

# Burnout Syndrome among Healthcare Workers in Lithuania as a Former Soviet Country

## Aušra Deksnytė

Nordland Hospital, Parkveien 95, Bodø, Norway  
Faculty of Medicine, Vilnius University, Čiurlionio 21, Vilnius,  
Lithuania

## Ramūnas Aranauskas

Nordland Hospital, Parkveien 95, Bodø, Norway.

## Vytautas Kasiulevičius

Faculty of Medicine, Vilnius University, Čiurlionio 21, Vilnius,  
Lithuania

## Lukas Aranauskas \*

Faculty of Medicine, Vilnius University, Čiurlionio 21, Vilnius,  
Lithuania

## Alvydas Navickas

Faculty of Medicine, Vilnius University, Čiurlionio 21, Vilnius,  
Lithuania

## Rugilė Jurkytė

Faculty of Medicine, Vilnius University, Čiurlionio 21, Vilnius,  
Lithuania

## Karolina Palinauskaitė

Nordland Hospital, Parkveien 95, Bodø, Norway.

## Diana Zlotnikovienė

NZOZ Diaverum w Giżycku, Wodociągowa 17, Poland

**Abstract.** *Objective.* Measure the prevalence of *burnout syndrome* (BOS) among the *healthcare workers* (HCW) in Lithuania and the factors influencing it.

*Methods.* The respondents were asked to fill out an anonymous online questionnaire which included information on their gender, age, years of work experience, specialty, work hours per week, the average number of patients per day, salary, healthcare chain, and the healthcare sector they are working at. BOS was assessed by using the *Copenhagen Burnout Inventory* (CBI).

*Results.* A total of 2 806 questionnaires were used in the final analysis. A high prevalence of BOS among the MS in Lithuania was noticed (74% of all respondents), which is more severe in comparison to foreign research. The most significant link with severe BOS was noticed among a high number of patients per day ( $22.69 \pm 14.96$  versus  $17.77 \pm 13.32$ ,  $t=4.92$ ), a large number of work hours per week ( $48.89 \pm 12.96$  versus  $46.34 \pm 10.77$ ,  $t=2.54$ ), and a younger age ( $59.27 \pm 14.06$  versus  $55.73 \pm 13.91$ ,  $t=3.53$ ). Doctors had the highest BOS score compared to nurses, residents, and other specialists ( $59.72 \pm 13.99$  versus  $57.33 \pm 14.13$ ,  $t=2.4$ ;  $57.53 \pm 14.20$ ,  $t=2.2$ ;  $54.06 \pm 15.22$ ,  $t=5.67$ , respectively). No links between gender, years of work experience, salary, healthcare chain, healthcare sector, and BOS were observed.

*Conclusions.* BOS is highly prevalent among Lithuania's medical staff, and it is more prevalent than in most other EU and non-EU countries. A high number of patients per day, a large number of work hours per week, and a younger age were significantly linked with more severe BOS.

**Keywords:** Burnout syndrome; Medical staff; Copenhagen burnout inventory; Sociodemographic parameters; Lithuania.

\* **Address:** Lukas Aranauskas, Faculty of Medicine, Vilnius University, Čiurlionio 21, Vilnius, Lithuania  
E-mail: [lukas.aranauskas@santa.lt](mailto:lukas.aranauskas@santa.lt)

**Received:** 20/12/2023. **Accepted:** 07/01/2024

Copyright © Aušra Deksnytė, Ramūnas Aranauskas, Vytautas Kasiulevičius, Lukas Aranauskas, Alvydas Navickas, Rugilė Jurkytė, Karolina Palinauskaitė, Diana Zlotnikovienė, 2023. Published by Vilnius University Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

## Lietuvos sveikatos priežiūros darbuotojų patiriamas perdegimo sindromas kaip sovietinės praeities liekana

**Santrauka.** *Tyrimo tikslas.* Išmatuoti perdegimo sindromo (PS) paplitimą tarp sveikatos priežiūros darbuotojų Lietuvoje ir tam įtakos turinčius veiksnius.

*Metodai.* Respondentų buvo paprašyta užpildyti anoniminį virtualų klausimyną, į kurį įtraukta informacija apie jų lytį, amžių, darbo stažo metus, specialybę, darbo valandų skaičių per savaitę, vidutinį pacientų skaičių per dieną, atlyginimą, sveikatos priežiūros grandinę ir sveikatos priežiūros sektorių, kuriame jie dirba. PS buvo įvertinamas naudojant Kopenhagos perdegimo aprašą (KPA).

*Rezultatai.* Galutinėje analizėje buvo naudojamos 2806 anketos. Buvo nustatytas didelis PS paplitimas tarp sveikatos darbuotojų Lietuvoje (74 %), kuris yra didesnis, palyginti su gautu užsienio tyrimais. Reikšmingiausias ryšys su sunkia PS forma siejosi su didžiausiu pacientų skaičiumi per dieną ( $22,69 \pm 14,96$ , palyginti su  $17,77 \pm 13,32$ ,  $t = 4,92$ ), dideliu darbo valandų skaičiumi per savaitę ( $48,89 \pm 12,9$ , palyginti su  $46,34 \pm 10,77$ ,  $t = 2,54$ ) ir jaunesniu amžiumi ( $59,27 \pm 14,06$ , palyginti su  $55,73 \pm 13,91$ ,  $t = 3,53$ ). Gydytojų PS balas buvo didesnis negu slaugytojų, rezidentų ir kitų specialistų ( $59,72 \pm 13,99$ , palyginti su  $57,33 \pm 14,13$ ,  $t = 2,4$ ,  $57,53 \pm 14,20$ ,  $t = 2,2$ ,  $54,06 \pm 15,22$ ,  $t = 5,67$ , atitinkamai). Ryšys tarp lyties, darbo stažo metų, atlyginimo, sveikatos priežiūros grandinės ir sveikatos priežiūros sektoriaus ir PS nebuvo nustatytas.

