, is characterized by feeling overwhelmed and disengaged from one's work.

Depersonalization, conversely, is marked by a reaction that is unfeeling and aloof towards the recipient of services, care, treatment, or education. Low personal achievement is defined by feelings of depression, which can hinder one's ability to perform well at work.

In underdeveloped countries and those undergoing development, risk factors contributing to job dissatisfaction include unfavorable working conditions, excessive workload and long hours, high pressure, low salaries, and poor work environments. Interpersonal conflicts, among other issues, also play a role [5, 6].

A study by Glisten et al. (2021) in United States hospitals reported that all participants characterized their jobs as mentally and physically demanding. Additionally, more than 80% reported that their tasks were related to feelings of weariness, and more than 60% noted that their work had led to burnout [10].

A substantial body of research has identified a correlation between workplace leadership and employee well-being, as well as physical and mental health, and indirect patient outcomes. This phenomenon, often referred to as "boss-related syndrome," has garnered significant attention in academic and professional literature.

We have conducted a comprehensive literature review, acknowledging the high prevalence and multifaceted impact of this syndrome. This study aims to assess the prevalence of burnout in European countries and identify the underlying factors contributing to this phenomenon.

1. Study method

1.1. Design Strategy

In conducting this review, we followed the Preferred Reporting for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for reporting about systematic reviews [12]. This review was conducted as part of a research project for the third cycle of the doctoral degree, approved by the ethics council at the University of Medicine of Tirana on March 10, 2024. The literature review was guided by two research questions that informed the selection of research strategies. The following inquiries must be addressed: first, what is the prevalence of burnout syndrome among medical staff in Europe, and second, what factors contribute to burnout?

2.2 Research Strategy

The present study was predicated on an exploratory investigation. For studies conducted over three months, a request was submitted to the Web of Science, Scopus, Medline/PubMed, EBSCO, ScienceDirect, and ResearchGate databases. The search strategy employed keywords to identify titles, emphasizing the prevalence of boss and boss factors. Most articles were published within the last two decades, with a more significant proportion of the most recent articles appearing in the previous ten years.

2.3 Eligibility criteria

The following criteria were used to determine the eligibility of studies for inclusion in this analysis: (a) studies must directly relate to the context of the study's objectives; (b) articles reporting the prevalence of burnout according to country were included; (c) studies exclusively focused on staff medical; (d) articles concerning European countries only; (e) articles available in full text only; and (f) studies written in English or Albanian. Studies were excluded if they met any of the following criteria: The following criteria were used to determine the exclusion of studies from the present review:

- studies assessing burnout in the general population, excluding studies of staff members and medical professionals;
- studies providing insufficient information about three components;
- studies not written in English;
- reviews, comments, editorials, letters, and meeting abstracts.

2.4 Study selection

The data withdrawal was processed by the research team responsible for editing this study. Initially, the team

analyzed the headlines and summaries of all the surveys that met the established selection criteria. Then, the team discarded the findings in an Excel file, facilitating the release and processing of the obtained data. The team identified the initial duplicates and removed them manually. Then, the team identified all the materials that met the study's objectives, whether abstracts or articles. A total of 95 articles were identified; however, only nine were analyzed due to the inability to reach conclusions. The following flowchart presents the detailed selection process and records used for this literature review (Figure 1). Each selected article was included in this study and was organized according to the following points: study identification (author, year, edition, and place), purpose, study type, staff involved, and results found, among others. To assess the quality of the evidence collected, a 95% confidence interval was considered.

Results

The following table presents nine findings from the analysis of burnout syndrome prevalence among healthcare professionals, including doctors, nurses, and ancillary staff. This analysis identified key factors contributing to the development of the syndrome. The number of articles is relatively small because we limited the survey to European countries to understand how the situation regarding bosses in countries near Albania compares. A critical factor in selecting articles for this literature review is that many have demonstrated the prevalence and risk factors associated with bosses during the pandemic or post-pandemic period. However, this study aims to assess the prevalence of burnout in everyday life rather than in a context triggered by the global SARS-CoV-2 pandemic.

