

Journal Pre-proof

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DOI: <https://doi.org/10.22365/jpsych.2023.008>

To appear in: Psychiatriki Journal

Received date: 14 November 2022

Accepted date: 3 April 2023

Please cite this article as: Magda Gavana, Dimitra Iosifina Papageorgiou, Panagiotis Stachteas, Nikolaos Vlachopoulos, Ilias Pagkozidis, Paraskevi Angelopoulou, Anna Bettina Haidich, Emmanouil Smyrnakis, The psychological impact of COVID-19 pandemic on primary health care professionals in Greece, Psychiatriki (2023), doi: <https://doi.org/10.22365/jpsych.2023.008>

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RESEARCH ARTICLE

The psychological impact of COVID-19 pandemic on primary health care professionals in Greece

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ARTICLE HISTORY: Received 14 November 2022 / Revised 8 March 2023 / Published Online 12 May 2023

ABSTRACT

Pandemics precipitate feelings of discomfort and anxiety in healthcare professionals. This study investigates the prevalence of anxiety and depression among public primary health care professionals (PHCPs) in Greece, along with the demographic risk factors, during the second wave of the COVID-19 pandemic, in order to address work exhaustion and protect frontline professionals' psycho-emotional balance. This cross-sectional study was conducted from June 2021 to August 2021, using an online questionnaire (demographic data, GAD-7, PHQ-9). Eligible participants (medical, nursing, allied professionals) were PHCPs employed in Greek public PHC facilities. Analysis involved descriptive statistics to present sociodemographic characteristics, participants' experience with COVID-19, anxiety and depression levels. Univariate analysis was performed to evaluate the association between sociodemographic factors and the anxiety and depression levels, and multivariable logistic regression was used to investigate the presence of predictive factors for anxiety and depression. In total, 236 PHCPs participated in the study, with a mean age of 46 (SD 9.3) years and a mean professional experience of 14.71 (SD 9.2) years. Most participants were women (71.4%) and the majority were General Practitioners (38.9%) and Nurses (35.2%). Anxiety (33.1% mild, 29.9% moderate/ severe) and depression (33.9% mild, 25.9% moderate/ severe) were prevalent among PHCPs. The female gender is the most important predictor of anxiety manifestations (OR:3.50, 95%CI:1.39-10.7; p=0.014). Participants older than 50 years have a lower risk of both anxiety (OR=0.46, 95%CI:0.20-0.99; p=0.049) and depression (OR=0.48, 95%CI:0.23-0.95; p=0.039). PHCPs working in rural facilities have a lower risk of anxiety (OR:0.34, 95%CI:0.137-0.80; p=0.016). Previous infection with SARS-CoV-2 was not associated either with anxiety (p=0.087) or with depression (p=0.056). Notably, having a friend, relative, or coworker who was hospitalized for COVID-19 or died from it, was not associated with the presence of anxiety or depressive symptoms. Additionally, living with someone in a high-risk group for severe SARS-CoV-2, living with children or being at high risk for severe COVID-19 was not associated with higher GAD-7 and PHQ-9 scores. Findings indicate concerning levels of psychological distress among PHCPs. Early recognition of emotional discomfort in PHCPs and the prompt intervention could reinforce PHCPs' resilience against the pandemic.

KEYWORDS: Anxiety, depression, pandemic, primary health care, occupational mental health, family practice.

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Introduction

Pandemics bring uncertainty to daily life, eliciting strong feelings of discomfort and anxiety.¹² The angst of contracting and transmitting the infection³ causes significant psychological distress in healthy individuals and can even trigger clinical manifestations in mentally vulnerable individuals (panic attacks, generalized anxiety disorder, post-traumatic stress disorder, depression, and even suicides).¹

As highlighted in previous epidemics,^{4,5} a sudden and potentially life-threatening contagious disease may have a greater psychological impact on healthcare professionals (HCPs) than on the general population, as they appear more susceptible to fear, anxiety, depression, post-traumatic stress, and burnout.^{6,7} Indeed, during the COVID-19 pandemic, HCPs faced dramatic changes in their daily practice and were requested to provide care under extremely adverse conditions, including increased exposure to the virus, insufficient workforce and exhausting work hours, while also facing social isolation and stigma, as well as morally challenging decisions (even outside their areas of clinical expertise) that added to their psychological distress.⁸

In Greece, several studies demonstrated that the COVID-19 pandemic had a noticeable psychological impact on the general population,⁹ as well as on more vulnerable groups, such as frontline HCPs.^{2,10} Primary Health Care (PHC) is the backbone of every health system and substantially contributes to the elimination of inequalities in healthcare access. Experience from previous epidemics highlights the substantial role of Primary Health Care Professionals (PHCPs) engagement in effective management of acute and chronic illnesses,¹¹ as well as, in decision-making procedures and relieving the burden of secondary and tertiary care.¹² Studies have demonstrated a significant impact on psychological wellbeing of PHCPs, the majority of whom experience stress, burnout, anxiety, depression, fear of COVID-19, lower job satisfaction, and physical symptoms.¹³