*Išvados.* PS yra plačiai paplitęs tarp Lietuvos medicinos darbuotojų ir yra labiau vyraujantis nei daugumoje kitų ES ir ne ES šalių. Didelis pacientų skaičius per dieną, didelis darbo valandų skaičius per savaitę ir jaunesnis amžius buvo labiau susiję su sunkesniu PS.

**Raktiniai žodžiai:** perdegimo sindromas, medicinos personalas.

### 1. Introduction

Burnout syndrome (BOS) of healthcare workers (HCW) has not been studied sufficiently, especially in the post-Soviet countries. There are several studies regarding burnout syndrome of HCW in Lithuania (1–7); however, the samples are limited in size and variety of specialties. As the former Soviet countries inherited their health system from the Soviet Union, it has had a significant impact on the healthcare work environment. We believe that it is highly important to assess the BOS of HCW in a country with a rapidly developing healthcare system to take into account the main threats when creating laws and regulations.

The legacy of the Soviet healthcare system (centralized, integrated, and hierarchically organized with the government providing state-funded healthcare) still remains in Lithuania and poses difficult challenges to the healthcare system and its staff (8). This legacy creates conditions for inefficiency, system overload, and BOS of the medical personnel.

The wages of professionals working in the Lithuanian healthcare system are relatively low in comparison to the general population ([https://www.oecd-ilibrary.org/sites/ae3016b9-en/1/3/8/5/index.html?itemId=/content/publication/ae3016b9-en&\\_csp\\_=ca413da5d44587bc56446341952c275e&itemIGO=oecd&itemContentType=book](https://www.oecd-ilibrary.org/sites/ae3016b9-en/1/3/8/5/index.html?itemId=/content/publication/ae3016b9-en&_csp_=ca413da5d44587bc56446341952c275e&it emIGO=oecd&itemContentType=book)). It is also common to experience staff shortages because specialists are distributed unequally between large cities and rural areas. This situation creates an overload and diminishes the quality of life for the workforce, thereby creating low job satisfaction levels (9). Furthermore, it results in low wages, and some doctors and nurses tend to work longer hours, which can result in higher fatigue (10).

This study began in 2017 and was induced by escalating public discussions and increasing HCW dissatisfaction with working conditions.

Medical errors are common all around the world, and in the post-Soviet countries in particular (11). The main reason is that the culture of punishment is still a highly prominent and relevant Soviet legacy (12). Criminalizing medical errors and punishing doctors for mistakes, especially by applying the Criminal Code, leads to fear of punishment, and therefore results in hiding the in-

evitable mistakes, avoiding talking about them publicly, or refusing to acknowledge them outright (13). This situation results in both high pressure and emotional burden on doctors. The trend of not acknowledging medical errors and hiding them keeps healthcare from improving and preventing these mistakes in the future (14).

A lot of HCW are still frightened to speak freely about these issues due to fear of punishment from authorities. Therefore, we used an anonymous questionnaire which enabled us to acquire as genuine and objective information as possible about the HCW situation in Lithuania as possible.

**Aims of the study:**

1. Measure the prevalence of burnout syndrome among healthcare workers in a post-Soviet Eastern European country, specifically, Lithuania.
2. Measure the link between the sociodemographic indicators of healthcare workers and burnout syndrome.
3. Compare the obtained results with other countries.

**2. Materials and methods**

The data reported in this paper was collected with an anonymous online survey conducted in November 2017 using the *Google Forms* system. The link to the survey was published in a *Facebook* group of medical personnel in Lithuania, with more than 10 000 members at that time, asking for everyone working in the medical field to fill out the questionnaire.

The questionnaire contained two parts. The first one was about demographic parameters, whereas the second one was CBI.

The first part contained questions about the respondents' gender, age, years of work experience, specialty, specialization, work hours a week, the average number of patients per day, salary (after taxes), the entire healthcare chain, and the healthcare sector they are working at. Work hours a week were calculated to a full time-base, where 40 hours a week was deemed equal to 1.00 full-time coefficient.

The second part was named *Burnout Scale*. It contained questions from CBI (15). CBI was chosen because, according to the authors, it not only assesses burnout itself, but it also helps predict problems in the future – sickness absence, sleep problems, use of painkillers, and the respondents' intention to quit their jobs (15). This inventory was translated from English according to the translation protocol. This questionnaire contains 19 questions and belongs to the ordinal scale type. It assesses burnout in three different domains – personal burnout, work-related burnout, and client-related burnout. The burnout inventory score was split into three burnout severity levels: below 50 points – no burnout; from 50 to 74 – moderate burnout; from 75 to 99 – high burnout; 100 and above – severe burnout. When performing the analysis, the mean score of all three subscales was used, and it was transformed into an ordinal variable as well – no burnout, high burnout, severe burnout. These particular burnout levels were used as described and recommended in the documentation of the CBI tool by the authors (15).

2 847 people participated in the survey. 2 806 questionnaires were used in the final analysis. Those respondents who were not working in Lithuania, were not working directly with patients, were retired, or failed/refused to answer one or more of the questions were not included in the analysis. This number of participants made up 7.17% of all HCW in Lithuania in 2017 (39 185) (16–17).

Non-parametric statistics were used given the non-normal distribution of the scale scores. The internal consistency of the burnout inventory was measured by using Cronbach's alpha coefficient which was higher than 0.8, and, therefore, higher than the recommended 0.7 for this kind of inventory. Differences between the two groups were measured by using Student's t-test. To compare the ordinal variables, the ANOVA test with posterior Bonferroni criteria was performed. The linear tendency was calculated by using the polynomial contrasts test. The effect of all demographic and

social factors and BOS of HCW and its strength was assessed by using ordinal regression analysis. As a dependent ordinal variable, we used the evaluation of the general BOS categories, which we obtained by splitting the overall BOS score into three ranks: no burnout (CBI score <50), moderate burnout (from 50 to 74), high burnout (from 75 to 99). Severe burnout (above 99) was not observed.

