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RESEARCH ARTICLE

Impact of Coping Skills and Mental Health in Burnout among Healthcare Professionals during Pandemic COVID-19

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Abstract:

Introduction:

Healthcare professionals face numerous challenges, such as increased risk of exposure to the SARS Cov-2 and infected patients, heavy workloads, and ethical dilemmas in their daily practice, compounded by a constantly evolving clinical environment. Moreover, the COVID-19 pandemic has exacerbated burnout rates among healthcare professionals due to prolonged working hours and other stressors such as environmental, physiological, and psychological.

Methods:

This study was designed as a cross-sectional and correlational investigation and included 691 healthcare providers, including physicians and nurses working in public healthcare institutions in Kosovo. The questionnaire comprised four sections: Socio-demographic, General Health Questionnaire-28 (GHQ-28), COPE Questionnaire, and Maslach Burnout Inventory (MBI).

Results:

The results indicated that healthcare professionals experienced emotional fatigue and depersonalization at average to high levels of 38.7%, respectively 87.0%, specifically, during the pandemic. While 88.0% of healthcare professionals reported experiencing personal success. Furthermore, 50.2% of healthcare professionals had Clinical Somatic Symptoms, 44.4% had Clinical Symptoms of Anxiety and Insomnia, 28.8% had Clinical Social Dysfunction, 34.5% had Clinical Symptoms of Depression, and 43.3% displayed Clinical Symptoms/Distress of GHQ-28 scores. The burnout scales, Emotional fatigue, and Depersonalization were positively and significantly correlated with all General Health Questionnaire scales.

Conclusion:

The study's findings highlight the critical importance of developing and implementing psychological interventions for healthcare professionals who are struggling with mental health issues and experiencing high levels of burnout. These interventions could be conducted individually or in groups and should be prioritized to support healthcare professionals' recovery. As the pandemic continues to impact healthcare professionals, it is crucial to enhance coping strategies within the workplace to maintain their well-being and potentially mitigate burnout rates for future pandemics. Thus, there is an urgent need to address the mental health challenges faced by healthcare professionals, and proactive measures should be taken to provide them with the necessary support and resources to cope effectively during these trying times.

1. INTRODUCTION

The COVID-19 virus was first identified in Wuhan, China, and has rapidly spread across several countries, including Kosovo, significantly impacting individuals, particularly healthcare professionals, who are directly at risk of contracting the virus of COVID-19 [1 - 3]. Frontline healthcare profession-als face a heavier workload, moral dilemmas during care, and a constantly changing clinical practice environment in addition to the risk of exposure [1]. These factors can cause significant psychological pressure, leading to feelings of loneliness, helplessness, stress, irritability, physical and mental fatigue, and despair [4]. The COVID-19 pandemic has severely impacted the emotional and mental health of healthcare professionals [5, 6].

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Burnout syndrome, defined as a chronic response to workplace stress, is a growing global concern. It is characterized by feelings of energy loss or fatigue, increased mental distance from one's job, negative feelings or pessimism about the job, and reduced professional effectiveness [3]. Burnout not only affects work but also has a profound impact on individuals' quality of life [7]. It typically occurs about one year after starting work at an institution. Healthcare professionals who are in daily contact with seriously ill patients are at high risk of burnout [6]. Those experiencing burnout may develop symptoms such as loss of motivation, appetite, detachment, and a sense of failure [8, 9]. A study has shown that burnout during the COVID-19 pandemic is more frequent among workers who work overtime and report sleeping problems [2].

Coping mechanisms are essential in managing stress, and burnout is closely linked to coping styles [10]. Coping refers to a set of cognitive and behavioral activities used to manage internal or external pressures that exceed one's resources [11]. Positive coping can improve communication, and problem-solving skills and prevent the exacerbation of mental health issues [12].

