

General practitioners, health inspectors, and occupational physicians' burnout syndrome during COVID-19 pandemic and job satisfaction: A systematic review

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ABSTRACT

Background: Burnout syndrome is a type of stressful factor that is related to job satisfaction. General practitioners, health inspectors, and occupational physicians (GPHIOs) are benchmarked as regards the burnout syndrome and job satisfaction in this systematic review during the pandemic COVID-19.

Methods: Relevant scientific literature was searched in electronic databases such as PubMed, MEDLINE, Cochrane CENTRAL, ScienceDirect, and CINAHL up to August 2023 in order a link among general practitioners, health inspectors, and occupational physicians about the burnout syndrome and job satisfaction during COVID-19 pandemic to be found.

Results: The studies used show an adjacent joint within lacking job satisfaction and the burnout syndrome. Elevated values of burnout and low values of satisfaction appear because of inter individual variables, working condition causes, and causes within the context of working surroundings. There was a remarkable lift in burnout values amongst GPHIOs during the last pandemic of COVID-19. However, it remains the factor that needs to be scrutinized through further research that affects the development of the other factor to be found.

Conclusions: It is critical psychological interventions be made to address burnout and boost rates of job satisfaction as it causes an inimical effect and adverse consequences within medical working surroundings.

Keywords: burnout syndrome, job satisfaction, occupational physicians, health inspectors, general practitioners, pandemic COVID-19

INTRODUCTION

Burnout and job dissatisfaction among general practitioners, health inspectors, and occupational physicians seem to have increased during COVID-19. The relationship between these two variables, the factors influencing them, and the effects of those factors are all examined. The pandemic period is alleged to have made a major contribution to the prominent levels of burnout. In general, low job satisfaction and high burnout have several repercussions [1-3]. Indeed, effects on an individual are a first set of impacts. Factors such as the safety and working surroundings, psychological and social risks in the workplace of Greek public health service, have been examined, they highlight information on how they may have a negative impact on General practitioners, health inspectors, and occupational physicians (GPHIOs) [4, 5]. In

Greece, public health inspectors (PHIs) and occupational physicians collaborate in the field of occupational safety and health with sanitarian departments.

General practitioners work in the departments of occupational safety and health in hospitals and small enterprises. Most occupational physicians have their own private medical offices and work as general practitioners with a basic specialization in medical care. Health inspectors, like all healthcare workers in Greece, must have occupational professional qualifications according to the Presidential Law 83/1989 [6]. The graduates of the department of public Hygiene at the school of health and welfare professions at the technological educational institutions of Athens handle assessing and addressing various conditions and because that impact human health. They work with other scientists to set up guidelines for promoting health and preventing health disorders. These graduates may also be involved in workplace

safety teams focused on protecting the health and safety of workers, as well as teams dedicated to safeguarding closed populations (such as schools, institutions, barracks, and prisons) from epidemics and setting up health and safety protocols for those facilities [6].

However, there is a lack of research on the risks associated with work-life in workplace settings, even though this profession presents various threats to the physical and mental well-being of employees. These dangers are comparable to those seen in the extensive literature on healthcare workers and law enforcement officers [7-9]. During the COVID-19 pandemic, health inspectors, and workers in low- and middle-income countries like Greece have faced a significant burden. This is due to limited resources, underfunded organizations, and understaffed healthcare facilities [10]. The combination of occupational stress, burnout, and inadequate resources and support may increase the risk of mental health disorders among health inspectors, and workers during the pandemic [11].