### 3. Results

#### 3.1 Characteristics of the Respondents

**Table 1.** Respondent distribution according to their sociodemographic and other characteristics

Characteristic	Number of respondents	Percentage	
Gender	Female	2 361	84.1%
	Male	445	15.9%
Specialty	Doctor	1 168	41.6%
	Nurse	968	34.5%
	Resident	409	14.6%
	Other	261	9.3%
Healthcare chain	Inpatient	1 376	49%
	Outpatient	914	32.6%
	Inpatient and outpatient	516	18.4%
Healthcare sector	Not specified	1 622	57.8%
	Public	908	32.4%
	Public and private	168	6%
	Private	108	3.8%
Age, years	20–29	893	31.8%
	30–39	873	31.1%
	40–49	637	22.7%
	50–59	346	12.3%
	60 or more	57	2%
Work experience, years	0–9	1 536	54.7%
	10–19	494	17.6%
	20–29	491	17.5%
	30–39	259	9.2%
	40 or more	26	0.9%

**Table 2.** Sociodemographic characteristics of the respondents

	Average±standard deviation	Median
Age	36.82±10.26	34
Work experience	12.08±10.98	7
Wage after taxes	689.43±303.99	600
Number of patients per day	19.49±13.61	16
Work hours per week	47.46±11.87	40

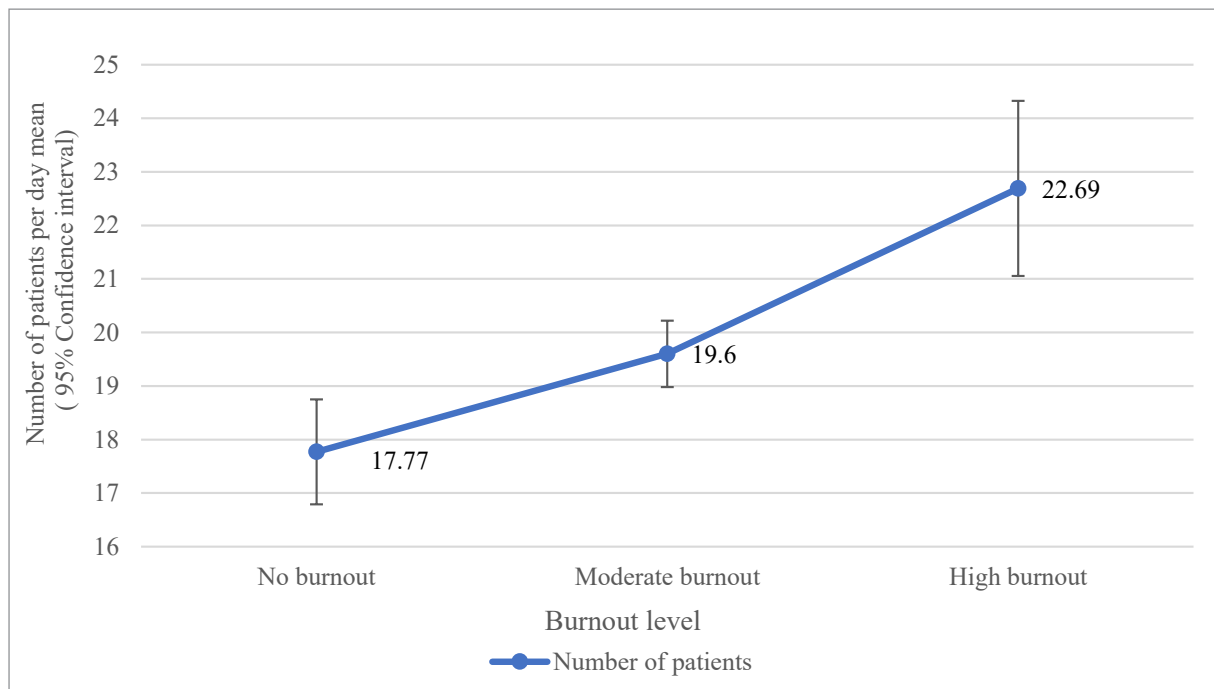
#### 3.2 Burnout Syndrome Prevalence

BOS was observed in 74% (2 084) of the respondents. High BOS was observed in 11% (325) of respondents, whereas moderate BOS was observed in 63% (1 759). No BOS was observed in 26%

(722) of respondents. BOS was observed in 76% (894) of doctors, 70% (678) of nurses, 69.7% (285) of resident doctors, and 64.4% (168) of other specialty respondents.

### 3.3 Relationship between Burnout Syndrome and Number of Patients per Day

A larger number of patients had a significant link to the higher burnout level (Figure 1). Those respondents who had high burnout levels had, on average, 4.91 patients per day more than those who had no burnout ( $p=0.001$ ) and 3.08 patients more than those who had moderate burnout ( $p=0.001$ ). Respondents who had moderate burnout had, on average, 1.83 patients more than those who had no burnout ( $p=0.007$ ). A statistically significant linear tendency was also determined ( $p=0.001$ ).



