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■ Review Article

Medical educational study burnout and job satisfaction among general practitioners and occupational physicians during the COVID-19 epidemic

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ABSTRACT

In this narrative review, general practitioners and occupational physicians (GPOPs) are compared in terms of their burnout and job satisfaction. The studies used show an immediate link between burnout and a lack of job satisfaction. However, it is unclear which of these two factors, which will apparently need to be researched and discovered through more research, influences the growth of the other one. High burnout and low satisfaction rates arise because of intrapersonal variables, factors related to the workplace, and factors related to the dynamics of the workplace environment. There is a remarkable rise in burnout among GPOPs during the COVID-19 pandemic. It is critical psychological interventions be made to address burnout and boost job satisfaction levels as it has a detrimental impact and adverse effect on the medical working environment.

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

INTRODUCTION

In this study, burnout, and job satisfaction among general practitioners and occupational physicians (GPOPs) are examined. These two variables are studied in terms of their relationship, the variables that influence them, and the consequences of those ones. A specific mention is also made of the COVID-19 pandemic period, which appears to have contributed significantly to levels of burnout. Burnout and low job satisfaction generally have several effects [1-3]. As a result, it would be more acceptable to arrange those into various categories. Therefore, effects that regard one person

constitute a first set of effects. The safety and organizational workplace factors, as well as the socio-psychological risks in the working environment of public health service in Greece, have been studied and published, and they provide information on how they affect employees [4-6]. This research was predicated on the notion that a phenomenon was being investigated that had not previously been studied. In other words, it was assumed that burnout had always affected health workers at these levels and that up until that point, the problem's applicability had not been shown. Health practitioners were able to reflectively

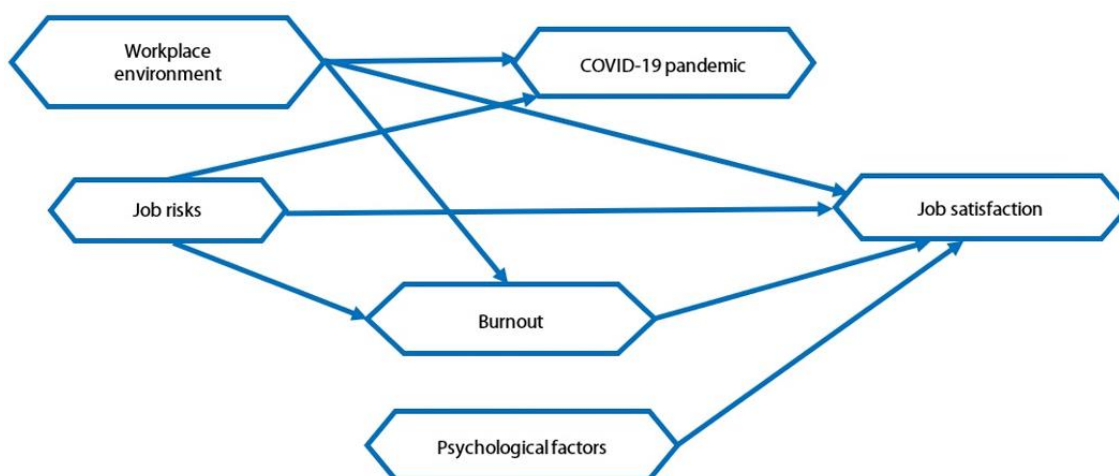


Figure 1. Relationships of factors & hypothesized in this study (Source: Authors' own elaboration)

recognize a condition that has always existed due to advancements in study methodologies and research progress [7-10]. Our aim is to examine level of burnout and job satisfaction in GPOs and identify specific determinants of burnout and job satisfaction in GPOs, including various individual and work-related factors. **Figure 1** shows relationships of factors and hypothesized in this study.

RESEARCH METHODS

The databases were searched for original research papers regarding exposure to and its effects in GPOs in terms of burnout and job satisfaction. These publications had to have been authored or published in English language during the previous five years.

Additionally, links were looked up in the retrieved publications' references. Suitable keyword combinations such as burnout, job satisfaction, occupational physicians, general practitioners, pandemic, and COVID-19 were used for this search. This study conducted from November 2021 to September 2023, used the preferred reporting items for reviews to manage the information flow via the several review phases through MEDLINE, PubMed, CINAHL, Scopus, Web of Science, Science Direct, Academic, research or reports, primarily Google Scholar, and World Health Organization research databases.

