

Burnout Syndrome Among Health Professionals Before and During the COVID-19 Pandemic

Síndrome de Burnout en profesionales de la salud antes y durante la pandemia de COVID-19

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ABSTRACT

Objective: To describe the differences in burnout syndrome (BS) before and during the COVID-19 pandemic among health professionals, according to prevalence, levels, sociodemographic, occupational, risk, and protective factors.

Methods: A comparative descriptive study was conducted, with two samples of similar characteristics from public hospitals in Peru. The sample was 177 for 2019 and 167 for 2021. The instrument used was the Maslach Burnout Inventory.

Results: It was found that there is a higher prevalence of BS and lower personal fulfillment (PF) during the pandemic. For BS, female sex is a risk factor during the pandemic. For emotional exhaustion (EE), the female gender is a risk factor before and during the pandemic. For depersonalization (DP), being 39 years of age or older is a protective factor before the pandemic.

Conclusions: There are significant differences in the scores of BS, EE, and PF; no significant differences for DP were found in both periods.

Keywords: Burnout syndrome; personal accomplishment; emotional exhaustion; depersonalization; COVID-19; healthcare professionals.

RESUMEN

Objetivo: Describir las diferencias en el síndrome de burnout (BS) antes y durante la pandemia de COVID-19 en los profesionales de la salud, según la prevalencia, niveles, factores sociodemográficos, ocupacionales, de riesgo y protectores.

Materiales y Métodos: Se realizó un estudio descriptivo comparativo, con dos muestras de características similares de hospitales públicos en Perú. La muestra fue de 177 para 2019 y 167 para 2021. El instrumento utilizado fue el Inventario de Burnout de Maslach.

Resultados: Se encontró que existe una mayor prevalencia de BS y menor realización personal (RP) durante la pandemia. Para BS, el sexo femenino es un factor de riesgo durante la pandemia. Para el agotamiento emocional (AE), el género femenino es un factor de riesgo antes y durante la pandemia. Para la despersonalización (DE), la edad de 39 años y más es un factor protector antes de la pandemia.

Conclusiones: Existen diferencias significativas en las puntuaciones de BS, AE y RP; para DE no se encontraron diferencias significativas en ambos períodos.

Palabras clave: síndrome de burnout; logro personal; agotamiento emocional; despersonalización; COVID-19; profesionales de la salud.

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Introduction

Burnout syndrome (BS) is a globally relevant occupational health problem both in organizations and academia in the 21st century. The World Health Organization

(WHO) considers it a psychosocial risk factor related to work activity. Negative consequences thereof may include suicidal ideation, and it affects quality of life, health, well-being, ^{(1),(2),(3),(4)} and the quality of patient care.⁽⁵⁾ Likewise, BS occurs with greater frequency and intensity in the healthcare community,⁽⁶⁾ as such, BS has been included in the ICD-11 classification system.⁽⁷⁾

BS is the result of chronic workplace stress that has not been successfully managed and has three dimensions: 1) feelings of lack of energy or exhaustion (EE); 2) increased mental distance from work, or negative or cynical feelings about work (DP); and 3) a sense of ineffectiveness and lack of accomplishment (PA). ^{(7),(8)} argue that EE is the response to a complex personal experience in the workplace, in which there is a perceived loss of energy, interest and confidence; the employee feels inability to give of him/herself and individual emotional resources are depleted; therefore, he/she loses the ability to adapt to the work environment. ⁽⁸⁾ Regarding low PA, they indicate that it occurs after a self-evaluation of the worker, who perceives negatively his performance and competence at work, generating a feeling of dissatisfaction with himself, which can affect interaction with people and productivity. Regarding the DP, they refer that it is the negative response to work demands, evidenced in behaviors of cynicism, affective hardening and dehumanized treatment, which would affect performance and professional quality.

