

Mental Health, Burnout, and Resilience in Healthcare Professionals After the First Wave of COVID-19 Pandemic in Spain

A Longitudinal Study

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Objective: This study aims to examine whether there are differences in symptoms of posttraumatic stress, depression, anxiety, levels of burnout and resilience in Spanish healthcare staff between the first wave of the COVID-19 pandemic and after it, depending on several demographic and work-related variables. **Methods:** A longitudinal study was conducted in April 2020 (T0), and July 2020 (T1). Symptoms of posttraumatic stress, depression, anxiety, burnout, levels of resilience, along with demographic and work-related variables in 443 workers were assessed. **Results:** Symptoms and burnout were more pronounced at T0, whereas the levels of resilience were higher at T1. Being women, being young, holding a lower-level job, less years of experience, lower educational level, and/or working rotating shifts are associated with having more posttraumatic stress symptoms and burnout. **Conclusion:** These variables would be considered in similar situations.

Keywords: burnout, COVID-19, healthcare professionals, longitudinal, resilience

On March 11, 2020, the World Health Organization declared the disease caused by COVID-19 to be a pandemic.¹ Spanish healthcare professionals have had to reorganize their work since then, seeing a larger number of patients. They have been exposed to situations of stress and emotional exhaustion, something that has also happened in other countries, such as India, Iran, Singapore, and China.²⁻⁴ A recent meta-analysis revealed that Spain, China, Iran, Italy, and Turkey reported the highest prevalence of anxiety and depression in healthcare staff. The associated factors were being women, being nursing staff, having less work experience, low socioeconomic status, being socially isolated, and high risk of being infected with COVID-19.⁵ Similarly, resilience has been highlighted as a factor associated with less stress during the pandemic. Resilience and burnout levels were analyzed in Italian nurses, concluding that the resilience factor predicted a reduction in stress levels, emotional fatigue, and depersonalization, and it was associated with an increase in personal fulfillment.⁶ Second, nursing professionals were found to have a higher prevalence of depression, especially those working in the emergency services.⁷ Other

variables associated with anxiety, depression, and posttraumatic stress in healthcare workers are less work experience, being single, lower educational level, holding intermediate positions, seeing a greater number of patients, or feeling a lack of professional competence.⁸⁻¹¹ Some longitudinal studies in the scientific literature have been conducted during the pandemic. For example, in a study in a general Chinese population, posttraumatic stress scores a month after the baseline were lower, although the levels of anxiety and depression remained approximately the same.¹² In the US population, young adults who perceived less social support and had high levels of ruminative thoughts showed higher levels of stress, anxiety, and depression at the first time point.¹³ In Spanish general population, a longitudinal study conducted during the state of emergency declared by the Government, revealed that, in general, the levels of posttraumatic stress, anxiety, and depression were higher during the lockdown and decreased over time, although it is not still possible to speak of a full recovery.¹⁴ In another study including healthcare staff in Japan, the first measure was on March 19, 2020, and the follow-up was 2 months later. The authors highlight that the levels of fatigue, anxiety, and depression among these health professionals were higher at the second time point, even more significantly than in non-healthcare staff. More longitudinal studies should be conducted for a variety of reasons, including the scarcity of publications. For example, during the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003, healthcare professionals experienced levels of stress that lasted up to a year, making it evident that it was not an adjustment disorder.^{15,16} On the other hand, various researchers call for longitudinal studies to analyze long-term effects, focusing on the detection of possible posttraumatic stress disorder in this professional group.¹⁷ Exposure to traumatic situations, stressors (lack of resources, increased workload, emotional exhaustion), and lack of time to recover, seem to be associated with burnout in these workers.¹⁸ The objective of this study is to examine whether there are differences in symptoms of posttraumatic stress, depression, anxiety, levels of resilience and burnout in healthcare staff in Spain during the first wave of the COVID-19 pandemic (hereinafter T0) and after that (hereinafter T1), depending on demographic and work-related variables. The working hypotheses are as follows:

Healthcare workers will show higher levels of emotional exhaustion, depersonalization, anxiety, depression, and posttraumatic stress at the baseline (T0) than at 3-month follow-up (T1).

Healthcare workers with a lower educational level or that hold a lower-level job will present higher levels of emotional fatigue, depersonalization, anxiety, depression, and/or posttraumatic stress.

Healthcare professionals will show higher levels of resilience at the follow-up measure.

METHODS

Participants and Design

The first round of data was collected between April 1 and 10, 2020 T0. At this time 1476 healthcare workers participated, 206 (14%) men and 1270 (86%) women, aged 19 to 68 years, and a mean

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Clinical significance: This research identifies that resilience increases over time awareness of demands on these professionals. It is possible to specialize treatment programs to prevent the effects of burnout and anxiety, depressive and posttraumatic stress symptoms in healthcare personnel, including the variables identified in this study that are associated with said symptoms.

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age of 44 years (standard deviation [SD] = 10.76). The second set of data was collected between July 1 and 10, 2020 T1. At time point T1, the first wave of the pandemic had already ended. Of the 1476 individuals who participated in the first measure, 443 participated again at T1, 54 (12.2%) men and 389 (87.8%) women, between the ages of 22 and 65 years. The mean age was 45.26 (SD = 10.05), ages 22 to 65 years this time.

Instruments

Demographic and Work-Related Variables

Information related to demographic variables, sex, age, educational level, marital status, dependent family members, number of children in the household; and variables associated with the workplace (Autonomous Community of workplace, job classification, job title, type of workplace setting, work shift, years of seniority in the current position, and years of experience as a healthcare worker).

Burnout

The Spanish version of the Maslach Burnout Inventory-MBI-HSS was used.^{19,20} It is made up of 22 items with seven response options that are answered on a Likert scale, from 0 (never) to 6 (every day). Burnout is defined as: high emotional fatigue, high depersonalization, and low personal fulfilment. This questionnaire shows an adequate adjustment of three factors and internal consistency above 0.71 for the subscales.²¹

Posttraumatic Stress

The Spanish version of the Impact of Event Scale-Revised IES-R was used.²² It evaluates the emotional distress that accompanies a stressful life event. It consists of 22 items and three scales: intrusion (seven items), avoidance (eight items), and hyperarousal (seven items). It shows adequate psychometric characteristics, with a reliability level above 0.70.

Anxiety and Depression

The Spanish adaptation of the Hospital Anxiety & Depression Scale-HADS instrument was used.^{23,24} It consists of 14 items and two subscales: anxiety and depression, and it is answered using a four-point Likert scale (0 to 3). It evaluates symptoms of anxiety and depression in clinical and general population, higher scores indicating a higher prevalence of symptoms. It shows adequate psychometric properties, presenting an internal consistency of 0.77 and 0.71 for the anxiety and the depression subscales, respectively.²³

Resilience

The Spanish adaptation of the Brief Resilience Scale (BRS) was used.^{25,26} It is composed of six items that are answered on a Likert scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). High scores indicate higher levels of resilience. It has a unifactorial structure and an internal consistency of 0.83.

Procedure

A longitudinal design was used. The research obtained the approval of the Ethic Committee of the Faculty of Psychology of the Complutense University of Madrid (Reference number: Pr_2019_038). Because of the emergency lockdown, data were collected using an online survey between April 1 and 10, 2020 (first wave of the pandemic in Spain, T0). Follow-up data were collected 3 months later, between July 1 and 10, 2020 (T1), when the first wave of the pandemic had ended. In order to participate at T0 and T1, the need to give informed consent was specified at the beginning of the survey. The data were treated anonymously and confidentially. Data from T0 and T1 were paired using an identifier,

following the same timeline in those individuals who consented to participate in the second measure.

Data Analysis

The analyses were carried out using the SPSS 26 statistical package (IBM Corp. Released 2019, IBM SPSS Statistics for Windows, Version 26.0., Armonk, NY). Descriptive statistics (frequencies, means, standard deviations, variances, and ranges) of the variables under study were calculated. Statistical inference analyses were carried out in order to analyze whether there are any statistically significant effects of the proposed segmentation factors (demographic and workplace variables) and the time elapsed between T0 and T1 in the objective variables. Mixed analysis of variances (ANOVAs) were performed with a Between-Subjects factor (segmentations by group) and a Within-Subjects factor (time). Mauchly W test was used to analyze the assumption of sphericity. If this assumption were not met, the Greenhouse-Geisser correction would be taken into account in the presentation of results. A posteriori pairwise comparisons were made to distinguish between groups in which there are statistically significant differences. The segmentation factors (Between-Subjects) were demographic variables (sex, age, educational level, marital status, dependent family members, number of children in the household) and work-related variables (Autonomous Community of workplace, job classification, job title, type of workplace setting, work shift, years of seniority in the current job, and years of experience as a healthcare worker).