The psychological toll on HCPs varies by position, with nurses reporting higher levels of stress than medical staff and, to a lesser extent, than the rest of the health care staff,¹⁴⁻¹⁵ while, physicians indicated higher levels of secondary traumatic stress compared to nurses.¹⁶ In their research, Fountoulakis et al (2021) found that regarding gender sensitivity, women are in higher risk of fear, depressive and anxiety symptoms, findings that are in accordance with those from general population.¹⁷ Other studies reported gender and age differences: women GPs had poorer psychological outcomes across all domains, and older PHCPs reported greater stress and burnout.¹³

Although, during the COVID-19 pandemic, hospital frontline HCPs' psychological distress has been investigated,^{10,18} there is limited data on the prevalence of anxiety and depression among Greek PHCPs, who serve as the health system's first line of defense in the control of the pandemic. The aim of this study was to investigate the levels of anxiety and depression among PHCPs in Greece, along with the demographic risk factors, during the second wave of the COVID-19 pandemic in Greece, when all regions of the country were similarly affected by the pandemic, in order to suggest appropriate approaches for addressing work exhaustion and protecting frontline professionals' psycho-emotional balance.

Methods

Participants and procedures

This is a cross-sectional study conducted online, in Greece. Eligible participants in this study were all public PHCPs (medical, nursing and allied) employed in Health Centers/ Group Practices, Solo Medical Practices (most founded between 1985-1990) and Local Health Units (small group practices newly founded in 2018), that comprise the public sector of Primary Health Care, which coped with the pandemic to a major extent.

Convenience sampling method was used in this study. The research questionnaire was distributed through emails. A mailing list of PHCPs who voluntarily collaborate with the Aristotle University of Thessaloniki in students' clinical training. An email was sent to 484 eligible participants, 257 questionnaires were returned (53.1% response rate) and 236 PHCPs were included in the analysis, after the exclusion of 21 participants who at that time were not employed in a public PHC facility (Fig 1). Two reminders were sent, 4 and 6 weeks after the first email. Data collection took place during a three-month period (June 2021 to August 2021) following the lifting of major restrictions due to the second wave of COVID-19.

The study was approved by the Bioethics Committee of the Medical School of the Aristotle University of Thessaloniki (reference number 9.398/ 22.06.2021) and was performed in accordance with the ethical standards delineated in the Declaration of Helsinki. Participants received a link to access the study, after giving written informed consent. The study was anonymous and confidential, and participants were allowed to terminate the survey at any time.

Research questionnaire

A self-reported, e-survey questionnaire was designed including: i) 19 questions on socio-demographic information (gender, age, working experience, profession, education, work environment, vaccination status, vulnerability to COVID-19 and experience coping with the pandemic), ii) the 7-item General Anxiety Disorder-7 (GAD-7) and, iii) the 9-item Patient Health Questionnaire-9 (PHQ-9).

The GAD-7, a 7-item self-reported questionnaire, is a short tool for screening general anxiety disorder, assessing the severity of symptoms over a two-week period.¹⁹ The items are rated on a 4-point Likert scale, ranging from 0 (not at all) to 3 (nearly every day). Total scores range between 0 and 21. Total score of 0–4 is classified as “not at all”, 5–9 as “mildly”, 10–14 as “moderately” and 15 as “severely”. A cut-off point of 10 or above corresponds to moderate to severe anxiety disorder (sensitivity 89% and specificity of 82% for GAD), indicating the patient needs further assessment. In this study, we used the translated into Greek version of the GAD-7 which has been used in other studies, though it has not been validated yet in the Greek population.^{20,21} The PHQ-9, a 9-item self-reported instrument, was developed to screen for depression in primary care and assess the severity of symptoms over a period of two weeks and it is being used as a research tool as well.²² Items are rated on a 4-point Likert scale, ranging from 0 (not at all) to 3 (nearly every day). Scores of 0–4 are rated as “minimal or none”, 5–9 as “mild”, 10–14 as “moderate”, 15–19 as “moderately severe”, and 20–27 as “severe”. A cut-off point of 10 or above is indicative of major depressive disorder and guarantees high sensitivity and specificity (sensitivity 0.88 and specificity 0.85) despite socio-demographic characteristics.^{22,23} In this study we used the validated and translated into Greek version of the PHQ-9.²⁴

Data Analysis

Statistical analysis was performed using R Statistical software (version 4.1.3) (<https://www.r-project.org/>). Descriptive statistics were initially used to present sociodemographic and other outcome variables including levels of anxiety and depression of the participants. Pearson's

chi-square test or Fisher's exact test, whenever more appropriate, was used to evaluate the association between sociodemographic factors and the levels (none, mild and moderate or severe) of anxiety and depression, respectively. Multivariable logistic regression was used to determine the association between independent variables with the dichotomous dependent variables determined by the cut-off point of 10 in the GAD-7 and PHQ-9 indicating clinically significant levels of anxiety and depression, respectively. As candidate independent variables the socio-demographic characteristics and participants' experience with COVID-19 were considered in case the p value was less than 0.05 in univariate analysis. Odds ratios (OR) were presented with the corresponding 95% confidence intervals (95%CI). Two-tailed p values of less than 0.05 were deemed significant.