Figure 2 shows the flow chart diagram of GPOs burnout and job satisfaction during the COVID-19 pandemic.

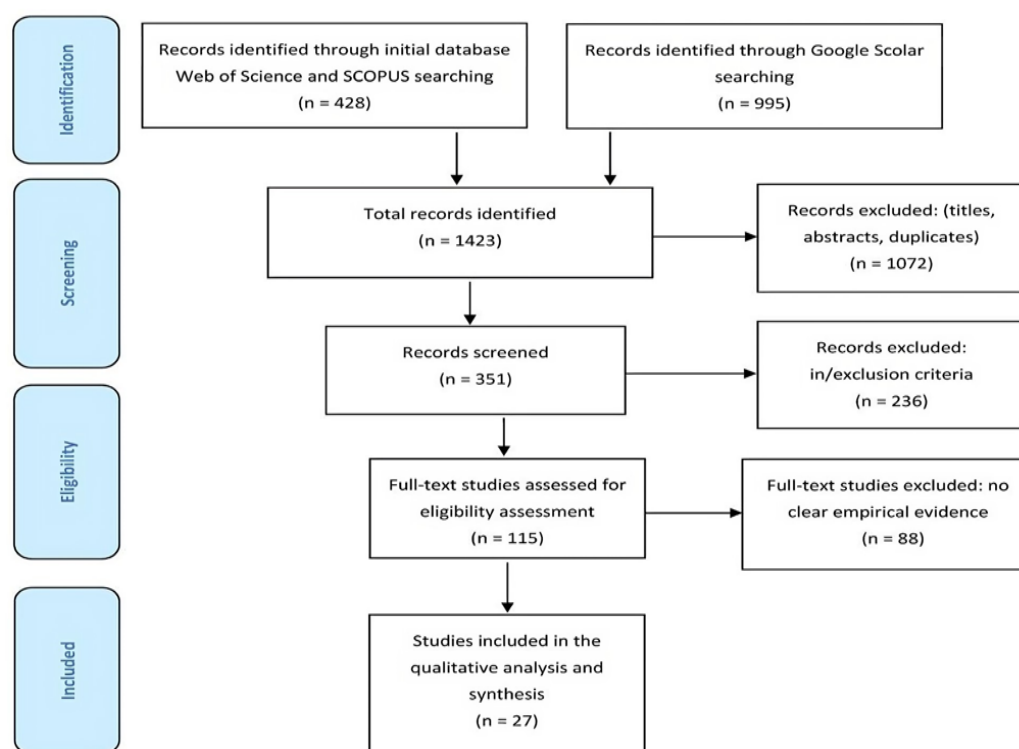


Figure 2. Flow chart diagram of this study (Source: Authors' own elaboration)

RESULTS OF BURNOUT & JOB SATISFACTION

The policies and management of public health authority services have an impact on workplace safety and performance [11-13]. Another factor influencing performance and the provision of high-quality services to society is job discontent among employees and the need for training and excellent education among public health professionals. The pressure from politicians and administrators combined with urban and semi-urban environments have a negative effect on the operation of the workforce in public health services. In fact, it was particularly evident during the COVID-19 pandemic. Burnout is observed in employees and is consequently affected by political interventions [14-17]. For the preservation of health and safety at work as well as the prevention of the effects of hazardous variables in the workplace, it is becoming more and more crucial to examine employment hazards and employees' risk perceptions [18-20]. It is based on reports, complaints, and working conditions, responsibilities, and duties of GPOPs as well as the personal observations and remarks of the researchers, which are supported by the international literature [12-15]. Demographics, and more especially the workplace environment (urban, semi-urban, and rural), had an impact on perceived job risks, stress, burnout, and job satisfaction levels. The recent economic slump has raised the likelihood of the existing workplace risks and has also created new risks for employees, such as burnout and psychological risks [16-18]. The degree to which an individual is satisfied with his work is significantly influenced by environmental issues such as climate change, water resources, and administration connected to political interventions, such as job characteristics, remuneration, equality, and justice in the workplace [19-20]. It is obvious that throughout the pandemic period, a wide range of factors simultaneously impacted health workers' burnout and job satisfaction. As a result, it is a complicated phenomenon that is not caused by a single source or circumstance. The economic crisis brought on by the pandemic is a major issue that is linked to burnout and low job satisfaction in this time [21, 22]. Undoubtedly, the epidemic caused a considerable reduction in global economic growth. There were also wage reductions in nations with health systems that are not based on a rigorous system of predetermined wages to ensure the sustainability of those systems during the early pandemic waves [15, 23].