RESULTS

These are the results of the mixed ANOVAs carried out by taking the following variables into account: burnout, posttraumatic stress, anxiety, depression, and resilience, for each of the demographic and work-related variables:

Emotional Fatigue (Burnout)

There are statistically significant differences between men and women in emotional exhaustion, women presenting higher scores than men $df=4.279$, $P<0.05$. As for the Autonomous Community where the workplace is located, there is a significant interaction effect between emotional fatigue and the Autonomous Community, with emotional fatigue being greater at T0 for those who work in the Community of Madrid $df=2.478$, $P<0.05$. There are also significant interaction effects between emotional exhaustion and age, emotional exhaustion is greater in workers aged between 36 and 50 years at T0, $df=1.783$, $P<0.05$ whereas it is lower in workers aged 51 or over at T1 $df=-1.599$, $P<0.05$. In addition, there are significant interaction effects between emotional exhaustion and the type of workplace setting. Hospital workers are more emotionally tired at T0 than they are at T1 $df=1.196$, $P<0.05$. Reversely, primary care workers report more emotional fatigue at T1 than at T0 $df=-2.463$, $P<0.05$. There are also statistically significant differences between emotional exhaustion and years of experience as a healthcare worker. Individuals who have been working in healthcare for less than 5 years report less emotional fatigue than those who have been working as health professionals for 5 to 15 years $df=-5.747$, $P<0.01$ (Table 1).

Depersonalization (Burnout)

Statistically significant differences were found between depersonalization and age, with younger workers (18 to 35 years) reporting feeling more depersonalized than those between the ages of 36 and 50 years, $df=2.193$, $P<0.01$. In addition, there are statistically significant differences between T0 and T1 in depersonalization, scores being higher at T0 $df=1.056$, $P<0.001$. There are significant interaction effects between depersonalization and the type of workplace setting. Primary healthcare workers have lower

TABLE 1. Association Between Sociodemographic Variables and Workplace Variables With Burnout

Variables	N	Emotional Exhaustion			Depersonalization			Personal Accomplishment				
		T0	T1	F	T0	T1	F	T0	T1	F		
Sex												
Men	54	24.53 ± 13.53	24.01 ± 13.39	(T) F (1, 441) = 0.629	6.81 ± 6.75	6.96 ± 6.57	(T) F (1, 441) = 0.233	39.37 ± 7.06	39.12 ± 7.15	(T) F (1, 441) = 3.153		
Women	389	28.81 ± 12.36	28.30 ± 12.89	(B) F (1, 441) = 6.11*	6.20 ± 5.68	6.42 ± 5.96	(B) F (1, 441) = 0.545	39.71 ± 6.48	38.50 ± 6.67	(B) F (1, 441) = 0.025		
Total	443	28.29 ± 12.59	27.77 ± 13.01	(I) F (1, 441) = 0.00	6.28 ± 5.68	6.49 ± 6.04	(I) F (1, 441) = 0.009	39.67 ± 6.55	38.57 ± 6.75	(I) F (1, 441) = 1.416		
Age												
18–35	83	10.62 ± 11.26	29.22 ± 12.09	(T) F (1, 440) = 1.37	7.74 ± 6.09	8.96 ± 6.36	(T) F (1, 440) = 2.21	38.34 ± 5.81	37.75 ± 6.09	(T) F (1, 440) = 11.73***		
36–50	205	29.37 ± 12.56	27.59 ± 12.38	(B) F (2, 440) = 2.55	6.20 ± 5.67	6.12 ± 5.81	(B) F (2, 440) = 7.64***	39.95 ± 6.38	38.53 ± 6.83	(B) F (2, 440) = 1.74		
>51	157	25.65 ± 12.87	27.25 ± 14.24	(I) F (2, 440) = 6.99***	5.61 ± 5.75	5.66 ± 5.84	(I) F (2, 440) = 1.89	40.01 ± 7.06	39.06 ± 6.91	(I) F (2, 440) = 0.708		
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.57 ± 6.73			
Education level completed												
Secondary Education	175	27.45 ± 12.74	27.09 ± 13.22	(T) F (1, 440) = 1.69	6.31 ± 5.79	7.14 ± 5.84	(T) F (1, 440) = 0.897	39.70 ± 6.73	38.50 ± 7.20	(T) F (1, 440) = 14.62***		
Bachelor's degree.	162	28.77 ± 12.36	28.39 ± 12.76	(B) F (2, 440) = 0.585	6.62 ± 6.02	7.14 ± 6.24	(B) F (2, 440) = 1.241	39.74 ± 6.19	38.52 ± 6.20	(B) F (2, 440) = 0.002		
Master's or Doctor's degree	106	28.93 ± 12.66	27.97 ± 13.11	(I) F (2, 440) = 0.175	5.70 ± 5.54	6.09 ± 6.00	(I) F (2, 440) = 0.835	39.52 ± 6.82	38.78 ± 6.75	(I) F (2, 440) = 0.272		
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.57 ± 6.73			
Marital status												
Married	231	28.11 ± 12.84	27.91 ± 13.36	(T) F (1, 439) = 1.36	6.22 ± 6.00	5.95 ± 5.95	(T) F (1, 439) = 2.611	39.73 ± 6.99	38.98 ± 6.58	(T) F (1, 439) = 16.71***		
Living with partner, not married	74	28.79 ± 11.43	28.08 ± 11.76	(B) F (3, 439) = 0.534	6.55 ± 5.59	7.58 ± 6.46	(B) F (3, 439) = 2.502	39.70 ± 5.49	37.67 ± 6.56	(B) F (3, 439) = 2.785*		
Separated or widower/widow	53	29.69 ± 12.72	26.43 ± 14.42	(I) F (3, 439) = 0.775	4.96 ± 4.78	5.41 ± 5.75	(I) F (3, 439) = 0.1478	41.26 ± 5.60	40.22 ± 6.67	(I) F (3, 439) = 0.989		
Single	85	29.69 ± 12.72	27.97 ± 12.30		7.02 ± 6.02	7.68 ± 5.82		38.51 ± 6.57	37.23 ± 7.07			
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.57 ± 6.73			
Dependent relatives												
Yes	271	27.74 ± 13.00	27.31 ± 13.647	(T) F (1, 441) = 1.509	6.07 ± 5.90	6.01 ± 6.04	(T) F (1, 441) = 1.291	40.19 ± 6.58	39.04 ± 6.90	(T) F (1, 441) = 15.407***		
No	172	29.15 ± 11.86	28.51 ± 12.24	(B) F (1, 441) = 1.250	6.61 ± 5.68	7.25 ± 5.97	(B) F (1, 441) = 2.968	38.86 ± 6.42	37.84 ± 6.41	(B) F (1, 441) = 4.72*		
Total	443	28.29 ± 12.57	27.77 ± 13.01	(I) F (1, 441) = 0.062	6.28 ± 5.82	6.49 ± 6.04	(I) F (1, 441) = 1.906	39.67 ± 6.55	38.57 ± 6.73	(I) F (1, 441) = 0.059		
No. of children in your care												
0	173	29.84 ± 12.10	28.98 ± 12.16	(T) F (1, 440) = 1.161	6.89 ± 5.86	7.39 ± 6.09	(T) F (1, 440) = 0.631	38.70 ± 6.49	37.46 ± 6.60	(T) F (1, 440) = 16.605***		
1	113	27.64 ± 12.38	27.49 ± 13.50	(B) F (2, 440) = 2.012	5.53 ± 5.50	5.74 ± 6.1	(B) F (2, 440) = 3.129	39.83 ± 7.03	38.50 ± 7.39	(B) F (2, 440) = 5.419**		
>1	157	27.04 ± 13.11	26.64 ± 13.51	(I) F (2, 440) = 0.232	6.15 ± 5.95	6.04 ± 5.79	(I) F (2, 440) = 0.553	40.63 ± 6.12	39.85 ± 6.16	(I) F (2, 440) = 0.386		
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.57 ± 6.73			
Autonomous community of the workplace												
Community of Madrid	375	28.13 ± 12.53	27.98 ± 13.16	(T) F (1, 441) = 5.05*	6.27 ± 5.86	6.70 ± 6.17	(T) F (1, 441) = 0.539	39.60 ± 6.59	38.37 ± 6.70	(T) F (1, 441) = 4.71*		
Others	69	28.13 ± 12.53	27.98 ± 13.16	(B) F (1, 441) = 0.014	6.30 ± 5.60	5.37 ± 5.13	(B) F (1, 441) = 0.867	40.07 ± 6.37	39.69 ± 6.80	(B) F (1, 441) = 1.29		
Total	443	28.29 ± 12.57	27.77 ± 13.01	(I) F (1, 441) = 3.966*	6.28 ± 5.82	6.49 ± 6.04	(I) F (1, 441) = 3.85	39.67 ± 6.55	38.57 ± 6.73	(I) F (1, 441) = 1.33		
Professional category												
Executive or Intermediate job	87	26.72 ± 13.23	27.45 ± 13.78	(T) F (1, 440) = 0.006	5.73 ± 5.65	5.57 ± 6.09	(T) F (1, 440) = 0.051	41.48 ± 4.98	40.35 ± 6.02	(T) F (1, 440) = 10.717***		
Base position	356	28.67 ± 12.40	27.85 ± 12.83	(B) F (2, 440) = 0.669	6.41 ± 5.85	6.71 ± 6.01	(B) F (2, 440) = 2.064	39.23 ± 6.81	38.14 ± 6.83	(B) F (2, 440) = 9.819**		
Total	443	28.29 ± 12.57	27.77 ± 13.01	(I) F (2, 440) = 2.108	6.28 ± 5.82	6.49 ± 6.04	(I) F (2, 440) = 0.543	39.67 ± 6.55	38.57 ± 6.73	(I) F (2, 440) = 0.002		
Post												
Medical post	60	30.71 ± 12.64	31.06 ± 13.12	(T) F (1, 439) = 0.054	6.016 ± 5.35	7.01 ± 6.41	(T) F (1, 439) = 1.616	39.66 ± 6.38	39.61 ± 6.25	(T) F (1, 439) = 10.688**		
Nursing post	173	28.28 ± 12.64	27.18 ± 12.86	(B) F (3, 439) = 1.712	6.49 ± 6.00	6.52 ± 6.00	(B) F (3, 439) = 0.227	39.34 ± 6.64	38.36 ± 6.59	(B) F (3, 439) = 0.287		
Assistant Nurse.	146	28.51 ± 12.32	27.57 ± 12.73	(I) F (3, 439) = 1.377	6.39 ± 5.64	6.43 ± 5.85	(I) F (3, 439) = 0.577	39.95 ± 6.35	38.36 ± 7.10	(I) F (3, 439) = 1.099		
Caregiver	64	25.51 ± 12.66	26.76 ± 13.76		5.71 ± 6.20	6.06 ± 6.30		39.96 ± 6.98	38.65 ± 6.71			
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.57 ± 6.73			
Type of center												
Hospital	286	27.87 ± 12.16	26.67 ± 12.84	(T) F (1, 440) = 0.217	6.18 ± 5.99	6.10 ± 5.67	(T) F (1, 440) = 3.507	39.15 ± 6.70	38.15 ± 6.83	(T) F (1, 440) = 12.628***		
Primary care	678	28.17 ± 13.49	30.64 ± 13.48	(B) F (2, 440) = 1.621	5.61 ± 5.43	7.40 ± 6.87	(B) F (2, 440) = 1.078	40.25 ± 6.69	39.35 ± 6.41	(B) F (2, 440) = 2.622		
Other	90	29.70 ± 13.19	29.14 ± 12.87	(I) F (2, 440) = 4.606**	7.08 ± 5.49	7.06 ± 6.37	(I) F (2, 440) = 3.595*	40.92 ± 5.78	39.35 ± 6.58	(I) F (2, 440) = 0.393		
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.58 ± 6.73			
Shift												
Fixed shift	237	28.45 ± 13.03	28.36 ± 13.20	(T) F (1, 440) = 1.610	5.85 ± 5.64	6.25 ± 5.87	(T) F (1, 440) = 0.445	39.61 ± 6.63	38.82 ± 6.66	(T) F (1, 440) = 8.977**		
Rotating shift	157	28.61 ± 11.83	27.57 ± 12.39	(B) F (2, 440) = 0.818	6.82 ± 6.10	6.71 ± 6.21	(B) F (2, 440) = 0.990	39.83 ± 6.10	38.05 ± 6.98	(B) F (2, 440) = 0.117		
Other	49	26.44 ± 12.76	25.57 ± 14.00	(I) F (2, 440) = 0.564	6.59 ± 5.66	6.91 ± 6.30	(I) F (2, 440) = 0.453	39.48 ± 7.57	39.08 ± 6.24	(I) F (2, 440) = 1.875		
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.57 ± 6.73			