Results

Demographic information of study participants

This study included 236 PHCPs with a mean age of 46 (SD 9.3) years and a mean professional experience of 14.71 (SD 9.2) years. Most participants were women (71.4%) and the majority were General Practitioners (38.9%) and Nurses (35.2%). A high percentage worked in Health Centers (77.7%) and there was an almost equal involvement of PHCPs employed in urban (27.5%), semi-urban (37.3%) and rural (36.0%) facilities. About 34.3% lived with a person at high risk for severe COVID-19 and 55.4% had a relative or a friend who had been admitted for or died from COVID-19. The demographic characteristics of the participants are presented in Table 1.

Participants' prevalence of Anxiety and Depression by severity

Almost half of the respondents (n=111, 47.0%) scored low in the GAD-7, while approximately a third reported mild (33.1%, n=78) and moderate to severe anxiety (29.9%, n=47), respectively. According to the PHQ-9, 40.3% (n=95) of the participants did not report depression, while approximately a third had mild symptoms of depression (33.9%, n=80) and a quarter presented moderate or severe depressive symptoms (25.9%, n=61).

Participants' Anxiety and Depression Levels by Age, Sex and Occupation

Women were more susceptible to anxiety than men (OR:4; 95%CI:1.5-10.64; p=0.006; Table 2), reporting intense stress manifestations more frequently (24.2% women vs. 7.3% men). Similarly, those older than 50 years were less susceptible to anxiety (OR:0.4, 95%CI:0.19-0.83; p=0.014). However, there was no difference in depression between women and men PHCPs (p=0.296; Table 3), whereas older age (≥ 50 years old) was still preventively associated with the presence of depression (OR:0.5, 95%CI:0.27-0.95; p=0.034, Table 3).

The work environment seems to influence the occurrence of anxiety symptoms with participants working in rural areas being less susceptible to anxiety (OR:0.29, 95%CI:0.13-0.68; p=0.004; Table 2), as well as to the presence of depressive symptoms (OR:0.39, 95%CI:0.18-0.81; p=0.012; Table 3) than respondents employed in urban facilities.

Participants' Anxiety and Depression Levels by COVID-19 experience and social aspects

Previous infection with SARS-CoV-2 was not associated either with anxiety (p=0.087; Table 2) or with depression (p=0.056; Table 3). Notably, having a friend, relative, or coworker who was hospitalized for COVID-19 or died from it, was not associated with the presence of anxiety or depressive symptoms. Additionally, living with someone in a high-risk group for severe SARS-CoV-2, living with children or being at high risk for severe COVID-19 was not associated with higher GAD-7 and PHQ-9 scores (Tables 2 and 3).

Predictive Factors for Anxiety and Depression

A multivariable logistic regression analysis was used to determine the presence of predictive factors for moderate to severe anxiety and depression in PHCPs, which would be of clinical importance, alerting physicians about the need to interfere. The results in Table 4, showed that older PHCPs (≥ 50 years old) have a lower risk of anxiety (OR=0.46, 95%CI:0.20-0.99; $p=0.049$) and depression (OR=0.48, 95%CI:0.23-0.95; $p=0.039$), while women PHCPs have a higher risk of anxiety (OR=3.50, 95%CI:1.39-10.7; $p=0.014$) but not for depressive manifestations ($p=0.5$). Finally, participants working in rural facilities have a lower risk of anxiety (OR=0.34, 95%CI:0.137-0.80; $p=0.016$) compared with those in urban areas, although the location of their working facility does not affect the manifestation of depressive symptoms ($p=0.077$).

[Table 4]

Discussion

According to our best knowledge, this is the first study seeking to determine the prevalence of anxiety and depression among PHCPs in Greece during the COVID-19 pandemic. Findings indicate a high level of psychological distress among frontline PHCPs, with 63% of the participants scoring mild to severe for anxiety and 59.8% scoring mild to severe for depression. Age and gender appear to influence the identification of anxiety symptoms, with women reporting three times more severe anxiety than men and younger participants reporting anxiety twice as often as older individuals. Age and employment location also affected the identification of depression or anxiety, with those younger than fifty reporting depressive symptoms more frequently and those working in cities being more likely to suffer from anxiety. Younger age has been identified as a risk factor for both anxiety and depression, while female gender and working in an urban facility have been identified as anxiety predictive factors.