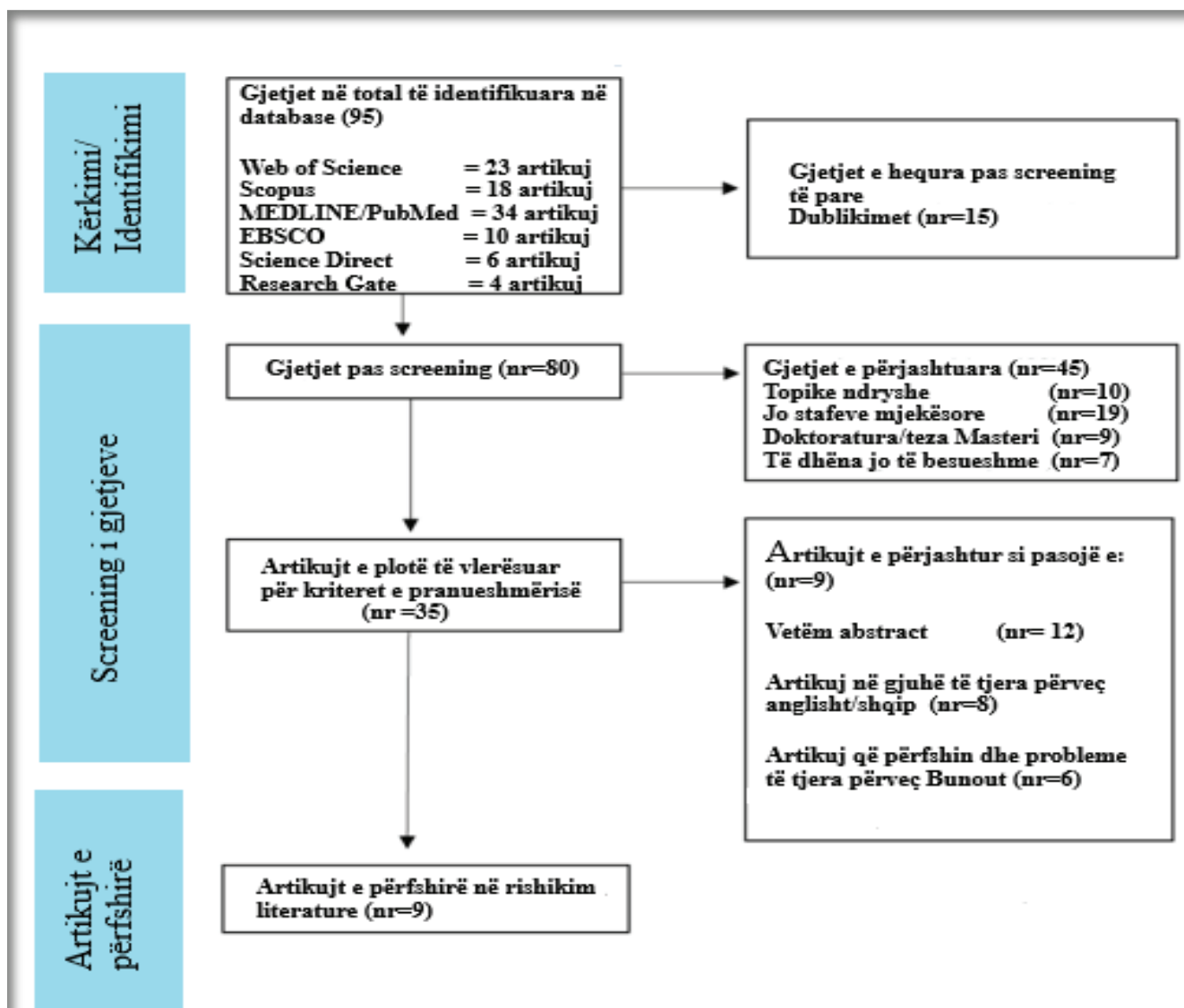


Figure 1. Flowchart: Identification. The survey via the database

Table 1. Search and findings of papers in the database

Author year, state/city	Design the studies	Purpose	Staff voters in the study	Intervention/results	Conclusion
Tamanu et al., 2022 [13] Romania	A cross-sectional study was conducted, during which a standardized questionnaire was disseminated via Google Forms.	The objective of this study is to identify the factors that contribute to the risk of burnout in healthcare professionals.	The study will encompass a sample of 200 subjects, including personnel, medical staff, and healthcare professionals from national healthcare units.	The correlation between physician level and survey responses suggests a direct relationship between high levels of burnout and negative experiences among employees. Economic factors, although not statistically significant, can impact workplace efficiency by contributing to prolonged work hours, fatigue, and other related issues. These factors are particularly salient in the context of physician-boss relationships.	In this study, the relationship between burnout syndrome (BOS) and various factors, including age, profession, seniority in the workplace, and status, is examined. The study's findings underscore the importance of identifying the factors contributing to BOS in personnel medical settings to prevent or reduce the occurrence of this syndrome.
Boskovic et al., 2023 [14] Montenegro	The present study is cross-sectional. The investigation utilized the following questionnaires: -A questionnaire regarding the collection of sociodemographic data; -A questionnaire concerning the assessment of burnout in the workplace, employing the Maslach Burnout Inventory.	Until that time, no survey had ever been conducted on the prevalence of burnout syndrome among care workers in Montenegro.	Among the part-time employees, the majority are employed at the center's clinical.	