Throughout the COVID-19 pandemic, healthcare inspectors, and workers have expressed significant levels of burnout, anxiety, depression, and feelings of hopelessness [12]. Exploring the concept of job satisfaction from a theoretical perspective proves to be a multifaceted issue that delves into various aspects of human behavior. It becomes plain that different theories on this subject either complement each other or build upon one another [13]. PHIs and environmental specialists find themselves in challenging work environments, being exposed to hazardous biological, toxic, and chemical substances as part of their job responsibilities. Despite facing these risks, they have continued their work diligently during the ongoing COVID-19 pandemic, following the laws and guidelines set forth by the Ministry of Interior. This includes their active involvement in the public health and social welfare services, with a specific focus on the public health and environmental hygiene departments [14]. To enhance the health and care workforce, the World Health Organization (WHO) works closely with partners to support countries in developing and implementing health inspection workforce policies. This collaboration entails co-developing policies, producing technical guidance materials, organizing knowledge-sharing events, and providing direct aid to health ministries. Notable collaborators with WHO include WHO/Europe and European Union Public Health Association European Public Health Association [15].

This research assumed that a phenomenon has not been explored before. In other words, it was assumed that, at these levels, burnout had always been a problem for health workers and that, until now, there had been no evidence of its applicability. As a result of advances in study methodologies and research progress, healthcare professionals have been able to reflect on the condition that has always existed [16, 17]. This systematic review directs attention to contributing elements about the burnout syndrome, job satisfaction, and their outcomes. The research aims to investigate the burnout syndrome that health inspectors and professionals working in the global pandemic information outreach programs (GPHIOPs) are experiencing, particularly during the COVID-19 crisis. It also investigates potential solutions to address this issue. Burnout syndrome poses a significant challenge to

health inspectors and professionals, resulting in decreased satisfaction and productivity in their work. The current pandemic has further worsened these difficulties, highlighting the importance of effectively addressing them. The study will analyze several factors contributing to burnout, such as heavy workloads, resource limitations, and heightened stress levels. Furthermore, it will examine the strategies that have been put in place to support the mental well-being of GPHIOPs and enhance their job satisfaction in these trying times. The study's aim is to examine the grade of the burnout syndrome and job satisfaction among GPHIOPs and find out specific factors concerning the burnout syndrome and job satisfaction in GPHIOPs relating to individual and work-related matters.

METHODS

The Design of the Study

It's an examination of literature systematically. The study investigated factors related to the job satisfaction and burnout syndrome and the impact of this syndrome on GPHIOPs during a COVID-19 pandemic. The search methodology process followed the guidelines outlined in the preferred reporting items for systematic review and meta-analysis (PRISMA) statement, where relevant [18,19].

Systematic Literature Review Search

Relevant scientific literature was searched in electronic databases such as PubMed, MEDLINE, Cochrane CENTRAL, ScienceDirect, and CINAHL up to August 2023 for a link about burnout syndrome and satisfaction in the workplace among GPHIOPs to be found. The data flow from record identification to inclusion followed the PRISMA statement principles. The collecting and analyzing data, information retrieval will be conducted using a standardized template to support consistency throughout the process. Evaluate the credibility of the studies included by using well-established tools such as the use of quality assessments (BIOCROSS), standardized templates, and the application of analysis techniques the study aims to boost the dependability and validity of the results.

Selection of the Studies

The inclusion criteria for the systematic review are the ones that follow.

1. All studies included were published in peer-reviewed journals.
2. All studies included were in the English language.
3. All studies included a sample of GPHIOPs during the pandemic.
4. The studies included have assessed burnout and job satisfaction through self-reported instruments. The studies included assessing features as regards the burnout syndrome burnout, and job satisfaction and/or consequences of them.

The exclusion criteria for the systematic review are the ones that follow.