HCPs have been at an increased risk for anxiety, depression, alcoholism and suicidal ideation²⁵⁻²⁷ and during the COVID-19 pandemic, due to the accumulated psychological pressure and fear of dying,²⁸ there was an alarming increase in suicide attempts.²⁹ Multiple factors trigger anxiety and depression in HCPs and need further investigation.³⁰ Specifically, fear of infection and infecting others, frustration when patients deteriorated or died, exhaustion from the prolonged use of protective equipment and the need to support patients, both morally and medically were among the main concerns of first line HCPs.³¹ In Greece, a multi-center study conducted among hospital HCPs, revealed that over 50% and 60% of participants had at least mild depressive or anxiety symptoms respectively, despite the relatively benign course of the pandemic at the time.¹⁸ Those findings are consistent with a recent systematic review and meta-analysis of 13 cross-sectional studies and a total of 33,062 HCPs.⁶ However, Samara et al. indicated that only 11.9% and 13% of HCPs reported at least moderate symptoms of anxiety and depression respectively.³² The psychological impact of working in healthcare setting during the COVID-19 pandemic in Greece affected negatively the frontline staff as several research findings underline. In particular, HCPs reported high levels of stress, anxiety, depression, exhaustion and burnout,^{33,34} increased levels of insomnia, while scoring high in significant predictors of posttraumatic stress symptoms such as negative emotion and feelings of being threatened.³⁵ Other findings suggest that HCPs' professional quality of life and occupational stress were moderate during the pandemic in Greece.³⁶ Furthermore, personal resilience as well as the adoption of adaptive coping strategies were associated with lower secondary traumatic stress and higher vicarious post traumatic growth respectively.^{37,38}

Our findings are in agreement with a recent research conducted among Japanese PHCPs during the COVID-19 pandemic, showing that approximately 30% of PHCPs had anxiety

symptoms, whereas about 15% of them were depressed, and seriously considered leaving their job or changing professions.³⁹ Another study conducted in Italy during the first pandemic wave showed that 36% of the participating PHCPs had symptoms of anxiety and about 18% reported at least moderate depression,⁸ findings that keep up with other studies from Italy.⁴⁰ Work-related anxiety and depression were even more frequent in a study conducted in the UK, in which nearly 40% of PHCPs experienced emotional distress.⁴¹

Current research findings indicate a correlation between gender and feelings of anxiety and depression among PHCPs. More specifically, more female than male PHCPs exhibit high levels of anxiety and depression, probably reflecting the already established gender gap for anxious and depressive symptoms in the general population.⁴² Our findings are consistent with a study conducted in Lebanon⁴³ which indicates that women HCPs are at a higher risk of anxiety and intense emotional discomfort than men and studies conducted in PHCPs in Italy⁸ and the general population, indicating that women are more prone to stress disorders.⁴⁴

Moreover, several studies have highlighted the relationship between age and emotional distress during the pandemic,^{44,45} with older adults being at higher risk of developing stress and depression due to social distancing and isolation that could further deteriorate pre-existing health conditions.⁴⁵ This can partly be justified by the higher morbidity and mortality rates of the COVID-19 among the elderly. It is not surprising, thus, that older people in endemic areas seemed to experience a lower health-related quality of life than younger individuals.⁴⁶ However, older HCPs have longer professional experience, which was associated with lower anxiety and depression levels,⁸ while younger age in HCPs was identified as a significant predictor of psychological discomfort.³² A Finnish study conducted among hospital-based HCPs, showed that the levels of anxiety decreased in participants older than 56 years.⁴⁷ Our findings confirm that older HCPs report less anxiety and depression symptoms. Risk perception during the pandemic is related to increased anxiety levels in HCPs⁴⁸ and findings from a multi-center study conducted in Primary Health Care in Greece, during the first pandemic wave, showed that older PHCPs have less work-related concerns than younger colleagues and experienced PHCPs frequently reported work-related concerns regarding their safety.⁴⁹ These concerns are a main cause of psychological distress for PHCPs that need to be addressed to improve HCPs' wellbeing.⁴⁹

Although current findings did not support a statistically significant difference in anxiety and/or depression levels between medical and nursing staff, other researches reinforce the notion that anxiety and depression are more prevalent among nurses than medical staff⁵⁰⁻⁵². These results may be partly confounded by the fact that nurses are mostly women, but could be also attributed to the fact they may be more exposed to COVID-19 patients as they spend more time in wards, provide direct care to patients and are in charge of collecting samples for virus detection.³¹ In our study 71.4% of the participants are women, which is in line with the percentage of women HCPs in Greece and in Europe, 61% and 78% respectively.⁵³ Also, the level of nurses' preparedness to handle patients affected by infectious diseases should be taken into account. Moreover, due to their closer contact with patients they may be more exposed to moral injury pertaining to suffering, death and ethical dilemmas.⁵⁴

The educational level did not seem to be related to the emergence of depression⁴⁶ or to the extent of manifestation of fear over the development of the COVID-19 pandemic,⁵⁵ possibly because PHCPs constitute a uniform group of university-educated workers.

Work location was identified as a risk factor for the development of depression. Though, findings from an Italian study conducted among PHCPs revealed an association between facility location and anxiety or depression levels with those working in rural areas being more vulnerable to emotional distress.⁸ The current research indicates that participants working in cities have a higher risk of anxiety compared to those working in towns and/or villages. This is consistent with other studies indicating regional disparities in patient load to primary healthcare services, which affected the mental health of practitioners working beyond their

capacities^{32,56} and may also reflect the difficulty of delivering COVID-19 healthcare services in areas with dense and constantly shifting population, resulting in a poorer PHCP-patient relationship which may increase PHCPs' anxiety. During the pandemic, PHCPs were reassigned from their practices to understaffed COVID-19 emergency departments and units at secondary and tertiary hospitals. The findings of this study may reflect the challenges that PHCPs experienced at tertiary hospitals, which are more commonly located in urban areas.

