



THE BURNOUT LEVEL AMONG HEALTH INSPECTORS - A COMPARATIVE ANALYSIS BEFORE AND DURING THE COVID-19 PANDEMIC IN BULGARIA

Yana Tosheva, Tsvetelina Tarpomanova, Antoaneta Tsvetkova, Silvia Mihaylova
Medical College, Medical University – Varna, Bulgaria.

ABSTRACT:

The coronavirus pandemic has put unprecedented pressure on the healthcare system of Bulgaria, especially in the context of the shortage of professionals such as public health inspectors. As a result, additional obligations were added to their routines which increased their workload and put them at risk of developing burnout.

Purpose: To study the level of burnout among public health inspectors before and during the COVID-19 pandemic and to make a comparative analysis of the results in view of the inspectors' increased workload in the time of the pandemic.

Materials and methods: Three studies of public health inspectors from the system of the Regional Health Inspectorate were conducted: two burnout studies using the Maslach Burnout Inventory in 2019 and 2021 (respectively of 62 and 61 persons) and a questionnaire survey of 116 subjects in 2020-2021 on the workload level.

Results: During the pandemic, a considerable increase in the values of the three questionnaire aspects was observed. The highest level of emotional exhaustion was reported in the 31-44 age group with work experience of 11-20 years (88%), whereas the highest level of depersonalization and the lowest of personal accomplishment were identified in the over 55 age group (50% and 92%). In 2019 around 38.7 % of health inspectors were at a high risk of burnout, while in 2021, the number increased to 73.7%.

Conclusions: During the pandemic, the share of health inspectors at risk of burnout has significantly increased. Therefore, early intervention and prevention of the syndrome are needed.

Keywords: workload, burnout, public health inspectors, COVID-19,

INTRODUCTION:

Psychosocial risks and occupational stress are among the most problematic issues of health and safety at work. This has been particularly relevant during the COVID-19 pandemic, which has significantly impacted the health of people, organizations and national economies [1]. The pandemic situation has created a great challenge for the healthcare systems of all countries and especially for health workers. Current studies on occupational stress have found an increased level of burnout in health professionals in the context of the pandemic [2, 3, 4].

Burnout syndrome is defined as a state of emotional and physical exhaustion caused by prolonged periods of stress [5]. It is described as chronic stress in the work place that has not been managed successfully [6]. Setting tasks with contradictory requirements, frequent changes in the work schedules, the impossibility of using their regulated rest breaks and the increasing demands for better work performance are among the identified factors leading to stress and stress-related health consequences for employees [7].

Burnout syndrome is mostly developed in people practising helping professions that involve direct communication and interpersonal contacts [8]. This syndrome is expressed in a fundamental disruption of the emotional engagement of employees with their job [9]. It can manifest in the following three aspects: emotional exhaustion, depersonalization and reduced self-esteem – a sense of being incompetent in their professional field, a feeling of professional and personal uselessness [10]. The physical symptoms include tiredness, body aches, headache, gastrointestinal symptoms, changes in appetite, increased susceptibility to common infections and sleep problems [11].

In Bulgaria, stress-related issues and burnout syndrome are particularly relevant since the majority of health professionals are forced to hold multiple jobs, almost without time for rest, in the context of organizational problems in the healthcare sector [12, 13,14]. A study conducted among 13 000 doctors from 29 medical specialties has shown a 5% increase in the number of doctors who admitted experiencing burnout symptoms: they increased to 47% in 2021, compared with 42% in 2020. Logically, the highest levels of stress are in emergency medicine, where the percentage grew from 43% (2020) to 60% (2021) [15].

Doctors are not the only affected group. Worldwide, burnout studies have been performed among pharmacists to research the predisposing factors for professional burnout [16].

Public health inspectors (PHI) are health professionals who exercise state health control in public establishments. They work primarily in the Regional Health Inspectorates (RHI). Their daily and additional duties and responsibilities are outlined in the respective regulations [17, 18, 19].