Preceding studies on BS in the healthcare collective worldwide are mostly descriptive and correlational, with samples of physicians and nurses. ^{(9),(10)} Insufficient scientific evidence has been found to demonstrate the difference in BS levels before and during the COVID-19 pandemic. For this reason, this study has been conducted, comparing two samples drawn from the same hospitals, before and during the pandemic, using the Maslach Burnout Inventory (1997) and the same relative cut-off points for the classification of BS. The results found confirm some explanatory models of BS ⁽¹¹⁾ and contribute with theoretical and practical contributions for technical decision-making on support strategies to reduce BS of healthcare personnel, which should be implemented by healthcare organizations under pandemic conditions and adaptation to the new normal.

Before the COVID-19 pandemic, in Ecuador 2.6% of health professionals were found to have BS, ⁽¹²⁾ higher percentages were found in Spain with 33.4% ⁽¹³⁾ and Bulgaria with 15.2%. ⁽¹⁴⁾ The COVID-19 pandemic has impacted health systems and health professionals worldwide, exposing the limited resources of public hospitals, inadequate training to care for patients with COVID-19, ⁽¹⁵⁾ work overload, long working hours, and greater exposure to the virus due to limited protective

equipment. ^{(16)–(19)} Health workers have had to face a highly contagious disease for which they were not trained, exacerbated by apprehension caused by the death of a large number of patients ⁽²⁰⁾ and health professionals. ⁽²¹⁾ Among others, these factors contributed to the increase in BS.

This fact explains the increase in the prevalence rate of BS during the COVID-19 pandemic in different countries, although with different levels. In Ecuador, the prevalence of BS increased from 2.6% ⁽¹²⁾ to 47.8%.⁽²²⁾ In Spain, it increased from 33.4% ⁽¹³⁾ to 43.4%.⁽²³⁾ In other countries, high rates of BS were also reported, as in Japan and Indonesia the prevalences of SB were 31.4% and 26.8%, respectively. ^{(6),(24)} Finally, in Australia, 29.5% presented BS ⁽²⁵⁾ and in Kenya, 45.8% presented SB. ⁽¹⁵⁾

Peru experienced two waves of COVID-19. The first wave occurred from March–November 2020, and the second from December 2020 to July 2021. In this last period, COVID-19 was more aggressive than in the first wave (sustained increase in the number of infections and higher mortality rate), generating a collapse of the health system.⁽²⁶⁾ The field work before the COVID-19 pandemic at hospital II-2 (with greater specialization) revealed occupational risks.⁽²⁷⁾ At hospital II-E (dedicated to specialized care), structural (poor infrastructure, and insufficient human resources, supplies, and equipment) and functional problems (poor care protocols) were observed.⁽²⁸⁾ In both hospitals, the health professionals presented with high BS (33.3%) due to being exposed to chronic work stressors. ⁽²⁹⁾

Studies conducted before the COVID-19 pandemic on BS among health professionals working in public health entities in Peru reported a different prevalence. The prevalence of BS in the country was 2.8%. ⁽³⁰⁾ In Lima, 34.5% reported a mild level of BS, 18.2% a moderate level, and 10.0% a severe level. ⁽³¹⁾ In Ica, 78.0% reported a mild level of BS, 2.4% a moderate level, and 19.6% a severe level. ⁽³²⁾ In Arequipa, 3.8% reported a mild level of BS, 90.6% a moderate level, and 5.6% a severe level. ⁽³³⁾ Furthermore, in Lambayeque, 42.0% presented a mild level of BS, 29.0% a moderate level, and 29.0% a severe level. ⁽³⁴⁾ Finally, in Ancash, the prevalence of a severe level of BS was 33.3%. ⁽²⁹⁾

During the COVID-19 pandemic, various studies were conducted on BS in the health community in different regions of Peru. In Lima, it was found that the prevalence of BS was 3.10% ⁽³⁵⁾ and 8% in Cusco. ⁽³⁶⁾ Another study reported the prevalence of a moderate level of BS as 95.6% and high level of 3.8%. ⁽³⁷⁾ Regarding the dimensions of BS, high levels of emotional exhaustion (EE) (37.7%) and depersonalization (DP) (37.7%) were found, and low levels of personal accomplishment (PA) (34.7%).⁽³⁸⁾ In

other words, the differences found in the prevalence and levels of BS between the two periods are probably due to the impact of the pandemic. Were analyzed the similarities and differences in the behavior of SB before and during the COVID-19 pandemic.