The prevalence of burnout syndrome was 16.8% among employees. Predictors of the syndrome of burnout among employees included profession (nurses/technicians), which increased the likelihood of experiencing burnout syndrome by 2.8 times compared to physicians.	A loss reduction can be attributed to a decrease in productivity, which, in turn, can be attributed to the well-being of employees. Preventive measures must be based on facts to prevent detrimental consequences to employees' mental health.
Maria Andrija et al., 2021 [15] Serbia	A cross-sectional study was conducted, during which a survey was administered to participants, and all necessary instruments for assessing burnout and adjustment in the language were utilized.	The level of the boss is identified as the primary risk factor, with professionals demonstrating a higher level of concern. The healthcare employed in institutions is regarded as the most significant national reference point in the field of oncology.	A total of 432 medical professionals, including doctors, nurses, technicians, and collaborators, are involved in the healthcare sector.	The overall prevalence of burnout was 42.4%, with a higher percentage observed among nurses and technicians, particularly in terms of fatigue and emotional distress (66.9%). The model analysis of well-adjusted variables indicated that nurses and technicians had a 1.41-fold higher likelihood of experiencing burnout compared to physicians (OR = 1.41, 95% CI 1.16-1.71), and that with each year of experience, the likelihood of burn injuries increased by approximately 2% (OR = 1.02, 95% CI 1.00-1.04).	The present study's findings indicated a significant level of burnout syndrome (BOS) among professionals in oncology healthcare settings, particularly among nurses and technicians. The investigation underscored the necessity for effective interventions at both the individual and organizational levels to mitigate the risk of BOS.