To the best of our knowledge, this is the first study regarding the prevalence and correlates of anxiety and depression levels among the PHCPs in Greece during the COVID-19 pandemic. Nevertheless, this research poses some methodological limitations. This study was a cross-sectional online survey thus not allowing for causal inferences to be made which limited our understanding of potential risk factors. The assessment of mental health symptoms was performed using self-reported instruments and may vary from clinical or specialist interviews as reported difficulties may not necessarily translate to a clinical syndrome. Also, online surveys typically exclude participants with low digital literacy. The number of participants and the inclusion of different occupational groups from multiple healthcare facilities, while more representative, introduces sample heterogeneity, limiting generalizability. Finally, the lack of baseline mental health information and previous history in the sample is a limitation since individuals with pre-existing mental health problems exposed to COVID-19 pandemic-related stress and/or infection may experience a higher mental health burden.⁵⁷

Both emotional and social support are useful for alleviating psychological distress triggered by traumatic situations.⁵⁸ Future research should focus on gaining a better understanding of the best types of support to alleviate emotional distress in healthcare professionals during health emergencies and on collecting evidence about the effectiveness of institutions' activities and procedures in supporting the mental health the healthcare professionals. During the pandemic, telehealth mental health services for counselling increased notably, and future applications of e-mental health should recognize the specific needs of PHCP, and be accessible during health emergencies.⁵⁹

Based on current findings, it appears that the majority of the PHCPs experienced mild symptoms both for depression and anxiety, while moderate and severe symptoms were less common among the participants. This highlights the need for future research on standardised operation procedures that protect PHCPs mental health and on the development of mental care services for first-line HCPs,⁶⁰ to prevent mental disorders and timely detect and treat the milder clinical mood symptoms or subthreshold syndromes before they evolve into more complex and enduring psychological responses.

Conclusion

Our study highlights the impact of COVID-19 on PHCPs' psychological well-being. A year after the pandemic began, Greece's PHCPs had high anxiety and depression rates. Mitigating vulnerability and building resilience through meaningful and timely interventions to promote PHCPs' mental well-being is critical, especially in primary healthcare settings, to alleviate or prevent the emergence of anxiety and depressive symptoms, during the ongoing and future epidemics.

Acknowledgements

We would like to thank the PCPs who kindly gave up their time to take part in this study and all the members of the AUTH.PHC.RN for their help and guidance throughout this study. The AUTH.PHC.RN. was founded in October 2017 in Thessaloniki, in Greece. Our primary aims are to promote research and improve the quality of primary care through the collaboration of primary care structures with the AUTH.

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Fig 1. Flow-diagram of study participants

