Original

Burnout syndrome, anxiety, depression and occupational well-being among Peru hospital staff during the COVID-19 pandemic

Síndrome de Burnout, ansiedad, depresión y bienestar laboral en personal hospitalario de Perú durante la pandemia de COVID-19

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ABSTRACT

Introduction: The COVID-19 pandemic has had serious consequences for the mental health of individuals, especially health care providers, who have experienced symptoms of stress, anxiety and depression that affect their personal, family and social lives. This situation has led health entities to evaluate the negative effects and to design interventions.

Objective: To establish the relationship between burnout syndrome, anxiety, depression and work well-being, considering sociodemographic and work variables, including differences according to the type of work.

Methods: The present study is non-causal, comparative, cross-sectional and prospective. The sampling was intentional non-probabilistic, with a total of 366 participants from three hospitals in Ancash (Peru) under COVID-19 conditions during the second wave. For the measurement of the variables, the Maslach Burnout Inventory, the Goldberg anxiety/depression subscales and the Sánchez-Cánovas work well-being subscales were used.

Results: The results indicated multiple relationships among burnout syndrome, anxiety, depression and work well-being ($p < 0.05$). Likewise, these relationships were also presented considering some sociodemographic and labor variables ($p < 0.05$).

Conclusions: The variables studied have a significant relationship in the health care personnel examined. Based on these findings, it is possible to have a baseline of the mental health of health personnel to plan interventions that emphasize those variables and groups at risk that require special attention.

Keywords: burnout syndrome; anxiety; depression; health personnel; COVID-19.

RESUMEN

Introducción: La pandemia de COVID-19 ha tenido graves consecuencias para la salud mental de las personas, especialmente de los profesionales de la salud, quienes han experimentado síntomas de estrés, ansiedad y depresión que afectan su vida personal, familiar y social. Esta situación ha llevado a las entidades de salud a evaluar los efectos negativos y diseñar intervenciones.

Objetivo: Establecer la relación entre el síndrome de Burnout, la ansiedad, la depresión y el bienestar laboral, considerando variables sociodemográficas y laborales, incluyendo diferencias según el tipo de trabajo.

Métodos: El presente estudio es no causal, comparativo, transversal y prospectivo. El muestreo fue no probabilístico intencional, con un total de 366 participantes de tres hospitales de Ancash (Perú) en condiciones de COVID-19 durante la segunda ola. Para la medición de las variables se utilizaron el Inventario de Burnout de Maslach, las subescalas de ansiedad/depresión de Goldberg y las subescalas de bienestar laboral de Sánchez-Cánovas.

Resultados: Los resultados indicaron múltiples relaciones entre síndrome de burnout, ansiedad, depresión y bienestar laboral ($p<0,05$). Asimismo, estas relaciones también se presentaron considerando algunas variables sociodemográficas y laborales ($p<0,05$).

Conclusiones: Las variables estudiadas tienen una relación significativa en el personal sanitario examinado. Con base en estos hallazgos, es posible tener una línea de base de la salud mental del personal de salud para planificar intervenciones que enfaticen aquellas variables y grupos en riesgo que requieren atención especial.

Palabras clave: síndrome de burnout; ansiedad; depresión; personal sanitario; COVID-19.

Recibido: 10/11/2021

Aprobado: 11/02/2022

Introduction

Health care providers are among the most affected workers during the COVID-19 pandemic. [1–3] The disease has produced high rates of morbidity and mortality worldwide [4–6] and affected the mental health of hospital personnel, who have been exposed to the disease and in direct contact with the patients, colleagues and family members who have died from it. [7–9] Thus, it is necessary to constantly evaluate the mental health of health care professionals and put into place interventions that can preserve their well-being, which has been greatly affected according to reports from the United States, Europe and Asia. [10–12]

Burnout syndrome (BS) is characterized by emotional fatigue, depersonalization and low personal fulfillment at work, which can occur among individuals whose daily tasks are limited to the service of people. [13] Anxiety is a disorder characterized by excessive fear and worry, as well as associated behavioral alterations, in relation to various events or activities such as work. [14] Depression is a disorder characterized by destructive dysregulation of mood and inability to expect happiness or pleasure [14] On the other hand, work well-being is the subjective perception of each person related to his or her general satisfaction and feelings and attitudes about work. [15]