To reduce burnout, it is crucial to understand its determinants and individual coping mechanisms. Understanding the factors that influence burnout and identifying supportive resources can facilitate its early recognition, prevention, and treatment. This study aims to assess the prevalence and development of burnout among healthcare professionals and related factors concerning mental health.

2. METHODS

2.1. Design and Setting

The study utilized a cross-sectional and correlational research design to investigate the relationship between coping skills and burnout among healthcare professionals.

2.2. Participants

For this study, the sample consisted of physicians and nurses, and other healthcare providers working in public health institutions in of Kosovo. The inclusion criteria were being a healthcare professional and working in a health institution where COVID-19 patients were treated. All participants were successfully contacted through the heads of health institutions, after approval then the administrators of the questionnaires administered them to the healthcare professionals who were included in the study. The healthcare professionals voluntarily took part in the study during the process of gathering data in the health institutions.

2.3. Instruments

2.3.1. Socio-demographic Questionnaire

A self-developed questionnaire was designed by authors to gather sociodemographic data some of the data gathered are: if they have been infected with COVID-19, the severity of the symptoms that were experienced while passing COVID-19 infection While they were infected with COVID-19, hours of working and assisting patients with COVID-19 and any participation in psychosocial support programs.

2.3.2. General Health Questionnaire – 28

GHQ-28 was used for measuring general health, respondents were asked to indicate how their health in general has been over the past few weeks. The questionnaire consists of four sub-scales that measure public health (Somatic Symptoms, Anxiety and Insomnia, Social Dysfunction, and Depression), and each scale consists of 7 questions. GHQ scoring methods are based on the Likert scale (0 - 1 - 2 - 3), and a low score indicates a better mental state. This questionnaire has a Cronbach's Alpha of 0.95 [13] and for Albanian version α = .89. Goldberg has pointed out that participants with total scores of 23 or below should be classified with clinical symptoms, while participants with scores > 24 may be classified with clinical symptoms.

2.3.3. Coping Skills

The coping Skills questionnaire assesses cognitive, emotional, and behavioral methods of dealing with problems. Some items, focusing on cognitive and emotional approaches, were adapted from Holahan and Moos's [14] widely used Coping Strategies Scale (items 2, 3, and 4 below), while other cognitive and emotional items were original (1, 5, 6, and 8). The total score can be a sum or mean of all the items. Higher scores indicate higher levels of coping mechanisms.

The Alpha Cronbach for the Albanian version of the Coping Skills questionnaire used in this research was 844, which shows high reliability.

2.3.4. Maslach Burnout Inventory (MBI)

The MBI has 3 dimensions: emotional fatigue, depersonalization, and personal success. Each scale is compiled from 7 to 8 questions. This inventory consists of 22 questions in total which are graded on a 7-point Likert scale. The result for each dimension is calculated by adding the sum of the points that are in that dimension: 1) Low emotional fatigue 0-16 points, average 17-26 points, and high 27+ points; 2) Low depersonalization 0-6 points, average 7-12 points, and high 13+ points; 3) Low personal success 0-31 points 39+ points, average 32-38 points and high. The instrument's reliability was rated with Cronbach's alpha, the value for the English version was .83 for emotional exhaustion, .65 for depersonalization, and .72 for personal success. The Alpha Cronbach for the Albanian version of the MBI used in this research was .93 for emotional exhaustion, 72 for depersonalization, and .92 for personal success.

2.4. Procedures

Following the submission of the research proposal, the study protocol underwent review and was approved in advance by the ethical committee at Heimerer College. Data collection was conducted in January 2021, and data analyses were performed using SPSS version 26. Information was gathered through self-administered questionnaires, which included socio-demographic attributes. Prior to enrollment, an informed

consent form was provided to all participants, and participation in the study was voluntary.

2.5. Data Analysis

This sectionpresents the statistical analysis conducted; initially let's begin by introducing the underlying concept, while the study design appears to be cross-sectional and correlational, we decided to introduce data that show a state of burnout and the linkage between burnout coping skills and mental health. Despite being a cross-sectional study, the research examined possible predictors of burnout, and the results could serve as a preliminary basis for conducting more thorough investigations in the future.