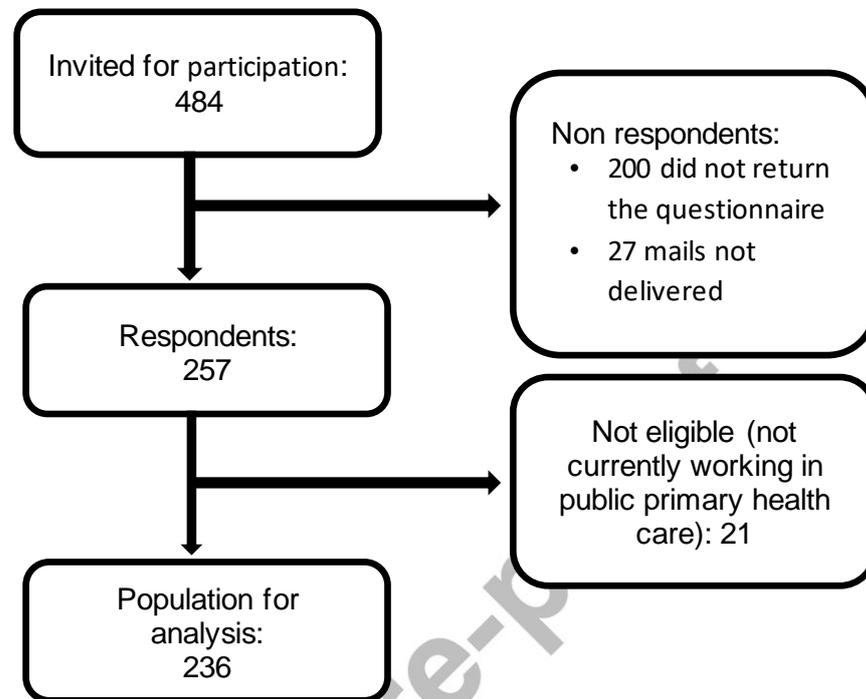


Table 1. Demographic characteristics of participants

Gender	n	%	Occupation	n	%
Men	65	28.6	General Practitioners	92	38.9
Women	162	71.4	Internists	7	2.9
Age (years) mean 46, SD (9.3)	n	%	Pediatricians	2	0.8
20-29	15	6.3	Microbiologists	2	0.8
30-39	38	16.1	Dentists	3	1.3
40-49	90	38.1	Nursing Staff	83	35.2
≥50	93	39.4	Health visitors/ Community Nurses	10	4.2
Professional Experience (years) mean 14.71, SD (9.2)	n	%	Paramedics/ Ambulance Crew	3	1.3
1-5	53	22.4	Laboratory technicians	4	1.7
6-10	33	14.0	Midwives	6	2.5
11-15	43	18.2	Nutritionists	3	1.3
16-20	45	19.1	Physiotherapists	1	0.4
>20	62	26.3	Social workers	1	0.4
Education	n	%	Administrative staff	11	4.7
High School graduate	36	15.3	Social Attributes	n	%
Bachelor degree	137	58.0	Living with at least one child	161	69.1
Postgraduate degree (MSc, PhD)	63	26.7	Living with a high-risk person	80	34.3
Type of Facility	n	%	COVID-19 Personal Experience and Health Condition	n	%

Health Center/ Group Practice	181	77.7	Having a colleague admitted for COVID-19/ deceased from COVID-19	86	36.9
Local Health Unit (Small Urban Group Practice)	13	5.6	Having a relative/friend admitted for COVID-19/deceased from COVID-19	129	55.4
Solo Medical Practice*	39	16.7	Vaccinated	209	89.7
Facility Location	n	%	Contracted SARS-CoV-2	36	15.5
Urban	64	27.5	In a high-risk group	36	15.5
Semi-urban	87	37.3	In a high-risk group	36	15.5
Rural	85	36.0	In a high-risk group	36	15.5

* Solo medical practice; a public medical practice involving only a physician who works alone or in collaboration with a nurse.

Table 2. Severity of participants' anxiety (GAD-7) by demographic characteristics

Variables	None/ Low n (%)	Mild n (%)	Moderate/ Severe n (%)	OR (95%CI)	p-value
Gender					
Women	68 (42.2%)	54 (33.5%)	39 (24.2%)	4 (1.5, 10.64)	0.006*
Men	40 (58.8%)	23 (33.8%)	5 (7.3%)	ref.	
Age					
≥50	59 (41.3%)	48 (33.6%)	36 (25.1%)	0.4 (0.19, 0.83)	0.014*
<50	51 (55.4%)	30 (32.6%)	11 (11.9%)	ref.	
Education					
High School graduate	17 (47.2%)	11 (30.6%)	8 (22.3%)	1.22 (0.5, 2.98)	0.663
Bachelor degree	60 (43.8%)	51 (37.2%)	26 (19%)	ref.	
Postgraduate degree	33 (53.2%)	16 (25.8%)	13 (21%)	1.11 (0.53, 2.34)	0.784
Facility Location					
Rural	39 (46.4%)	35 (41.7%)	10 (11.9%)	0.29 (0.13, 0.68)	0.004*
Semi-urban	39 (44.8%)	31 (35.6%)	17 (19.5%)	0.53 (0.25, 1.13)	0.101
Urban	32 (50%)	12 (18.8%)	20 (31.2%)	ref.	
Occupation					
Medical staff	55 (51.8%)	30 (28.3%)	21 (19.9%)	ref.	
Nursing staff	33 (39.8%)	33 (39.8%)	17 (20.4%)	1.04 (0.51, 2.13)	0.909
Other	26 (55.3%)	12 (25.5%)	9 (19.2%)	0.96 (0.4, 2.29)	0.924

Previously infected with SARS-CoV-2

Yes	15 (41.7%)	10 (27.8%)	11 (30.5%)	2.00 (0.90, 4.44)	0.087
No	95 (47.7%)	68 (34.2%)	36 (18.1%)	ref.	

Relative/ friend hospitalized or deceased from COVID-19

Yes	63 (48.5%)	43 (33.1%)	24 (18.5%)	0.78 (0.41, 1.5)	0.458
No	43 (43.9%)	33 (33.7%)	22 (22.4%)	ref.	

Colleague hospitalized or deceased from COVID-19

Yes	37 (43.5%)	32 (37.6%)	16 (18.9%)	0.90 (0.45, 1.77)	0.751
No	68 (48.2%)	44 (31.2%)	29 (20.6%)	ref.	

Living with at least one child

Yes	75 (46%)	53 (32.5%)	35 (21.4%)	1.39 (0.67, 2.86)	0.372
No	36 (49.3%)	25 (34.2%)	12 (16.5%)	ref.	

Living with a high-risk person

Yes	36 (45%)	26 (32.5%)	18 (22.5%)	1.22 (0.63, 2.37)	0.554
No	71 (47%)	51 (33.8%)	29 (19.2%)	ref.	

Being in a high-risk group

Yes	17 (47.2%)	10 (27.8%)	9 (25.0%)	1.37 (0.59, 3.15)	0.464
No	89 (47.1%)	64 (33.9%)	36 (19.1%)	ref.	