Therefore, the objective of the present study was to describe the differences in BS and its dimensions before and during the COVID-19 pandemic among health professionals at the II-2 and II-E hospitals located in Ancash, Peru. These differences were established according to prevalence, level, associated factors, as well as risk and protection factors.

Methods

Research design

The study was descriptive and comparative. ⁽³⁹⁾ The data obtained in two surveys conducted between February and March 2019 (pre-pandemic), and March and May 2021 (COVID-19 pandemic, second wave) were compared. BS and its dimensions were measured for the health professionals of two public hospitals (levels II-2 and II-E) in the city of Chimbote (Ancash, Peru). Were analyzed the similarities and differences in the behavior of SB before and during the COVID-19 pandemic.

Participants

The population consisted of 608 medical professionals, nurses, dentists, nutritionists, obstetricians, psychologists, pharmaceutical chemists, medical technologists, and social workers. Of the total, 358 professionals were from the level II-2 hospital and 250 from the level II-E hospital. The sample was non-probabilistic, the sample was intentional in both periods, selected using inclusion criteria (age, sex, work status, work experience, face-to-face modality and informed consent) and exclusion criteria (semi-face-to-face modality and remote or not working due to some type of leave of absence). The sample was 344; for 2019 it consisted of 167 health professionals and for 2021 it consisted of 177. The 2019 sample consisted of 167 health professionals, and the 2021 sample of 177, totaling 212 from hospital II-2 and 132 from hospital II-E. The sampling was non-probabilistic, and the selection of the sample was similar in both periods. Sampling was performed following inclusion (age, gender, employment status, length of work experience, face-to-face modality, and informed consent) and exclusion criteria (semi-face-to-face modality and remote or not working because of some type of license).

Instruments

The survey technique was used for the two study samples. In the first survey was face-to-face and in the second sample, it was virtual because of restrictions imposed for the COVID-19 pandemic. In both cases, the same instruments were used: a nine-item socio-demographic and occupational record and the Maslach Burnout Inventory (MBI). The version used for the MBI was the Spanish adaptation by Seisdedos, which consists of 22 items measured on a 7-point Likert scale. The response scale for each item is as follows: never (0), rarely (1), once a month or less (2), a few times a month or less (3), once a week (4), a few times a week (5), and every day (6) (Maslach & Jackson, 1997). The psychometric properties of the MBI were adequate, demonstrating validity based on content (Lawshe coefficient is equal to 1 for all items), validity of internal structure determined through an exploratory factor analysis (KMO = .964, significant Bartlett test of sphericity and total variance explained = 51.02%), and evidence of reliability ($\alpha = .834$). The cut-off points used to measure BS before and during the COVID-19 pandemic were the same for both samples. The general BS score was determined, and three levels were considered: low (0–19 points), medium (20–32), and high (33–132 points).⁽²⁹⁾

Ethical considerations

The research protocol was approved by the Ethics Committee of the Universidad Nacional Santiago Antúnez de Mayolo (Peru) through Report No. 008-2021-UNASAM-DII/CEI/M. To conduct the survey, authorization was requested from the directors of the investigated hospitals. The protocol was prepared in accordance with the ethical principles of the Declaration of Helsinki.

Statistical analysis

IBM SPSS statistical software, version 25, was used for data analysis. The analysis of data began with the description of the socio-demographic and occupational variables through frequencies and percentages. Subsequently, the mean and standard deviation of BS were calculated. A Mann Whitney U was used to determine the difference in BS before and during the pandemic, and Chi-square test (χ^2) was performed to establish the difference in BS according to its prevalence and levels. To determine the difference in means according to socio-demographic and occupational variables, the Mann Whitney U and Kruskal Wallis tests were performed.⁽⁴⁰⁾ Finally, to determine the risk and protection factors of the socio-demographic and occupational variables before and during the pandemic, a

bivariate correlation was employed, determining the odds ratio values at 95% confidence intervals.

