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Addressing stress and burnout: An analysis of coping strategies and key determinants among nurses in Poland

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ABSTRACT

Introduction: Nurses face significant stressors in their daily work, which can lead to occupational burnout, negatively impacting both workforce stability and the quality of care provided. This study aims to identify key determinants of stress among nurses and explore effective coping strategies to inform the development of targeted interventions.

Materials and methods: A cross-sectional study was conducted among 428 actively practicing nurses in Poland, utilizing the Coping Orientation to Problems Experienced (Mini-COPE) questionnaire and the Maslach Burnout Inventory (MBI) to assess coping strategies and burnout dimensions (emotional exhaustion, depersonalization, and personal accomplishment). Questions related to experiences during the COVID-19 pandemic were also included.

Results: Over 78% of nurses reported high or very high stress levels during the COVID-19 pandemic, with more than half experiencing increased fatigue. The analysis revealed that 24.3% of participants were at risk of occupational burnout, with emotional exhaustion as the predominant dimension. Interestingly, nurses with either poor or very good financial status employed more effective coping strategies than those with average financial stability. Significant differences in coping patterns were observed based on demographic and professional characteristics.

Conclusions: Occupational burnout remains a critical issue among nurses, exacerbated by external crises such as the COVID-19 pandemic. Interventions focusing on adaptive coping strategies, stress management training, and systematic workshops on burnout prevention are essential to support nursing staff. Addressing systemic challenges such as workload and financial disparities may further enhance resilience and well-being in this vital profession.

Keywords: burnout; work engagement; nurses; burnout measures; COVID-19; stress.

INTRODUCTION

In our fast-paced world, characterized by rapid social change, the lives of modern individuals are profoundly influenced by various factors, including: evolving work environments, transportation, innovation, global product exchange, fashion trends, noise pollution, and information overload. Navigating this dynamic landscape exposes individuals to multiple stressors, such as radiation, environmental pollutants, and disruptions in biological rhythms. Among these stressors, one enduring challenge stands out – stress, which has accompanied humanity since time immemorial. With advancements in science, efforts have been made to understand its mechanisms and develop strategies to mitigate its effects.

The response to stress is a multifaceted phenomenon, as originally described by Hans Selye, who distinguished between mobilizing stress, known as eustress, and debilitating stress, known as distress [1]. Eustress is a positive force that motivates and enhances the quality of life by providing optimal stimulation. However, when stress exceeds the individual's tolerance threshold, it results in chaos, diminished productivity, and resource depletion – referred to as distress. Stress can manifest in everyday challenges and escalate to catastrophic events such as wars, natural disasters, and pandemics.

Occupational burnout is closely linked to stress and affects various professional groups. Coined by Freudenberger in 1974, the term "burnout" describes a state of diminishing motivation and reduced commitment, initially observed among volunteers at a mental health clinic [2, 3]. This concept holds particular significance for healthcare professionals, especially nurses, due to the psychosocial nature of their profession, which requires continuous attention to the well-being of others. Healthcare workers, and nurses in particular, face an elevated risk of occupational burnout as they frequently encounter professionally stressful situations. Contributing factors include heavy workloads, inadequate compensation, physically demanding tasks, and personal life challenges. Moreover, the nature of their work, which involves daily exposure to illness and death, imposes a substantial psychological burden. Administrative responsibilities, outdated regulations, and challenges in interprofessional collaboration further exacerbate frustration and professional burnout.

Research into occupational burnout among nurses has been ongoing for many years, highlighting its far-reaching implications for nurses' quality of life, productivity, and the quality of nursing care [4, 5]. A noteworthy meta-analysis aimed to assess the literature comprehensively, specifically examining the effectiveness of coping strategies in alleviating nurse burnout [6, 7]. In another study, Lee and Chang conducted an

in-depth analysis of the impact of job flexibility and satisfaction on nurse burnout, finding a negative correlation between work satisfaction, working conditions, and burnout levels [8].

Wang et al. explored burnout levels among clinical nurses and investigated how personal and environmental factors influenced burnout [9]. Their findings revealed that both sets of factors were significantly associated with nurse burnout, with personal factors playing a greater role in predicting personal accomplishment (PA) and environmental factors being more influential in predicting emotional exhaustion (EE) and depersonalization (DP). Notably, more than ⅓ of nurses working in both private and public hospitals reported experiencing high levels of burnout, with those in the private sector being particularly vulnerable [10].

The coronavirus disease 2019 (COVID-19) pandemic has added a significant burden on medical professionals, including nurses. Studies conducted during this time have highlighted a sharp increase in stress and burnout among healthcare workers, with nurses being disproportionately affected [11, 12, 13]. Research from China showed that surgical nurses, in particular, experienced levels of anxiety and depression above the national norm [14]. Additionally, the pandemic exacerbated professional burnout among nurses, in part due to an alarming rise in violence and aggression at work. Reports indicated that 73.44% of nurses experienced aggression, with those in primary care facing the highest levels of verbal aggression from patients and their families. Nurses exposed to such violence exhibited significantly higher levels of EE and DP [15]. Nurses grappling with burnout and working in unsafe environments may inadvertently contribute to the inefficiency of healthcare systems, a situation further worsened by heavy workloads, which are directly linked to burnout [16, 17, 18].

In Poland, research has also explored occupational burnout among nurses. For example, Haor et al. employed the Coping Orientation to Problems Experienced (Mini-COPE) test and found that nurses, regardless of their experience level, work setting, or healthcare system, often relied on problem-focused coping strategies [19]. Izdebski et al. conducted a comprehensive analysis among 5 groups of healthcare workers (physicians, nurses, paramedics, and other medical and nonmedical staff) during the COVID-19 pandemic in Poland [20]. Their findings revealed that only 7% of respondents sought psychological support during the pandemic, highlighting a critical need for improved support structures. Stefanowicz-Bielska et al. also underscored the overwhelming challenges faced by nurses during the pandemic, shedding light on the immense strain on the profession [21].

To contribute to this body of research, our study employs 2 comprehensive assessments – the Mini-COPE and Maslach Burnout Inventory (MBI) tests. Our primary goal is to identify the key determinants and nuances of occupational burnout among nursing staff, with a particular focus on stress-coping strategies. Specifically, our study aims to address the following questions:

- How do factors such as age, work experience, education, and financial situation influence the perception of occupational burnout among nursing staff?
- Which symptoms of occupational burnout are most prevalent among the nurses surveyed?
- What coping strategies do nurses most commonly use to manage work-related stress, and what factors influence their choice of strategy?

By addressing these critical questions, our study seeks to illuminate the complex and pressing issue of occupational burnout among nursing staff and provide insights into the coping mechanisms they employ.

MATERIALS AND METHODS

The research was conducted between March 5, 2022, and August 25, 2022, using a questionnaire. The survey was carried out with nurses who were actively working in the profession. The study involved 428 nurses who were licensed to practice and currently employed, all of whom completed the questionnaire. The nursing staff participating in the survey were employed in both hospital and outpatient care settings. Data were collected using questionnaires designed to maintain the confidentiality of personal information. All participants were given clear instructions on how to complete the questionnaire and received written information about the purpose of the study, including the option to withdraw at any time.

For this study, the inclusion criteria ensured that participants were currently working in a nursing role, as this was essential for evaluating stress in the context of their active professional experience. The exclusion criteria included nurses who were on extended leave, such as maternity or long-term medical leave, as their stress levels may not reflect the typical experience of actively practicing nurses. Nurses employed in non-clinical settings or those who did not directly interact with patients were also excluded, as their stressors might differ significantly from those faced by nurses working in hospital or care environments.