TABLE 1. (Continued)

Variables	N	Emotional Exhaustion			Depersonalization			Personal Accomplishment		
		T0	T1	F	T0	T1	F	T0	T1	F
Time										
Full time	388	27.84 ± 12.51	27.56 ± 12.76	(T) F (1, 441) = 3.685	6.24 ± 5.78	6.55 ± 6.05	(T) F (1, 441) = 0.006	39.82 ± 6.59	38.79 ± 6.68	(T) F (1, 441) = 10.002**
Part time	55	31.47 ± 12.65	29.27 ± 14.68	(B) F (1, 441) = 2.395	6.54 ± 6.10	6.03 ± 5.99	(B) F (1, 441) = 0.021	38.60 ± 6.19	37.05 ± 6.92	(B) F (1, 441) = 2.956
Total	443	28.29 ± 12.57	27.77 ± 13.01	(I) F (1, 441) = 2.237	6.28 ± 5.82	6.49 ± 6.04	(I) F (1, 441) = 1.179	39.67 ± 6.55	38.57 ± 6.73	(I) F (1, 441) = 0.389
Years of seniority										
≤5	166	26.77 ± 13.27	25.90 ± 13.05	(T) F (1, 440) = 1.304	6.04 ± 5.73	7.10 ± 6.30	(T) F (1, 440) = 0.623	39.78 ± 6.61	38.81 ± 6.54	(T) F (1, 440) = 14.871***
5.01–15	185	29.38 ± 12.07	29.15 ± 12.77	(B) F (2, 440) = 2.765	6.45 ± 5.66	6.01 ± 5.50	(B) F (2, 440) = 0.186	39.41 ± 6.47	38.17 ± 6.97	(B) F (2, 440) = 0.504
>15	92	28.82 ± 12.13	28.40 ± 13.15	(I) F (2, 440) = 0.229	6.35 ± 6.32	6.35 ± 6.52	(I) F (2, 440) = 1.179*	40.01 ± 6.62	38.94 ± 6.60	(I) F (2, 440) = 0.104
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.6 ± 6.55	38.57 ± 6.73	
Years as health workers										
≤5	57	25.22 ± 12.93	24.31 ± 12.67	(T) F (1, 440) = 1.745	6.31 ± 5.39	7.94 ± 5.66	(T) F (1, 440) = 3.789	39.57 ± 6.52	37.92 ± 7.19	(T) F (1, 440) = 15.260***
5.01–15	132	30.95 ± 12.01	30.08 ± 12.39	(B) F (2, 440) = 5.322**	6.86 ± 6.07	7.08 ± 6.39	(B) F (2, 440) = 2.369	39.27 ± 6.20	38.06 ± 6.61	(B) F (2, 440) = 0.854
>15	254	27.59 ± 12.58	27.35 ± 13.23	(I) F (2, 440) = 0.283	5.97 ± 5.77	5.86 ± 5.86	(I) F (2, 440) = 2.565	39.90 ± 6.74	38.98 ± 6.68	(I) F (2, 440) = 0.416
Total	443	28.29 ± 12.57	27.77 ± 13.01		6.28 ± 5.82	6.49 ± 6.04		39.67 ± 6.55	38.57 ± 6.73	

BS values distinguish the statistical significance.
 BS, between-subjects; I, interaction; T, Within-Subjects (time).
 *P < 0.05.
 **P < 0.01.
 ***P < 0.001.

scores at T0 than they do at T1, thus they feel more depersonalized at T1 $df = -1.791$, $P < 0.01$. There are also significant interaction effects between depersonalization and years of seniority in their current position, with workers who have hold their current position for less than 5 years feeling more depersonalized at T1 $df = -1.060$, $P < 0.01$ (Table 1).