Results

Socio-demographic and occupational characteristics

The sample for 2019 was 177 participants, of which 74.01% were women, 50.28% were 50 years of age or older, 68.93% were married, 62.15% worked in the II-2 hospital, 47.46% worked in the medical area, 47.46% were nurses, 83.62% were appointed, 37.85% had work experience of 21 years or more and 66.10% had six hours in direct contact with patients. On the other hand, for 2021 there were 167 participants, 75.45% were women, 32.93% were between 30 and 39 years old, 46.11% were married, 61.08% belonged to hospital II-2, 17.96% worked in emergency and 40.12% in other areas, 64.67% were nurses, 66.47% were appointed, 37.13% had work experience of 21 years or more and 85.63% had direct contact with patients from 7 to more hours (Table 1).

Table 1. Socio-demographic and occupational characteristics of participants

Variable	Category	Before the pandemic (n = 177)		During the pandemic (n = 167)		Total (n = 344)	
		n	%	n	%	n	%
Gender	Women	131	74.01	126	75.45	257	74.71
	Men	46	25.99	41	24.55	87	25.29
Age	22–29 years	6	3.39	13	7.78	19	5.52
	30–39 years	44	24.86	55	32.93	99	28.78
	40–49 years	38	21.47	45	26.95	83	24.13
	50 or more	89	50.28	54	32.34	143	41.57
Marital status	Married	122	68.93	77	46.11	199	57.85
	Cohabitant	12	6.78	24	14.37	36	10.47
	Divorced	7	3.95	4	2.40	11	3.20
	Separated	2	1.13	10	5.99	12	3.49
	Single	32	18.08	51	30.54	83	24.13
	Widowed	2	1.13	1	0.60	3	0.87
Hospital	II-2	110	62.15	102	61.08	212	61.63
	II-E	67	37.85	65	38.92	132	38.37
Area of work	Medicine	84	47.46	10	5.99	94	27.33
	Pediatrics	0	0.00	17	10.18	17	4.94
	Surgery	21	11.86	12	7.19	33	9.59
	Obstetrics gynecology	29	16.38	14	8.38	43	12.50
	Emergency	17	9.60	30	17.96	47	13.66

	ICU	6	3.39	10	5.99	16	4.65
	COVID-19	0	0.00	7	4.19	7	2.03
	Other	20	11.30	67	40.12	87	25.29
Profession	Social worker	5	2.82	3	1.80	8	2.33
	Nurse	84	47.46	108	64.67	192	55.81
	Doctor	47	26.55	37	22.16	84	24.42
	Nutritionist	6	3.39	4	2.40	10	2.91
	Obstetrician	20	11.30	6	3.59	26	7.56
	Dentist	2	1.13	2	1.20	4	1.16
	Psychologist	2	1.13	2	1.20	4	1.16
	Chemical Pharmacist	2	1.13	1	0.60	3	0.87
	Medical Technologist	9	5.08	4	2.40	13	3.78
Work type	Contract	29	16.38	56	33.53	85	24.71
	Permanent	148	83.62	111	66.47	259	75.29
Length of experience	1–5 years	36	20.34	52	31.14	88	25.58
	6–10 years	33	18.64	23	13.77	56	16.28
	11–20 years	41	23.16	30	17.96	71	20.64
	21 or more	67	37.85	62	37.13	129	37.50
Hours in direct contact with patients	1–6 hours	117	66.10	24	14.37	141	40.99
	7 or more	60	33.90	143	85.63	203	59.01

Differences in BS before and during the COVID-19 pandemic

According to the objective of the study, the differences in BS before and during the COVID-19 pandemic among health professionals are described. Table 2 shows statistically significant differences for BS and the EE and PA dimensions. The BS scores are higher during the pandemic ($U = 11957$; $p < .001$), and significant differences are evident in the EE dimension ($U = 12658.50$; $p = .020$), with the average score being higher during the pandemic. Likewise, significant differences are observed for PA ($U = 10755.55$; $p < .001$), with the score being higher before the pandemic. No statistically significant differences were found for the DP dimension (Table 2).