The study began with the development of a comprehensive set of questions that addressed both quantitative and qualitative variables. The questionnaire was structured to include key information such as the study title, its purpose, and clear, concise instructions for respondents on how to complete the survey. The questionnaire was divided into 4 sections:

- data sheet – this section collected essential demographic information about the respondents, including: age, education, number of children, and self-assessed financial status;
- COVID-19-related questions – this section assessed participants' feelings and experiences during the COVID-19 pandemic;
- MBI – this part focused on measuring burnout levels among the respondents. It is a widely used psychological assessment tool designed to measure burnout in professionals. It consists of 3 dimensions: EE, which assesses feelings of being emotionally drained; DP, which evaluates detached and impersonal responses toward others; and PA, which reflects feelings of competence and success. Higher scores in EE and DP, along with lower scores in PA, indicate a greater risk of burnout;
- Mini-COPE questionnaire – this section evaluated the coping strategies employed by the respondents. The Mini-COPE

is a shortened version of the COPE inventory, designed to assess coping strategies individuals use in stressful situations. It includes various subscales that measure adaptive strategies (e.g., active coping, positive reframing) and maladaptive strategies (e.g., denial, substance use). Higher scores on adaptive strategies indicate effective coping, while higher scores on maladaptive strategies suggest a tendency toward less effective stress management.

Following data collection, a statistical analysis was performed. The accuracy of the responses was verified using the Grubbs test to identify and eliminate any outliers. Quantitative variables were described using the arithmetic mean, standard deviation, median, minimum, maximum values (range), and a 95% confidence interval (CI) for the mean.

All statistical analyses were conducted using the Statistica software package, version 13.3 (StatSoft, Inc., 2020) [22, 23]. The normality of the distribution of quantitative variables was assessed using several tests, including the Shapiro–Wilk, Lilliefors, Kolmogorov–Smirnov, and Jarque–Bera tests. To evaluate the hypothesis of equal variances, we employed the Brown–Forsythe (Levene) test. For comparisons between 2 independent groups, the Student's t-test was used when the assumption of equal variances was met. In cases where the assumption of variance homogeneity was violated, the Welch test was applied. If the conditions for the Student's t-test were not satisfied, the Mann–Whitney U-test was used. To analyze differences in the same variable across multiple groups, especially when the variable did not follow a normal distribution, we employed the Kruskal–Wallis test. When statistically significant differences were found, post-hoc tests were performed to identify specific group differences. Statistical significance was set at a p-value of less than 0.05 (2-tailed).

RESULTS

Statistical analysis

The study group included 428 nurses. The average age of the participating nurses was 42.5 ±10.7 years, with a minimum age of 23 years and a maximum of 64 years. The median age was 46 years, indicating that half of the participants were aged 46 years or younger, while the other half were 46 years or older. Statistically significant differences are highlighted in bold. Table 1 presents the descriptive statistics, broken down into individual groups (nurses working in surgical and conservative care).

Demographic characteristics and their impact on work-related burnout

The analysis revealed significant differences between nursing groups:

- age and work experience – nurses in conservative care units were statistically older than those in surgical care (p = 0.0311), with longer professional experience (p = 0.0480);
- working hours – nurses in surgical care worked significantly more hours per month (p = 0.0021). Differences were also observed across work systems, where nurses in a 24-hour system worked twice as many hours as those in a single-shift system (p = 0.0012).

On average, nurses working in a 24-hour system worked twice as many hours per month as those in a single-shift system (Fig. 1).

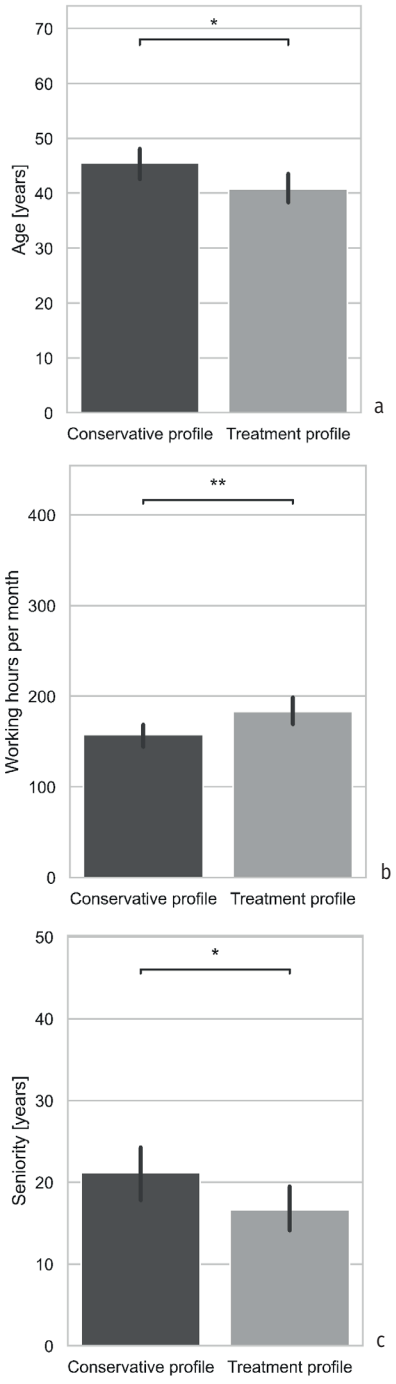

FIGURE 1. Characteristics of examined groups (work profile) with standard deviation bars and p-value annotation legends: (a) age; (b) working hours per month; (c) seniority (working years in occupation)

TABLE 1. Baseline characteristics of the study population

Variables		Age (years)	Seniority (years)	Number of children	Number of working hours
		mean ±SD, 95%CI, median, min.–max.			
All (n = 428)		42.5 ±10.7 (40.5; 44.6) 46 23–64	18.3 ±11.6 (16.1; 20.5) 20 1–44	1.3 ±1 (1.1; 1.5) 2 0–3	173.9 ±53.6 (163.6; 184.1) 164 37–400
Work profile	treatment 63.55% (n = 272)	40.8 ±10.9 (38.2; 43.5) 41 23–62	16.6 ±11.7 (13.8; 19.5) 15 1–39	1.2 ±1 (1.0; 1.5) 1 0–3	183.3 ±59.2 (168.9; 197.7) 175 40–400
	conservative 36.45% (n = 156)	45.5 ±9.7 (42.4; 48.7) 49 24–64	21.2 ±10.9 (17.6; 24.7) 25 1–44	1.6 ±0.9 (1.3; 1.9) 2 0–3	157.5 ±36.5 (145.7; 169.3) 160 37–220
	p-value	**0.0311**[1]	**0.0480**[1]	0.1008[1]	**0.0021**[1]
Education	master's degree 37.38% (n = 160)	41.9 ±9.9 (38.7; 45.0) 42 25–64	17.1 ±10.6 (13.7; 20.5) 16 3–44	1.4 ±1.0 (1.1; 1.7) 2 0–3	173.7 ±62.1 (153.8; 193.6) 170 40–364
	bachelor degree 56.07% (n = 240)	41.6 ±11.0 (38.8; 44.5) 48 23–55	17.8 ±12.2 (14.6; 20.9) 24 1–33	1.2 ±1.1 (1.0; 1.5) 1 0–3	174.4 ±50.7 (161.3; 187.5) 160 37–400
	medical secondary 6.54% (n = 28)	54.1 ±5.4 (49.1; 59.1) 53 47–62	29.4 ±3.5 (26.2; 32.6) 30 24–34	1.9 ±0.9 (1.0; 2.7) 2 1–3	170.0 ±17.3 (161.3; 187.5) 160 150–200
	p-value	**0.0128**[2]	**0.0197**[2]	0.3052[2]	0.6102[2]
Work system	1-shift 39.25% (n = 168)	45.7 ±10.1 (42.5; 48.8) 49 24–64	21.9 ±11.2 (18.5; 25.4) 27 1–44	1.7 ±0.9 (1.4; 2.0) 2 0–3	155.2 ±39.4 (142.9; 167.5) 160 37–220
	2-shift 12 h 47.66% (n = 204)	40.4 ±10.9 (37.3; 43.5) 42 23–57	16.0 ±10.9 (12.8; 19.2) 15 1–33	1.2 ±1.0 (0.9; 1.4) 1 0–3	176.9 ±34.1 (166.7; 185.9) 168 48–250
	mixed 9.35% (n = 40)	38.8 ±10.6 (31.2; 46.4) 39 23–51	13.3 ±11.2 (5.3; 21.3) 11.5 1–30	0.8 ±1.0 (0.1; 1.5) 0 0–2	179.0 ±81.6 (120.6; 237.4) 180 50–320
	daily 3.74% (n = 16)	46.5 ±5.0 (38.5; 54.5) 47 40–52	21.8 ±11.2 (3.9; 39.6) 26.5 5–29	1.3 ±1.0 (0.0; 2.8) 1.5 0–2	326.0 ±70.7 (213.5; 438.5) 332 240–400
	p-value	0.1201[2]	**0.0367**[2]	**0.0256**[2]	**0.0012**[2]
Financial situation	very good 8.41% (n = 36)	50.6 ±7.4 (44.9; 56.2) 51 38–62	26.4 ±7.8 (20.5; 32.4) 27 15–39	1.9 ±0.6 (1.4; 2.4) 2 1–3	188.9 ±30.2 (165.7; 212.1) 180 160–240
	good 63.55% (n = 272)	43.3 ±10.2 (40.9; 45.8) 47.5 24–59	18.9 ±11.2 (16.2; 21.6) 24.5 1–33	1.4 ±1.1 (1.1; 1.6) 2 0–3	178.9 ±57.3 (164.9; 192.7) 166 37–400
	sufficient 24.30% (n = 104)	38.3 ±11.1 (33.8; 42.8) 36.5 23–64	14.6 ±12.4 (9.6; 19.6) 11.5 1–44	1.1 ±0.9 (0.7; 1.4) 1 0–2	162.2 ±49.3 (142.3; 182.1) 162 40–250