CI: confidence interval; OR: odds ratio; ref: reference value; *Indicates that result is statistically significant at at least the .05 level

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Table 3. Severity of participants' depression (PHQ-9) by demographic characteristics

Variables	None/ Low n (%)	Mild n (%)	Moderate/ Severe n (%)	OR (95%CI)	p-value
Gender					
Women	62 (38.5%)	56 (34.8%)	43 (26.7%)	1.44 (0.73, 2.85)	0.296
Men	30 (44.1%)	23 (33.8%)	15 (22.1%)	ref.	
Age					
≥50	37 (40.2%)	38 (41.3%)	17 (18.5%)	0.5 (0.27, 0.95)	0.034*
<50	57 (39.9%)	42 (29.4%)	44 (30.7%)	ref.	
Education					
High School graduate	14 (38.9%)	13 (36.1%)	9 (25%)	0.94 (0.4, 2.18)	0.876
Bachelor degree	53 (39.4%)	48 (35%)	36 (25.6%)	ref.	
Postgraduate degree	27 (43%)	19 (30.6%)	16 (25.4%)	0.96 (0.48, 1.89)	0.895
Facility Location					
Rural	38 (45.2%)	31 (36.9%)	15 (17.9%)	0.39 (0.18, 0.81)	0.012*
Semi-urban	31 (35.6%)	34 (39.1%)	22 (25.3%)	0.53 (0.26, 1.07)	0.078
Urban	25 (39.1%)	15 (23.4%)	24 (37.5%)	ref.	
Occupation					
Medical staff	45 (42.5%)	32 (30.2%)	29 (27.3%)	ref.	
Nursing staff	29 (34.9%)	31 (49.2%)	23 (27.7%)	1.02 (0.54, 1.94)	0.957
Other	20 (42.6%)	18 (38.3%)	9 (19.1%)	0.63 (0.27,1.46)	0.281
Previously infected with SARS-CoV-2					

Yes	8 (22.2%)	14 (38.9%)	14 (38.9%)	2.07 (0.98, 4.37)	0.056
No	86 (43.2%)	66 (33.2%)	47 (23.6%)	ref.	
Relative/ friend hospitalized or deceased from COVID-19					
Yes	49 (37.7%)	42 (32.3%)	39 (30%)	1.61 (0.87, 2.99)	0.132
No	43 (43.9%)	36 (36.7%)	19 (19.4%)	ref.	
Colleague hospitalized or deceased from COVID-19					
Yes	34 (40%)	27 (31.8%)	24 (28.2%)	1.29 (0.7, 2.38)	0.418
No	57 (40.4%)	51 (36.2%)	33 (23.4%)	ref.	
Living with at least one child					
Yes	58 (35.5%)	63 (38.7%)	42 (25.8%)	1.02 (0.58, 1.93)	0.966
No	39 (52%)	17 (22.7%)	19 (25.3%)	ref.	
Living with a high-risk person					
Yes	29 (36.3%)	27 (33.7%)	24 (30%)	1.37 (0.75, 2.51)	0.311
No	64 (42.4%)	51 (33.8%)	36 (23.8%)	ref.	
Being in a high-risk group					
Yes	11 (30.6%)	12 (33.3%)	13 (36.1%)	1.79 (0.84, 3.8)	0.132
No	80 (42.3%)	65 (34.4%)	44 (23.3%)	ref.	

CI: confidence interval; OR: odds ratio; ref: reference value; *Indicates that result is statistically significant at at least the .05 level.

Table 4. Predictive factors for anxiety disorder and depression using multiple logistic regression analysis

Independent variable	Anxiety disorder		Depression	
	Adjusted OR (95%CI)	p-value	Adjusted OR (95%CI)	p-value
Gender				
Men	ref.	0.014*	ref.	0.5
Women	3.50 (1.39, 10.7)		1.31 (0.64, 2.77)	
Age				
<50	ref	0.049*	ref.	0.039*
≥50	0.46 (0.20,0.99)		0.48 (0.23,0.95)	
Facility Location				
Urban	ref.		ref.	
Semi-urban	0.59 (0.25,1.33)	0.2	0.6 (0.27, 1.28)	0.2
Rural	0.34 (0.137, 0.80)	0.016*	0.49 (0.22, 1.08)	0.077
Previously infected with SARS-CoV-2				
Yes	1.9 (0.78, 4.51)	0.15	2.02 (0.88, 4.53)	0.091
No	ref.		ref.	
Relative/ friend hospitalized or deceased from COVID-19				
Yes	-	-	1.57 (0.81, 3.08)	0.2
No	-		ref.	
Being in a high-risk group				

Yes	-	-	1.82 (0.79, 4.08)	0.15
No	-			

CI: confidence interval; OR: odds ratio; ref: reference value; *Indicates that result is statistically significant at at least the .05 level.