Table 2. Differences in BS before and during the COVID-19 pandemic

	Before the pandemic (n = 177)	During the pandemic (n = 167)		
Variable	Mean	Mean	U	p
Burnout Syndrome	27.34	33.59	11957.00	< .001
Emotional Exhaustion	15.25	18.39	12658.50	.020
Depersonalization	6.00	5.98	14716.50	.950
Personal Accomplishment	41.91	38.78	10755.50	< .001

Differences in the prevalence of BS before and during the COVID-19 pandemic

In accordance with the first objective of the study, the differences in the prevalence of BS before and during the COVID-19 pandemic among health professionals were established. Table 3 shows the differences in BS (before the pandemic, the prevalence was 47.21%, and during it, the prevalence was 52.79%, $\chi^2 = 5.21$; $p = .020$); that is, the pandemic resulted in a higher prevalence of BS. Likewise, it was found that the difference in the prevalence of PA was significant (before the pandemic it was 58.82%, and during, it was 41.18%, $\chi^2 = 8.91$; $p < .001$). Therefore, the pandemic resulted in lower PA scores. No significant differences were found for EE (pre-pandemic prevalence was 49.78%, and during the pandemic it was 50.22%, $\chi^2 = 0.77$; $p = .380$) and DP (pre-pandemic prevalence was 50.67% and during the pandemic it was 49.33%, $\chi^2 = 0.16$; $p = .690$).

Table 3. Differences in the prevalence of BS before and during the COVID-19 pandemic

Variable	Before the pandemic (n = 177)		During the pandemic (n = 167)		χ^2	p
	n	%	n	%		
Burnout Syndrome						
Presence	110	47.21	123	52.79	5.21	.020
Absence	67	60.36	44	39.64		
Emotional Exhaustion						
Presence	114	49.78	115	50.22	0.77	.380
Absence	63	54.78	52	45.22		
Depersonalization						
Presence	113	50.67	110	49.33	0.16	.690
Absence	64	52.89	57	47.11		
Personal Accomplishment						
Presence	67	42.68	110	58.82	8.91	< .001
Absence	90	57.32	77	41.18		

Differences in BS levels before and during the COVID-19 pandemic

For the second objective of this study, the differences in BS levels before and during the COVID-19 pandemic among health professionals were established. Table 4 shows significant differences in BS ($\chi^2 = 6.48$; $p = .040$), with most participants presenting high levels of BS during the pandemic (56.00%). Similarly, significant differences were found in PA levels ($\chi^2 = 23.67$; $p < .001$), with a low level being higher during the pandemic (57.30%). For EE and DP, no significant values were found ($p > .05$).

Table 4. Differences in BS levels before and during the COVID-19 pandemic

Variable	Before the pandemic (n = 177)		During the pandemic (n = 167)		χ^2	p
	n	%	n	%		
Burnout Syndrome						
High	59	44.00	75	56.00	6.48	.040
Moderate	51	51.50	48	48.50		
Low	67	60.40	44	39.60		
Emotional Exhaustion						
High	58	46.40	67	53.60	2.03	.360
Moderate	56	53.80	48	46.20		
Low	63	54.80	52	45.20		
Depersonalization						
High	56	48.30	60	51.70	0.71	.700
Moderate	57	53.30	50	46.70		
Low	64	52.90	57	47.10		
Personal Accomplishment						
High	52	77.60	15	22.40	23.67	< .001
Moderate	58	48.30	62	51.70		
Low	67	42.70	90	57.30		

Differences in BS before and during the COVID-19 pandemic according to socio-demographic variables

According to the third study objective, the differences in BS before and during the COVID-19 pandemic among hospital health professionals were determined according to socio-demographic variables. Table 5 shows that for gender, significant differences in EE were found between pre-pandemic times ($U = 2077.00$, $p < .0001$) and during the pandemic ($U = 1889.00$, $p = .010$). In both cases, women scored higher for EE than men. Furthermore, no significant differences were found according to age and marital status.

