



CONCERN AND FEAR OF COVID-19 IN PERUVIAN NURSES WORKING IN EMERGENCY SERVICES 2021

PREOCUPACIÓN Y MIEDO A LA COVID-19 EN ENFERMEROS PERUANOS QUE LABORAN EN SERVICIOS DE EMERGENCIA 2021

Gabina Mamani Conto ^{1,2}, Jhon Alex Zeladita Huaman ¹, Ivan Montes Iturrizaga ³, Sugely Julia Carpio Borja ¹

ABSTRACT

Introduction: There are few studies that evaluate the worry and fear of covid-19 in healthcare professionals who work in emergency services in low- and middle-income countries. **Objective:** To characterize the concern for contagion and fear of covid-19 in Peruvian nurses who work in emergency services. **Methods:** Comparative descriptive, correlational and cross-sectional study. 212 nurses were surveyed in 2021. The correlation coefficient of Pearson and ANOVA test were used. **Results:** Regarding concern, 41% often think about the probability of getting infected, 45.3% consider that it affected their state of mind, but 82.5% estimated that they had not affected their work abilities. On the other hand, 34.4% strongly agree that they are very afraid and 35.3% are very afraid of losing their lives. In addition, the comparative analysis by item reported that women, those who do face-to-face work, and those who had not received vaccinations show a lower frequency in some items of concern; while men, who do face-to-face work and who have only one dose of the vaccine, have a higher frequency in the fear items. **Discussion:** The results refer us to a problem little studied in Latin America and makes it possible to understand that nurses are emotionally affected by sanitary conditions. **Conclusions:** The nurses who work in the emergency services present a medium level of both concern about contagion and fear of COVID-19.

Key words: COVID-19, Expression of concern; Fear; Nurses; Emergency. (Source: MESH-NLM)

RESUMEN

Introducción: Existen escasos estudios que evalúen la preocupación y miedo a la COVID-19 por parte de profesionales de salud que laboran en emergencia. **Objetivo:** Caracterizar la preocupación por el contagio y miedo a la COVID-19 en enfermeros peruanos que laboran en servicios de emergencias. **Métodos:** Estudio descriptivo comparativo, correlacional y de corte transversal. Se encuestó a 212 enfermeros en el año 2021. Se empleó el coeficiente de correlación de Pearson y prueba de ANOVA. **Resultados:** En cuanto a la preocupación, el 41 % piensa, a menudo, en la probabilidad de contagiarse; el 45,3 % considera que afectó su estado de ánimo, pero el 82,5 % estimó que no habían afectado sus capacidades laborales. Por otro lado, el 34,4 % está muy de acuerdo en que tiene mucho miedo y el 35,3 % tiene mucho miedo de perder la vida. Además, el análisis comparativo por ítem reportó que las mujeres, quienes realizan trabajo presencial y los que no habían recibido vacunas evidencian una menor frecuencia en algunos ítems de preocupación; mientras, los hombres, quienes hacen trabajo presencial y tienen solo una dosis de la vacuna, tienen una mayor frecuencia en los ítems de miedo a la COVID-19. **Discusión:** Los resultados nos remiten a una problemática poco estudiada en el ámbito latinoamericano y posibilita comprender que los enfermeros son afectados en lo emocional por las condiciones sanitarias. **Conclusiones:** Los enfermeros que laboran en los servicios de emergencia presentan un nivel medio tanto de preocupación ante el contagio como de miedo a la COVID-19.

Palabras clave: COVID-19; Expresión de preocupación; Miedo; Enfermeros; Emergencia. (Fuente: DeCS- BIREME)

¹ Universidad Nacional Mayor de San Marcos, Lima, Peru.

² Hospital de Emergencias José Casimiro Ulloa, Lima, Peru.

³ Universidad Continental. Arequipa, Peru.

Cite as: Mamani Conto G, Zeladita Huaman JA, Montes Iturrizaga I, Carpio Borja SJ. Concern and fear of COVID-19 in Peruvian nurses working in emergency services 202. Rev Fac Med Hum. 2024;24(4):66-76. doi:10.25176/RFMH.v24i4.6526

Journal home page: <http://revistas.urp.edu.pe/index.php/RFMH>

Article published by the Journal of the Faculty of Human Medicine of the Ricardo Palma University. It is an open access article, distributed under the terms of the Creative Commons License: Creative Commons Attribution 4.0 International, CC BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>), which allows non-commercial use, distribution and reproduction in any medium, provided that the original work is duly cited. For commercial use, please contact revista.medicina@urp.edu.pe



INTRODUCTION

The COVID-19 pandemic affected various aspects of human life: social, economic, educational, cultural, and spiritual, and it impacts individual and collective health from all perspectives due to its rapid spread and increased mortality⁽¹⁾. According to epidemiological reports, as of July 2024, more than seven million deaths and over 775 million infections have been recorded worldwide⁽²⁾. It should be noted that since 2021, its variants and subvariants have continued to spread in all countries⁽³⁾. In Peru, around 111,000 deaths were reported, making it the South American country with the highest mortality rate globally. However, it is estimated that the real numbers are two to three times higher than the official figures⁽⁴⁾.