Previous studies reported that 36.9% of medical and nursing personnel working in Wuhan (China) presented mental health disorders, 34.4% had mild disorders, 22.4% had moderate disorders and 6.2% had severe alterations immediately after the start of the pandemic; the burden fell particularly on young women. [16] In South America (Ecuador), researchers found that 50% of physicians who worked in hospitals had BS. [17] In this same country, 5% of the nursing staff presented signs of BS, as well as 50% of medical residents and 10% of respiratory therapists. [18] Likewise, another study in Ecuador indicated that approximately 95% of doctors and nurses suffered from severe and moderate BS. [19]

In Puerto Rico, 12.1% of male physicians had a severe level of BS, while 13.1% of nurses did. The majority of health care providers reported moderate to severe BS (92.4% of physicians and 100% of the nurses). Health care personnel reported having high levels of BS since the beginning of the pandemic, and more than 90% of providers had moderate to severe BS, with nurses being the most affected. [20] In a study conducted in Canada, 86.1% of

physicians met at least one BS criterion, and 5.9% presented suicidal ideation. [21] In Iran, health care personnel obtained an average score for BS and 26.6%, 10.2% and 27.3% reported presented emotional fatigue, depersonalization and lack of personal fulfillment, respectively. [22]

Among the most commonly observed mental disorders during the COVID-19 pandemic were stress, anxiety, BS, sleep disorders and posttraumatic stress, which have been reported in different studies worldwide. [23,24] Therefore, this situation should be examined with situational analyses so that ministries of health and related institutions are informed about the mental health status of their employees and can plan interventions to improve their mental health. [25,26]

In Peru, the mental health of health care providers has been evaluated on occasion, with a few studies of regional and national scope that showed high levels of anxiety, depression and stress during the first and second waves of COVID-19. [27,28] However, there have been no reports in relation to the mental health of health professionals in Ancash, a region of the northern Peruvian highlands, which shares various characteristics with other regions of Peru. However, it is important to note that the Ancash region has faced traumatic events such as terrorism and the 1970 earthquake, which have had a great impact on the population.

Studies of the impact of the COVID-19 pandemic on the mental health of health care providers conducted at the national level and in other parts of the world have not reported on the relationship between BS, anxiety, depression and occupational welfare. Further, health care personnel who are in direct contact with COVID-19 patients and those who perform remote and blended work have not been widely studied, which constitutes a knowledge gap. This study aims to analyze the differences in these two professional groups for the purpose of developing policy proposals in public, mental and occupational health.

This study uses a multicenter approach to provide greater insight into the mental condition of the professionals who work in hospitals. Likewise, the study evaluates occupational well-being, as it is important to know how satisfied workers are with their daily tasks; job satisfaction affects the quality of patient care and should be evaluated by the hospitals' occupational health teams and other professionals trained to detect problems and implement prevention and intervention programs. As described, it is necessary to measure all aspects related to mental health in the context of the COVID-19 pandemic.

Therefore, the objective of the present study was to establish the relationships among burnout syndrome, anxiety, depression and work well-being in health care personnel employed by three hospitals in Ancash under COVID-19 pandemic conditions. Likewise, as specific objectives, the relationship between the variables indicated was analyzed according to a

group of sociodemographic and work variables, in addition to establishing differences according to the modality of work of the participants (face-to-face, remote and blended).

Methods

Design

The present study was correlational, non-causal, comparative, cross-sectional, and prospective. [29]

Participants

The population consisted of 1,844 workers from three hospitals in two major cities, Chimbote and Huaraz, in Ancash, Peru, who worked as health care providers during the COVID-19 pandemic. The sampling was non-probabilistic of the intentional type and enrolled 366 participants who answered the instruments in a virtual way.