DISCUSSION

A poll of 2,000 American physicians revealed a negative association between burnout and job satisfaction. Measures were used in this poll to gauge burnout and job satisfaction.

The analysis of this data revealed that GPOPs' job satisfaction decreased in direct proportion to the severity of their burnout [9, 11, 12]. In any event, the composite linkages between burnout and job satisfaction also result in linked detrimental effects of both factors in the workplace. An associated study among American internists from 2014 to 2017 found that this was typical. In this study, 1,882 GPOPs in total were investigated while completing assessments of burnout and workplace disengagement. A significant disengagement from the workplace emerged because of excessive burnout [23]. The topic of burnout specifically during the epidemic time has been the subject of several studies [8-13].

A similar study was carried out in the USA between 9 December 2021 and 24 January 2022. In this study, 2,440 doctors with burnout were investigated. The study also included data from prior years, specifically from 2011 onward in order to examine the potential variation in burnout among pathologists during the COVID-19 epidemic. According to the results, depersonalization increased by 60.7% while emotional weariness, a crucial component of burnout, increased by 38.6%. In 2021, 62.8% of GPOPs exhibited at least one clinical indication of burnout, up from 45.5% in 2011 and 54.4% in 2014, disparities that were statistically significant overall [14, 15]. It has also been investigated whether burnout varied between the initial wave of the pandemic and later waves, in addition to looking at changes before and throughout the COVID-19 epidemic. In March 2020, the pandemic's initial wave struck. A study was carried out in Canada at the time among GPOPs to ascertain their degrees of burnout. Then, in March 2021, a comparable measurement was made. Burnout was reported to affect 28.0% of GPOPs in March 2020; a year later, that number had increased to 34.7%. Consequently, it was discovered that burnout among medical professionals increased concurrently with the pandemic [16]. The conventional link between burnout and GPOPs' job satisfaction appears to still be present during the epidemic time. The relationship between job satisfaction and burnout was studied in a pertinent study of 138 GPOPs in the USA. According to this study, there was a negative link between these two factors, meaning that burnout levels were lower the higher the job satisfaction levels. Therefore, it appears that these conventional correlations of the two variables established through earlier studies are valid during the pandemic period [17]. Another study conducted in Greece during the epidemic looked at the connection between job satisfaction and burnout. A sample of 185 public health workers inspectors, were subjected to this survey, which ran from April to October 2021 [2].

Both a questionnaire to measure burnout and a questionnaire to measure job satisfaction were used in this survey. Through this study, a negative association between these two factors was discovered, i.e., it was discovered that with higher levels of burnout had lower levels of job satisfaction. The phenomenon of increasing working hours for health professionals was noticed throughout the same period [18].

Indeed, health services were unable to handle the intricate demands of the pandemic epidemic waves given their current capabilities. The demand on health systems was far greater in relation to what they could handle and resist, especially before the discovery of vaccines [19]. As a result, health systems were under unbalanced pressure, which made medical staff members work longer hours. Days off and holidays were lost, and the overtime was frequently unpaid and informal. For GPOPs, these factors contributed to a further rise in burnout and a subsequent fall in job satisfaction [20]. The worry of contracting the coronavirus is a third factor. Health workers undoubtedly experienced severe psychological stress because of the pandemic, particularly those who served on the front lines. General practitioners are likewise affected by these impacts. GPOPs had to deal with the dread of coronavirus infection while working on the front lines of the pandemic response, which raised burnout and decreased job satisfaction [21-23]. The societal unrest brought on by the pandemic is the fourth parameter. It is a truth that the curfew and other emergency responses to the pandemic have caused significant societal disturbance. The social disturbance also had an impact on pathologists as social beings. These pressures increased GPOPs workload significantly, contributed to their increased burnout, and decreased their job satisfaction [20]. Finally, throughout the pandemic period, there was a major negative impact on GPOPs interpersonal interactions due to overall stress and wider disturbance. Conflicts between doctors and nurses, for example, emerged due to the pressure placed on health systems, which also caused interpersonal relationships to become more intense. Increased burnout and decreased job satisfaction during the pandemic time were also brought on by the breakdown of relationships between pathologists and other members of the health care system [20-23]. The truth, though, might be a little different. Since the 1970s there have been constant changes in the way health professionals, including the GPOPs, work. For instance, the introduction of contemporary technology into the workplace is one such transition. GPOPs and other health professionals in general were obliged to acquire new information and abilities to be able to fulfill the increased demands of their working environment because technology was thus heavily