TABLE 1. Baseline characteristics of the study population

Variables		Age (years)	Seniority (years)	Number of children	Number of working hours
		mean ±SD, 95%CI, median, min.–max.			
Financial situation	poor 3.74% (n = 16)	38.3 ±12.5 (18.3; 58.2) 40.5 23–49	13.5 ±11.0 (0.0; 31.0) 14 1–25	1.0 ±0.8 (0.0; 2.3) 1 0–2	131.3 ±23.0 (94.7; 167.9) 137.5 100–150
	p-value	**0.0153**[2]	0.0529[2]	0.1666[2]	**0.0119**[2]
Marital status	formal relationship 61.68% (n = 264)	46.3 ±8.8 (44.1; 48.5) 49.5 27–64	21.7 ±10.7 (19.1; 24.3) 25 1–44	1.8 ±0.8 (1.6; 2.0) 2 0–3	169.6 ±56.1 (155.8; 183.4) 162 40–400
	informal relationship 19.63% (n = 84)	33.8 ±10.0 (29.2; 38.3) 32 23–52	9.9 ±10.2 (5.3; 14.6) 5 1–30	0.5 ±0.8 (0.1; 0.8) 0 0–2	181.1 ±56.7 (154.4; 207.8) 160 37–320
	single 10.28% (n = 44)	30.4 ±6.0 (26.4; 34.4) 29 23–42	6.9 ±5.1 (3.5; 10.3) 6 1–15	–	193.6 ±45.5 (154.4; 207.8) 200 100–250
	divorced 5.61% (n = 24)	50.8 ±3.4 (47.3; 54.4) 50.5 47–57	26.3 ±4.3 (21.8; 30.9) 26.5 20–33	1.5 ±0.6 (0.9; 2.1) 1.5 1–2	158.1 ±16.7 (140.4; 175.6) 160 128–180
	widow 1.87% (n = 8)	49.0 ±0.0 (48.0; 50.0) 49 49	27.0 ±0.0 (27.0; 27.0) 27 27	3 ±0 (0.0; 0.0) 3 3	165.0 ±7.1 (101.5; 228.5) 165 160–170
	in separation 0.93% (n = 4)	50.0 ±0.0 (50.0; 50.0) 50 50	27.0 ±0.0 (27.0; 27.0) 27 27	1 ±0 (0.0; 0.0) 1 1	200.0 ±0.0 (0.0; 0.0) 200 200
	p-value	**0.0000**[2]	**0.0000**[2]	**0.0000**[2]	0.2617[2]

[1] Mann–Whitney U test; [2] Kruskal–Wallis test
SD – standard deviation; CI – confidence interval

A significant difference was observed in the evaluation of financial status based on respondents' age (p = 0.0153) and the average number of hours worked per month (p = 0.0119). Individuals reporting a very good financial status tended to be older and worked more hours per month on average, whereas those reporting a poor financial status were generally younger and worked the fewest hours per month. Additionally, significant differences in marital status were found across groups based on age (p < 0.0001), work experience (p < 0.0001), and number of children (p < 0.0001) – Figures 2 and 3.

Impact of COVID-19 on stress and burnout

The survey included 3 questions related to the COVID-19 situation, with the results presented in Supplementary file 01. Statistical analysis revealed a significant difference in responses to the question regarding fear of coronavirus infection based on age (p = 0.0034) and work experience (p = 0.0007). Over half of the participants (53.3%) reported experiencing increased fatigue during the infection period, while 25.2% indicated that their fatigue level remained comparable to usual. A high or very high level of stress during the pandemic was reported by 78.5% of respondents. Younger individuals and those with less work experience reported the least fear (Fig. 4).

Mini-COPE questionnaire

Individuals respond differently when faced with difficult or stressful life events, employing various strategies to manage stress. The purpose of the questionnaire was to assess typical behaviors during such experiences. Although it is acknowledged that different events elicit different reactions, the focus was on determining general behavioral patterns during highly unpleasant situations. The results of the Mini-COPE survey are presented in Supplementary file 02.

For each Mini-COPE scale, weighted averages were calculated (sum divided by 2), allowing for interpretation in accordance with the scoring guidelines provided in the survey instructions. A score of 0 indicated" "I almost never do this", while a score of 3 indicated: "I almost always do this". The data (Tab. 2) indicate that active coping strategies (questions 1, 2) are most commonly employed, followed by seeking support (questions 7, 8). The least frequently used strategies include the use of psychoactive substances (0.4 ±0.6, question 12), humor (0.8 ±0.6, question 5), cessation of activities (0.9 ±0.7, question 13), and denial (0.9 ±0.7, question 10).

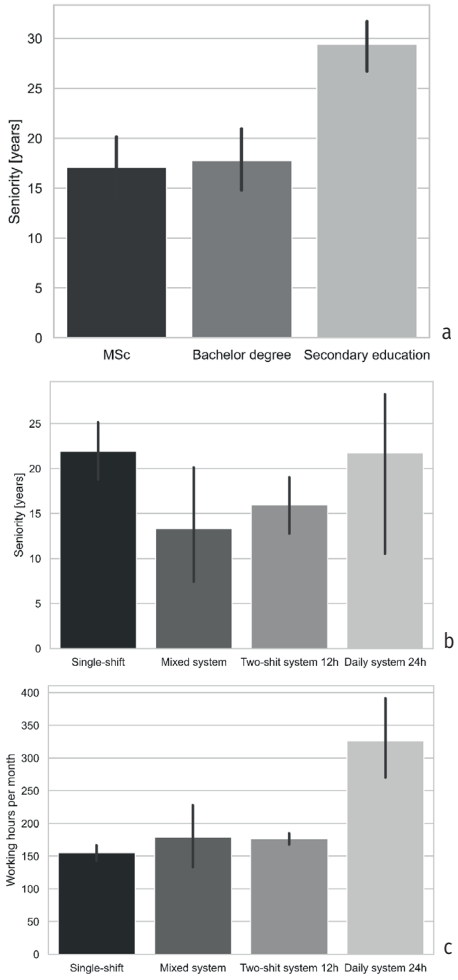

FIGURE 2. (a) Education of the research group vs. age of the respondents. (b) System of work vs. professional experience. (c) System of work vs. number of working hours in a month

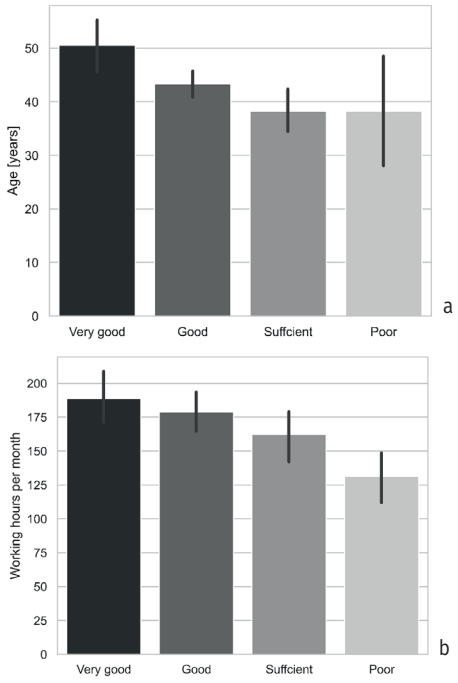

FIGURE 3. (a) Financial situation vs. age [years]. (b) Financial situation vs. number of working hours in a month