1. The language of the study except for English, and not published in peer-reviewed journals.

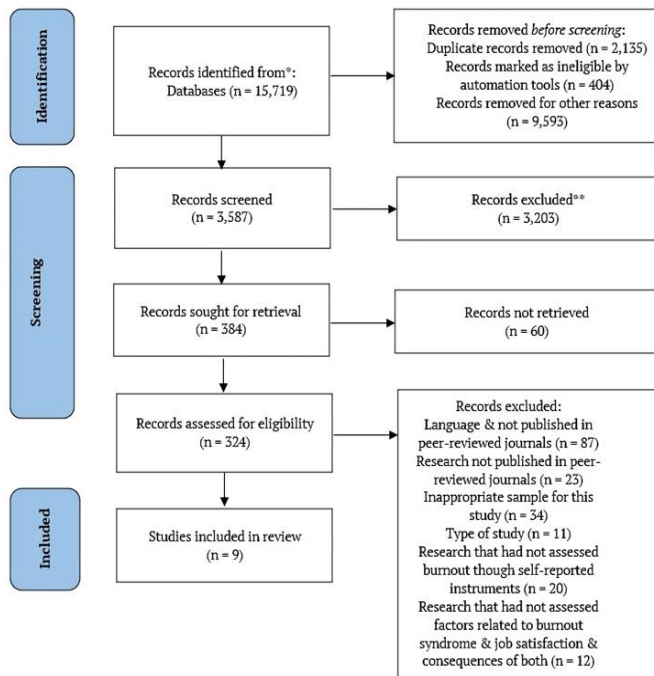


Figure 1. Flowchart diagram of the study [18, 19] (Source: Authors' own elaboration)

2. Studies with samples except for GPHIOPs, were not included or analyzed.

3. The study selection procedure was attended by all authors.

RESULTS

The systematic study search entailed 15,719 study records. After removing the duplicates (2,135), removing studies as being ineligible by automation tools (404), and removing studies due to time limit (9,593), 3,587 studies remained. 3,203 studies were excluded by their title. The remaining 384 studies were sought for retrieval, but 60 could not be retrieved. Indeed, the full text of 324 studies was accessed to decide their eligibility. A total of nine papers have been added to the qualitative synthesis, after removing studies for six reasons set out in the PRISMA 2020 flowchart diagram of the study [18,19] (Figure 1).

According to **Table 1**, several important findings may be found. Firstly, all the studies investigated one of three categories of staff who have been infiltrated by GPHIOPs. Secondly, all the studies were from different countries globally. Thirdly, in view of the conflicting findings between the studies, it is not possible to draw a common conclusion about the effects of socioeconomic factors. Fourthly, there seems to be some indications setting an extra load as regards mental health are a party to burnout syndrome and so, to job satisfaction.

Table 1. Studies examining GPHIOPs burnout, and job satisfaction during the pandemic COVID-19