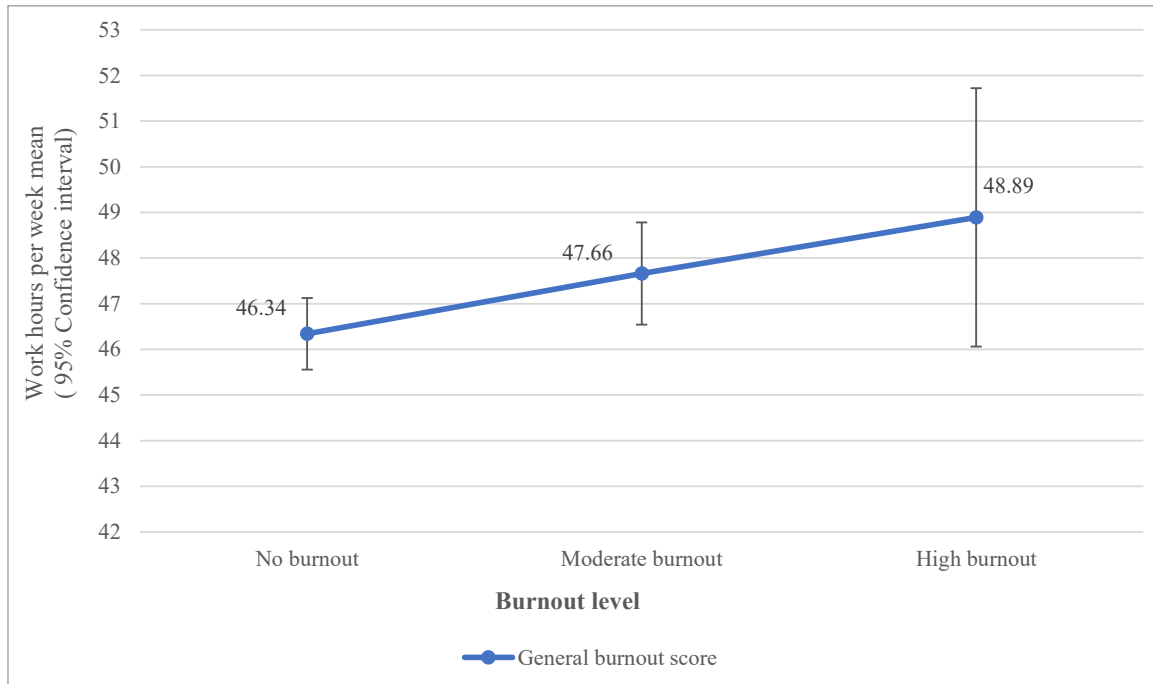
**Figure 1.** Relationship between burnout syndrome and the number of patients per day

### 3.4 Age and Burnout

A link between the general burnout score and different age groups was determined. Respondents in the 30–39 y.o. age group had a 3.54 pts. higher burnout score than the 50–59 y.o. group ( $p=0.001$ ). Respondents in the 40–49 y.o. age group had, on average, a 2.71 pts. higher score than the 50–59 y.o. group ( $p=0.043$ ).

### 3.5 Work Hours and Burnout

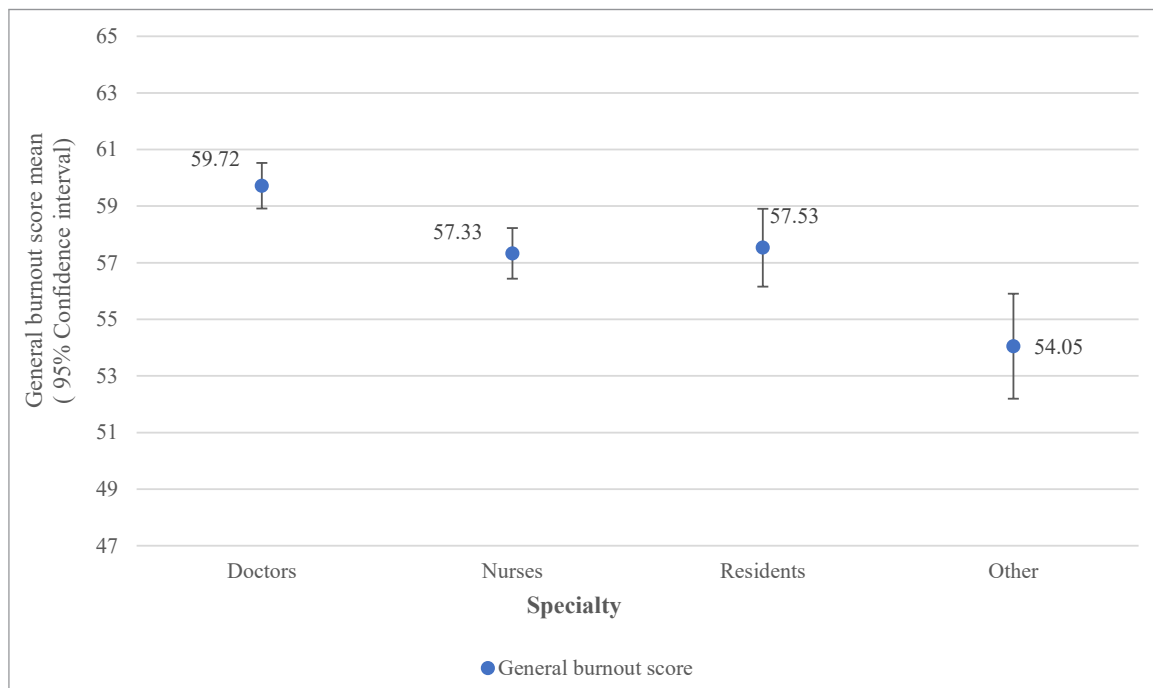
A significant link between the working hours per week and the burnout measure was determined (Figure 2). Those respondents who had high burnout worked, on average, 2.54 hours per week more than those who had no burnout ( $p=0.004$ ). The respondents who had moderate burnout worked, on average, 1.31 hours per week more than those who had no burnout ( $p=0.036$ ). A significant linear tendency was determined between the higher work hours per week and a higher burnout level ( $p=0.008$ ).



**Figure 2.** Work hours per week and burnout

### 3.6 Specialties and Burnout

The measurement of burnout significantly differed among different specialties (Figure 3). Doctors had, on average, a 2.4 points higher burnout score than nurses ( $p=0.001$ ), a 2.2 points higher score than residents ( $p=0.036$ ), and a 5.6 points higher score than specialists from other specialties ( $p<0.001$ ). Nurses had, on average, a 3.3 points higher burnout score than specialists from other specialties ( $p=0.005$ ), and residents had a 3.5 points higher burnout score than specialists from other specialties ( $p=0.011$ ).