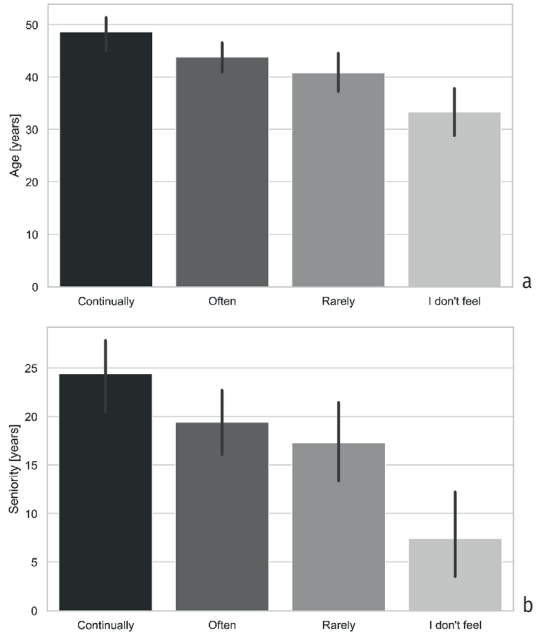

FIGURE 4. (a) Fear of COVID-19 and the age of the respondents. (b) Fear of COVID-19 and seniority

The Mini-COPE test divides the 14 specific questions into 3 general areas (problem-focused, emotion-focused, and other strategies). Table 3 presents problem-focused strategies (questions 1, 2, and 8) by percentage.

The first question addressed active stress-coping methods, with respondents reporting an average score of 2.3 ±0.6. Statistical analysis revealed that only marital status significantly influenced active stress coping ($p = 0.0413$) – Table 2. The highest scores were observed among individuals in formal relationships (2.5 ±0.5) and widows (2.5 ±0.7), while lower scores were reported by nurses in informal relationships (2.1 ±0.7), singles (2.0 ±0.6), divorced individuals (2.0 ±0.6), and those separated (2.0).

The second question examined planning strategies, showing a statistically significant difference based on financial situation ($p = 0.0333$) – Table 2. Nurses who reported a poor financial situation scored 2.6 ±0.5, while those with a very good financial situation scored 2.4 ±0.4. These results suggest that individuals with either a poor or very good financial situation tend to plan better than those with a good or sufficient financial situation. Marital status also significantly impacted planning ($p = 0.0113$), with the highest scores reported by widows (2.8 ±0.4), those in formal relationships (2.3 ±0.5), and divorced individuals (2.2 ±0.7). The lowest scores were observed among single women (1.7 ±0.6).

Question 8 assessed the use of instrumental support (Fig. 5). Significant differences were noted based on the nature of work ($p = 0.0037$) and financial situation ($p = 0.0215$) – Table 2. Higher scores were observed among nurses with a conservative job profile compared to those with a treatment profile. Additionally, nurses with a very good financial situation sought advice more frequently than those with good, sufficient, or poor financial situations.

TABLE 2. Statistical tests showing differences between groups depending on variables

Scale names (Questions a + b/2)	Nurses (n = 428)	Work character	Education	Work system	Marital status	Financial situation
1. Active stress-coping methods (2, 7) – taking action to improve the situation	2.3 ±0.6	0.0839[1]	0.9628[2]	0.3444[2]	**0.0413**[2]	0.1851[2]
2. Planning (14, 25) – thinking and planning what to do	2.2 ±0.5	0.0845[1]	0.6399[2]	0.102[2]	**0.0113**[2]	**0.0333**[2]
3. Positive revaluation (12 + 17) – perceiving the situation in a more positive light	1.8 ±0.6	0.3348[1]	0.4640[2]	0.9068[2]	0.0659[2]	0.2531[2]
4. Acceptance (20, 24) – adopting the situation and learning how to live with it	1.9 ±0.6	0.3614[1]	0.1747[2]	0.8731[2]	0.4694[2]	0.0817[2]
5. Sense of humor (18, 28) – joking and treating the situation as fun	0.8 ±0.6	0.3822[1]	**0.0048**[2]	0.6896[2]	0.1798[2]	**0.0295**[2]
6. Turning to religion (22, 27) – praying, meditating to find relief	1.3 ±1.1	**0.0121**[1]	0.5779[2]	0.1634[2]	0.1432[2]	0.2646[2]
7. Seeking emotional support (5, 15) – looking for encouragement, understanding and support from others	2.0 ±0.7	0.0623[1]	0.9393[2]	0.3138[2]	0.3106[2]	**0.0248**[2]
8. Seeking instrumental support (10, 23) – searching and receiving advice and help from others	2.0 ±0.7	**0.0037**[1]	0.3191[2]	0.0693[2]	0.478[2]	**0.0215**[2]
9. Dealing with other things (1, 19) – dealing with other activities so as not to get on the event	1.7 ±0.7	0.5558[1]	0.0848[2]	0.089[2]	0.3758[2]	0.1003[2]
10. Denial (3, 8) – rejecting the fact of the situation	0.9 ±0.7	0.7073[1]	0.3172[2]	0.6655[2]	0.553[2]	0.1644[2]
11. Giving vent to one's feelings (9, 21) – revealing negative emotions	1.1 ±0.5	0.6954[1]	0.4135[2]	0.7464[2]	0.0562[2]	0.2652[2]
12. Taking in psychopharmaceuticals (4, 11) – taking measures to alleviate unpleasant emotions	0.4 ±0.6	0.3805[1]	0.3972[2]	0.6748[2]	**0.0023**[2]	0.8751[2]
13. Doing nothing (6, 16) – resignation from making efforts to achieve the goal	0.9 ±0.7	0.4297[1]	0.0735[2]	0.7919[2]	**0.0232**[2]	0.8216[2]
14. Self-blaming (13, 26) – criticizing yourself for what happened	1.1 ±0.7	0.0772[1]	0.1296[2]	0.6769[2]	**0.0042**[2]	0.7829[2]

[1] Mann–Whitney U test; [2] Kruskal–Wallis test

TABLE 3. Strategies focused on the problem – Mini-COPE

Question number describing the phenomenon according to the key	0 – I hardly ever do this	1 – I rarely do this	2 – I do this often	3 – I almost always do this
1. Active stress-coping methods – taking action to improve the situation	2.34%	7.94%	**48.13%**	41.59%
2. Planning – thinking and planning what to do	0.93%	9.35%	**61.21%**	28.50%
8. Seeking instrumental support – searching and receiving advice and help from others	6.07%	17.29%	**50.00%**	26.64%
All	3.12%	11.53%	**53.12%**	32.40%

The second area examined within the 3 strategies of the Mini-COPE test focused on emotion-oriented coping strategies (questions 6, 7, and 10). Table 4 presents the percentage distribution of respondents' answers to each question.

Question 6 focused on turning to religion, with an arithmetic mean of 1.3 ±1.1 (Tab. 2). As shown in Table 4, 33.18% of participants reported almost never using this strategy. A statistically significant difference was observed between groups based on the nature of work (p = 0.0121). Individuals working in conservative roles were more likely to pray or meditate for solace compared to those in treatment-oriented roles. Question 7 examined seeking emotional support, with an average score of 2.0 ±0.7 (Tab. 2). In the study group, 49.53% of nurses sought comfort and support from others (Tab. 4). A statistically significant difference was found between groups based on financial situation (p = 0.0248) – Table 2. Nurses reporting very good or good financial status were more likely to seek support compared to those with sufficient or poor financial status.

Question 10 addressed denial. No statistically significant differences were observed between groups. The average score was 0.9 ±0.7 (Tab. 2), with most respondents indicating that they almost never (34.58%) or rarely (43.93%) use denial as a coping strategy, meaning they seldom reject the reality of difficult situations (Tab. 4).