In this context, since the first confirmed cases in March 2020, Peruvian healthcare personnel have taken on the task of reducing morbidity and mortality in the most vulnerable populations while also protecting themselves from infection, alongside the risk of illness and death from the disease. Nevertheless, in Peru, more than 2,200 healthcare workers were reported to have died from COVID-19⁽⁵⁾.

Despite the sharp rise in infections and deaths, healthcare personnel had to cope with the health emergency in a scenario characterized by a lack of hospital capacity in terms of available intensive care unit beds, a shortage of specialized personnel, limited material resources, and insufficient personal protective equipment. Additionally, there was a reduced availability of oxygen support and ventilation systems. This was compounded by the intense pressure on emergency services, triage, the overflow of patients, attending to relatives, family isolation, and witnessing the loss of colleagues, patients, and family members. All of this led to physical and mental exhaustion, as documented by various studies, which showed healthcare teams experiencing signs of stress, anxiety, depression, and fatalism, as well as sleep disturbances, feelings of anger, fear, frustration, and denial⁽⁶⁻⁹⁾. This physical and mental fatigue among healthcare professionals affected the quality of patient care, their decision-making capacity, and even their clinical skills, which were sufficient reasons to intensify efforts to protect the physical and mental health of healthcare

workers⁽¹⁰⁾. In this context, nursing professionals who worked on the frontlines, especially in emergency services, were also affected. For instance, by early 2021 in Peru, 7,780 cases of COVID-19 and 90 nurse deaths were reported⁽¹¹⁾. This situation generated fear of COVID-19 infection, and concern was likely constant. However, empirical studies show some discrepancies regarding fear of COVID-19. For example, a study conducted in a hospital in Lima found high levels of fear, as well as high levels of emotional fear reactions (EFR) and somatic fear expressions (SFE)⁽¹²⁾.

In contrast, another study in Lima found moderate levels of fear of COVID-19 (74.3%)⁽¹¹⁾. Lastly, another study concluded that Peruvian nurses had low concern about contracting COVID-19⁽⁹⁾. Internationally, an important study conducted in Wuhan, China, showed that nurses exhibited a high level of fear of COVID-19 (91.2%)⁽¹³⁾. Despite these differences, the literature considers fear to be a good predictor of anxiety⁽¹⁴⁾ and fatalism⁽⁹⁾. Therefore, it is relevant to study the concern and fear of nursing staff during the COVID-19 pandemic.

Furthermore, reports suggest that these professionals were likely the most subject to pressure, fear, and constant concern about becoming infected. This is understandable, given the complexity of stabilizing patients and the psychological impact associated with potential infection^(15,16). In this line, it is worth noting that empirical evidence is still scarce regarding these professionals and their concern and fear of infection, among other constructs that need further investigation. Therefore, the objective was to characterize the concern about infection and fear of COVID-19 in Peruvian nurses working in emergency services.

METHODS

Study Type

This was a quantitative, cross-sectional study. A descriptive, comparative, and correlational design was followed, using the STROBE checklist for cross-sectional studies⁽¹⁷⁾. It was conducted between February and June 2021.



Participants

The population consisted of nurses working in emergency services at healthcare facilities in Peru. Intentional sampling was used, with 212 nursing professionals as the unit of analysis. Inclusion criteria were working in an emergency service (emergency room, ICU, COVID-19 ICU, trauma shock) at a hospital. Exclusion criteria included those on leave or vacation.

Instrument and Variables

A survey (in-person and online) was used, consisting of two Likert-type scales. The first was the COVID-19 Infection Concern Scale (Pre-COVID-19 Scale), which contains six items and was developed and validated by Caycho et al.⁽¹⁸⁾. This unidimensional scale showed satisfactory goodness-of-fit indices ($\chi^2(9) = 52.00$; Comparative Fit Index [CFI] = 0.99; Root Mean Square Error of Approximation [RMSEA] = 0.09 [0.07, 0.12]; and Weighted Root Mean Square Residual = 0.85). The λ coefficients of the model were above 0.5, and it presented excellent reliability ($\omega = 0.90$). The second scale was the Fear of COVID-19 Scale, which contains seven items in its Spanish version, validated in the Peruvian population by Huarcaya et al.⁽¹⁹⁾.