Personal Fulfilment (Burnout)

There are statistically significant differences between personal fulfilment and marital status, with personal fulfilment scores being higher in married workers than in single professionals $df = 2.869$, $P < 0.05$. Significant interaction effects were also found between personal fulfilment and dependent family members. Workers with dependent family members feel more professionally fulfilled than those without such responsibilities $df = 1.268$, $P < 0.05$. Similar results were obtained with the number of children in the household variable. Workers with two or more children feel more professionally fulfilled than those without children $df = -2.59$, $P < 0.001$. There are also significant differences between personal fulfilment and job classification; specifically, workers who are in a managerial or intermediate position have higher personal fulfilment scores than individuals who hold a lower-level position $df = 2.230$, $P < 0.01$. Furthermore, there is a statistically significant main effect of the Within-Subjects factor (time) in all mixed ANOVAs performed except for the sex variable ($P < 0.05$). Scores in personal fulfilment are higher at T0 than at T1 in all these factors (Table 1).

Intrusion (Posttraumatic Stress)

Regarding the intrusion variable, there are significant interaction effects between intrusion and sex at T0 and T1 in women, with higher scores on the intrusion scale than men, $df = -1.280$, $P < 0.001$. There are also statistically significant differences between intrusion and age, with the younger healthcare workers (18 to 35 years) presenting higher intrusion scores than the older workers (more than or equal to 51 years) $df = 2.291$, $P < 0.05$. Regarding educational level, there are statistically significant differences between this variable and intrusion, with those with an intermediate level of studies presenting higher intrusion scores than those with a postgraduate degree (master’s or doctoral degree) $df = 2.849$, $P < 0.01$. In addition, there are statistically significant differences between intrusion and job classification, with those at a lower-level position having higher intrusion scores than those holding a managerial or intermediate position $df = -2.345$, $P < 0.01$. Statistically significant differences were also found between intrusion and work shift, specifically between the “other shifts” and “rotating shift” groups, the latter having higher intrusion scores $df = -2.812$, $P < 0.05$. The same occurs with the job title variable as statistically significant differences between intrusion and this variable are found, with assistant nurses presenting higher intrusion scores than physicians $df = -3.580$, $P < 0.01$. Furthermore, there is a statistically significant main effect of the Within-Subjects factor (time) in all mixed ANOVAs performed except for the sex variable ($P < 0.05$). Intrusion scores are higher at T0 than at T1 in all these factors (Table 2).

Avoidance

There are statistically significant differences between avoidance and sex, with women presenting higher avoidance scores than men $df = -4.289$, $P < 0.001$. Statistically significant differences were also found between avoidance and educational level; nurses with an intermediate level of studies (high school/vocational training) present higher intrusion scores than those with a postgraduate degree $df = 2.082$, $P < 0.05$. There is a significant interaction effect between avoidance and the Autonomous Community in which the workplace is located, with healthcare workers working in the community of Madrid having higher avoidance scores at T1 than

TABLE 2. Association Between Sociodemographic Variables and Workplace Variables With Symptoms of Posttraumatic Stress