We were focused on assessing the level of burnout and mental health problems together with coping skills. We did a quantitative statistical analysis to test the interaction between the variables and the mean difference between variables. Normality tests were used to test if data were normally distributed. To understand the interaction between the variables and prediction of burnout, we performed Mann–Whitney U test for testing differences between physicians and nurses, Chi-square, Pearson Correlation, and Linear Regression.

2.6. Declarations

Our study respected all ethical standards based on Helsinki

Declaration, furthermore, our team obtained authorization from the ethics committee at Heimerer College.

Due to the fact that the respondents were adults, obtaining a signed informed consent was not necessary, despite that we provided the consent form and the participants willingly took part in the study.

3. RESULTS

The sample consists of 691 healthcare professionals, with an average age of 41.6 years (SD = 10.79) where nurses (n = 550), and physicians (n = 138). The mean age of work experience was 16 years (SD = 11.31), the education level 42.4% was in high school, 31% were in B.Sc., 12.7% with MSc, and 12.4% with PhD.

Based on the results shown in Table **2**, which measures burnout, it appears that the emotional fatigue of healthcare professionals is at an average of 29% and a high level of 19.7%. During the COVID-19 pandemic, the depersonalization of healthcare professionals is at an average of 55.2% and a high level of 31.8%, and healthcare professionals feel that they experience personal success at a high level of 78.4%. The results are consistent when we analyze them for specific professions like Nursing and Physicians.

The data were gathered through an MBI questionnaire.

Table 1. Sociodemographic data.

-	N	%	M	Min.	Max.
Gender	-	-	-	-	-
Male	283	41	-	-	-
Female	407	60	-	-	-
Age	-	-	41.6	18	70
Place of living	-	-	-	-	-
Urban	518	75	-	-	-
Rural	161	25	-	-	-
Profession	-	-	-	-	-
Physician	138	20	-	-	-
Nurse	550	80	-	-	-
Education	-	-	-	-	-
Higher school	280	40.5	-	-	-
Bachelor	214	31	-	-	-
Master	84	12.2	-	-	-
PhD	82	11.9	-	-	-
Missing	31	4.5	-	-	-
Work Experience	-	-	16.05	1	45
Contact with Covid 19 patients	467	68	-	-	-
Yes	221	32	-	-	-
No	-	-	-	-	-
Infected with COVID 19	-	-	-	-	-
Yes	397	57.5	-	-	-
No	268	38.8	-	-	-
Missing	26	3.7	-	-	-

Table 2. Level of burnout of health professional.

-		Physician (N) %	Nurse (N) %
Emotional Fatigue			
Low	(408) 61.3	(87) 65.4	(319) 60.2
Average	(127) 19.0	(26) 19.5	(100) 18.9
High	(131) 19.7	(20) 15.1	(111) 20.9
Depersonalization			
Low	(88) 13	(20) 14.6	(68) 12.6
Average	(375) 55.2	(93) 67.9	(281) 52.1
High	(216) 31.8	(24) 17.5	(190) 35.3
Personal Success			
Low	(81) 12.2	(23) 17.1	(57) 10.8
Average	(62) 9.4	(11) 8.1	(51) 9.7
High	(520) 78.4	(101) 74.8	(418) 79.5

The data presented in Table **3** of this study indicate that a considerable proportion of healthcare professionals experienced high levels of clinical symptoms or distress, as measured by the General Health Questionnaire (GHQ) scales. Specifically, 50.2% of participants reported clinical somatic symptoms, 44.4% reported clinical symptoms of anxiety and insomnia, 38.8% reported clinical social dysfunction, 34.5% reported clinical symptoms of depression, and 43.3% scored high on the GHQ-28 scale. These findings highlight the significant mental health burden experienced by healthcare professionals during the COVID-19 pandemic.