Article	Title	Aim/study purpose	Sample	Methodology	Results/relevant findings/outcome measures
[4]	Cross-sectional nationwide study in occupational safety & health: Inspection of job risks context, burn out syndrome and job satisfaction of PHIs in the period of the COVID-19 pandemic in Greece	The aim was to report occupational hazards (job risks) of PHIs in Greece during period of COVID-19 pandemic in Greece.	The sample of final study consisted of N = 185 PHIs. This study was conducted among health inspectors between the second and third quarters of 2021.	It is a cross-sectional, nationwide pilot study.	<ul style="list-style-type: none"> -The study highlights that several hazards related to chemicals, biology, physics, safety, ergonomics, and psychology for Greek PHIs, as well as excessive workload, harassment and overlapping responsibilities and shortcomings in the legal framework were the most prevalent psychosocial and organizational risks, respectively. -When it came to psycho-social dangers, particularly work-related stress brought on by an excessive workload, harassment, and citizen pressure, Greek PHIs received the highest scores. -It is revealed that Burnout is an issue for Greek PHIs. -The burnout characteristic of psychological exhaustion and organizational hazards were related to Greek PHIs' fulfillment in their jobs. Decreased work satisfaction has been associated with elevated awareness about company hazards.
[5]	Public health and work safety pilot study: Inspection of job risks, burnout syndrome and job satisfaction of PHIs in Greece.	It aimed to evaluate frequency & seriousness of occupational hazards faced by Greece's PHIs & their connection to job satisfaction & burnout.	The sample consisted of N = 46. This study was conducted among health inspectors from five different departments of public health services in Greece.	It is a cross-sectional, nationwide pilot study.	<ul style="list-style-type: none"> -The study shows that while psychosocial hazards are the sole ones linked to burnout, ergonomic risks also predict the emotional exhaustion dimension. -It showed that PHIs experienced higher levels of emotional tiredness and worse job satisfaction. -Workplace harassment and high demands are two factors that increase stress at work. -During COVID-19, risk issues such as inadequate supply of personal protection gear, conflicting roles, and gaps in the legislative framework outlining obligations at each level of hierarchy were found.
[16]	Occupational burnout and job satisfaction among physicians in times of COVID-19 crisis: A convergent parallel mixed method study.	The purpose of this study was to assess the prevalence of burnout and levels of job satisfaction among physicians in Jordan, and explore physicians' opinions, experiences, and attitudes throughout the epidemic emergency.	It consists of a sampling frame of a total of 973 survey responses and 11 interviews in Jordan.	It is a mixed-method study that used a structured web-based questionnaire and semi-structured individual interviews.	<ul style="list-style-type: none"> -Burnout is a serious worldwide problem that affects HCPs from a range of areas and specializations. -A troubling issue in the healthcare setting is the availability and adequate access to personal protective equipment (PPE). -It was discovered that burnout was strongly correlated with female gender and increased workload. -The job satisfaction ratings of physicians have also been negatively affected by many burnout factors. -Numerous pandemic-related initiatives were thought to have a detrimental influence on working conditions, job security, financial stability, and work engagement, severely affecting HCPs' personal and professional lives and decreasing productivity.

Table 1 (Continued). Studies examining GPHIOPs burnout, and job satisfaction during the pandemic COVID-19