Variables	N	Intrusion			Avoidance			Hyperarousal				
		T0	T1	F	T0	T1	F	T0	T1	F		
Sex												
Men	54	14.79 ± 7.58	15.24 ± 8.16	(T) F (1, 441) = 1.223	16.70 ± 8.62	16.90 ± 8.90	(T) F (1, 441) = 668	13.35 ± 7.36	14.29 ± 8.21	(T) F (1, 441) = 0.015		
Women	389	20.56 ± 6.44	19.28 ± 7.17	(B) F (1, 441) = 27.426***	20.81 ± 6.74	21.57 ± 7.59	(B) F (1, 441) = 19.652***	18.98 ± 6.70	18.13 ± 7.27	(B) F (1, 441) = 24.99***		
Total	443	19.86 ± 6.85	18.79 ± 7.41	F(1) F (1, 441) = 5.208*	20.33 ± 7.10	21.00 ± 7.90	(F) F (1, 441) = 0.668	18.29 ± 7.02	17.67 ± 7.49	(F) F (1, 441) = 488*		
Age												
18–35	83	21.02 ± 5.98	19.36 ± 7.8	(T) F (1, 440) = 18.480***	20.72 ± 6.87	20.03 ± 8.08	(T) F (1, 440) = 3.52	18.93 ± 6.67	17.89 ± 8	(T) F (1, 440) = 5.749*		
36–50	205	20.71 ± 6.14	19.43 ± 6.75	(B) F (2, 440) = 5.734**	20.96 ± 6.54	21.62 ± 7.16	(B) F (2, 440) = 2.308	19.22 ± 6.44	18.50 ± 6.63	(B) F (2, 440) = 5.289**		
>51	157	18.14 ± 7.8	17.65 ± 7.88	(F) F (2, 440) = 1.660	19.32 ± 7.81	20.19 ± 8.67	(F) F (2, 440) = 0.207	16.76 ± 7.62	16.47 ± 8.13	(F) F (2, 440) = 0.537		
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21 ± 7.9		18.29 ± 7.02	17.67 ± 7.49			
Educational level completed												
Secondary Education	175	20.43 ± 6.68	19.85 ± 7.36	(T) F (1, 440) = 19.996***	21.53 ± 6.84	21.77 ± 7.73	(T) F (1, 440) = 5.223*	19.06 ± 6.92	18.57 ± 7.70	(T) F (1, 440) = 5.301*		
Bachelor's degree	162	20.41 ± 6.17	19.12 ± 7.03	(B) F (2, 440) = 6.817***	19.85 ± 6.67	20.79 ± 7.84	(B) F (2, 440) = 3.461*	18.76 ± 6.68	17.98 ± 7.04	(B) F (2, 440) = 6.418**		
Master's or Doctor's degree	106	18.06 ± 7.80	16.52 ± 7.62	(F) F (2, 440) = 1.356	19.09 ± 7.75	20.05 ± 8.22	(F) F (2, 440) = 0.645	16.31 ± 7.37	15.69 ± 7.52	(F) F (2, 440) = 0.105		
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21 ± 7.90		18.29 ± 7.02	17.67 ± 7.49			
Marital status												
Married	231	20.19 ± 6.66	19.19 ± 7.25	(T) F (1, 439) = 11.977***	20.59 ± 6.81	20.88 ± 8.21	(T) F (1, 439) = 7.175**	18.79 ± 6.82	17.97 ± 7.49	(T) F (1, 439) = 2.056		
Living with partner, not married	74	20.40 ± 6.35	18.41 ± 7.53	(B) F (3, 439) = 0.873	20.14 ± 7.40	20.98 ± 7.36	(B) F (3, 439) = 0.090	18.18 ± 6.58	16.91 ± 7.17	(B) F (3, 439) = 0.615		
Separated or Widower/Widow	53	17.94 ± 7.69	18.33 ± 7.07	(F) F (3, 439) = 2.278	19.35 ± 7.74	21.18 ± 7.12	(F) F (3, 439) = 0.882	16.96 ± 7.93	17.66 ± 7.10	(F) F (3, 439) = 1.463		
Single	85	19.68 ± 7.12	18.30 ± 7.98		20.42 ± 7.26	21.24 ± 8.11		17.87 ± 7.31	17.49 ± 8.05			
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21 ± 7.90		18.29 ± 7.02	17.67 ± 7.49			
Dependent relatives												
Yes	271	19.91 ± 6.86	18.87 ± 7.12	(T) F (1, 441) = 17.902***	20.43 ± 7.15	20.96 ± 7.99	(T) F (1, 441) = 5.136*	18.38 ± 6.98	17.87 ± 7.24	(T) F (1, 441) = 5.817*		
No	172	19.79 ± 6.86	18.66 ± 7.85	(B) F (1, 441) = 0.068	20.18 ± 7.04	21.07 ± 7.79	(B) F (1, 441) = 0.011	18.15 ± 7.10	17.35 ± 7.87	(B) F (1, 441) = 326		
Total	443	19.86 ± 6.85	18.79 ± 7.41	(F) F (1, 441) = 0.028	20.33 ± 7.10	21 ± 7.9	(F) F (1, 441) = 0.335	18.29 ± 7.02	17.67 ± 7.49	(F) F (1, 441) = 0.273		
No. of children in your care												
0	173	19.90 ± 6.82	18.61 ± 7.79	(T) F (1, 440) = 16.296***	20.22 ± 6.96	21.12 ± 7.79	(T) F (1, 440) = 3.647	18.19 ± 7.13	17.49 ± 7.88	(T) F (1, 440) = 4.82*		
1	113	19.76 ± 6.81	19.15 ± 7.16	(B) F (2, 440) = 0.033	21.46 ± 6.79	21.39 ± 8.15	(B) F (2, 440) = 1.226	18.59 ± 6.86	18.28 ± 7.21	(B) F (2, 440) = 0.348		
>1	157	19.88 ± 6.96	18.73 ± 7.18	(F) F (2, 440) = 0.590	19.64 ± 7.41	20.59 ± 7.88	(F) F (2, 440) = 1.010	18.19 ± 7.05	17.42 ± 7.27	(F) F (2, 440) = 0.251		
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21 ± 7.9		18.29 ± 7.02	17.67 ± 7.49			
Autonomous community of the workplace												
Community of Madrid	375	19.90 ± 6.69	19.07 ± 7.37	(T) F (1, 441) = 21.936***	20.02 ± 7.21	20.98 ± 7.89	(T) F (1, 441) = 0.001	18.24 ± 6.94	17.72 ± 7.43	(T) F (1, 441) = 5.436*		
Others	69	19.62 ± 7.70	17.26 ± 7.48	(B) F (1, 441) = 1.453	22.05 ± 6.24	21.11 ± 8.03	(B) F (1, 441) = 1.479	18.56 ± 7.48	17.37 ± 7.84	(B) F (1, 441) = 0.000		
Total	443	19.86 ± 6.85	18.79 ± 7.41	(F) F (1, 441) = 5.039*	20.33 ± 7.10	21 ± 7.90	(F) F (1, 441) = 5.207*	18.29 ± 7.02	17.67 ± 7.49	(F) F (1, 441) = 0.818		
Professional category												
Executive or Intermediate job	87	17.52 ± 7.75	17.35 ± 8.09	(T) F (1, 441) = 5.492*	19.14 ± 7.73	20.45 ± 8.36	(T) F (1, 441) = 5.648*	16.13 ± 7.58	16.51 ± 8.26	(T) F (1, 441) = 0.547		
Base position	356	20.43 ± 6.50	19.14 ± 7.20	(B) F (1, 441) = 8.873**	20.62 ± 6.92	21.14 ± 7.79	(B) F (1, 441) = 1.768	18.82 ± 6.78	17.95 ± 7.27	(B) F (1, 441) = 6.703**		
Total	443	19.86 ± 6.85	18.79 ± 7.41	(F) F (1, 441) = 3.206	20.33 ± 7.10	21.00 ± 7.90	(F) F (1, 441) = 1.087	18.29 ± 7.02	17.67 ± 7.49	(F) F (1, 441) = 3.513		
Post												
Medical post	60	18.13 ± 7.67	15.81 ± 7.90	(T) F (1, 439) = 18.507***	18.68 ± 6.86	19.11 ± 8.49	(T) F (1, 439) = 3.449	16.43 ± 7.33	15.60 ± 7.95	(T) F (1, 439) = 4.410*		
Nursing post	173	19.89 ± 6.74	18.73 ± 7.27	(B) F (3, 439) = 4.419**	19.96 ± 7.20	20.75 ± 7.89	(B) F (3, 439) = 2.592	18.25 ± 6.97	17.40 ± 7.13	(B) F (3, 439) = 3.166*		
Assistant Nurse	146	20.87 ± 6.20	20.23 ± 6.92	(F) F (3, 439) = 1.627	21.37 ± 6.76	21.97 ± 7.22	(F) F (3, 439) = 0.054	19.26 ± 6.82	18.91 ± 7.30	(F) F (3, 439) = 0.253		
Caregiver	64	19.09 ± 7.45	18.45 ± 7.65		20.53 ± 7.57	21.23 ± 8.64		17.95 ± 7.07	17.48 ± 8.06			
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21.00 ± 7.90		18.29 ± 7.02	17.67 ± 7.49			
Type of center												
Hospital	286	20.20 ± 6.55	18.95 ± 7.33	(T) F (1, 440) = 11.049***	20.45 ± 6.85	21.25 ± 7.85	(T) F (1, 440) = 1.502	18.46 ± 6.78	17.72 ± 7.53	(T) F (1, 440) = 3.066		
Primary care	678	19.76 ± 6.86	18.02 ± 7.20	(B) F (2, 440) = 0.594	20.33 ± 7.21	19.61 ± 8.44	(B) F (2, 440) = 0.451	18.07 ± 7.49	17.20 ± 7.44	(B) F (2, 440) = 0.137		
Other	90	18.83 ± 7.70	18.84 ± 7.83	(F) F (2, 440) = 2.659	19.95 ± 8.84	21.24 ± 7.63	(F) F (2, 440) = 2.129	17.92 ± 7.47	17.84 ± 7.47	(F) F (2, 440) = 0.555		
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21.00 ± 7.90		18.29 ± 7.02	17.67 ± 7.49			
Shift												
Fixed	237	19.42 ± 7.08	18.41 ± 7.42	(T) F (1, 440) = 12.070***	20.00 ± 7.39	20.80 ± 8.03	(T) F (1, 440) = 2.818	17.85 ± 7.02	17.27 ± 7.35	(T) F (1, 440) = 3.474		
Rotating shift	157	21.05 ± 6.13	19.87 ± 6.87	(B) F (2, 440) = 4.371*	21.22 ± 6.33	21.70 ± 7.53	(B) F (2, 440) = 2.058	19.32 ± 6.77	18.58 ± 7.30	(B) F (2, 440) = 2.778		
Other	49	18.16 ± 7.40	17.14 ± 8.57	(F) F (2, 440) = 0.048	19.14 ± 8.81	19.75 ± 8.39	(F) F (2, 440) = 0.118	17.16 ± 7.55	16.63 ± 8.57	(F) F (2, 440) = 0.049		
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21.00 ± 7.90		18.29 ± 7.02	17.67 ± 7.49			
Time												
Full time	388	19.68 ± 7.00	18.63 ± 7.51	(T) F (1, 441) = 9.038**	20.24 ± 7.24	20.88 ± 7.99	(T) F (1, 441) = 2.585	18.07 ± 7.13	17.48 ± 7.59	(T) F (1, 441) = 3.501		

TABLE 2. (Continued)

Variables	N	Intrusion			Avoidance			Hyperarousal		
		T0	T1	F	T0	T1	F	T0	T1	F
Part time	55	21.12 ± 5.55	19.90 ± 6.60	(B) F (1, 441) = 2.023	21.00 ± 5.99	21.83 ± 7.29	(B) F (1, 441) = 0.754	19.89 ± 6.02	18.96 ± 6.63	(B) F (1, 441) = 2.925
Total	443	19.86 ± 6.85	18.79 ± 7.41	(I) F (1, 441) = 0.050	20.33 ± 7.10	21.00 ± 7.90	(I) F (1, 441) = 0.043	18.29 ± 7.02	17.67 ± 7.49	(I) F (1, 441) = 0.179
Years of seniority	166	19.95 ± 7.06	18.30 ± 7.96	(T) F (1, 440) = 16.582***	20.35 ± 7.26	20.03 ± 8.40	(T) F (1, 440) = 5.99*	18.07 ± 7.46	16.74 ± 8.06	(T) F (1, 440) = 3.656
≤5	185	20.09 ± 6.54	19.44 ± 6.86	(B) F (2, 440) = 0.785	20.51 ± 7.01	21.64 ± 7.67	(B) F (2, 440) = 0.748	18.83 ± 6.74	18.48 ± 7.08	(B) F (2, 440) = 1.646
>15	92	19.22 ± 7.11	18.34 ± 7.40	(I) F (2, 440) = 1.706	19.95 ± 7.05	21.47 ± 7.32	(I) F (2, 440) = 3.336*	17.61 ± 6.73	17.70 ± 7.11	(I) F (2, 440) = 2.294
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21.00 ± 7.90		18.29 ± 7.02	17.67 ± 7.47	
Years as health workers	57	20.28 ± 6.58	18.03 ± 8.12	(T) F (1, 440) = 22.367***	21.03 ± 6.99	20.50 ± 8.05	(T) F (1, 440) = 1.338	17.91 ± 7.23	16.43 ± 7.91	(T) F (1, 440) = 7.202**
≤5	132	21.05 ± 6.10	19.81 ± 7.23	(B) F (2, 440) = 2.691	20.79 ± 6.99	21.84 ± 8.02	(B) F (2, 440) = 0.963	19.62 ± 6.64	18.93 ± 7.31	(B) F (2, 440) = 3.612*
>15	254	19.14 ± 7.20	18.43 ± 7.31	(I) F (2, 440) = 2.104	19.94 ± 7.18	20.68 ± 7.81	(I) F (2, 440) = 1.243	17.69 ± 7.10	17.28 ± 7.43	(I) F (2, 440) = 0.847
Total	443	19.86 ± 6.85	18.79 ± 7.41		20.33 ± 7.10	21.00 ± 7.90		18.29 ± 7.02	17.67 ± 7.49	