The Shapiro–Wilk normality presented in Table **4** test results indicate that scores from the scales of three questionnaires did not follow a normal distribution. Therefore, a nonparametric analysis was performed.

Table **5** shows the Mann–Whitney U test for testing differences between physicians and nurses. Both groups differed significantly on depersonalization, somatic symptoms, anxiety, and coping skills. Nurses scored significantly higher on depersonalization, somatic symptoms, anxiety, and general mental health, while physicians scored significantly higher on coping skills. Regarding the effect sizes, the rule-breaking behavior problems scale showed the highest effect size ($n2 =.072$), followed by the externalizing problems ($n2 =.026$) and anxious-depressed ($n2 =.025$) scales.

Table **6** shows the differences between physicians and nurses, which also revealed significant differences in Depersonalization. We found that 190 nurses scored high in Depersonalization compared to only 24 physicians who scored high. Additionally, the female sample scored significantly higher in Depersonalization.

Differences between physicians and nurses are also shown for mental health problems, with nurses being more affected in all scales of the GHQ. Detailed results can be found in Table **7**.

Table **8** provides information on the correlation coefficients between general mental health problems, burnout, and coping skills. The burnout scales, Emotional Fatigue, and Depersonalization have positive and significant correlations with all scales of the general health questionnaires, including Somatic Symptoms, Anxiety, Social Dysfunction, Depression, and GHQ-28 scores. On the other hand, personal success is significantly negatively correlated with GHQ scales. Similar trends were also observed for coping skills, indicating that lower levels of coping skills are associated with higher levels of burnout and mental health problems. The coefficients of correlation provide insight into the relationships between variables and inform further analysis of the data.

Regression analysis was conducted to examine the impact of mental health coping skills and other experiences during COVID-19 on emotional fatigue. The model was found to explain 31% of the variance, indicating partial effectiveness since it is less than 0.5. However, it is still significant and adequate for determining outcomes. The results from the analysis revealed that emotional fatigue was significantly associated with high levels of anxiety and depression, low coping skills, lower education, and less experienced healthcare professionals. For further details, please refer to Table **9**.

Upon conducting regression analysis to investigate the impact of mental health coping skills and other experiences during the COVID-19 pandemic on depersonalization, our study revealed that the model accounted for 23% of the variance and had a partial effect, as it was below 0.5. Despite this, the model was deemed significant and adequate for determining the outcomes of interest. Specifically, the results in Table **10** indicate that high levels of somatic symptoms and anxiety, as well as less experienced healthcare professionals and those who had contracted COVID-19, were found to have a significant impact on depersonalization.

Results confirm the high level of mental health problems and a moderate level of burnout, where coping skills are impacting the way of reaction towards the overwhelming during the pandemic.

Table 3. General mental health of health professionals.

Somatic Symptoms	Total (N) %	Physicians (N) %	Nurses (N) %
Nonclinical symptoms	(270) 49.8	(71) 61.7	(199) 46.4
Clinical Symptoms	(274) 50.2	(44) 38.3	(230) 53.6
Anxiety			
Nonclinical symptoms	(372) 55.6	(96) 70.6	(276) 51.6
Clinical Symptoms	(299) 44.4	(40) 29.4	(259) 48.4
Social Dysfunction			
Nonclinical symptoms	(409) 61.2	(89) 66.4	(320) 59.8
Clinical Symptoms	(260) 38.8	(45) 33.6	(215) 40.2
Depression			
Nonclinical symptoms	(505) 65.5	(106) 77.4	(399) 73.6
Clinical Symptoms	(174) 34.5	(31) 22.6	(143) 26.4
GQH total			
Nonclinical symptoms	(298) 56.6	(81) 73.0	(217) 52.2
Clinical Symptoms	(229) 43.4	(30) 27.0	(199) 47.8

Note:*The data were gathered through GHQ 28 questionnaire.*

Table 4. Tests of normality.

