BMC Primary Care

RESEARCH Open Access

Burnout syndrome among general practitioners in the Czech Republic: a repeated survey study

Ladislav Štěpánek[1,2*], Dagmar Horáková[1], Norbert Král[2,3], Lubomír Štěpánek[4] and Svatopluk Býma[2,5]

Abstract

Background Given the critical role of general practitioners (GPs), their insufficient medical density and the adverse effects of burnout on both practitioners and the quality of care provided, the prevalence estimates of GP burnout reported in the literature are highly concerning. This nationwide study builds on a 2023 survey that revealed a significant burden of burnout among Czech GPs. The primary objectives were to analyse the prevalence and determinants of burnout and to examine potential trends over time.

Methods In April 2024, 2,500 randomly selected GPs were emailed the Maslach Burnout Inventory - Human Services Survey for Medical Personnel, supplemented with sociodemographic and job-related questions. The statistical analysis included a comparison with an identical study conducted a year earlier.

Results Of the 765 completed responses (542 females, 223 males; mean age 55.5 years), 19.7% of the GPs experienced burnout in all three dimensions, 23% in two, 28.5% in one, and 28.8% in no dimension. Similar to 2023, the most common burnout dimension was a lack of personal accomplishment (PA, 52.2%), followed by emotional exhaustion (EE, 45.9%) and depersonalization (DP, 35.7%). Male and employed GPs experienced greater degrees of DP, while practice owners were more susceptible to EE. A positive dependence of burnout on the number of listed patients was identified. The proportion of GPs experiencing burnout across all dimensions decreased by 2.1% from 2023 to 2024 ($p=0.232$), primarily in DP. Additionally, a 6.7% increase in GPs showing no signs of burnout in all dimensions ($p=0.002$) further supported this positive trend.

Conclusions Between 2023 and 2024, the prevalence of burnout among GPs exhibited a modest decline. Nonetheless, it persists at almost 20%. Ensuring a sufficiently dense network of GPs, providing adequate resource allocation, and raising awareness of their importance are essential measures.

Keywords Burnout, General practitioner, Emotional exhaustion, Depersonalization, Personal accomplishment

*Correspondence:
Ladislav Štěpánek
ladislav.stepanek@upol.cz
[1]Department of Public Health, Faculty of Medicine and Dentistry, Palacký University Olomouc, Hněvotínská 976/3, Olomouc 77900, Czech Republic
[2]Society of General Practice, J. E. Purkyně Czech Medical Association, Sokolská 490/31, Prague 12000, Czech Republic
[3]Institute of General Practice, First Faculty of Medicine, Charles University, Albertov 2049/7, Prague 12000, Czech Republic
[4]Institute of Biophysics and Informatics, First Faculty of Medicine, Charles University, Salmovská 1, Prague 12000, Czech Republic
[5]Department of Preventive Medicine, Faculty of Medicine in Hradec Králové, Charles University, Šimkova, 870, Hradec Králové 50003, Czech Republic

Background

The well-being of physicians and other healthcare workers (HCWs) is essential for healthcare services. Studies have convincingly shown that the well-being of HCWs improves the quality of care, productivity, and thus patient satisfaction [1]. An occupation-related condition that fundamentally reduces well-being is burnout syndrome. The term burnout can be used as a shortcut for a psychological syndrome encompassing three dimensions: emotional exhaustion (EE), depersonalization (DP) and decreased sense of personal accomplishment (PA), based on the 11th Revision of the International Classification of Diseases [2]. According to this three-dimensional model, EE refers to feelings of work overload and depletion of energy or emotional resources; DP is characterized by a cynical and impersonal response to others, including both colleagues and patients; and PA reflects a tendency to undervalue one's work and feel ineffective in performing job tasks [3, 4]. Therefore, the syndrome may have significant negative personal consequences (substance abuse, broken relationships and even suicide) but also important professional consequences, such as impaired quality of care or even medical errors, potentially resulting in malpractice suits with substantial costs for caregivers and hospitals [5]. The likelihood of making a major medical error is approximately 50% greater among physicians with high levels of burnout [1].

Primary health care (PHC) has become a global health priority in recent years. PHC-oriented systems offer the most cost-effective, equitable and accessible route to extending health services to large populations [6]. Patients most commonly receive PHC from HCWs such as general practitioners (GPs) or family physicians and their nurses. GP tasks are related to treating illness in the context of the patient's life, belief system, and community, working with other HCWs to coordinate care and make efficient use of health resources. Surveys indicate that specialities frequently interacting with patients and families, such as GPs, experience significantly higher burnout rates than those in other specialities. Moreover, wide-ranging but gradually increasing estimates of the prevalence of GP burnout have been reported [7, 8].

Adequate access to medical care requires a sufficient number of GPs and other specialists and their optimal geographic distribution. For many decades, an unequal distribution of GPs has been common in developed countries. More recently, medical density—the ratio of the number of physicians per capita within a specified area—has been decreasing in Europe and elsewhere. This general trend is attributable to the ageing of GPs and the failure of health planning authorities to anticipate these changes. This trend is exacerbated by the growing demand for care, partly due to population ageing. A reduction in the workforce, coupled with another foreseeable increase in demand for care directly associated with growing burnout, may worsen current GP shortages [9].