Through a psychometric study, they reported a bifactorial model: EFR (items 1, 2, 4, and 5) and SFE (items 3, 6, and 7). The scale showed adequate goodness-of-fit indices (CFI = 0.988, RMSEA = 0.075) and invariance according to healthcare workers and age ($\Delta CFI < 0.01$). With the collected data, the reliability of both scales was determined using Cronbach's alpha coefficient, yielding high values. Specifically, a coefficient of 0.707 was found for the Pre-COVID-19 scale and 0.747 for the Fear of COVID-19 scale, with coefficients for the EFR and SFE subscales of 0.752 and 0.814, respectively.

Procedures

Initially, the instruments were self-administered online, developed in Google Forms, and distributed through social networks. The time to complete the survey was approximately 30 minutes. Due to the low response to the virtual form, in-person data collection was carried out by visiting emergency services in Lima hospitals, where nursing professionals worked. To calculate the levels for the study variables and subscales, standardization was performed (Table 1).

Table 1. Standardization of Scales and Subscales Based on Data Obtained in the Present Study.

Scales and Subscales	Number of Items	Possible Scores	Low	Scale Medium	High
Pre- COVID-19	6	6-24	6-11	12-15	16-22
Fear of COVID-19	7	7-35	7-16	16-20	21-31
Subscale EFR	4	4-20	4-11	12-16	17-19
Subscale SFE	3	3-15	3	4-6	7-13

Note: Pre-COVID-19: Concern about COVID-19 infection scale.
 EFR: Emotional Fear Reactions, SFE: Somatic Fear Expressions.

Ethical Aspects

In this research, the Declaration of Helsinki⁽²⁰⁾ was taken into account, ensuring the anonymity of the nursing professionals who participated in the study and avoiding the collection of any identifiable data. Autonomy was respected as informed consent was obtained virtually before participants completed the online form. Additionally, the research project was reviewed and approved by the Ethics Committee of the Hospital Casimiro Ulloa and the Ethics Committee of the Universidad María Auxiliadora (certificate no. 008-2021).

Statistical Processing

A descriptive analysis was performed. Categorical variables were presented using frequencies and percentages, while continuous variables were described using the mean, median, standard deviation, and interquartile range. To determine significant statistical differences between the scores of each scale item based on characteristics, Pearson's correlation coefficient was used, as the variables showed a normal distribution. Similarly, a one-way ANOVA (Analysis of Variance) test was used for comparative analysis between the scale items. The significance level was set at 0.01. Statistical processing was performed using the SPSS software, version 28.0.1.

RESULTS

Participant Characteristics

A total of 212 participants responded to the questionnaire. Of them, 72.6% (154) were female, and the average age was 37.45 years (SD = 8.9). Regarding professional experience, 37.7% (80) had less than five years of experience; 27.8% (59) had 5 to 10 years; 19.8% (42) had 11 to 15 years; and 14.6% (31) had over 16 years of experience. At the time of the survey, 92.5% (196) of respondents were working in-person, while only 7.5% (16) were working remotely. Additionally, 44.8% (95) had contracted COVID-19 at some point during the pandemic. In terms of vaccination status against COVID-19, 80.7% (117) had completed the full vaccination schedule (two doses) during the data collection period, while 9.0% (19) had only received one dose, and 10.4% (22) were not vaccinated. Of the participants, 98.6% (193) worked in a public hospital in Lima, while the others were from ten different cities.

Levels of Concern and Fear of COVID-19

Based on the standardization of the scales and subscales, the entire sample was distributed across the different levels: low, medium, and high. As shown in Table 2, the total scores indicate that medium levels predominated, followed by low levels. When comparing the levels according to gender, similar percentages were found.

Table 2. Levels of Concern and Fear of COVID-19 in Nurses Working in Critical Units by Gender (n=212).

Scales and Subscales	Total			Men			Woman		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
Pre-COVID-19	32.5	40.6	26.9	29.4	41.4	29.3	33.8	40.3	26
Fear of COVID-19	30.7	41.7	27.8	25.9	44.8	29.3	32.5	40.3	27.3
Subscale EFR	31.1	53.3	15.6	25.9	55.2	19	33.1	52.6	14.3
Subscale SFE	37.7	42.9	19.3	41.4	37.9	20.7	36.4	44.8	18.8

Note: Pre-COVID-19: Concern about COVID-19 infection scale
EFR: Emotional Fear Reactions, SFE: Somatic Fear Expressions.



Descriptive Analysis of the Scores on the Concern and Fear of COVID-19 Scales

Table 3 presents the statistical description of the concern scale scores. The sample reached a mean of 12.9 points, with a standard deviation of 3.2 and an interquartile range of 11.0 – 16.0 points, placing the scale’s mean in the medium range. Similarly, for the fear

of COVID-19 scale, the sample reached a mean of 17.9 points, with a standard deviation of 4.7 and an interquartile range of 15.0 – 21.0 points, positioning the mean in the medium range as well. This same trend was observed in its dimensions: emotional fear reactions and somatic fear expressions, where the sample reached means of 12.9 and 5 points, respectively.