incorporated into medical research. Since the 1970s, when the burnout phenomena were not investigated, the expectations of the workplace have intensified and are undoubtedly considerably different from what they were [23]. In any event, it's conceivable that both viewpoints are equally incorrect. Neither can it be stated that the burnout phenomena did not exist nor that it is only a result of changes in the workplaces of health professionals. Instead, it appears more plausible to argue that burnout has always been among medical professionals, such as GPOPs, and that it has got worse and worse recently as a result of the new dynamics that have taken hold in healthcare organizations. It is possible to view the pandemic as the culmination of these continuous changes and the pressured working conditions that health workers are experiencing [21-24]. Finally, it is important to remember that fatigue during this time is linked to a decrease in adherence to the behaviors needed to stop the coronavirus from spreading. In March 2020, a sample of 1,734 general practitioners in China was evaluated in a study that is relevant to this discussion. According to this study, people who experienced burnout in more severe forms washed their hands less frequently than the average person [15, 24]. Finally, we must refer to the important role of machine learning in identifying COVID-19 and assisting physicians and healthcare workers in providing distinctive and impactful treatment [25].

CONCLUSIONS

The data collected from this narrative review study not only presents burnout and job satisfaction in GPOPs prevalence and evolution during the last three years, but it also measures the effect of the COVID-19 pandemic on this pre-existing burnout and job satisfaction. The study hypothesis is that the COVID-19 crisis has greatly worsened burnout in all four dimensions (emotional exhaustion, depersonalization, and personal accomplishment, total burnout), and job satisfaction among GPOPs. Considering the aforementioned, it would appear that burnout and low job satisfaction are intrinsically linked. Future research must clarify which of these two factors affects the growth of the other because it is unclear at this time. High burnout and low Satisfaction are a result of intrapersonal issues, factors related to the workplace, and factors related to the dynamics of the home environment. Burnout levels among GPOPs significantly increased throughout the epidemic period. It is essential to address this issue and raise job satisfaction levels through the development of psychological therapies. In addition, by implementing suitable medical education programs and training initiatives to advance health promotion and preventive medicine.

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Declaration of interest: Authors declare no competing interest.