Despite growing global attention to burnout among HCWs, comprehensive longitudinal data on burnout prevalence and its determinants among GPs not only in the Czech Republic, particularly in the post-COVID-19 era, remain limited. There is a notable absence of comparative analyses tracking trends over time and examining how specific factors contribute to burnout across different years. Following the 2023 survey, which revealed a concerning burden of burnout [10], the study aimed to employ the same methods to assess the current prevalence and determinants of burnout and compare these findings with data from the previous survey. The primary goal was to gather comprehensive and reliable information to subsequently develop effective preventive measures.

Methods

Study setting and population

In the Czech Republic, general practice serves as the primary access point to the publicly funded healthcare system. Nearly all citizens are registered with a GP, which they are supposed to contact for medical advice. Access to other specialists and hospitals typically requires a referral from a GP. In 2007, the average list size of a GP was 1,613 patients, although this number has likely grown. According to health insurance companies, GPs are required to provide medical care throughout all weekdays [11].

This descriptive, quantitative, cross-sectional survey sample consisted of 2,500 randomly selected GPs from the Czech Society of General Practice, which unites GPs in the Czech Republic (n=4,800). Subsetting using a pseudorandom number generator was applied in the random selection. A single email request to participate in the survey was sent to the GPs on April 4, 2024. Data collection ended on May 4, 2024. A priori power analysis (α=0.05, 1 - β=0.80, d=0.3, and n=4,800) yielded a minimum of 169 survey responses for the study. Considering that the response rate achieved in the authors' previous identically designed study was around 33% [10], a much larger surveyed sample of potential participants was established.

The questionnaire

The questionnaire run on Google Forms comprised two parts. Initially, 5 mostly closed-ended questions were asked about the respondents' sex, age, duration of practice as a GP, number of listed patients, and ownership/employment of a GP practice. The second part involved the standardized Maslach Burnout Inventory (MBI), a version of the Human Services Survey (HSS) specific

for Medical Personnel, through which symptoms of EE, DP and reduced PA were assessed. The MBI-HSS, translated and validated to Czech, includes 22 items grouped into three subscales according to the three dimensions of burnout (9 items for EE, 5 items for DP and 8 items for PA). Each item suggesting various feelings or emotions was scored on a 7-point Likert scale based on the frequency with which respondents experienced them, ranging from "never" (0) to "daily" (6) [12]. An English translation of the study questionnaire is available in the Supplementary material.

Data analysis

The MBI scores for each subscale (dimension) were assessed separately, and the recommended thresholds by Maslach (as adopted by the European General Practice Research Network) for three levels of burnout were applied to all subscales (Table 1). Higher scores on EE and DP, whereas lower scores on PA indicated a higher burnout burden as the items on EE and DP have a negative meaning connotation, unlike PA. A high level determined burnout in each dimension. Burnout burden was assessed both numerically through subscale scores and categorically using recommended thresholds.

Statistical analysis was carried out with SPSS software (version 22.0). All numerical variables were characterized with descriptive statistics. The normality of the variables was evaluated using the Shapiro–Wilk test. The Mann–Whitney test for continuous variables (due to right-skewed data distribution) and the chi-square test for categorical variables were used to determine the significance of differences. Spearman's correlation coefficients were calculated between numerical variables and burnout scores. Cronbach's alpha was used to assess the internal consistency of the data. A p-value lower than 0.05 indicated statistical significance.

Results

A total of 765 responses to the questionnaire were obtained (response rate of 30.6%) from 542 females and 223 males with a mean age of 55.5±27.4 years (median 47). The respondents had worked as GPs for an average of 16.7±12.5 years (median 12) and cared for 1,935±623 patients (median 1,800). 69.2% of participants reported that they owned a GP practice, while the rest were employed. Of the 765 respondents, 220 (28.8%) did not achieve burnout in any of its dimensions, 218 (28.5%) did so in one dimension, 176 (23%) in two, and 151 (19.7%) achieved burnout in all three dimensions simultaneously (Fig. 1). More than half of the entire study sample scored burnout in terms of reduced PA (52.2%); conversely, only 23.3% of GPs demonstrated a complete absence (low level) of this dimension. Second, GPs were affected by burnout in EE (45.9%), and the least frequently observed dimension was DP (35.7%), which was most commonly linked to a low level of burnout (Table 2).

Table 1 Score thresholds for three levels in each dimension [13, 14]

Dimension	Level	Score thresholds
Emotional Exhaustion	Low	≤ 18
	Moderate	19–26
	High	≥ 27
Depersonalisation	Low	≤ 5
	Moderate	6–9
	High	≥ 10
Personal Accomplishment	Low	≥ 40
	Moderate	39–34
	High	≤ 33

Subgroup comparisons

The proportion of GPs according to the number of dimensions in which they experienced burnout differed significantly by sex and number of listed patients. Although weak, males were more likely to experience burnout in two or three dimensions simultaneously but were also more likely than females to show no burnout in any dimension. A higher number of listed patients predisposed GPs to burnout in all dimensions simultaneously (Fig. 2).