Table 3. Description of Scores on the Concern and Fear of COVID-19 Scales (n=212).

Scales and Subscales	Mean	Standard Deviation	Median	Interquartile Range
Concern about COVID-19 Infection Scale	12.9	3.2	13.0	11.0 – 16.0
Fear of COVID-19 Scale	17.9	4.7	19.0	15.0 – 21.0
Emotional Fear Reactions	12.9	3.7	14.0	10.0 – 16.0
Somatic Fear Expressions	5.0	2.1	5.0	3.0 – 6.0

ORIGINAL PAPER

Comparative Analysis Between the Scale Scores and Participant Characteristics

Table 4 shows the existence of significant positive correlations between all the instruments (total scores)

and their respective subscales. Likewise, these analyses revealed that the age of the nurses does not correlate with any of the instruments applied.

Table 4. Correlational Analysis Between Age and Scores on Concern and Fear of COVID-19 Scales in Nurses Working in Critical Units (n=212).

Variables	Concern about COVID-19 Infection Scale	Concern about COVID-19 Infection Scale	Escala Fear of COVID-19	Emotional Fear Reactions	Somatic Fear Expressions
Age	1	-0.048	-0.003	-0.042	0.068
Concern about COVID-19 Infection Scale		1	0.687 *	0.673 *	0.354 *
Fear of COVID-19 Scale			1	0.905*	0.649 *
Emotional Fear Reactions				1	0.264*
Somatic Fear Expressions					1

*Correlation is significant at the 0.01 level (two-tailed).

Finally, the total scores of the instruments were subjected to parametric analysis to identify statistically significant differences. In this context, no statistically significant differences were found based on gender for any of the variables studied (all tests and total scores). Similarly, there were no statistically significant differences based on vaccination status, except for somatic fear expressions, which were higher among those who had not been vaccinated ($F = 5.063$; sig. 0.007). Regarding years of professional experience, no statistical differences were found across all the tests. The same result—no statistically significant differences—was observed when comparing the scores, across all tests, of nurses who had contracted COVID-19 versus those who had not. These results suggest the need to understand this study in its more specific analytical dimension. Therefore, a comparative analysis is presented for each item.

Comparative Analysis of the Concern and Fear of COVID-19 Scale Items According to Participant Characteristics

In the description of the items related to concern about COVID-19 infection (Table 5), it is evident that most nurses often think about the likelihood of contracting the coronavirus (41%), which has affected their mood

sometimes in 45.3% of cases. However, the majority of nurses (82.5%) responded that this situation has never affected their ability to carry out daily activities.

Regarding the level of concern about infection, most nurses responded that they were only a little concerned (46.2%), with the frequency of concern being occasional for 43.9%. However, for a significant percentage of nurses, the concern is often constant (30.7%). Additionally, 60.4% of nurses consider the possibility of contracting the coronavirus to be a minor concern, compared to 20.8% who undoubtedly consider it a major concern.

Parametric analysis of the items, according to participant characteristics as shown in Table 5, reveals that in Item 1, unvaccinated individuals scored lower compared to those vaccinated with one or two doses ($F = 3.529$; sig. 0.031). For Item 2, which examines the impact on mood, it was found that nurses working in-person had higher scores ($T = 3.157$; sig. 0.002). In this same item (Item 2), again, unvaccinated nurses reported the lowest scores ($F = 5.247$; sig. 0.006). Lastly, in Item 6, which considers infection as a major concern, it was found that women had the highest scores ($T = -3.223$; sig. 0.002).

Table 5. Items from the COVID-19 Concern Scale for Nurses Working in Critical Units According to Characteristics (n=212).

Items	Never		Sometimes		Often		Almost all the time	
	n	%	n	%	n	%	n	%
1. How often have you thought about the likelihood of getting infected with the coronavirus? *	32	15.1	76	35.8	87	41.0	17	8.0
2. Has thinking about the possibility of getting infected with the coronavirus affected your mood? *,†	65	30.7	96	45.3	47	22.2	4	1.9
3. Has thinking about the possibility of getting infected with the coronavirus affected your ability to carry out daily activities?	175	82.5	32	15.1	4	1.9	1	0.5
4. To what extent are you concerned about the possibility of getting infected with the coronavirus?	Not at all		A little		Quite a bit		A great deal	
	8	3.8	98	46.2	90	42.5	16	7.5



5. How often do you worry about the possibility of getting infected with the coronavirus?	Never	Occasionally	Frequently	Constantly
	28	13.2	93	43.9
	26	12.3	65	30.7
6. Is being worried about the possibility of getting infected with the coronavirus an important issue for you? ‡	Not at all	A little	It is certainly a problem	Yes, it is a very serious problem
	31	14.6	128	60.4
	44	20.8	9	4.2

Note: * Significant differences based on vaccination status; † significant differences based on in-person vs. remote work; ‡ significant differences based on gender.