Rosa - solera et al., 2014 [16] Spain	A cross-sectional observational study was conducted, in which a standardized questionnaire was administered to healthcare professionals.	The objective of this study is to identify the frequency and intensity of perception, the results, and the unfavorable professional aspects, as well as their relationship with burnout syndrome. The inclusion of professional variables is also a key component of this study.	A total of 11,530 healthcare professionals are currently pursuing residency training in Spain and Latin America.	The emotional experience of fatigue exhibited variability in the absence from work, as one extricates oneself from the occupational domain. A deterioration in personal and familial circumstances accompanied this phenomenon. The depersonalization dimension is predominantly manifested through an overlay of errors in perception.	The Discovery Channel has demonstrated a notable prevalence of the detrimental consequences of work.
João Morocco et al., 2016 [17] Portugal	A study was conducted to assess burnout in health-professionals in Portugal. The Maslach Burnout Inventory - Services Survey was utilized to collect data. This survey employs a degree ordinal scale ranging from 0 (never) to 6 (always), providing a quantitative metric for assessment.	This study reports the incidence of burns in professionals in Portuguese healthcare.	1,262 nurses and 466 doctors, with an average age	They found that in their study of two types of professionals, the levels of moderate to high burnout were higher, and the difference in indiscriminate burning between the two burnout levels did not change significantly between the hospital, health units, the customs, the center health, and the families. Professionals with more years of experience in the function were less affected by burnout. None observed a significant relationship with the duration of the workday, while the severity of the boss was perceived as a more decisive factor affecting the quality of work conditions.	At the national level, between 2011 and 2013, 21.6% of professionals in THE CARE HEALTH showed BOS of MODERATE, and 47.8% showed BOS of high. Perception: The conditions, THE bad, THE LABOR, were seen as the main Display of Burnout among professionals, HEALTH PROFESSIONALS, Portuguese.
Solostar et al., 2024 [18] Romania	A cross-sectional study was conducted using the Maslach Burnout Inventory-Human Services Survey (MBI-HSS; MP).	An inquiry into the effects of the dimensions of exhaustion, emotional exhaustion (EE), depersonalization (DP), and achievements (PA) on satisfaction in one's profession and plans for the amended career is hereby requested.	227 participants, staff medical		The findings of the regression analysis indicate that being male, being relatively older, and working in special surgical procedures are associated with higher levels of emotional exhaustion (EE). Furthermore, the intensity of the desired change in one's profession is associated with higher levels of emotional energy (EE). Additionally, age and the intensity of pleasure in one's work are significant predictors of depersonalization. Finally, higher levels of EE are associated with higher levels of depersonalization in careers.

Duthie et al., 2021 [19] France	A cross-sectional study, which was what I was asked. Fill out a questionnaire on the internet. The Maslach Burn-out Inventory (MBI) was used, which assessed professional and personal characteristics, including age, gender, marital status, and number of children.	Assess the prevalence of burnout among doctors in the French background.	In 1926, doctors with a background working in a hospital, doctors substitutes, and students practicing near these institutions	In this study, 71.36% of the respondents reported experiencing elevated levels of exhaustion and emotional distress, with no significant differences observed between specialization and gender. According to gender and specialization, 33.03% of all respondents exhibited elevated levels of depersonalization. Of the respondents, 44.05% reported achieving high personal accomplishments, with notable variations in addition by specialty and gender. A significant proportion of respondents in clinical medicine specialties expressed a desire to transition to other career paths, with 33 participants expressing uncertainty about their continued engagement in their current specialization. Furthermore, a notable number of surgical respondents, 86 in total, indicated a strong aversion to pursuing careers in the healthcare sector.	General practitioners are susceptible to burnout (BOS), with males between the ages of 50 and 60 being particularly vulnerable to it. Prolonged work hours, characterized by frequent patient visits, have been identified as a contributing factor to this phenomenon.
Ekaterina Toscas et al., 2024 [20] Greece	A study of an intersectional nature used a questionnaire to collect electronic data, including questions related to characteristics, demographics, burnout, anxiety, and depression.	Studies aimed to estimate the burnout levels among nurses and doctors working in anesthesiology departments in public hospitals in Attica and to investigate the possible relationship between boss, anxiety, and depression.	195 Doctors and nurses in the anesthesia patient care	In this study, 71.36% of the respondents reported experiencing elevated levels of exhaustion and emotional distress, with no significant differences observed between specialization and gender. According to gender and specialization, 33.03% of all respondents exhibited elevated levels of depersonalization. Of the respondents, 44.05% reported achieving high personal accomplishments, with notable variations in addition by specialty and gender. A significant proportion of respondents in clinical medicine specialties expressed a desire to transition to other career paths, with 33 participants expressing uncertainty regarding their continued engagement in their current specialization. Furthermore, a notable number of surgical respondents, 86 in total, indicated a strong aversion to pursuing careers in the healthcare sector.	Since doctors and nurses working in anesthesiology departments often work under stressful conditions and by the hour, it is essential to study their physical, emotional, and mental exhaustion, as well as their psychological elasticity levels.