Pairwise subgroup comparisons revealed a statistically significant difference in burnout dimensions concerning GP practice ownership (Table 2). Practice owners suffered more frequently burnout in EE (by 3.6%) but less often in DP (by 10.3%) than did their employed counterparts. On the other hand, a greater share of low levels was detected among practice owners for both dimensions. Despite the lack of statistical significance, a higher prevalence of burnout in PA concerned employed GPs (by 7.3%), whereas 7% more practice owners achieved full accomplishment. Similarly, GPs who registered a number of patients above the median tended towards reduced PA. Notably, burnout was more prevalent among males in terms of DP (by 8.5%) than among females, whereas females exhibited a greater prevalence of diminished PA (by 7.1%) (Table 2).

The mean point scores and their 95% confidence intervals (CI) for every burnout dimension are shown in Table 3. The scores fell within the moderate level of burnout for EE and DP and even within the high level for PA. A comparison of scores in individual subscales yielded a significant difference only in DP between females and males. Correlation analysis detected no statistically significant relationships between subscale scores and other numerical variables, with correlation coefficients near zero. The Cronbach's alphas for the MBI-HSS, EE, DP, and PA were 0.81, 0.94, 0.81 and 0.92, respectively.

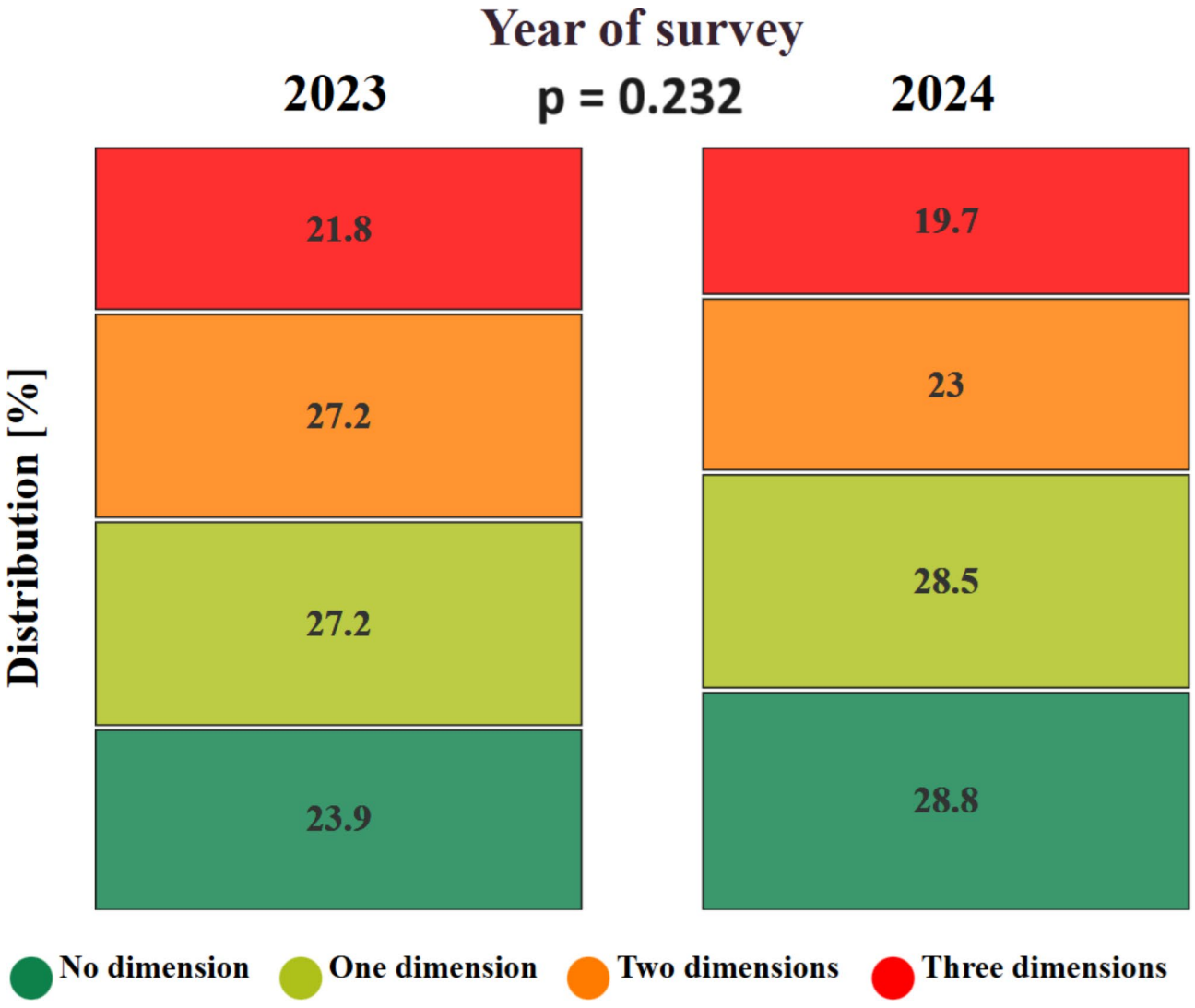

Fig. 1 Comparison of surveys regarding the representation of burnout in a particular number of dimensions