Regarding the inclusion criteria, workers aged 25 to 65 years, who were appointed or hired, with experience greater than or equal to one month and who agreed to be part of the study through informed consent were considered. Workers who were under psychological or psychiatric treatment or were on leave or work stoppage during the study were excluded.

Instruments

Three instruments were used to collect the information. The first instrument was a sociodemographic-labor record comprising 11 items. The second instrument was the Maslach Burnout Inventory (MBI) composed of 22 items, measured on a seven-point Likert scale to assess levels of emotional fatigue, depersonalization and low personal fulfillment. [30] The MBI presented adequate psychometric properties. Evidence of validity was collected based on the content of the test (Aiken's V = 0.95). Likewise, the reliability of the MBI was excellent ($\alpha = 0.85$).

Third, the Goldberg anxiety and depression subscales were used, consisting of 9 items each. [31] The anxiety subscale had evidence of content-based validity (Aiken's V = 1.00) and a good level of reliability ($\alpha = 083$). Similar results were obtained for the depression subscale, both in evidence of validity (Aiken's V = 0.98) and in reliability ($\alpha = 0.78$). Finally, a Sánchez-Cánovas labor well-being subscale, [15] composed of 10 items and measured on a

five-point Likert scale, was used. The scale had evidence of validity based on content (Aiken's V = 0.98) and adequate levels of reliability (α = 0.76).

Ethical aspects

The participation of health personnel was voluntary and anonymous. The purposes of the study were explained, and participants gave their consent for the use of their responses according to the objectives of the research. In addition, the study was conducted according to the Declaration of Helsinki of 1975, revised in 2013. [32] Finally, to ensure compliance with ethics, this study was approved by the Research Ethics Committee of the Santiago Antúnez de Mayolo National University through Report No. 004-2021-UNASAM-DII/CEI/M.

Data analysis

The instruments were applied virtually through the Google Forms platform, automatically generating a spreadsheet with the responses of the participants. The purification and quality control of the data were performed in Microsoft Excel. Subsequently, statistical analyses were performed in the IBM SPSS program version 25, obtaining descriptive statistics (frequencies and percentages) for the categorical variables (sociodemographic and labor). Likewise, to achieve the objectives of the research, the Spearman correlation coefficient was used for the relationship between the variables, and the Kruskal–Wallis test was used for the comparison of the study variables according to the work modality.

Regarding the psychometric analysis of the instruments, evidence of reliability and validity was collected. The evidence of validity based on the content was obtained through the judgment of a group of experts and calculating the degree of agreement using Aiken's V coefficient, [33] considering adequate values above 0.70. Reliability was estimated from the internal consistency of the items through the alpha coefficient (α), interpreting their values according to the rating proposed by George and Mallery. [34]

Results

In relation to the sociodemographic characteristics of the 366 participants in the study, the majority of workers were women (n = 268, 73.22%). In terms of age, the largest proportion of respondents was 50 years or older (n = 133, 36.34%), followed by the age group 30–39 (n = 123, 33.61%) and ages 40–49 (n = 75, 20.49%) and 22–29 (n = 35, 9.56%). In relation to

marital status, the majority of participants were married (n = 160, 43.72%), followed by single (n = 120, 32.79%), cohabitating (53, 14.48%), separated (n = 21, 5.74%), divorced (n = 2.46%) and widowed (n = 3, 0.82%). Finally, regarding the number of children, the majority of participants had two children (n = 117, 31.97%), followed by the group with no children (n = 99, 27.05%), those who had only one child (n = 82, 22.40%), those who had three children (n = 46, 12.57%) and those who had 4 to 6 children (n = 22, 6.01%).