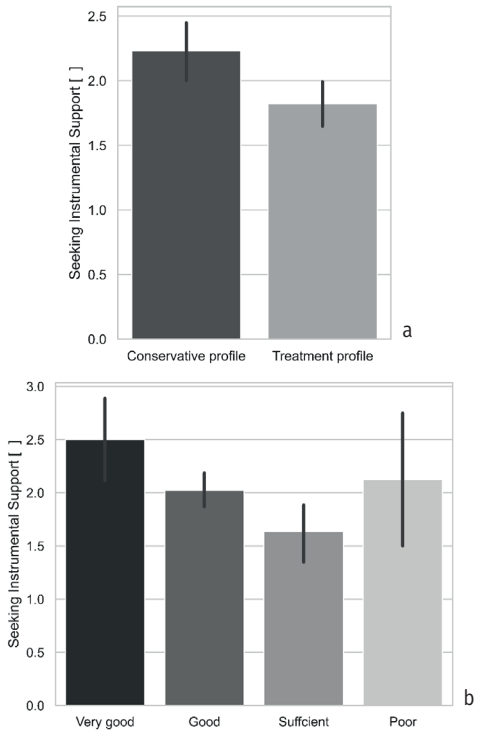

FIGURE 5. (a) Searching for instrumental support vs. work profile. (b) Searching for instrumental support vs. financial situation

The third strategy within the Mini-COPE test addresses coping mechanisms that, although potentially useful in specific circumstances, are generally considered less effective.

Question 5 assessed the use of humor as a coping mechanism, with a mean response score of 0.8 ±0.6 (Tab. 2). A statistically significant difference was observed between groups when stratified by education level ($p = 0.0048$) and financial situation ($p = 0.0295$) – Figure 6. Among the entire sample, 41.1% reported rarely using humor as a coping strategy (Tab. 5). Nurses with a bachelor's degree infrequently perceived difficult situations as humorous, while those with secondary and master's degrees almost never adopted humor in these contexts.

Question 9 evaluated distraction as a coping strategy. The mean score for this item was 1.7 ±0.7 (Tab. 2). Although 51.9% of the respondents frequently engaged in distraction to manage stress (Tab. 5), no statistically significant differences were found across age, job type, or years of service.

Question 11 explored the expression of emotions, yielding an average response score of 1.1 ±0.5 (Tab. 2). No statistically significant differences were found across any demographic or occupational variables. However, 40.65% of participants reported frequently expressing their emotions in stressful situations (Tab. 5).

Question 12 focused on the use of psychoactive substances as a coping mechanism, with a mean score of 0.4 ±0.6 (Tab. 2). The majority of the respondents (72.9%) reported rarely resorting to this strategy (Tab. 5). A statistically significant difference was observed based on marital status ($p = 0.0023$), with the lowest scores reported by nurses in formal relationships and the highest by widowed and separated individuals. Single women also demonstrated higher scores compared to other groups.

Finally, question 13 addressed the tendency to withdraw from activities in response to stress. The mean score was 0.9 ±0.7, with a statistically significant difference based on marital status ($p = 0.0232$). Widowed and separated individuals more frequently reported withdrawal from activities compared to other participants.

Levels of burnout among nurses – Maslach Burnout Inventory questionnaire

The MBI questionnaire assesses 3 key dimensions of burnout: EE, DP, and PA. These dimensions collectively define the burnout syndrome. Supplementary file 03 presents the percentage distribution of responses related to EE. The response scale ranges 0–6, where 0 indicates the respondent never experiences the described feeling, 1 corresponds to several times a year, 2 to once a month, 3 to several times a month, 4 to once a week, 5 to several times a week, and 6 to every day. The MBI questionnaire evaluates 3 specific scales: (1) EE, which measures feelings of being emotionally depleted and overwhelmed by work demands; (2) DP, which captures the extent of an unfeeling and impersonal response toward patients and colleagues; and (3) PA, which assesses feelings of competence and successful achievement in one's professional role (Tab. 6).

TABLE 4. Emotional strategies

Question number describing the phenomenon according to the key	0 – I hardly ever do this	1 – I rarely do this	2 – I do this often	3 – I almost always do this
6. Turning to religion (22, 27) – praying, meditating to find relief	33.18%	26.64%	21.03%	19.16%
7. Seeking emotional support (5, 15) – looking for encouragement, understanding and support from others	4.21%	19.16%	49.53%	27.10%
10. Denial (3, 8) – rejecting the fact of the situation	34.58%	43.93%	16.82%	4.67%
All	23.99%	**29.91%**	**29.13%**	17.13%

TABLE 5. Other strategies

Question number describing the phenomenon according to the key	0 – I hardly ever do this	1 – I rarely do this	2 – I do this often	3 – I almost always do this
5. Sense of humor (18, 28) – joking and treating the situation as fun	**41.12%**	38.79%	15.42%	4.67%
9. Dealing with other things (1, 19) – dealing with other activities so as not to get on the event	10.75%	21.50%	**51.87%**	15.89%
11. Giving vent to one's feelings (9, 21) – revealing negative emotions	10.75%	36.92%	**40.65%**	11.68%
12. Taking in pharmaceuticals (4, 11) – taking measures to alleviate unpleasant emotions	**72.90%**	20.56%	5.61%	0.93%
13. Doing nothing (6, 16) – resignation from making efforts to achieve the goal	39.25%	**39.72%**	16.36%	4.67%
All	**34.95%**	31.50%	25.98%	7.57%

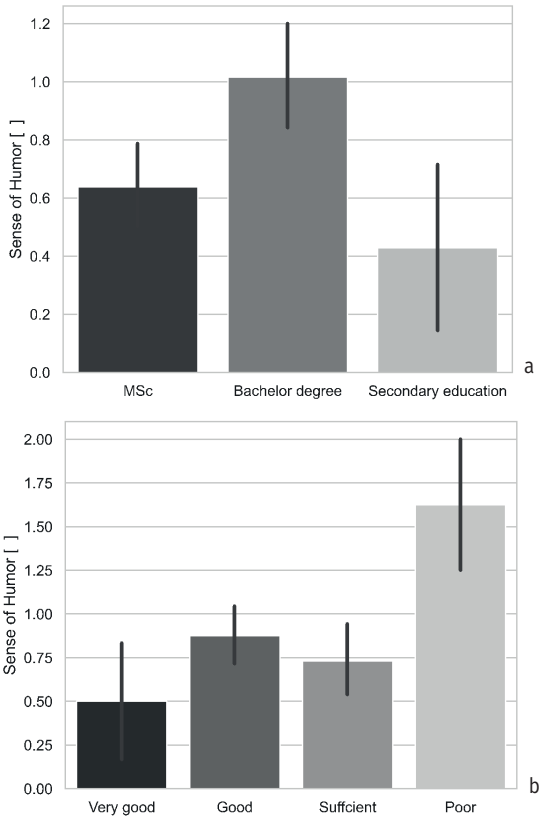

FIGURE 6. (a) Sense of humor vs. education. (b) Sense of humor vs. financial situation

The variable *Financial situation* showed a statistically significant difference in personal commitment between groups ($p = 0.0084$), as illustrated in Figure 7a. In the subsequent analysis, specific questions from the MBI questionnaire related to EE were examined. The results indicated statistically significant differences between groups for the following items:

- I feel emotionally drained from my work ($p = 0.0001$; Fig. 7b);
- working with people all day is really a strain for me ($p = 0.0001$);
- I feel that I'm at the end of my endurance ($p = 0.0001$).

These findings align with the overall EE index, which is derived from the aforementioned variables.

The individual items from the Mini-COPE questionnaire were analyzed in relation to the group outcomes from the MBI. A statistically significant difference in personal involvement was observed among participants who actively engaged in problem-solving behaviors to improve their situation (question 1, $p = 0.0015$). Similarly, a significant association was found for individuals who sought and received advice and assistance from others (question 8, $p = 0.0005$). Participants who engaged in interpersonal relationships demonstrated more effective coping with stress compared to those with moderate or low levels of social support. Additionally, individuals with higher personal commitment showed superior coping abilities in stressful situations compared to those who exhibited lower levels of proactive behavior.