**Figure 3.** General burnout syndrome score among different specialties

### 3.7 Other Demographic Factors and Burnout

No relationship between burnout and the healthcare sector ( $p=0.77$ ), healthcare chain ( $p=1.03$ ), and city ( $p=0.92$ ) was observed in our results.

### 3.8 Regression Analysis

In regression analysis, more patients per day and more work hours per week correlated with higher BOS levels (Table 3). The specialty of a doctor correlated with higher BOS levels than nurses, residents, and other specialties. Both nurse and resident correlations were stronger than in other specialties. Only the 30p–39 y.o. age group, a correlation with a higher burnout syndrome level was observed.

**Table 3.** Ordinal regression analysis of the burnout syndrome general score and the respondents' characteristics (Nagelkerke=0.031)

Respondents' characteristics	Estimate	Std. Error	Wald	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Patients per day	.15	.003	25.652	.000	-.244	1.061
Work hours	.008	.003	5.584	.018	.001	.014
Specialty:						
Doctor	.623	.146	18.192	.000	.337	.910
Nurse	.387	.144	7.167	.007	.104	.670
Resident	.377	.167	5.115	.024	.050	.704
Other	0 <sup>a</sup>	-	-	-	-	-
Age:						
20–29 y.o.	.400	.284	1.986	.159	-.156	.957
30–39 y.o.	.523	.276	3.603	.048	-.017	1.064
40–49 y.o.	.390	.280	1.944	.163	-.158	.939
50–59 y.o.	.105	.288	.132	.716	-.460	.670
60–70 y.o.	0 <sup>a</sup>	-	-	-	-	-

<sup>a</sup> Parameter set to zero because of redundancy.

## 4. Discussion

All the respondents of this study were members of a *Facebook* group of the HCW of Lithuania. 28.5% of the members participated in the study. This Facebook group gathered the most proactive and engaged HCWs who were looking for ways to change the issues in the healthcare system. These conditions could cause the limitations of this study as those members could be most negatively affected by the difficult conditions of work. Nonetheless, regarding the size of the sample, it still represents and can provide important insight into the well-being of HCW. However, future research involving more participants who are acquired in different methods is necessary.

In this paper, we discuss and compare our results with other research using different burnout assessment methodologies (i.e., Maslach Burnout Inventory); however, we think that this is a tolerable difference in methodologies, and the results can be compared based on validation studies (15).

Our research results show that 74% of the respondents suffer from burnout syndrome. These numbers are prominently higher than those of research conducted in foreign countries suffering from the largest BOS prevalence among medical staff: Austria – 50.7% (18), the US – 54.4% (19), New Zealand – 50% (20). Such prevalence of burnout could be caused by a great number of patients,



as the maximum number of patients per day is not regulated in Lithuania. Moreover, a law was adopted in 2019 which orders doctors to admit patients within a limited time period; otherwise, the doctor is fined. Not only does this order cause more stress and tension at work, but it also increases the workload of doctors. Doctors have a great amount of administrative work, and the requirements for excess documentation are constantly getting stricter, which consumes a lot of time that could be used for patient consultation instead. That does not benefit the patient and complicates the work of a specialist. These tendencies predict a negative prospect for HCW; as the work conditions are getting worse, burnout prevalence will be increasing as well, and the number of medical staff suffering from BOS will thus be greater.

Research results show that a larger number of patients had a significant linear link to the higher burnout level. These results match the research results of foreign authors (21–24). It is of importance to note that the population of the researchers was very heterogeneous in terms of the number of patients, as specialists working in the outpatient and inpatient chain from different areas were measured; thus, the number of patients varied greatly. Nonetheless, our results confirm that there is a link between burnout and the number of patients. A large number of patients per day conditions a higher workload at the same time; thus, it is connected to tension, stress, rush, and greater exhaustion. Currently, there is a law stipulating that the doctor shall be fined if a patient is not admitted within a certain time frame. That forces the specialist to rush, experience tension, be afraid of penalties, and work much more without imposing any self-protecting boundaries. A similar hypothesis was claimed by other authors who believe that the burnout of HCW is most likely linked to the bureaucracy of the system, and not to their personal characteristics. Doctors have increasing responsibilities and not enough control over settings in which it must be accomplished (25).

A significantly greater burnout was observed in the 30–39 y.o. and 40–49 y.o. age groups compared to the age group of 50–59 y.o. It should be noted that the average age of respondents in our study is 36.82 years. However, according to the *EUROSTAT* data, the average age of physicians in Lithuania is roughly 47.9 years (26), and, according to the Health Ministry of Lithuania, it was slightly over 50 years in 2011 (27). We were unable to find more recent and detailed data. As the data of the study was collected through Facebook, this might have caused this discrepancy, and it should be taken into consideration. The results of our research coincided with the results of the majority of research by foreign authors; greater burnout was noticed among the employees younger than 40 years old (23, 28–34). However, the results of one research show that burnout becomes more severe as the age increases (24). C. Cherniss claims that such results could be linked to the lack of skill and knowledge on the ways of dealing with stress among the youth, as they face difficult and stressful situations for the first time without previously developed skills on how to solve them. Sometimes, young specialists are required to examine more patients than the older ones; thus, they are under more pressure from their managers (35). The fact that they tend to have young children and repay loans to banks also further complicates the real-life situation for the younger specialists. According to *Statistics Lithuania*, in 2018, 76% emigrants were aged between 15 and 44 years old (36). We were unable to acquire the data about the emigration of medical staff. As the younger medical staff are more susceptible to BOS and have fewer liabilities tying them to their home country, they can emigrate more easily. Foreign authors observed another threatening tendency, specifically, that recruiting young doctors to continue training is getting difficult, as now, compared to 2011, they choose to take a career break. This leads to a shortage of young specialists in the United Kingdom (37). If that is the case, then Lithuania is also losing young and promising specialists due to a bad healthcare system organization, and that could and must be changed.