Table 1. - Job characteristics of participants (n = 366)

Variable	Category	n	%
Labor condition	Hired	141	38.52
	Appointed	225	61.48
Time of service	1 a 5 years	134	36.61
	6 a 10 years	77	21.04
	11 a 20 years	53	14.48
	21 to more years	102	27.87
Occupation	Social Worker	17	4.64
	Nurse	138	37.70
	Physician	74	20.22
	Nutritionist	8	2.19
	Obstetrician	37	10.11
	Dentist	8	2.19
	Psychologist	3	0.82
	Pharmaceutical Chemist	2	0.55
	Medical Technologist	10	2.73
	Nursing Technician	61	16.67
	Laboratory Technician	5	1.37
	Nutrition Technician	3	0.82
Work area	Surgery	22	6.01
	COVID-19	50	13.66
	Emergency	49	13.39
	Gynecology - Obstetrics	61	16.67
	Medicine	19	5.19
	Pediatrics	25	6.83
	ICU	13	3.55
	Others	127	34.70
Modality of work	Face to face	323	88.25
	Remote	37	10.11
	Blended	6	1.64
Patient contact hours	None	21	5.74
	1 a 6 hours	85	23.22
	7 to more hours	260	71.04
Direct care of confirmed COVID-19 patients	No	203	55.46
	Yes	163	44.54
Diagnosed with COVID-19	No	251	68.58
infection	Yes	115	31.42

With respect to labor characteristics (Table 1), 61.48% were appointees, and 36.61% had 1 to 5 years of service. According to the occupation of the participants, 37.70% were nurses. Likewise, 88.25% worked in person, and 71.04% worked 7 or more hours in contact with patients. Finally, 44.54% of participants provided direct care to patients confirmed to have COVID-19, and 31.42% had been diagnosed with the disease.

Table 2. - Relationship between the variables of study

Variable	EF	DE	PR	A	D	Well- being labor
Burnout syndrome (BS)	0.82***	0.66***	–0.61***	0.50***	0.51***	–0.23***
Emotional fatigue (EF)		0.42***	–0.17***	0.49***	0.49***	–0.18***
Depersonalization (DE)			-0.31***	0.29***	0.32***	–0.06
Personal realization (PR)				–0.22***	–0.22***	0.26***
Anxiety (A)					0.75***	–0.20***
Depression (D)						–0.16***

*p < 0,05; ***p < 0,001

Regarding the correlation between the study variables (Table 2), a statistically significant (p <0.05) and positive relationship was found between the BS (and its dimensions) and anxiety and depression, while the relationship was negative with job well-being (the relationship with the depersonalization dimension was not statistically significant). Anxiety had a statistically significant (p <0.05) and negative relationship with work well-being (r = -0.20), while the relationship was positive with depression (r = 0.70). Finally, depression had a statistically significant (p <0.05) and positive relationship with BS (r = 0.51), as well as a negative relationship with workplace well-being (r = –0.16).

Table 3. - Comparison of the study variables according to the work modality

Variable	Category	n	Range Average	H de Kruskal-Wallis	p
Burnout syndrome	Face to face	323	187.84	7.83	0.02
	Remote	37	162.54		
	Blended	6	79.17		
Emotional fatigue	Face to face	323	187.53	7.60	0.02
	Remote	37	165.61		
	Blended	6	77.08		
Depersonalization	Face to face	323	184.80	1.17	0.56
	Remote	37	179.31		
	Blended	6	139.08		
Personal realization	Face to face	323	179.29	4.43	0.11
	Remote	37	213.42		
	Blended	6	225.50		
Anxiety	Face to face	323	182.48	0.92	0.63

	Remote	37	196.45		
	Blended	6	158.83		
Depression	Face to face	323	181.62	3.01	0.22
	Remote	37	206.92		
	Blended	6	140.33		
Well-being labor	Face to face	323	180.95	9.79	0.01
	Remote	37	221,15		
	Blended	6	88,50		

Regarding comparisons of the study variables according to the work modality of the health care personnel (Table 3), statistically significant differences were found for BS (p = 0.02), emotional fatigue (0.02) and work well-being (p = 0.01). For the first two variables, people who worked in person had higher scores, while in work well-being, participants who worked remotely had higher scores.