Article	Title	Aim/study purpose	Sample	Methodology	Results/relevant findings/outcome measures
[20]	Experiences of environmental public health professionals during the COVID-19 pandemic response in Canada	This study investigated mental health and the impact of the COVID-19 pandemic on their personal and family lives of Canadian PHIs reported substantial mental health difficulties, including heightened levels of stress and anxiety a lack of work-life balance.	A total sample from the Canada (N = 199). There were 204 survey respondents; 98% (N = 199) approved by the Ryerson University Research Ethics Board (2020-176), was conducted in May 2020. The study population of interest was EPHPs Canadian PHIs.	A mixed-method, cross-sectional online survey investigated mental health and the impact of the COVID-19 pandemic on their personal and family lives of Canadian PHIs	<ul style="list-style-type: none"> -This study examined mental health and the effect of the pandemic on their personal and family lives. -Elevated levels of stress and anxiety because of long work hours in the office or at home led to a lack of work-life balance. -They feel they are under-recognized and underappreciated, given the importance of their roles. -The wide array of roles that PHIs play, such as education and enforcement. -COVID-19 pandemic response necessitated different tasks, including managing cases & contacts & staffing assessment centers. -Lack of employer support for training and safety equipment is a concerning outcome of this study. -The survey found a lack of employer support for training and safety equipment, which is alarming. -The study showed that fear of pandemic COVID-19 has a negative impact on personality, job stress and performance.
[21]	Job satisfaction and occupational burnout among healthcare professionals during the COVID 19 pandemic: A mixed-method approach	This study looked to measure the job satisfaction and occupational burnout among HCPs.	402 HCPs (148 physicians and 254 nurses) took part in survey. Telephonic interviews were conducted for the qualitative analysis on a sample of 29 (12 physicians and 17 nurses).	A mixed-method approach to measure job satisfaction and occupational burnout among HCPs.	<ul style="list-style-type: none"> -The study has shown that the COVID-19 crisis is leading to a significant increase in burnout among health care professionals. -Burnout was associated with a reduction in job satisfaction. -Occupational burnout syndromes during the pandemic were obvious. -Occupational burnout was significantly worsened owing to signs and symptoms of lower rates of burnout syndrome before the pandemic COVID-19.
[22]	Health inspector ratings of Asian restaurants during the early COVID-19 pandemic	PHIs should be trained to address their own potential biases, especially in a diverse environment like New York City. They should also collaborate with public agencies to continue using data to influence practice. Isolate the potential effect of COVID-19 news on health inspectors' racial bias and acknowledge that estimates of persistent increases in citations could also be due to other pandemic-related reasons as burnout, and job satisfaction.	For this study based in the USA, New York before November 2019 and June 2022, data were used to assess the health inspections 3 years, and 78 health inspectors.	A mixed method, the synthetic control method is a statistical tool propensity scores techniques compared to the treatment group.	<ul style="list-style-type: none"> - Health inspectors should be trained to confront their own potential biases, especially in a diverse environment like New York City. They should also collaborate with public agencies to continue using data to influence practice. -Examine trends in health inspection ratings before and after the spread of the epidemic in the United States. -Given their recent economic devastation, history of discrimination, and ability to advance our theoretical knowledge of immigrant integration, as well as how they fared during the COVID-19 pandemic, health inspections play an important role in determining results a reduction in the burnout symptoms of disengagement and exhaustion.
[23]	Suicidal thoughts and burnout among physicians during the first wave of the COVID-19 pandemic in Spain	This study sought to find clinical and sociodemographic factors linked to suicidal ideation presentations during the first wave of COVID-19, and the prevalence of suicidal thoughts in the physician population.	All 3,140 of the 270,235 registered physicians in Spain who are currently in practice make up the sample.	This is a cross-sectional observational study conducted in June 2020 in Spain using an online survey issued by 52 official medical associations.	<ul style="list-style-type: none"> -Suicidal ideation is highly prevalent among Spanish physicians, according to the study. -Among physicians, loneliness may be a risk factor for suicide thoughts. -Suicidal thoughts were protected against by age, and its prevalence declined with age. -Physicians who worked in a different location during the pandemic were linked to an increased likelihood of contemplating suicide.
[24]	COVID-19 and psychosocial well-being: Did COVID-19 worsen U.S. frontline healthcare workers' burnout, anxiety and depression	This study's aim was to evaluate the mental implications of COVID-19 upon front-line healthcare workers in the US using a 58-item online survey that reaction data distributed between September and December 2020.	N = 557 frontline healthcare workers answered the poll, which is a sampling frame of frontline healthcare practitioners nationwide.	It is a cross-sectional study.	<ul style="list-style-type: none"> -Frontline healthcare workers' mental health was set back by COVID-19. Elevated levels of burnout among healthcare personnel can have detrimental effects on patient and worker safety, care quality, patient satisfaction, employee retention, and healthcare expenditures. -It suggests the possible impact of compounding or cumulative stress experienced by healthcare professionals as a group. -Lower levels of burnout, anxiety, and depression related to longer periods of professional practice. -Workplace conditions are seen as a much better indicator of burnout than individual characteristics.

Table 1 (Continued). Studies examining GPHIOPs burnout, and job satisfaction during the pandemic COVID-19

Article	Title	Aim/study purpose	Sample	Methodology	Results/relevant findings/outcome measures
[25]	The influence of COVID-19-related resilience on depression, job stress, sleep quality, and burnout among intensive care unit nurses.	It delves into the factors influencing ICU nurses' resilience during COVID-19, specifically in terms of depression, job stress, sleep quality, and burnout.	It consisted of N = 131. This research has been carried out with ICU nurses working at different university hospitals in three regions across South Korea.	It is a cross-sectional study.	-The study shows that worries about potential risks while caring for COVID-19 patients and fear about becoming infected either directly or indirectly served as stresses. -Low sleep quality. -ICU nurses who provided care for critically ill COVID-19 patients had an extremely high burnout score. -Resilience decreases with increased depression severity and increased burnout.