Shapiro-wilk			
-	**Statistic**	**df**	**Sig.**
Emotional fatigue	.914	489	.001
Depersonalization	.843	489	.001
Personal success	.708	489	.001
Somatic symptoms	.956	489	.001
Anxiety	.922	489	.001
Social dysfunction	.910	489	.001
Depression	.589	489	.001
GHQ total	.949	489	.001
Relation to others	.970	489	.001
New possibilities	.971	489	.001
Personal strength	.963	489	.001
Spiritual change	.941	489	.001
Appreciation of life	.962	489	.001
Coping skills	.984	489	.001

Table 5. Differences between nurses and physicians in mental health, burnout, and coping skills.

-	Physician	Nurse	-	-	-	-
-	Mean Rank	Mean Rank	Mann -Whitney U	Z	Asymp. Sig. (2-tailed)	Cohen's d/η2
Emotional fatigue	312.14	336.98	32604.00	-1.341	.180	.003
Depersonalization	303.50	347.40	32126.50	-2.373	**.018**	.008
Personal success	335.60	329.82	34884.00	-.336	.737	.001
Somatic Symptoms	226.78	284.76	19410.00	-3.521	**.001**	.023
Anxiety	275.74	351.32	28184.50	-4.074	**.001**	.025
Social dysfunction	319.16	338.97	33722.00	-1.072	.284	.002
Depression	328.55	342.89	35558.00	-.890	.374	.001
GHQ total CAT	223.72	274.75	18617.00	-3.138	**.002**	.019
Coping skills	331.21	325.92	34020.50	-.288	.773	.001

Note: The effect size is calculated with the formula: $d/\eta2 = Z^2/N-1$.

*** $p < 0.00$; ** $p < .01$; * $p < 0.05$

Table 6. Chi square profession and gender mean differences in burnout.

-	-	Emotional Fatigue CAT				Depersonalization CAT				Personal Success CAT			
-		Low	Moderate	High	*p*	Low	Moderate	High	*p*	Low	Moderate	High	*p*
Profession	Physician	87	26	22	.305	20	93	24	**.001**	23	11	101	.136
	Nurse	319	100	111		68	281	190		57	51	418	
Gender	Male	164	52	63	.273	53	145	83	**.001**	43	26	206	.703
	Female	244	75	68		35	229	133		38	36	314	

Note: *** p < 0.00; ** p < .01; * p < 0.05

Table 7. Chi square profession and gender mean differences of mental health.

-	-	Somatic Symptoms			Anxiety			Social Dysfunction			Depression			GQH		
-	-	Nonclinical Symptoms	Clinical Symptoms	*p*	Nonclinical Symptoms	Clinical Symptoms	*p*	Nonclinical Symptoms	Clinical Symptoms	*p*	Nonclinical Symptoms	Clinical Symptoms	*p*	Nonclinical Symptoms	Clinical Symptoms	*p*
Profession	Physician	71	44	**.003**	96	40	**.001**	89	45	.161	106	31	.368	81	30	**.001**
	Nurse	199	230		276	259		320	215		399	143		217	199	
Gender	Male	123	77	**.001**	162	115	.204	142	114	.249	217	63	.106	122	71	**.021**
	Female	149	197		212	184		162	145		288	112		177	158	

Note: *** p < 0.00; ** p < .01; * p < 0.05

Table 8. Correlation between GHQ, burnout, and coping skills.

-		Somatic symptoms	Anxiety	Social dysfunction	Depression	GHQ Total
Emotional Fatigue	r	.366**	.441**	.168**	.349**	.441**
Depersonalization	r	.381**	.410**	.198**	.234**	.420**
Personal success	r	-.203**	-.238**	.026	-.389**	-.299**
Coping Skills	r	-.156**	-.148**	.047	-.210**	-.191**

Note: *** p < 0.00; ** p < .01; * p < 0.05

Table 9. Regression emotional fatigues.