Celesteet al., 2021 [21] Italy	One study investigator employed a survey composed of three sections: (1) information regarding background and workload; (2) a test inventory; and (3) the Maslach Burnout Inventory (MBBI). The third section of the survey inquired about the respondents' subjective perceptions of stress and the labor of their work, as well as the potential causes of said stress.	The objective of this study is to investigate the spread and self-reporting of symptoms, as well as the erasure and burnout of staff working in search clinical and feasibility assessment. The study will employ the standardized Maslach Burnout Inventory (MBI) in this population.	A request was extended to all members of the Italian group of coordinators to participate in an online survey.	The majority of respondents expressed concern about their professional identity. The predominant source of this concern was identified as business-related issues, accounting for 31.2% of responses. This was followed by problems related to workload, which accounted for 20.5% of responses, and a lack of recognition for one's skills, which accounted for 17.8% of responses. The results of the mBio test corroborated the interviewees' subjective perceptions. Specifically, the test revealed a significant level of fatigue and emotional distress, with a mean score of 19.1 points, and a strong sense of professional accomplishment, with a mean score of 26.8 points.	It is imperative to address the qualitative factors that have been identified as contributing to an escalation in stress levels and a perceived decline in the quality of work among coordinators. Furthermore, there is a need to emphasize the search for clinical solutions and reinforce the phenomenon of migration to the private sector.
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Discussions

As previously emphasized, the present literature study incorporated nine scientific works. This limited selection can be attributed to the predominance of articles by European researchers centered on assessing burnout syndrome during the post-COVID-19 era. TW presents a more detailed overview of our methodology. To address the request for selective findings

Initially, we examined a study conducted by Tamanu et al. in 2022 in Romania, which involved subjects seeking medical care or assistance from national-level healthcare units. This cross-sectional study employed a standardized Google questionnaire format to collect data. The study sample consisted of 200 medical staff members, with doctors in residency exhibiting a higher prevalence of burnout symptoms. According to Tamanu et al. (2022), this elevated level was observed due to the absence of work experience. Medical professionals exhibited a high prevalence of burnout, depersonalization, and reduced job effectiveness. Economic factors did not contribute to the increase in prevalence. Age, occupation, seniority in the workplace, and status were factors associated with burnout in the studied population [13].

A study was conducted by Boskovic et al. in 2023 to estimate the prevalence of burnout among medical staff in Montenegro. This intersectional study utilized the Maslach Burnout Inventory (MBI) to assess burnout. This study is noteworthy as the inaugural research of its kind in Montenegro, and its findings are particularly salient.

The prevalence of burnout among the surveyed workforce was 16.8%, with those in leadership roles

demonstrating a 2.8-fold higher probability of experiencing burnout than their physician counterparts. The study's authors concluded that implementing measures to mitigate the adverse effects on employee productivity and well-being, with a focus on employees' mental health, is imperative to avert potential detrimental consequences. This recommendation is further substantiated by the study's findings [14].

Andrija et al. (2021) conducted a survey in Serbia using a standardized questionnaire in the local language. The survey was administered to 576 medical staff members, including doctors, nurses, technicians, and collaborators in oncology care. Of these, 75% (432/576) responded positively. This cross-sectional study examined bosses' attitudes and identified the care professionals at risk for this syndrome.