Table 2. Quality assessment of the studies [16]

Article	BIOCROSS disciplines	Study rational	Design/methods	Data analysis	Data interpretation	Biomarker measurement	Total score
[4]	2	1	2	1	2	2	16 (excellent)
[5]	2	2	2	2	1	2	15 (good)
[16]	2	1	1	1	2	1	14 (good)
[20]	2	1	2	1	2	1	15 (good)
[21]	2	1	2	1	1	1	13 (good)
[22]	2	2	1	2	1	2	17 (excellent)
[23]	2	2	1	1	2	1	12 (fair)
[24]	2	2	1	0	1	2	15 (good)
[25]	2	1	1	2	1	2	16 (excellent)

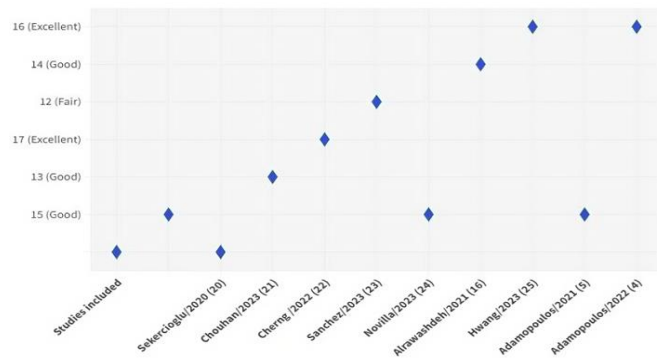


Figure 2. Quality assessment of the studies (Source: Authors' own elaboration)

Quality Assessment

Utilizing the quality appraisal technique for cross-sectional studies with biomarker data, the systematic overview evaluated the efficacy of the studies that were included (BIOCROSS) [26]. A tool for evaluating the quality of data gathered from descriptive research in epidemiology is called BIOCROSS. Scientists may rely on the tool's dependability, and it has the potential to streamline the thorough evaluation of biomarker investigations throughout human investigation. BIOCROSS includes 10 items (I1-I10) grouped into 5 domains to evaluate many aspects of the reporting standards of cross-sectional research on biomarkers. The score ranges from 0 to 20 [26]. As an outcome, each separate study's methodological dependability is evaluated consistently, and all the research that makes up the systematic literature review is of high caliber (Table 2 and Figure 2).

DISCUSSION

Not all research that was part of the comprehensive assessment involved one of the three categories of staff being

examined (general practitioners, health inspectors, and occupational physicians' burnout) and not a combination of them [1, 2, 27]. This result draws attention to a sizable void in the available literature.

Literature has shown that GPHIOPs have increased levels of burnout and job dissatisfaction. Nevertheless, it does not seem like any pertinent research has been done to investigate the causes of it or its effects [2, 28, 29]. Certainly, the results show a notable degree of variety in the socio-demographic attributes of the individuals involved. This variance may be related to administrative and cultural aspects of health systems, which undoubtedly have a considerable influence on GPHIOPs mental health. Consequently, it is possible to see the variations in burnout and satisfaction with employment found based on the sociodemographic traits of the individuals because of all these variables [17, 24, 29].

Through the studies, a lot of crucial issues appeared from the respondents' answers. The primary the most of them were obviously experiencing symptoms of work burnout amid the global epidemic. The results of the tests showed that individuals had a lower incidence of occupational burnout indicators prior to COVID-19, and that COVID-19 significantly worsened the relationship between job fulfillment and occupational burnout [4, 5, 21].