Comparison of the 2023 and 2024 surveys

The 2023 and 2024 study samples exhibited similar distributions in sex ($p=0.451$), age ($p=0.063$), and patient list size ($p=0.576$), but differed significantly in employment status ($p=0.001$). From 2023 to 2024, the proportion of respondents reaching high levels of burnout across all dimensions decreased by 2.1%, albeit insignificantly, while 4.9% more GPs reported no burnout in any dimension ($p=0.232$; Fig. 1). This positive trend was further substantiated by a statistically significant increase in respondents scoring low burnout levels across all dimensions, rising from 6.9 to 13.6%, alongside a decrease in GPs entirely lacking low levels, from 48.3 to 40.9% ($p=0.002$). In 2024, the amelioration of the burnout burden was most apparent in DP (Table 2). Between the two surveys, the prevalence of burnout in DP decreased significantly among males, GP practice owners and GPs who registered a number of patients above the median. In both years, practice owners demonstrated a higher frequency of EE burnout than employed respondents, with statistical significance achieved only in the 2024 survey. Similarly, DP was more frequently observed in males than in females in both years. Subscale scores also reflected a reduction in burnout between 2023 and 2024 (in PA only borderline), although without statistical significance in the entire sample or subgroups (Table 3).

Discussion

The primary objective of this study was to determine the degree of burnout among Czech GPs. To achieve this, we employed the MBI-HSS, the most widely used tool for estimating burnout prevalence in HCWs, which measures burnout as defined by the World Health Organization—a three-dimensional concept [2, 15]. The most adverse MBI pattern, characterized by high levels of burnout in EE, DP, and PA (meaning low PA due to an

Table 2 Distribution of burnout dimensions' levels in the entire population and subgroups in the survey from 2024 (and 2023) expressed as a percentage

Level of burnout	Entire sample	Sex			GP practice ownership			Number of registered patients		
		Females	Males	*p*-value	GP practice owners	Employed GP	*p*-value	≤ 1800	> 1800	*p*-value
Emotional exhaustion										
Low	38.2 (34.7)	38.7 (36.6)	36.8 (30.8)	0.185 (0.384)	39.3 (31.8)	35.7 (45.5)	0.042 (0.093)	38.3 (35.4)	37.6 (34.1)	0.251 (0.409)
Moderate	15.9 (15.1)	14.4 (15.9)	19.7 (13.5)		13.6 (15.3)	20.9 (15.2)		18.1 (12.4)	14.2 (17.6)	
High	45.9 (50.2)	46.9 (47.6)	43.5 (55.8)		47.1 (52.9)	43.5 (39.4)		43.5 (52.2)	48.2 (48.2)	
Depersonalization										
Low	43.1 (34.1)*	44.6 (39.2)	39.5 (23.1)*	0.082 (0.006)	44.6 (34.1)*	40 (33.3)	0.018 (0.922)	44 (36.6)	41.4 (31.8)*	0.45 (0.521)
Moderate	21.2 (25.4)*	22.1 (25.6)	18.8 (25)*		23.1 (26.1)*	17.4 (24.2)		19.7 (26.1)	23.4 (24.7)*	
High	35.7 (40.5)*	33.2 (35.2)	41.7 (51.9)*		32.3 (39.8)*	42.6 (42.4)		36.3 (37.3)	35.1 (43.5)*	
Personal accomplishment										
Low	23.3 (18.4)	22.1 (16.3)	26 (23.1)	0.196 (0.326)	25.3 (19.5)	18.3 (15.2)	0.078 (0.083)	23.3 (16.8)	23.4 (20)	0.169 (0.189)
Moderate	24.6 (25.4)	23.6 (26.4)	26.9 (23.1)		24.6 (23)	24.3 (36.4)		27.5 (29.8)	21.8 (21.2)	
High	52.2 (56.2)	54.2 (57.3)	47.1 (53.8)		50.1 (57.5)	57.4 (48.5)		49.2 (53.4)	54.8 (58.8)	