After a COVID-19 state of emergency was introduced in Bulgaria in March 2020, PHIs joined the group of essential healthcare workers and new responsibilities were added to their regular activities, i.e. to implement measures against the spread of the disease. As a result of that, employees who were not anti-epidemic professionals had to adapt quickly to the new circumstances. In the context of the insufficient number of health inspectors, they had to work overtime and were unable to take holidays and rest breaks. According to data from the RHI for 2019- 2021, the share of planned inspections as part of routine work decreased in 2020 in favour of work related to the registration of COVID-19 cases, identification of contact persons and communication with the relevant authorities in a ratio 1:6, while maintaining the same number of health inspectors. The number of issued recommendation notices also grew considerably, as well as the investigation of complaints and referrals. Additional obligations were introduced, such as 24-hour duties at border crossing points and joint inspections with the police and local authorities of quarantine compliance [20, 21, 22].

All additional responsibilities, non-specific duties and interpersonal difficulties in the context of a shortage of public health inspectors undoubtedly lead to an increased workload and occupational stress, hence to a higher risk of developing burnout.

OBJECTIVE

To study the level of burnout among public health inspectors before and during the COVID-19 pandemic and to make a comparative analysis of the results in view of their increased workload in the time of the pandemic.

MATERIALS AND METHODS

Two burnout studies were conducted using a standardized burnout test - Maslach Burnout Inventory (MBI), one in 2019 among 62 health inspectors and another one among 61 PHIs in 2021. The survey consists of 22 statements scored by a frequency scale from 0 to 6 (0 – never; 1 – once a year or less; 2 – once a month; 3 – several times a month; 4 – once a week; 5 – several times a week; 6 – every day). It covers three aspects: the levels of emotional exhaustion, depersonalization and personal accomplishment. The level of emotional exhaustion is measured by adding up the points from statements 1, 2, 3, 6, 8, 13, 14, 16, 20 on the following scale: 0-17 points: a low level; 18-29 points: a medium level; over 30 points: a high level. The level of depersonalization is measured by adding up the points from statements 5, 10, 11, 15 and 22, using the following scale: 0-5 points: a low level; 6-11 points: a medium level; over 12 points: a high level. The level of personal accomplishment is calculated by adding up the points from items: 4, 7, 9, 12, 17, 18, 19 and 21, where a score of 0-33 points is a low level; 34-39 points – a medium level; over 40 points is a high level. In this case, an inverted scale is applied because the high scores indicate a favourable result, and the low ones an unfavourable [23].

In 2020-2021, a workload questionnaire survey was delivered to 116 PHIs working in Regional Health Inspectorates in the country. Data analysis was carried out using SPSS 13.0 for Windows.

RESULTS

The studies involved public health inspectors working in the RHIs in Varna, Ruse, Dobrich, Shumen, Razgrad, Silistra and Yambol.

The studied subjects were divided into four age groups: below 30 (15%); 31- 44 (28%); 45- 54 (37%), and over 55 (20%). The respondents' mean age was 45 years. Women predominated at a ratio of 4:1 (women – 80%, men – 20%). The mean number of years of work experience in the surveyed group was 18. The largest relative share (60%) was that of respondents with over 20 years of work experience.

Table 1 presents the distribution by gender, age and work experience of the respondents in the three studies.

Table 1. Demographic profile of respondents by study year.

Category	Group	2019 (Burnout study)		2020 (Workload questionnaire survey)		2021 (Burnout study)	
		N	%	N	%	N	%
No. of participants	62	100	116	100	65	100	
Age	< 30	9	14,5	17	14,6	13	21,3
	31-44	21	33,9	33	28,4	16	26,2
	45-54	24	38,7	43	37,06	20	32,8
	>55	8	12,9	23	19,8	12	19,7
Gender	Men	8	12,9	23	19,8	12	19,7
	Women	54	87,1	93	80,2	49	80,3

Work experience	< 5 years	15	24,2	21	18,3	14	23
	6 – 10 years	9	14,5	12	10,3	4	6,5
	11 – 20 years	13	21	12	10,3	16	26,2
	>20 years	25	40,3	71	61,1	27	44,3

No significant difference and dynamics were observed in the presented demographic indicators in the three studies.