Table 4. - Relationship between the study variables according to sociodemographic variables

Variable	BS – Anxiety	BS – Depression	BS – WBL	Anxiety – WBL	Anxiety – Depression	Depression – WBL
Age						
22 - 29 years	0.58***	0.62***	–0.40*	–0.39*	0.89***	–0.37*
30 - 39 years	0.39***	0.46***	–0.21*	–0.19*	0.76***	0.10
40 - 49 years	0.61***	0.63***	–0.18	–0.29*	0.70***	–0.36***
50 years and older	0.49***	0.46***	–0.21*	0.09	0.72***	0.09
Sex						
Female	0.48***	0.48***	–0.27***	–0.20***	0.72***	–0.15*
Male	0.53***	0.57***	–0.15	–0.20	0.79***	–0.21*
Marital status						
Married	0.50***	0.53***	–0.24***	–0.12	0.73***	0.10
Cohabitant	0.39***	0.52***	–0.26	–0.46***	0.78***	–0.43***
Divorced	0.73*	0.11	0.60	–0.43	0.39	–0.09
Separated	0.59***	0.49*	–0.31	0.35	0.88***	0.38
Single	0.52***	0.53***	–0.25*	–0.21*	0.76***	–0.19*
Widowed	0.50	0.99***	0.99***	–0.50	0.50	–0.99***
Number of children						
No children	0.54***	0.52***	–0.28*	–0.20*	0.79***	–0.19
1 child	0.42***	0.41***	–0.37***	–0.29*	0.75***	–0.14
2 children	0.48***	0.49***	–0.06	–0.10	0.72***	–0.12
3 children	0.60***	0.67***	–0.17	–0.33*	0.75***	–0.31*
4 children	0.58*	0.58*	–0.54*	–0.10	0.81***	–0.03
5 children	–0.87	0.99**	–0.50	0.00	0.87	–0.50

Note: BS = Burnout syndrome; WBL = Well-being labor

*p < 0,05; ***p < 0,001

Table 4 shows the relationship between the study variables according to the sociodemographic variables. BS, anxiety, depression and work well-being showed a statistically significant correlation (p <0.05) according to age, with the exception of the

relationship between work well-being and depression in the 30–39 age group and the relationship between job well-being and anxiety and depression in the 50 and older age group. In addition, no statistically significant relationship ($p > 0.05$) was found between work well-being and BS among males. For the married and cohabitating participants, a statistically significant relationship ($p < 0.05$) was found between BS and anxiety, depression and work well-being. Finally, BS was shown to have a statistically significant relationship ($p < 0.05$) with anxiety and depression based on the number of children a health care provider had.

Table 5. - Relationship between the study variables according to labor variables

Variable	BS – Anxiety	BS – Depression	BS – WBL	Anxiety – WBL	Anxiety – Depression	Depression – WBL
Labor condition						
Hired	0.45***	0.51***	–0.25***	–0.26***	0.83***	–0.20*
Appointed	0.52***	0.50***	–0.21***	–0.16*	0.69***	–0.15*
Time of service						
1 to 5 years	0.41***	0.51***	–0.26***	–0.23*	0.79***	–0.21*
6 to 10 years	0.61***	0.67***	–0.22	–0.24*	0.74***	–0.24*
11 to 20 years	0.44***	0.21	–0.02	–0.02	0.62***	0.11
21 to more years	0.52***	0.52***	–0.25*	–0.16	0.76***	–0.15
Occupation						
Social Worker	0.51*	0.50*	0.47	–0.05	0.73***	–0.06
Nurse	0.55***	0.52***	–0.37***	–0.33***	0.73***	–0.23*
Physician	0.63***	0.66***	–0.29*	–0.19	0.79***	–0.25*
Nutritionist	–0.23	–0.50	–0.48	–0.65	0.33	0.23
Obstetrician	–0.21	–0.17	0.08	0.21	0.75***	–0.12
Dentist	–0.53	–0.70	0.64	–0.72*	0.80*	–0.74*
Psychologist	0.00	–0.50	0.87	0.50	0.87	0.00
Medical Technologist	0.69*	0.33	0.41	-0.19	0.46	0.34
Nursing Technician	0.36*	0.39***	–0.23	0.20	0.77***	0.07
Laboratory Technician	0.98***	0.98***	–0.87	0.79	0.92*	–0.947*
Nutrition Technician	0.50	0.50	–0.50	–0.99***	0.99***	–0.99***
Work Area						
Surgery	0.59***	–0.41	–0.37	0.13	0.76***	0.24
COVID-19	0.30*	0.38*	–0.34*	–0.33*	0.93***	–0.35*
Emergency	0.51***	0.60***	–0.26	0.19	0.77***	0.10
Gynecology - Obstetrics	0.52***	0.45***	0.10	0.00	0.63***	–0.01
Medicine	0.62***	–0.33	–0.87***	–0.75***	0.82***	–0.55*
Pediatrics	0.65***	0.75***	–0.66***	0.37	0.81***	–0.43*
ICU	–0.42	0.72*	–0.34	–0.10	0.26	0.14
Others	0.48***	0.52***	–0.19*	–0.18*	0.73***	0.12
Modality of work						
Face to face	0.51***	0.52***	–0.23***	–0.22***	0.75***	–0.19***
Remote	0.41*	0.46***	–0.40*	–0.08	0.80***	–0.12
Blended	0.30	0.55	0.42	–0.75	0.58	0.58