*p-value between results from 2023 and 2024 < 0.05

GP, general practitioner

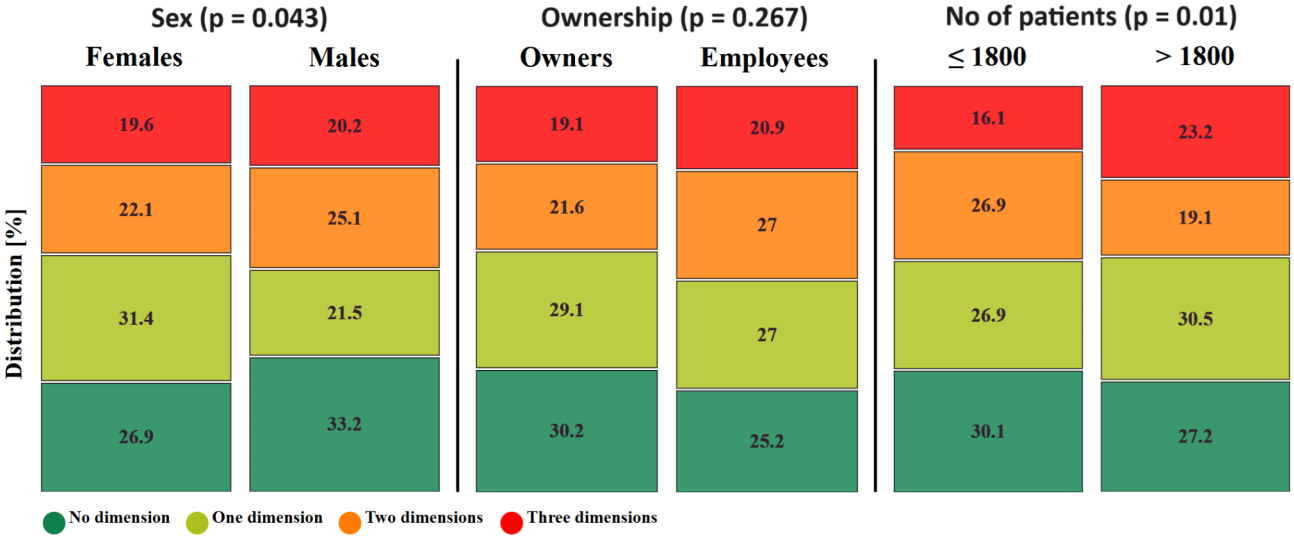

Fig. 2 Burnout representation among subgroups in 2024

inverse scale), is typically referred to as severe or a high degree of burnout. The MBI-HSS enables the assessment of burnout through its dimension scores, which can be treated as continuous or categorical variables using thresholds for particular levels [15].

In the present study, we found that 19.7% of Czech GPs were affected by severe burnout, whereas 28.8% of respondents did not experience burnout in any dimension. Furthermore, only 13.6% exhibited a low level of burnout across all dimensions. A meta-analysis of 31 studies (published up to 2020) by Karuna et al. comprising data from 22,177 GPs expressed mean subscale scores of 16.43 (95% CI 13.57–19.29) for EE, 6.74 (95% CI 5.29–8.18) for DP, and 29.28 (95% CI 23.61–34.96) for PA [7]. In comparison, the current study revealed worse EE and DP scores but a more favourable PA score. An explanation may stem from the inclusion of studies since 1987 in the meta-analysis, as over time, especially in the last decade, the prevalence of burnout among HCWs has been increasing [8, 16]. In terms of the categorical assessment of MBI outcomes, the meta-analysis reported the following pooled prevalence estimates for high levels of burnout: 32% for EE, 31% for DP, 27% for reduced PA, and 6% for severe burnout [7]. In the present study, burnout thresholds across all dimensions were exceeded, and the prevalence of severe burnout was notably higher. Conversely, the meta-analysis reported moderate-level prevalence rates of 28% for EE, 23% for DP, and 33% for reduced PA, all of which were higher than the proportions observed in the current study.

The worldwide literature on GP burnout was recently systematically reviewed by McCammon et al. as well. Of

Table 3 Scores of burnout dimensions (their 95% confidence intervals) in the entire population and subgroups in the survey from 2024 [and 2023]

Dimension of burnout	Entire sample	Sex			GP practice ownership			Number of registered patients		
		Females	Males	*p*-value	GP practice owners	Employed GP	*p*-value	≤ 1800	> 1800	*p*-value
Emotional exhaustion	25.35 (24.38, 26.31) [26.41 (24.9, 27.83)]	25.36 (24.21, 26.51) [25.66 (23.86, 27.46)]	25.31 (23.53, 27.1) [27.87 (25.36, 30.37)]	*0.963* [*0.168*]	25.55 (24.35, 26.75) [27.16 (25.48, 28.85)]	24.94 (23.33, 26.55) [23.3 (20.52, 26.09)]	*0.57* [*0.037*]	24.97 (23.62, 26.32) [27.25 (25.09, 29.41)]	25.84 (24.45, 27.24) [25.51 (23.52, 27.49)]	*0.378* [0.242]
Depersonalization	8.38 (7.9, 8.85) [8.92 (8.17, 9.61)]	7.83 (7.3, 8.37) [8.04 (7.22, 8.87)]	9.69 (8.71, 10.67) [10.63 (9.21, 12.06)]	*0.001* [*0.001*]	8.13 (7.56, 8.71) [9.03 (8.18, 9.87)]	8.9 (8.04, 9.75) [8.24 (6.84, 9.64)]	*0.146* [*0.394*]	8.34 (7.68, 8.99) [8.89 (7.74, 10.05)]	8.54 (7.83, 9.25) [8.82 (7.92, 9.73)]	*0.683* [0.925]
Personal accomplishment	31.54 (30.83, 32.25) [31.54 (30.61, 32.52)]	31.25 (30.40, 32.09) [31.45 (30.24, 32.66)]	32.26 (30.95, 33.57) [31.77 (30.01, 33.53)]	*0.204* [*0.769*]	31.53 (30.63, 32.43) [31.42 (30.27, 32.57)]	31.45 (30.33, 32.57) [33.03 (31.43, 34.63)]	*0.92* [*0.192*]	32.11 (31.22, 33) [31.17 (29.69, 32.66)]	30.83 (29.7, 31.97) [31.91 (30.57, 33.24)]	*0.08* [0.464]