The results from the burnout study among 62 health inspectors in 2019 before the COVID-19 pandemic are the following:

- Emotional Exhaustion – 8 subjects (12.9 %) showed a very high level of emotional exhaustion (over 30 points), 6 subjects (9.7 %) had a medium level (points 18-29)
- Depersonalization – 10 subjects (16.1 %) had a high level (over 12 points), and the other 10 (16.1 %) showed a medium level.
- Personal Accomplishment – 34 (54.8 %) of the surveyed inspectors had a low score on this scale (below 33).

In 2021 during the pandemic, the same tool (MBI) was used to assess 61 health inspectors. The following results were reported:

- Emotional Exhaustion – over two-thirds (75.4%) of the respondents showed a high level of emotional exhaustion, while 14.7% had a medium level.
 - Depersonalization – almost half of the participants (41%) reported a high level, whereas 37.7% had a medium one.
 - Personal Accomplishment – the majority (70.5%) of all respondents demonstrated a low score on this scale.
- Comparative data from the two studies are presented in Table 2.

Table 2. Comparative data from the burnout studies with MBI (frequency scale) in 2019 and 2021.

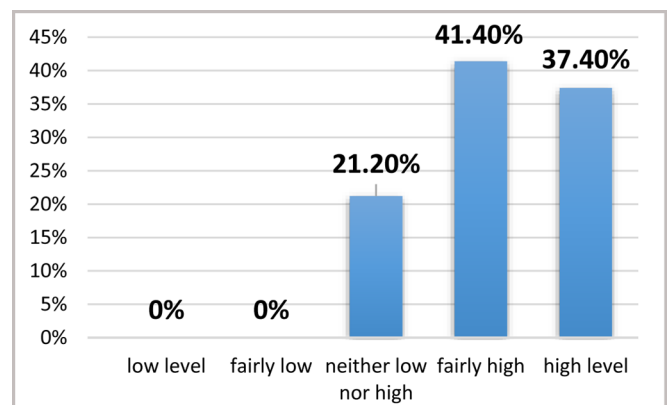
Results Period	Emotional exhaustion		Depersonalization		Reduced Personal Accomplishment (%)	PHI with high levels in two or threecomponents (%)
	PHI with a high level (%)	PHI with a medium level (%)	PHI with a high level (%)	PHI with a medium level (%)		
Before the pandemic 2019	12,9	9,7	16,1	16,1	54,8	38,7
During the pandemic 2021	75,4	14,7	41	37,7	70,5	73,7

The highest level of emotional exhaustion was displayed by respondents in the age group of 31-44 years (88%). The highest levels of depersonalization and reduced personal accomplishment were reported in the over 55 age group (50% and 92%, respectively). A low level of depersonalization was observed in 75% of those with work experience between 6 and 10 years, while the highest levels of reduced personal accomplishment were reported by 79 % of the health inspectors with less than 5 years of experience.

The results from the questionnaire survey conducted among 116 health inspectors during a period from 2020 to 2021 indicated that the respondents were aware of their increased workload. When asked to assess their personal daily workload on a five-point scale (from 1-low to 5- high), more than two-thirds (78.80%) of the surveyed reported fairly high and high levels of workload. (Fig. 1)

A large part of the surveyed inspectors (81%) indicated ever-increasing job obligations as the main reason for the high level of workload. A statistically significant correlation was identified between those two factors ($c_2=19,312$, $p=0,004$).

Fig. 1. Assessment of the daily workload among PHI



DISCUSSION

The data analysis shows a six-fold increase in subjects with high emotional exhaustion levels before and during the COVID-19 pandemic (respectively: 12.9 % and 75.4 %). The relative share of respondents with a medium level has also risen from 9.7 % in 2019 to 14.7% in 2021. Emotional exhaustion is considered to be the core aspect of professional burnout and manifests through emotional depletion, indifference or emotional overload. This condition is characterized by chronic fatigue, sleep problems,

headache and other psychosomatic symptoms. The high level of emotional exhaustion requires urgent changes in the working environment and work pace and even consultations with a specialist (psychologist, psychiatrist). If medium levels are identified, it means there are pre-conditions for emotional overload, therefore, relevant measures should be taken, such as review of work responsibilities and tasks, rest breaks etc. The fact that the most affected group are 31- 44 year-olds shows that a third of the studied inspectors are at risk of worsening their mental health indicators.