The research has determined a significant link between the working hours and the burnout measure. Those respondents who were suffering from the average extent of burnout tended to work a



significantly greater number of hours than those who were not suffering from burnout. A linear tendency was also determined, which shows that the respondents suffering from a more severe burnout were working longer hours. Our results show that working longer hours and working more than 40 hours a week led to a more severe burnout. They match the results of research by foreign authors (>61 hours versus <40 hours, OR=4.7 (38)) (33–34, 38–41).

A great(er) number of working hours a week led to severe fatigue and less time for leisure, family, and personal life after work; these factors increase stress and contribute to BOS.

Our results have shown that the burnout scores among doctors were significantly higher than in nurses, residents, and other specialties; nurses and residents had higher burnout scores than other specialties. These results may imply that burnout levels may be directly linked with responsibilities at work, as all three groups are directly responsible for the well-being of patients. In case of complications and other accidents, these groups may become involved in lawsuits. There have been some cases in Lithuania where doctors were sued because of the complications and sentenced for killing a patient. These events have imposed further additional pressure on specialists.

According to foreign research, nurses are the most prone to suffer from burnout, while general practitioners suffer from BOS less commonly, but this issue is still more frequent than the other specialties in the medical field. The study in Taiwan by Li-Ping Chou *et al.* measured burnout prevalence, and the specialties ranked in the following order: nurses (66%), physician assistants (61.8%), physicians (38.6%), administrative staff (36.1%), and medical technicians (31.9%) (42). More articles analyzing different specialties and burnout were not used for comparison with our results as they used different methodologies and heterogeneous groups, which rendered their findings incompatible with our data.

Our research did not establish any differences in burnout measurement according to gender. However, other authors' findings concerning the presence of a link between the gender and burnout measurement are contradictory. A more severe burnout has been noticed among males than females in European research (41.7 versus 27.8;  $p < 0.001$ ) (43). Meanwhile, American research revealed that women suffer from burnout more (43.3% versus 39%;  $p = 0.01$ ) (44); however, there was no difference when the research included age, work hours, and other demographic parameters. Nonetheless, more research results show that women suffer from burnout more (38.6 versus 35.8,  $p = 0.001$ ) (28, 34), but foreign authors claim that it could be related to problems with family (conflicts at home, issues with children care, etc.). With respect to the findings of foreign authors, these differences could have been caused by a wide range of demographic parameters related to gender, such as age, work hours, the choice of stressogenic specialties, and family situation, but not the gender itself.

Our research did not determine any link between the salary and burnout. The same results were obtained by foreign researchers (43). However, according to other authors, a higher salary was linked to a less severe burnout (21, 41) just because it provides a higher satisfaction with one's job. This difference was not significant in our research; perhaps other factors causing BOS are significantly stronger and overshadow the benefits of a higher salary. Furthermore, the differences between the salaries were not that prominent, and that could be the reason why no statistically significant difference has been noticed.

Our research did not notice a statistically significant link between the healthcare chain (outpatient or inpatient) and burnout, although the results of foreign researchers show that specialists working in the inpatient care chain tend to suffer from a more severe burnout and have the lowest resilience score (29–30). Such differences could be caused by dissimilarities in the existing job specifics for inpatient and outpatient care chains in different countries, where the job in the inpatient care chain is more stressogenic. Moreover, these results could be caused by the more complicated conditions of inpatients and the higher frequency of death, which inevitably causes more stress for

the specialist. This difference was not noticed when analyzing all healthcare chain employees in Lithuania; perhaps, such a difference would be evident if the respondents were classified according to their specialties.

The findings of Atik *et al.* show that specialists working in private institutions suffer from a less severe burnout than those working in public institutions. According to the authors, it was caused by a higher salary and the prestigious status of working in a private institution. Such factors as a position at the university hospital, the possibility and opportunity to conduct research, and personal improvement were indicated as those lessening the risk of BOS (28, 41). Our research has not established a statistical difference between burnout and a position at a private versus public institution. These results could be caused by the insignificant difference in terms of the salary margins between private and public institutions in Lithuania. A position at a private institution does not provide significantly more prestige and job satisfaction than a position at a public institution and other factors determining a higher risk of BOS.

From the subjective standpoint of the authors, there are some thoughts worth sharing that are not easily describable with numbers or publicly available statistics. We began this study due to the noticeably deteriorating conditions of HCW in Lithuania. One of the legacies of the Soviet Union is the uncontrolled workload of HCW (8). Under the disguise of the Hippocratic Oath, HCWs are forced to work overtime, take on more cases than they physically can, and work without taking holidays. This environment unambiguously leads to BOS. Secondly, Lithuania's HS inherited penal practice when failure to do all the work results in some sort of punishment (losing one's job, a reduced wage, or an even larger workload). The fear of punishment may have caused a lack of this kind of studies. However, punishment for medical errors, especially by applying the Criminal Code, creates a vicious cycle, and it does not solve the problem (12); according to some research, the criminal liability of the doctor is excluded in the case of a medical error (13). There are also legal leverages at work regarding the enforcement of these penalties. Even politicians tend to over-promise regarding the healthcare performance to the public, and then HCWs are forced by these over-promising politicians to work more with the same resources without even considering the fact that medics are not capable of accomplishing these promises. These promises create high expectations for HCW from the public, which often results in patients' anger directed against the doctors and other medical personnel. These factors play a key role in causing high levels of BOS (45).

## 5. Declarations

### 5.1 Ethics Approval and Consent to Participate

The study approval was obtained from *Lithuanian Bioethics Committee* affiliated to Vilnius University.