Given that GPHIOPs tend to be nervous, apprehensive, unsure of themselves, and feel depressed, it was clear that neurotic personnel are afraid of coronavirus because of their inclination toward job discontent [2, 20]. Also, it is found that longer hours spent by healthcare professionals were associated with increased rates of depression. What is more, resilience is associated with lower levels of stress, anxiety, exhaustion, and sleep disorders in health inspectors, and professionals—factors that may jeopardize their employment and the care they provide to patients [1, 24]. Moreover, throughout the current Pandemic, there has been a significant increase in contemplation of suicide among physicians. This is mostly related to sociodemographic characteristics, clinical mental

health parameters, and certain aspects of job satisfaction. It is crucial to create screening measures for physicians who are more likely to engage in suicide conduct [16, 17]. It is found out that according to many studies, GPHIOPs experienced greater degrees of mental health issues because of their heavy workload and risk of contracting COVID-19 throughout the Pandemic, which left them more susceptible to emotional exhaustion and low job satisfaction [16, 25].

Aside from these, burnout, and job dissatisfaction among PHIs in Greece are intricately linked to job risks. In fact, it was discovered that while psychosocial hazards are linked to burnout, hazards related to ergonomics are predictive of the subjective tiredness factor. Overall, there are several stressors associated with ergonomic and psychological concerns, including long workdays, a heavy workload, and intimidation [1, 4, 5, 16]. It is possible to draw two pertinent recommendations for clinical practice. Initially, interventions that deal with burnout among GPHIOPs ought to hold a broad character and focus on other factors. Simultaneously, it is a prerequisite that mental resilience be promoted while burnout often coexists alongside various health issues [1, 25, 30]. Also, this systematic review provides several recommendations for further investigation. Firstly, it is essential the seeming deficiency in literature needs to be addressed concerning GPHIOPs. Apart from that prospective studies must be conducted to explore the causal connections that existed among distinct variables that were examined in the research that made up this review [1, 4, 5, 16, 17, 20-25, 28, 29].

Critical Interventions for Health Promotion Have an Impact on Global Health While Preventing GPHIOPs Burnout and Enhancing Their Job Satisfaction

By prioritizing health promotion and implementing these interventions, the healthcare industry can ensure the well-being of their workforce of GPHIOPs while positively influencing global health outcomes. It is important to note that addressing burnout and promoting job satisfaction requires a comprehensive approach that considers both individual and organizational factors. Providing resources for stress management, fostering a supportive work environment, and offering opportunities for professional development and self-care are essential components of such interventions. Critical interventions for health promotion can indeed have a significant impact on Global Health and contribute to preventing burnout and enhancing job satisfaction among GPHIOPs, and other healthcare employees such as PHIs [5, 16, 31]. Many studies have explored interventions in this context. The study in [31] examined the effectiveness of a multifaceted intervention program, which included educational workshops, organizational changes, and individual coaching.

The study found that this intervention led to improvements in job satisfaction, reduced burnout, and increased patient satisfaction [31]. Another study in [32] focused on the role of work engagement in preventing burnout among healthcare professionals, including GPHIOPs. The study highlighted the importance of interventions that promote work engagement, such as job resources, social support, and opportunities for professional development. These interventions were found to be effective in reducing burnout and enhancing job satisfaction [32]. Also, a systematic

review in [33] explored interventions for preventing occupational stress in GPHIOPs. The review showed various interventions, such as stress management programs, organizational changes, and work-time control interventions, that were effective in reducing stress and improving job satisfaction among healthcare professionals. It is worth noting that the effectiveness of interventions may vary depending on the specific context and individual factors.