No *p*-value between results from 2023 and 2024 decreased < 0.05

GP, general practitioner

176 studies measuring burnout, 78% used the MBI. The authors highlighted that burnout measurements were markedly inconsistent, with prevalence estimates ranging from 2.8 to 85.7%. Researchers made claims about burnout severity and implied diagnoses based on participants' MBI scores, despite the fact that the MBI has not been validated as a clinical or diagnostic tool. The authors noted significant limitations in comparing results from existing cross-sectional studies and recommended that researchers consider reporting the prevalence of severe burnout (as defined above) as the furthermost antipode to engagement [15]. A systematic review of 182 studies by Rotenstein et al. also drew attention to inconsistencies in the definitions and assessment methods for burnout across studies focusing on physicians of any speciality. The overall burnout prevalence ranged from 0 to 80.5%. The prevalence of EE, DP, and reduced PA ranged from 0 to 86.2%, 0–89.9%, and 0–87.1%, respectively [17]. Choosing the best cut-off to determine burnout when using the MBI has been a frequent subject of discussion. In the systematic review, Rotenstein et al. described 47 unique approaches to defining burnout in various studies employing the MBI. The most frequent method (17.2% of the included studies) was the one chosen by the European General Practice Research Network, which was also applied in the present study [13, 17]. Many available studies do not report subscale scores, instead presenting direct burnout levels using various cut-off points. Given the diversity of approaches, using standardized MBI results as continuous scores appears more advantageous, as it avoids the misleading interpretation of numerous MBI pattern permutations based on various thresholds.

Among the geographically close and recent studies, an Italian study by Di Monte et al. involving 102 GPs employed identical methods and provided subscale scores. The mean EE, DP and PA scores were 26.47, 7.53 and 35.02, respectively, which means that the surveyed Italian GPs performed better in DP and PA, but worse in EE compared to the currently surveyed Czech GPs [18]. In a study by Adam et al. among 196 Hungarian GPs reporting burnout levels using identical cut-offs, moderate to high levels of EE, DP and impaired PA were reported by 34.7%, 41% and 67.8% of GPs, respectively [19]. The dominance of reduced PA (meaning feelings of ineffectiveness) was also similar in the present study. On the other hand, a study conducted by Dreher et al. among 214 GPs in Germany utilized a slightly modified German version of the MBI. The findings indicated that a high level of EE was present in 34.1% of the GPs, high DP was present in 29% and reduced PA in 21.5% [20]. This exemplifies the difficulty of comparing results due to variations in research methods.

The second aim of the paper was to determine the risk factors for burnout among GPs. The comparison of subscale scores revealed only a significant difference in the representation of DP, with a greater burden in males, which was consistent with the study by Adam et al.[19]. This was the only significant difference identified in both the 2023 and 2024 surveys when comparing continuous scores. Females tend to exhibit distanced, indifferent, and cynical attitudes towards work and others to a lesser

extent, likely due to their propensity to seek social support [21]. Comparative analysis of categorical variables across subgroups demonstrated a significantly greater burden of EE and a lower degree of DP among practice owners. A plausible explanation may be the higher levels of enthusiasm, dedication, and involvement in managing their own practice, combined with the awareness and need for effective social interaction with patients, which reciprocally leads to greater exhaustion among the owners. Dreher et al. showed that the prevalence of burnout in all dimensions was higher among GPs working in group practices than among those working in solo practices [20]. However, no single practice type or ownership status was independently associated with burnout in a cross-sectional study by Creager et al. (n=1,437 GPs) [22].

Unlike in the 2023 survey [10], age and years of practice were not associated with specific burnout dimensions or severe burnout in the present study. However, several studies have suggested that younger employees experience greater levels of burnout compared to their older counterparts. Age is linked to work experience, and it has been proposed that younger employees, having less work experience, may be more susceptible to occupational stress and, subsequently, burnout [19].

A systematic review by Verhoef et al. summarized the determinants of GP burnout across 60 eligible studies. These studies delivered 75 determinants of burnout, 33 of which were specific to the GP profession. Based on average effect sizes, occupation-specific determinants played a significant role in acquiring burnout compared to generic determinants. Among the determinants with a strong effect on burnout, the review highlighted the number of patients seen per day [23]. Although this factor was not surveyed in the current study, GPs listing a number of patients above the median more often experienced burnout in all dimensions simultaneously.

According to the transactional model of stress and coping, psychological stress emerges when an individual perceives external demands as exceeding their available resources. Burnout is generally referred to as an inability to cope with chronic psychological stress and demands at work because of insufficient resources [24]. Verhoef et al. investigated the resources from which feelings of job satisfaction, resilience, successful patient care and social support from colleagues showed the largest effect sizes. Their study also identified a deficiency of qualitative research on burnout among GPs essential for providing the necessary depth of understanding [23].

The well-being of PHC HCWs represents an area of increasing interest amid concerns that the COVID-19 pandemic may have exacerbated already high prevalence rates of clinician burnout [25]. Between the 2023 and 2024 surveys, the proportion of respondents without burnout in any dimension increased. Besides other potential reasons, the easing of unprecedented pressure on PHC following the pandemic may have contributed to a modest reduction in the burden of burnout observed between the two surveyed years.

Limitations and strengths

This study has several limitations. First, although approximately half of the entire population of Czech GPs was invited to participate, the 30.6% response rate may introduce selection bias. Additionally, we cannot fully assess the nature or direction of this bias; however, it is possible that GPs experiencing severe burnout are underrepresented, as less burnt-out GPs may be more inclined to participate in such a survey. A further limitation is the scarcity of previous relevant research, which restricts the ability to draw firm conclusions regarding the progression of burnout prevalence, thus tempering the implications of the findings. A key strength of this study lies in its replication using the same design across two years, with comparable samples in key characteristics except for employment status. The response rates differed slightly between the two survey years, which may have influenced the observed trend. The reliability of the results is supported by Cronbach's alpha values and a sex distribution reflecting the national demographics of Czech GPs, which enhances the relevance of the findings for this population.