Burnout risk phases

The risk of occupational burnout can be categorized into 3 distinct phases:

- phase I: in this phase, 23.3% of respondents (104 individuals) were identified as being at risk of occupational burnout. No significant effects of age, length of service, or monthly working hours on the risk of burnout were observed. However, the number of children was found to be a significant factor ($p = 0.0371$), with individuals at risk having fewer children compared to those not at risk. The majority of the at-risk group (80.8%) comprised nurses working in the treatment ward (84 individuals), indicating the demanding nature of their work as a contributing factor. Of those at risk, 57.7% were in a formal relationship, 23.1% in an informal relationship, 11.6% were divorced, and 7.8% were single. Nurses working in a single-shift system constituted the largest proportion of at-risk individuals (53.9%), followed by those in a 2-shift 12-hour system (34.6%). Educational background also impacted the risk of burnout, with 61.5% of at-risk nurses holding a bachelor's degree and 34.62% holding a master's degree. Additionally, financial

status significantly influenced burnout risk, as 65.4% of respondents reported a good financial condition, 26.9% considered their financial situation sufficient, and only 1 individual assessed it as "very good";

- phase II: in this phase, 7.48% of nurses (32 individuals) were identified as at risk of burnout. As in phase I, no significant influence of age, work experience, number of children, or hours worked per month on burnout risk was detected. Most at-risk individuals (75%) were nurses working in the surgical ward (24 individuals), underscoring the significant impact of job demands in this phase. Within this group, 62.5% were in a formal relationship, 25% in an informal relationship, and 12.5% were divorced. Nurses working in a single-shift system constituted the majority (62.5%), followed by those in a 2-shift 12-hour system (25%) and a daily shift system (12.5%). In terms of education, 75% of those at risk held a bachelor's degree, while 25% had a master's degree. Financially, 75% of nurses reported a good financial condition, while 25% assessed their financial situation as sufficient or poor;
- phase III: in this final phase, 3.74% of nurses (48 individuals) were identified as experiencing professional burnout. Similar to earlier phases, age, work experience, number of children, and monthly working hours showed no significant association with burnout. Of those at risk, 75% worked in treatment profiles and 25% in conservative profiles. All respondents in this phase were in a formal relationship. Educationally, 50% held a master's degree and 50% held a bachelor's degree. In terms of work shifts, 6 individuals worked in a 12-hour 2-shift system, 3 in a single-shift system, and 3 in a 24-hour system. Notably, all nurses in this phase reported their financial situation as "good".

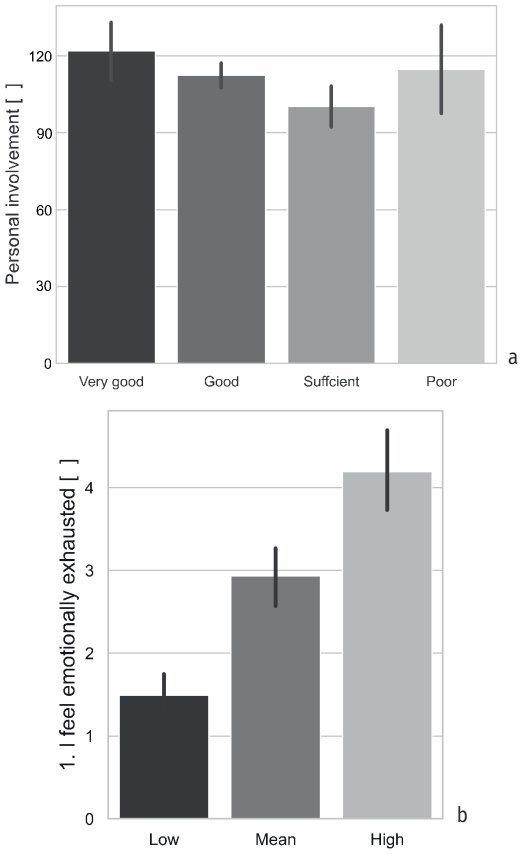

FIGURE 7. (a) Personal commitment vs. financial situation. (b) Question 1. I feel emotionally drained from my work vs. emotional exhaustion level

These findings suggest that while demographic factors such as age and work experience may not significantly influence burnout, job demands, relationship status, education level, and financial situation can play critical roles in the progression of occupational burnout across different phases (Tab. 7).

TABLE 6. Descriptive characteristics of the Maslach Burnout Inventory study group

The emotional exhaustion			Depersonalization			Personal accomplishment		
all	**values**	**descriptive statistics**	**all**	**values**	**descriptive statistics**	**all**	**values**	**descriptive statistics**
				mean ± SD, 95% CI, median, min.–max.				
20.3 ±10.8 (18.2; 22.3) 19 2–49	low 47.66% (n = 204)	11.6 ±4.0 (10.4; 12.7) 12 2–18	5.4 ±4.2 (4.6; 6.2) 5 0–25	low 58.90% (n = 252)	2.6 ±1.7 (2.2; 3.1) 3 0–5	36.8 ±7.1 (35.4; 38.1) 37 16–48	low 31.80% (n = 136)	28.6 ±4.5 (27.0; 30.1) 30 16–33
	mean 28.04% (n = 120)	21.9 ±2.4 (20.8; 22.6) 21 19–26		mean 28.00% (n = 120)	7.7 ±1.2 (7.2; 8.1) 8 6–9		mean 29.90% (n = 128)	36.5 ±1.7 (35.9; 37.1) 36 34–39
	high 24.30% (n = 104)	35.7 ±7.0 (32.8; 38.5) 35 27–49		high 13.10% (n = 56)	13.1 ±4.1 (10.7; 15.5) 12 10–25		high 38.30% (n = 164)	43.8 ±2.7 (42.9; 44.6) 44 40–48
	p-value	**0.0000***		p-value	**0.0000***		p-value	**0.0000***

* Kruskal–Wallis tes
SD – standard deviation; CI – confidence interval

TABLE 7. Burnout phases – characteristics of the study group

Phases	Answers	Age (years)	Number of children	Number of working hours (h)
I phase: initial (EE – high)	danger 23.3% (n = 104)	42.1 ±11.5 (37.4; 46.7) 48 24–57	1.0 ±0.9 (0.6; 1.3) 1 0–2	166.5 ±64.5 (140.4; 192.5) 162 37–364
	no danger 75.7% (n = 324)	42.7 ±10.5 (40.4; 45.0) 46 23–64	1.5 ±1.0 (1.2; 1.7) 2 0–3	176.2 ±49.8 (165.2; 187.2) 165 40–400
	p-value	0.9537*	**0.0371***	0.6239*
II phase: risk of burnout (EE and DP – high)	danger 7.5% (n = 32)	42.4 ±10.4 (33.7; 51.0) 48 24–52	1.1 ±0.8 (0.4; 1.8) 1 0–2	168.0 ±88.6 (94.0; 242.0) 160 48–364
	no danger 92.5% (n = 396)	42.6 ±10.8 (40.4; 45.0) 46 23–64	1.4 ±1.0 (1.2; 1.6) 2 0–3	174.3 ±50.4 (164.3; 184.4) 165 37–400
	p-value	0.7807*	0.5302*	0.2316*
III phase: burnout (EE and DP – high, PA – low)	burning 3.7% (n = 16)	46.0 ±7.1 (34.7; 44.5) 48 36–52	1.5 ±0.6 (0.6; 2.4) 2 1–2	184.0 ±131.5 (0.0; 393.24) 162 48–364
	no burning 96.3% (n = 412)	42.4 ±10.8 (40.3; 44.5) 46 23–64	1.3 ±1.0 (1.1; 1.5) 2 0–3	173.5 ±49.7 (163.8; 183.2) 164 37–400
	p-value	0.6339*	0.8118*	0.8502*

* Mann–Whitney U test
EE – emotional exhaustion; DP – depersonalization; PA – personal accomplishment

DISCUSSION

Healthcare workers, particularly nurses, face a significantly elevated risk of burnout, similar to other high-stress professions such as teaching and law [24, 25]. Previous studies highlight that nurses are vulnerable due to frequent exposure to both mental and physical suffering [26]. Our findings align with research showing that burnout rates among nurses are influenced by workplace conditions and individual coping mechanisms [27].