Thus, it is crucial to adopt a tailored approach that considers the unique needs and challenges of healthcare professionals. Health promotion plays a vital role in improving global health outcomes and ensuring the well-being of individuals. Within the healthcare industry, addressing the burnout and job satisfaction levels of GPHIOPs is particularly important. Implementing critical interventions such as workload management strategies, robust support systems, and wellness programs can effectively prevent burnout [34]. Likewise, enhancing burnout and job satisfaction can be achieved through recognition and rewards, work-life balance initiatives, and ongoing professional development opportunities [35, 36]. Striking a balance between personal and professional life helps support job satisfaction and prevent burnout. Providing flexible work arrangements, offering time off, and supporting employees in managing their responsibilities effectively are crucial [36]. A significant study in [37] found that mindfulness-based interventions, such as mindfulness-based stress reduction, can greatly reduce burnout and improve job satisfaction among healthcare workers. The relationship of burnout with job satisfaction associated with turnover intention in healthcare employees this study to 2020 from China primary care providers in rural areas [38]. By prioritizing health promotion and implementing these interventions, the healthcare industry can ensure the well-being of their workforce of GPHIOPs and positively affect global health outcomes. It is worth noting that addressing burnout and promoting job satisfaction requires a comprehensive approach that considers both individual and organizational factors. Interpersonal characteristics, workplace circumstances, and workplace dynamics all contribute to high burnout and low satisfaction rates [39]. Providing resources for stress management, fostering a supportive work environment, and offering opportunities for professional development and self-care are essential components of such interventions. The impact of the climate crisis on the occupational environment is significant, causing drastic changes in weather patterns and contributing to the depletion of our natural phenomenon's weather events and sources [40, 41]. These factors can greatly affect public health, public hygiene and sanitation [42, 43]. Adhering to existing regulations and practices, particularly in areas such as personal beauty routines, is crucial in mitigating the risks to environmental climate change and crisis on occupational safety and hygiene, associated with quality of life of employees and cyber threats correlated with ethical concern [44-47].

Limitations of the Study

One limitation is that we only sampled English-language datasets from PubMed, MEDLINE, Cochrane CENTRAL, and ScienceDirect. Non-indexed journals probably operate in a similar way to the ones we looked at. It is also possible that the

inclusion of absolute estimations will be slowed down by time span of our sample. Our study's strengths are its well-defined eligibility criteria with independent duplicate eligibility assessment, handling of statistical heterogeneity and other inconsistencies, and assessment of bias risks like attrition bias, selection bias, inadequate blinding, and selective outcome reporting. There were significantly fewer relevant papers included in the study due to the exclusion criteria of the systematic review, which include that studies must be published in peer-reviewed journals, in English, and evaluated for both strengths and limitations.

CONCLUSIONS

This systematic review tried to gain insight into the level of burnout and job satisfaction in general practitioners, health inspectors, and occupational physicians and find out specific factors of burnout and job satisfaction in GPHIOPs related to individual and work-related ones. It is essential for those GPHIOPs who are more likely to engage in suicide conduct, identification, referral, and prevention strategies should be created. Typically, added research on the impacts on psychological well-being is needed.

Psychological approaches are essential to be made to deal with the burnout syndrome and raise the degree of job satisfaction as it has an unfavorable effect on the working environment in healthcare as well as on health promotion. There is an urgent need for reorganizing ongoing care in health care to avert GPHIOPs burnout.

Therefore, the review findings are expected to help and support makers of decision and policymakers providing GPHIOPs with a thorough understanding of all the critical components of burnout and job satisfaction in the healthcare industry. Finally, the research specifically addresses resilience in the context of general practitioners, health inspectors, and occupational physicians—three of the most difficult and demanding professions in the world because of the worldwide pandemic. Consequently, this study makes a substantial contribution to the corpus of literature.

Author contributions: IPA: supervision, validation, visualization, conceptualization, data curation, investigation, methodology, project administration, resources, software, writing—original draft, & writing—editing & AAF & NFS: conception or design of the work, data collection, data and interpretation, drafting the article, critical future revision of the article, & writing—original draft. All co-authors agree with the results and conclusions.

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Declaration of interest: No conflict of interest is declared by the authors.

Ethical statement: The authors stated that ethical approval of this study was carried out in accordance with the rules and current bioethics legislation, all the conditions and specifications of the national and European Union legislation for the protection of personal data as well as in accordance with the instructions of the quality assurance and the study was carried out according to the Declaration of Helsinki.

Data sharing statement: Data supporting the findings and conclusions are available upon request from corresponding author.

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