Implications

The findings of this study underscore the need for interventions to address burnout among Czech GPs. Notably, the dominant burnout dimension identified in both surveys was reduced PA, which may stem from the perception of GPs in the Czech Republic as lower-tier physicians, sometimes viewed as providing administrative support for physicians of other specialities. This perception, coupled with comparatively lower public esteem relative to other specialities, highlights the need for systemic efforts to enhance the role and recognition of GPs within the healthcare hierarchy. Raising public awareness of the critical role of GPs, alongside professional development programs that foster a sense of value and achievement, could help mitigate these negative perceptions.

Interventions should be targeted, as the results indicated that the burnout burden among GPs is not uniform. To reduce burnout, especially among GPs with larger patient registries, workload redistribution and increasing medical personnel density should be prioritized. Practice owners, who experience higher levels of EE, may benefit from administrative task delegation and work-life balance initiatives, while employed GPs, more prone to DP, could be supported through training of coping strategies during peer or supervised counselling to promote resilience

and engagement [26]. Both the Ministry of Health and professional organizations have roles in implementing these interventions. In the Czech Republic, the Strategic Implementation Plan of the Ministry of Health, titled *Reform of Primary Care* for the years 2021–2030, proposed solutions to address several of these issues [27]. Further qualitative and longitudinal quantitative research while maintaining methodological consistency is recommended to provide insights necessary for targeted preventive strategies.

Conclusions

The present nationwide study confirmed a high prevalence of burnout among Czech GPs, affecting nearly one-fifth of the population, with a slight amelioration observed between 2023 and 2024 (specifically in DP). Burnout was predominantly characterized by a lack of PA (52.2%), likely related to the diminished status of GPs within both the public and professional communities, followed by EE (45.9%) and DP (35.7%). Male and employed GPs experienced greater degrees of DP, while practice owners were more susceptible to EE. A dependence of burnout burden on the number of listed patients was identified.

Abbreviations

CI	Confidence interval
COVID-19	Coronavirus disease 2019
DP	Depersonalization
EE	Emotional exhaustion
GP	General practitioner
HCW	Healthcare worker
MBI-HSS	Maslach burnout inventory–human services survey
PA	Personal accomplishment
PHC	Primary health care
JD-R	Job resource–demand

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12875-024-02675-z.

Supplementary Material 1

Supplementary Material 2

Supplementary Material 3

Acknowledgements

Not applicable.

Author contributions

Ladislav Š and SB conceptualized the entire study. Ladislav Š coordinated the questionnaire survey, interpreted the results and wrote the original manuscript. DH and NK interpreted the results and reviewed and edited the manuscript. Lubomír Š performed the formal analysis.

Funding

The study was supported by the Palacký University Olomouc Fund (RVO 61989592) and the Society of General Practice (J. E. Purkyně Czech Medical Association).

Data availability

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The study was approved by the Ethics Committee of the University Hospital Olomouc and the Faculty of Medicine and Dentistry, Palacký University Olomouc (reference number 23/24). Informed consent was granted by submission of a completed questionnaire. All methods were carried out in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 13 July 2024 / Accepted: 29 November 2024
Published online: 19 December 2024