A nearly 2.5-fold increase has been reported in subjects with high levels of depersonalization (from 16.1% in 2019 to 41 % in 2021). Depersonalization mainly refers to dehumanization in interpersonal relationships, a feeling of isolation, loss of empathy, accompanied by cynicism, a negative attitude towards clients or co-workers. In the more severe cases, a persistent feeling of guilt might occur, along with avoidance of social contacts and a feeling of detachment from one's self. Therefore, in the presence of high levels of depersonalization, a consultation with a specialist is considered mandatory.

The share of health inspectors with reduced personal accomplishment has increased approx. 1.3 times (from 54.8 in 2019 to 70.5 in 2021). The decreased productivity at work and reduced personal accomplishment can result in negative self-esteem (people think that they are unable to do the job, cannot make progress and develop). In such states, people start doubting their real abilities, and they limit their contacts. The reported reduced personal accomplishment, especially in subjects from the age group be-

low 30, indicates that a growing number of health inspectors have accumulated emotional and mental exhaustion, which adversely affect their work performance.

The share of PHIs who have shown a high frequency on two or three MBI aspects has doubled in the compared study periods (respectively, from 38.7% to 73.75%). The high levels of emotional exhaustion and depersonalization combined with reduced personal accomplishment confirm the presence of burnout or a high risk of developing it. The established statistically significant correlation between the high workload level and the ever-increasing job obligations of public health inspectors gives grounds to claim that the higher workload during the coronavirus pandemic is one of the reasons for a significant increase in burnout risk.

CONCLUSION

In the context of the COVID-19 pandemic, PHI's job obligations rose considerably. Additional duties, new responsibilities, overtime, inability to use holidays and rest breaks lead to a heavy workload, mental strain, stress and conflict situations.

During the pandemic, a growing number of health inspectors are at risk of professional burnout, which has been evidenced by the reported high values on all scales of the MBI tool. Burnout can cause serious disorders in the mental health of inspectors and, consequently in their physical health. In the context of the health crisis, it is critical to put effort into prevention, in the early detection of burnout symptoms, in providing consultations and referring to a specialist when needed.

REFERENCES:

1. European Agency for Safety and Health at Work. Promoting mental health and wellbeing in the workplace. EU-OSHA. 07/10/2021. [[Internet](#)]
2. Kok N, van Gurp J, Teerenstra S, van der Hoeven H, Fuchs M, Hoedemaekers C, et al. Coronavirus Disease 2019 Immediately Increases Burnout Symptoms in ICU Professionals: A Longitudinal Cohort Study. *Crit Care Med*. 2021 Mar 1;49(3):419-427. [[PubMed](#)]
3. Liu X, Chen J, Wang D, Li X, Wang E, Jin Y, et al. COVID-19 Outbreak Can Change the Job Burnout in Health Care Professionals. *Front Psychiatry*. 2020 Dec 8;11:563781. [[PubMed](#)]
4. Trumello C, Bramanti SM, Ballarotto G, Candelori C, Cerniglia L, Cimino S, et al. Psychological Adjustment of Healthcare Workers in Italy during the COVID-19 Pandemic: Differences in Stress, Anxiety, Depression, Burnout, Secondary Trauma, and Compassion Satisfaction between Frontline and Non-Frontline Professionals. *Int J Environ Res Public Health*. 2020 Nov 12;17(22):8358. [[PubMed](#)]
5. Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry*. 2016 Jun;15(2):103-11. [[PubMed](#)]
6. Burnout an "occupational phenomenon": International Classification of Diseases. WHO. 28 May 2019. [[Internet](#)]
7. Hristov Z, Tomev L, Kircheva D, Daskalova N, Mihailova T, Ivanova V, et al. [Occupational stress in during a time of transition (a pilot project for Bulgaria in three public sectors).] [in Bulgarian] *Institute for Social and Trade Union Research at the Confederation of Independent Trade Unions in Bulgaria*. 2002: 21-22. [[Internet](#)]
8. Lecheva Z, Georgieva L, Stoycheva M. [Theoretical foundations of professional burnout and the burnout syndrome.] [in Bulgarian] *Social Medicine*, 2017; (1):31-35.
9. Nikolov N, Eyubova S. [Assessment of professional exhaustion with Burnout-Q.] In: Leadership and organization development. [in Bulgarian] *University Press St. Kliment Ohridski, Sofia* 2015: 1186-1192. [[Internet](#)]
10. Savova Z. [Prevention of stress and professional burnout.] [in Bulgarian] *Simolini, Sofia*. 2012: 83-105
11. Queen D, Harding K. Societal pandemic burnout: A COVID legacy. *Int Wound J*. 2020 Aug;17(4):873-874. [[PubMed](#)]
12. Guidance. The psychological needs of healthcare staff as a result of the Coronavirus pandemic. British Psychological Society Covid19 Staff Wellbeing Group. 31.03.2020. [[Internet](#)]
13. Ivanova M, Todorova A.