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

REFERENCES

- Adamopoulos IP, Lamnisis D, Syrou NF, Boustras G. Public health and work safety pilot study: Inspection of job risks, burn out syndrome and job satisfaction of public health inspectors in Greece. *Saf Sci*. 2022;147:105592. (doi:10.1016/j.ssci.2021.105592).
- Adamopoulos IP, Syrou NF, Lamnisis D, Boustras G. Cross-sectional nationwide study in occupational safety & health: Inspection of job risks context, burn out syndrome and job satisfaction of public health Inspectors in the period of the COVID-19 pandemic in Greece. *Saf Sci*. 2023;158:105960. (doi:10.1016/j.ssci.2022.105960).
- Adamopoulos IP, Bardavouras AN, Syrou NF. Occupational safety, policy, and management in public health organizations and services. *Eur J Environ Public Health*. 2023;7(1):em0122. (doi:10.29333/ejeph/12445).
- Adamopoulos IP, Lamnisis D, Syrou NF, Boustras G. Training needs and quality of public health inspectors in Greece during the COVID-19 pandemic. *Eur J Public Health*. 2022;32(Suppl 3):ckac131.373. (doi:10.1093/eurpub/ckac131.373).
- Adamopoulos IP. Job satisfaction in public health care sector, measures scales and theoretical background. *Eur J Environ Public Health*. 2022;6(2):em0116. (doi:10.21601/ejeph/12187).
- Adamopoulos IP, Syrou NF. Associations and correlations of job stress, job satisfaction and burn out in public health sector. *Eur J Environ Public Health*. 2022;6(2):em0113. (doi:10.21601/ejeph/12166).
- Adamopoulos IP, Frantzana AA, Adamopoulou JP, Syrou NF. Climate change and adverse public health impacts on human health and water resources. *Environ Sci Proc*. 2023;26(1):178. (doi:10.3390/environsciproc2023026178).
- Adamopoulou JP, Frantzana AA, Adamopoulos IP. Addressing water resource management challenges in the context of climate change and human influence. *Eur J Sustain Dev Res*. 2023;7(3):em0223. (doi:10.29333/ejosdr/13297).
- Keeton K, Fenner DE, Johnson TRB, Hayward RA. Predictors of physician career satisfaction, work-life balance, and burnout. *Obstet Gynecol*. 2007;109(4):949-55. (doi:10.1097/01.AOG.0000258299.45979.37).
- Hassan OM, Abd-Elmaksoud SF. Association between job stress and job satisfaction among physicians in Bahna major hospitals, Kaliobia Governorate. *Egypt J Occup Med*. 2015;39(2):177-94. (doi:10.21608/EJOM.2015.820).
- Ozyurt A, Hayran O, Sur H. Predictors of burnout and job satisfaction among Turkish physicians. *QJM*. 2006;99(3):161-9. (doi:10.1093/qjmed/hcl019).
- Psilopanagioti A, Anagnostopoulos F, Mourtou E, Niakas D. Emotional intelligence, emotional labor, and job satisfaction among physicians in Greece. *BMC Health Serv Res*. 2012;12:463. (doi:10.1186/1472-6963-12-463).
- Rao S, Ferris TG, Hidrue MK, et al. Physician burnout, engagement and career satisfaction in a large academic medical practice. *Clin Med Res*. 2020;18(1):3-10. (doi:10.3121/cmr.2019.1516).
- Shanafelt TD, Boone S, Tan L, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med*. 2012;172(18):1377-85. (doi:10.1001/archinternmed.2012.3199).
- Gajjar J, Pullen N, Li Y, Weir S, Wright, JG. Impact of the COVID-19 pandemic upon self-reported physician burnout in Ontario, Canada: Evidence from a repeated cross-sectional survey. *BMJ Open*. 2022;12(9):e060138. (doi:10.1136/bmjopen-2021-060138).
- Lazarides AL, Belay ES, Anastasio AT, Cook CE, Anakwenze OA. Physician burnout and professional satisfaction in orthopedic surgeons during the COVID-19 pandemic. *Work*. 2021;69(1):15-22. (doi:10.3233/WOR-205288).

17. Adamopoulos IP, Syrou NF. Occupational burnout in public health care sector, scales, measures, and education in the frame of period COVID-19 pandemic. *Eur J Environ Public Health*. 2023;7(2):em0127. (doi:10.29333/ejeph/12532).
18. Adamopoulos IP, Syrou NF. Workplace environment and burnout in public health workforce inspection services in Greece during the COVID-19 pandemic. *Med Sci Forum*. 2023;19(1):4. (doi:10.3390/msf2023019004).
19. Adamopoulos IP, Bardavouras AN. Digital health literacy and quality of life association with perceptions about the disease COVID-19 in public health services. *Eur J Environ Public Health*. 2024;8(1):em0153. (doi: 10.29333/ejeph/14150).
20. Alrawashdeh HM, Al-Tammemi AB, Alzawahreh MK, et al. Occupational burnout and job satisfaction among physicians in times of COVID-19 crisis: A convergent parallel mixed-method study. *BMC Public Health*. 2021;21(1):811. (doi:10.1186/s12889-021-10897-4).
21. de Piava Faria ARQ, Coelho HFC, Silva AB, et al. Impact of the COVID-19 pandemic on the development of burnout syndrome in frontline physicians: Prevalence and associated factors. *Rev Assoc Med Bras* (1992). 2021;67(7):942-9. (doi:10.1590/1806-9282.20210244).
22. Essary AC, Bernard KS, Coplan B, et al. Burnout and job and career satisfaction in the physician assistant profession: A review of the literature. *Nat Acad Med*. 2018. (doi:10.31478/201812b).
23. Bagherian F, Hosseini, SA. Burnout and job satisfaction in the emergency department staff: A review focusing on emergency physicians. *Int J Med Invest*. 2019; 8(3):13-20.
24. Zhou Q, Lai X, Wan Z, Zhang X, Tan L. Impact of burnout, secondary traumatic stress and compassion satisfaction on hand hygiene of healthcare workers during the COVID-19 pandemic. *Nurs Open*. 2021;8(5):2551-7. (doi:10.1002/nop2.786).
25. M. Mijwil M, Adamopoulos I, Pudasaini P. Machine learning helps in quickly diagnosis cases of "New corona". 2024:16-9. (doi: 10.58496/MJAIH/2024/003).