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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

Ο ψυχολογικός αντίκτυπος της πανδημίας COVID-19 στους επαγγελματίες της Πρωτοβάθμιας Φροντίδας Υγείας στην Ελλάδα

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ΙΣΤΟΡΙΚΟ ΑΡΘΡΟΥ: Παραλήφθηκε 14 Νοεμβρίου 2022/ Αναθεωρήθηκε 8 Μαρτίου 2023 / Δημοσιεύθηκε Διαδικτυακά 12 Μαΐου 2023

ΠΕΡΙΛΗΨΗ

Οι πανδημίες προκαλούν αισθήματα δυσφορίας και άγχους στους επαγγελματίες υγείας. Η παρούσα μελέτη διερευνά τον επιπολασμό του άγχους και της κατάθλιψης μεταξύ των επαγγελματιών πρωτοβάθμιας φροντίδας υγείας (ΠΦΥ) στην Ελλάδα, σε σχέση με τους δημογραφικούς παράγοντες κινδύνου, κατά το δεύτερο κύμα της πανδημίας COVID-19, προκειμένου να αντιμετωπιστεί η εργασιακή εξάντληση και να προστατευθεί η ψυχοσυναισθηματική ισορροπία των επαγγελματιών υγείας πρώτης γραμμής. Αυτή η συγχρονική μελέτη διεξήχθη από τον Ιούνιο του 2021 έως τον Αύγουστο του 2021, χρησιμοποιώντας ένα διαδικτυακό ερωτηματολόγιο (δημογραφικά δεδομένα, GAD-7, PHQ-9). Οι επιλέξιμοι συμμετέχοντες (ιατρικοί, νοσηλευτές, συνεργάτες) ήταν επαγγελματίες που απασχολούνταν σε ελληνικές δημόσιες δομές ΠΦΥ. Η ανάλυση περιλάμβανε περιγραφικά στατιστικά, ενώ πραγματοποιήθηκε μονοπαραγοντική ανάλυση για την αξιολόγηση της συσχέτισης μεταξύ κοινωνικο-δημογραφικών παραγόντων και των επιπέδων άγχους και κατάθλιψης και πολυπαραγοντική λογιστική παλινδρόμηση για τη διερεύνηση της παρουσίας προγνωστικών παραγόντων για το άγχος και την κατάθλιψη. Συνολικά, 236 επαγγελματίες ΠΦΥ συμμετείχαν στη μελέτη, με μέση ηλικία τα 46 (SD 9,3) έτη και μέση επαγγελματική εμπειρία 14,71 (SD 9,2) έτη. Οι περισσότεροι συμμετέχοντες ήταν γυναίκες (71,4%) και η πλειοψηφία ήταν Γενικοί Ιατροί (38,9%) και νοσηλευτές (35,2%). Το άγχος (33,1% ήπιο, 29,9% μέτριο/σοβαρό) και η κατάθλιψη (33,9% ήπια, 25,9% μέτρια/σοβαρή) ήταν επικρατέστερα ανάμεσα στους επαγγελματίες της ΠΦΥ. Το γυναικείο φύλο βρέθηκε να είναι ο πιο σημαντικός προγνωστικός παράγοντας των εκδηλώσεων άγχους (OR:3,50, 95%CI:1,39-10,7, $p=0,014$). Οι συμμετέχοντες ηλικίας άνω των 50 ετών έχουν χαμηλότερο κίνδυνο τόσο άγχους (OR=0,46, 95%CI:0,20-0,99; $p=0,049$) όσο και κατάθλιψης (OR=0,48, 95%CI:0,23-0,95, $p=0,039$). Οι επαγγελματίες που εργάζονται σε αγροτικές εγκαταστάσεις

έχουν χαμηλότερο κίνδυνο άγχους (OR:0,34, 95%CI:0,137-0,80, $p=0,016$). Η προηγούμενη μόλυνση από SARS-CoV-2 δεν συσχετίστηκε ούτε με άγχος ($p=0,087$), ούτε με κατάθλιψη ($p=0,056$). Σημειωτέον, η ύπαρξη φίλου, συγγενή ή συναδέλφου που νοσηλεύτηκε ή πέθανε από COVID-19, δεν συσχετίστηκε με την παρουσία συμπτωμάτων άγχους ή κατάθλιψης. Επιπλέον, η συμβίωση με άτομο που ανήκει σε ομάδα υψηλού κινδύνου για σοβαρή νόσηση από SARS-CoV-2, η συμβίωση με παιδιά ή η ύπαρξη υψηλού κινδύνου για σοβαρή COVID-19 λοίμωξη δεν συσχετίστηκε με υψηλότερες βαθμολογίες στα ερωτηματολόγια GAD-7 και PHQ-9. Τα ευρήματα υποδεικνύουν τα επίπεδα ψυχολογικής δυσφορίας μεταξύ των επαγγελματιών που εργάζονται στην ΠΦΥ. Η έγκαιρη αναγνώριση της συναισθηματικής δυσφορίας και η έγκαιρη παρέμβαση θα μπορούσαν να ενισχύσουν την ανθεκτικότητα του προσωπικού της ΠΦΥ έναντι της πανδημίας.

ΛΕΞΕΙΣ ΚΥΡΕΤΗΡΙΟΥ: Άγχος, κατάθλιψη, πανδημία, πρωτοβάθμια φροντίδα υγείας, επαγγελματική ψυχική υγεία, γενική ιατρική.

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