A key demographic finding was the average respondent age of 43 years, with a median of 46 years [28]. This supports concerns about generational replacement in nursing, as seen in other studies [29]. The low percentage of nurses aged 21–30 indicates a workforce shortage, forcing newly hired nurses into significant responsibilities early, and limiting mentorship opportunities.

Our study included fewer nurses in the surgical field than in conservative medical areas, reflecting study design rather than workforce trends. Other research suggests surgical nursing is associated with higher stress and burnout risks [30]. Nurses in treatment roles worked more hours per month, consistent with studies linking extended shifts to exhaustion and job dissatisfaction [31]. Financial stability correlated with years of service, with older nurses working longer hours and reporting better financial conditions. Previous studies show financial stress contributes to burnout risk [32].

During COVID-19, over half of respondents reported increased fatigue, aligning with studies on pandemic-related exhaustion among healthcare workers [33]. Younger nurses appeared less concerned about COVID-19's impact, contrasting research indicating greater stress levels among less experienced staff.

Active stress-management techniques were the predominant coping strategy, while support-seeking was more common among conservative-care nurses. Research highlights workplace culture's role in shaping coping mechanisms [34]. Contrary to expectations, job nature did not significantly impact burnout, reinforcing studies emphasizing workload and institutional support over specific job roles.

Our findings indicate that 24.3% of respondents were at risk of burnout, with most phase I cases in surgical wards. Phases II and III affected only 11% of the sample. This aligns with studies estimating burnout prevalence across different nursing specializations.

Key study limitations include limited generalizability due to national context and potential respondent bias in online surveys. Future research should assess the long-term impacts of salary increases on burnout and job satisfaction.

CONCLUSIONS

This study examined the key determinants of occupational burnout and stress among nurses, as well as the coping strategies they employ. The findings indicate that:

- factors such as age, work experience, education level, and financial situation significantly influence perceptions of occupational burnout among nurses;
- the most prevalent symptoms of burnout among the surveyed nurses were EE and DP, with higher levels observed among those working in high-intensity hospital environments;
- nurses employ various coping strategies to manage work-related stress, with problem-focused coping being the most frequently used. However, reliance on emotion-focused and avoidant coping strategies was also noted, particularly among those experiencing severe burnout symptoms.

These findings highlight the urgent need for systemic interventions to reduce stress and burnout among nurses.

IMPLICATION FOR PRACTICE

To address these challenges, several key measures should be implemented:

- stress management and burnout prevention programs: providing nurses with accessible training on coping strategies, resilience-building, and mental health support;
- improvements in nursing education: expanding nursing school capacity, increasing educational opportunities, and promoting the profession among young people to address workforce shortages;
- reforming remuneration policies: establishing fair compensation structures that reflect nurses' qualifications and experience, rather than adhering to the legal minimum wage.

Implementing these measures can help create a more resilient and sustainable nursing workforce, ensuring high-quality patient care while safeguarding nurses' well-being.

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SUPPLEMENTARY FILE 01. COVID-19 QUESTIONS

TABLE 1. Characteristics of examined groups (mean ±SD, 95%CI, median, min.-max.)

Variables		Age (years)	Seniority (years)	Number of children	Number of working hours (h)
Are you afraid of being infected by COVID-19?	continually 16.82% (n = 72)	48.6 ±7.6 (44.9; 52.4) 51 29–62	24.4 ±8.1 (20.4; 28.4) 27 5–34	1.6 ±1.0 (1.2; 2.0) 1 0–3	173.2 ±42.9 (151.9; 194.6) 174 40–240
	often 42.10% (n = 180)	43.8 ±10.2 (40.7; 46.8) 49 24–64	19.4 ±11.2 (16.1; 22.8) 21 1–44	1.5 ±1.1 (1.2; 1.8) 2 0–3	179.3 ±58.4 (161.8; 196.8) 160 50–400
	rarely 29.90% (n = 128)	40.8 ±11.2 (27.7; 39.0) 42 23–59	17.3 ±12.2 (12.9; 21.7) 16 1–39	1.2 ±1.0 (0.9; 1.6) 2 0–3	172.9 ±53.8 (153.6; 192.3) 160 40–364
	no fear 11.20% (n = 48)	33.3 ±8.9 (27.7; 39.0) 32 23–52	7.4 ±8.0 (2.3; 12.5) 5 1–25	0.7 ±0.9 (0.1; 1.2) 0 0–2	156.9 ±50.9 (124.6; 189.3) 160 37–240
	p-value	**0.0034***	**0.0007***	0.0537*	0.5442*
What level of fatigue do you feel during the period of rising infection?	very high 21.50% (n = 92)	44.1 ±10.5 (39.6; 48.7) 49 25–62	18.9 ±11.5 (14.0; 23.9) 24 2–34	1.2 ±0.9 (0.9; 1.6) 1 0–2	187.6 ±62.5 (160.5; 214.6) 180 37–400
	higher than usual 53.30% (n = 228)	43.5 ±10.3 (40.8; 46.2) 46 23–64	19.7 ±10.9 (16.8; 22.6) 21 1–44	1.5 ±1.0 (1.3; 1.8) 2 0–3	168.7 ±51.3 (155.0; 182.3) 160 40–364
	comparable to the usually 25.20% (n = 108)	39.1 ±11.5 (34.6; 43.6) 36 23–59	14.7 ±12.5 (9.7; 19.6) 10 1–39	1.0 ±1.1 (0.6; 1.5) 1 0–3	173.2 ±50.1 (153.4; 193.0) 160 40–320
	p-value	0.2804*	0.1487*	0.0992*	0.1344*
What is the level of stress during the COVID-19 pandemic?	very high 24.30% (n = 104)	45.6 ±9.5 (41.8; 49.5) 50 25–62	21.0 ±11.0 (16.5; 25.4) 27 2–34	1.4 ±0.8 (1.1; 1.5) 2 0–2	184.2 ±73.8 (154.3; 214.0) 180 37–400
	higher than usual 54.20% (n = 232)	42.2 ±10.6 (39.4; 45.0) 45 23–64	18.0 ±11.1 (15.1; 20.9) 17 1–44	1.5 ±1.1 (1.2; 1.8) 1 0–3	170.2 ±48.3 (157.5; 182.9) 160 40–300
	comparable to the usually 21.50% (n = 92)	39.8 ±11.7 (34.8; 44.9) 39 23–59	15.9 ±13.1 (10.2; 21.5) 13 1–39	1.0 ±1.0 (0.5; 1.4) 1 0–3	171.5 ±37.8 (155.2; 187.8) 164 100–320
	p-value	0.2709*	0.2246*	0.1318*	0.4093*

* Kruskal–Wallis's test
SD – standard deviation; CI – confidence interval; COVID-19 – coronavirus disease 2019

SUPPLEMENTARY FILE 02. COPING ORIENTATION TO PROBLEMS EXPERIENCED QUESTIONNAIRE (MINI-COPE)

TABLE 1. When I am in a very difficult situation, it is usually...