The study's findings revealed an overall prevalence of 42.4% among bosses, with a significantly higher percentage of fatigue (66.9%) among those in the field. The likelihood of nurses and technicians experiencing burnout was 1.41 times higher than that of doctors (OR = 1.41, 95% CI 1.16-7.10). Furthermore, with each year of experience, there was a 2% increase in the probability of developing this syndrome.

A group of researchers in Spain conducted a cross-sectional study in 2014. The study included approximately 11,530 healthcare professionals, including residents in Spain and Latin America. The data analysis revealed that the percentage of professionals varied according to their profession. The study showed that 36.4% of the doctors, 54.4% of the nurses, 30.4% of the dentists, 27.3% of the psychologists, and 25.8% of the nutritionists responded.

Notably, 21.2% of the other health professionals also participated in the survey.

Rosa et al. (2014) posited that the frequency and intensity of unfavorable professional experiences, combined with burnout syndrome and related factors, were associated with a heightened risk of developing burnout syndrome. Fatigue was identified as a primary emotion, particularly in contexts involving work shortages, leading to a sense of professional stagnation.

The exacerbation of personal emotions and familial dynamics further compounded this phenomenon. Conversely, depersonalization among this population was predominantly associated with the perception of errors in their professional roles.

In summary, the present study delineates a scenario characterized by the pervasiveness of deleterious occupational consequences, predominantly burnout syndrome, which have been observed to exacerbate personal and familial circumstances among a cohort of employees.

These consequences manifest across diverse geographical regions, cultural contexts, and organizational settings within the Spanish-speaking world. The manifestation of exhaustion encompasses a spectrum of emotional responses, including feelings of inadequacy and a propensity for professional disengagement. In the case of perceived errors in care, the variable component of depersonalization was identified as a consequence of burnout.

According to Rosa et al. (2014), it is essential to consider the personal, family, and social influences on burnout, as well as the contemporary changes and crises in the global labor market. This necessitates the systematic implementation of interventions and the ongoing promotion of organizational health [16].

In their study, João Morocco et al. (2016) surveyed a sample of 1,262 nurses and 466 doctors in Portugal. The mean age of the nurse population was 36.8 ± 12.2 years, while the mean age of the doctor population was 38.7 ± 11.0 years.

The participants were recruited from all major cities, with the highest percentages observed in Lisbon (35%), Oporto (18%), Aveiro (6%), Setúbal (6%), Coimbra (5%), the Azores (5%), and Madeira (5%). Regarding their professional backgrounds, the majority of the participants (54%) were employed in hospitals, followed by health units (30%), private practices (8%), and institutions (8%), with the remaining 8% comprising a diverse range of public and private entities. The participants identified two distinct categories of professionals, characterized by varying degrees of burnout.

The categories were moderate ($M = 3.0$, $SD = 1.7$) and high ($M = 3.8$, $SD = 1.7$). The former group exhibited relatively low levels of burnout, while the latter group demonstrated higher levels. The statistical analysis revealed no significant differences between the two groups. However, the study identified notable variations in burnout levels across specific markets, such as Vila Real ($M = 3.8$, $SD =$

1.7) and Madeira ($M = 2.5$, $SD = 1.5$), where levels were observed to be higher in Vila Real and lower in Madeira, respectively. The investigation revealed that burnout levels did not exhibit significant fluctuations between hospitals, health units, health centers, or among families.

Professionals with more years in their respective positions were less susceptible to burnout. No significant correlation was observed between the duration of work hours and the prevalence of burnout. However, healthcare professionals in Portugal frequently perceived their superiors as less supportive, accompanied by a perception of suboptimal working conditions, an unfavorable work environment, and a less-than-ideal experience.

The present study's findings demonstrate that burnout levels remain relatively constant across various healthcare settings, including hospitals, health units, and community health centers. Professionals with extensive tenure experience less burnout, and no significant correlation was observed between work hours and the prevalence of burnout. However, healthcare professionals in Portugal frequently report that their superiors hurt their work environment and professional experience. Regional variations in the incidence of burnout syndrome have been observed, with conditions characterized by suboptimal care delivery contributing to its development.