Table 5. Differences in BS before and during the COVID-19 pandemic according to socio-demographic variables

Variable	Gender		Age		Marital status	
	<i>U</i>	<i>p</i>	<i>H</i>	<i>p</i>	<i>H</i>	<i>p</i>
Burnout Syndrome						
Pre-pandemic	2509.50	.090	1.33	.720	2.12	.830
During the pandemic	2195.50	.150	3.94	.270	7.34	.200
Emotional Exhaustion						
Pre-pandemic	2077.00	< .001	5.43	.140	4.45	.490
During the pandemic	1889.00	.010	6.53	.090	5.81	.330
Depersonalization						
Pre-pandemic	2717.50	.320	3.43	.330	1.27	.940
During the pandemic	2451.00	.620	5.77	.120	4.27	.510
Personal Accomplishment						
Pre-pandemic	2595.00	.160	2.38	.500	1.85	.870
During the pandemic	2568.50	.960	2.87	.410	5.92	.310

Differences in BS before and during the COVID-19 pandemic according to occupational variables

In relation to the fourth study objective, the differences in BS before and during the COVID-19 pandemic among health professionals were determined according to occupational variables. Table 6 shows significant differences according to the hospital level. Thus, during the pandemic ($p = .040$), the staff of Hospital II-E scored higher for DP (mean of 7.08 vs. 5.28). Similarly, before the pandemic ($p = .020$), health professionals reported higher PA (mean of 43.48 vs. 40.95). No significant differences were found for the other occupational variables.

Table 6. Differences in BS before and during the COVID-19 pandemic according to occupational variables

Variable	Pandemic	Hospitals		Area of work		Profession		Work type		Length of experience		Contact hours	
		<i>U</i>	<i>p</i>	<i>H</i>	<i>p</i>	<i>H</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>H</i>	<i>p</i>	<i>U</i>	<i>p</i>
Burnout Syndrome	Before	3162.5	.11	3.15	.68	4.77	.78	1984.5	.52	1.8	.61	3104.5	.21
	During	2956.4	.24	4.4	.73	4.76	.78	3004.5	.73	7.64	.05	1701.5	.95
Emotional Exhaustion	Before	3254.9	.19	2.61	.76	3.6	.89	2009.9	.59	2.93	.40	3328.5	.57

	During	2808.5	.10	11.26	.13	2.73	.95	3107.5	1	6.83	.08	1431	0.19
Depersonalization	Before	3312.5	.26	5.65	.34	10.9	.21	2051.5	.71	1.54	.67	3113	0.22
	During	2689.5	.04	10.67	.15	6.46	.60	2913.5	.51	3.51	.32	1482	0.28
Personal Accomplishment	Before	2917.5	.02	3.69	.59	9.71	.29	2086.5	.81	0.65	.89	3160.5	0.27
	During	2887	.16	1.21	.99	5.81	.67	2950.5	.59	6.75	.08	1408	0.16

Table 7. Differences in BS before and during the COVID-19 pandemic according to risk and protective factors

Variable	Pandemic	χ^2	<i>p</i>	OR (IC 95%)
Burnout Syndrome				
Gender	Before	189.210	.660	1.31 (0.39-4.32)
	During	159.883	.040	3.51 (1.02-12.11)
Emotional Exhaustion				
Gender	Before	193.325	.000	7.16 (1.58-32.48)
	During	163.024	.010	5.07 (1.53-16.84)
Depersonalization				
Age	Before	190.514	.010	0.15 ^a (0.03-0.59)
	During	183.137	.350	2.48 (0.90-6.90)
Personal Accomplishment				
Hospitals	Before	190.016	.010	2.85 (1.28-6.38)
	During	184.750	.750	1.16 (0.48-2.81)

^a Significant value were found for the groups aged 40–49 years and 50 years and more

Discussion

Significant differences were found for BS and its dimensions during the COVID-19 pandemic. BS and EE were higher during the pandemic, PA was higher before the pandemic, and no significant differences were found for DP before or during the pandemic. Previous studies describe BS as an occupational health problem that remains constant over time in the global health community, both before the pandemic ^{(12)–(14),(30)} and during it in various countries. ^{(15),(22),(25),(41)–(44)} The results

confirm Demerouti and collaborators' BS process model and Siegrist's effort and reward model. ⁽¹¹⁾