-	B	t	p
(Constant)	5.392	1.132	.258
Somatic symptoms	.195	1.661	.097
Anxiety	.415	4.165	.000
Social dysfunction	-.016	-.186	.852
Depression	.599	4.088	**.001**
Coping skills	-.187	-3.654	**.001**
Gender	1.541	1.824	.069
Profession	1.341	1.157	.248
Education	1.570	2.806	**.005**
Do you have direct working contact with patients with COVID-19?	-.497	-.572	.567
How many years of work experience do you have in healthcare?	.117	3.009	**.003**
Have you been infected?	-.613	-.744	.457
During this period, did you work longer hours than usual?	.828	1.005	.315
Have you attended specific training for Covid 19?	1.379	1.452	.147

Note: *** p < 0.00; ** p < .01; * p < 0.05

Table 10. Regression, depersonalization with GHQ, and coping skills.

-	B	t	p
(Constant)	2.198	.554	.580
Somatic symptoms	.204	2.073	**.039**
Anxiety	.245	2.952	**.003**
Social dysfunction	.142	1.933	**.054**

(Table 10) contd.....

-	B	t	p
depression	.153	1.279	.202
Coping skills	.005	.118	.906
Gender	-.461	-.657	.511
Education	.817	1.774	.077
Do you have direct working contact with patients with COVID-19?	-1.534	-2.118	**.035**
How many years of work experience do you have in healthcare?	.097	3.000	**.003**
Have you been infected?	-1.343	-1.952	**.052**
During this period, did you work longer hours than usual?	-.635	-.928	.354
Have you attended specific training for Covid 19?	1.931	2.455	**.014**

Note: *** $p < 0.00$; ** $p < .01$; * $p < 0.05$

5. DISCUSSION

This study aimed to assess the level of burnout and the factors related to burnout, coping skills, and demographic variables concerning mental health.

The findings of this study are in line with previous research [15], The study also found a difference in burnout levels between nurses and physicians, with nurses reporting higher scores than physicians in depersonalization, one of the subscales of MBI. This difference can be attributed to the fact that nurses are usually the first point of contact with clients, and they regularly communicate with clients, often facing stressful situations that may lead to higher levels of burnout. Additionally, the study found a significant gender difference, with female participants scoring significantly higher in depersonalization and the dominant sample being female nurses. The results of a meta-analysis by Purvanova and Muros [16]on the relationship between gender and burnout show inconsistent results. However, our findings support a longitudinal study by Houkes *et al.* [17] which found a higher prevalence of depersonalization among male healthcare professionals. It is necessary to further investigate whether the process of burnout is also triggered by depersonalization for female healthcare professionals.

The study found several factors associated with burnout, particularly emotional fatigue, and depersonalization. These factors included lower levels of education, less working experience, and having been infected with COVID-19. These findings are consistent with similar studies conducted in similar contexts, which have also found that nurses with lower education and less working experience and those who have been infected with COVID-19 are more likely to experience burnout [18]. However, our findings contrast with predictors of burnout in the general population, where longer work experience and higher education were found to be associated with burnout. The possible explanation for these findings is that less experienced healthcare professionals may face higher uncertainty in sudden events such as disasters and pandemics, which can lead to a lack of coping skills. Additionally, those who have experienced COVID-19 infection may have increased their likelihood of burnout due to the impact of the illness on their mental and physical health.

The high level of clinical symptoms of anxiety, insomnia, social dysfunction, and depression found among healthcare professionals in this study (Table **2**) is a significant finding. These results are consistent with previous research conducted during the pandemic in similar and different contexts [19 - 21], which found that physicians and nurses experienced clinical symptoms of anxiety and depression, particularly in the early stages of the pandemic. The life-threatening nature of COVID-19, combined with the lack of vaccines during the initial stages of the pandemic, may have contributed to the high levels of clinical symptoms among healthcare professionals. It is important to acknowledge and address these symptoms in healthcare professionals to ensure that they receive appropriate support and care during these challenging times.