Georgieva L. Burnout syndrome in Bulgarian pharmacists - pilot study. *Proceedings of CBU in Medicine and Pharmacy*. 2020 Nov 16;1:36-40. [[Crossref](#)]

14. Ivanova M, Todorova A, Pesheva M. Occupational burnout syndrome among community pharmacists during Covid-19 Pandemic. *Proceedings of CBU in Medicine and Pharmacy*. 2022 Dec 1;3:6-12. [[Crossref](#)]

15. Baggett SM, Martin KL. Emergency Medicine Physician Lifestyle, Happiness & Burnout Report. Medscape. February 18, 2022. [[Internet](#)]

16. Ivanova M. [Burnout syn-

drome in health professionals and the need for research among pharmacists.] [in Bulgarian] *Acad J Management Education*. 2020; 16(6):26-31. [[Internet](#)]

17. Georgieva L, Popova S. [Healthcare occupations.] [in Bulgarian] *Steno Publishing House. Varna*. 2016: 78-82.

18. Ministry of Health. [Organizational rules of the Regional Health Inspections.] [in Bulgarian] 18 January 2011 [[Internet](#)]

19. Ministry of Health. [Ordinance 36 on the terms and conditions for exercising state health control.] 21 July 2009 [in Bulgarian] [[Internet](#)]

20. Regional Inspectorat of

Health - Varna. [Report about the activity in 2019. [in Bulgarian] March 2020. [[Internet](#)]

21. Regional Inspectorat of Health - Varna. [Report about the activity in 2020.] [in Bulgarian] February 2021. [[Internet](#)]

22. Regional Inspectorat of Health - Varna. [Report about the activity in 2018.] [in Bulgarian] March 2019. [[Internet](#)]

23. Milusheva V, Ivanov I. [The Conflicts in the Business Organization as Prerequisite for burnout.] [in Bulgarian] *Industrial Relations and Public Development* 2020; 2: 59-60 [[Internet](#)]

Please cite this article as: Tosheva Y, Tarpomanova T, Tsvetkova A, Mihaylova S. The burnout level among health inspectors - a comparative analysis before and during the COVID-19 pandemic in Bulgaria. *J of IMAB*. 2023 Jul-Sep;29(3):5052-5061. [Crossref - <https://doi.org/10.5272/jimab.2023293.5057>]

Received: 03/02/2023; Published online: 24/08/2023



Address for correspondence:

Assoc. prof. Tsvetelina Tarpomanova, MD, PhD
Medical College, Medical University – Varna
84, Tsar Osvoboditel Str., Varna, Bulgaria.
E-mail: tsvetelina.tarpomanova@mu-varna.bg