Patient contact hours						
None	0.42	0.37	0.41	–0.05	0.73***	–0.20
1 to 6 hours	0.58***	0.58***	0.11	–0.20	0.76***	–0.08
7 to more hours	0.48***	0.50***	–0.26***	–0.20***	0.75***	–0.18***
Direct care of confirmed COVID-19 patients						
No	0.51***	0.56***	–0.17*	–0.17*	0.74***	–0.15*
Yes	0.47***	0.43***	–0.31***	–0.25***	0.77***	–0.20*
Diagnosed with COVID-19 infection						
No	0.57***	0.57***	–0.22***	–0.19***	0.78***	–0.19***
Yes	0.35***	0.41***	–0.25*	–0.19*	0.69***	0.09

Note: BS = Burnout syndrome; WBL = Well-being labor
*p < 0,05; ***p < 0,001

Table 5 shows the relationships between the study variables according to the occupational characteristics of the participants. Regarding the time of service, in the group of 1 to 5 years, a statistically significant correlation ($p < 0.05$) was found among all variables. Regarding occupation, in the group of nurses, a statistically significant correlation ($p < 0.05$) was also found among the study variables. These same results were found in the group of participants who work with COVID-19 patients, who work in the face-to-face modality and those who have 7 or more hours of contact with patients ($p < 0.05$). Regarding the direct care of patients confirmed to have COVID-19, regardless of whether they had direct contact with them, a correlation between the study variables was present ($p < 0.05$). Finally, in the group of workers who were not diagnosed with COVID-19 infection, a statistically significant correlation ($p < 0.05$) was also observed between BS, depression, anxiety and well-being at work.

Discussion

The COVID-19 pandemic has caused a global health crisis, which not only increased morbidity and mortality but also had a negative impact on the mental health of the general population and in the majority of health care professionals, causing SB, anxiety and depression and affecting psychological well-being. [28,35] Therefore, the present study sought to analyze the relationship among the variables considering participants' sociodemographic and labor variables. In this sense, among the most important results of the present study, a significant relationship was found between the BS and its dimensions, with anxiety, depression and work well-being. In addition, anxiety had a significant relationship with job well-being and depression. Meanwhile, depression had a significant relationship with workplace well-being. Regarding the comparisons according to the type of work, differences were found in the BS, emotional fatigue and work well-being. Variables were also associated with the 30–39 and 50 and older age groups, married and cohabitating living arrangements,

number of children, time of service from 1 to 5 years, nursing occupation, in-person work, 7 or more hours of contact with patients, direct care of patients confirmed to have COVID-19 and who were not diagnosed with COVID-19 infection.