The present study also identified that lower levels of education and less working experience among healthcare professionals were associated with poorer coping skills, which in turn led to a higher risk of burnout (Table **7**). These findings are consistent with previous studies that have suggested that healthcare professionals with more experience and education tend to be better equipped to manage the challenges of their work and are less likely to experience burnout [22]. This may be because more experienced professionals have developed better coping strategies, are more comfortable with the demands of their job, and are better able to navigate difficult situations. Conversely, less experienced professionals may feel overwhelmed by the demands of their work, lack effective coping strategies, and be less able to manage the stressors associated with the pandemic.

Overall, the results of this study suggest that the mental health and well-being of healthcare professionals during the COVID-19 pandemic is a critical issue that requires attention. The high levels of burnout, anxiety, and depression observed among healthcare professionals in this study are concerning and have important implications for the quality of care provided to patients. Given the ongoing nature of the pandemic and the continued demands placed on healthcare professionals, it is important to develop and implement strategies to support their mental health and well-being. This may include interventions aimed at promoting coping skills, providing emotional support, and addressing the root causes of burnout among healthcare professionals.

CONCLUSION AND RECOMMENDATION

In conclusion, this study highlights the high prevalence of burnout and mental health problems among healthcare professionals during the COVID-19 pandemic. Factors such as lower education level, less working experience, and being infected with COVID-19 were found to be predictors of burnout. Additionally, high anxiety, depression, and low

coping skills were found to be associated with emotional fatigue and depersonalization. The study also revealed significant differences in mental health, burnout, and coping skills between nurses and physicians. Based on these findings, appropriate interventions are necessary to prevent or reduce burnout and improve the mental health of healthcare professionals. Future studies can build upon these findings while considering the limitations of this study.

LIMITATIONS OF THE STUDY

The primary limitation of this study is the absence of triangulation with other research methods, as it solely relies on quantitative data. Self-report measures were employed as the primary source of data collection, which may result in self-selection bias. Furthermore, the cross-sectional design of the study precludes the establishment of a causal relationship between variables. As a result, the findings should be interpreted with caution, and future research should incorporate multiple research methods to provide a more comprehensive understanding of the phenomenon under investigation.

RELEVANCE FOR CLINICAL PRACTICE

This study provides valuable insights into the prevalence and factors associated with burnout among healthcare professionals during the COVID-19 pandemic. The findings demonstrate that healthcare professionals with lower levels of education, less working experience, and those who have been infected with COVID-19 are at a higher risk of experiencing burnout. Furthermore, the study highlights the significant impact of mental health and coping skills on burnout, with high anxiety, depression, and low coping skills being associated with emotional fatigue and high somatic and anxiety symptoms being associated with depersonalization.

These findings have important implications for the development of effective interventions aimed at preventing and reducing burnout among healthcare professionals. Given the high levels of burnout observed, urgent action is needed to implement psychological interventions at the individual and group levels to help healthcare professionals recover from mental health struggles and reduce burnout. The implementation of effective management systems that foster healthcare professionals' coping strategies may prove highly beneficial in alleviating burnout effectively.

Despite the study's contributions, it is worth noting that the findings are limited by the exclusive use of self-report measures, which may introduce self-choice deviation. Furthermore, the cross-sectional design of the study does not allow for the establishment of a causal-effect relationship between burnout and associated factors. Future research should employ a mixed-methods approach and longitudinal design to provide a more comprehensive understanding of the complex nature of burnout among healthcare professionals.

ETHICS APPROVAL AND CONSENT TO PARTI-CIPATE

The study protocol underwent review and was approved in advance by the ethical committee at Heimerer College.

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or research committee and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from the participants.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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