These findings underscore the necessity for interventions to enhance work environment conditions, professional training, and personal well-being. Such interventions are essential to ensure optimal professional practice and foster the well-being of healthcare professionals [17].

In a cross-sectional study conducted in Romania, Solostar et al. (2024) administered the Maslach Burnout Inventory (MBI), a tool designed to assess the dimensions of burnout, including emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). The study sample comprised 227 participants from both clinical medicine and surgical specialties. Additionally, job satisfaction was measured by incorporating an additional question into the MBI instrument.

The study included 196 women and 31 men, divided according to specialty. The largest group included 187 specialists from clinics and 40 surgeons. The findings revealed that 52.63% of men and 71.28% of women reported fatigue in the medical, clinical, and surgical specialties. Notably, fatigue was particularly prevalent among surgical specialties, with 75% of men and 77.77% of women reporting fatigue.

The results of the study indicate that 71.36% of the respondents exhibited high levels of exhaustion and emotional distress, with no significant differences observed between respondents specializing in different fields or between male and female respondents. Among medical respondents specializing in clinical fields, 33.13% of female respondents and 21.05% of male respondents reported high levels of depersonalization. In contrast, surgical respondents reported higher rates of depersonalization, with 33.33% of female respondents and 50% of male respondents

experiencing high levels of depersonalization.

The aggregate of all respondents exhibited higher depersonalization levels, with 33.03% demonstrating such levels. Participants in the clinical medicine specialization reported higher personal achievements (42.60% of women and 42.10% of men). In comparison, those in the surgical specialization reported 44.44% females and 55.55% males in the dimension pa. A significant proportion of the respondents, 44.05%, reported high personal achievements, suggesting that gender and specialty do not significantly impact this aspect.

Regarding the fulfillment of professional and personal goals in the revised career, approximately 53.40% of respondents (16 males and 105 females) from the clinical medicine specialization expressed a desire to transition to a different job. In contrast, 33 participants (9 males and 34 females) disagreed about maintaining their current specialization. Furthermore, a significant proportion of the surgical specialty participants (9 males and 77 females) preferred to avoid working in healthcare [18].

In France, Duthie et al. conducted a study in 2021 that involved 1,926 doctors with experience working in hospitals, doctors on leave, and students working as interns. The study's objective was to estimate the prevalence of burnout among French doctors working in private healthcare centers and examine the risk factors associated with this syndrome.

The study design involved a cross-sectional investigation, utilizing the Maslach Burnout Inventory (MBI) through the REDCap application to collect data. The inclusion criteria encompassed all medical staff members, including doctors who were exclusively employed at the hospital, those on leave, and students in their internships.

The data collection period coincided with the collection of professional characteristics, including the nature of the work, completion of emergency shifts, night shifts, weekly working hours, seniority, and other relevant factors. In addition, personal characteristics such as age, gender, marital status, and the number of children were also collected.

The analysis of the collected data revealed that approximately 44.8% of the overall sample experienced burnout syndrome, with 4.8% (95% CI 3.9–5.9%) reporting severe symptoms. The investigation identified several risk factors associated with this phenomenon, including advanced age (particularly for those over 50 years old), male gender, and rural location. The analysis also highlighted the importance of work hours and the role of role models in promoting a healthy work-life balance.

The investigation revealed that the primary risk factors for burnout syndrome among physicians were chiefly related to the age of the physician, with those over 50 years of age demonstrating a higher prevalence. Additionally, the study identified gender as a contributing factor, with male physicians exhibiting a higher incidence of burnout.

The analysis also highlighted the influence of the work environment on physician well-being, noting that physicians working in rural or peripheral areas were more susceptible to

burnout. Furthermore, the study emphasized the importance of physician lifestyle habits, such as the frequency and duration of their work hours, with physicians working more than 50 hours per week demonstrating a higher risk of burnout. The analysis concluded that general practitioners are particularly vulnerable to burnout syndrome, with nearly half experiencing burnout, a condition more prevalent among males and those between 50 and 60 years old [19].