Various studies reported an increase in EE and decrease in PA during the pandemic. ^{(22),(45)–(48)} In Peru, the second wave of the pandemic was more aggressive than the first, which explains the high levels of EE. Likewise, health professionals were required to work in collapsed hospitals and care for a greater number of critically ill patients, leading to increased job dissatisfaction due to low salaries, ⁽²⁹⁾ little recognition of effort and exposure to the virus, long working hours, insufficient rest, and a shortage of personal protective equipment, as happened in other countries during the first wave. These factors may explain the low PA during the pandemic. ^{(49),(50)}

DP was a pathognomonic sign of BS among health professionals working at the hospitals studied before the pandemic, ⁽²⁹⁾ and remained predominant before and during the pandemic. ^{(13),(51)–(53)} Scores for DP have been similar at both times, before and during the pandemic. This can be attributed to the large number of patients, continuous exposure to patients' suffering and death, and experiences of fear due to the risk of infection or death of oneself or others, which are inherent to DP. ⁽⁵³⁾ DP is persistent among health professionals with longer work experience, ⁽⁵⁴⁾ and does not change despite brief interventions, as a previous study by Yslado and colleagues, 2020, showed. ⁽⁵⁵⁾

On the other hand, differences were found in relation to the prevalence and levels of BS and PA, which were higher during the pandemic, although no significant differences were found for the prevalence of EE and DP. Before the pandemic, a high prevalence of BS was reported among health professionals in Latin America ^{(31),(32),(34),(56)} and Europe. ^{(13),(14)} However, some studies have indicated a lower prevalence. ^{(30),(33),(57)–(60)} The prevalence reported before the pandemic was lower than that found in this study. The level of complexity of the hospitals investigated together with the unfavorable working conditions may explain these findings.

In contrast, during the pandemic, in Canada ⁽⁶¹⁾ and South America, ^{(41),(62)} a similar and higher prevalence of BS than that found in this study was reported. Similarly, a lower prevalence was found at the global level. ^{(6),(12),(15),(22)–(25),(49),(63)} Before the pandemic, the hospitals studied exhibited organizational, structural, and functional problems that worsened during the COVID-19 pandemic, which may be an explanatory factor. Last, other studies reported high and moderate levels of BS and low PA during the pandemic. ^{(37),(46),(51),(64),(65)}

The results confirm the existence of significant differences in EE in relation to gender, since it is higher among women than among men. The dual role traditionally assumed by women is possibly an explanatory factor. EE is chronic and can lead to treatment errors and claims for negligence in professional practice.⁽⁶⁶⁾ Thus, the treatment thereof is essential. However, empirical evidence pertaining to this aspect is contradictory before the pandemic. Several studies indicated that men had higher EE,⁽⁵⁸⁾ others showed the absence of significant differences by gender, and yet others confirmed a higher risk for women.^{(12),(67)}

On the other hand, studies conducted during the pandemic found that women presented significantly higher levels of EE.^{(23),(50),(64),(68)} Hochschild and Machung, 2012 explained that higher EE in women could be due to the double shift that begins at home after the end of the working day.⁽⁶⁹⁾ Cisneros and Yautentzi, 2021 stated that women organize their time around daily activities, which do not include rest, recreation, or personal dedication, to address their responsibilities of performing domestic work and caring for children;⁽⁷⁰⁾ thus, the fatigue caused by work overload results in an occupational risk factor (World Health Organization & International Labor Organization, 2016). This situation is linked to the high percentage of women within the sample considered at risk.