Regarding the items on fear of COVID-19 presented in Table 6, it shows that the majority of nurses (34.4%) express a great deal of fear about the coronavirus, causing discomfort in 29.7% and producing fear of losing their life due to the coronavirus in 35.4%. However, most nurses reported not experiencing somatic fear reactions when thinking about the coronavirus: sweaty hands (65.6%), nervousness or anxiety (35.8%), insomnia (46.2%), and palpitations (44.3%). Specifically, the comparative analysis of each item according to the characteristics of the participants reveals that, among those working in-person (Item 1), there is more fear of COVID-19 (T=2.643; sig.0.009).

This same result is repeated in Item 2, which indicates discomfort associated with thinking about the disease (T = 3.263; sig. 0.001). As for the fear of losing one's life due to the illness (Item 4), it was found that the highest scores were among men (T = 2.020; sig. 0.045), those working in-person (T = 4.606; sig. 0.000), and those who had only received one dose of the vaccine (F = 4.476; sig. 0.012). Lastly, those who had not received any vaccine reported experiencing a racing heart when thinking about the possibility of infection (Item 6), in contrast to those who had received one or two doses (F = 6.522; sig. 0.002).

Table 6. Items from the Fear of COVID-19 Scale for Nurses Working in Emergency Services According to Characteristics (n=212).

Items	Strongly Disagree		Disagree		Neither Agree nor Disagree		Agree		Strongly Agree	
	n	%	n	%	n	%	n	%	n	%
1. I am very afraid of the coronavirus *	15	7,1	26	12,3	35	16,5	63	29,7	73	34,4
2. It makes me uncomfortable to think about the coronavirus *	20	9,4	35	16,5	36	17,0	58	27,4	63	29,7
3. My hands get sweaty when I think about the coronavirus	139	65,6	54	25,5	14	6,6	3	1,4	2	0,9
4. I am afraid of losing my life because of the coronavirus *,†, ‡	16	7,5	38	17,9	25	11,8	58	27,4	75	35,4
5. When I see news and stories about the coronavirus on social media, I get nervous or anxious	76	35,8	73	34,4	39	18,4	22	10,4	2	0,9

6. I cannot sleep because I am worried about getting infected with the coronavirus	98	46,2	88	41,5	18	8,5	7	3,3	1	0,5
7. My heart races or beats fast when I think about getting infected with the coronavirus ‡	94	44,3	84	39,6	23	10,8	8	3,8	3	1,4

Note: * Significant differences based on in-person vs. remote work; † significant differences based on gender;

‡ significant differences based on vaccination status.

DISCUSSION

Among the main findings of the study, it was shown that emergency nurses exhibited a moderate level of fear of COVID-19. Additionally, most of them reported experiencing significant fear, discomfort when thinking about the coronavirus, and fear of losing their life due to the virus. These results reveal the intensity of fear as the primary emotional reaction faced by nurses during direct patient care in the emergency department.

Regarding the findings, similar results have been reported in recent studies, where participants also reached a moderate level of fear, with an average score of 16.79 points (21). Likewise, a 2020 multicenter study revealed that the fear of COVID-19 scale had an average score of 16.7 points (22). In 2021, in the city of Lima, a predominance of moderate-level fear (74.3%) was found; similarly, regarding the dimension of somatic expressions of fear, participants also exhibited a moderate level (65.7%)⁽¹⁾.

However, differences have been discovered in the findings of another study, also conducted in Lima, which examined fear of COVID-19 in nursing staff working at a national public hospital. The study found that most participants (58%) scored above 25 points. Regarding the dimensions of the scale, both emotional fear reactions and somatic fear expressions reached high levels (59.5% and 53.4%, respectively)⁽¹²⁾. Similarly, a study conducted in Wuhan, China, recorded that participants exhibited a high level of fear of COVID-19 (91.2%)⁽¹³⁾. It is worth noting that all these studies were conducted among nursing professionals working

in COVID-19 areas, an environment exclusively for patients with this diagnosis, where close contact with such personnel is frequent. In terms of indicators from the COVID-19 fear scale, similar findings were reported in Colombia in three indicators: significant fear of the coronavirus (82.3%), discomfort when thinking about the virus (78.5%), and fear of losing one's life (71%). However, opposite results were found for the remaining indicators⁽⁸⁾. Some authors suggest that fear is a disturbance of the mind caused by a threat or danger, which can increase or decrease in each person. As it is a socially created or represented condition, fear is also a social state, not just a physiological one⁽²³⁾. Additionally, there is broad consensus in describing fear as a defensive reaction to danger, which has, to some extent, a protective function⁽²⁴⁾.