Question	0 – I hardly ever do this	1 – I rarely do this	2 – I do this often	3 – I almost always do this	Mean ±SD
1. I do work or other activities so as not to think about it	10.3% (n = 44)	21.5% (n = 92)	**49.5% (n = 212)**	18.7% (n = 80)	1.8 ±0.9
2. My efforts are focused on doing something about the situation	2.8% (n = 12)	6.5% (n = 28)	**52.3% (n = 224)**	38.3% (n = 164)	2.3 ±0.7
3. I say to myself: "That's not true"	38.3% (n = 164)	**44.9% (n = 192)**	14.0% (n = 60)	2.8% (n = 12)	0.8 ±0.8
4. I drink alcohol or take other measures to make me feel better	**72.9% (n = 312)**	19.6% (n = 84)	6.5% (n = 28)	0.9% (n = 4)	0.4 ±0.7
5. I get emotional support from others	3.7% (n = 16)	20.6% (n = 88)	**48.6% (n = 208)**	27.1% (n = 116)	2.0 ±0.8
6. I give up trying to achieve the goal	36.5% (n = 144)	**37.4% (n = 160)**	21.5% (n = 92)	4.7% (n = 20)	0.9 ±0.9
7. I am taking action to improve the situation	1.9% (n = 8)	9.4% (n = 40)	43.9% (n = 188)	**44.9% (n = 192)**	2.3 ±0.7
8. I don't want to believe this really happened	30.8% (n = 132)	**43.0% (n = 184)**	19.6% (n = 84)	6.5% (n = 28)	1.0 ±0.9
9. I'm talking about things that help me get away from unpleasant feelings	9.4% (n = 40)	26.2% (n = 112)	**49.5% (n = 212)**	15.0% (n = 64)	1.7 ±0.8
10. I am looking for advice and help from others on what to do	4.7% (n = 20)	17.8% (n = 76)	**51.4% (n = 220)**	26.2% (n = 112)	2.0 ±0.8
11. I drink alcohol or take other measures to help me get through this	**72.7% (n = 312)**	21.5% (n = 92)	4.7% (n = 20)	0.9% (n = 4)	0.3 ±0.6
12. I am trying to see it in a different, more positive light	4.7% (n = 20)	22.4% (n = 96)	**59.8% (n = 256)**	13.1% (n = 56)	1.8 ±0.7
13. I criticize myself	8.4% (n = 36)	**45.8% (n = 196)**	34.6% (n = 148)	11.2% (n = 48)	1.5 ±0.8
14. I am trying to develop a strategy or plan defining what to do	0.0% (n = 0)	11.2% (n = 48)	**62.6% (n = 268)**	26.2% (n = 112)	2.2 ±0.6
15. I receive encouragement and understanding from others	4.7% (n = 20)	17.8% (n = 76)	**50.5% (n = 216)**	27.1% (n = 116)	2.0 ±0.8
16. I give up on dealing with it	**42.1% (n = 180)**	**42.1% (n = 180)**	11.2% (n = 48)	4.7% (n = 20)	0.8 ±0.8
17. I am looking for good points in what happened	8.4% (n = 36)	18.7% (n = 80)	**56.1% (n = 240)**	16.8% (n = 72)	1.8 ±0.8
18. I'm just kidding about this	24.3% (n = 104)	**37.4% (n = 160)**	29.9% (n = 128)	8.4% (n = 36)	1.2 ±0.9
19. I do something to think less about it, e.g., go to the cinema, watch TV, read, I am daydreaming, sleeping or shopping	11.2% (n = 48)	21.5% (n = 92)	**54.2% (n = 232)**	13.1% (n = 56)	1.7 ±0.8
20. I accept that this has already happened	2.8% (n = 12)	27.1% (n = 116)	**52.3% (n = 224)**	17.8% (n = 76)	1.9 ±0.7
21. I reveal my negative emotions	12.2% (n = 52)	**47.7% (n = 204)**	31.8% (n = 136)	8.4% (n = 36)	1.4 ±0.8
22. I am trying to find solace in religion or in my faith	**32.7% (n = 140)**	26.2% (n = 112)	20.6% (n = 88)	20.6% (n = 88)	1.3 ±1.1
23. I get help or advice from other people	7.5% (n = 32)	16.8% (n = 72)	**48.6% (n = 208)**	27.1% (n = 116)	2.0 ±0.9
24. I'm learning to live with it	6.5% (n = 28)	15.9% (n = 68)	**59.8% (n = 256)**	17.8% (n = 76)	1.9 ±0.8
25. I am seriously wondering what steps should be taken	1.9% (n = 8)	7.5% (n = 32)	**59.8% (n = 256)**	30.8% (n = 132)	2.2 ±0.7
26. I blame myself for what happened	9.4% (n = 40)	**44.9% (n = 192)**	40.2% (n = 176)	5.6% (n = 24)	1.4 ±0.7
27. I pray or meditate	**33.6% (n = 144)**	27.1% (n = 116)	21.5% (n = 92)	17.8% (n = 76)	1.2 ±1.1
28. I treat this situation as playing	**57.9% (n = 248)**	40.2% (n = 172)	0.9% (n = 4)	0.9% (n = 4)	0.5 ±0.6

SD – standard deviation

SUPPLEMENTARY FILE 03. EMOTIONAL EXHAUSTION, DEPERSONALIZATION AND PERSONAL INVOLVEMENT

TABLE 1. Emotional exhaustion – frequency of answers to questions according to the key of the MBI questionnaire. List of feelings expressing the frequency with which a given phenomenon occurs in the given question (%)

Question number describing the phenomenon according to the key	0	1	2	3	4	5	6
1. I feel emotionally drained from my work	3.74%	30.84%	9.35%	**37.38%**	2.80%	13.08%	2.80%
2. I feel used up at the end of workday	2.80%	16.82%	7.48%	**40.19%**	7.48%	16.82%	8.41%
3. I feel fatigued when I get up in the morning and have to face another day on the job	9.35%	29.91%	9.35%	**31.78%**	3.74%	10.28%	5.61%
6. Working with people all day is really a strain for me	13.08%	**42.99%**	10.28%	19.62%	4.67%	6.54%	2.80%
8. I feel burned out from my work	23.36%	**39.25%**	15.89%	13.08%	0.93%	6.54%	0.93%
13. I feel frustrated by my job	28.04%	**44.86%**	1.87%	14.02%	2.80%	5.61%	2.80%
14. I feel I'm working too hard on my job	2.80%	**37.38%**	8.41%	27.10%	5.60%	11.20%	7.48%
16. Working with people directly puts too much stress on me	4.67%	**28.04%**	5.61%	21.50%	2.80%	18.69%	18.69%
20. I feel that I'm at the end of the endurance	27.10%	**43.93%**	7.48%	10.28%	4.67%	6.54%	0.00%
All	12.77%	**34.89%**	8.41%	23.88%	3.95%	10.59%	5.50%

MBI – Maslach Burnout Inventory

TABLE 2. Depersonalization – frequency of answers to questions according to the MBI questionnaire key. List of feelings expressing the frequency with which a given phenomenon occurs in the given question (%)

Question number describing the phenomenon according to the key	0	1	2	3	4	5	6
5. I feel I treat some patients as if they were impersonal objects	**68.22%**	21.50%	1.87%	3.74%	1.87%	1.87%	0.93%
10. I've become more callous toward people since I took this job	**51.40%**	37.38%	2.80%	5.61%	1.87%	0.93%	0.00%
11. I worry that this job is hardening me emotionally	41.12%	**46.73%**	3.74%	5.61%	0.00%	0.93%	1.87%
15. I don't really care what happens to some patients	**71.96%**	21.50%	0.00%	1.87%	0.00%	0.93%	3.74%
22. I feel patients blame me for some of their problems	14.95%	**24.30%**	9.35%	18.69%	2.80%	21.50%	8.41%
All	**49.53%**	30.28%	3.55%	7.10%	1.31%	4.67%	2.99%

MBI – Maslach Burnout Inventory

TABLE 3. Personal involvement – frequency of answers to questions according to the MBI questionnaire key

Question number describing the phenomenon according to the key	0	1	2	3	4	5	6
4. I can easily understand how my patients feel about things	0.93%	0.00%	0.00%	5.61%	6.54%	38.32%	**48.60%**
7. I deal very effectively with the problem of my patients	0.00%	0.94%	0.94%	12.15%	2.80%	**42.06%**	**41.12%**
9. I feel I'm positively influencing other people's lives through my work	0.00%	2.80%	2.80%	13.08%	10.28%	31.78%	**39.25%**
12. I feel very energetic	0.00%	10.28%	7.48%	28.04%	9.35%	**33.64%**	11.21%
17. I can easily create a relaxed atmosphere with my patients	1.87%	3.74%	3.74%	14.95%	7.48%	**38.32%**	29.91%
18. I feel exhilarated after working closely with my patients	0.00%	5.61%	5.61%	18.69%	6.54%	**35.51%**	28.04%
19. I have accomplished many worthwhile things in this job	0.93%	4.67%	6.54%	15.89%	5.61%	**37.38%**	28.97%
21. In my work I deal with emotional problems very calmly	0.93%	8.41%	6.54%	14.95%	3.74%	**45.79%**	19.63%
All	0.58%	4.56%	4.21%	15.42%	6.54%	**37.85%**	30.84%

MBI – Maslach Burnout Inventory