The authors confirm that informed consent was obtained from all subjects of the study – after first reading the questionnaire's information page, with consent information, those respondents who agreed to participate simply filled out and submitted the questionnaire, whereas those respondents who did not agree did not fill it out.

The authors confirm that all methods were carried out in accordance with the relevant guidelines and regulations.

### 5.2 Consent for Publication

Not applicable. In this study, an anonymous survey was used, and no patient personal data was requested

### **5.3 Availability of Data and Materials**

The datasets used and analyzed in the course of the present study are available from the corresponding author on reasonable request.

### **5.4 Competing Interests**

The authors declare that they have no competing interests.

### **5.5 Funding**

No funding was received for this study

### **5.6 Authors' Contribution**

All authors took part in the initial search and participated in the data analysis and drafting of the paper. All authors read and approved the final manuscript.

### **5.7 Acknowledgements**

The authors would like to thank all participants for their time and effort in contributing to this study.

## **Significant outcomes**

- Burnout syndrome is highly prevalent among Lithuania's medical staff; it was observed in 74% of the respondents.
- Burnout syndrome is more prevalent in Lithuania than in most other countries.
- A high number of patients per day, a large number of work hours per week, and a younger age were significantly linked with more severe burnout syndrome.

## **Limitations**

- The questionnaire was publicly available online; therefore, participants who felt burned out or dissatisfied with their job could potentially have participated more actively.
- Some other sociodemographic characteristics of the respondents may impact burnout syndrome; however, they were not included in our study.

## **Declaration of interest**

All authors declare no actual or potential conflicts of interest.

## **References**

1. Žutautienė R, Radišauskas R, Kaliniene G, Ustinaviciene R. The prevalence of burnout and its associations with psychosocial work environment among Kaunas region (Lithuania) hospitals' physicians. *Int J Environ Res Public Health*. 2020 May 25; 17(10): E3739.
2. Skorobogatova N, Žemaitienė N, Šmigelskas K, Tamelienė R. Professional burnout and concurrent health complaints in neonatal nursing. *Open Med (Wars)*. 2017; 12: 328–34.
3. Vaičienė V, Blaževičienė A, Macijauskiene J, Sidebotham M. The prevalence of burnout, depression, anxiety and stress in the Lithuanian midwifery workforce and correlation with sociodemographic factors. *Nurs Open*. 2021 Jun 10.
4. Norkiene I, Jovarauskaite L, Kvedaraite M, Uppal E, Phull MK, Chander H, et al. "Should I Stay, or Should I Go?" Psychological distress predicts career change ideation among intensive care staff in Lithuania and the UK amid COVID-19 pandemic. *Int J Environ Res Public Health*. 2021 Mar 6; 18(5): 2660.

5. Laurs L, Blaževičienė A, Capezuti E, Milonas D. Moral distress and intention to leave the profession: Lithuanian nurses in municipal hospitals. *J Nurs Scholarsh*. 2020 Mar; 52(2): 201–9.
6. Rudinskaitė I, Mačiūtė E, Gudžiūnaitė G, Gerulaitytė G. Burnout syndrome amongst medicine students in Lithuania and Germany. *Acta Med Litu*. 2020; 27(2): 53–60.
7. Slabšinskienė E, Gorelik A, Kavaliauskienė A, Zaborskis A. Burnout, lifestyle and relaxation among dentists in Lithuania: A cross-sectional study. *BMC Health Serv Res*. 2021 Oct 15; 21(1): 1098.
8. Rechel B, Richardson E, McKee M, editors. Trends in health systems in the former Soviet countries [Internet]. Copenhagen (Denmark): European Observatory on Health Systems and Policies; 2014 [cited 2022-06-04]. (European Observatory Health Policy Series). Available from: <http://www.ncbi.nlm.nih.gov/books/NBK458305/>
9. Endriulaitienė A, Žardeckaitė-Matulaitienė K, Pranckevičienė A, Markšaitytė R, Tillman DR, Hof DD. Self-stigma of seeking help and job burnout in mental health care providers: The comparative study of Lithuanian and the USA samples. *Journal of Workplace Behavioral Health*. 2019 Apr 3; 34(2): 129–48.
10. Vimantaite R, Seskevicius A. [The burnout syndrome among nurses working in Lithuanian cardiac surgery centers]. *Medicina (Kaunas)*. 2006; 42(7): 600–5.
11. Assiri GA, Shebl NA, Mahmoud MA, Aloudah N, Grant E, Aljadhey H, et al. What is the epidemiology of medication errors, error-related adverse events and risk factors for errors in adults managed in community care contexts? A systematic review of the international literature. *BMJ Open*. 2018 May 5; 8(5): e019101.
12. Gornostay A, Ivantsova A, Mykhailichenko T. Medical error and liability for it in some post-soviet countries (Belarus, Kazakhstan, Moldova, Ukraine). *Wiad Lek*. 2019; 72(5 cz 1): 877–82.
13. Kaplina OV, Sharenko SL, Shumylo NY. Medical errors: Patients' opinion, lawyers' standpoint, medical doctrine and practice of the European Court of Human Rights. *Wiad Lek*. 2019; 72(12 cz 2): 2416–20.
14. Merry AF. How does the law recognize and deal with medical errors? *J R Soc Med*. 2009 Jul 1; 102(7): 265–71.
15. Kristensen T, Borritz M, Villadsen E, Christensen K. The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work and Stress – WORK STRESS*. 2005 Jul 1; 19: 192–207.
16. Sveikata – Oficialiosios statistikos portalas [Internet]. [cituota 2022-06-04]. Prieiga per internetą: <https://osp.stat.gov.lt/lietuvos-statistikos-metrastis/lsm-2019/gyventojai-ir-socialine-statistika/sveikata>
17. Lithuanian Ministry of Health, Health Information Centre of Institute of Hygiene – Health Statistics of Lithuania 2018 [Internet]. 2019. Available from: [https://hi.lt/uploads/pdf/leidiniai/Statistikos/LT\\_sveik\\_stat\\_health/la\\_2018.pdf](https://hi.lt/uploads/pdf/leidiniai/Statistikos/LT_sveik_stat_health/la_2018.pdf)
18. Wurm W, Vogel K, Holl A, Ebner C, Bayer D, Mörkl S, et al. Depression-burnout overlap in physicians. *PLoS One*. 2016; 11(3): e0149913.
19. Shanafelt TD, West CP, Sinsky C, Trockel M, Tutty M, Wang H, et al. Changes in burnout and satisfaction with work-life integration in physicians and the general US working population between 2011 and 2020. *Mayo Clin Proc*. 2022 Mar; 97(3): 491–506.
20. Chambers CNL, Frampton CMA, Barclay M, McKee M. Burnout prevalence in New Zealand's public hospital senior medical workforce: A cross-sectional mixed methods study. *BMJ Open*. 2016 Nov 23; 6(11): e013947.
21. Lrago T, Asefa F, Yitbarek K. Physicians' burnout and factors in Southern Ethiopia affecting it. *Ethiop J Health Sci*. 2018 Sep; 28(5): 589–98.
22. Taycan O, Erdoğan Taycan S, Çelik C. [The impact of compulsory health service on physicians and burnout in a province in Eastern Anatolia]. *Türk Psikiyatri Derg*. 2013; 24(3): 182–91.
23. Toker İ, Ayrık C, Bozkurt S, Çalışkan F, Basterzi A, Hacı S, et al. Factors affecting burnout and job satisfaction in Turkish emergency medicine residents. *Emergency Medicine Open Journal*. 2015 Jun 22; 1.
24. Bhagavathula AS, Abegaz TM, Belachew SA, Gebreyohannes EA, Gebresillassie BM, Chattu VK. Prevalence of burnout syndrome among health-care professionals working at Gondar University Hospital, Ethiopia. *J Educ Health Promot*. 2018; 7: 145.
25. Brock-Utne JG, Jaffe RA. Address physician burnout by restoring control of health care to physicians. *JAMA Intern Med*. 2020 Feb 1; 180(2): 334.
26. EUROSTAT. Healthcare personnel statistics – physicians [Internet]. 2019. Available from: <https://www.quotidianosanita.it/allegati/allegato7694825.pdf>
27. Health Ministry of Lithuania. The pilot analysis of amount, demand and workload of medical staff. 2011.
28. Lapa T, Carvalho S, Viana J, Ferreira PL, Pinto-Gouveia J, Cabete AB. Development and evaluation of a Global Burnout Index derived from the use of the Copenhagen Burnout Inventory in Portuguese physicians. *Acta Med Port*. 2018 Oct 31; 31(10): 534–41.
29. Györfy Z. [Burnout and resilience among Hungarian physicians]. *Orv Hetil*. 2019 Jan; 160(3): 112–9.

