Anxiety, depression, and posttraumatic stress in nurses during the COVID-19 outbreak

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Conflict of Interest

The authors declare that they have no conflicts of interest.

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During the COVID-19 pandemic, nurses and physicians faced exhausting work conditions, making ethically and morally difficult decisions, and taking health risks to themselves and their loved ones (Maben and Bridges, 2020). This situation also affected their mental health, with high levels of trauma- and stress-related symptoms that have been reported by nurses and physicians since the early months of pandemic (Benfante et al., 2020).

The present study mainly aimed to assess the psychological impact of the COVID-19 outbreak on nurses and physicians working in XXX.

The responses of 73 nurses and 72 physicians were collected through an anonymized online survey. The current data were acquired as part of a larger project investigating the psychological impact of COVID-19 in XXX population. Participants were asked to indicate sociodemographic, clinical and work-related information, and to complete three self-report questionnaires to assess anxiety (State-Trait Anxiety Inventory-Form Y1, STAI Y1), depressive (Beck Depression Inventory, BDI-II), and posttraumatic (PTSD Checklist for DSM-5, PCL-5) symptoms. The study was approved by the University of XXX ethics committee (Prot. n. 142069) and was conducted in accordance with the Declaration of Helsinki; all the participants gave their informed consent.

In order to investigate the psychological impact of the COVID-19 outbreak on nurses and physicians, independent *t*-tests were performed to evaluate possible differences between those two groups on sociodemographic, clinical, and work-related variables, health-related questions, and psychological variables. Results of comparisons are presented in **Table 1**. Significant differences between nurses and physicians were found on both Visual Analogue Scales (VAS) we used for the assessment of health-related aspects. Indeed, nurses rated lower their health and reported to be more worried about contracting COVID-19 with respect to physicians. Similarly, significant differences emerged between nurses and physicians on anxiety symptoms and PTSS, with the former reporting higher scores on the STAI Y1 and PCL-5, respectively.

These results are not surprising considering that nurses are usually one of the healthcare professional groups dealing with patients at the frontline across healthcare settings and for this

reason they are continually exposed to stressful events. Particularly, during the COVID-19 pandemic, being more in contact with risky patients than physicians makes nurses more vulnerable and at risk to develop psychological distress. In line with our findings, previous studies showed that PTSS (Şahin et al., 2020; Johnson et al., 2020) and anxiety symptoms (Johnson et al., 2020) were significantly higher among nurses than physicians.

Spending much more time with patients may also explain nurses' greater fear of contracting infection. A previous study confirmed our results showing that nurses reported an increased fear of being infected, and consequently of infecting their loved ones, leading to high levels of psychological distress (Sampaio et al., 2020).

Despite this study being limited by its cross-sectional nature and its reduced sample, our results highlight that nurses experience higher levels of anxiety symptoms and PTSS, and are more worried about contracting COVID-19 compared to physicians. In conclusion, the present findings underline the importance of paying attention to the psychological health of this healthcare professional group.

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Table 1. Sociodemographic, clinical, and work-related characteristics of nurse and physician groups. Mean (SD), percentage, *t*-test, chi-square test, and Cohen's *d* are listed.

	Nurses (N = 73)	**Physicians (N = 72)**	**Test (df)**	***p***	**Effect size**
Age (years)	44.3 (10.6)	41.5 (11.7)	t(143) = -1.51	.134	*d* = 0.25
Gender			$\chi^2(1) = 0.63$	.427	
Male	18 (24.7%)	22 (30.6%)			
Female	55 (75.3%)	50 (69.4%)			
Marital status			$\chi^2(1) = 0.61$	.433	
Not in a relationship	31 (42.5%)	26 (36.1 %)			
In a relationship	42 (57.5%)	46 (63.9%)			
Type of ward			$\chi^2(1) = 0.01$	.925	
COVID-19 unit	32 (43.8%)	31 (43.1%)			
Other unit	41 (56.2%)	41 (56.9%)			
Medical condition			$\chi^2(1) = 2.14$	.144	
Yes	23 (31.5%)	15 (20.8%)			
No	50 (68.5%)	57 (79.2%)			
Psychological aspects					
Health evaluation (VAS)*	7.11 (2.0)	8.4 (1.4)	t(126.64) = 4.62	**<.001**	*d* = 0.77
Health concern (VAS)#	7.04 (2.5)	6.0 (2.6)	t(143) = -2.42	**.017**	*d* = 0.40
STAI Y1	53.8 (14.5)	48.8 (12.9)	t(143) = -2.21	**.029**	*d* = 0.37
Scored above the STAI Y1 cut-off point (≥ 41)	55 (75.3%)	48 (66.7%)	$\chi^2(1) = 1.33$	.250	
BDI-II	12.3 (10.5)	10.7 (8.4)	t(143) = -0.96	.340	*d* = 0.20
Scored above the BDI-II cut-off point (> 13)	21 (28.8%)	24 (33.3%)	$\chi^2(1) = 0.35$	.552	
PCL-5	29.1 (18.6)	20.3 (14.2)	t(134.52) = -3.19	**.002**	*d* = 0.53
Scored above the PCL-5 cut-off point (≥ 33)	24 (32.9%)	14 (19.4%)	$\chi^2(1) = 3.38$	.066	

SD = Standard Deviation; VAS = Visual Analogue Scale; BDI-II = Beck Depression Inventory; STAI Y1 = State-Trait Anxiety Inventory Form Y1; PCL-5 = PTSD Checklist for DSM-5.

* Health evaluation question = 'How do you currently rate your health?'

Health concern question = 'How concerned are you about contracting COVID-19?'