Bold values distinguish the statistical significance.
 BS: Between-Subjects; I: Interaction; T: Within-Subjects (time).
 *P < 0.05.
 **P < 0.01.
 ***P < 0.001.

at T0 $df = -965, P < 0.01$. There is also a significant interaction effect between avoidance and the years of experience of nurses. Those who have been working for less than 5 years have higher avoidance scores at T0 than at T1 $df = 1.651, P < 0.001$. Furthermore, there is a statistically significant main effect of the Within-Subjects factor (time) in some of the mixed ANOVAs performed ($P < 0.05$). Avoidance scores are higher at T1 than at T0 in all these factors (Table 2).

Hyperarousal

There are statistically significant differences between hyperarousal and sex, women present higher scores on the hyperarousal scale than men $df = -4.738, P < 0.001$. Statistically significant differences were also found between hyperarousal and age. Middle-aged workers (between 36 and 50 years) have higher hyperarousal scores than older workers (more than or equal to 51 years), $df = 2.247, P < 0.01$. Statistically significant differences were also found between hyperarousal and educational level, with those who had an intermediate level of studies (presenting higher hyperarousal scores than postgraduate degree holders $df = 2.815, P < 0.01$). The same occurs with the job classification factor, as statistically significant differences between hyperarousal and this factor were found. Workers who hold a lower-level position have higher hyperarousal scores than those at a managerial or intermediate position $df = -2.061, P < 0.01$. As for the job title variable, there are statistically significant differences on hyperarousal, with assistant nurses having higher hyperarousal scores than physicians $df = -3.076, P < 0.05$. There are also statistically significant differences between hyperarousal and years of experience as healthcare workers. Those who have between 5 and 15 years of experience have higher hyperarousal scores than those who have over 15 years of experience, $df = -2.061, P < 0.01$. Finally, there is a statistically significant main effect of the Within-Subjects factor (time) in some of the mixed ANOVAs performed ($P < 0.05$). Hyperarousal scores at T0 are higher than at T1 in these factors (Table 2).

Anxiety

There is a significant interaction effect between anxiety and sex, with women having higher anxiety scores at T0 $df = 1.013, P < 0.001$. Similar results were obtained in relation to age; statistically significant differences were found between anxiety and this factor, with the group of younger participants (18 to 35 years) presenting higher anxiety than the older professionals (more than or equal to 51 years) $df = -1.491, P < 0.05$. Furthermore, there is a statistically significant main effect of the Within-Subjects factor (time) in all of the mixed ANOVAs performed ($P < 0.05$). Anxiety scores are higher at T0 than at T1 in all these factors (Table 3).

Depression

There are statistically significant differences between depression and sex, with women presenting higher depression scores than men $df = -1.915, P < 0.001$. In relation to job classification, there are statistically significant differences between depression and this factor, with those at a lower-level position having higher depression scores than those holding a managerial or intermediate position $df = 939, P < 0.05$. There are also statistically significant differences between depression and employment category, with depression scores being higher in part-time workers than in those who work full-time $df = -1.400, P < 0.001$. Furthermore, there is a statistically significant main effect of the Within-Subjects factor (time) in all the mixed ANOVAs performed ($P < 0.05$). Depression scores are higher at T0 than at T1 in all these factors (Table 3).

Resilience

As for the resilience variable, there are statistically significant differences between resilience and sex. Men have higher

TABLE 3. Association Between Sociodemographic Variables and Workplace Variables With Symptoms of Anxiety, Depression, and Resilience