In this sense, the COVID-19 pandemic was considered a public health emergency in all countries, causing thousands of deaths in short periods, which significantly impacted social aspects⁽²⁵⁾. This health crisis poses a threat or danger due to its high transmissibility, particularly in 2020 and 2021, and various forms of contagion constitute a high occupational risk for nursing professionals and healthcare workers in general⁽²⁶⁾. As a result, situations of fear, uncertainty, and high concern are understandable, particularly regarding the possibility of contracting or transmitting the virus to family members. If we add inadequate working conditions, fear would significantly increase, along with other states such as stress, anxiety, and psycho-emotional exhaustion⁽²⁷⁾.



However, there are not enough studies to fully understand the phenomenon of concern regarding COVID-19. Nevertheless, one study with similar results to the present report found that nurses in a Peruvian sample had an average score of 13.23 points, placing it in the medium range⁽¹⁴⁾. More extensive, possibly cross-cultural, studies are needed to understand how cultural, social, and working conditions might influence the concern and fear of contracting COVID-19.

It is important to note that concern involves the persistence of one or more recurring topics in people's thoughts and conversations, which are related to anxiety and depression due to future uncertainty regarding how to carry out actions, potentially leading to a loss of control in decision-making⁽¹⁹⁾. In this context, the ongoing and prolonged state of emergency due to COVID-19, the possibility of contracting the virus, the lack of human resources, the scarcity of protective materials and biosecurity equipment, and the increase in patients, among other factors, constitute recurring issues and a constant manifestation in healthcare personnel and nursing management, causing concern in daily tasks. Strictly speaking, and knowing that we are addressing a new thematic field, the findings on the concern of nurses are consistent with the intensity of fear they exhibit. Here, it is worth noting that while fear is a response that drives immediate action, concern fosters anticipation or preparation for future protective actions in response to danger⁽²⁹⁾.

The timing of this global health crisis is also important in understanding our findings. It is likely that the fear and concern of the subjects in this sample were greater in 2020 than in 2021, when the instruments were applied.

This is because, by 2021, nurses had partially overcome their concerns due to improvements in hospital response capacity, resource allocation, and a decrease in COVID-19 cases in the weeks leading up to our study. Additionally, mass vaccination of healthcare personnel and scientific knowledge about the disease, which was not available in 2020, likely played a significant role. Some limitations of this study should be highlighted. First, for ethical reasons, we applied the instruments to volunteers. Second, the fact that we did not consider questions about working conditions or the perceptions of nurses reduced the possibility of including potentially relevant intervening variables for the study of these two constructs. Lastly, during data analysis, it may have been pertinent to incorporate questions regarding the reasons for getting vaccinated or not; this could help understand why people with one dose are more concerned than those with two doses or no vaccination against COVID-19.

CONCLUSION

The results of this study demonstrate the impact of the COVID-19 pandemic on the mental health of frontline nursing staff. These emergency nursing professionals provide direct care to patients, often suspected of having the disease, and do so under the risk of contracting it themselves. Despite the fact that emergency nursing personnel have shown great resilience in facing adversity, it is essential to consider their psychological support and ensure adequate working environments to counteract expected consequences such as exhaustion, stress, anxiety, and depression. These issues could negatively affect the personal and professional lives of this community of healthcare professionals.

Contribuciones de autoría: Gabina Mamani Conto, Jhon Alex Zeladita Huaman y Sugely Julia Carpio Borja participaron en la conceptualización y diseño del estudio, revisión de literatura, en el diseño metodológico del estudio, recolección de información, análisis e interpretación de datos y redacción del manuscrito; Ivan Montes Iturrizaga, en el análisis e interpretación de datos y revisión crítica del manuscrito, con relevantes aportaciones.

Conflicts of interest: The authors declare that they have no conflict of interest.

Received: May 22, 2024.

Approved: September 19, 2024.

Funding: Self-funded.

Correspondence: Gabina Mamani Conto
Address: Av. Jose Carlos Mariategui 1973 VMT
Telephone: (+51) 962994693
Email: gmamanic@unmsm.edu.pe