30. Győrffy Z, Girasek E. [Burnout among Hungarian physicians. Who are the most at risk?]. *Orv Hetil.* 2015 Apr 5; 156(14): 564–70.
31. Hildingsson I, Westlund K, Wiklund I. Burnout in Swedish midwives. *Sex Reprod Healthc.* 2013 Oct; 4(3): 87–91.
32. Cheng Y, Chen IS, Chen CJ, Burr H, Hasselhorn HM. The influence of age on the distribution of self-rated health, burnout and their associations with psychosocial work conditions. *J Psychosom Res.* 2013 Mar; 74(3): 213–20.
33. Chen KY, Yang CM, Lien CH, Chiou HY, Lin MR, Chang HR, et al. Burnout, job satisfaction, and medical malpractice among physicians. *Int J Med Sci.* 2013; 10(11): 1471–8.
34. Amofo E, Hanbali N, Patel A, Singh P. What are the significant factors associated with burnout in doctors? *Occup Med (Lond).* 2015 Mar; 65(2): 117–21.
35. Cherniss C, Sarason S. Professional burnout in human service organizations. In 1980.
36. Lithuania Statistics Department [Internet]. [cited 2022-06-04]. Available from: <https://www.stat.gov.lt/en>
37. OFFICE UKFP. F2 Career Destinations Report 2018 [Internet]. 2018. Available from: <https://www.almendron.com/tribuna/wp-content/uploads/2020/03/f2-career-destinations-report-final-2018.pdf>
38. Moore LR, Ziegler C, Hessler A, Singhal D, LaFaver K. Burnout and Career Satisfaction in Women Neurologists in the United States. *J Womens Health (Larchmt).* 2019 Apr; 28(4): 515–25.
39. Hu NC, Chen JD, Cheng TJ. The associations between long working hours, physical inactivity, and burnout. *J Occup Environ Med.* 2016 May; 58(5): 514–8.
40. McVicar A. Workplace stress in nursing: A literature review. *Journal of Advanced Nursing.* 2003; 44(6): 633–42.
41. Atik M, Uçan ES, Ellidokuz H, Alptekin K. Burnout in chest physicians after health care reforms: A cross-sectional study in Turkey. *Turk Thorac J.* 2019 Jan 1; 20(1): 18–24.
42. Chou LP, Li CY, Hu SC. Job stress and burnout in hospital employees: Comparisons of different medical professions in a regional hospital in Taiwan. *BMJ Open.* 2014 Feb 25; 4(2): e004185.
43. 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 Aug; 25(4): 245–65.
44. Dyrbye LN, Shanafelt TD, Balch CM, Satele D, Sloan J, Freischlag J. Relationship between work-home conflicts and burnout among American surgeons: A comparison by sex. *Arch Surg.* 2011 Feb; 146(2): 211–7.
45. West CP, Dyrbye LN, Shanafelt TD. Physician burnout: Contributors, consequences and solutions. *J Intern Med.* 2018 Jun; 283(6): 516–29.