Variables	N	Anxiety			Depression			Resilience				
		T0	T1	F	T0	T1	F	T0	T1	F		
Sex												
Men	54	7.20 ± 3.56	7.05 ± 3.59	(T) F (1, 441) = 7.410** (B) F (1, 441) = 23.217*** (I) F (1, 441) = 4.11*	4.75 ± 3.67	4.44 ± 3.69	(T) F (1, 441) = 7.884** (B) F (1, 441) = 12.586*** (I) F (1, 441) = 1.829	3.76 ± 0.74	3.78 ± 0.74	(T) F (1, 441) = 2.574 (B) F (1, 441) = 17.09*** (I) F (1, 441) = 1.638		
Women	389	10.23 ± 4.08	9.22 ± 4.01		6.96 ± 4.01	6.06 ± 4.07		3.28 ± 0.78	3.39 ± 0.76			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Age												
18–35	83	10.89 ± 4.07	9.65 ± 4.06	(T) F (1, 440) = 40.172*** (B) F (2, 440) = 4.477** (I) F (2, 440) = 1.472	7.18 ± 4.03	5.93 ± 3.93	(T) F (1, 440) = 33.791*** (B) F (2, 440) = 2.154 (I) F (2, 440) = 2.404	3.17 ± 0.86	3.22 ± 0.77	(T) F (1, 440) = 11.416*** (B) F (2, 440) = 4.210** (I) F (2, 440) = 0.321		
36–50	203	10.05 ± 3.90	9.04 ± 3.89		7.03 ± 3.95	6.07 ± 3.84		3.33 ± 0.72	3.44 ± 0.72			
>51	157	9.08 ± 4.34	8.47 ± 4.13		6.00 ± 4.06	5.56 ± 4.39		3.43 ± 0.83	3.54 ± 0.80			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Educational level completed												
Secondary Education	175	9.83 ± 4.27	9.25 ± 4.27	(T) F (1, 440) = 40.935*** (B) F (2, 440) = 1.641 (I) F (2, 440) = 2.351	6.60 ± 4.24	5.83 ± 4.16	(T) F (1, 440) = 32.886*** (B) F (2, 440) = 0.089 (I) F (2, 440) = 0.092	3.20 ± 0.78	3.36 ± 0.78	(T) F (1, 440) = 11.50** (B) F (2, 440) = 4.40* (I) F (2, 440) = 2.65		
Bachelor's degree	162	10.28 ± 3.96	9.01 ± 3.77		6.82 ± 3.83	5.93 ± 3.90		3.36 ± 0.78	3.45 ± 0.74			
Master's or Doctor's degree	107	9.28 ± 4.15	8.38 ± 4.03		6.65 ± 4.00	5.79 ± 4.16		3.54 ± 0.79	3.55 ± 0.78			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Marital status												
Married	231	10.03 ± 4.05	9.19 ± 3.36	(T) F (1, 439) = 29.27*** (B) F (3, 439) = 0.665 (I) F (3, 439) = 2.1489	6.80 ± 3.90	6.01 ± 3.80	(T) F (1, 439) = 23.765*** (B) F (3, 439) = 0.487 (I) F (3, 439) = 0.964	3.34 ± 0.74	3.47 ± 0.70	(T) F (1, 439) = 7.732** (B) F (3, 439) = 1.440 (I) F (3, 439) = 1.044		
Living with partner, not married	74	9.98 ± 3.80	8.68 ± 3.83		6.62 ± 3.85	5.67 ± 4.16		3.32 ± 0.84	3.45 ± 0.86			
Separated or widow/widow	53	8.88 ± 4.53	8.77 ± 4.27		5.90 ± 4.31	5.60 ± 4.40		3.50 ± 0.91	3.53 ± 0.79			
Single	85	9.91 ± 4.38	8.67 ± 4.20		6.96 ± 4.34	5.82 ± 4.47		3.24 ± 0.81	3.28 ± 0.83			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Dependent relatives												
Yes	271	9.89 ± 4.06	9.08 ± 4.08	(T) F (1, 441) = 42.332*** (B) F (1, 441) = 0.290 (I) F (1, 441) = 0.735	6.78 ± 4.10	6.08 ± 4.08	(T) F (1, 441) = 35.456*** (B) F (1, 491) = 1.140 (I) F (1, 491) = 1.274	3.39 ± 0.77	3.50 ± 0.75	(T) F (1, 441) = 13.751*** (B) F (1, 491) = 3.951* (I) F (1, 491) = 0.276		
No	172	9.81 ± 4.27	8.76 ± 3.93		6.55 ± 3.92	5.52 ± 4.02		3.26 ± 0.82	3.34 ± 0.79			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.3 ± 0.79	3.44 ± 0.77			
No. of children in your care												
0	173	9.98 ± 4.24	8.86 ± 4.09	(T) F (1, 440) = 36.86*** (B) F (2, 440) = 0.219 (I) F (2, 440) = 1.491	6.82 ± 3.94	5.79 ± 4.15	(T) F (1, 440) = 29.762*** (B) F (2, 440) = 0.299 (I) F (2, 440) = 1.405	3.25 ± 0.82	3.31 ± 0.78	(T) F (1, 440) = 14.166*** (B) F (2, 440) = 3.337* (I) F (2, 440) = 1.803		
1	113	9.84 ± 4.04	9.32 ± 4.09		6.69 ± 3.81	6.25 ± 4.07		3.39 ± 0.77	3.44 ± 0.78			
≥1	157	9.75 ± 4.11	8.79 ± 4.00		6.56 ± 4.30	5.66 ± 3.96		3.40 ± 0.77	3.57 ± 0.72			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Autonomous community of the workplace												
Community of Madrid	374	9.85 ± 3.99	9.01 ± 3.92	(T) F (1, 441) = 29.337*** (B) F (1, 441) = 0.066 (I) F (1, 441) = 1.081	6.63 ± 3.90	5.86 ± 3.94	(T) F (1, 441) = 23.430*** (B) F (1, 441) = 0.203 (I) F (1, 441) = 0.760	3.32 ± 0.80	3.43 ± 0.77	(T) F (1, 441) = 3.257 (B) F (1, 441) = 0.676 (I) F (1, 441) = 2.319		
Other	69	9.92 ± 4.90	8.68 ± 4.57		7.02 ± 4.70	5.91 ± 4.68		3.45 ± 0.77	3.46 ± 0.78			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Professional category												
Executive or intermediate job	87	8.87 ± 4.22	8.42 ± 4.20	(T) F (1, 441) = 19.266*** (B) F (1, 441) = 3.807 (I) F (1, 441) = 1.579	5.98 ± 4.03	5.06 ± 4.11	(T) F (1, 441) = 23.376*** (B) F (1, 441) = 4.382* (I) F (1, 441) = 0.101	3.49 ± 0.83	3.55 ± 0.81	(T) F (1, 441) = 7.552*** (B) F (1, 441) = 3.484 (I) F (1, 441) = 0.373		
Base position	356	10.08 ± 4.09	9.08 ± 3.97		6.87 ± 4.01	6.06 ± 4.03		3.30 ± 0.78	3.41 ± 0.75			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Post												
Medical post	60	9.86 ± 4.09	8.53 ± 4.00	(T) F (1, 439) = 31.83*** (B) F (3, 439) = 0.205 (I) F (3, 439) = 1.725	6.73 ± 3.78	6.15 ± 4.35	(T) F (1, 439) = 20.260*** (B) F (3, 439) = 0.287 (I) F (3, 439) = 1.071	3.39 ± 0.81	3.50 ± 0.80	(T) F (1, 439) = 11.851*** (B) F (3, 439) = 1.237 (I) F (3, 439) = 1.850		
Nursing post	173	9.97 ± 4.09	8.85 ± 3.78		6.86 ± 3.87	5.83 ± 3.89		3.40 ± 0.74	3.44 ± 0.74			
Assistant Nurse	146	9.94 ± 3.94	9.21 ± 4.03		6.77 ± 4.25	5.84 ± 4.16		3.20 ± 0.81	3.38 ± 0.79			
Caregiver	64	9.39 ± 4.76	9.06 ± 4.66		6.04 ± 4.18	5.73 ± 4.09		3.43 ± 0.84	3.49 ± 0.78			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Type of center												
Hospital	286	10.01 ± 4.22	9.05 ± 3.96	(T) F (1, 440) = 25.074*** (B) F (2, 440) = 0.709 (I) F (2, 440) = 0.244	6.89 ± 4.12	5.92 ± 3.93	(T) F (1, 440) = 15.520*** (B) F (2, 440) = 2.160 (I) F (2, 440) = 1.920	3.34 ± 0.78	3.42 ± 0.75	(T) F (1, 440) = 13.895*** (B) F (2, 440) = 0.031 (I) F (2, 440) = 0.386		
Primary care	678	9.80 ± 4.06	9.11 ± 4.50		6.79 ± 3.99	6.61 ± 4.59		3.31 ± 0.75	3.44 ± 0.80			
Other	90	9.43 ± 3.94	8.54 ± 3.84		6.01 ± 3.73	5.14 ± 3.99		3.34 ± 0.85	3.47 ± 0.81			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Shift												
Fixed shift	237	9.39 ± 4.27	8.70 ± 4.07	(T) F (1, 440) = 37.920*** (B) F (2, 440) = 2.377 (I) F (2, 440) = 1.643	6.19 ± 4.01	5.80 ± 4.24	(T) F (1, 440) = 24.130*** (B) F (2, 440) = 0.690 (I) F (2, 440) = 2.085	3.34 ± 0.81	3.46 ± 0.75	(T) F (1, 440) = 5.015* (B) F (2, 440) = 0.149 (I) F (2, 440) = 1.393		
Rotating shift	157	10.36 ± 3.93	9.29 ± 3.97		7.15 ± 4.01	5.94 ± 3.81		3.32 ± 0.79	3.40 ± 0.78			
Other	49	10.55 ± 3.91	9.12 ± 3.94		6.69 ± 4.11	5.40 ± 4.04		3.41 ± 0.76	3.40 ± 0.81			
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77			
Time												
Full time	388	9.75 ± 4.26	8.84 ± 4.06	(T) F (1, 441) = 18.888*** (B) F (1, 441) = 2.818	6.49 ± 4.06	5.72 ± 4.08	(T) F (1, 441) = 21.154*** (B) F (1, 441) = 6.743*	3.36 ± 0.80	3.44 ± 0.78	(T) F (1, 441) = 17.781*** (B) F (1, 441) = 1.237		
Part time	55	10.69 ± 2.99	9.74 ± 3.64		8.10 ± 3.49	6.90 ± 3.78		3.17 ± 0.74	3.41 ± 0.70			

TABLE 3. (Continued)