There is a statistically significant relationship between BS and anxiety and depression. These findings coincide with an Italian study that found severe levels of BS and psychopathological symptoms, as well as moderate-severe levels of emotional fatigue due to the COVID-19 pandemic. [36] Similar results were observed in a study in Indonesia, which reported that depression increased the risk of anxiety and emotional fatigue due to the global impact of the pandemic. [37] At the Latin American level, there are also studies that indicate the impact of the health crisis on mental health. Thus, in Ecuador, health care personnel presented moderate-to-severe emotional fatigue and moderate-to-severe depersonalization. [19] However, in Brazil, this level of emotional fatigue was not found, although it was one of the countries most affected worldwide by the pandemic. [4,19,38]

Likewise, attending to patients in hospitals generates a greater risk of contracting COVID-19 and has greater mental and physical consequences for health care personnel, so it is necessary to implement self-care strategies to face this health emergency. [39,40] To this end, the present study found a statistically significant relationship between BS and the condition of working in person in a precarious Peruvian health system, with inadequate infrastructure and mostly with insufficient resources, which are work stressors. [41] These results agree with what was found in a study conducted in Lima, since it reports that the occupational well-being of health care workers was reinforced more by remote work than by face-to-face work. [42] This is explained by the reduction of exposure to contagion and other work stressors.

Regarding marital status, the results indicate that married and cohabitating couples have a statistically significant relationship with anxiety, depression and work well-being. These findings agree with a study in Mexico where 61.8% of health care personnel who had partners had mild-to-moderate BS, and in 35.5%, the levels were severe. [43] In addition, it was observed that the greater the number of children, the lower the possibility of having BS and anxiety. This corroborates what was found in other studies conducted with health care professionals that indicated that having children was a protective factor against BS. [28,44] However, a study conducted in a hospital in Mexico showed that not having children was a protective factor. [45]

Regarding medical specialties, the results indicate that in the COVID-19 era, there is a significant relationship between the study variables. However, it is important to emphasize that the ICU had a greater association with depression. This may be because during the pandemic, many medical residents were overworked in inadequate conditions due to the collapse of the health care system, in which all staff had to be distributed to areas of greater

demand, such as the ICU or COVID-19 areas. [46] This, in turn, increased the probability of affecting their well-being and even generating suicidal ideas. [47]

The findings obtained in this study highlight, within the Peruvian context, the degree to which the COVID-19 pandemic has negatively affected the mental health of health personnel, finding significant relationships between BS, anxiety, depression and labor well-being, considering both sociodemographic and labor variables associated with this problem, which have not been reported jointly in previous studies. Among the theoretical contributions of the research is the contribution of evidence to the nomological network of mental health that involves the variables studied, signifying an advance in the approach of a mental health model that involves risk and protective factors. Regarding the practical implications, the study provides a baseline evaluation to determine the current state of health care workers' mental health, allowing us to propose intervention plans of local and regional scope.

Among the limitations of the study is the sample of only three hospitals in a specific region. However, it is important to note that the hospitals from which the data were collected are reference hospitals for the entire Ancash region, which is one of the most important regions of Peru, with a high population density. Therefore, it is a first approximation on the subject studied in this part of Peru. Future research can address this issue with a greater number of hospitals from different regions and nations, with a larger sample size of health professionals, as well as the use of longer instruments that can explain in more detail the relationships between the variables studied and the methodological designs that allow corroborating explanatory models.

This study allows us to conclude that there are multiple relationships among BS, anxiety, depression and work well-being among the health care providers at three hospitals in Ancash. Relationships were also found among BS, anxiety, depression and job well-being according to age (22 to 29 years), sex (female), marital status (single) and number of children (one child or none). In addition, correlations were found between the study variables according to employment status (hired and appointed), time of service (from 1 to 5 years), occupation (nurse), work area (COVID-19), modality of work (in person), hours of contact with the patient (7 or more), direct care of confirmed and unconfirmed COVID-19 patients, and the condition of not having been diagnosed with COVID-19.

Finally, significant differences were found between BS, its emotional fatigue dimension and work well-being according to work status. For the SB, a higher score was observed in those people who perform face-to-face work compared to those who perform remote and blended work. In the case of work well-being, those who perform remote work had higher scores.

Therefore, it is important to promote preventive strategies in mental health protocols for health professionals to mitigate the negative psychological consequences that the COVID-19 pandemic generated.

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Conflict of interests

The authors declare that does not exist an interest conflict.

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