REFERENCES

1. Huamaccto Caballero YC. Miedo y ansiedad por coronavirus en personal de central de esterilización de un hospital de Lima. *Revista Científica Cuidado y Salud Pública*. [revista en internet]. 2021 [citado 06 Set 2023]; 1(1):3-10. Disponible en <https://doi.org/10.53684/csp.v1i1.6>
2. World Health Organization. COVID-19 Deaths [Internet]. WHO Coronavirus (COVID-19) Dashboard. [cited 2024 Jul 27]. Disponible en: <https://data.who.int/dashboards/covid19/deaths?n=c>
3. Zeladita-Huaman JA, Franco-Chalco E, Zegarra-Chapoñan R, Iguiniz-Romero R, Amemiya-Hoshi I. Desarrollo y validación de una escala de percepción de riesgo de COVID-19 en Perú. *Rev Peru Med Exp Salud Publica*. 2023;40(2):170-8. doi: 10.17843/rpmesp.2023.402.12289.
4. Dirección General de Epidemiología. Sala Situacional COVID-19 Perú [Internet]. Lima: Ministerio de Salud del Perú; [fecha desconocida] [citado 27 Jul 2024]. Disponible en: https://app7.dge.gob.pe/maps/sala_covid/
5. Diario Gestión. COVID-19: 2,216 trabajadores del sector salud fallecieron en Perú hasta finales de agosto [Internet]. 2021 [citado 16 Nov 2023]. Disponible en: <https://gestion.pe/peru/covid-19-2216-trabajadores-del-sector-salud-fallecieron-por-el-virus-en-peru-hasta-finales-de-agosto-nndc-noticia/?ref=gesr>
6. Lozano-Vargas A. Impacto de la epidemia del Coronavirus (COVID-19) en la salud mental del personal de salud y en la población general de China. *Rev Neuropsiquiatr*. [revista en internet]. 2020 [citado 16 Nov 2023]; 83(1):51-56. Disponible en <https://doi.org/10.20453/rnp.v83i1.3687>
7. Zeladita-Huaman JA, Flores-Rodríguez CC, Zegarra-Chapoñan R, Carpio-Borja SJ, Franco-Chalco E, et al. Psychometric Properties of the Brief-Cope Inventory and Factors Associated with COVID-19-Related Perceived Stress in Peruvian Nurses. *Preprints* 2024, 2024072494. <https://doi.org/10.20944/preprints202407.2494.v1>
8. Monterrosa-Castro A, Dávila-Ruiz R, Mejía-Mantilla A, Contreras-Saldarriaga J, Mercado-Lara M, Florez-Monterrosa C. Estrés laboral, ansiedad y miedo al COVID-19 en médicos generales colombianos. *MedUNAB*. [revista en internet]. 2020 [citado 16 Nov 2023]; 23(2):195-213. Disponible en <https://doi.org/10.29375/01237047.3890>
9. Zeladita-Huaman JA, Zegarra-Chapoñan R, Castro-Murillo R, Surca-Rojas TC. Worry and fear as predictors of fatalism by COVID-19 in the daily work of nurses. *Rev Lat Am Enfermagem*. [revista en internet]. 2022 [citado 16 Nov 2023]; 30:e3605. Disponible en <https://doi.org/10.1590/1518-8345.5833.3545>
10. Morales Vilchez R. Estrés laboral en licenciados de enfermería en áreas COVID del hospital José Cayetano Heredia - Piura, mayo 2021 [tesis de pregrado]. Piura: Universidad Nacional de Piura; 2021. Disponible en <https://repositorio.unp.edu.pe/handle/20.500.12676/2855>
11. Diario Gestión. "Más de 7,700 enfermeras fueron contagiadas con COVID-19 y 15 están en UCI", Colegio de Enfermeros [Internet]. 2021 [citado 06 Set 2023]. Disponible en: <https://gestion.pe/peru/mas-de-7700-enfermeras-fueron-contagiadas-con-covid-19-y-15-estan-en-uci-segun-decana-del-colegio-de-enfermeros-coronavirus-peru-segunda-ola-nndc-noticia/>
12. Silvera Miranda JL. Miedo al Covid en personal de enfermería que labora en el Hospital Nacional Hipólito Unanue, 2020 [tesis de pregrado]. Lima: Universidad de Ciencias y Humanidades; 2020. Disponible en <https://repositorio.uch.edu.pe/handle/20.500.12872/592>
13. Hu D, Kong Y, Li W, Han Q, Zhang X, Zhu L, et al. Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study. *EclinicalMedicine*. [revista en internet]. 2020 [citado 16 Nov 2023]; 24:100424. Disponible en <https://doi.org/10.1016/j.eclinm.2020.100424>
14. Carranza-Esteban R, Mamani-Benito O, Turpo-Chaparro J, Farfán-Solís R, Cutipa-Gonzales N. Preocupación por el contagio de la COVID-19 y carga de trabajo como predictores de la ansiedad en enfermeras peruanas. *Revista Cubana de Enfermería*. [revista en internet]. 2021 [citado 16 Nov 2023]; Internet; 37:e4227. Disponible en <http://www.revenfermeria.sld.cu/index.php/enf/article/view/4227>
15. Abu Feddeh S, Darawad MW. Correlates to Work-Related Stress of Newly-graduated Nurses in Critical Care Units. *International Journal of Caring Sciences* January. [revista en internet]. 2020 [citado 16 de noviembre de 2023]; 13(1):507-516. Disponible en https://www.internationaljournalofcaringsciences.org/docs/56_darawad_original_13_1.p_d_f
16. Betancourt Delgado MT, Domínguez Quijije WF, Peláez Flores BI, Herrera Velázquez M del R. Estrés laboral en el personal de enfermería del área de UCI durante la pandemia de COVID 19. *UNESUM-Ciencias Revista Científica Multidisciplinaria*. [revista en internet]. 2020; 4(3):41-50. Disponible en <https://doi.org/10.47230/unsum-ciencias.v4.n1.2021.308>
17. Cuschieri S. The STROBE guidelines. *Saudi J Anaesth*. 2019 Apr;13(Suppl 1):S31-S34. doi: 10.4103/sja.SJA_543_18.
18. Caycho-Rodríguez T, Ventura-León J, Barboza-Palomino M. Diseño y validación de una escala para medir la preocupación por el contagio de la COVID-19 (PRE-COVID-19). *Enferm Clin*. [revista en internet]. 2021 [citado 16 de noviembre de 2023]; 31(3):175-183. Disponible en <https://doi.org/10.1016%2Fj.enfcli.2020.10.034>
19. Huarcaya-Victoria J, Villarreal-Zegarra D, Podestà, A, Luna-Cuadros, MA. Psychometric properties of a spanish version of the fear of covid-19 scale in general population of Lima, Perú. *Int J Ment Health Addict*. [revista en internet]. 2022 [citado 16 de noviembre de 2023]; 20(1):249-262. Disponible en <https://doi.org/10.1007/s11469-020-00354-5>
20. World Medical Association. Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. [citado el 31 de julio de 2024]. Disponible en: <https://www.wma.net/what-we-do/medical-ethics/declaration-of-helsinki/>
21. Martínez-Lorca M, Martínez-Lorca A, Criado-Álvarez JJ, Armesilla MDC, Latorre JM. The fear of COVID-19 scale: Validation in spanish university students. *Psychiatry Res*. [revista en internet]. 2020 [citado 16 de noviembre de 2023]; 293:113350. Disponible en <https://doi.org/10.1016/j.psychres.2020.113350>