References

1. Sigurdsson EL. The wellbeing of health care workers. Scand J Prim Health Care. 2021;39(4):389–90. https://doi.org/10.1080/02813432.2021.2012352
2. World Health Organization. Burn-out an occupational phenomenon. 11th Revision of the International Classification of Diseases. https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases. Accessed 10 Jul 2024.
3. Maslach C, Jackson SE, Leiter MP, Schaufeli WB, Schwab RL. Maslach Burnout Inventory Manual. 4th ed. California: Mind Garden, Inc.; 2016.
4. Izdebski Z, Kozakiewicz A, Białorudzki M, Dec-Pietrowska J, Mazur J. Occupational Burnout in Healthcare Workers, stress and other symptoms of work overload during the COVID-19 pandemic in Poland. Int J Environ Res Public Health. 2023;20(3):2428. https://doi.org/10.3390/ijerph20032428
5. De Hert S. Burnout in Healthcare Workers: prevalence, impact and preventative strategies. Local Reg Anesth. 2020;13:171–83. https://doi.org/10.2147/LRA.S240564
6. Allen LN, Pettigrew LM, Exley J, Nugent R, Balabanova D, Villar-Uribe M, et al. The role of Primary Health Care, primary care and hospitals in advancing Universal Health Coverage. BMJ Glob Health. 2023;8(12):e014442. https://doi.org/10.1136/bmjgh-2023-014442
7. Karuna C, Palmer V, Scott A, Gunn J. Prevalence of burnout among GPs: a systematic review and meta-analysis. Br J Gen Pract. 2022;72(718):e316–24. https://doi.org/10.3399/BJGP.2021.0441
8. Ortega MV, Hidrue MK, Lehrhoff SR, Ellis DB, Sisodia RC, Curry WT, et al. Patterns in Physician Burnout in a stable-linked cohort. JAMA Netw Open. 2023;6(10):e2336745. https://doi.org/10.1001/jamanetworkopen.2023.36745
9. Dumesnil H, Lutaud R, Bellon-Curutchet J, Deffontaines A, Verger P. Dealing with the doctor shortage: a qualitative study exploring French general practitioners' lived experiences, difficulties, and adaptive behaviours. Fam Pract. 2024;cmae017. https://doi.org/10.1093/fampra/cmae017
10. Štěpánek L, Patel MS, Horáková D, Juríčková L, Býma S. High prevalence of burnout syndrome in Czech general practitioners: a cross-sectional survey. Prev Med Rep. 2023;36:102502. https://doi.org/10.1016/j.pmedr.2023.102502
11. Windak A, Oleszczyk M, Seifert B et al. Czech Republic. In: Kringos DS, Boerma WGW, Hutchinson A, editorsJul. Building primary care in a changing Europe: Case studies. Copenhagen (Denmark): European Observatory on Health Systems and Policies. https://www.ncbi.nlm.nih.gov/books/NBK459013. Accessed 10 2024.
12. Maslach C, Jackson SE, Leiter MP. Maslach Burnout Inventory. 3rd ed. Maryland: Scarecrow Education; 1997.
13. Soler JK, Yaman H, Esteva M, Dobbs F, Asenova RS, Katic M, et al. Burnout in European family doctors: the EGPRN study. Fam Pract. 2008;25(4):245–65. https://doi.org/10.1093/fampra/cmn038
14. Maslach C, Jackson SE. MBI: Human Services Survey for Medical Personnel. https://www.mindgarden.com/315-mbi-human-services-survey-medical-personnel. Accessed 27 Nov 2024.

15. McCammon LC, Gillen P, Kernohan WG. Explaining and addressing the limitations in usefulness of available estimated prevalence figures relating to burnout in family doctors: evidence from a systematic scoping literature review. J Psychiatr Res. 2023;158:261–72. https://doi.org/10.1016/j.jpsychires.2022.12.013
16. Ge MW, Hu FH, Jia YJ, Tang W, Zhang WQ, Chen HL. Global prevalence of nursing burnout syndrome and temporal trends for the last 10 years: a meta-analysis of 94 studies covering over 30 countries. J Clin Nurs. 2023;32(17–18):5836–54. https://doi.org/10.1111/jocn.16708
17. Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, Sen S, et al. Prevalence of Burnout among Physicians: a systematic review. JAMA. 2018;320(11):1131–50. https://doi.org/10.1001/jama.2018.12777
18. Di Monte C, Monaco S, Mariani R, Di Trani M. From resilience to Burnout: psychological features of Italian General practitioners during COVID-19 emergency. Front Psychol. 2020;11:567201. https://doi.org/10.3389/fpsyg.2020.567201
19. Adam S, Mohos A, Kalabay L, Torzsa P. Potential correlates of burnout among general practitioners and residents in Hungary: the significant role of gender, age, dependant care and experience. BMC Fam Pract. 2018;19(1):193. https://doi.org/10.1186/s12875-018-0886-3
20. Dreher A, Theune M, Kersting C, Geiser F, Weltermann B. Prevalence of burnout among German general practitioners: comparison of physicians working in solo and group practices. PLoS ONE. 2019;14(2):e0211223. https://doi.org/10.1371/journal.pone.0211223
21. Meléndez JC, Mayordomo T, Sancho P, Tomás JM. Coping strategies: gender differences and development throughout life span. Span J Psychol. 2012;15(3):1089–98. https://doi.org/10.5209/rev_sjop.2012.v15.n3.39399
22. Creager J, Coutinho AJ, Peterson LE. Associations between Burnout and Practice Organization in Family Physicians. Ann Fam Med. 2019;17(6):502–9. https://doi.org/10.1370/afm.2448
23. Verhoef NC, Blomme RJ. Burnout among general practitioners, a systematic quantitative review of the literature on determinants of burnout and their ecological value. Front Psychol. 2022;13:1064889. https://doi.org/10.3389/fpsyg.2022.1064889
24. Pedersen AF, Vedsted P. Burnout, coping strategies and help-seeking in general practitioners: a two-wave survey study in Denmark. BMJ Open. 2022;12(2):e051867. https://doi.org/10.1136/bmjopen-2021-051867
25. Akinleye D, Wu M, Efferen LS, McCauley S, Allen A, Bennett H, et al. Newly acquired Burnout during the Coronavirus Disease 2019 (COVID-19) pandemic: a retrospective cohort study on the experiences of New York State Primary Care clinicians. J Community Health. 2024;49(1):34–45. https://doi.org/10.1007/s10900-023-01247-z
26. Awa WL, Plaumann M, Walter U. Burnout prevention: a review of intervention programs. Patient Educ Couns. 2010;78(2):184–90. https://doi.org/10.1016/j.pec.2009.04.008
27. Ministry of Health of the Czech Republic. Strategic framework for the development of health care in the Czech Republic until 2030. https://zdravi2030.mzcr.cz/zdravi-2030-strategicky-ramec.pdf. Accessed 12 Jul 2024.

Publisher's note