In their 2024 study, Ekaterina Tosca and colleagues conducted an intersectional analysis of 195 doctors and nurses working in anesthesiology departments at public hospitals in Attica, Greece. The researchers distributed an electronic questionnaire that included questions related to characteristics, demographics, burnout, anxiety, and depression.

The study's objective was to estimate the levels of burnout in nurses and physicians working in anesthesiology departments and to investigate the potential relationship between burnout, anxiety, and depression. The results indicated that doctors and nurses exhibited moderate to low levels of burnout and depression, with 2% of doctors and 14.4% of nurses demonstrating extremely high levels of burnout.

The study found that female gender, older age (45-55 years), lower educational attainment, and a nursing career of over 21 years were associated with higher levels of personal burnout. The analysis revealed that work-related stress, particularly related to children, and work-related stress related to patients were more prevalent among nurses compared to doctors.

The study also identified a correlation between anxiety, depression, and the progression of burnout levels. In conclusion, doctors and nurses working in anesthesiology departments have stressful jobs that involve long hours. Therefore, it is necessary and essential to study the effects of exhaustion on their physical, emotional, mental, and psychological well-being [20].

In a 2021 study, a group of Italian scholars investigated the prevalence of stress and burnout symptoms among members of the Italian coordinator group. The researchers conducted a clinical study to estimate the applicability of the Maslach Burnout Inventory (MBI) in this population.

To this end, an online survey was administered, and a series of questions was presented to the subjects. The survey consisted of three sections: information about the background and workload, the Maslach Burnout Inventory (MBI), and subjective perceptions of stress and work-related causes. The objective was to gather pertinent information.

The findings of this study indicated that the majority of respondents expressed concern regarding their professional circumstances, with the most prevalent sources of concern being business contracts (31.2%), followed by workload (20.5%) and a perceived lack of recognition for their skills (17.8%). The results of the mBio test corroborated the respondents' subjective perceptions, with the interim fatigue emotional scale (19.1 points) and the reduced professional achievement scale (26.8 points) demonstrating significant

levels of fatigue and reduced professional achievement, respectively.

A correlation was identified between depersonalization and a reduced professional sense of accomplishment, with average levels of exhaustion and emotional fatigue. Furthermore, fatigue was associated with the type of contract, which was a highly important factor. This study pioneers the examination of burnout in this group, with findings indicating that heightened stress levels are associated with a higher degree of perceived burnout, as indicated by psychological testing.

The results of this study demonstrate that depersonalization and exhaustion are significant contributors to the development of burnout. Notably, the core of the phenomenon appears to be independent of quantitative assessments of workload. It is more closely associated with qualitative factors such as a lack of recognition of skills and instability in contractual arrangements. Consequently, it is unsurprising that the only burnout domain that exhibited a significant association with elevated stress levels was that related to job satisfaction.

Conclusions

Identifying the boss's role in personnel medical stands is imperative for preventing or reducing burnout. This study found that the prevalence of burnout among medical staff ranged from moderate to high. The factors contributing to this result were related to working conditions or profession.

Consequently, measures such as maintaining work areas, reducing work hours, and adjusting workloads have been proposed to alleviate the impact of burnout. These recommendations are supported by our survey findings, which identified additional factors associated with burnout. While interventions have been developed, evidence suggests that they may be ineffective in significantly reducing burnout levels. Recognizing these factors necessitates implementing measures to address burnout in healthcare professionals' health, including continuing education in conjunction with leadership and enhancing individual resilience. Consequently, future research in this domain should prioritize evaluating interventions to alleviate stress and improve employee health.

COI Statement: This paper has yet to be submitted in parallel, presented fully or partially at a meeting, podium, or congress, published, or submitted for consideration beforehand.

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