22. Nguyen HT, Do BN, Pham KM, Kim GB, Dam HTB, Nguyen TT, et al. Fear of COVID-19 Scale-Associations of Its Scores with Health Literacy and Health-Related Behaviors among Medical Students. *Int J Environ Res Public Health*. [revista en internet]. 2020 [citado 16 de noviembre de 2023]; 17(11):4164. Disponible en <https://doi.org/10.3390/ijerph17114164>
23. Méndez JJ, Villar, AJ, Becerril T. Un acercamiento al sentimiento del miedo y su incidencia en la reconfiguración de los espacios sociales. *Urbano* [Internet]. 2009 [citado 16 noviembre 2023]; 12(19):79-92. Disponible en <https://www.redalyc.org/articulo.oa?id=19811644010>
24. Vila J, Guerra P, Muñoz MA, Perakakis P, Delgado LC, Figueroa M, et al. La dinámica del miedo: la cascada defensiva. *Escritos de Psicología* [Internet]. 2009 [citado 22 septiembre 2023]; 3(1):37-42. Disponible en https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1989-38092009000300005
25. Mejía ChR., Rodríguez-Alarcon JF, Garay-Rios L, Enriquez-Anco M de P, Moreno A, Huaytán-Rojas K, et al. Percepción de miedo o exageración que transmiten los medios de comunicación en la población peruana durante la pandemia de la COVID-19. *Rev Cubana Invest Bioméd*. [revista en internet]. 2020 [citado 21 de septiembre de 2023]; 39(2):e698. Disponible en <https://revibiomedica.sld.cu/index.php/ibi/article/view/698>
26. Ferreira do Nascimento V, Yuri T, Pereira AC. Dificultades y temores de las enfermeras que enfrentan la pandemia de COVID-19 en Brasil. *Rev Hum Med* [Internet]. 2020 [citado 21 septiembre 2023]; 20(2):312-333. Disponible en <https://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=95866&id2=>
27. Cruz AA, Fernandes MA, Aliaga LÁ, Pillon SC. Miedo experimentado por profesionales de salud en la pandemia por COVID-19 e implicaciones para la salud mental. *Rev. cuba. Enferm*. [revista en internet]. 2021 [citado 21 de septiembre de 2023]; 37:e3971. Disponible en <http://www.revenfermeria.sld.cu/index.php/enf/article/view/3971>
28. Borda N, Eyzaguirre LA, Ponce FA. Autocontrol, preocupación, desesperanza y nivel socioeconómico en un contexto de pandemia por covid19. *Ajayu Órgano de Difusión Científica del Departamento de Psicología UC BSP* [Internet]. 2021 [citado 22 septiembre 2022]; 19(1):59-89. Disponible en http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S2077-21612021000100003
29. Vivas García N. Miedo, Ansiedad, Preocupación [Internet]. 2014 [citado 22 agosto 2023]. Disponible en: <https://www.psicologoemadridcentro.es/blogindex/miedo-ansiedad-preocupacion>