Regarding age, no significant differences were found, which is consistent with the results of previous studies^{(22),(29)} and those conducted during the pandemic.⁽⁴⁶⁾ In terms of the association between BS and marital status, different results were reported. The results of this study are consistent with those of some studies conducted before the pandemic.^{(10),(29),(33)} During the pandemic, it was found that married people⁽⁷¹⁾ are less vulnerable than those who do not have a partner because they are single or widowed.⁽⁷²⁾

Regarding the differences in BS and its dimensions before and during the pandemic, according to the occupational variables, significant differences were identified in the DP and PA of the hospitals studied. Professionals at II-E hospital demonstrated higher DP during the pandemic and higher PA before the pandemic. Studies conducted in various regions of Peru reported an association between BS and working in more complex hospitals.^{(33),(58)} At hospital II-E, unfavorable working conditions were already present before the pandemic, which worsened during the pandemic. This hospital had to deal with a large number of COVID-19 cases, which could have increased health professionals' DP (indifference, relational distance, and affective hardening) and BRP (frustration and dissatisfaction with professional and

work achievement), exacerbating BS until the last phase of cognitive, emotional, and attitudinal collapse, as occurred in Asia. ⁽⁵⁰⁾

Therefore, the main risk factor for BS before the pandemic was being a woman. EE is present more frequently among women than men, both before and during the pandemic. A similar result was found for medical specialists before the pandemic ⁽⁷³⁾ and in various countries during it. ^{(43),(50),(61),(68),(74)} In both periods, it was found that high levels of BS and EE were associated with the greater depression and anxiety ^{(9),(75)} experienced by female health professionals. ^{(67),(74)} In any case, before and during the pandemic, being a woman is a risk factor. ⁽⁶⁾

For the PA dimension, before the pandemic, working at the level II-2 hospital represented a risk factor, which highlights the inadequate conditions of the work environment, limited resources, and low economic recognition of effort and work performance, as well as the organizational and functional vulnerability of the investigated hospital. ⁽⁷⁶⁾ Psychosocial factors affect the occupational health of healthcare professionals, ^{(29),(77)} which explains the increase of BS during the pandemic. ⁽¹⁷⁾ A protective factor for DP before the pandemic was having work experience. A similar result for BS was reported by Macía-Rodríguez et al. (2020). ⁽¹³⁾

It is concluded that there are significant differences in the prevalence and levels of BS among health professionals at level II-2 and II-E hospitals, which were higher during the pandemic than before it. COVID-19 was further confirmed as a risk factor for the occupational health of the healthcare community. EE was higher during the pandemic, and PA was higher before the pandemic but lower during it. According to the socio-demographic variables, women demonstrated higher EE before and during the pandemic. Regarding occupational variables, health professionals at the II-E hospital had higher levels of DP and PA before the pandemic. Being a woman was a risk factor for BS during the pandemic, and for EE, before and during the pandemic. In addition, the low PA for hospital II-2 was a risk factor before the pandemic. Finally, the length of work experience was found to be a protective factor for DP before the pandemic.

Among the limitations of the study are the small sample size, with a high percentage of women and nurses. Also, according to the research design of this study, it cannot be confirmed that there were changes, but rather similarities and differences in the behavior of the SB.

Based on these findings, it is necessary to continue investigating this problem using large samples in the national and international contexts. Longitudinal studies are needed to enable the evaluation of changes in BS before, during, and after the pandemic for COVID-19. In addition, the discrepancy in the results of this study compared to those of others renders it necessary to conduct further research that introduces an intersectional analysis to approach health professionals' social and health realities.

Contributions to scientific knowledge

The theoretical contribution of this study lies in the fact that it provides scientific evidence to support the classification of Burnout Syndrome (BS) as an occupational disease, rather than a mental health disorder. As such, BS presents as a chronic affliction within the healthcare community, a situation that has been exacerbated by the impact of the COVID-19 pandemic. This has serious implications, negatively affecting the wellbeing, quality of life, professional competence, and service quality within healthcare settings.

From a practical perspective, the findings of this study are twofold. Firstly, they provide key insights that may guide the development and implementation of preventive programs and interventions aimed at managing and mitigating BS within high-risk populations such as healthcare workers, both during and post-pandemic. Secondly, these findings can serve as a foundational basis for the design of public policies aimed at safeguarding the occupational health of healthcare personnel. Such policies might include provisions for temporary leave due to occupational illness.

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Conflict of Interests

The authors declare that there is no conflict of interests.

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