Variables	N	Anxiety			Depression			Resilience		
		T0	T1	F	T0	T1	F	T0	T1	F
Total	443	9.86 ± 4.14	8.95 ± 4.02	(1) <i>F</i> (1, 441) = 0.010	6.69 ± 4.03	5.86 ± 4.06	(1) <i>F</i> (1, 441) = 0.975	3.34 ± 0.79	3.44 ± 0.77	(1) <i>F</i> (1, 441) = 4.619*
Years of seniority										
≤5	166	9.84 ± 4.18	8.71 ± 4.13	(T) <i>F</i> (1, 440) = 35.803***	6.64 ± 4.07	5.49 ± 4.12	(T) <i>F</i> (1, 440) = 28.670***	3.31 ± 0.83	3.43 ± 0.80	(T) <i>F</i> (1, 440) = 12.828***
5.01–15	185	9.98 ± 4.13	9.17 ± 3.96	(B) <i>F</i> (2, 440) = 0.302	6.63 ± 3.91	5.96 ± 3.93	(B) <i>F</i> (2, 440) = 0.672	3.36 ± 0.77	3.45 ± 0.77	(B) <i>F</i> (2, 440) = 0.071
>15	92	9.66 ± 4.09	8.97 ± 3.95	(I) <i>F</i> (2, 440) = 0.872	6.91 ± 4.21	6.35 ± 4.19	(I) <i>F</i> (2, 440) = 1.605	3.35 ± 0.76	3.42 ± 0.70	(I) <i>F</i> (2, 440) = 0.398
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77	
Years as health workers										
≤5	57	10.08 ± 4.39	8.84 ± 4.27	(T) <i>F</i> (1, 440) = 34.455***	7.17 ± 4.59	5.66 ± 4.25	(T) <i>F</i> (1, 440) = 33.635***	3.31 ± 0.90	3.32 ± 0.82	(T) <i>F</i> (1, 440) = 7.111**
5.01–15	132	10.18 ± 4.07	9.34 ± 4.05	(B) <i>F</i> (2, 440) = 0.919	6.85 ± 3.75	6.17 ± 3.99	(B) <i>F</i> (2, 440) = 0.493	3.24 ± 0.78	3.36 ± 0.80	(B) <i>F</i> (2, 440) = 2.096
>15	254	9.64 ± 4.12	8.78 ± 3.95	(I) <i>F</i> (2, 440) = 0.433	6.50 ± 4.04	5.75 ± 4.06	(I) <i>F</i> (2, 440) = 1.733	3.40 ± 0.77	3.50 ± 0.73	(I) <i>F</i> (2, 440) = 0.843
Total	443	9.86 ± 4.14	8.95 ± 4.02		6.69 ± 4.03	5.86 ± 4.06		3.34 ± 0.79	3.44 ± 0.77	

Bold values distinguish the statistical significance.
 BS, Between-Subjects; I, interaction; T, Within-Subjects (time).
 **P* < 0.05.
 ***P* < 0.01.
 ****P* < 0.001.

resilience scores than women *df* = 0.436, *P* < 0.001. Statistically significant differences were also found between resilience and age, with the older group (≥51 years) presenting higher resilience scores than the younger age group (18 to 35 years) *df* = -289, *P* < 0.05. In relation to the number of children in the household, there are statistically significant differences between resilience and this factor, with those individuals with two or more children presenting greater resilience than those with no children, *df* = -0.206, *P* < 0.05 (see Table 3). Furthermore, there is a statistically significant main effect of the Within-Subjects factor (time) in all mixed ANOVAs performed except for sex and Autonomous Community of the workplace variables (*P* < 0.05). Resilience scores are higher at T1 than at T0 in all these factors (Table 3).

DISCUSSION

The aim of this study was to examine the evolution of symptoms of posttraumatic stress, anxiety, depression, burnout, and resilience at two points in time. Time point T0 (baseline) was during the first wave of the pandemic in Spain and T1 was right after the first wave. The results of our study indicate that, in general, the prevalence of symptoms and burnout was more pronounced at the first measure for nearly all factors, except for the avoidance scale, whereas the levels of resilience were higher at 3 months. Therefore, first and second hypothesis are partially fulfilled and the third one is completely fulfilled.

According to the demographic and work-related variables, women present more emotional exhaustion, posttraumatic stress, anxiety, and depression than men. They also show less resilience than men. Congruent with these results, the female sex has also been associated with these symptoms in studies with nurses in other countries, such as Paraguay.²⁷ In Spanish general population women have presented more symptoms of anxiety, depression, and post-traumatic stress during the pandemic than men.²⁸ These results may be due to the fact that women spend more time caring for others both inside and outside their homes,²⁹ as well as the fact that, historically, the female sex has been associated with a higher prevalence of these symptoms.³⁰ In relation to age, emotional fatigue increases over time (from T0 to T1) in workers aged 35 to 50 years but it decreases in older workers (more than or equal to 51) over the same period. Younger workers feel more depersonalized than middle-aged workers. Furthermore, younger professionals (18 to 35 years) have more intrusive thoughts and anxiety than older workers (more than or equal to 51). Additionally, middle-aged workers (between the ages of 36 and 50) show more hyperarousal symptoms than older participants (more than or equal to 51). Being young is associated with the appearance of symptoms of posttraumatic stress and burnout in healthcare professionals. This may be due to the concern of the younger ones regarding their future working conditions,³¹ as well as their greater access to information from social media, which can be associated with higher levels of stress.³² Older workers (more than or equal to 51) are more resilient than younger workers (18 to 35 years). A possible explanation for these results is that, probably, those with a higher-level job and/or high educational level have better working conditions than younger people, who have been in the labor market for less time.

Consistent with these results, the scientific literature has highlighted the role of a low educational level as a factor related to the development of posttraumatic stress symptoms.^{33,34} In the previous SARS epidemic, lower educational attainment was found to be associated with high levels of avoidance.³⁵ In addition, a low educational level appears to be a predictor of posttraumatic stress, along with low socio-economic status.³⁶ Workers with dependent family members and/or those with two or more children feel more professionally fulfilled than those who do not have such family responsibilities. Furthermore, workers who have two or more children are more resilient than those with no children. In a study

with German healthcare professionals, nurses were found to have higher stress levels than physicians.³⁷ Nursing staff and auxiliary nurses have reported higher levels of stress than other positions such as doctors, probably because they are in more direct and continuous contact with patients, therefore being at a higher risk of contracting the COVID-19 disease.³⁸ Specifically, it has been demonstrated that female nurses have reported high level of stress than other healthcare personnel during this pandemic.³⁹ In relation to the Autonomous Community where the workplace is located, emotional exhaustion is greater at the baseline among those participants who worked in the Community of Madrid. These professionals also have more symptoms of avoidance at the end of the first wave of the pandemic. On the other hand, our data indicate that emotional exhaustion was higher in healthcare workers who worked in a hospital setting at T0 and higher in primary care professionals at T1. One likely explanation could be that to prevent hospitals from collapsing, a great transition of care from hospitals to primary care centers took place at the end of the first wave of the pandemic. Workers on rotating shifts have more intrusive thoughts than those on other shifts. Rotating shifts have been associated with worse health and are even related to a high risk of suffering from metabolic syndrome⁴⁰ and posttraumatic stress⁴¹; thus, it will be necessary to pay special attention to the health and well-being of healthcare workers with rotating shifts in the future. As for their seniority, healthcare workers who have been in their current job for less than 5 years felt more depersonalized and had more avoidance behaviors during the first wave of the pandemic than after it. Furthermore, they felt less emotionally tired than those who have hold the same position for 5 to 15 years. In turn, the latter showed more hyperarousal behaviors than those who have been working as healthcare workers for more than 15 years. Therefore, having between 5 and 15 years of experience would be associated with symptoms of posttraumatic stress and burnout, compared with other groups. In general, and in accordance with other studies, having less work experience has been associated with a high prevalence of psychological stress since the beginning of the COVID-19 pandemic.^{3,42}

On the other hand, it is important to note that in this study resilience scores are higher 3 months after the first wave of the pandemic began given that the use of strategies such as identifying social support, avoiding information overload, and increasing the feeling of control have been useful for health workers.⁴³ Therefore, the third hypothesis of our study is fulfilled.

This study is a pioneer work, as it offers longitudinal data in an essential population during a pandemic, that is, healthcare professionals. However, some limitations need to be mentioned. The data were collected online, and some healthcare workers may not have been able to access the technology. In addition, some participants completed the information at T0 but not at T1, reducing the available data for the analysis in the follow-up. Future studies should monitor the long-term effects of the pandemic on the mental health of healthcare workers, with the aim of taking preventive measures in the event of similar situations. Future studies should include evaluations carried out at different times to compare such results with the established baseline. As main conclusion, workers presented less symptoms of posttraumatic stress, anxiety, depression, and burnout at the end of the first wave of the pandemic than at the beginning. Additionally, resilience increased at the end of the first wave. In this study, being women, being young, having a lower-level job, having less experience, a lower educational level and working rotating shifts are variables associated over time with symptoms of anxiety, depression, and posttraumatic stress; therefore, in similar emergency situations, such variables should be considered to preserve the health of healthcare professionals. Besides this study may be useful to adapt

individual or group intervention treatments considering the identified variables.

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